

LUFTWAFFE COLOURS
Volume Five Section 1



JAGDWAFFE

Robert Forsyth
with Eddie J Creek

**DEFENDING
THE REICH**

1943-44



DEFENDING THE REICH

We are firmly convinced that our only chance of maintaining Germany's arms industry and labour lies in our hitting back at the enemy both by day and by night harder than before and above all harder than until a week ago. If we fail and the percentage of enemy aircraft shot down remains at the same level as up to the first half of July, we shall be crushed. I think it is idle to make up long-term plans for U-boats, tanks, aircraft, and so on. Programmes of this nature can never be fulfilled; Germany would be brought to her knees...

There is only one remedy. That is for our fighters to hit the enemy so hard day and night that he is forced to abandon the policy of destroying our arms production. The chance is there. I would tell the front that Germany itself is the real front line, and that the mass of fighters must go for home defence.

Generalfeldmarschall Erhard Milch, 25 August 1943 – addressing an aircraft production conference one week after the US Eighth Air Force had attacked Schweinfurt for the first time.



Casablanca, the Eighth Air Force and the road to Schweinfurt

The American Perspective, Early 1943

The strategic air offensive waged against Germany by the Allied air forces between 1941-1945 has often, and perhaps perhaps justifiably so, been credited with bringing about the Third Reich's inability to continue the war. For nearly three years, almost day by day, night by night, the Allies systematically pulverised Germany's industrial cities and production centres, bombed its oil refineries, paralysed its transport system, attacked its airfields, terrorised and killed its civilians and eventually smashed its armies as they defended their ever-shrinking territory.

As the offensive ground on, the *Luftwaffe*, charged with defending the skies over the Reich against such seemingly overwhelming and insurmountable odds, found it difficult to cope. This was a war of attrition; a bitter battle to defend the homeland which tested both material and human resources to their limits. Historians have recorded from varying perspectives, and in considerable detail, the way in which the *Luftwaffe* fighter force conducted the *Reichsverteidigung* – the Defence of the Reich. German aviation technology triumphed and failed; the reputations of the finest fighter pilots of the *Jagdwaaffe* – the so-called *Experten* – became legendary when the fruits of victory were being enjoyed but were denigrated when the Nazi leadership sought scapegoats for the suffering inflicted on the people of Germany. The analysis has been endless.

Some historians argue that until mid-1943 – and with the exception of the Battle of Britain – the air war in the West and over the Reich aroused only peripheral interest in the minds of Hitler and the German High Command. Only specific and alarming instances such as the RAF's 1,000 bomber night attack on Cologne in May 1942, in which 469 civilians were killed, more than 5,000 injured and more than 45,000 made homeless, galvanised Hitler and the military leadership into reaction. But even then, the *Luftwaffe* mounted just three small-scale raids on the south of England in reprisal.

Hitler and his generals had other, critical distractions. By the end of 1942, the *Luftwaffe* was still recovering from substantial losses incurred in Russia where there was growing a crisis at Stalingrad. Difficulties in Russia were compounded by the withdrawal of hundreds of aircraft to the Mediterranean where a high rate of aircraft and aircrew loss had been incurred during the race to build up supplies in the four months prior to the battle of El Alamein. Only some 375 single-engined fighters were left to cover the entire Eastern Front. Thus military focus continued to be largely directed towards these theatres.

However, by 1943 the increasing damage inflicted by Allied strategic air power against the Reich, forced German concentration away from the periphery. Between January and March, the Lancasters, Stirlings, Halifaxes and Wellingtons of Air Marshal Sir Arthur Harris' RAF Bomber Command struck at Berlin, Cologne, Düsseldorf, Essen and Hamburg. In this period, Bomber Command operated on 58 nights out of 78. In March, Harris opened his night offensive against industrial targets in the Ruhr where Essen, Düsseldorf, Duisburg and Wuppertal were all attacked. The damage was severe; high explosive blast bombs were dropped to blow off roofs, followed by incendiaries to cause fire. But by July, despite severe damage to the Ruhr's cities and a dire effect on its population's morale, Bomber Command had

lost 1,000 aircraft and 7,000 aircrew in 22 major raids and had not completely secured its objectives of closing down the region as an industrial centre or significantly reducing its contribution to the German war effort.



LEFT: Throughout the first three months of 1943, RAF Bomber Command targeted many of Germany's major cities and centres of industry including Düsseldorf, Cologne, Hamburg, Duisburg, Essen, Stuttgart, Nuremberg, Munich – and the capital, Berlin. The nocturnal attacks on Berlin during this period did not inflict substantial damage, with the exception of the raid mounted on the night of 1/2 March in which a force of 302 Lancasters, Halifaxes and Stirlings left severe damage with many factories and workshops burnt out or badly damaged and a further 875 buildings, mostly residential houses, destroyed. This is the scene in a district of central Berlin following one such raid. Within one year, the Americans would be bombing the capital in daylight.

That was the night war. It was different in daylight. From commencement of its operations in August 1942 to the end of that year, the American Eighth Air Force had been blooded in 30 missions flown from its airfields across eastern England to maritime, U-boat, industrial, airfield and railway targets in France and the Low Countries, most of which had enjoyed RAF fighter escort. Commanded by Brigadier General Ira C. Eaker, the Eighth Air Force's VIII Bomber Command (VIII BC) had been progressively reinforced and expanded throughout the second half of 1942 to a total of six bomb groups – four equipped with B-17 Flying Fortresses and two B-24 Liberator groups – although two groups had left England in November for North Africa. VIII Fighter Command, under Brigadier General Frank O'D. Hunter, possessed four groups by late October, two with P-38 Lightnings and three with Spitfires, these deployed on fighter sweeps and patrols.

Confidence was perhaps unrealistically high amongst the crews of the B-17s who, it was thought, had given a good account of themselves in their first skirmishes with the *Jagdwaaffe* over western Europe in the autumn. For example, on 9 October, the *Luftwaaffe* lost a single fighter from 7./JG 26 in air combat when B-17s bombed Lille, yet Eighth Air Force gunners claimed the destruction of 25 German fighters and a further 38 probables. Such inflated claim levels gave rise to the belief that, even if accompanying RAF Spitfires had to turn for home at the limit of their escort range, a group of bombers in good formation would be able to fight off German fighter attacks by bringing to bear its massed defensive armament.

The truth, however, was that despite high claims made during the initial clashes with the *Luftwaaffe*, general standards of nose and waist position air gunnery were poor, and incidents of damage from friendly fire were not uncommon. The effective use of a heavy, reverberating .50-inch calibre gun in a 200 mph slipstream against a small, fast-moving target presented a challenge. Intensive gunnery training flights were conducted over British coastal ranges in an attempt to improve the situation.

Furthermore, adverse weather conditions experienced in north-west Europe during the later months of 1942 proved difficult, hampering bombing accuracy and freezing bomb-aiming equipment and guns.

Despite warnings to the contrary from their RAF counterparts, the Americans believed in the viability of undertaking future *unescorted* daylight missions to key targets within Germany. In January 1943 Churchill and Roosevelt met in Casablanca, accompanied by a galaxy of Chiefs of Staff and Joint Planners, to determine a plan for an ensured Allied victory. It was here that the philosophy of daylight precision bombing of German targets was given the seal of approval by Allied leaders who were anxious to hone an air

strategy that would swiftly and effectively destroy Germany's industry and its 'will to resist'. At Casablanca, the British pushed for American involvement in night bombing, but Roosevelt and Lieutenant General Henry 'Hap' Arnold, the Commanding General of the Army Air Forces, resisted this and Arnold summoned Eaker from England to present the case for the continuation and expansion of daylight bombing.

On 20 January, Eaker handed Churchill a single sheet memorandum on which were outlined his reasons for the pursuance of such attacks. With a keen and ambitious eye, the British Prime Minister picked out one particular sentence: 'By bombing the devils around the clock', Eaker wrote, 'we can prevent the German defences from getting any rest...'

BELOW: A gunner on board a B-17 simulates taking aim with his .50-inch calibre M2 Browning machine gun located at the aircraft's waist position. In late 1942 however, though the claims made by Eighth Air Force air gunners against *Luftwaaffe* fighters were quite substantial, the reality was different. Fast, head-on attacks by German fighters against Flying Fortresses made accurate gunnery very difficult.



ABOVE: With an enthusiastic wave from the ground crews, a B-17E Flying Fortress of the 97th Bomb Group climbs into the air from cither Grafton Underwood or Polebrook in England for another raid on 'Fortress Europe' in the early autumn of 1942. The 97th Bomb Group was one of seven B-17 groups (the other 'pioneer groups' were the 91st, 92nd, 301st, 303rd, 305th and 306th BGs) which formed – at various times and together with two B-24 Liberator Groups – the VIII Bomber Command during the second half of 1942.

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ABOVE: Brigadier General Ira C. Eaker, seen here as a Major General decorating members of the US 7th Photo Recon Group in late 1943, advocated bombing Germany around the clock and the report he presented at the Casablanca Conference in January 1943 inspired Churchill and Roosevelt to press ahead with a Combined Bomber Offensive in which RAF Bomber Command would continue to bomb German targets at night while the US Eighth Air Force would attack during daylight.

This was just what Churchill wanted to read and the next day, during the Allied Leaders' conference, the representatives of the USAAF and RAF were presented with a directive which stated that, given a force of 300 heavy bombers flown by trained crews, General Eaker believed he could attack any target in Germany by day with less than a four per cent loss, although smaller numbers would naturally suffer more severely. Despite all problems and currently effective limitations, he stoutly maintained that *'daylight bombing of Germany with planes of the B-17 and B-24 types is feasible, practicable and economical.'*

The final draft of the so-called Casablanca Directive was quite clear in its instruction to the air commanders of the proposed 'round-the-clock' Combined Bomber Offensive: *'Your primary object will be the progressive destruction and dislocation of the German military, industrial and economic system and the undermining of the German people to a point where their capacity for armed resistance is fatally weakened...'*

Having returned to England, Eaker, buoyant and confident, got on with the job. On 27 January 1943, a force of 91 B-17s and B-24s set out to bomb the U-boat yards at Wilhelmshaven in what was the first American raid mounted against a German target. The result seemed to bear out what

Eaker had proclaimed to Churchill: just three bombers failed to return. German opposition had come from the Bf 109s of *Hptm. Günther Beise's* I./JG 1 which claimed five bombers shot down, but which lost five of its own aircraft and three pilots.

The number of missions conducted in February was low – just three – a result of adverse weather and the slow arrival of replacement crews and aircraft. On 4 February, 39 out of 65 B-17s despatched reached Germany, but freezing weather forced them to bomb targets of opportunity around Emden rather than the briefed target, the marshalling yards at Hamm. The formation was strung out and vulnerable and the *Luftwaffe* struck, sending in fighters from II. and IV./JG 1. Pilots from 3., 4. and 12./JG 1 accounted for four B-17s, but no matter how hard they pressed home their attacks, the other *Staffeln* found it impossible to bring down any of the bombers. Claims by American gunners amounted to 25 German fighters shot down, with another eight probably destroyed and six damaged. In fact, JG 1 had lost only two pilots.

On 26 February, VIII BC despatched 93 bombers in an attempt to bomb Bremen, but had to bomb a secondary target at Wilhelmshaven instead because of heavy overcast weather en route to the primary. Breaking out into clearing blue skies, JG 1 accounted for five B-17s and two B-24s shot down during a vicious engagement 50 km from the German coast. By the time the American force returned to England, 73 aircrew were missing and another 14 were wounded or injured. VIII BC commanders took heart however from the encouraging gunners claims – 21 enemy fighters had apparently been shot



LEFT: Fw 190 A-4s of II./JG 1 at Leeuwarden, Holland in late March or April 1943. Together with aircraft from I./JG 1, the Gruppe was instrumental in the attack on American bombers raiding Bremen on 17 April 1943, when JG 1 accounted for 15 B-17s destroyed. In the foreground of this photograph are aircraft of 6./JG 1 with the familiar 'Tatzelwurm' emblem on their cowlings shortly after their arrival at Leeuwarden. The Bf 109 Gs in the background belong to 2./JG 27 which, for a short time, came under the control of the Gruppe.

down and a further nine damaged. But again, this was a travesty, for JG 1, the only *Jagdgeschwader* known to have engaged the bombers, reported no aircraft lost.

A similar pattern of operations continued through an unsettled spring. Inclement weather frustrated the Eighth's bombing capabilities throughout most of March, though on the 18th conditions cleared sufficiently to allow the most successful raid into Germany so far. Ninety-seven B-17s and B-24s hit the U-boat yards at Vegesack and in another success for Eaker, 75 per cent of bombs dropped landed within 1,000 yards of the designated aiming point. Once more, in what the Americans viewed as the toughest opposition to date, JG 1 fielded the German defence which claimed ten bombers shot down. The reality was that only one B-17 was lost in combat, with a single B-24 posted as missing.

A month later, on 17 April, the Eighth unveiled its new, more concentrated type of defensive flight formation. Up to this point, when attacking German targets, the Americans favoured a group of an 18-aircraft combat box formation comprising three flights of six aircraft, each broken down into two three-aircraft flights. Succeeding combat boxes of a similar composition trailed in one and a half mile breaks behind the lead box. However, in a measure intended to stiffen the mass of defensive firepower and increase protection, three boxes were formatted into a combat wing with two boxes positioned respectively above and below the lead box. This resulted in the impressive spectacle of 54 four-engined bombers spanning more than a mile of sky sometimes in formations half a mile deep.

In the first such deployment, two combat wings comprising 107 B-17s in six boxes – the largest force thus far assembled – were despatched on 17 April to bomb the Focke-Wulf plant at Bremen. This time, the wings encountered an even tougher defence.

Shortly after 13.00, just after the bombers had commenced their bomb run, the Fw 190s of I. and II./JG 1 closed in at speed and mauled the bombers for an hour. In determined, well co-ordinated head-on attacks, JG 1 accounted for 15 Fortresses destroyed, including an entire squadron, the heaviest losses sustained to date in a single mission. For their part, the American gunners excessively claimed 63 fighters shot down and another 15 probables. In fact, just one German aircraft was lost in combat from 3./JG 1.

The fanciful levels of air-gunnery over-claiming for enemy aircraft destroyed in combat, even allowing for sensible margins, still amounted to more than nine times the known number of German fighters lost in deeper penetration raids and VIII BC issued the following instructions:

'An enemy plane will be counted as destroyed when it has been seen descending completely enveloped in flames, but not if flames are seen merely licking from the engine. It will be counted as destroyed when seen to disintegrate in the air or when the complete wing or tail assembly has been shot away from the fuselage... Single engined enemy planes will be counted as destroyed if the pilot is seen to bale out.'

The losses suffered on the 17 April raid also gave the warning that long-range fighter escort was now urgently needed. By May, the bomber force was experiencing average losses of 1.6 per cent when under fighter escort, but this rose to seven per cent when escort was not present.

Despite these setbacks however, Eaker considered that his bombers had proven their ability to successfully penetrate the German air defences, but that continued success depended on the quick expansion of his command. He asked for a further 944 B-17s and B-24s by July; 1,192 by October; 1,746 by January 1944; and 2,702 by April.

In the short term, 13 May saw the arrival of six new bomb groups to strengthen VIII BC – five of them fresh from the USA; Eaker recorded that it was 'a great day.'

The need for fighter escort was satisfied to some extent by the spring of 1943, when the Eighth Air Force was able to call upon three fighter groups, all of which were equipped with the newly arrived P-47 Thunderbolt. However, how the P-47 could best provide escort would be a matter of experiment and debate for many months to come. Deployed initially on shallow fighter sweeps over France and Belgium, initial reaction to the big, radial-engined Thunderbolt was mixed, with many pilots reporting engine and radio problems, but these were compensated for by the aircraft's formidable firepower of eight .50-inch calibre guns.

On 4 May, 117 P-47s flew in the escort role for the first time when they accompanied 65 B-17s to bomb industrial complexes in Antwerp. However, the problem of providing escort all the way to German targets would remain until a workable drop tank design became available. Until such time as that happened, the tactical radius of the P-47 (200-250 miles) took it only into the Low Countries and just about as far as the Rhine, but not beyond. From there on, bombers would be on their own and flying into the teeth of the increasingly hardening and capable German defence.

6 • Defending the Reich

1943-1944



ABOVE: Lt. Heinz Knoke, Staffelführer of 5./JG 11 (formerly 2./JG 1), in discussion with members of the ground crew in the spring of 1943. His Bf 109 G-1 bears the name of his wife, Lilo, together with a pair of wedding rings and, although being redesignated 5./JG 11, the Staffel retained the earlier eagle and bow emblem of JG 1, as seen here under the cockpit.



LEFT: On 14 May 1943, during the American raid on Kiel, aircraft of Lt. Heinz Knoke's 5./JG 11 instigated a new form of aerial defence against the four-engined bombers when they dropped bombs into the enemy formation and claimed three brought down by this means. Here, ground crew load a 250 kg bomb onto the bomb rack of an Fw 190 A-4 of the new 1./JG 1, which had been reformed from IV./JG 1 in early April 1943.

Throughout May the reinforced VIII BC mounted further raids against German targets, such as Kiel on the 14th, but the price was high. That day, the Fw 190s of *Oblt.* Heinz Knoke's recently formed 5./JG 11 claimed five B-17s shot down, three of them by air-to-air bombing, a method that became something of a speciality for this unit. The *Staffel* ended the day with its score of downed *Viermots* raised to fifty.

Emden was the target on the 15th, Kiel again on the 19th and Wilhelmshaven on the 21st. US losses were described as '...moderate, but steady and cumulative.'

On 11 June, one of the largest raids to date was mounted against Bremen, but the target was cloud-covered so the force altered course for Wilhelmshaven, the secondary target. As the 248 B-17s passed the port, the *Luftwaffe* launched a major response which lasted until 20 miles north of the Baltrum Islands. Elements of I. and II./JG 11, I. and III./JG 1, III./JG 26 and III./JG 54, together with night fighters from IV./NJG 1 and I./NJG 5 operating in a day fighter role, all engaged the bomber formation. VIII BC reported that: 'Attacks were persistent but seemed inexperienced, most coming from 11-1 o'clock level and from above. After initial attack, E/A would circle formation well out of range and then return to attack from head-on.' Seven B-17s were shot down, another was lost in a mid-air collision with an Fw 190 and a further 62 were damaged. Eighty American aircrew went missing.

Two days later, the 1st and 4th BWs journeyed to Bremen and Kiel. Although the main attack against Bremen met light opposition, bombers from the 4th BW encountered the fighters just after crossing the enemy coast. Twenty-two B-17s were downed and 24 damaged. The 4th BW reported: 'Enemy fighter opposition was the strongest and most aggressive to date... Frontal attacks were predominant, but many angles were used taking advantage of sun and clouds. Attacks were made singly, in pairs and in threes. 'V' formations of three, six and eight in frontal attacks. Nose attacks in level and tandem made by series of three to five E/A. Several attacks of six and eight abreast were made against the rear.' Only six of the 16. 95th BG aircraft that crossed the coast returned to England. More than 250 crew were posted missing, including a Brigadier General, in the most devastating day of losses to date. The calls for escort grew ever more urgent.

On the 22nd, 183 out of a force of 235 B-17s despatched, reached the synthetic rubber works at Hül in the Ruhr for the first time. Here the bombing was accurate, but again, the price to the Eighth was high; 16 bombers failed to return and a further four fell to the guns of *Major* Josef Priller's JG 26 during a secondary raid to Antwerp. Three days later, 18 aircraft were lost on a mission to Hamburg and to no avail, for low cloud obscured the target and the mission had to be abandoned.

As for the Combined Bomber Offensive proposed at Casablanca, there was little sign of it achieving its objective. Both commanders and crews began to realise that the destruction of Germany was going to be a long haul.

July arrived. It was high summer,

BELOW: Clad in leather flying suit and life vest, *Ofw.* Adolf 'Addi' Glunz of 4./JG 26 jumps down from the wing of his Fw 190 at a base in either France or Holland during the summer of 1943. Glunz was one of the most successful *Jagdflieger* on the Western Front. By 5 April 1943, when he shot down his first *Viermot*, he had been credited with 31 victories, including claims against Spitfires and Mosquitoes. On 29 August of that year, he was awarded the *Ritterkreuz*, becoming the first NCO in JG 26 to receive the award. He was appointed to command 5./JG 26 on 15 January 1944 and just over a month later, on 22 February, he claimed six victories in one day including five four-engined bombers. He went on to be commissioned as a *Leutnant* and to command 6./JG 26, which he led until March 1945. He received the *Eichenlaub* to the *Ritterkreuz* in June 1944 and in March 1945 transferred to III./JG 2 for training on the *Me* 262. He had flown 574 missions by war's end and was credited with 71 victories, including 19 four-engined bombers.





LEFT AND ABOVE: Major Josef 'Pips' Priller, the Geschwaderkommodore of JG 26, closes the driver's door to his BMW 328 sports car while his Focke-Wulf Fw 190 A-5, W.Nr. 7298, 'Black 13', receives attention from the ground crew at Lille-Vendeville in the early summer of 1943. This 'Black 13' was Priller's regular aircraft at this time and is seen again (*ABOVE*) in flight over France. By the end of 1942, Priller had been credited with 81 confirmed victories. He was a very popular and highly regarded commander and he replaced Major Gerhard Schöpfel as Kommodore of JG 26 in January 1943. He had originally joined JG 26 from 6./JG 51 in 1940. In November of that year, he was appointed Staffelführer of I./JG 26 and was made Kommandeur of II. Gruppe in December 1941. In late January 1943, Priller was appointed Inspekteur der Jagdflieger West which effectively ended his operational flying career. He had been awarded the Schwerte to his Ritterkreuz in July 1944 in recognition of his 100th victory. Altogether he was credited with 101 victories, including 11 four-engined bombers.

Focke-Wulf Fw 190 A-5, W.Nr. 7298, 'Black 13' flown by Major Josef Priller, Geschwaderkommodore, JG 26, early summer of 1943

Major Priller flew this aircraft in May and June 1943. It was camouflaged in the standard day fighter RLM colours of 74, 75 and 76 and its spinner was plain green RLM 70. The panel under the engine was yellow, as also originally was the rudder, but as shown in the photographs, this was later lightly mottled with one of the darker camouflage greys. A highly stylised eagle's wing design in black edged in white was applied over the exhaust area and, although not shown in this profile, the aircraft was sometimes fitted with a centreline rack for carrying a 300 litre drop tank. The markings '13 • + -' were Priller's personal interpretation of a Geschwaderkommodore's.



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Focke-Wulf Fw 190 A-5, W.Nr. 2594, flown by Major Hermann Graf, Jagdgruppe Ost, April 1943

The standard 74/75/76 scheme on this aircraft was enlivened by the red so-called 'tulip' decoration on the cowling thinly outlined in white and the similar red flash on the rudder and the red lightning bolt, outlined in yellow, below the cockpit. Aft of the fuselage Balkenkreuze, different emblems have been applied to either side; on the starboard side is the emblem of Jagdgruppe Ost, a mother vulture and her young, representing the training and guidance role of the Jagdgruppe, whilst on the port side is a yellow square with the 'Karaya' heart emblem of 9./JG 52, Graf's former unit, in the centre and the barbed cross badge of III./JG 52 in the top left corner. The yellow rudder has a similar design to that on the nose and features the number 202 representing Graf's accumulated victories on 2 October 1942. Note that the armoured ring on the front of the aircraft is white.

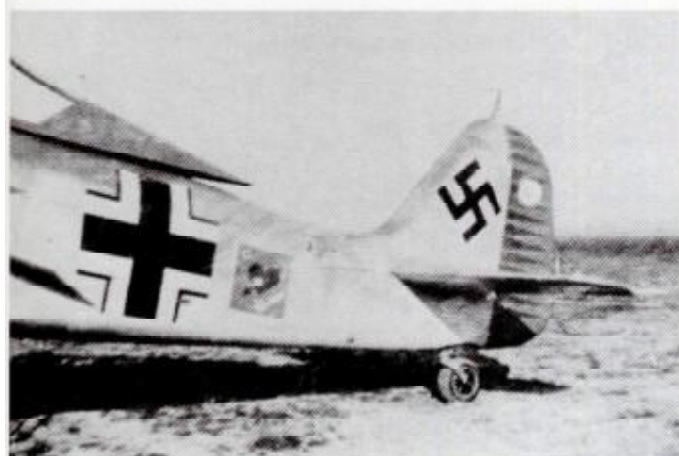


THIS PAGE: One of the very distinctive Fw 190 A-5s flown by Major Hermann Graf during his time as Kommandeur of Jagdgruppe Ost in France in April 1943. Exhausted from continual operations in Russia throughout 1941-42, Graf was given orders to cease operational flying and in late January 1943 was sent to the West to take command of Jagdgruppe Ost. Based on the Atlantic coast of France and equipped with Bf 109s and Fw 190s, this unit was tasked with preparing newly trained fighter pilots for Russia under instruction from former Eastern Front veterans. As far as is known, Graf never used the aircraft shown here operationally.





ABOVE AND LEFT: Two views of the rear fuselage of Graf's Fw 190 showing the 'Karayastaffel' emblem aft of the Balkenkreuz and the brightly coloured rudder with the pilot's victory tally, represented by the number 202.



BELOW: Another view of Graf's Fw 190 A-5. Just visible behind the Balkenkreuz, but half hidden by the lead from the external power unit, is the culture and young emblem of Jagdgruppe Ost.



Emblem of
Jagdgruppe Ost
as applied to only
starboard side of fuselage.



Defence in Depth

The summer of 1943 found Germany's war effort floundering seriously. On 10 July, five days after the launch of the offensive at Kursk on the Russian Front, Allied forces landed in Sicily and on the 12th, following a massive tank battle at Prokhorovka, the German thrust around Kursk was halted and by the 16th the Germans had begun to withdraw from the salient. On the 19th, Hitler was compelled to travel to Italy to meet with Mussolini to lecture the *Duce* for two hours on how to fight wars and win battles.

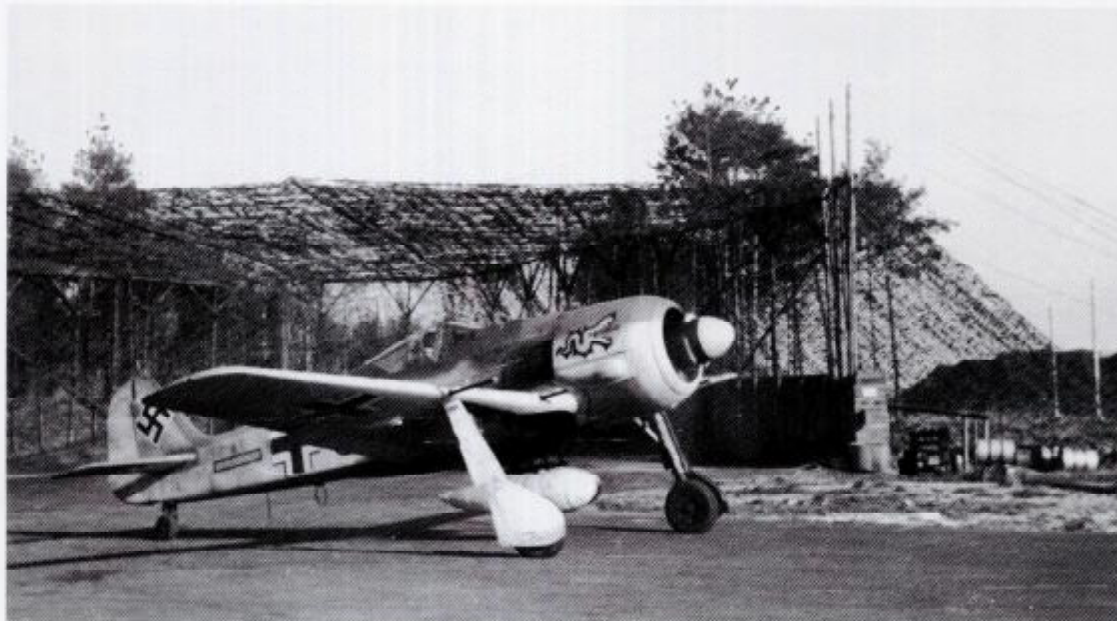
Ironically, despite the situation in Sicily, *Generalmajor* Adolf Galland, the *General der Jagdflieger*, used a relative lull in the American raids on north-western Germany during the first three weeks of July as an opportunity to withdraw a number of day fighter units from the south to bolster the air defence of the Reich against the anticipated continuation of heavier daylight bombing. In principle, this went against the policy of *Generaloberst* Hans Jeschonnek, the *Luftwaffe* Chief of General Staff, who wished to maintain maximum commitment to the Russian and Mediterranean Fronts, leaving daylight defence to the 250 plus fighters of JG 2 and JG 26 in France and the Low Countries. However, the threat posed by the Combined Bomber Offensive was such that there was little option but to withdraw fighter units from other fronts to rapidly reinforce units operating on the Channel Front and in the defence of the Reich. He believed that it was important to inflict substantial losses on the Americans at the beginning of their strategic offensive rather than wait to attack in strength by which time the Americans would be more experienced and could draw upon greater resources.

Galland succeeded to some extent. From Sicily came *Hptm.* Karl Rammelt's badly depleted II./JG 51, while the Bf 109s of II./JG 27 under *Hptm.* Werner Schroer (soon to be awarded the *Eichenlaub* to his *Ritterkreuz*) arrived at Wiesbaden-Erbenheim from Vibo-Valentia in southern Italy and by the end of July the fragmented elements of I./JG 27 had regrouped around Münster-Handorf under the command of its newly-appointed *Kommandeur*, the *Ritterkreuzträger*, *Hptm.* Ludwig Franzisket. Thus, by July, some 11 day-fighter *Gruppen* from JG 1, JG 3, JG 11, JG 27 and JG 51 plus elements of JG 54 were based within the Reich with half of the reinforcement being absorbed by the defences in north-west Germany. JG 2 and most of JG 26 remained in Holland and France to protect the airspace in the west. In addition, JG 300 was about to form at Bonn-Handelaar for *Wilde Sau* night operations using day-fighters under the command of the bomber *Experte*, *Major* Hajo Herrmann.

This redistribution of fighter strength meant that the Germans were able to pursue a policy of 'Defence in Depth' in which, by expanding their defensive zones along the coast and at the same time holding the bulk of fighter strength back in the Reich, *Luftwaffe* fighters would be beyond the range of US fighters and therefore free to concentrate on attacking the bombers.

Furthermore, single-engined fighter production had been increasing steadily throughout the first seven months of 1943 from about 480 to 800 aircraft per month, and by the time repaired aircraft were added some 1,000 fighters were available monthly for replacement and expansion. By 1 July

RIGHT: Posted to Rheine in mid-July 1943, the Fw 190s of II./JG 1 were also flown by the *Wilde Sau* night fighter unit II./JG 300 which did not possess aircraft of its own until December of that year. Photographed emerging from its camouflaged hide in the early autumn of 1943, this Fw 190 A-6 was assigned to a pilot of 6./JG 1 but was also flown on night missions by *Ofw.* Richard Löfgren of II./JG 300.



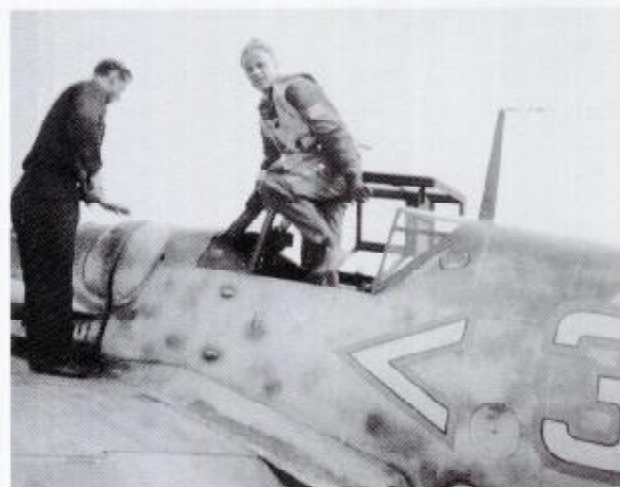
there were approximately 800 single-engined fighters available to Galland for the daylight defence of the Reich and the west, but they were being steadily depleted in a growing battle of attrition against the Allied air forces and at a rate that was difficult to sustain. In July 1943, fighter aircraft losses on all fronts stood at 31.2 per cent, while the loss of single-engined fighter pilots (on all fronts and all causes) in July stood at 330 or 16 per cent, an increase of 84 pilots on the previous month and of 64 pilots over May. Hard to bear was the accumulating loss of experienced fighter commanders. In June, the recently appointed *Kommandeur* of III./JG 26, *Hptm.* Kurt Ruppert, had been killed while leading a formation of 32 Bf 109 Gs in a rear pass against the lead group of 72 B-17s attacking Kiel. His aircraft was hit by return fire from the bombers and in baling out his parachute harness ripped and he fell to his death. In July, during American raids on Hamburg and Kiel, III./JG 1 suffered the loss of its *Kommandeur*, Major Karl-Heinz Leesmann, when, on the 25th, he was seen to crash into the sea following an attack against a group of B-17s. Although a search vessel was despatched immediately from Heligoland, he could not be found and his body was washed ashore on 16 August. In the meantime, *Hptm.* Robert Olejnik took command of III. *Gruppe*.

An increase in non-combat losses reflected the pressures being mounted on fighter training. Reductions in the training programme meant that, compared to an average of 210 hours the previous year, by the autumn of 1943 fighter pilots were reaching their operational units with an average on powered aircraft of 148 hours accumulated in an elementary A/B school, a Fighter Training School or *Jagdfliegerschule*, and an Operational Fighter Training Pool or *Ergänzungsjagdgruppe* (see *Jagdwaaffe* Vol. 2, Section 4). The *Jagdfliegerschulen* (JFS) had already been redesignated as *Jagdgeschwader* during the spring of 1943. JFS 1 at Werneuchen, for example, became JG 101 where the average duration of the fighter training course was three and a half to four months, compared to an average of four to five months in 1942.

JG 101 comprised three *Staffeln*, each offering a self-contained training course of approximately 25 pupils and 20-25 aircraft consisting of an assortment of Ar 96s, Bf 109 Es and Fs, Bu 131s and Bf 108s. A large proportion of training was dedicated to formation flying, aerobatics, navigation, cross-country flying and gunnery practice.

In June 1943, the four component *Staffeln* of *Ergänzungsjagdgruppe West* spread over south-western France supplied Bf 109 and Fw 190 pilots to operational *Jagdgruppen*. Pupils were instructed by operationally-experienced pilots in courses lasting normally one month, although demands from the operational units often shortened this period to 14 days. Courses consisted of circuits and bumps in the Bf 109 F followed by conversion to the Bf 109 G, or Bf 108 if converting to the Fw 190. Instruction in formation flying was similar to that received in a Fighter Training School, but in an *Ergänzungsjagdgruppe*, at least one flight was made in a formation of seven to nine aircraft led by an instructor. Heavy emphasis was placed on gunnery and target practice with machine guns and cannon.

The defensive infrastructure into which the Reich-based home defence fighter units were placed was controlled by a central command of *Luftflotte* status known as the *Luftwaffenbefehlshaber Mitte* (*Lw.Befh.Mitte*) based at Berlin-Dahlem under *Generaloberst* Hubert Weise. The *Lw.Befh.Mitte* assumed full responsibility for overseeing the operations of flying units, *Flak* units, signals units and ground forces engaged in the home air defence. Assigned for tactical purposes to the *Lw.Befh.Mitte* was the XII. *Fliegerkorps* based in a country house at Zeist in Holland under the command of *General der Flieger* Josef Kammhuber who performed the dual role of *Inspekteur der Nachtjäger* (Inspector of Night Fighters) as well as commanding all day fighter units in Germany, Holland and Denmark.



ABOVE Major Karl-Heinz Leesmann, *Kommandeur* of III./JG 1, was a victim of the attrition endured by the *Jagdwaaffe* in the summer of 1943 in its battle against the *Viermots*. He was killed on 25 July when his aircraft crashed into the sea shortly after he had attacked a formation of B-17s on its way to Hamburg and Kiel. Leesman is seen here the previous month climbing out of his Bf 109 G-6 'Chevron 3', of the *Gruppenstab* at Leeuwarden. The chevron and the '3' are probably in white thinly edged in black and with a wider border which may be red although, as the tone of the border is the same as the fuel triangle, is more probably yellow.

BELOW: As head of *Luftwaffenbefehlshaber Mitte* in 1943, *Generaloberst* Hubert Weise was in overall command of all flying, *Flak*, signals and ground units assigned to the air defence of the Reich.



Order of Battle *Oberbefehlshaber Mitte*, 10 June 1943

<i>Stab</i> /JG 1	Fw 190, Bf 109	6	(4)
I. <i>Gruppe</i> /JG 1	Fw 190	31	(19)
II. <i>Gruppe</i> /JG 1	Fw 190	41	(31)
III. <i>Gruppe</i> /JG 1	Bf 109	27	(20)
I. <i>Gruppe</i> /JG 3	Bf 109	40	(25)
<i>Stab</i> /JG 11	Bf 109	5	(5)
I. <i>Gruppe</i> /JG 11	Fw 190	32	(22)
II. <i>Gruppe</i> /JG 11	Bf 109	42	(35)
III. <i>Gruppe</i> /JG 11	Bf 109	23	(19)
<i>Jasta</i> Helgoland	Bf 109 T	15	(9)
9. <i>Staffel</i> /JG 26	Fw 190	13	(9)
2. <i>Staffel</i> /JG 27	Bf 109	10	(7)
4. <i>Staffel</i> /JG 54	Bf 109, Fw 190	14	(13)
11. <i>Staffel</i> /JG 54	Bf 109	11	(8)
III. <i>Gruppe</i> /JG 54	Bf 109 (less 12. <i>Staffel</i>)	32	(29)
<i>Stab</i> /1. <i>Jagd Div.</i>	Bf 109, Bf 110	2	(1)
<i>Stab</i> /NJG 1	Bf 110	6	(6)
I. <i>Gruppe</i> /NJG 1	Bf 110	36	(30)
II. <i>Gruppe</i> /NJG 1	Bf 110, Do 217	40	(21)
III. <i>Gruppe</i> /NJG 1	Bf 110	27	(21)
IV. <i>Gruppe</i> /NJG 1	Bf 110	28	(22)
<i>Stab</i> /2. <i>Jagd Div.</i>	Fw 190	1	(0)
<i>Stab</i> /NJG 3	Bf 110	8	(6)
I. <i>Gruppe</i> /NJG 3	Bf 110, Do 217	24	(19)
II. <i>Gruppe</i> /NJG 3	Bf 110, Do 217	24	(16)
III. <i>Gruppe</i> /NJG 3	Bf 110, Do 217	20	(13)
IV. <i>Gruppe</i> /NJG 3	Ju 88	36	(27)
<i>Stab</i> /3. <i>Jagd Div.</i>	Bf 109	-	(-)
I. <i>Gruppe</i> /NJG 4	Bf 110, Do 217	36	(24)
II. <i>Gruppe</i> /NJG 4	Bf 110, Do 217	35	(26)
III. <i>Gruppe</i> /NJG 4	Bf 110, Do 217	26	(18)
IV. <i>Gruppe</i> /NJG 4	Bf 110	30	(26)
<i>Stab</i> /4. <i>Jagd Div.</i>	Bf 110	1	(1)
<i>Stab</i> /NJG 5	Bf 110, Ju 88	2	(2)
I. <i>Gruppe</i> /NJG 5	Bf 110	17	(13)
II. <i>Gruppe</i> /NJG 5	Bf 110	19	(12)
IV. <i>Gruppe</i> /NJG 5	Bf 110, Ju 88	45	(26)
7. <i>Staffel</i> /NJG 6	Bf 110 (part of I. <i>Gruppe</i>)	12	(11)

Supreme control of JG 2 and JG 26 in France and Belgium was vested in *Luftflotte* 3 based in Paris under *Generalfeldmarschall* Hugo Sperrle.

Subordinate to the *Lw.Befh.Mitte* and *Luftflotte* 3 was a network of six regional *Jagddivisionen* responsible for overseeing tactical day and night fighter operations while maintaining air situation maps from reports received from the German radio intercept and radar services. The small staff of 1. *Jagddivision*, for example, was based temporarily in a villa in the village of Schaarsbergen near Arnhem in Holland having moved from a former psychiatric hospital some six kilometres to the north of Arnhem on the road running to Deelen airfield, while its sophisticated operations bunker, codenamed *Diogenes*, complete with advanced early warning, tracking and communications systems, was still under construction nearby.

Reporting to the *Jagddivision* was the *Jagdfliegerführer*, or *Jafü*, the area fighter commander. This officer was usually based at the *Division* headquarters and was responsible for conducting day-to-day tactical operations and ensuring that units within his local command area were informed of the current air situation. The *Jafü Holland-Ruhrgebiet*, for example, was initially quartered at Amsterdam-Schiphol with an outpost at Zandvoort. It later moved to share facilities with the 1. *Jagddivision* at Deelen. The

Jagdfliiegerführer carried out his duties in an air conditioned control room, in which was the *Leuchtschirmkarte*, a translucent grid map six metres square. Behind this map was accommodated a large team of female auxiliaries or *Leuchtpunktwerferinnen* who each controlled one grid and, with information received from early warning stations and the aid of an electric pencil, projected spots of red light representing hostile aircraft onto the screen. From a balcony facing the screen, other auxiliaries projected the positions of German fighters using spots of white light, while further translucent maps showed the position of other friendly aircraft and shipping.

The *Jagdfliiegerführer* and his staff, consisting of an assistant controller and Flak and radar liaison officers, sat in tiers of seats at the back of the room and were in direct communication with the fighter airfields in the *Jafü* area. About ten *Jägerleitoffiziere* formed a row in front of the screen, their duty being to control the movements of German fighters in the air by means of FuG 16 radio sets.

In mid-July 1943, the composition of this network was as follows:

Luftwaffenbefehlshaber Mitte

HQ: Berlin-Dahlem and Wannsee (*Gen.Obst.* Hubert Weise)

Command Area: The Reich, Denmark, Bohemia-Moravia, Posen and areas of western Poland

XII. Fliegerkorps

HQ: Zeist, Holland (*Gen. der Fl.* Josef Kammhuber)

Command Area: The Reich, Holland, areas of Belgium, north-eastern France and Denmark

1. Jagddivision

HQ: Deelen, Holland (*Gen.Lt.* Karl-Bertram von Döring)

Command Area: North-western Germany east of the Elbe, Holland and areas of Belgium

Jafü Holland-Ruhrgebiet

HQ: Deelen, Holland (*Obst.* Walter Grabmann)

Command Area: North-western Germany, Holland and areas of Belgium

2. Jagddivision

HQ: Stade (*Gen.Lt.* Walter Schwabedissen)

Command Area: Heligoland Bight, Hamburg, Bremen, Hannover, Schleswig-Holstein and Denmark

Jafü Deutsche Bucht

HQ: Stade (*Obst.* Hentschel)

Command Area: Heligoland Bight, Hamburg, Bremen, Hannover, Schleswig-Holstein and Denmark

3. Jagddivision

HQ: Metz (*Gen.Maj.* Werner Junck)

Command Area: Belgium and north-eastern France

4. Jagddivision

HQ: Döberitz (*Gen.Maj.* Joachim-Friedrich Huth)

Command Area: Northern Germany east of the Elbe, East Prussia, Silesia and central Germany

Jafü Mitteldeutschland

HQ: Döberitz (*Gen.Maj.* Frommherz)

Command Area: Northern Germany east of the Elbe and central Germany

5. Jagddivision

HQ: Schleissheim (*Obst.* Harry von Bülow)

Command Area: Southern Germany



ABOVE: An aerial view of the immense, purpose-built divisional fighter control bunker at Arnhem-Deelen in Holland. Constructed largely of reinforced concrete to protect it from air bombardment, the building served as headquarters of the 1. Jagddivision under Generalleutnant von Döring from January to October 1943, when the Division was redesignated 3. Jagddivision under the same commander. The Division was responsible for the control of all day and night fighter units in north-west Germany, Holland, and parts of Belgium. Known as a 'battle opera house' because of its tiered seating system and artificial lighting, the building housed a team of experienced fighter controllers supported by auxiliaries and a sophisticated communications and reporting system.

Jafü Süd

HQ: Schleissheim (Obst. Harry von Bülow)

Command Area: Southern Germany

Jafü Ostmark (semi-autonomous)

HQ: Schloss Cobenzl, Vienna (Obst. Gotthard Handrick)

Command Area: Austria, Bohemia-Moravia and Hungary

Pressure began to mount on the German defences. On the night of 24-25 July, 741 bombers from RAF Bomber Command mounted a major night raid against Hamburg. At midday on the 26th, the Allied Combined Bomber Offensive continued when 122 American B-17s bombed the city again, disrupting rescue operations. The British returned on the night of 27/28th with a force of 739 bombers which dropped more than 2,300 tons of bombs, setting 16,000 buildings ablaze in the infamous firestorm raid.

As the Allied daylight raids intensified still further, Galland reasoned that it would be prudent to limit the number of machines and operations flown by the home defence *Geschwader* against individual enemy raids, so as to allow sufficient repair and re-grouping of aircraft which had landed on emergency fields. Only by carefully conserving strength and by efficient management of its most precious resources, namely its pilots, could the *Jagdwaaffe* hope to cause any damage to the bombers. Unimpressed, Göring brushed this theory aside and demanded that all available units be thrown against every raid wherever and whenever possible.

By July, in a turning point for USAAF fighter operations, P-47 Thunderbolts of the 4th FG appeared for the first time in German skies fitted with auxiliary fuel tanks, which greatly extended their range. Initially, Galland failed to convince Göring that enemy fighter escort had actually penetrated Reich airspace. According to Hitler's armaments minister, Albert Speer, shortly after the first P-47 had been shot down over the German border in mid-1943, Göring had insinuated that the wreckage which his fighter commander had seen near Aachen had been the product of '...pure fantasy.' On 28 July however, the first occasion that the P-47s were used, the *Luftwaaffe* waited until the escort had to turn back before launching a concentrated attack in bad weather on the then vulnerable bombers heading for the Fieseler works at Kassel-Battelshausen and the AGO works at Oschersleben. Ten *Jagdgruppen* were assembled in defence, six from JG 1 and JG 11, plus I. and III./JG 26, I./JG 3 and III./JG 54. These units were augmented by the specialist anti-bomber weapons development unit, *Erprobungskommando* 25 and the *Industrieschutz-Schwärmen* – Factory Defence Flights – from the Focke-Wulf plant in Bremen and Fieseler in Kassel.

The German fighters, spearheaded by the Fw 190s of JG 1 and followed by the Bf 109 Gs of *Hptm.* Günther Specht's II./JG 11, attacked the American formation head-on. Twenty-two bombers went down, 12 of them credited to II./JG 11. JG 26 accounted for a further three B-17s destroyed and one *Herausschuss*, although bomber gunners shot down two Fw 190s from I. *Gruppe*. One pilot from I./JG 3 also shot down a bomber.

In one of their first major deployments, new types of weapons intended specifically for use against the heavy bombers were deployed. Aircraft from JG 1 and JG 11 carried newly-fitted 21 cm WGr. mortar tubes – or 'stovepipes' – under their wings. Fired from beyond the defensive range of the bombers, the

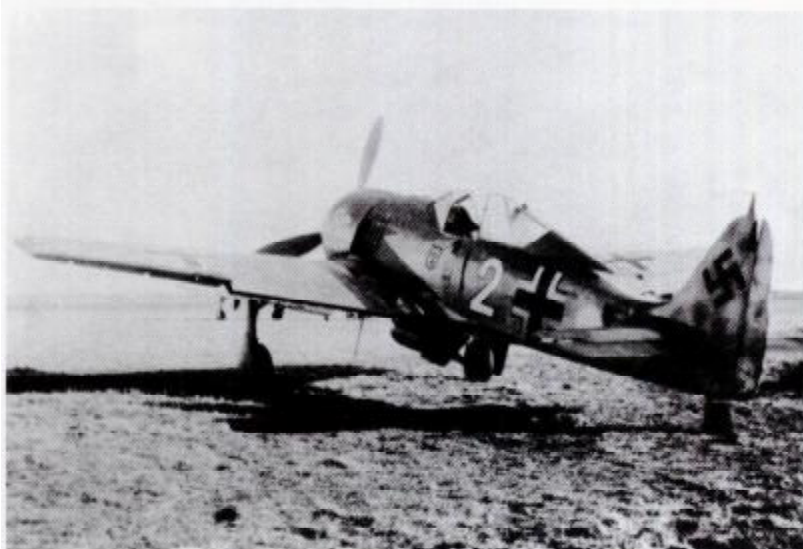
mortar shells were intended to detonate within or even near to a formation, causing sufficient blast effect to break it up. One Fortress from the 385th BG received a direct hit, broke up and crashed into two other B-17s, causing all three aircraft to go down. In another innovative example, *Uffz.* 'Jonny' Fest of 5./JG 1 claimed three bombers destroyed after dropping a bomb into the American formation.

The more experienced German pilots also demonstrated their skill; *Hptm.* Specht claimed one B-17 and the *Gruppenkommandeur* of I./JG 1, *Hptm.* Emil-Rudolf Schnoor claimed another for his ninth victory.

Altogether 25 bombers were shot down. These encouraging results were tempered by

Continued on page 18

BELOW: 'White 2', an Fw 190 A-4 of I./JG 1 equipped with a bomb and almost certainly one of the machines which took part in JG 1's air-to-air bombing missions in mid-1943. Note that the circular IV. Gruppe marking aft of the Balkenkreuz has been painted out, indicating that at the time of this picture the IV. Gruppe had recently been redesignated to form a new I./JG 1. However, the Staffel emblem of the former 7./JG 1 on the engine cowling indicates that at some point in its history, this aircraft had also flown with III./JG 1.



'Stovepipes'

In early June 1943, in accordance with instructions issued by the office of the *General der Jagdflieger*, a consignment of thirty 21 cm *Nebelwerfer* 42 mortar tubes together with 200 mortar shells from the Army munitions storage facility at Lübeck-Gestringsen were delivered to I./JG 1 at Schiphol with a further 34 tubes and 200 shells going to II./JG 26 in France.

Originally designed as an infantry weapon for use in ground warfare, the intention was to install the mortars under the wings of Fw 190s and employ them as air-to-air weapons against formations, or *Pulke* of USAAF four-engined bombers, where the blast effect from a shell exploding within the confines of a formation would scatter the *Viermots*, thus weakening their defensive firepower and rendering individual bombers more vulnerable to attack.

Redesignated as the *Wurfgranate* 42 and later as the *Werfergranate* 21, but less formally known as 'stovepipes' because of the shape of the launch tubes, initial experiments were conducted by the *Ritterkreuzträger* and former *Zerstörer ace*, Hptm. Eduard Tratt, *Kommandeur* of *Erprobungskommando* 25, who had been seconded to I./JG 1 where he formed the *Erprobungskommando*/JG 1 equipped with four Fw 190 A-4s, specifically to carry out the task. At JG 26, Lt Otto Hummel of 5. *Staffel* was assigned to conduct similar experiments.

Firing practice took place over the North Sea and, on 13 June, three B-17s were claimed by mortars over the German Bight, while on the 22nd, *Ofw.* Hans Laun and *Ofw.* Günter Fick of I./JG 1 claimed a further two *Viermots* shot down and two damaged. These initial results proved sufficiently satisfactory for trials to continue using the Fw 190s of JG 1 and JG 26 as well as *Ekdo* 25 at Achmer and the *Erprobungsstelle* at Tarnowitz.

Hptm. Horst Geyer, *Kommandoführer* of *Ekdo* 25 recalled: "Unlike other missiles, the 21 cm 'Werfer', which came to us from the Army, was not equipped with fins or stabilizers. Rather, this weapon was stabilized by its own spin which, in turn, was created by the blast from initial ignition and the subsequent velocity. The 21 cm shell turned two or three times per second after leaving its launch tube, but speed increased rapidly thereafter.

"We observed that the shell did not run straight to its intended target, but rather it spiralled and therefore often missed the target. To overcome this, the manufacturer built in a time fuze intended to detonate the shell at a pre-set time. We usually fired the weapon from a range of 400 metres and from our experience with it, we were able to set the fuze correctly, compensating, of course, for the approach speed of the target. However, the closer to the target you were, so the greater the blast and the success of the weapon."

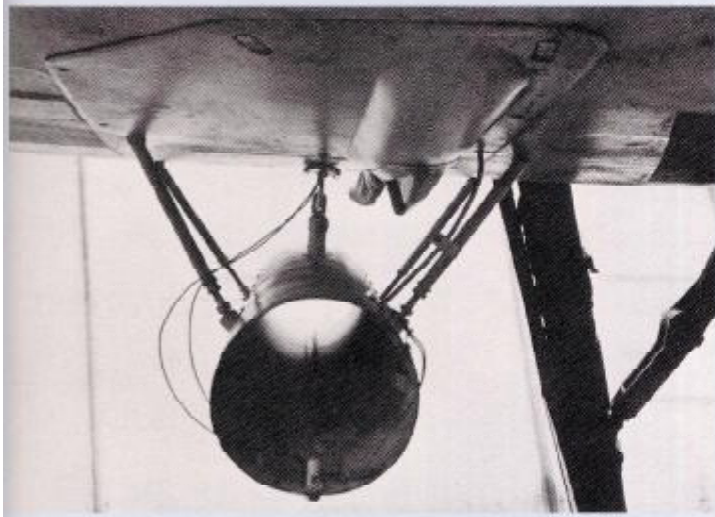
One 1.3 metre long rifled mortar launching tube was suspended from the underside of each wing of an Fw 190 A-4/R6 by means of four bracing lugs and a central hook with a suspension bracket. Three retaining springs located near the rear end of the tube held the 112 kg shell with its 40 kg warhead in place and a screw, also at the rear end of the tube, prevented the shell from sliding out. In an emergency, the launching tube could be jettisoned by activating an electrically-primed explosive charge which severed the central hook.

The mortars were controlled from a cockpit armament panel containing two armament switches and a Revi 16B reflector sight. Two spin-stabilized shells were fired simultaneously when the pilot depressed a button on his control column.

The mortar shells were fitted with a time fuze, pre-set at 800 m prior to delivery to an operational unit and not subsequently adjusted. The firing range was therefore invariable and the weapon's low velocity meant that to be effective, it had to be aimed 60 metres above its target and a shell had to detonate within 28 metres of a bomber.

BELOW: A loaded 21 cm mortar tube as fitted to the wing of an Fw 190. Note the central hook with suspension bracket with which the tube could be jettisoned in case of an emergency. With a gross weight of 152 kg for the shell and warhead, plus the weight of the tube itself, a pair of such weapons made a single seat fighter extremely heavy and unwieldy, and most pilots were glad to fire off their weapons as soon as possible.

BELOW: A rear view of an empty 21 cm mortar tube, ie 'stovepipe', fitted below the wing of an Fw 190. The tube was suspended by means of four bracing lugs and a central hook with a suspension bracket. Three retaining springs located near the rear end of the tube held the 112 kg shell with its 40 kg warhead in place and the screw shown here at the rear end of the tube (visible here) prevented the shell from sliding out. In an emergency, the launching tube could be jettisoned by activating an electrically-primed explosive charge which severed the central hook.



The weapon was used in numbers for the first time operationally on 28 July 1943 during an American raid to Kassel and Oschersleben. Results were acceptable in as much as fragmentation from blast did break up the bombers and a number were claimed destroyed as an indirect result.

In a report prepared in late August 1943, the Headquarters of the Eighth Air Force warned: 'It would appear to be the most dangerous single obstacle in the path of our bomber offensive.'

The weapon was perhaps used to its greatest effect against the American raid on Schweinfurt on 14 October 1943, when 62 heavies were shot down, many as a result of being separated from their formations by the mortars.

Mortars were also fitted to the Bf 109G-6s of IV./JG 3, I., II. and III./JG 53, I. and III./JG 77 and I./JG 5 and used to varying effect in the Mediterranean and Rumania from August 1943 until early 1944. Other Bf 109s of 7./JG 3, 5./JG 11, 2./JG 27 and 6./JG 51 so equipped operated in the Defence of the Reich and a number of Bf 110G-2/R-3 *Zerstörer* of ZG 76 and Me 410As of ZG 26 carried a pair of twin mortar tubes in addition to an array of cannon and machine guns and operated as heavily-armed bomber-destroyers.

However, although further trials to improve the WGr. 21 continued under *Ekdo*. 25 until mid-1944, it was found that the launch tubes robbed German fighters – particularly the heavier *Zerstörer* – of their performance and made them vulnerable to Allied fighters. Senior *Luftwaffe* fighter commanders recognised the psychological effect of the mortars on bomber crews, but equally that when fitted to the Fw 190, a loss in speed of 40-50 km/h was incurred plus a loss of ceiling and manoeuvrability. Lacking any accurate range-finding device, pilots found that judging the correct release point was difficult, and by late 1944, the mortars had all but disappeared from use. However, in March 1945 a small number of Me 262 A-1a jet fighters of the *Stabstaffel* and III./JG 7 were fitted with WGr. 21 mortars in a brief experiment during which one such aircraft is believed to have been flown by *Major* Rudolf Sinner.



ABOVE: Fw 190A-5, W.Nr. 1372, 'White 4' of the weapons testing and evaluation unit, Erprobungskommando 25, was used to conduct firing trials with the 21 cm air-to-air mortar. Built by Focke-Wulf in Marienburg, it is believed the aircraft was with JG 1 before being transferred to *Ekdo*. 25. In this dramatic photograph, taken at Barth airfield, west of Stralsund on the north German coast in early 1944, a mortar is remotely fired from the aircraft for testing purposes and aimed across the waters of the Barther Bodden in the direction of Zingst.



1943-1944



ABOVE AND OPPOSITE BOTTOM: Fw 190 A-5, W.Nr. 1372, 'White 4' of Erprobungskommando 25 was used in further experiments at Barth to test the feasibility of rearward-firing 21 cm mortar tubes. It was planned that a fighter would approach a bomber formation from behind and above or below, thus avoiding the worst of the defensive fire, and launch its mortars into the formation as it passed in front of it. In these photographs, 'White 4' has been jacked up and the tubes fitted in reverse so that they angle slightly upwards and backwards. Note the cable for remote test-firing fitted to the starboard tube.



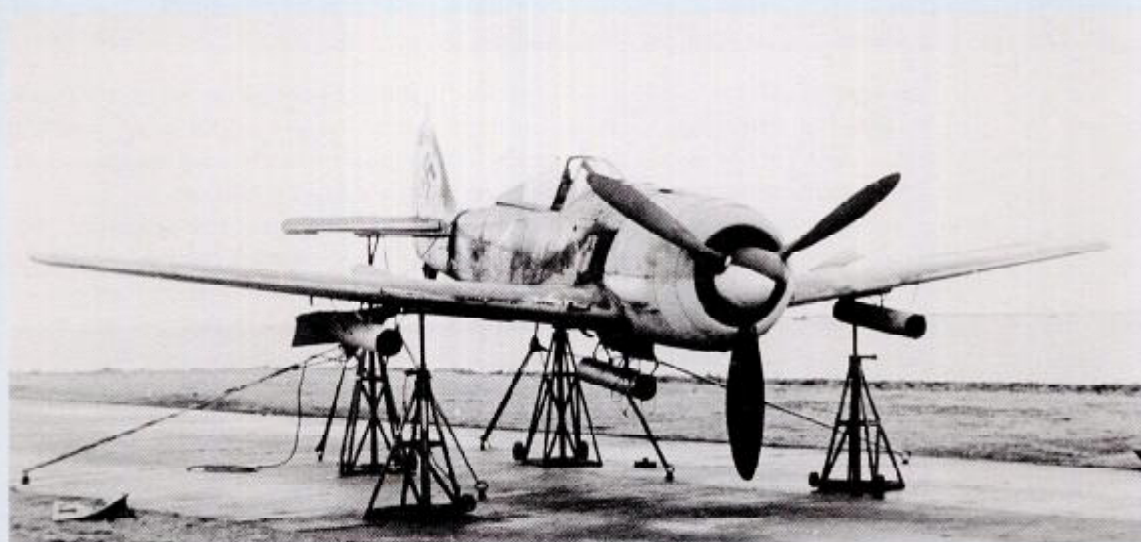
ABOVE: The results! The blast from the mortar has severely damaged the trailing edge of the wing and buckled and torn the control surfaces.



Focke-Wulf Fw 190 A-5, W.Nr. 1372, 'White 4' of Erprobungskommando 25, Barth, early 1944

The identity of this machine has obviously been changed as a patch of RLM 74 shows where an earlier tactical number ahead of the white '4', probably of an operational unit, has been painted out. Other tactical markings, i.e. the yellow nose panel and rudder, have been retained and the machine has the virtually standard black flash over the exhaust area. The spinner is green 70 with a one third white segment, and the camouflage colours are 74 and 75 on the upper surfaces and 76 undersides. Motting is largely confined to the nose and tail.

RIGHT: In a final and perhaps overoptimistic experiment, a third tube has been fitted on a rack beneath the fuselage centreline of 'White 4'. Fuselage-mounted rearward-firing mortars did see further limited trials with 12./JG 3 at Barth in May 1944.

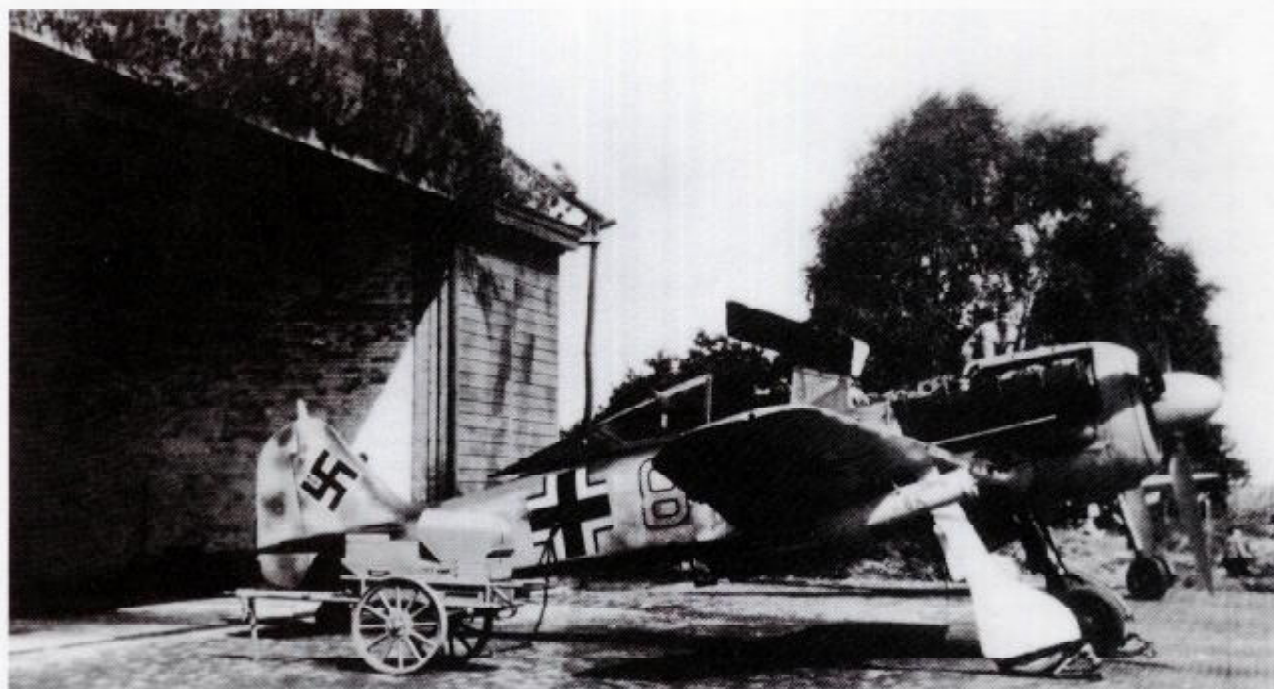


1943-1944



Focke-Wulf Fw 190 A-5/R6, 'Yellow 8' of 3./JG 1, Deelen, July 1943

With its tactical number, Tatzelwurm and spinner in yellow, the 3. Staffel colour features prominently on this machine, although the yellow nose panel is a recognition aid common to all German fighters of the period. The basic aircraft camouflage scheme consists of a 74/75 splinter pattern on the upper surfaces and 76 undersurfaces with fairly prominent mottles on the fuselage sides and, particularly, on the rudder. Note the unusual style of the tactical number on the fuselage and the '8R' painted on the mortar tube. As this probably indicated 'recht', or right side of 'Yellow 8', it is reasonable to suppose that the left, or 'links', tube was painted '8L'.



LEFT:
An Fw 190 A-5/R6, 'Yellow 8' of 3./JG 1 at Deelen in July 1943, showing the 'stovepipes' for launching 21 cm air-to-air mortars. The lead from the starter trolley has already been plugged into the aircraft's fuselage.

the unexpected clash between P-47s of the 4th FG sent to cover the B-17s' withdrawal, and a mixed formation of Focke-Wulfs and Messerschmitts of JG 1 and I./JG 26 which was in the process of launching an attack against the bombers near Emmerich. In a running engagement between Utrecht and Rotterdam, the Americans claimed nine German fighters shot down.

In its Narrative of Operations for 28 July, VIII BC reported: 'Heavy fighter opposition... Attacks were made predominantly from 12 o'clock high and 6 o'clock level, although scattered attacks were made from all directions.'

German tactics against the *Viermots* at this time seemed to sway between attacks from the rear of a formation and from head-on. Those pilots electing to mount rearward attacks found that the most vulnerable spot on a four-engine bomber was the wing area between the fuselage and the inboard engines. The number three engine on a B-17 Flying Fortress was considered particularly important because it powered the hydraulic system.

However, following the encouraging initial successes achieved by pilots such as *Hptm.* Egon Mayer of III./JG 2 (see *JagdwaFFE* Vol. Four, Section One) in late 1942, Galland, a keen proponent of tactical innovation, issued a circular to all *LuftwaFFE* fighter units in which he wrote:



LEFT: Hptm. Günther Specht in conversation with pilots of JG 1 in mid-1943. Specht lost his right eye during an air battle in December 1939 whilst serving with I./ZG 26. Following various staff appointments and a period as commander of a nightfighter training school, he was appointed Kommandeur of II./JG 11 in May 1943. Specht had a reputation as one of the most tenacious commanders operating in the defence of the Reich. Despite the use of only one eye – or perhaps even because of it – he was an extremely accurate shot. In May 1944 he took over as Kommodore of JG 11, replacing Major Herbert Ihlefeld who had been appointed to a staff position on the Stab of 30. Jagddivision. Specht was shot down and killed in the Maastricht area on 1 January 1945 while leading JG 11 in Operation Bodenplatte, the attack on Allied airfields. He was credited with 32 victories claimed in the West – including 15 Viermots – and had been awarded the Ritterkreuz on 8 April 1944. Also seen to Specht's right in this photograph is Ofw. Otto Bach, a veteran fighter pilot who flew with II. and IV./JG 1. He was killed in an engagement with P-51s over Rochau-bei-Stendal on 26 November 1944 whilst Staffelführer of 7./JG 1. He is believed to have scored some 25 victories.

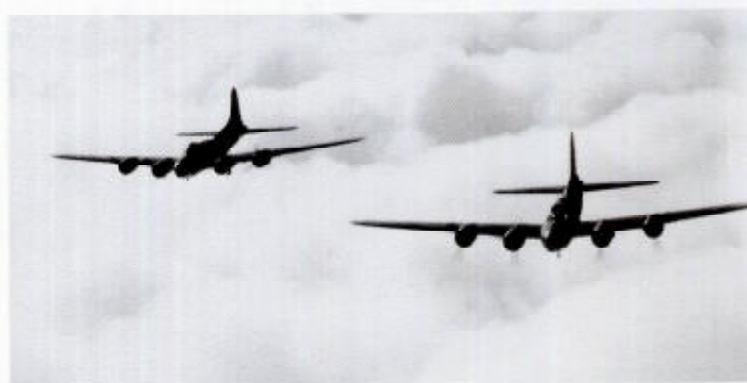


LEFT: Hptm. Emil-Rudolf Schnoor (far left), Staffelführer of 8./JG 1, in conversation with Generalleutnant Adolf Galland during a visit by the General der Jagdflieger to Leeuwarden in March 1943. Schnoor was credited with the destruction of several four-engined bombers and served as Gruppenkommandeur of I./JG 1 from the beginning of 1944 until badly injured on 16 April when his Fw 190 A-7 crash-landed during a routine service flight.

- The attack from the rear against a four-engined bomber formation promises little success and almost always brings losses. If an attack from the rear must be carried through, it should be done from above or below and the fuel tanks and engines should be the aiming points.
- The attack from the side can be effective, but it requires thorough training and good gunnery.
- The attack from the front, front high, or front low, all with low speed was the most effective of all. Flying ability, good aiming and closing up to the shortest possible range are the prerequisites for success.
- The exit can succeed only in a sharp diving turn in the direction of the bomber formation or single bomber. The most important factor is the angle of bank with which the fighter leaves the bomber formation.
- Basically, the strongest weapon is the massed and repeated attack by an entire fighter formation. In such cases, the defensive fire can be weakened and the bomber formation broken up.

BELOW: The view seen by a German fighter pilot while closing in for a frontal attack on a formation of B-17s.

In executing the head-on attack, which many units preferred, the cockpit and, once again, the number three engine became the most important targets. It was calculated that, on average, it required 20 hits with 20 mm shells to bring down a heavy bomber. However, as the fighter closed in on its target, the combined approach speed would be approximately 805 km/h at 183 metres per second, and this allowed only a half-second burst from the fighter before it was forced to break away in order to avoid collision with the bomber.



By the end of July, no fewer than 600 Bf 109s and Fw 190s had been lost in the Mediterranean. The irrefutable fact was that heavy fighter losses incurred in and around Sicily had severely curtailed the Luftwaffe's ability to enhance its home defence operations, just as the Americans were about to attempt a bold new step.

The Head-On Attack

The following diagrams and captions are based on official gunnery instructions issued to German fighter pilots from 1943 onwards and illustrate the theoretical frontal attack methods to be employed by a single-seat fighter when engaging a four-engined heavy bomber.

Diagram 1
Four-engined bomber seen from the front at a range of 1,500 metres. The target's wingspan fits into the gun sight five times. Combined closing speed expected at 250 metres per second. Fire would be opened at 800-300 metres, therefore two seconds were available to attack.

Diagram 2
Four-engined bomber seen from the front at a range of 900 metres. Pilot was to aim slightly above the bomber's fuselage and then open fire.

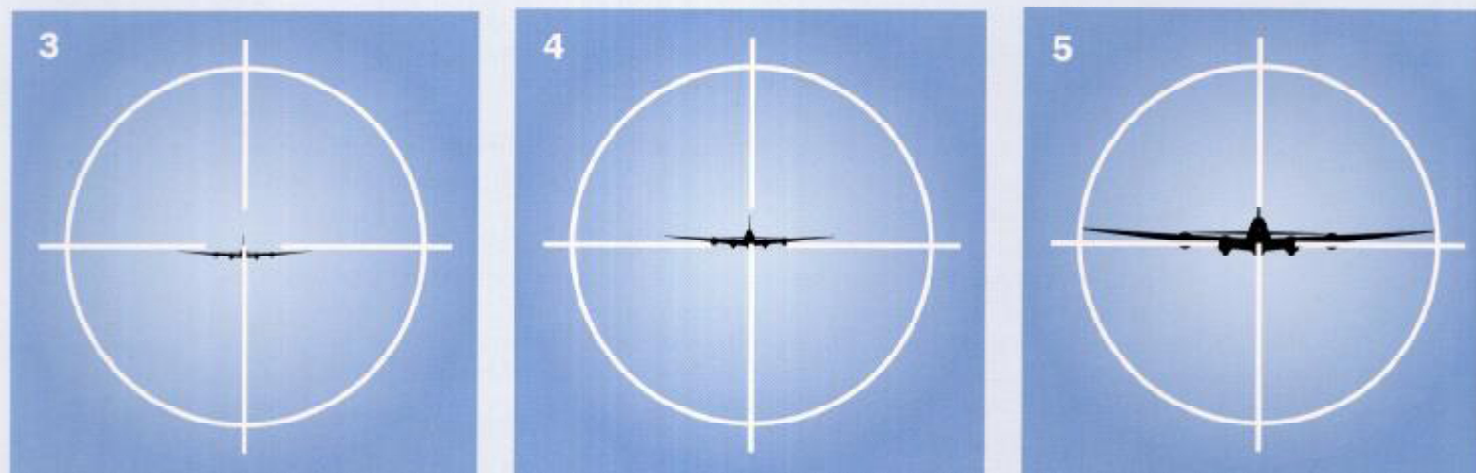
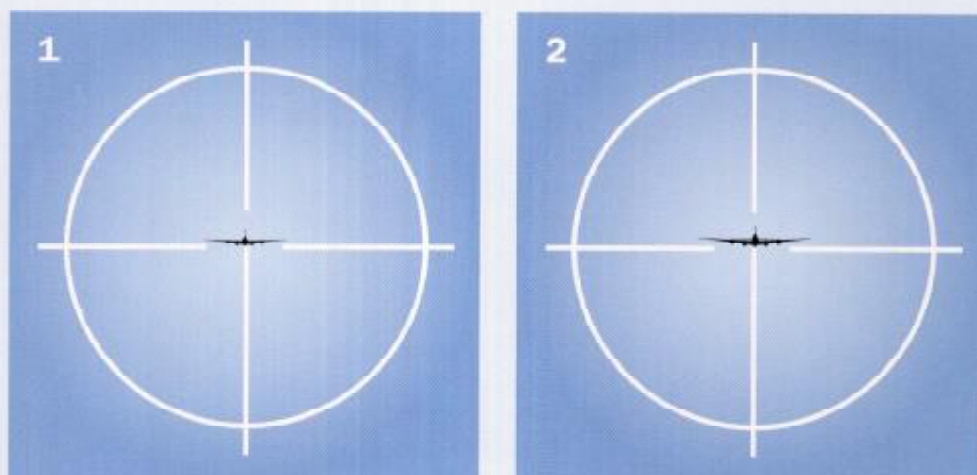
Pilots were to approach the bomber formation in such a way as to be able to determine its direction of flight, continuing in that direction until 4000-5000 m ahead of it, with the formation visible to the left or right of the horizontal stabilizer. It was envisaged that it would usually take between 5 and 7 minutes to reach this point after overtaking the formation.

The pilot was then to make a tight turn with engine throttled back slightly and commence the approach flight. At such ranges, directional differences were initially very small but quickly increased as combat range necessitating sudden increases in deflection which were difficult to make in the very short time available.

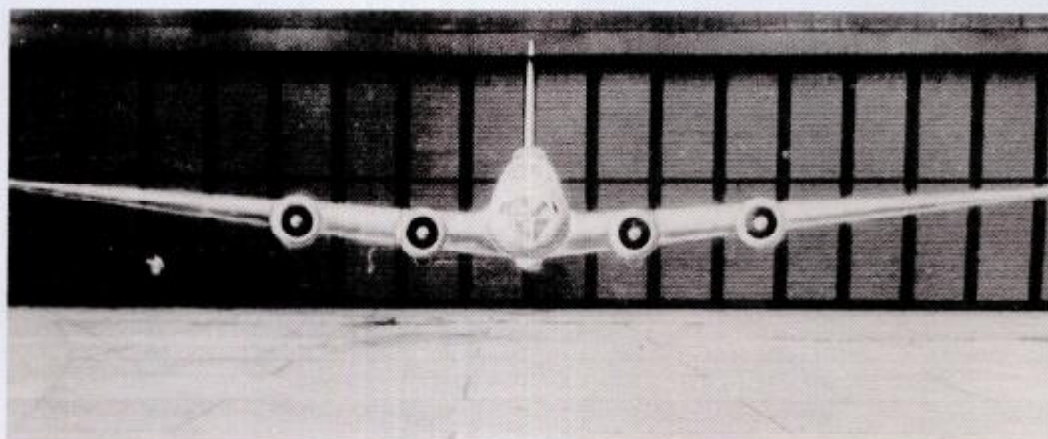
Diagram 3
Four-engined bomber seen from the front at 800 metres range. Pilot fires continuously, while moving the sight onto the centre of the fuselage.

Diagram 4
Four-engined bomber seen from the front at 600 metres range. The pilot is still firing at the target.

Diagram 5
Four-engined bomber seen from the front at a range of 300 metres. Pilot now breaks away, forcing enemy gunners to react to fast directional changes and large deflection.



RIGHT: By mid-1943, the Jagdflieger based in the West and the Reich were never allowed to forget their priority target. Here, the formidable frontal view of a B-17 has been painted in scale on the doors of a hangar for range and gunnery familiarisation purposes.





Emblem of 8./JG 1

Messerschmitt Bf 109 G-6/R6, 'Black 7' flown by Fw. Josef Kehrle of 8./JG 1, Leeuwarden, summer 1943

Finished in a standard 74/75/76 splinter pattern and mottled fuselage sides, the port fuselage side of this aircraft carried the badge of 8./JG 1 and the hunter emblem of Fw. Kehrle's Rotte, beneath which was the wording 'Benjamin'. The wing root was painted with a black protective finish and although the spinner was painted with a red and white spiral design, the backplate remained in green 70. The uppersurface crosses were the white outline style.



The emblem of
Fw. Josef Kehrle's
Rotte



BELOW: This Bf 109 G-6/R6 'Black 7' photographed at Leeuwarden in the summer of 1943, was flown by Fw Josef Kehrle's of 8./JG 1. Note the FuG 16 ZE radio antenna visible under the fuselage and the clips on the side of the fuselage for the sunshade, although here the angle of the sun precludes their use. Clearly visible behind the exhaust and wing root is the black paint applied to protect this area from the hot gasses and conceal carbon deposits. Fw. Kehrle was one of the pilots who took off on 3 November 1943 to intercept a formation of heavy bombers detailed to attack the port of Wilhelmhaven. On this occasion, the bombers' escort bounced the German fighters and Kehrle was wounded. After returning to the Staffel, he continued to fly until wounded again in April 1944. His final tally was 14 victories of which 12 were four-engined bombers.



1943-1944

RIGHT: The distinctive chequered engine cowlings first appeared on aircraft of I./JG 1 in the early summer of 1943. The chequers matched the colour of the fuselage identification number:

- 1./JG 1 = black/white
- 2./JG 1 = black/red
- 3./JG 1 = black/yellow.

Also seen here is the 1. Gruppe emblem depicting the figure of a devil emerging from cloud. This was previously the emblem of the first formation of IV./JG 1.



Focke-Wulf Fw 190 A-6, W.Nr. 530135, 'White 12' flown by Uffz. Bernhard Kunze of 1./JG 1, July 1943
 'White 12' was finished in the camouflage colours 74, 75 and 76, these appearing as a segmented pattern on the upper surfaces with the 76 fuselage sides quite densely, but not darkly, mottled with 74 and 75. The engine cowling was painted with the black and white squares of 1./JG 1, although as with all aircraft of JG 1, the standard yellow underpanel was retained.

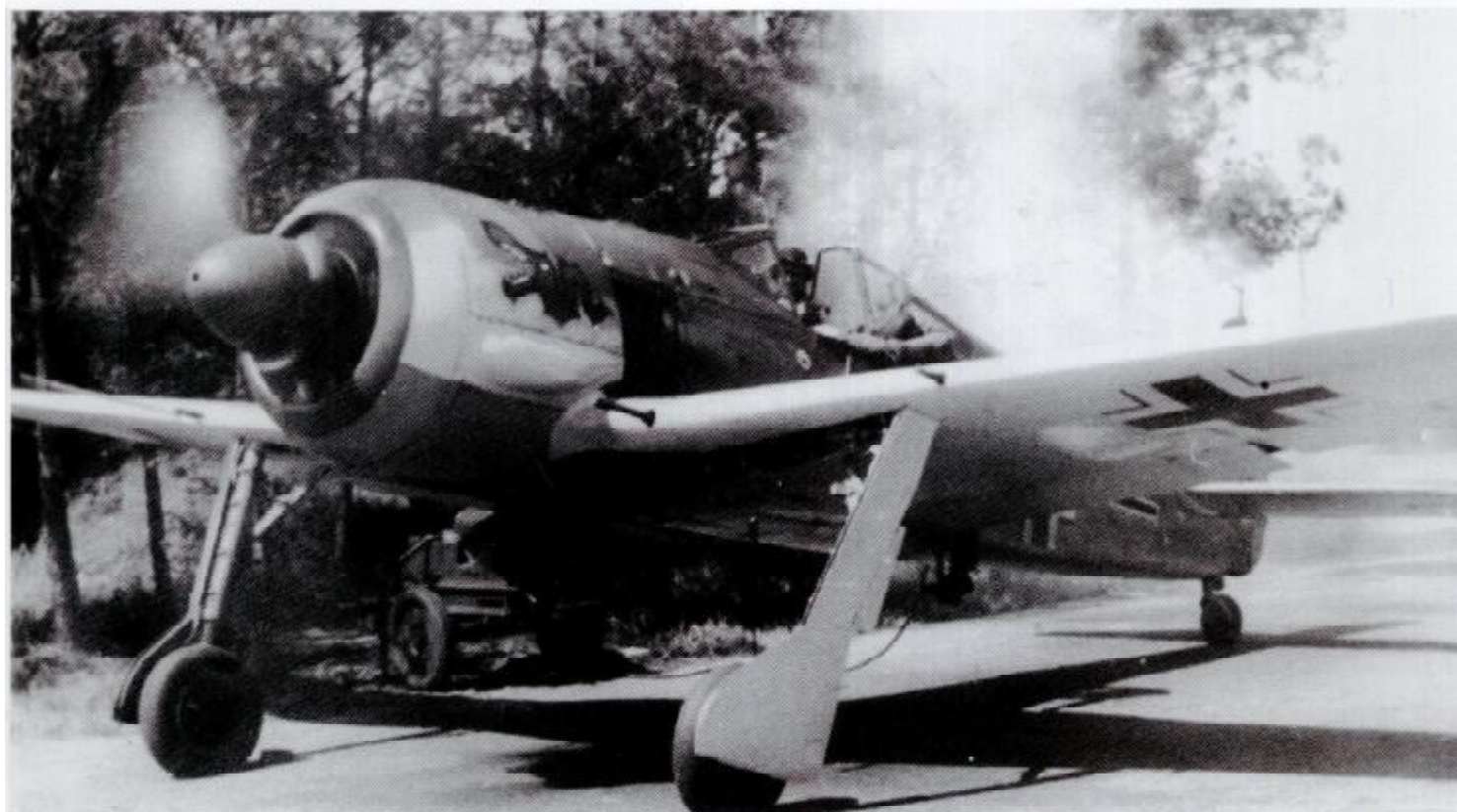
RIGHT AND BELOW: On 28 July 1943, following combat with B-17s, Uffz. Bernhard Kunze of 1./JG 1 landed his Fw 190 A-6, W.Nr. 530135, 'White 12' on the roof of the municipal swimming baths at Drachten in Holland. The aircraft was reported as 80 per cent damaged, but the pilot remained unharmed.





ABOVE: On 12 August 1943, pilots of II./JG 1 claimed to have shot down seven B-17s, one of which was credited to Lt. Kurt Ibing, shown here in front of an Fw 190 A-4 of 5./JG, as his first victory.

BELOW: With a mechanic climbing down from the aircraft to disconnect the lead of the ground starter trolley, a cloud of exhaust smoke is blown back by the propeller as Lt. Martin Lacha of 4./JG 1 starts the BMW 801 D-2 engine of his Fw 190 A-4 in the summer of 1943. Note the red Tatzelwurm emblem of II./JG 1 on the cowling, the red armoured front ring on the engine and the yellow panel under the nose.



1943-1944



THIS PAGE: Groundcrew of III./JG 1 work on some of the the Gruppe's Bf 109 G-6/R-6 aircraft. All machines have spiral spinners and are armed with MG 151 cannon in underwing gondolas.



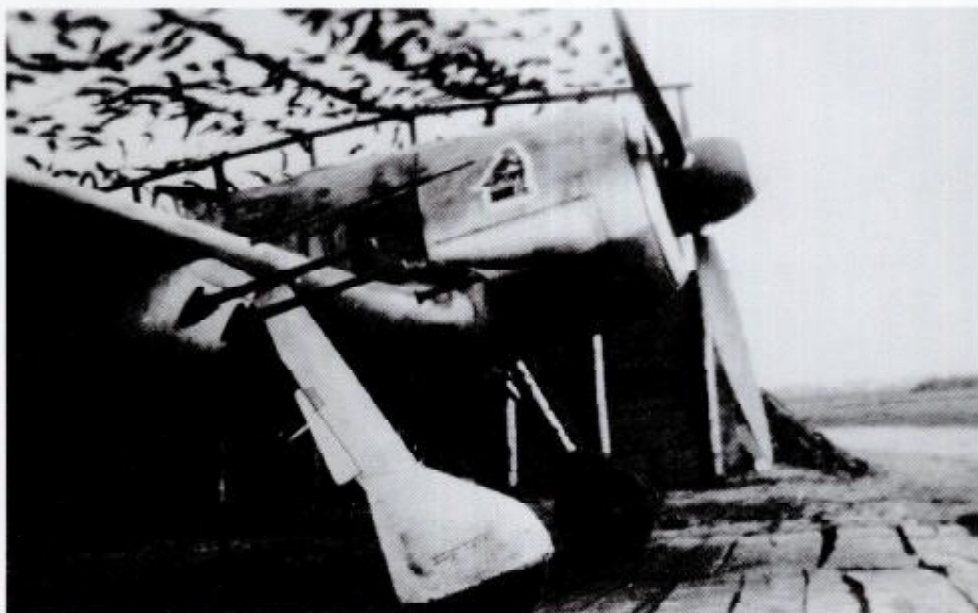


ABOVE: Under netting and in its revetment at Husum in mid-1943, an Fw 190 of 2./JG 11 displays the Staffel emblem. This resulted from a competition set by the Staffelführer, Hptm. Rudolf-Ernst Schnoor, and was designed by Uffz. Franz Steiner, one of the unit's pilots, who first sketched it on a piece of paper. The design features a pilot sitting on Uncle Sam's top hat adorned with the stars and stripes. As winner of the competition, Steiner was allowed some leave.

BELOW: Uffz. Franz Steiner of 2./JG 11 pictured in front of his Fw 190 A-6 'Black 3' at Husum in August 1943. The aircraft carries the Staffel emblem which he designed and has a yellow panel under the nose.



**Emblem of
2./JG 11**



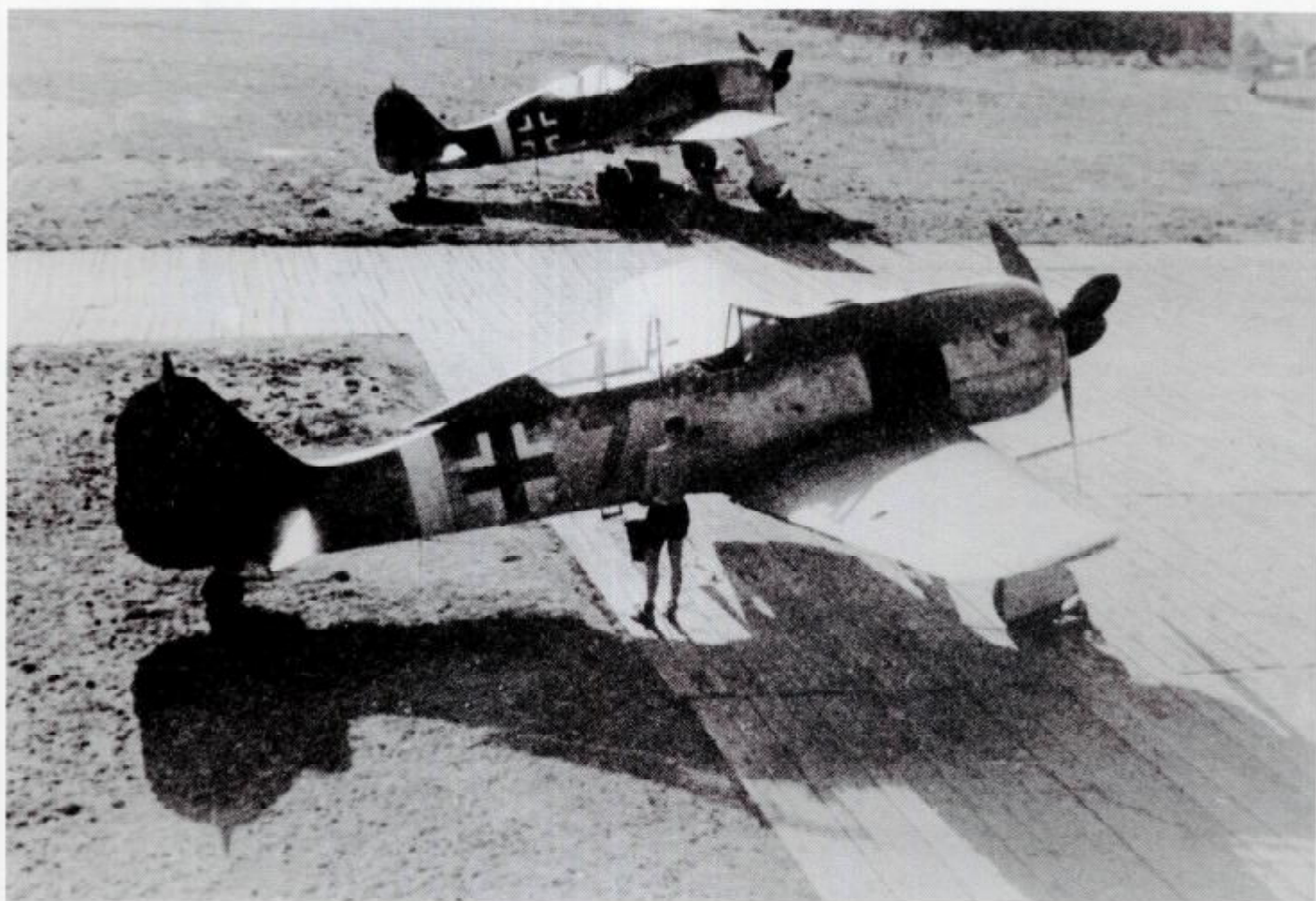
LEFT: An Fw 190 A-5/U12 of 2./JG 11 in its timber-walled revetment at Husum in mid-1943 showing the powerful underwing armament of two MG 151/20 cannons. Note that on this aircraft the spinner tip has been painted white.

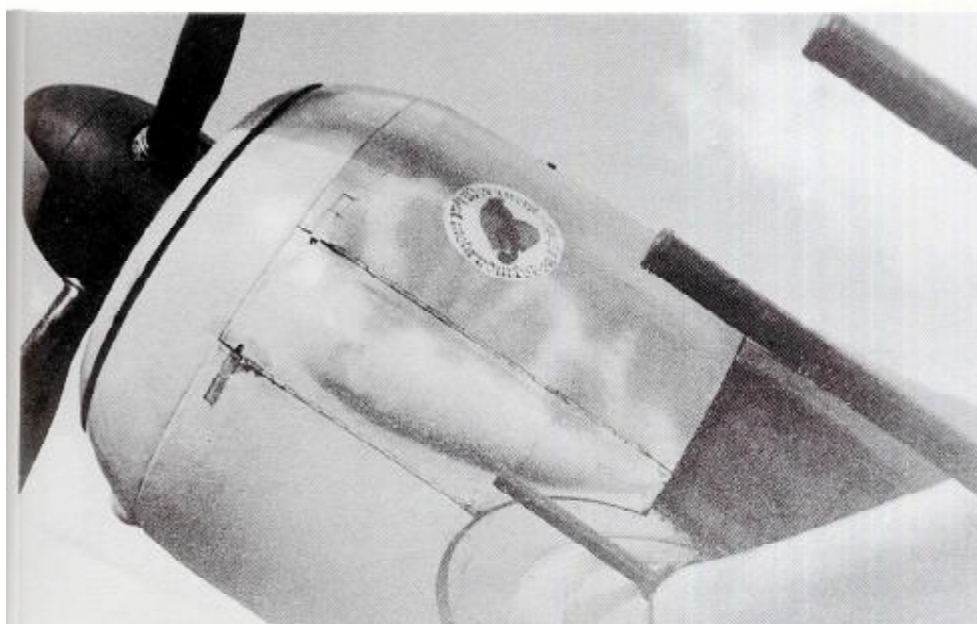
1943-1944



LEFT: Fw. Rudi Schmitt of 3./JG 11 stands beneath the spinner of his Fw 190 A-5/U112 at Husum in the summer of 1943. Note that the spinner appears to have been painted in a segmented pattern.

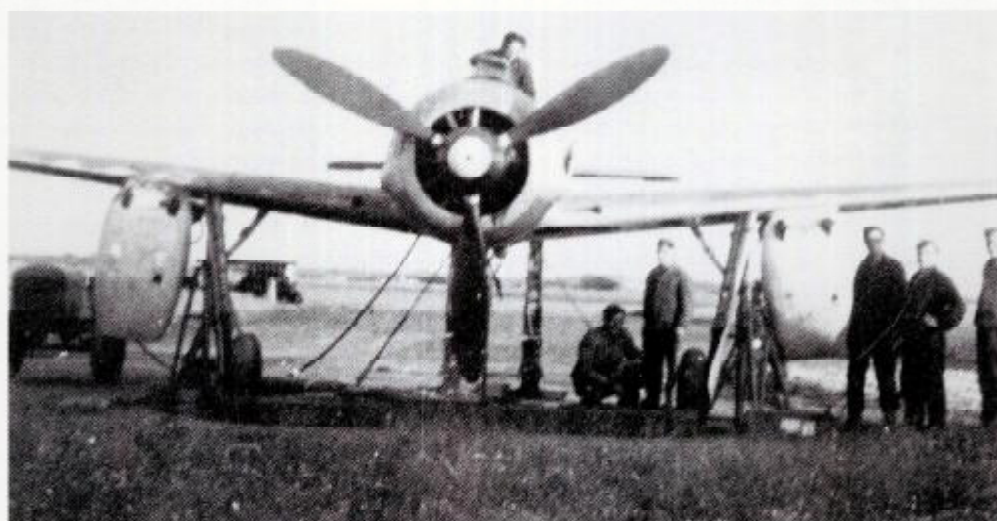
BELOW: Newly delivered Fw 190 A-6s of 3./JG 11 photographed at Husum in late July 1943. The machine nearest the camera is W.Nr. 530106, 'Yellow 7', known to have been flown by Fw. Hans-Georg Güthenke. The Staffel badge has been applied to the engine cowling and both machines have a white band around the rear fuselage.





LEFT: A close-up of the engine cowling of an Fw 190 A-5/U12 of 3./JG 11 showing the Staffel's emblem which had previously been used by 9./JG 1. The motto reads, 'Wer zuerst scheisst hat mehr von Leben', which loosely translated means, 'He who shoots first lives longest'.

BELOW: An Fw 190 A-5/U12 of 2./JG 11 undergoes weapons servicing and testing at Husum in mid-1943. Note the size of the open gondolas for the underwing MG 151/20 cannon.



BELOW: 'Yellow 4' and 'Yellow 5', a pair of Bf 109 G-6s of 9./JG 11, practicing an Alarmstart at Oldenburg in the summer of 1943. For some time in 1943, Bf 109 G-6s coming off the assembly line had striped rather than the more usual mottled camouflage on their fuselage sides, as seen on 'Yellow 5' in the foreground, which also has a dark green spinner and a yellow rudder.



Schweinfurt

On 17 August 1943, the anniversary of its first heavy raid on Northern Europe, VIII BC launched its notorious and well-documented attacks against the ball-bearing industry located around Schweinfurt and the Messerschmitt factory at Regensburg. At 06.45, the first B-17s took off from England for a mission which, in terms of size, surpassed anything that had gone before. The attack was carried out by two large formations. The first, comprising 146 B-17s from seven Bomb Groups belonging to the 4th Bomb Wing, would attack the Messerschmitt works at Regensburg-Prüfening and continue across southern Europe to land at bases in North Africa. The second formation, consisting of 230 aircraft from nine Bomb Groups of the 1st Bomb Wing, had as its objective the ball bearing works at Schweinfurt. However, the unsettled weather over south-east England delayed take-off, and just when it was thought that the missions would have to be cancelled, the order was given to proceed. Precious time had been lost and the raids had lost their synchronisation. It took more than an hour for the first wave of bombers to join up and assemble into combat formation. The fighter escort joined them over the North Sea at cruising speed to maximize fuel economy. Shortly after 09.30, the complete formation crossed the Dutch coast south of the Scheldt estuary.

At the same time, the order for take-off reached III./JG 1. The unit's 32 serviceable Bf 109 G-6s left Leeuwarden led by *Hptm.* Robert Olejnik and headed for Deelen airfield where they were to await further orders.

At 10.48, *Oberst* Walter Grabmann, the *Jafü Holland-Ruhrgebiet*, ordered the Fw 190s of I./JG 26 under *Hptm.* Karl Borris into the air from Woensdrecht, followed shortly by the Bf 109s of *Hptm.* Klaus Mietusch's III. *Gruppe* from Schiphol. JG 26 established contact with the Allied armada over Antwerp. From this moment on, German fighters harried the bombers along their entire route over Europe. From its position up-sun and slightly above the loosely dispersed American formation, I./JG 26 carried out a classic head-on attack and inflicted fatal damage on several B-17s.

A co-pilot aboard a B-17 heading for Regensburg recorded: "At 10.17 hours, near Woensdrecht, I saw the first flak blossom out in our vicinity, light and inaccurate. A few minutes later, two Fw 190s appeared at one o'clock level and whizzed through the formation ahead of us in a frontal attack, nicking two B-17s in the wings and breaking away beneath us in half-rolls. Smoke immediately trailed from both B-17s, but they held their stations. As the fighters passed us at a high rate of closure, the guns of our group went into action. The pungent smell of burnt powder filled our cockpit and the B-17 trembled to the recoil of nose and ball-turret guns. I saw pieces fly off the wing of one of the fighters before they passed from view. Here was early action. The members of the crew sensed trouble. There was something desperate about the way those two fighters came in fast right out of their climb without any preliminaries..."

"I watched two fighters explode not far beneath, disappearing in sheets of orange flame, B-17s dropping out in various states of distress, from engines on fire to control surfaces shot away, friendly and enemy parachutes floating down... The sight was fantastic; it surpassed fiction..."

Seven confirmed bombers went down to the guns of III./JG 26 including two credited to Klaus Mietusch, the *Gruppenkommandeur*, and two to *Ofw.* Heinz Kemethmüller. *Hptm.* Hermann Staiger, *Staffelkapitän* of 12./JG 26, claimed his sixth heavy bomber shot down within a month.

III./JG 1 took-off again and intercepted just as the escorting fighters, at the limit of their range, turned back over the Belgian-German border. *Hptm.* Olejnik recalled the subsequent engagement: "At a height of 7,500 m, about 50 to 60 kilometres away, I sighted three formations of bombers. I changed course towards them. At this time we were over the Aachen region. The enemy was flying on a south-easterly course. After a chase of 35 minutes, I made contact over Saarbrücken. By this time my *Gruppe* had already been in violent combat for a quarter of an hour, the sound of which had reverberated in my earphones."

LEFT: Ritterkreuzträger *Hptm.* Klaus Mietusch, *Gruppenkommandeur* of III./JG 26 claimed two B-17s shot down during the American mission to Schweinfurt on 17 August 1943. Mietusch was one of the 'old hares' of JG 26, having been with the *Geschwader* since 1938. He had seen service over the Channel Front, North Africa and Russia, where after many earlier frustrations his victory tally began to accumulate. Credited with 75 victories in total, including ten four-engined kills scored in more than 450 missions, Mietusch had been shot down on ten occasions but finally lost his life when his Bf 109 G-6 was attacked by a P-51 of the US 361st FG over the Dutch-German border on 17 September 1944. He was awarded the *Eichenlaub* to his Ritterkreuz posthumously.





ABOVE: Hptm. Robert Olejnik (centre), Kommandeur of III./JG 1, relaxes with officers of his staff in 1943. On his left is Oberzahlmeister Hans Selbach and, furthest from the camera is Lt. Hans Halbey, Technical Officer. During the US Eighth AF mission to Schweinfurt, Olejnik shot down one B-17 which was confirmed as his 41st victory. Olejnik had joined the Luftwaffe in 1935 and had worked his way up through the ranks, moving from I./JG 3 in Russia to I./JG 1 as its Staffelführer in January 1942. In November 1943, Olejnik joined Erprobungs-kommando 16, the test unit set up to evaluate the rocket-powered Me 163 interceptor and, later, when the 'Komet' became fully operational, he became commander of I./JG 400. He was awarded the Ritterkreuz in July 1941 and ended the war with 41 victories.

"I gained height to weigh up the position. They were Fortresses, with their very impressive defensive armament. These aircraft were better left alone! Nevertheless, I attacked a bomber to the left of the formation from behind and slightly below. After my third attack, black smoke escaped from its right engine. Little by little, the enemy aircraft became detached from its group, but managed to correct itself 100 m behind, losing 80 m of height in the process – a very uncomfortable position for it; it could no longer count on the protection of its colleagues. It released its bombs, which was the prudent thing to do.

"During my fourth attack, the aircraft went out of control. Engulfed in flames, it made three large turns to the left. Seven crewmen baled out. At 4,000 m, the turns became tighter. The right wing broke off, followed by the left wing. The fuselage continued to dive and hit the ground in a wood near Darmstadt. Three men were probably still in the aircraft. It was high time for me to land. Towards 13.45 hours, I landed at Mannheim-Sandhofen, where my aircraft could be refuelled and rearmed. I found several of my pilots there, who had also chosen the base as a landing place. We were soon ready for further combat. In spite of that, we were ordered to take off late and we were not able to attack the Amis on their return flight. We had four wounded, but claimed 12 victories ..."

Other units, including elements of JG 2 and II./JG 27 from the south, took up the pursuit and attacked as far as Regensburg, and by the time the bombers reached the target at Prüfening, seven of them had gone down. Paradoxically, over the target itself, only a loose formation of some 10-12 Bf 109s attempted to attack the bombers. These aircraft were from the *Industrieschutzstaffel Regensburg*, a factory protection unit formed from test pilots employed at the Messerschmitt works and commanded by Oblt. Ladegast, a fighter pilot who was recovering from wounds suffered on the Channel Front. Their lunch interrupted by the order to scramble, the pilots of the *ISS Regensburg* took off and launched a weak attack against the bombers. One of the pilots, Heinz Stemmler, who would score the only success over Regensburg when he fatally damaged a B-17 of the 390th BG, recalled that most of his unit dived away from the bombers without firing. He later commented: "I think the idea of our little unit was a good one and the pilots were keen, but the difference between test-flying new fighters and operational flying was just too great for us to be effective."

At Wiesbaden-Erbenheim a combined force of some 50 Bf 109s and Fw 190s drawn from JG 50 and aircraft flown by instructors from the fighter training units JG 104 and JG 106 took off to intercept the vanguard of the American formation over western Germany. JG 50 was commanded by Major Hermann Graf, the acclaimed fighter ace from the Eastern Front and holder of the Diamonds to the *Ritterkreuz*. This small unit had originally been formed at Erbenheim in June 1943 to operate in the high-altitude interceptor role equipped with just eight Bf 109 G-6s. It had been intended to equip the unit with G-5s fitted with a pressurised cockpit and GM-1 nitrous oxide equipment to boost performance and enable the aircraft to deal with the threat posed by the British Mosquito, a fast reconnaissance and fighter bomber aircraft, but delivery was delayed until mid-July when the unit had 12 on strength. Meanwhile, the American four-engined bombers had presented a greater threat than the Mosquitoes, and the 'Mosquito-chasers' were committed against these aircraft instead, Graf claiming his first B-17 at the end of the month.



BELOW: A B-17 from the 4th Bombardment Wing pulls away from its bomb run over the Messerschmitt plant at Regensburg on 17 August 1943 as smoke drifts into the sky from the burning target. The US Eighth Air Force lost 60 B-17s with a further 168 damaged on the Schweinfurt/Regensburg mission.

Continued on page 35

1. Despite Olejnik's statement, in fact, III./JG 1 is officially credited with only two victories for 17 August 1943, one of which was his. The question of overclaims – both Allied and Axis – is a recurring factor when studying the air war. In post-war correspondence, Olejnik emphasised how, following the chaos of a large air battle, it was difficult to ascertain which pilot should be officially credited with any given claim.

The Focke-Wulf Industrieschutz Units

In response to the American daylight raids, and with the agreement of the OKL, the Bremen-based aircraft company, Focke-Wulf Flugzeugbau GmbH, took the decision to form factory defence units – or ‘*Industrieschutzstaffeln*’ – for a number of its key aircraft plants including those at the main production centre at Bremen, the Langenhagen test centre, Sorau in Silesia which produced parts, Wenzendorf and Marienburg in Prussia. These small, semi-autonomous units mainly comprised civilian test-pilots and some *Luftwaffe* personnel seconded to the Focke-Wulf factories to act as test and acceptance pilots. In most cases, the civilian pilots were assigned nominal *Luftwaffe* rank during the lifetime of these units which assumed the role of the immediate aerial defence of their factories, though guided and directed by the appropriate regional *Luftwaffe* command.

RIGHT: A scene at Focke-Wulf's Bremen works during the summer of 1941 showing pre-production Fw 190 A-0s on the assembly line with, interestingly, the green spinner of the machine in the foreground already finished with a one-third white segment. By 1943, this vital factory had become a prime target for the bombers of the US Eighth Air Force.



One of the first such units was the *Industrieschutzstaffel der Focke-Wulf GmbH, Bremen*, formed on 4 April 1940 under the command of Focke-Wulf's well-known aircraft designer and technical director, *Dipl.-Ing.* Kurt Tank, who at the time was working on the development of what would become one of the most famous aircraft of the Second World War, the Focke-Wulf Fw 190. His *Staffel* comprised the following Focke-Wulf company pilots:

<i>Uffz.</i> Kurt Mehlhorn	<i>Flg.</i> Johann (Hans) Sander
<i>Flg.</i> Wolfgang Stein	<i>Flg.</i> Ewald Rohlf
<i>Flg.</i> Ludwig Vogel	<i>Flg.</i> August Linde
<i>Gefr.</i> Hermann Schlegel	

In the first phase of its existence, the *Staffel* was to protect the Bremen factory from RAF bombers which, a few months earlier, had mounted attacks against shipping off Heligoland and Wilhelmshaven. Later, in a period of inactivity between mid-October 1942 and mid-January 1943, the unit was renamed *Industrieschwarm Focke-Wulf Bremen* and formed into two *Rotten* with pilots interchanging between the two. Apart from 16 training flights by 1. *Rotte* and 13 by 2. *Rotte*, the unit was ordered to *Sitzbereitschaft*, or cockpit readiness, on 13 occasions, and although 24 operations were flown, no contact was made with the enemy.

BELOW: In addition to his role as designer and technical director at Focke-Wulf, *Dipl.-Ing.* Kurt Tank also served as *Staffelführer* of the *Industrieschwarm Focke-Wulf Bremen*, which protected the factory from Allied attacks. Here, Tank (right) is seen in conversation with Major Günther Specht, *Kommodore* of JG 11, in the autumn of 1944 when Specht flew to visit the Bremen factory in his Bf 109 G-10, the rudder of which is shown here, complete with victory bars.



The complement of pilots and their individual activities at this time were as follows:

	Operations flown	Training Flights	At readiness
<i>Oblt.</i> Kurt Tank (<i>Staffelführer</i>)	6	14	-
<i>Flugkapit.</i> Wolfgang Stein	5	8	-
<i>Uffz.</i> Werner Bartsch	3	1	2
<i>Einflieger</i> Hellmuth Bischof	5	7	7
<i>Ofw.</i> Konrad Carl	7	5	6
<i>Ofw.</i> Heinz Finke	3	4	-
<i>Einflieger</i> Erich Fröbe	7	8	1
<i>Ofw.</i> Heinz Kahl	6	1	2
<i>Einflieger Ofw.</i> Hans Kampmeier	-	2	1
<i>Fw.</i> Botho Kleeberg	2	1	2
<i>Ofw.</i> Bernhard Märschel	-	-	1
<i>Einflieger</i> Kurt Mehlhorn	1	-	1
<i>Flugkapit.</i> Johann Sander	-	-	2
	45	51	25



Tank made sure that there was a high degree of organisation within the *Staffel* and a list covering the second half of January 1943 reveals that the pilots were assigned to their *Rotte* well in advance so as not to disrupt factory shifts and working practices.

In 1943, along with regular *Luftwaffe* fighter units based in the area, the ISS Bremen came under the control of the 2. *Jagddivision* at Stade. Some of its Fw 190s were fitted with WGr. 21 mortar tubes, but whether these were ever used is not clear.

Also established in late 1942 was the *Industrieschwarm Focke-Wulf Langenhagen* near Hannover, and Fw 190s known to have been assigned to this unit were:

- W.Nr. 0725 (Black 2)
- W.Nr. 2335 (Black 6)
- W.Nr. 5631 (Black 3)
- W.Nr. 781 (Black 5)
- W.Nr. 779 (Black 4)
- W.Nr. 724 (Black 8)

A number of personnel from the ISS Bremen, including *Ofw.* Heinz Finke, *Ofw.* Hans Kampmeier, *Ofw.* Bernhard Märschel, and *Uffz.* Kurt Mehlhorn joined the Langenhagen unit in early 1943.

On 18 April 1943, a force of 107 B-17s – the largest so far dispatched by VIII BC – attacked the Focke-Wulf factory in Bremen. The bombers ran into the fiercest opposition yet encountered, with co-ordinated attacks carried out by waves of fighters from JG 1, JG 11 and elements of 2./JG 27 and III./JG 54. At 12.43 hours, one *Rotte* of the *Industrieschwarm Focke-Wulf Langenhagen*, comprising *Ofw.* Heinz Finke flying Fw 190 'Black 1' with *Ofw.* Hans Kampmeier in Fw 190 'Black 3', was scrambled and made for Bremen. Just over 15 minutes later, at 6,000 m over Verden, the two pilots observed the enemy formation flying on an easterly course over Bremen. The *Rotte* climbed to 9,000 m and adopted a northerly course from Wesermünde to Sperre and to Leer. At 13.15 hrs, the Focke-Wulfs made contact with the enemy and attacked. Finke made a frontal pass on a B-17 and banked away, but returned to make two further attacks along with some Bf 109s, probably from II./JG 11, and Bf 110 night fighters of either NJG 1 or NJG 3 which had also arrived. Some members of the B-17's crew baled out and the aircraft went down. Finke then made two further attacks over the Norden-Westerede-Wittmundhafen area on two straggling bombers which had been attacked earlier by the Bf 109s. Results were not observed. Low on fuel, Finke landed at Jever at 13.32.

Finke's *Rottenkamerad*, *Ofw.* Kampmeier, made his first attack and reported excellent strikes on one of the bombers. On his third pass, he attacked a machine turning away from the target and saw strikes on the fuselage and wings and the rudder was seen to be jammed. Also short of fuel, Kampmeier made it back to Langenhagen.

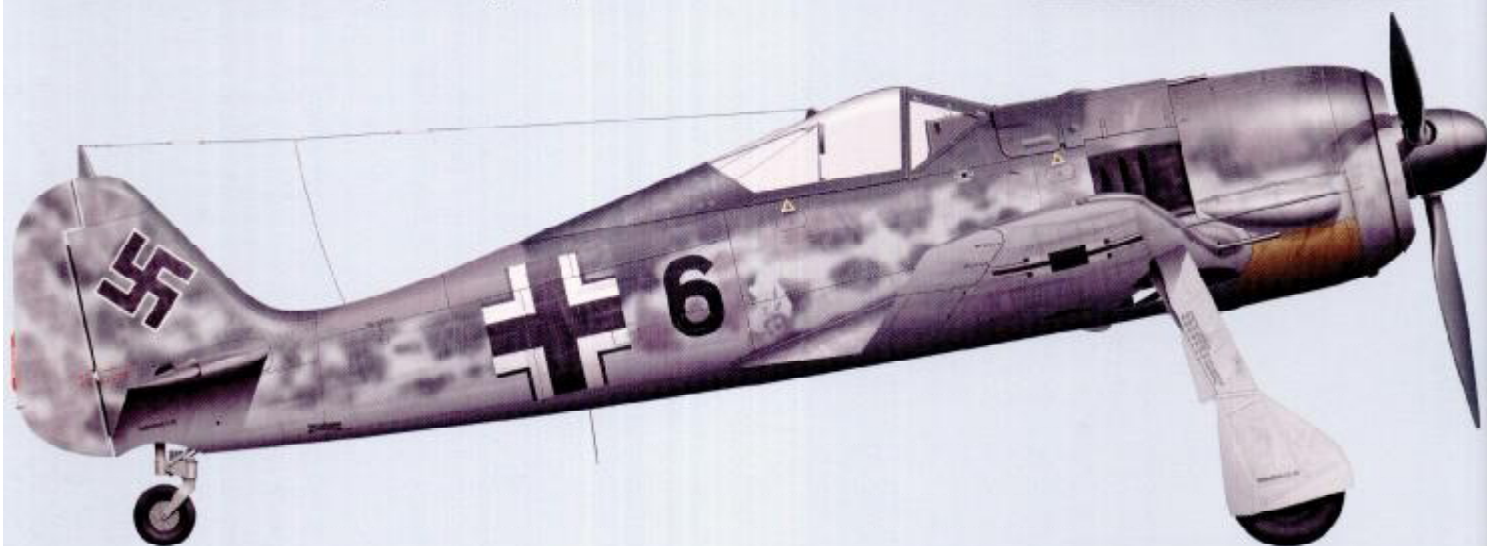
The second ISS *Rotte*, comprising *Uffz.* Kurt Mehlhorn and *Ofw.* Bernhard Märschel was scrambled at 12.45 hrs, although Märschel's aircraft, 'Black 4', initially failed to start and as he was late taking off, he failed to make contact with the enemy and returned to Langenhagen. Meanwhile, Märschel's fellow test-pilot, Kurt Mehlhorn reported: 'I took off in the reserve aircraft (Black 5) at 12.45 hrs following the Alarmstart. In order to make contact with the other *Rotte*, I was ordered to fly in the direction of Oldenburg. In the hope

ABOVE: Flugkapitän Dipl.-Ing. Johann (Hans) Sander climbs out of the cockpit of an Fw 190. As a test pilot and head of Focke-Wulf's flight test department for the Fw 190, Sander had test flown the Fw 190 V-1 on its first flight and was involved with the entire subsequent development of the aircraft, as well as many of Focke-Wulf's other design projects. Regarded as an extremely competent test pilot, he remained with the company until the end of the war and was listed on the strength of the Industrieschwarm Focke-Wulf Bremen in 1942-43.

RIGHT: A group of Focke-Wulf personnel taking a break from work at the company factory in Bremen. On the far right is Flugkapitän Werner Bartsch with, next to him, Flugkapitän Bernhard Märchel, both of whom flew with the Industrieschwarm Focke-Wulf Bremen in 1942-43.



RIGHT: Flugkapitän Bernhard Märchel after having just completed another test flight for Focke-Wulf. Märchel transferred from the Industrieschwarm Focke-Wulf Bremen to the Industrieschwarm Focke-Wulf Langenhagen in 1943 and took part in a number of factory defence flights that year.



Focke-Wulf Fw 190 A-4, W.Nr. 2335, 'Black 6' of the Industrieschwarm Focke-Wulf Langenhagen, early 1943

This aircraft was finished in a 74/75/76 scheme, with a standard segmented pattern on the upper surfaces of the wings, tail and upper fuselage. The mottles on the fuselage sides, however, were larger and darker than usual and, in addition to being regularly applied, extended further down the fuselage sides. With the spinner in plain green 70 and the black numeral on the fuselage side lacking any of the contrasting edging favoured by the front-line fighter units, the only area of colour on this machine is the yellow panel under the nose.

RIGHT: A line-up of three Fw 190 A-4s of the Industrieschwarm Focke-Wulf at Langenhagen in 1943, with the tail of a fourth machine just visible on the right. Note the fuselage code numbers lack any contrasting edging and that while 'Black 1' and 'Black 2' have fairly basic factory finishes in 74, 75 and 76, 'Black 6' has heavy mottling on the fuselage sides, fin and rudder.



of making contact, I took a direct course to Oldenburg. To the west of Verden at 6,500 metres, Flak could be seen from the direction of Bremen. Being unable to find the *Rotte*, I received the warning: 'Many 'Indianer'¹ in direction Oldenburg!' Before reaching Oldenburg, I saw enemy formations. Flying head-on, I quickly reached the highest formation and made a frontal attack to the right of the *Pulk*² and opened fire. I observed hits and saw metal parts fall away. On breaking away to the right, I engaged another *Pulk* at around 7,000 metres. I aimed for the outermost machine to the left of the formation. I observed hits again. On my second approach, this aircraft slipped back to the rear of the *Pulk* and I made another attack from above left. Hits were observed with burning pieces falling away. By the next attack, the machine had lost height and was beginning to trail behind the *Pulk*. Upon my renewed attack, the Boeing tried to take evasive action, but I managed to attack again from the front and above and scored hits between the inboard engine and fuselage. More pieces were seen to fall off. Close to the rear of the aircraft, I saw a parachute fall away. The aircraft began to lose control and began to go down in a spiral. Together with another Fw 190, we observed the aircraft heading towards the ground. From around 1,000 to 1,500 metres over Grung, white smoke and more pieces flew off into the air, some falling near the village. To the north, not far from the crash, I could see a canal and could make out an airfield which I decided to aim for due to lack of fuel. The other Fw 190 flew around the airfield however, and I observed that it would not be possible to land as there were many obstacles (concrete blocks, timber logs laid in triangular shapes on the runway). In any case, the airfield did not have a proper landing strip. The other Fw 190 had lowered its landing gear, but after seeing the condition of the runway, it regained height and flew away in a north-easterly direction. After a short flight, I managed to land at Jever (13.41 hrs). After landing at Jever, it was noticed that there was a bullet hole in my propeller and through the fuselage from the front to the rear. After changing the propeller, I left Jever for Langenhagen, landing there at 18.41 hrs."

In total, the American losses that day were 16 B-17s with a further 39 returning damaged.

In its existence the Langenhagen unit claimed ten B-17s shot down, of which Mehlhorn was credited with an impressive five, three of which were claimed during another American raid on Bremen on 8 October 1943, a raid from which he would not return. Kurt Mehlhorn had been born on 12 June 1912 in Jena the son of a machinist. He had studied at the *Technisches Hochschule* in Darmstadt and, while a student, had learned to fly gliders. Following pilot training, he was attached as a test-pilot to the *Luftwaffe's Erprobungsstellen*. He test flew the Fw 187, Fw 189 and Fw 200 as well as many other types. Before its disbandment, the *Industrieschwarm Focke-Wulf Langenhagen* would suffer the loss of another pilot in aerial operations and another heavily wounded.

On 15 October 1942, the *Industrieschwarm Focke-Wulf Sorau* was formed with five pilots to protect the plant which produced components for the Fw 190 and Fw 200 and which was involved in the development of the Ta 152. At some stage after January 1943, in a change of personnel, *Flugkapit.* Wolfgang Stein moved to the Sorau plant from Bremen to head the defence unit and was joined by Konrad Carl and Erich Fröbe. The unit operated under the control of the 1. *Jagddivision*, but by the end of March 1944 most of the Focke-Wulf factory defence units seem to have been disbanded.

Focke-Wulf was not the only company to form *Industrieschutzstaffeln*; Messerschmitt had Bf 109-equipped units at its Regensburg and Augsburg plants, and Fieseler had its *Industrie Schwarm Fieseler Kassel*. Gerhard Gleuwitz, a pilot of this latter unit, is known to have shot down a B-17 on 28 July 1943 when 58 Fortresses of the USAAF 1st Bomb Wing bombed the Kassel works.

In early January 1945, Göring announced plans to establish two *Industrieselbstschuttschwärme* at Leipheim and Schwäbisch Hall, each equipped with four Me 262s, six pilots and 50 technical personnel, to protect the Messerschmitt factories building the advanced jet fighter. But this came to nothing and in February, orders were issued to abandon any further work on their formation.

BELOW: Another aircraft manufacturer which established its own factory defence flight was Fieseler at Kassel which operated the *Industrie Schwarm Fieseler Kassel*. In this line-up of Fieseler personnel photographed watching a demonstration flight early in the war, on the far left is Gerhard Gleuwitz who shot down a B-17 during a raid on the Kassel works on 28 July 1943. The aircraft designer Gerhard Fieseler is in Luftwaffe uniform standing fourth from left. Note the emblem of the Fieseler *Werkschutzstaffel*, a white letter 'F' on a red disc, mounted on the hangar.



LEFT: A Fieseler built Bf 109 E of the factory defence flight, probably in 1940 or 1941. A red tactical letter 'R' has been applied to the engine cowling in addition to the *Werkschutzstaffel* badge.

1. 'Indianer': literally Indians, slang for USAAF four-engine bombers
2. 'Pulk': slang for USAAF heavy bomber formation

1943-1944



ABOVE: Major Hermann Graf was truly one of the Jagdwaffe's stars and he became famous for his exploits with JG 52 on the Russian Front between 1941 and 1943, where he became only the seventh pilot to score more than 100 victories. By early September 1942, he had 150 confirmed aerial victories and had been awarded the coveted Diamonds in addition to his Ritterkreuz with Oakleaves and Swords as the fifth recipient of such an award. Following his 200th victory, Graf, exhausted from continual operations, was forbidden to fly any further combat missions and in late January 1943 was sent to the West where he was placed in command of Jagdgruppe Ost. Based on the Atlantic coast of France and equipped with Bf 109s and Fw 190s, this unit was staffed by veteran pilots from the Eastern Front who trained new fighter pilots destined to fly operations in Russia. Within six months, and on Göring's orders, Graf had left Jagdgruppe Ost to take command of Jagdgruppe Süd, which later became JG 50. JG 50's initial role was to hunt and intercept the fast, high-altitude RAF Mosquitoes which, by this time, were making daylight incursions into Reich airspace. However, with the growing threat posed by the American heavy bomber raids, this role quickly changed and JG 50 switched its emphasis accordingly. Here, Major Graf is shown at Wiesbaden-Erbenheim in the late summer of 1943 with a visiting group of Hitlerjugend.

ABOVE RIGHT AND RIGHT: Based alongside Major Graf's JG 50 at Wiesbaden-Erbenheim was the fighter training Geschwader, JG 104, pilots of which are seen (ABOVE RIGHT) being briefed by an instructor in front of one of the unit's Bf 109 G-2s. Despite facing increasing shortages of fuel, instructors from JG 104 went into action alongside JG 50 when the Americans attacked Schweinfurt on 17 August 1943 and claimed 11 bombers shot down. In the photograph (RIGHT) these Bf 109 G-2s of JG 104 at Wiesbaden-Erbenheim are about to take off for a fighter training flight.



ABOVE: A row of newly-built Bf 109 G-5s of I./JG 50 at Wiesbaden-Erbenheim in the autumn of 1943.



The 17 August saw JG 50 claim 11 bombers shot down, but in the process it lost *Uffz.* Dietrich Barth who was killed by defensive fire from the 1st Bomb Division, and *Fw.* Horst Bilfinger who was bounced by P-47s.

However, the B-17s' ordeal was not over and, as they turned south, heading for landing grounds in North Africa, they had to brave German fighter units based in southern Europe. More fighters from II./JG 51 and I./JG 27 arrived and entered the fray from bases in Austria. Exhausted, after a flight of 11 hours, the surviving bombers crews finally touched down at Bone, Telerma and Berteaux. They had left 24 of their crews in Europe. Nevertheless 126 bombers had unloaded their deadly cargos on the factories.

At 11.20, the 230 four-engined bombers of the second wave had taken off. They would also suffer heavy losses. The *Luftwaffe* struck with more than 300 fighters including aircraft from JG 1, JG 3, JG 26, JG 11, III./JG 54 and II./JG 27. One hour after the bombers took-off, elements of I., II. and III./JG 1 and JG 11 intercepted a group of 100 B-17s. The massacre began: 11 B-17s were claimed by JG 1 and 12 more by JG 11, some aircraft of which fired WGr. 21 mortars into the bomber formations. II./JG 11's *Kommodore*, *Hptm.* Günther Specht accounted for two of the four B-17s credited to his *Gruppe*.

By the time the target had been reached, 21 bombers had been shot down and a further three fell as the formation turned for home. Even as the Americans crossed the English Channel where they would enjoy some degree of protection from welcoming Allied escort fighters, aircraft of JG 2 maintained the pressure, pursuing many bombers out to sea where two more were lost.

In total, 60 B-17s were shot down and 168 damaged. The also Allies lost three P-47s and three Spitfires. But even the destruction inflicted upon the factories did not compensate for the loss of more than 600 Allied airmen, especially so when the truth was that German production was interrupted for only a few weeks. This time, the German fighter force was able to celebrate a cautious victory despite the fact that the losses for all participating *Geschwader* amounted to 17 pilots killed, 14 wounded and 42 aircraft lost. The losses incurred on 17 August included that of *Major* Wilhelm-Ferdinand 'Wutz' Galland, Adolf Galland's brother and *Kommandeur* of II./JG 26, a most respected formation leader who had 55 victories to his credit, including eight four-engined bombers.

The *Luftwaffe* was not just affected by pilot losses. Hitler's reaction to Schweinfurt was to scold Göring for allowing such damage to be inflicted against two targets deep inside Germany. For his part, Göring blamed the lack of a centralised fighter control system and, as he perceived them, his skulking fighter pilots. The day after Schweinfurt, the *Luftwaffe* Chief of Staff, *General der Flieger* Hans Jeschonnek shot himself. A somewhat shy and sensitive man, Jeschonnek had long carried the burden of blame for the *Luftwaffe*'s apparent lack of accomplishment and capability, particularly since the failure of the Stalingrad airlift. Ethically reluctant to resign, and honour-bound not to advise the *Führer* of what he considered to be Göring's shortcomings, his bouts of depression had deepened when Hitler refused his request for a posting to command an Air Fleet. The raid on Schweinfurt, and a British raid on Peenemünde that evening, had been the final straw. There was only one way out. Later, a piece of paper was found by Jeschonnek's body, on which the former Chief of Staff had written: 'I can no longer work with the *Reichsmarschall*. Long live the *Führer*!'

The disturbing fact was that by the early autumn of 1943, Göring had begun to isolate himself from the reality of Germany's and, in particular, the *Luftwaffe*'s worsening predicament. Throughout that year he became increasingly dependent on drugs and more absorbed in expanding his collection of art treasures and jewellery. Cracks and strains in the relationship between the *Reichsmarschall* and his fighter commanders had begun to appear as early as the spring of 1943, and as the *Jagdarmee* began to suffer unacceptable levels of attrition during the second half of the year, Göring could only assume that the lack of any decisive victory over the Americans, a nation which, in any case, he considered capable only of manufacturing 'fancy cars and refrigerators', was down to nothing but cowardice on the part of his fighter pilots. After all, had he not heard Galland himself talk of *Jägerschreck*, or Fighter Fear?

BELOW: *Hptm.* Wilhelm-Ferdinand 'Wutz' Galland (right), the highly-respected *Kommandeur* of II./JG 26, photographed in May 1943. Galland, promoted to the rank of *Major*, was shot down and killed by P-47s of the 56th FG on 17 August 1943 as he led a formation of *Fw* 190s against B-17s returning from the raid on Schweinfurt. One of two brothers to Adolf Galland, Wilhelm-Ferdinand had been awarded the *Ritterkreuz* in May 1943 upon the occasion of his 41st victory. He would go on to claim another 14 before his death and accounted for eight four-engined bombers.



At a production conference on 25 August 1943, one week after the Schweinfurt raid, the *Generalluftzeugmeister*, *Generalfeldmarschall* Erhard Milch, informed subdued aircraft industry chiefs: "In the daylight raids on Regensburg and Schweinfurt, our reports give 101 enemy aircraft brought down. We can show proof of these 101. As a maximum of some 400 machines were engaged on these operations, this is, in fact, a loss of 25 per cent. This is the first time since the bombing offensive began that enemy losses have been so high. Our losses are between 60 and 70 aircraft, 27 of them total losses. It is clear from this that the struggle will not be without cost, and that in order to be strong again quickly, we must first make a considerable outlay... I would further add that after the Regensburg raid, some 120 or more enemy bombers flew to Africa, and in the course of their flight many were probably damaged and forced down. But the enemy, who usually publishes his losses quite openly, was on this particular occasion, extremely reticent. This is proof that the blow went home. So is also the fact that these daylight raids were not continued on the following days. Yesterday, the bombers flew back to Britain, dropping their bombs on Bordeaux, where the weak defences cost them only one aircraft.

"Enemy bomber losses in May and June amounted to about 4.4 per cent of the total raiding force. In July there was a slight increase, the figure being 6.4 per cent. It is clear these losses are not enough to deter an enemy as resolute as ours. You know that the defence of our homeland is now in the forefront of our strategy. A large number of single-engined and twin-engined fighter Gruppen has been brought back to Germany. In my opinion, this is absurdly late in the day, but at least it has been done. *Reichsmarschall* Göring too, is now bringing pressure to bear in this matter... And as a result of the raid on five of our two largest repair centres, we shall be at least 150 fighters down on last month, even with no further raids being made. We are therefore about 220 fighters short of our actual programme. This is very serious."

Order of Battle, *Oberbefehlshaber Mitte*, 31 August 1943

Stab/JG 1	Fw 190	2 (1)	Stab/NJG 1	Bf 110	5 (3)
	Bf 109	2 (1)	I. Gruppe/NJG 1	Bf 110	18 (11)
I. Gruppe/JG 1	Fw 190	27 (26)		Fw 190	2 (1)
II. Gruppe/JG 1	Fw 190	24 (16)		Do 215	1 (1)
III. Gruppe/JG 1	Bf 109	37 (26)		He 219	2 (1)
I. Gruppe/JG 3	Bf 109	27 (15)	II. Gruppe/NJG 1	Bf 110	17 (11)
II. Gruppe/JG 3	Bf 109	18 (14)		Do 217	3 (1)
III. Gruppe/JG 3	Bf 109	26 (22)		Fw 190	2 (1)
I. Gruppe/JG 5	Bf 109	28 (19)	III. Gruppe/NJG 1	Bf 110	21 (13)
Stab/JG 11	Fw 190	4 (3)	IV. Gruppe/NJG 1	Bf 110	13 (7)
I. Gruppe/JG 11	Fw 190	38 (24)		Ju 88	2 (2)
II. Gruppe/JG 11	Bf 109	43 (34)	Stab/2. Jagd Div.	Fw 190	1 (1)
III. Gruppe/JG 11	Bf 109	41 (30)	Stab/NJG 3	Bf 110	3 (2)
10. Staffel/JG 11	Bf 109	9 (4)	I. Gruppe/NJG 3	Bf 110	10 (9)
Jasta, Helgoland	Bf 109 T	9 (9)		Ju 88	9 (8)
Stab/JG 26	Fw 190	5 (3)		Do 217	1 (1)
I. Gruppe/JG 26	Fw 190	23 (15)	II. Gruppe/NJG 3	Bf 110	10 (9)
III. Gruppe/JG 26	Fw 190	38 (26)		Ju 88	22 (15)
I. Gruppe/JG 27	Bf 109	39 (35)		Do 217	4 (3)
II. Gruppe/JG 51	Bf 109	33 (29)	III. Gruppe/NJG 3	Bf 110	26 (19)
III. Gruppe/JG 54	Bf 109	28 (22)	IV. Gruppe/NJG 3	Ju 88	27 (16)
JGr 25	Bf 109	Jagdgruppe Nord	Stab/NJG 4	Bf 110	1 (1)
JGr 50	Bf 109	Jagdgruppe Süd	I. Gruppe/NJG 4	Bf 110	14 (13)
Stab/JG 300	Fw 190	4 (3)		Do 217	4 (4)
I. Gruppe/JG 300	Bf 109	29 (20)	II. Gruppe/NJG 4	Bf 110	10 (8)
II. Gruppe/JG 300	Fw 190	4 (2)		Do 217	7 (5)
III. Gruppe/JG 300	Bf 109	1 (1)	III. Gruppe/NJG 4	Bf 110	20 (13)
Stab/1. Jagd Div.	Bf 109	1 (1)		Do 217	5 (5)
	Bf 110	1 (1)	Stab/NJG 5	Bf 110	3 (3)
	Ju 88	1 (1)	I. Gruppe/NJG 5	Bf 110	20 (18)

I. Gruppe/NJG 5	Bf 110	21 (16)	IV.(Erg)/KG 27	He 111	33 (9)
III. Gruppe/NJG 5	Bf 110	23 (15)	IV.(Erg)/KG 30	Ju 88	40 (4)
I. Gruppe/NJG 6	Bf 110	19 (12)	Erg. Staffel/KG 50	He 177	6 (6)
I. Gruppe/ZG 1	Bf 110	39 (33)	IV.(Erg)/KG 54	Ju 88	32 (26)
II. Gruppe/ZG 1	Me 210	1 (1)	IV.(Erg)/KG 55	He 111	30 (17)
	Me 410	30 (17)	IV.(Erg)/KG 77	Ju 88	21 (15)
Stab/ZG 26	Bf 110	2 (1)	IV.(Erg)/KG 100	Do 217	19 (7)
III. Gruppe/ZG 26	Bf 110	39 (28)		He 111	21 (11)
	Ju 88	2 (2)	I. Gruppe/TG 1	Ju 52/3m	20 (17)
II. Gruppe/LG 1	Ju 88	26 (14)	II. Gruppe/TG 1	Ju 52/3m	45 (45)
IV.(Erg)/LG 1	Ju 88	40 (10)	III. Gruppe/TG 4	Ju 52/3m	48 (39)
IV.(Erg)/KG 3	Ju 88	30 (16)	Gen.d.Lw.b.Ob.d.M.Tr.Sta.	Ju 52/3m	3 (3)
	Do 217	10 (7)			
IV.(Erg)/KG 26	Ju 88	25 (16)			
	He 111	18 (4)			

Schweinfurt had provided the *Luftwaffe* with valuable lessons in future tactical deployment and on 3 September, Galland issued revised directives to every fighter *Staffel* engaged in the defence of the Reich. Paramount in these new directives was the order for units to engage continuously only *one* enemy wave of attack with 'the mass of all fighter units', and if possible to direct such an attack against the bomber wave which appeared to be penetrating the deepest. Galland emphasised the need for early cooperation between neighbouring and rear *Jagddivisionen*. Twin-engined Bf 110 and Ju 88 battle observation aircraft, known as *Führungshalter*, or shadowing aircraft, to monitor enemy formations and provide running commentaries on their strength, location, altitude and control.

'Upon landing on strange air fields,' Galland wrote, 'the senior officer fighter pilot must immediately combine all fighter pilots present into one fighter formation, regardless of what units they belong to, and then attend to the quickest serviceability of the aircraft. Orders should be received from the area *Jagdführer* who is to be kept informed as to unit strengths. If communication with the *Jagdführer* is not possible, the formation leader should act on his own authority. After take-off he will use as a call sign the name of the airfield. The formation can only be dissolved on order of the *Jagdführer*, whereupon released pilots can then be turned over to their regular units.'

It was at this point that Galland, acting on a request from OKL, also signalled a fundamental change in the tactical doctrine established the previous year. With immediate effect, all attacks mounted against heavy bombers were to be made from the rear, rather than by frontal passes, chiefly because it was felt that a large percentage of the young, inexperienced pilots now serving in *Jagdgeschwader* operating in the Defence of the Reich and over the West, encountered considerable difficulty in undertaking the latter type of attack. The high combined closing speed of the frontal pass demanded great skill in gunnery, range estimation and flying control. The slightest evasive action on the part of the bombers made this type of attack even more difficult. In contrast, evasive action taken by bombers against attacks from the rear, was thought ineffective.

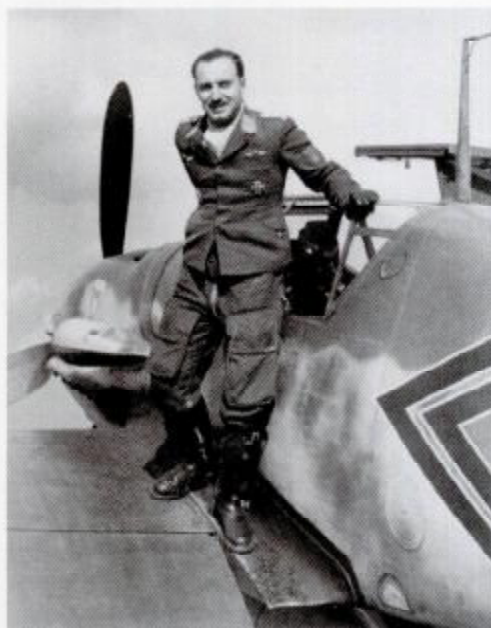
Galland continued: 'Every fighter *Gruppe* and *Staffel* is to engage one and the same bomber formation. If the formation jettisons its bombs or is completely broken up, it is to be left alone and the next formation flying within visible range is to be attacked.

'All unit leaders from *Schwarmführer* up, are to be identified in the air by white rudders. Single fighters and separated *Rotten* are to form up on these aircraft immediately, regardless of which formation they belong to. The leader of the *Schwarm* or larger unit thus formed must attack the bomber formation again without delay.

'The purpose of the first attack is to break up the enemy formation... The attack is to be executed in such a way that fighters go in close together in *Schwärme* with little interval between *Schwärme*, one after the other, against the same formation. The exit, the direction of which is to be ordered before the attack, must allow for the quick reassembly of the entire fighter formation. Repeat attacks should be made using as many fighters as possible.

'The head-on attack is, from now on, to be the exception and is to be flown in only exceptionally favourable circumstances and by formations especially successful in it. As the standard method of attack, the attack from the rear with a small angle of approach is now ordered.

BELOW: Hptm. Walther Dahl, Kommandeur of III./JG 3 on the wing of his Bf 109 G-6 at Bad Wörishofen in September 1943. This particular aircraft was a 'Kanonenboot' fitted with MG 151/20 cannon in underwing gondolas. The double chevron (or 'Doppelwinkel') is outlined in white and the aircraft has a distinctive, diagonal mottle on the fuselage sides. The emblem of Jagdgeschwader 3 'Uder' is visible on the cowling. Dahl's Gruppe would earn a reputation as being one of the most effective units operating in the Reichsverteidigung.



'Closing to effective range is to be supervised by all formation leaders; pilots who without adequate reason do not close to the ordered minimum range are to be court-martialled for cowardice in the face of the enemy.'

'From now on, only bombers in formation are to be attacked regardless of whether they are on the way to the target or on the way out. Only when the entire bomber formation has been broken up or when there is no further possibility of getting to the formation, are separated or damaged bombers flying alone to be destroyed. Aircraft carrying 21 cm WGr. mortars are permitted after discharge of their mortars to destroy lone bombers separated from their formations. Industrieschutzschwärme and Rotten, night fighters, as well as small operational elements from training units may attack lone bombers separated from their formations as long as there is no possibility of them joining up into a larger formation either on the ground or in the air.'

'Formation leaders and fighter pilots who disobey these orders are to be court martialled for military disobedience with serious consequences for the safety of the Reich.'

'Fire will be opened during frontal attacks at a maximum range of 730 metres, and in all other attacks at 365 metres. The goal of every attack is one aircraft. Aiming at the centre of a bomber formation or spraying the whole formation with bullets never results in success. Attacks from an angle of approach greater than 30 degrees are ineffective. Combat will be continued even in the strongest Flak fire and in Flak zones.'

Galland's switch from head-on to rear-mounted attacks was timely. September 1943 saw the appearance of the new B-17G fitted with a Bendix chin turret containing twin .50 machine guns and which provided the Flying Fortress with the vital forward defensive armament it needed to counter frontally-mounted attacks.

The VIII BC returned to Germany on 6 September when, in its largest mission to date, 338 B-17s were sent to bomb aircraft component factories in Stuttgart. Thick cloud hampered the operation from the start and many Fortresses failed to bomb, 233 of them opting for targets of opportunity on their return leg.

One of the German units to engage the bombers was Hptm. Walther Dahl's III./JG 3 which was scrambled from Neuburg an der Donau at 10.30 hrs and directed towards Mannheim with 25 Bf 109 G-6s at 8,000 m. As the Messerschmitts, some of them carrying 21 cm mortars, turned south

towards Stuttgart, the bombers were sighted and the fighters went in to attack. Within 30 minutes the Gruppe had claimed four B-17s shot down and eight *Herausschüsse*, with Dahl himself claiming one of each category. Following the mission, the unit recorded in its war diary: *'This successful attack was made from above and behind at very high speed!'*

As a result of disorganisation and separation, 45 B-17s were lost in total, amounting to 16 per cent of the total force in one of the costliest missions so far. More than 300 crew were posted missing.

On the 27th, 246 B-17s were dispatched to attack port facilities at Emden. Their inward flight took them into a defensive zone covered by seven German *Jagdgruppen*, the component elements of JG 1 and JG 11 plus II./JG 3. The Fw 190s of I./JG 1 took off from Deelen at 10.30 hrs and were the first fighters to engage the bombers which offered a ferocious defence. Oblt. Georg Schott, *Staffelkapitän* of 1. *Staffel* and a veteran of the Spanish Civil War with 16 victories, was hit by defensive fire. His body was found in a dinghy three weeks later. At 10.50 hrs, the Bf 109s of Hptm. Günther Specht's II./JG 11 were scrambled to intercept and assembled to the south-west of the approaching bomber stream. At the same time, the Fw 190s of II./JG 1 took off from Rheine. At around 11.00 hrs, II./JG 11, approaching from Oldenburg, sighted the bombers. In its first attack, Oblt.

Heinz Knoke's 5. *Staffel* fired 21 cm mortars into the *Pulk* and two B-17s were seen to go down. However, the *Jagdflieger* were about to experience an unpleasant surprise. Equipped for the first time with British-made 108 gallon drop tanks giving three hours endurance, P-47 Thunderbolts from the US 4th, 56th, 78th and 353rd FGs were now able to escort the bombers all the way to Emden. The American fighters surprised the Focke-Wulfs of II./JG 11 and a savage 15 minute air battle ensued during which the Gruppe's three *Staffeln* lost 15 aircraft. Despite this setback, seven B-17s were claimed shot down with an eighth claimed as a *Herausschuss*, although the reality was that because



LEFT: One of the pilots lost on 27 September was Oblt. Georg Schott, (left) Staffelführer of 1./JG 1, whose aircraft crashed into the sea. Schott was credited with 16 victories; three whilst with the Legion Condor in Spain, nine with 1./JG 2 and four with JG 1. He is seen here in the spring of 1943 with Lt. Engleder who assumed command of 1./JG 1 when Schott was killed. The aircraft in the background is one of the Staffel's Fw 190A-4s.



ABOVE: When the original US-made 200 gallon drop tank proved unsatisfactory due to leaks and fuel feed problems, a replacement was ordered but was not available for three months. To bridge the gap, a modified version of a resinated paper tank developed for the Hawker Hurricane was ordered and became available in July 1943 but not in quantities sufficient for large-scale operations. The early introduction of drop tanks allowed P-47s to fly to the Dutch/German border and surprised the Jagdwehhr, but when improved steel tanks became available, US fighters were able to fly deep within the Reich. This development represented a major threat to the Luftwaffe and many senior officers within the USAAF high command considered the drop tanks to be a weapon in themselves.



ABOVE: A P-47D Thunderbolt of the US 83rd FS/78th FG photographed at Duxford in the autumn of 1943 with a 108 gallon drop tank mounted under the fuselage. This aircraft was usually flown by Lt. Harding Zumwalt who transferred to the Eighth AF from the RAF and is seen here crouching under the wing with his groundcrew. On 27 September, P-47s from four groups, including the 78th, escorted bombers to Emden and clashed with the Fw 190s of II./JG 11 which lost 15 aircraft as a result.

of the escort's presence, only three per cent of the bombers failed to return. There was some slight encouragement for the defenders when Oblt Knoke claimed a P-47.

On 4 October, 155 B-17s with strong P-47 escort were assigned as their targets the industrial areas of Frankfurt and Wiesbaden as well as the city of Frankfurt itself. Towards 11.00, II./JG 1 intercepted and attacked a group of about 100 B-17s at an altitude of 8,000 m over the Eifel/Wiesbaden area. The first attack was from behind and at an angle and was mounted without success. Four Fw 190s were damaged by the defensive fire. While the Gruppe was reorganising itself for a second pass, it was joined by several pilots from I. Gruppe. During the attack four more Fw 190s were hit, but eight B-17s were shot down.

Oblt. Rudolf Engleder, the Staffelführer of 1./JG 1 recalled: "A tough encounter unfolded at an altitude of 9,000-10,000 m. Once again, the imposing American fighter escort engaged us in a cloudless sky. The bombardment no doubt hit the Hanau industries hard, because those responsible for its defence and the Gauleiter of Frankfurt visited Göring and protested strongly about his fighters: 'How is it possible that American bombers can fly over the city in almost parade ground fashion? And further, German fighters were seen at altitude, not attacking!' Göring went into one of his mad rages in which he knew the answer to everything, and he dispatched to all the fighter units responsible, the following orders:

1. There are no meteorological conditions which will prevent fighters from taking off and engaging in combat.
2. Every fighter pilot who lands in a machine not showing any sign of combat, or without having recorded a victory will be prosecuted by a court-martial.
3. In a case where a pilot uses up his ammunition, or if his weapons are unusable, he should ram the enemy bomber."

1943-1944

RIGHT: Generalmajor Josef 'Beppo' Schmid, the capable, cautious and underrated commander of I. Jagdkorps, the command which from late 1943 had overall responsibility for the fighter defence of the Reich. Born in 1901, Schmid transferred to the Luftwaffe from the Army in January 1938, being appointed head of the RLM's 5. Abteilung of the General Staff with the rank of Major. History has maligned him for his apparent underestimation of the strength of the RAF during the Battle of Britain yet he was not an intelligence specialist and the German High Command had a woefully poor knowledge of British capability. Promoted to Oberst, he was posted to Tunisia in November 1942 where he commanded the Panzergrenadier Division 'Hermann Göring' and was awarded the Ritterkreuz for his service in what was a tough campaign. In September 1943, he took over XII. Fliegerkorps from Josef Kammhuber which subsequently became I. Jagdkorps. In late November he became commander of Luftwaffenkommando West with responsibility for all Luftwaffe tactical operations on the Western Front.

Göring also demanded the reorganisation of his fighter command structure resulting in the establishment of I. Jagdkorps under Generalmajor Josef Schmid and the purging of some senior officers. The new Jagdkorps would be tasked with the co-ordination of the fighter defence network across Germany (with the exception of the south) as well as Holland, parts of Belgium and Denmark. As a result of these changes, the new structure was as follows:



Former Command (and Commander)

XII. Fliegerkorps (Gen. der Fl. Josef Kammhuber)

New Command (and Commander)

I. Jagdkorps (Gen. Major Josef Schmid – after 15.9.1943)

HQ: Zeist

Fighter Divisions (Jagddivisionen)

1. Jagddivision

(Gen. Lt. Karl-Bertram von Döring)

became 3. Jagddivision (Gen. Major Grabmann – after 12.11.1943)

HQ: Deelen (Döberitz after 15.10.1943)

Covering: North-west Germany, Holland, parts of Belgium

2. Jagddivision

(Gen. Lt. Walter Schwabedissen)

remained as 2. Jagddivision (Oberst Hentschel after 25.9.1943,

then Gen. Major Max Ibel after 1.11.1943)

HQ: Stade

Covering: The Heligoland Bight, Hamburg, Bremen, Hannover, Schleswig-Holstein and Denmark

3. Jagddivision

(Gen. Major Werner Junck)

became 4. Jagddivision (Gen. Major Werner Junck, then Oberst Hentschel after 7.10.1943)

HQ: Metz (Deelen from 15.10.1943)

Covering: Belgium and north-west France, then north-west Germany, parts of Belgium after 15.10.1943

4. Jagddivision

(Gen. Major Joachim-Friedrich Huth)

became 1. Jagddivision (Gen. Major Joachim-Friedrich Huth, then Oberst Günther Lützow after 20.11.1943)

HQ: Deelen (Döberitz after 15.10.1943)

Covering: North-west Germany, east of the River Elbe, central Germany Holland, parts of Belgium

5. Jagddivision

(Oberst Harry von Bülow)

became 7. Jagddivision (Gen. Major Joachim-Friedrich Huth after 12.11.1943)

HQ: Schleissheim

Covering: Southern Germany

30. Jagddivision

(Oberst Hajo Herrmann – formed 26.9.1943)

HQ: Berlin

Covering: Central and western Germany

Fighter Sector Commands (Jagdführer – 'Jafü')

Jafü Holland-Ruhrgebiet

(Jafü 3 in late November)

HQ: Deelen, Holland (Oberst Walter Grabmann, then Oberst Mettig from 12.11.1943)

Command Area: North western Germany, Holland and areas of Belgium

Jafü Deutsche Bucht/Heligoland Bight

(Jafü 2 in late November)

HQ: Stade (Oberst Hentschel, then Oberst Schalk after 1.11.1943)

Command Area: Heligoland Bight, Hamburg, Bremen, Hannover, Schleswig-Holstein and Denmark

Jafü Mitteldeutschland

HQ: Döberitz (Gen. Major Frommherz)

Command Area: Northern Germany east of the Elbe and central Germany



ABOVE: Deelen, summer 1943: Uffz. Bernhard Kunze of 1./JG 1 is welcomed by his mechanic, Gefr. Bruno Gall, upon his return from a successful mission. Note the 1. Gruppe chequered cowling and the pilot's personal emblem beneath the cockpit of this Fw 190 A-5 'White 4'.



ABOVE: Fw. Hans Meissner of 9./JG 1 after his seventh victory, a Spitfire, shot down on 19 August 1943.



ABOVE: On 8 October 1943, after having forced two heavy bombers from their formation, Hübl's 'White 5' was severely damaged by defensive fire. He succeeded in making an emergency landing near Nienburg/Weser, but was seriously wounded when his head struck the gunsight. The aircraft was 90 per cent damaged.



LEFT: On the same day, Uffz. Rudolf Hübl of 1./JG 1 shot down a B-17 as his fourth victory. His first two victories were also four-engined bombers and his third a P-51 which he shot down on 7 July. This photograph shows the tail of his 'White 5', W.Nr. 550490, with double victory bars on the rudder representing each of the four-engined bombers.

Focke-Wulf Fw 190 A-6, W.Nr. 550490, 'White 5', flown by Uffz. Rudolf Hübl of 1./JG 1, October 1943
Although finished in a standard 74/75/76 scheme, this aircraft carried distinctive black and white nose markings in the form of a spiral spinner and chequered cowling with a yellow panel under the engine. A further black and white design was painted over the exhaust area. At this time Hübl had four victories: a B-17 shot down on 18 March 1943, another on 13 June, an RAF P-51 on 7 July and another B-17 on 19 August. The rudder was marked accordingly with each of the bars showing the appropriate national insignia and each of the bombers being represented by a double bar.



1943-1944

RIGHT: The pilots in this photograph are believed to be, from left to right, Fw. Kurt Graf, Uffz. Gerhard Pankalla and Uffz. Wolfgang Rentsch, all of 7./JG 3 and all of whom returned from operations against US bombers on the afternoon of 14 October 1943 having each destroyed a B-17 using 21 cm air-to-air mortars. The aircraft in the background is one of the Staffel's Bf 109 G-6s and provides a good example of how the appearance of the white comet was enhanced by applying it to a black blister and that while in this instance the tail was applied to an area of the fuselage sprayed grey 74 to provide a greater contrast, on other aircraft this area was sometimes painted black. The MG 131 blisters on the aircraft assigned to 9./JG 3 were painted yellow, upon which was a black and white eye, but whether the Gruppenstab and 8. Staffel ever used similar emblems is not known.



Messerschmitt Bf 109 G-6, 'White 6' of 7./JG 3, Bad Wörishofen, October 1943

On this aircraft, which carried a 21 cm mortar tube under each wing, the camouflage scheme was the standard 74/75/76, but the spinner was black as opposed to the more usual green 70 and had a narrow white spiral. The usual yellow panel appeared under the nose, the winged 'U' badge of JG 3 'Udet' was applied to the cowling and the blister for the fuselage-mounted machine guns was painted black, upon which was the white shooting star emblem of 7./JG 3. Note how the tail of the shooting star had been applied to a background of RLM 74, the darkest of the camouflage greys, and that although the tactical number was in white, the III. Gruppe bar aft of the fuselage Balkenkreuz was black.

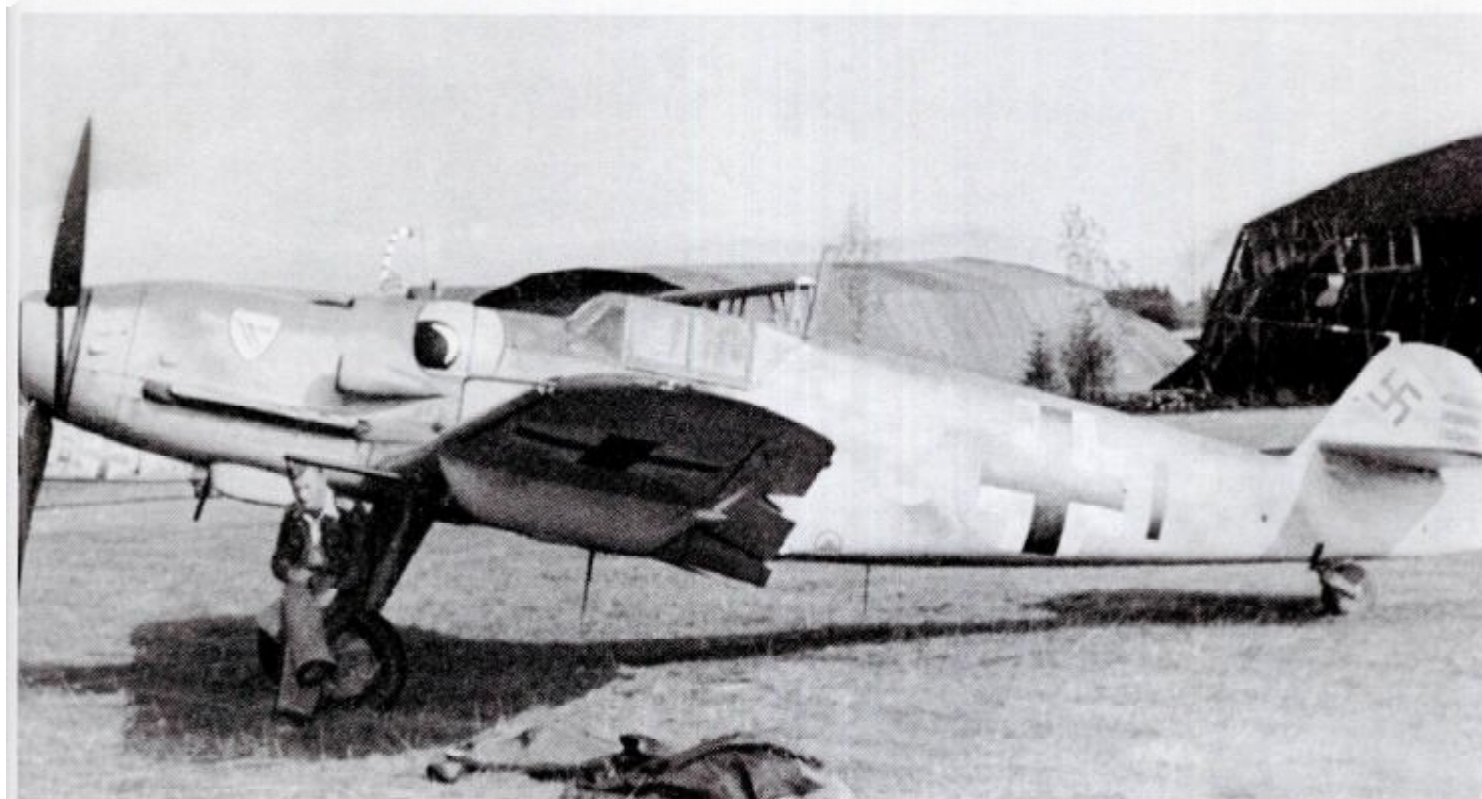


LEFT: Hptm. Walther Dahl (right), Gruppenkommandeur of III./JG 3, greets successful pilots from 7./JG 3 upon their return to Bad Wörishofen from operations against the USAAF raid on Schweinfurt on 14 October 1943. Behind the pilots is a Bf 109 G-6, 'White 6' of 7./JG 3.



Messerschmitt Bf 109 G-6, W.Nr. 18807, 'Yellow 6' flown Ofw. Alfred Surau of 9./JG 3, September 1943

This aircraft was finished in a splinter pattern of 74 and 75 over the upper surfaces of the wings, horizontal stabilizer and fuselage top decking with a soft mottle on the fuselage sides over grey 76 fuselage sides, this latter colour also covering the entire undersurfaces. The spinner was yellow with a thin, black spiral, but the backplate remained green 70. The badge of JG 3 'Udet' appeared on both sides of the engine cowling and the yellow MG 131 blisters were decorated with the black and white eye marking of 9. Staffel. The victory tally on the rudder consists of 43 red bars, the last representing one of two B-17s shot from their formation on 6 September 1943.



ABOVE: One of the most successful non-commissioned officers to fly with III./JG 3 was Ofw. Alfred Surau of 9. Staffel, seen here with his Bf 109 G-6, 'Yellow 6'. As the rudder is marked with 43 victory bars, this would indicate that the photograph was probably taken at Bad Wörishofen in September 1943. The machine was equipped with underwing MG 151 cannon and the forward antenna under the fuselage indicates that the aircraft had been fitted with a FuG 16 ZY R/T set. Although this was a valuable aid to fighter control, daily tuning flights had to be flown to check the sets. Surau first joined 9./JG 3 as a Feldwebel in Russia in early 1943 and achieved his first victory on 28 February 1943. By the time the Staffel was withdrawn from Russia to take part in the defence of the Reich in August 1943, Fw. Surau had 41 victories and was awarded the German Cross in Gold on 31 August. His first success in the West occurred on 6 September when, now an Oberfeldwebel, he separated two B-17 Flying Fortresses from their formation and was credited accordingly with victories 42 and 43. On 1 October, he succeeded in shooting down two B-17s and is thought to have shot down another, or separated it from its formation, during the second US raid on Schweinfurt on 14 October. On that day, however, his W.Nr. 18807, the same aircraft as shown above and in the profile above, was hit by defensive fire from the US bombers and Ofw. Surau was seriously wounded. He died of his injuries the same day.

1943-1944

RIGHT: A deceptively tranquil scene in the early autumn of 1943, but the ground crew socialising with the pilots belies the fact that the latter are at readiness and may be called to action at any moment. These Bf 109-G-6s belonged to II./JG 2 at Evreux and are equipped with underwing MG 151 cannon. Barely visible on the otherwise dark green spinner is the standard white segment of the period.

BELOW: This Bf 109 G-6, W.Nr. 27083, 'Black 12' belonged to 5./JG 2 and was lost on 20 October 1943 when it was shot down in action while being flown by Uffz. Hünig. Note the extent of the black paint over the wing root which protected this area from exhaust gasses. The tactical number and II. Gruppe bar are both thinly edged in white, the rudder and the yellow panel under the engine are yellow, and the spinner appears to be entirely dark green although the chipped area on the backplate suggests the earlier presence of a white segment.





ABOVE: Pilots of 3./JG 11 wait at cockpit readiness in their Fw 190s at Husum in the late summer of 1943. All aircraft are finished in the standard grey day fighter scheme of 74, 75 and 76 and, to help distinguish them to German forces from enemy aircraft, have yellow undercowlings. The nearest machine, 'Yellow 9', to which is attached a generator cart, carries the Staffel emblem on the engine cowling which showed a pistol superimposed on a red heart against a circular yellow background with the motto 'Wer zuerst schießt hat mehr vom Leben' ('He who shoots first lives longest') around the circumference.

Focke-Wulf Fw 190 A-6, 'Yellow 9' of 3./JG 11, Husum, summer 1943

'Yellow 9' carried the badge of 3./JG 11 on its engine cowling and had a narrow white band around the rear fuselage. The spinner was plain green 70, and the upper surface camouflage colours, applied in a segmented pattern, were 74 and 75 with all mottling being restricted to the rear fuselage, tail and rudder. The fuselage sides and all undersurfaces were in 76 and the crosses on the upper surface of the wings were in white outline style. All other national insignia, i.e. the swastikas on the tail and the crosses on the undersurfaces of the wings and fuselage sides, were black with white outlines.

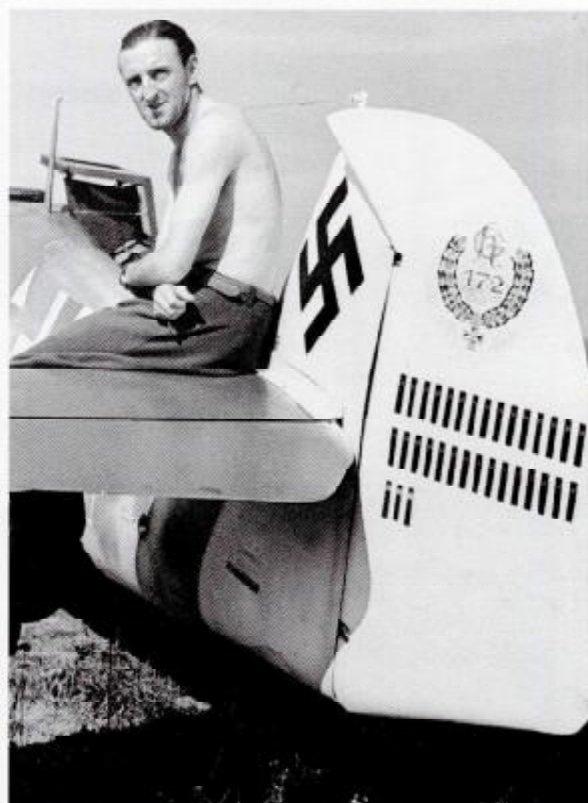


1943-1944



ABOVE: Hermann Graf and the motorcycle combination he used to move around the airfield at Wiesbaden-Erbenheim in the late summer/early autumn of 1943. Behind Graf is one of the Bf 109 G-5s he flew while with JG 50, this particular machine, W.Nr. 15915, having the tactical number 'Green 1' aft of the fuselage cross. The completely white tail is marked to show Graf's victory score which, at the time of the photograph was 207.

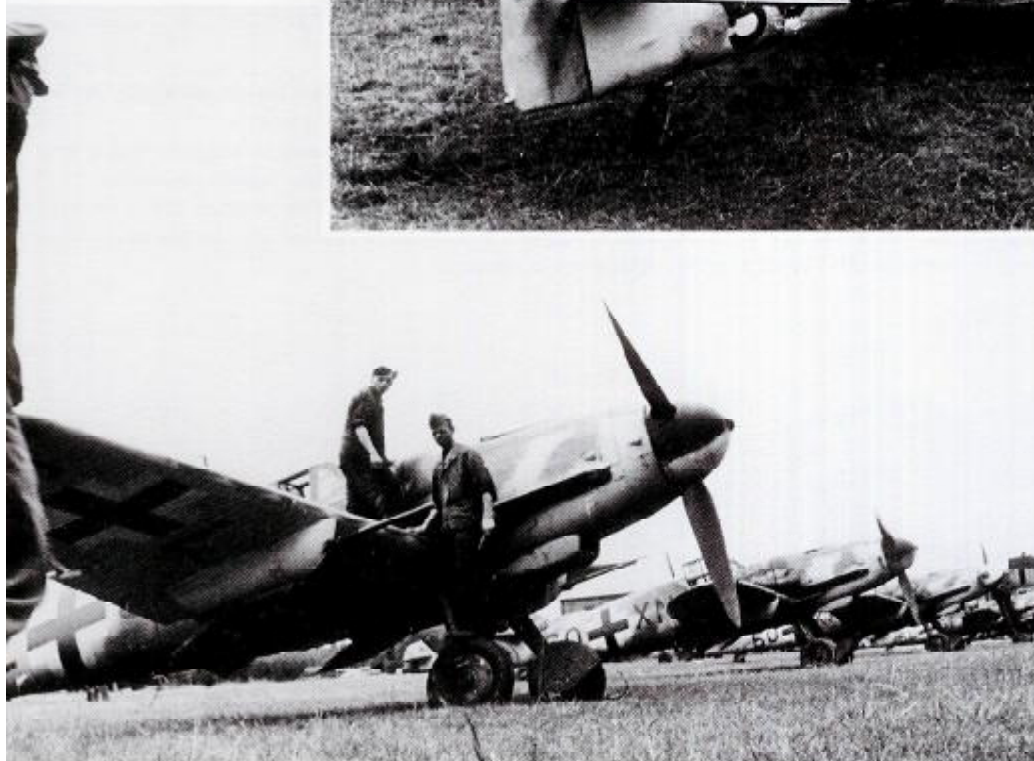
BELOW: Oblt. Alfred Grislawski (right), nominally the commander of 1./JG 50, and Ofw. Ernst Süss enjoy the relative peace of Wiesbaden-Erbenheim in September 1943. Behind the pilots is Grislawski's MG 151/20-armed Bf 109 G-6 with the tactical number 'White 10' positioned aft of the fuselage cross, while below the cockpit is the unit badge which featured the figure of a hunter on a green diamond outlined in yellow. The white tail unit shows that the machine is a unit leader and is marked to record Grislawski's 112 victories, the last three bars representing victories over US heavy bombers, the latest of which was a B-17 shot down south-east of Stuttgart on 6 September.



ABOVE: A closer view of the rudder of Graf's aircraft showing that the design surmounting the later victory bars was quite elaborate and featured his intertwined initials, a laurel wreath and a representation of the Knight's Cross. The machine appears to have a coloured band around the rear fuselage.



LEFT: Major Hermann Graf in conversation with other pilots of JG 50 at Wiesbaden-Erbenheim. From left to right (facing camera): Ofw. Heinrich Füllgrabe, Graf, Lt. Alfred Grislowski, and Ofw. Ernst Süß. All were successful fighter Ritterkreuzträger and had served together with 9./JG 52 on the Eastern Front.



ABOVE AND LEFT: Cannon-armed Bf 109 G-5s and G-6s of I./JG 50 at Wiesbaden-Erbenheim in the autumn of 1943, all machines still showing their Stammkennzeichen, or four letter factory codes. Although perhaps intended to become a full-strength Geschwader specifically for high-altitude interceptions, the only parts formed were a Stab, 1, 2, and 3. Staffel, although 2. and 3. Staffeln may only have existed on paper and were disbanded within two months of their formation.

1943-1944



THIS PAGE: When VIII BC mounted an attack on instrument bearing factories in Stuttgart on 6 September 1943, the raid was badly disrupted by cloudy weather and should have been abandoned. Although it turned into a disaster for the Americans, the German fighter controller skillfully vectored aircraft from III/JG 3, II/JG 27 and JG 50 onto the bombers as they reached their target. The result was that of the 45 bombers lost on this operation, more than half were due to enemy action, with pilots of JG 50 claiming four. Apart from Hermann Graf, who claimed two, and one claimed by Grislawski, the other successful pilot of JG 50 is believed to be Lt. Gottfried Wei-roster of Stab/JG 50. He is shown in these three photographs with his Bf 109 G-5 'Green 3' at Wiesbaden shortly after the event. Wei-roster's aircraft was equipped with two underwing MG 151 cannon and, as with other aircraft of JG 50, carried its tactical number behind the fuselage cross. In the photograph (ABOVE RIGHT), Wei-roster is shown with the tail of his aircraft with the latest victory bar almost certainly being the B-17 he destroyed on 6 September. The reflection on the horizontal stabiliser suggest that the machine may at some time have been polished to improve its maximum speed, although there is no evidence of this in the other photographs. Note the faint trace of the Stammkennzeichen letters 'TO' in the photograph (TOP LEFT) and the stencilling aft of the numeral in the view (RIGHT). Wei-roster later transferred to Stab/JG 11 and was killed over Jadebusen on 26 November 1943.



Messerschmitt Bf 109 G-5, 'Green 3', W.Nr. 15912, flown by Lt. Gottfried Wei-roster of Stab/JG 50, Wiesbaden-Erbenheim, summer 1943

Although this aircraft was finished in a standard 74/75/76 scheme, there is some evidence to suggest that it may have been repainted since the W.Nr. 15912 on the tail and some of the aircraft's stencilling appear on lighter backgrounds, indicating that they were masked off when the new colours were applied. The position of the tactical number aft of the fuselage cross was a feature of JG 50, and the pilot's victories are represented by the black bars on the rudder, each of which is marked with the date of the Abschuss in white.



'The Cornered Wolf Fights Hardest': Second Schweinfurt

In October 1943, the daylight battle over the Reich reached the point where the Americans were forced to accept that unescorted, deep penetration formations could not adequately protect themselves. Yet although the losses incurred during such missions reached unacceptable levels, they nevertheless forced the *Luftwaffe* into the air to fight and in doing so inflicted attrition on a scale from which the Germans would find it difficult to recover.

When VIII BC attacked Bremen and Vegesack on 8 October, Gen. Major Schmid was able to commit aircraft from every day fighter unit within the 1., 2., and 3. *Jagddivision* areas and elements of 5. *Jagddivision*. Violent air combat ensued over Bremen and Oldenburg. Thirty bombers were lost and 26 were damaged, but among the *Jagd*waffe's losses was the *Kommodore* of JG 1, *Obstlt.* Hans Philipp, an *Experte* from the Eastern Front and holder of the Knight's Cross with *Eichenlaub* and *Schwertern* who was killed near Nordhorn by P-47s having just shot down his first *Viermot* as his 206th victory.

Göring issued explicit orders to the Headquarters of I. *Jagdkorps* at Zeist in Holland to direct the efforts of those day fighter units under the *Korps*' command first and foremost against enemy four-engined bombers. The twin-engined heavy fighters of the *Zerstörergeschwader* were ordered to attack unescorted bombers and at the same time instructions were issued that the process of equipping certain units with 21 cm underwing air-to-air mortars was to be stepped up.

On the 10th, the USAAF struck the marshalling yards at Münster with 206 B-17s escorted by 216 P-47s. Some 250 buildings were destroyed and a further 3,000 damaged, including the railway station and the cathedral. More than 300 inhabitants were killed and 602 injured. In the skies above the city, the Americans encountered vicious and determined aerial opposition; the 100th BG lost 12 of its 14 aircraft. Thirty bombers were lost altogether. The Bf 109s of II./JG 3 were the first to reach the bombers and in accordance with Galland's directive, prepared to make an attack from the rear but were repelled by the heavy escort. However, VIII BC later reported the attacks mounted by JG 1 and JG 26 against the 3rd Bomb Division as '*... the most violent and concentrated attack yet made on this Division by enemy aircraft... Attacks, from every clock position, appeared to have a definite method.*'

Returning to the aircraft industry targets which had proved so costly to the Americans in August, 229 of 291 B-17s despatched on 14 October managed to reach Schweinfurt. It was planned that the bomber force would include 20 B-24 Liberators from the 2nd Bomb Division, but these and their escort were forced to abandon the mission due to bad weather and cloud. The 4th Fighter Group also had to turn back because of fog, leaving just the 56th and 353rd FGs to escort the B-17s.

However, over western Germany, the weather had cleared and in cloudless skies, I. *Jagdkorps* committed all its daylight fighter units drawn from five fighter divisions – a total of 567 aircraft from JG 1, JG 2, JG 3, JG 11, JG 26, JG 27, JG 50, JG 51 and JG 54 as well as twin-engined *Zerstörer* from ZG 26 and ZG 76 and some fighter training school aircraft and night fighters.

Against Göring's explicit orders, in the 3. *Jagddivision* area, *Oberst* Grabmann deployed the Bf 109s of III./JG 1 and I./JG 3 against the P-47 escorts between Woensdrecht and Antwerp. The escort stuck close to the bombers, however, and shot down seven Messerschmitts.

Just after 13.30 hrs, as the escort began to turn back, the Fw 190s of I. and II./JG 1 dropped their auxiliary fuel tanks and turned to engage the American formation as it approached Eindhoven attacking from 12 o'clock high and almost immediately drew in the fighter escort. A swirling, confused mêlée developed as the Germans took on both the US fighters and bombers. *Ofw.* Detlef Lüth claimed a B-17 for his 35th victory, while *Hptm.* Emil-Rudolf Schnoor, *Kommandeur* of I./JG 1, shot down one B-17 for his 13th victory. *Oblt.* Rudolf Engleder, *Staffelkapitän* of I./JG 1 shot down one B-17 and claimed a *Herausschuss* resulting in a personal tally of seven *Viermots* shot down or damaged in 15 days. JG 1 would end the day with total claims of 21 B-17s.



ABOVE: *Obstlt.* Hans Philipp, *Kommodore* of JG 1, was shot down and killed near Nordhorn by P-47 Thunderbolts while leading the first attack against a raid by US bombers on Bremen and Vegesack on 8 October 1943. Philipp was regarded as one of the most accomplished of the *Jagd*waffe's *Experten* and was the second pilot to reach 200 victories. He had first seen service in Poland in 1939 and then flew with JG 54 in northern Russia where he was *Kommandeur* of I. Gruppe and at the end of March 1942 became the fourth fighter pilot to be accredited with 100 victories. On 1 April 1943 he was appointed *Kommodore* of JG 1 in the Reich, but the air war in this theatre proved challenging even for men of Philipp's calibre and, in a letter to his former comrade Hannes Trautloft, written shortly before his death, Philipp wrote, '*... we are comfortably installed, the girls are numerous and we have all that we need. The bad point is that the aerial fighting is extremely hard. Hard not because the enemy are superior in numbers and the Boeings are better armed but because to go over a group of 70 B-17s makes you see your whole life in front of you. And once you have made your mind up to go in, it is even more difficult to force each pilot of the squadron, right down to the youngest 'green', to do the same.*' By the time of his death, Philipp had a total score of 206 victories and had been awarded the *Ritterkreuz* with *Eichenlaub* and *Schwertern*.

By the time the 1st Bomb Division entered the target area, it had lost 36 bombers, with one group alone losing just under half its strength, and when the mission was over, the Division's loss rate had increased to 45 machines. One combat wing of 37 aircraft had lost 21 machines.

To the south, 25 Bf 109s of III./JG 3 – nine of them carrying mortars – took off at 13.08 and flew for 80 minutes before making contact with the bombers, by which time their fuel was low and there was only time for two brief attacks. Nevertheless, the *Gruppe* accounted for 11 Fortresses shot down, five of which were claimed using mortars, and a further seven *Herausschüsse*. Ofw. Alfred Surau claimed a B-17 for his 46th victory, but was then shot down by defensive fire from the bombers. Surau's loss was a hard one for the *Gruppe* to bear; he had shot down two B-17s on 6 September and two more on 1 October.

Elsewhere, the confusion of battle had begun to tell; the War Diary of I. *Jagdkorps* mentions Uffz. Otto Monska of 6./JG 27 filing claims for the destruction of five enemy aircraft, but in fact he shot down one B-17, for his sixth victory. Only one escort fighter would be claimed that day, falling as a shared kill to the guns of the 'old hare' and *Ritterkreuzträger* Ofw. Adolf Glunz of 5./JG 26 and his *Staffel* comrade, Gefr. Heinz Wyrich.

Claims by *Geschwader* for the day were as follows:

I., II. and III./JG 1	17	III./JG 54	2
I., II. and III./JG 2	12	JG 104	1
Stab, I. and III./JG 3	21	JG 106	1
II. and III./JG 11	4	<i>Industrie Schwarm</i>	1
I. and II./JG 26	10	Ekdo 25	1
II./JG 27	19	<i>Zerstörer</i> units	23
JG 50	6	Night Fighters	11
II./JG 51	9	Other	10
		Total	148

Jagdwaaffe losses in this mission were 31 aircraft destroyed, 12 written off and 34 damaged, i.e. between 3.4 and 4 per cent of available fighter strength in the West.

For the Americans, the battering absorbed by the Flying Fortresses had been immense and the second Schweinfurt raid had cost VIII BC 60 B-17s and 600 air crew, with 17 more bombers seriously damaged and a further 121 damaged but repairable. It was a body blow, but despite the catastrophe, a buoyant Eaker wrote to Arnold the next day with a sense of success, claiming that the *Luftwaaffe's* response was "... pretty much as the last final struggles of a monster in his death throes."

Arnold was unconvinced and replied: "*The cornered wolf fights hardest*", while Schmid's verdict was that: "... the units of the German *Reichsverteidigung* achieved a great defensive success on 14 October 1943."

Certainly, the losses from Schweinfurt resulted in the progressive American strategy of hitting deep penetration targets being suspended until greater numbers of long-range escort fighters became available and missions were kept within range of the escort. Although the *Luftwaaffe* was not winning the battle for air superiority over Europe, it was nevertheless preventing the USAAF from doing so. Equally however, on the German side, with 67 per cent of production at Schweinfurt knocked out, the ball-bearing industry was forced to disperse its manufacturing capacity which, in turn, presented logistics problems.

October saw the strength of JG 2 and JG 26 reorganised or increased to four *Staffeln* in each *Gruppe*, and the I. *Jagdkorps* reported 664 fighters on strength. The month's operations had cost the *Luftwaaffe* 284 fighters, eight more than the previous month, I. *Jagdkorps* recording that, although the numerically inferior German daylight fighter units had failed to prevent a single American large-scale raid during October 1943, the enemy suffered noticeable losses, especially in bombers. Indeed, many of Galland's pilots were achieving unprecedented results and accumulating staggering scores against the hated *Viermots*. Hptm. Rolf Hermichen of JG 11 was typical of the new ilk of 'bomber-killers' whose victories included 26 four-engined victories and pilots such as Hermann Graf, Walter Dahl, Anton Hackl and Kurt Bühligen were becoming household names. Another high-scorer was Oblt. Herbert Rollwage of JG 53 whose 102 confirmed aerial victories included 14 four-engined bombers, not the 44 often asserted. In II./JG 11, Oblt. Heinz Knoke had been credited with 15 four-engined kills while his comrade Günther Specht had 15 and Lt. Hugo Frey, 12.



BELOW: At the outbreak of the Second World War, Hugo Frey was serving with I./JG 2. He gained his first victory over Poland on 4 September 1939 over a PZL-11. In December 1940, Frey transferred to 2./JG 1 based on the German Bight and later developed into one of the foremost German 'bomber-killers'. He shot down his first *Viermots* on 21 January 1943 and by 29 July he had accounted for 10 four-engined bombers shot down. Oblt. Frey was appointed *Staffelkapitän* of 7./JG 11 on 1 April 1943. He shot down two USAAF B-17s and a P-47 on 26 November 1943 to bring his score to 22 victories and shot down a further two B-17s on 11 January 1944. On 6 March 1944, he took-off to intercept a USAAF raid on Berlin and in a remarkable feat shot down four B-17s before return fire from a fifth hit his Fw 190 and he crashed at Coevorden, Holland. Hugo Frey was credited with 32 victories, of which 25 were four-engined bombers, and was posthumously awarded the *Ritterkreuz* on 4 May 1944.



LEFT: Rolf-Günther Hermichen shot down his first enemy aircraft on 10 May 1940 during the French campaign and, with 9./ZG 76 in the Battle of Britain, he shot down his fifth victim on 12 August 1940. On 25 April 1941, 9./ZG 76 was redesignated 6./SKG 210 and Hermichen took part in Operation 'Barbarossa' flying fighter-bomber and ground-attack missions. He joined III./JG 26 in November 1941 and in March 1942 became Adjutant to the Kommandeur, Hptm. Josef Priller. After moving to the Eastern Front in January 1943, he added eight Soviet fighters to his tally. Hermichen was then appointed temporary Gruppenkommandeur of III./JG 26 on 15 June 1943, but relinquished command to Hptm. Klaus Mietusch on 4 July 1943 and returned to 3./JG 26 as *Staffelkapitän*. On 16 October 1943, Major Hermichen was appointed Gruppenkommandeur of I./JG 11 based at Husum. By mid-November 1943, he had shot down 45 enemy aircraft. He led I./JG 11 successfully until April 1944, after which he took over command of the fighter training unit II./JG 104. Hermichen was a 'bomber-killer' and his tally of 'Viermots' eventually stood at 26. He was awarded the *Ritterkreuz* on 26 March 1944, followed by the *Eichenlaub* on 19 February 1945. He survived the war.

RIGHT: Kurt Bühligen flew more than 700 combat missions in the West, in Tunisia, and in the defence of the Reich, and was regarded as one of the most experienced pilots in the Jagdwaffe. Bühligen joined the Luftwaffe in October 1936 and, following service with JG 2, was awarded the *Ritterkreuz* after 21 victories obtained over England and the Channel. Because of Bühligen's understanding of technical matters, he was made Technical Officer of II./JG 2 whilst holding the rank of Oberfeldwebel. In November 1942, II./JG 2 was hastily transferred to Tunisia where Bühligen increased his tally to 68 victories by the time the campaign there ended. Returning to the Channel Front in late March 1943, Bühligen was later appointed Kommandeur after the departure of Hptm. Rudorffer in May 1943. He received the *Eichenlaub* on 2 March 1944 and in late April 1944 he took over as Kommodore of JG 2. On 7 June he scored his 100th victory and on 14 August 1944 he was awarded the *Schwertern* to the *Ritterkreuz*. At the end of the war, his score stood at 112 victories in the West, of which 24 were four-engined bombers.



LEFT: Herbert Rollwage joined the Luftwaffe in 1936 and in was posted to 5./JG 53 in the spring of 1941. He claimed his first victory on the opening day of Operation 'Barbarossa', when he shot down a Russian SB-2. By 5 October he had claimed 11 Russian aircraft shot down, including three victories recorded on 27 August. II./JG 53 was transferred to the Mediterranean in December 1941 and by the end of October 1942, Rollwage had claimed 20 aircraft, mainly RAF Spitfires, shot down over Malta. From December 1942, Ofw Rollwage was operating over Tunisia where he claimed a further six victories before being withdrawn to Sicily in May 1943 where he claimed a further ten victories, including two four-engined bombers. He recorded his 40th victory on 13 June 1943. On 10 July, Rollwage was badly wounded in aerial combat near San Pietro, but managed to regain his base although his Bf 109 G-6 was classified as 100 per cent damaged. Rollwage spent several months in hospital, but returned to combat duty with 5./JG 53 in December 1943. The *Staffel* was then based at Vienna-Seyring in Austria operating in the Reichsverteidigung. Rollwage was awarded the *Ritterkreuz* on 5 April for 53 victories. He recorded his 60th victory on 27 May when he shot down a P-51 and on 10 August 1944, newly-promoted Leutnant Rollwage was appointed *Staffelkapitän* of 5./JG 53 but left on 5 December 1944 having been assigned to 2./JG 106 as an instructor and was awarded the *Eichenlaub* on 24 January 1945. Rollwage survived the war and although his confirmed victory score is not known, he flew 664 missions in which he was credited with 71 victories. It is thought his final total may be between 80 and 85, although the often asserted score of 44 four-engined kills credited to him is probably an inaccurate and a figure nearer 14 is more likely.

1943-1944



ABOVE: 21 October 1943: Generalleutnant Adolf Galland, the General der Jagdflieger (second from right) attends a conference on tactical affairs at the HQ of 3. Jagddivision at Deelen in Holland. At this time there was mounting pressure on the Jagdwaffe to improve its effectiveness in the face of the USAAF daylight bomber formations and at a separate meeting just over a week earlier, Göring had admitted to Walther Dahl, the Kommandeur of III./JG 3, that Hitler had lost confidence in the fighter force. Also seen in this picture are from left to right: Major Schulz, Geschwader Adjutant, JG 1; Oberst Walter Oseau, Kommodore of JG 1; Oberst Günther Lützow, Kommodore of JG 3; Major Werner Schroer, Kommandeur, of II./JG 27 and Major Sandmann, Stab, General der Jagdflieger.



LEFT: Typical of an increasingly common sight over Germany by late 1943, the Bf 109 G-6 of Uffz. Robert Pautner of 9./JG 26 falls prey to the P-47 of Lt. Leroy Ista of the 353rd FG near Gelsenkirchen on 5 November 1943, shortly after III./JG 26 had attempted to attack B-17s of the Third Bomb Division. Pautner managed to bale out suffering from a shoulder wound.



But this was not enough to appease Göring; on 12 October, the *Reichsmarschall* summoned Walther Dahl, the *Kommandeur* of III./JG 3 and his pilots to a meeting in Munich in which he angrily reproached them for the fact that the *Führer* had lost confidence in the *Jagdwaaffe*. In the eyes of the German military leadership and the people, the fighter force was expected to be seen as a 'Vengeance Corps', but it was failing miserably.

Göring's grip on fighter operations now began to filter through to command policy. On 6 and 7 November, *Generaloberst* Hubert Weise, *Luftwaffenbefehlshaber Mitte*, chaired a conference in Berlin attended by *General der Flieger* Schmid and the commanders of all *Jagddivisionen* subordinate to I. *Jagdkorps*. Weise announced Göring's directive that in view of the higher flying altitudes and increased fighter escort adopted by the American bomber formations, strong formations of German single-engined fighters were to engage and divert the escort, while twin-engined *Zerstörer* units, operating beyond the range of the escort, were to attack only the unescorted bombers. Cover for the *Zerstörer* was to be provided by the single-engined night fighters of Hajo Hermann's *Wilde Sau* units.

Schmid voiced misgivings about a policy, which would involve simultaneous attacks on bombers and their escort, and he believed that the total strength of the daylight fighter force was too limited to maintain such tactics.



LEFT AND ABOVE: Two photographs taken from a B-17 showing Fw 190s making frontal attacks on an American bomber formation over Bremen in November 1943.

RIGHT: By late 1943, standard USAAF bomber formations deployed over northern Europe were usually made up of a 36-aircraft combat box formed by squadrons of six aircraft broken into two elements of three aircraft. All aircraft in an element flew at the same level, but the elements themselves were separated in altitude with a little stagger, forming into high, low and low-low positions.

Subsequently, fighter units stationed at airfields close to the Dutch coast were pulled back to airfields in eastern Holland and the Rhine area, enabling the fighter divisions to assemble their forces at combat altitude without interference from enemy escort. The three *Gruppen* of ZG 26 were also pulled back to Grove in Denmark and to airfields in the Hannover area, beyond the range of US escort and from where they were to engage bombers in the Jutland area and over the Baltic.

By the end of November, the total number of day fighter aircraft employed in the I. *Jagdkorps* sector amounted to 1,877 aircraft of which 124 were lost during that month.



BELOW: Ofw. Hans 'Specker' Grünberg (left) of 5./JG 3 and a mechanic pose for a photograph with Grünberg's Bf 109 G-5 at Schiphol on 11 November 1943. Grünberg had been a very successful fighter pilot on the Eastern Front, shooting down seven Il-2 Sturmoviks on 5 July 1943. He had baled out four times during his time in Russia before moving with 5./JG 3 to the Reichsverteidigung and was awarded the German Cross in Gold on 31 August. On 9 May 1944 he was appointed Kapitän of 5./JG 3, replacing Oblt. Leopold Münster who had been shot down and killed in action the day before. As a Leutnant, Grünberg was awarded the Ritterkreuz on 9 June 1944 when his victory tally stood at 70. At the end of 1944 he was transferred to I./JG 7 for operations with the Me 262 and later became Staffelführer of I./JG 7. His last victory was claimed on 19 April when he shot down a B-17 over Bohemia, but he had to bale out of his Me 262 near Prague. On 17 April 1945 he was assigned to Adolf Galland's JV 44 at München-Riem. In the course of 550 combat missions, he was credited with 82 victories including 26 Il-2s and at least 11 US four-engined bombers. Five of his victories were achieved while flying the Me 262.

ABOVE: Hptm. Friedrich Eberle, photographed leaving the cockpit of his Bf 109 'White 20', was appointed Kommandeur of III./JG 1 on 9 October 1943. He retained this position until 27 April 1944 and, in the summer of 1944, took command of III./JG 4 which he led until the end of the war.



1943-1944

RIGHT: Erich Hondt was an 18-year old art student when he was called up for military service. After joining the Luftwaffe, he completed his training at the end of 1942, having already briefly served with Jagdgruppe Drontheim in Norway and JG 53 in North Africa. He then joined I./JG 1 at Jever in early 1943 and was wounded in June following combat with American bombers and baled out of his burning Bf 109 G. In July 1943, he was appointed commander of Jasta Helgoland and flew the Messerschmitt Bf 109 T. He was appointed Staffelfkapitän of 2./JG 11 from 17 August to 8 October 1943 when he was wounded and baled out again following combat with B-17s over Holland. He returned to take command of the Staffel from 5 July 1944 to 25 August 1944, when he was again wounded in combat with P-51s over France. From 15 October 1944, he commanded 3./JG 11 until March 1945 when he was posted to III./JG 2 with which he underwent training on the Me 262 jet fighter. He ended the war flying with Adolf Galland's JV 44 in the defence of southern Germany.



ABOVE: A view of Erich Hondt's 'Black 13', partly sheltered in a hangar and showing the port wing armament. On the cowlings are, from left to right, Hondt, Lt. Michael Widmann and Oblt. Erich Bartels.

Focke-Wulf Fw 190 A-5/U12, W.Nr. 410266, 'Black 13' flown by Lt. Erich Hondt of 2./JG 11, Husum, autumn 1943

The standard 74/75/76 scheme on the fuselage of this machine has largely been covered by the yellow fuselage band, the red stripe of a Schwarmführer, the white tail of a formation leader, the unit badge and aircraft's tactical number. Note that the Werk Nummer on the tail appears on an area of camouflage where it was masked off when the white was applied. It is thought that the red stripes on either side of the fuselage formed a 'V' where they met on the engine cowlings.



RIGHT: This Fw 190 A-5/U12 was flown by Lt. Erich Hondt, the Staffelfkapitän of 2./JG 11, on the damp concrete at Husum in the autumn of 1943. The aircraft carries the emblem of 2. Staffel and in addition to the distinctive red diagonal band used by I./JG 11 to denote the aircraft flown by a Schwarmführer, the machine has the white tail and rudder assembly of a unit leader. Standing in front of the aircraft are, from left to right, Lt. Michael Widmann, Hondt, Oblt. Erich Bartels and a senior mechanic.



Without Regard to Losses: Sturmstaffel 1

Throughout 1943 a number of individuals and organisations offered proposals to the *General der Jagdflieger* for dealing with the heavy bomber threat, some verging on the absurd, others perhaps just workable. One such individual was Major Hans-Günter von Kornatzki, a long-serving *Luftwaffe* officer married to one of Göring's secretaries and a member of Galland's staff, who proposed the creation of a dedicated and specially equipped assault unit or *Sturmstaffel*. In the late summer of 1943, Kornatzki spent four weeks attached to *Erprobungskommando* 25 with which he studied tactics and weapons intended for close-range work against enemy bombers. During subsequent meetings with Göring and Galland in the autumn, Kornatzki advocated adopting radical new tactics involving massed rear attacks against the bomber *Pulks* by tight formations of heavily-armed and armoured Fw 190s.

Kornatzki had carefully studied reels of gun camera film, read combat reports describing attacks on *Viermots* and interviewed fighter pilots. He reasoned that during a rearward attack against an American heavy bomber formation, one German fighter was potentially exposed to the defensive fire of more than 40 0.50 inch machine guns and had only the slimmest chance of escaping damage during attack. Under such circumstances, it was even less likely that a lone fighter could bring down a bomber. However, if a complete *Gruppe* could position itself for an attack at close range, the bomber gunners would be forced to disperse their fire and thus weaken it, allowing individual fighters greater opportunity to close in, avoid damage and shoot down a bomber. The loss of speed and manoeuvrability incurred by the extra armament and armour carried by these *Sturm* aircraft would be countered by the presence of two regular fighter *Gruppen* which would keep any enemy escort at bay.

Kornatzki also suggested to Galland that as a last resort if ammunition had been expended and the fighter was close enough, a bomber could be rammed to bring it down. He further proposed that a smaller unit, a *Staffel* rather than a *Gruppe*, should be established first to train up volunteer pilots who would test and evaluate the new method under operational conditions. It seems that Galland, under considerable pressure from Göring, needed little convincing. He immediately authorised the establishment of the first *Sturmstaffel*, to be known as *Sturmstaffel* 1, and appointed Kornatzki as its commander.

In early October 1943, Galland's staff scoured fighter bases and training schools across the Reich for suitable volunteer candidates for the fledgling unit. Though the initial response was meagre, eventually an initial cadre of 15 pilots was found, just enough to form a full strength *Staffel*. These first volunteers were sent to Berlin where they met their new commanding officer. Kornatzki spoke to each candidate personally and explained the purpose of the unit and the inherent risks associated with the intended operations. Those pilots who showed signs of doubt, reluctance, or lack of conviction, were encouraged to return to their former units.

On 8 November 1943, the *General der Jagdflieger* signalled his unit commanders:

'German fighters have been unable to obtain decisive successes in the defence against American four-engined formations. Even the introduction of new weaponry has not appreciably changed the situation. The main reason for this is the failure of formation leaders to lead whole formations to attack at the closest possible range. The Reichsmarschall has therefore ordered the establishment of a Sturmstaffel whose task will be to break up Allied formations by means of an all-out assault with more heavily-armed fighters attacking in close formation and at the closest range. Such attacks that are undertaken are to be pressed home to the very heart of the Allied formation whatever happens and regardless of losses until the formation is annihilated.'

By this time, the unit had received its first complement of Fw 190 A-6s which introduced a lighter wing capable of accommodating increased armament in the form of four 20 mm MG 151/20 cannon located in the wing-roots and the outer panels, thus phasing out the old, slow-firing MG FF cannon. The two fuselage-mounted 7.9 mm machine-guns were retained and the aircraft featured additional protective armour around the cockpit. These initial machines constituted what was probably the first batch of operational aircraft to be armoured for close-range anti-bomber work with the addition of 30 mm armoured glass panels – or *Panzerscheiben* – to the sides of the canopy and a 50 mm plate of strengthened glass to protect the pilot from fire from directly ahead. According to Focke-Wulf reports, some problems were experienced fitting the glass panels to the sliding canopy because of the curvature

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Hans-Günter von Kornatzki

Hans-Günter von Kornatzki was born on 22 June 1906 in Liegnitz, Silesia the son of Gertrud, née von Briesen, and Generalmajor Paul von Kornatzki. After entering the *Reichswehr* on 9 May 1928, Hans-Günter decided that he wanted to fly and, in 1933, like hundreds of other young men of the time, he joined the *Luftwaffe*. Kornatzki's training took place amidst the clandestine conditions under which Germany was building its future air force. On 1 April 1934, he completed his fighter training at the *Fliegergruppe (S) Werneuchen* (later the *Jagdfliegerschule Werneuchen*) and three months later, transferred to the recently formed *Reklamestaffel Mitteldeutschland* at Döberitz. This unit eventually formed the nucleus of I./JG 132, the *Luftwaffe*'s first fighter *Gruppe*, and was under the command of Major Robert Ritter von Greim, to whom Kornatzki served as adjutant. A second *Gruppe*, II./JG 132 was formed in March 1935 at Jüterbog-Damm and Kornatzki transferred to it and was promoted to *Hauptmann*. He then joined I./JG 334 at Wiesbaden as *Gruppenadjutant* before transferring to I./JG 136 at Jever in 1938.



In September the following year, Kornatzki was appointed *Gruppenkommandeur* of II./JG 52 which saw brief service on the Channel Front during the Battle of Britain. The unit was based at Peuplingue in mid-August 1940, but returned to Jever after only a few days. It returned to France in late September.

In October 1940, Kornatzki returned to Werneuchen where he was posted to the staff of *Jagdfliegerschule 1* and, from then on, he filled a number of staff assignments including service as Ia on the *Stab* of X. *Fliegerkorps* and the *Stab* of *Höhere Jagd*, and finally serving on the *Stab* of the *General der Jagdflieger*.

On 3 May 1941, he married Ursula Grundtmann, a secretary to Reichsmarschall Göring and the daughter of a Generalmajor. However, the marriage was to be tragically short lived for within two years, Ursula had been killed during an air raid on Berlin.

It has been said that the loss of his wife under such circumstances hardened Kornatzki's character and may have served to prompt him to devise radical ways in which to fight back against the Allied bombing offensive. Many of those who served under him however, especially those in *Sturmstaffel 1*, remember that he cared for his men and that he never knowingly or callously sent anyone to his death.

Oblt. Richard Franz joined *Sturmstaffel 1* in February 1944 having previously flown Bf 109s in Italy with 3./JG 77. He remembers: "I first met Major von Kornatzki in March 1944 when I arrived at Salzwedel, the home base of *Sturmstaffel 1*. There is a saying in German: the first impression is always the right one - and my first impression of him was as a very honourable officer; a gentleman. He was very calm and discreet, and yet tireless. Of course, there was a barrier; he was much older with the rank of Major and I was a Lieutenant. But Kornatzki was a kind of father to us."

"We knew that he was close to Hermann Göring, because he had married one of his secretaries and he drove an Auto-Union Meisterklasse car, a gift from the Reichsmarschall. But that was never a topic for conversation; we took that as a fact and that was all there was to it. Of course, we talked often about the *Sturm* concept and the tactics we were to use... about armament, armour-plating and so on."

"Kornatzki didn't fly often," remembers Fw. Oscar Boesch, who joined the *Sturmstaffel* in late April 1944. "I never even saw him in an aeroplane! But he was like a father to the unit. He thought up tactics and worked very hard to ensure that we had everything we needed."

"The *Sturmstaffel* was unique. We were like a private club. We belonged to no-one else except Göring. We had our own cook, our own ordnance. We lived like kings. Göring even sent down cases of *Sekt* when we had done well. Yet every day was a struggle to stay alive. We weren't after awards. The best award was to come back at the end of the day. We were outnumbered ten, sometimes 20 to one and we got tired, very tired, but we just kept going... We had to."

Although Kornatzki flew relatively few combat sorties with the *Sturmstaffel* - Richard Franz recalled that he suffered from poor health - he did claim a *Herausschuss* over a B-17 on 23 March 1944 when he



ABOVE: On 3 May 1941, Hans-Günter von Kornatzki married Ursula Grundtmann, a secretary to Reichsmarschall Göring and the daughter of a Generalmajor.

BELOW: Major Hans-Günter von Kornatzki, commander of *Sturmstaffel 1*, seen here to the far left, welcomes Generalleutnant Adolf Galland to Achmer for an inspection of his unit in the autumn of 1943. To the right of Galland is Hptm. Horst Geyer, commander of *Erprobungs-kommando 25* which was sharing the airfield.



led his unit against 296 B-17s of the USAAF 1st Bombardment Division during an attack on Münster. By this time he had five victories to his credit.

When *Sturmstaffel* 1 was disbanded at the end of April 1944, it did not signify that the *Luftwaffe* was abandoning von Kornatzki's tactical philosophy. On the contrary, encouraged by the results achieved in such a short time by such a small unit, the OKL decided to establish two new *Sturmgruppen*, II.(*Sturm*)/JG 4 and II.(*Sturm*)/JG 300.

In mid-May 1944, von Kornatzki received orders to begin setting up and organising II.(*Sturm*)/JG 4 at Salzwedel, although the official formation of the unit would not come about until July of that year.

Kornatzki decided that to assist him in his task, he would require a solid core of pilots from *Sturmstaffel* 1, pilots who both understood what would be needed of them and who possessed the requisite combat experience, supplementing an intake of pilots and ground crew drawn from I./ZG 1. This latter unit had previously been employed flying Ju 88s against Allied convoys over the Atlantic and then against Allied invasion forces off Normandy in June 1944. Withdrawn from France and following hasty conversion training onto the Fw 190 at Hohensalza near Posen, by the end of July 1944, these pilots constituted the various *Staffel* commanders of the new *Gruppe*:

<i>Stab</i> , II.(<i>Sturm</i>)/JG 4	<i>Obstlt.</i> Hans-Günter von Kornatzki (newly promoted)
5.(<i>Sturm</i>)/JG 4	<i>Hptm.</i> Wilhelm Fulda (replaced soon after by <i>Hptm.</i> Erich Jugel)
6.(<i>Sturm</i>)/JG 4	<i>Hptm.</i> Manfred Köpke
7.(<i>Sturm</i>)/JG 4	<i>Oblt.</i> Othmar Zehart

Fw. Gerhard Marburg, an ex-*Sturmstaffel* pilot, flew as von Kornatzki's wingman.

For the next two months von Kornatzki led his *Gruppe* with calm professionalism. Despite often not flying himself, as a commander, he proved very popular and was respected by the men who served under him. He gave encouragement and took a deep interest in all aspects of the air war.

Obstlt. Hans-Günter von Kornatzki was killed on 12 September 1944, in his Fw 190 A-8/R2, W.Nr 681424, 'Green 3'. He had led II.(*Sturm*)/JG 4 against a formation of American bombers and had shot down a B-17 at 8,000 m at 11.16 hrs, some 30 km west of Magdeburg. His aircraft had been damaged by the bombers' defensive fire. Pursued by an American escort fighter, von Kornatzki attempted to make an emergency landing but crashed into power lines at Zilly near Halberstadt.

RIGHT: "A private club": Major Erwin Bacsila with some of *Sturmstaffel* 1's first cadre of pilots photographed at Achmer in late October or early November 1943. Identifiable in this photograph are, from left to right, *Uffz.* Werner Peinemann (in profile), *Uffz.* Willi Maximowitz, *Ofw.* Gerhard Marburg, Major Bacsila and *Gefr.* Gerhard Vivroux. Behind the group, mechanics attend to one of the *Staffel*'s Fw 190 A-6s, with the armoured glass side panel, better known as a 'blinker', mounted on the side of the canopy.



LEFT: Major von Kornatzki, commander of *Sturmstaffel* 1, presents Major Erwin Bacsila (second from right in the row) and *Lt.* Hans-Georg Elser (far right in the row), both of whom had recently joined Kornatzki's unit, to Generalleutnant Galland at Achmer, 17 November 1943. Looking on are *Hptm.* Horst Geyer and other officers of *Erprobungskommando* 25. Erwin Bacsila had joined the *Luftwaffe* in 1938, rising to become *Gruppenadjutant* of II./ZG 1 during the Polish campaign. A respected officer, he was promoted to *Staffelkapitän* of II.(N)/LG 2 and in September 1940 he took command of 7./JG 52, a position he held until September 1942, at which time he transferred as *Offz. Z.b.V.* to the *Geschwaderstab* of JG 77 based in North Africa under Major Joachim Müncheberg and flew as his *Rottenflieger*. At the beginning of 1943, his aircraft was hit and brought down by British anti-aircraft fire but he was able to reach his own lines. He later left JG 77 to take up command appointments in Russia and the West throughout 1943, including service as a *Jafü* in Brittany, before eventually joining the *Sturmstaffel*.

ABOVE: Major Walther Dahl, *Kommandeur* of III./JG 3, stands proudly by the rudder of his Bf 109 at Bad Wörishofen in December 1943. Just visible, the last four bars represent kills scored against US four-engined bombers.

but these difficulties were eventually overcome. The installation of external 5 mm steel plates to the fuselage panelling around the cockpit area and an armoured bulkhead between the engine and the cockpit offered further protection from defensive fire. Additionally, the pilot's seat was fortified by 5 mm steel plates and a 12 mm head protection panel.

On 17 November 1943, Göring visited *Sturmstaffel* 1 at Achmer accompanied by Galland. In their presence, the 20 or so pilots were reminded of the strict code they were required to follow during their operations and were made to swear the following oath:

1. *I volunteer for the Sturmstaffel of my own free will. I am aware of the basic objective of the Staffel.*
 - a. *Without exception, the enemy will be approached in close formation.*
 - b. *Losses during the approach will be immediately made up by closing up with the attack leader.*
 - c. *The enemy will be shot down at the closest range. If that becomes impossible, ramming will be the only alternative.*
 - d. *The Sturm pilot will remain with the damaged bomber until the aircraft impacts.*
2. *I voluntarily take up the obligation to carry out these tactics and will not land until the enemy has crashed. If these fundamentals are violated, I will face a court martial or will be removed from the unit.*

As testimony to the seriousness with which this oath was sworn, the volunteers were also required to draft a last will and testament. At least one pilot, *Oblt.* Othmar Zehart, is known to have done so following this instruction, but another of the unit's pilots, *Fw.* Oscar Boesch recalls: "We were not forced to sign the declaration but in a way we had worked ourselves up mentally to succeed at any cost. We simply recognised the need to defend our homeland."

However, despite its state of readiness, the *Sturmstaffel* would not experience its baptism of fire until January 1944.

Meanwhile, in December 1943, the levels of attrition among experienced fighter pilots and formation leaders, including a number of *Ritterkreuzträger*, continued. On 1 December the *Staffelkapitän* of 5./JG 27, *Oblt.* Herbert Schramm, a veteran of the Channel Front, Russia and North Africa, was killed



Major Kurt Brändle, Kommandeur of II./JG 3, fell victim to escort fighters on 3 November 1943 while attacking medium bombers over the North Sea. He had been awarded the *Eichenlaub* to the *Ritterkreuz* on 27 August 1942 in recognition of his 100th victory. By the time of his death, his tally had risen to 180 victories gained over some 700 missions.



Hptm. Herbert Schramm, Kapitän of 5./JG 27, was killed in combat with P-47s over Belgium on 1 December 1943. A former instructor pilot, he had flown 480 missions, and had been awarded the *Ritterkreuz* in August 1941 for his first 24 victories. With a final score of 24 aerial victories, he was posthumously awarded the *Eichenlaub*.



Hptm. Wilhelm Lemke, who had commanded 9./JG 3, replaced Kurt Brändle as Kommandeur of II./JG 3. Just one month later, Lemke, an *Experte* with 131 victories, was similarly shot down and killed by P-47s near Nimwegen in Holland on 4 December 1943. He had been awarded the *Eichenlaub* to the *Ritterkreuz* for his 125th victory.

when he baled out of his Bf 109 following combat with P-47s west of Eupen in Belgium and his parachute failed to open. Of his 42 victories, Schramm had been credited with the destruction of three B-17s. Three days later, and one month after replacing the 180-victory *Ritterkreuzträger* Major Kurt Brändle as *Gruppenkommandeur* of II./JG 3, *Hptm.* Wilhelm Lemke suffered a similar fate to Schramm when he too fell to P-47s whilst on a patrol north-west of Nimwegen in Holland. Lemke had flown more than 600 missions during which he had been credited with 131 victories, including 25 Il-2s in the East and three four-engined bombers in the West.

As if the P-47s were not enough, another ominous event occurred on 5 December with the debut of the P-51 Mustang when the US 354th FG escorted bombers to Amiens. This would bring a new and forbidding dimension to the air war and the first appearance of the Mustang caused *Jagdwaaffe* commanders considerable concern and forced a reappraisal of existing tactical methods. This high-powered fighter more than exceeded the speed and manoeuvrability of both the rugged, radial-engined Fw 190 and the regularly re-worked Bf 109, and in two days at the



ABOVE: Nemesis for the *Jagdwaaffe*: P-51 Mustangs of the 354th FG commenced their first escort operations in December 1943. Although actually assigned to the tactically-gearred Ninth Air Force, the Group was permitted to fly bomber escort missions with the Eighth Air Force. These P-51B-5s are from the 355th FS and are seen being loaded with 75 US gallon drop tanks in readiness for an escort mission.



ABOVE: In one of its early appearances, a P-51 Mustang escorts a formation of B-17s it on the long flight home.

end of January was responsible for the loss of more than 70 *Jagdfliieger*. On 11 December, in an even more worrying development, 44 P-51s escorted 523 bombers all the way to Emden in Germany. Schmid and his staff calculated that the ratio of the total American offensive effort in the operational area of the I. *Jagdkorps* was three to one against German single- and twin-engined daylight fighter strength.

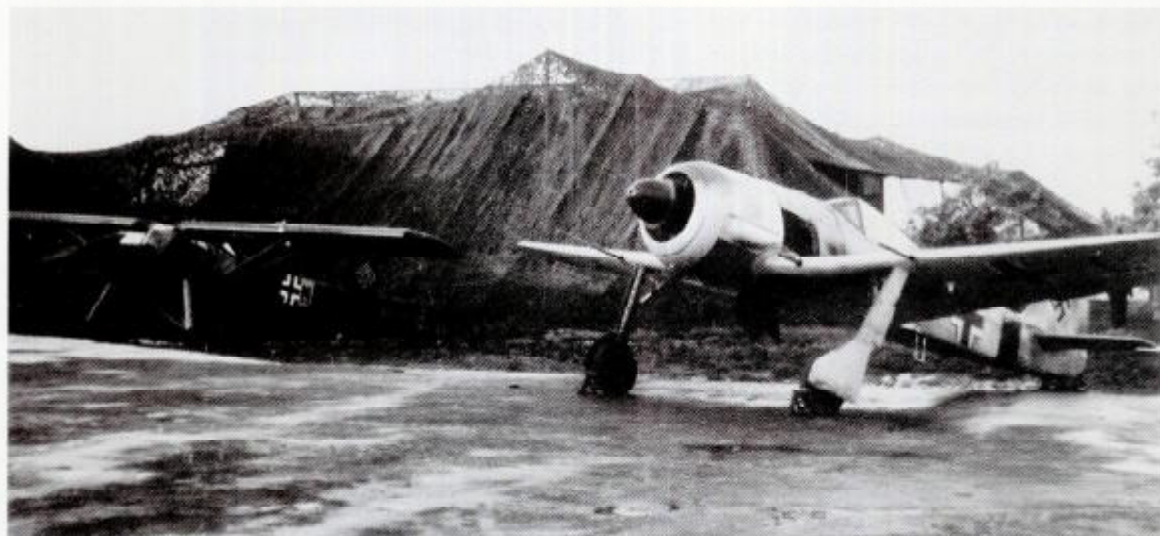
Concerned about the employment of his slender forces in the manner demanded by Göring, Schmid determinedly rejected such orders and pleaded with the *General der Jagdfliieger* to force a review of them. At a map exercise held at the HQ of I. *Jagdkorps* at Driesbergen, near Zeist on 11 December 1943, Schmid addressed Galland, members of his staff, commanders of the various *Jagddivisionen* and all fighter *Geschwaderkommodore* and endeavoured to explain the motives behind his rejection of Göring's strategy. He received some sympathy for his views.

On the 29th, Schmid once again met with his divisional commanders in an attempt to improve communication between dayfighter units operating within individual divisional sectors and to develop efficient methods of assembling *Geschwader* in the air. There was also further discussion about increasing use of the frontal attack, this being a further indication of the disagreements which prevailed in tactical policy. Following the meeting, Schmid issued a directive to his Division commanders: 'In view of our numerical inferiority in operations against the American attacks, it will be necessary to concentrate our units for an attack relative to time and space. Fighter attacks should be conducted in such a manner that cohesive units of the strength of at least one fighter *Geschwader* attack the bomber stream at a specific spot. By applying this method it must be possible to destroy an American bomber unit completely.'

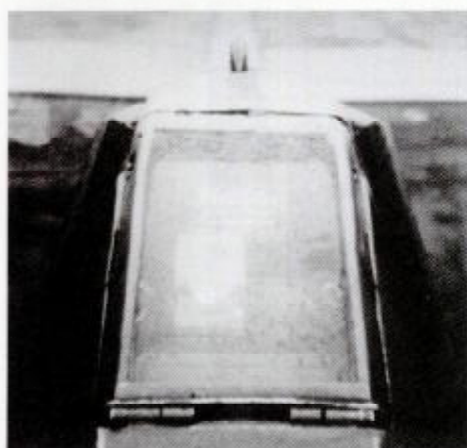


LEFT: With their freshly painted black-white-black identification bands around their rear fuselages, the Fw 190 A-6s of *Sturmstaffel 1* are caught on camera for a propaganda photograph. In the background, 'White 5' taxis past with the unit's lightning and gauntlet emblem just visible on its nose.

1943-1944

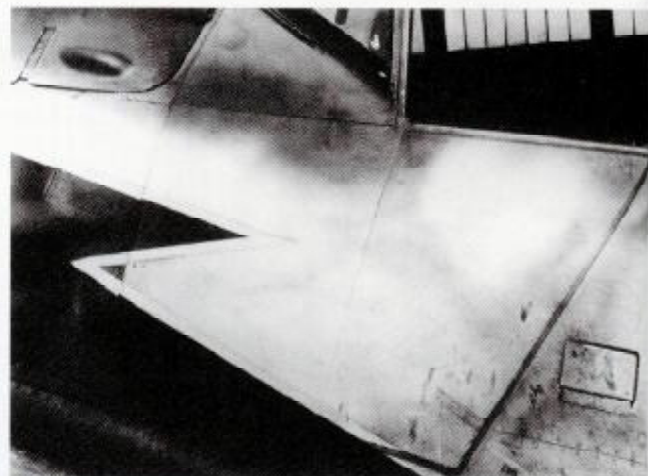


LEFT: One of the first Fw 190 A-6s delivered to Sturmstaffel 1 runs up its engine at Achmer or Dortmund in the autumn of 1943 or early 1944. Note the windscreen has armoured quarter panels fitted and the cockpit sides are covered with armour plating fixed to the fuselage. Also of interest is the yellow panel under the nose and the single dark band, rather than the usual black-white-black combination, around the rear fuselage. It is possible that this aircraft had been allocated for transfer to or from JG 1, which provides an explanation for what is probably a red fuselage band.



ABOVE LEFT, ABOVE AND ABOVE RIGHT: Three views of an Fw 190 A-8, WNr 170397, showing the armoured glass panels, or Panzerscheiben, similar to those fitted to the windscreen and canopy of Sturmstaffel 1's Fw 190 A-6s and A-7s to protect the pilots during their close range attacks against formations of USAAF four-engined bombers. The photograph above left and right shows the plate of 50 mm strengthened glass added to the windscreen, while the photographs centre and right show respectively the 30 mm armoured glass quarter panels fitted to the sides of the windscreen and the side panels added to the canopy.

RIGHT: Uffz. Werner Peinemann of Sturmstaffel 1 in the cockpit of his Fw 190. The mechanic is leaning on the frontal plate of 50 mm thick strengthened glass and 30 mm armoured glass quarter and side panels have been fitted to the windscreen sides and sliding canopy.



ABOVE: Another close-up of Fw 190 A-8 WNr 170397, showing the 5 mm steel plates added to the fuselage around the cockpit area.

Cable Bombs

In late September 1943, the *Eprobungsstelle* Rechlin delivered to *Erprobungskommando* 25 at Wittmundhafen an experimental 10 kg 'sharpened' cable bomb which was to be employed by Fw 190s operating against American bomber formations. Rechlin had originally tested the 2.5 mm twisted-steel cable bomb with a view to using it against high-tension electric power cables and telephone lines in enemy territory, but such plans were abandoned when the OKL voiced concern that the use of such a device might encourage the enemy to adopt similar measures against Germany.

With the onslaught of the daylight bomber offensive however, a similar idea in which a cable was to be dragged into an enemy bomber formation and then released to foul the propellers was first suggested by representatives of the German police and Postal Ministry. To this end, the *Eprobungsstelle* also furnished *Ekdo*. 25 with the salvaged wing section of a B-24 Liberator with which it could conduct ground tests.

The technical personnel of *Erprobungskommando* 25 devised a means by which a cable of 100 to 400 metres in length could be stowed into a specially adapted cylindrical metal container, with the 10 kg 'bomb' – merely to provide weight and momentum – remaining on the outside of the container. The whole apparatus was then attached to a fuselage-mounted ETC 50 bomb rack under an Fw 190.

The plan was for the Fw 190, having released the weight so that the cable was drawn from the container, to approach an enemy formation from the front and about 500 metres above. On impact, a weak link would separate the cable from the Fw 190 and the container would be jettisoned. The fighter would then exit flat over the bombers and would revert to the role of a conventional fighter. One limitation was that once the weight had been released and the cable drawn out, it could not be reeled in again, so that if a release was made in error, the cable had to be dropped over friendly territory.

Having moved to Achmer, *Erprobungskommando* 25 conducted further tests with Horst Geyer, the *Kommandoführer*, flying several trial flights against the Liberator wing in order to assess the damage the cable would inflict. These tests proved disappointing and Geyer recalled: "Some tests were made with a weight and others without, but approach and correction became very difficult. We made at least four or five attempts against this wing, but the cable just kept swinging about and didn't hit the target."

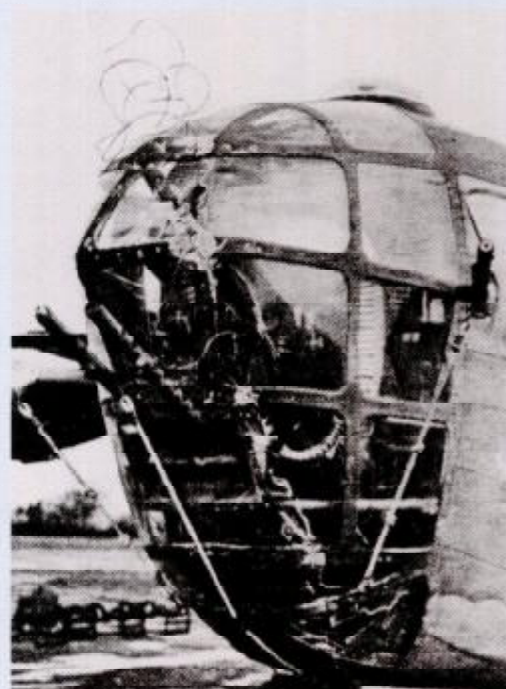
Nevertheless, *Ekdo*. 25 reported the weapon operationally ready in the first half of October. There it seems, further work stopped until 11 December 1943 when the US 8th AF despatched 37 B-17s and 86 B-24s with strong fighter escort to bomb aircraft industry targets at Emden.

As the B-24s of the 44th BG approached the target, an Fw 190 trailing a length of steel cable with a weighted object on the end was seen to make a head-on approach towards the formation, before making a shallow dive from slightly above. The German fighter was then seen to release the cable which impacted with a B-24, entwining itself around the bomber's nose and injuring the bombardier and navigator. Shortly after this attack, the bomber's



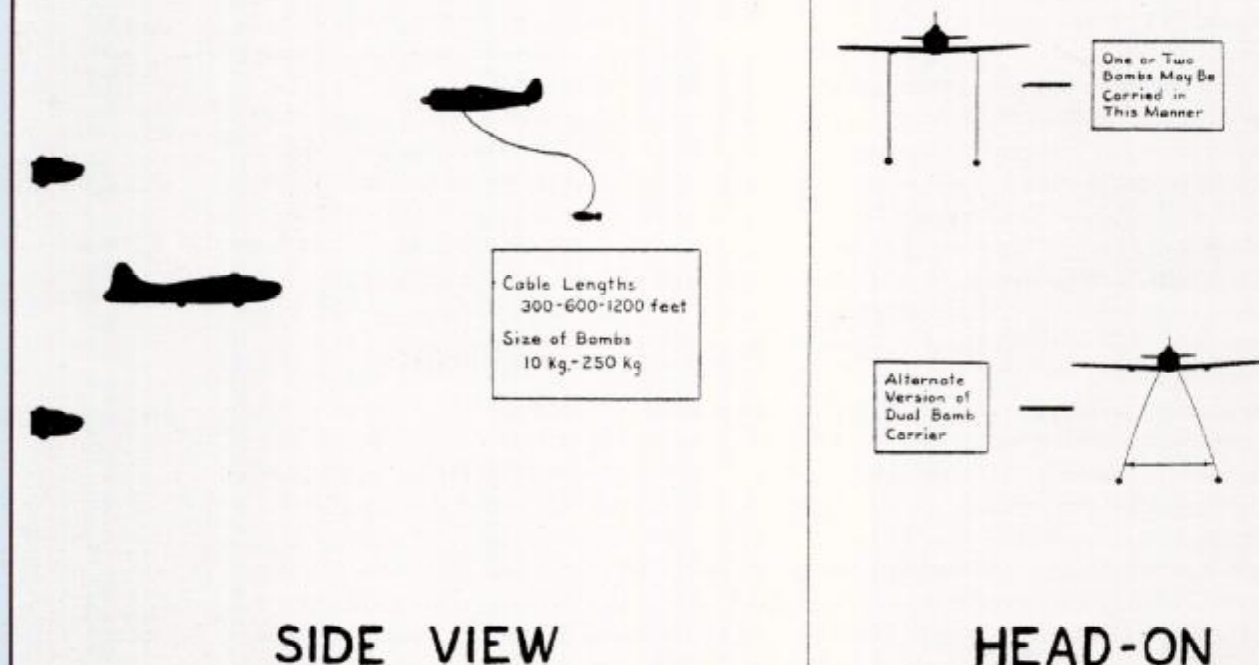
LEFT: Stabs Ing. Öhlkers of *Ekdo*. 25 shows a selection of cable bombs to Oberst Hannes Trautloft, the soon to be appointed Inspector of Day Fighters, during an inspection visit to the unit's base in November 1943. Standing next to Trautloft, with his back to the camera, is Oberst Günther Lützow, commander of 1. Jagddivision who accompanied Trautloft on his visit. Also seen in this photograph are Oblt. Reebmann and Lt. Frodl of *Ekdo*. 25.

RIGHT: The nose of B-24 Liberator of the 44th BG after its return to England from a mission to Emden on 11 December 1943 having been struck by a cable bomb, most probably from an aircraft of *Ekdo*. 25. The cable injured the bombardier and the navigator.



CABLE BOMBS

Schematic Drawing



ABOVE: A contemporary drawing produced by USAAF Intelligence in early 1944 showing how bomber crews had described cable bomb attacks.

right-hand side bomb bay door blew in and was torn away by the slipstream, the result, USAAF technical personnel later assumed, of the cable weight striking the aircraft.

The Liberator was able to return to base and the cable was removed and taken away for scientific analysis. This showed the cable to have been 0.15 inches in diameter and made up of five wires wound around a single core wire. The individual wires were square in cross section, each side measuring 0.047 inches, and the pitch on the outside wires measured approximately 3/4 inch. Chemical analysis showed the wire to be of simple carbon steel containing the following elements.

Carbon	0.55 percent	Manganese	0.50 per cent
Silicon	0.20 percent	Nickel, less than	0.01 percent
Sulphur	0.034 percent	Chromium	0.10 percent
Phosphorous	0.031 percent	Molybdenum	not found

Two days after the raid on Emden, German radio broadcasts were heard proclaiming that this new weapon had been used against the American formations "with devastating effect" and on at least three further occasions during raids to Bremen and Oschersleben in December and January 1944, 8th AF reported further sightings of Fw 190s and Ju 88s trailing cables through bomber formations. USAAF Intelligence, however, was not perturbed and reported:

The conclusion to be reached after a study of reports is that although the attacks with cable bombs are becoming more frequent, they are not particularly dangerous. Even though large bombs may be carried, the question of aiming them restricts their effectiveness - plus the fact that aircraft trailing these cables must come into range of the bombers' guns, thereby making themselves very vulnerable targets. Even when the bombs reach their target, their effectiveness, so far as is known from the single attack in which a plane was hit, is relatively light... The restriction of aiming, vulnerability of carrier aircraft, and limiting of its manoeuvrability seem to indicate that at present, the bomb-on-cable tactic will not be a successful counter-measure against Allied bomber formations.

Indeed, after mid-January 1944, further experiments ceased and during a post-war interrogation, Adolf Galland stated that only two unconfirmed victories had been claimed using cable bombs. He also confirmed that the experiments had been stopped because "... the bombs tended to trail behind the Fw 190 rather than bang down, because the bomb swung about too much and because the fighter aircraft had to come very close to the bombers to achieve victories."



LEFT: Three photographs showing Oberleutnant Josef 'Pips' Priller, the Geschwaderkommandeur of JG 26, preparing for a flight in his Fw 190 A-6, W.Nr. 530120, 'Black 13' from Lille-Nord in the winter of 1943-44. Priller flew several Fw 190s coded 'Black 13' a number of which bore his personal marking of the Ace of Hearts inscribed with the name 'Jutta'. This particular aircraft carried only the last three numbers of the Werknummer on the right side of the tail fin, (as illustrated in the photograph far left, while the port side was marked with the full number.

BELOW: At the end of 1943, Obstlt. Walter Oesau introduced a new emblem for Jagdgeschwader 1 consisting of a red winged '1' in a white diamond on a red disc. This Bf 109 G-6 'White 3', of 7./JG 1, carries the red JG 1 defence of the Reich band on its rear fuselage. Note also the DF loop and Erla canopy.



Messerschmitt Bf 109 G-6 'White 3' of 7./JG 1, late 1943

'White 3' was finished in the usual 74/75/76 day fighter scheme and had the red band of JG 1 around the rear fuselage, upon which was superimposed a III. Gruppe vertical bar in white, this and the tactical number being thinly outlined in black. The multi-coloured spinner is unusual, consisting of a yellow segment and a white tip over the standard factory green 70. An Erla Haube has been fitted and the winged '1' badge of JG 1, which also represented a highly stylised eagle, appears on the engine cowling.



ABOVE: Obstlt. Walter Oesau, an Experte with more than 100 victories, was appointed successor to Obstlt. Hans Philipp as Kommandeur of JG 1 in late 1943. He is seen here upon his arrival with the unit.

Horst Geyer and Erprobungskommando 25

Horst Geyer began his wartime flying career as a test pilot at the Erprobungsstelle der Luftwaffe at Rechlin. He recalls: "In the summer of 1939, I finished flying school at Altenburg qualified to fly both fighter and larger, multi-engined aircraft. I was then assigned as a test pilot to Department E-6 at the Erprobungsstelle Rechlin, the department responsible for the development of air armament, rockets, bombs and bombing systems. When war broke out – and because I was licensed to fly larger aircraft – they posted me to KG z.b.V.1, a Ju 52 transport unit flying supplies into Poland.

"After the Polish campaign, I returned to Rechlin and became involved in developing a new automatic sight and bomb-release system for the Ju 88. One day, the Director of Luftwaffe Supply and Procurement, Generalluftzeugmeister Ernst Udet, visited the Erprobungsstelle and saw me flying and asked to inspect the new bomb system. Udet later asked my commanding officer if I could join him for lunch at a nearby casino. Over lunch, I explained the workings of the bomb system to Udet and also told him that I had, in fact, been trained as a fighter pilot since 1936! He promptly offered me a position on his staff and in December I found myself at a desk in Udet's office at the RLM in Berlin."

In January 1940 Geyer was appointed to the post of adjutant to Udet, a man whom he came to admire greatly. However, by the early summer of 1940 and with the Battle of Britain beginning in the west, Geyer grew restless and longed for an operational posting. Anxious not to be excluded from the ranks of young Jagdflieger already carving themselves reputations on the Channel Front, he was prepared to seize the first opportunity to escape Berlin and climb into the cockpit of a Bf 109.

"In the early summer of 1940, I had the opportunity to meet Werner Mölders, the first fighter pilot to have won the Ritterkreuz, whilst he was discussing certain technical matters in Berlin. On this occasion, Udet took Mölders and I to lunch and whilst dining, I quietly asked Mölders if I could join his Jagdgeschwader based on the Channel Front. He replied that I should ask my boss who was sitting right next to me! Udet agreed to my request, but on the basis that I was to return to Berlin after three months secondment to JG 51. I was honoured to join the Geschwader Stab and served with Mölders, Köpke, Balfanz, Erwin Fleig and Friedrich Beckh and later, Hartmann Grasser.

"I duly returned to Berlin in November to continue my duties as Adjutant to Udet, but in September 1941 I was again allowed to join JG 51, which by this time was serving in the East, and joined the II. Gruppe, now commanded by Grasser."

Later that month, Geyer was appointed Staffelführer of 5./JG 51, flying the Bf 109 E. At this time, JG 51 was the most successful Jagdgeschwader in Russia and was actively involved in supporting Army Group Centre during Operation Taifun, the drive on Moscow.

"On one occasion, while returning to our base at Schatalowka from an operational sortie, my Me 109 was jumped by Russian fighters and I was wounded in the hand and foot. The cockpit was full of blood. I made it back, but was sent to hospital in Königsutiner and after a period of recovery was ordered back to Udet."

Geyer was credited with 18 victories while flying with JG 51 and was awarded the Eichenlaub. However, whilst he was serving in Russia, Udet's position in Germany, as Generalluftzeugmeister, had become increasingly untenable as a result of severe disagreements with Göring and Milch over aircraft production policy. Udet's handling of a demanding post which was wholly inappropriate to his flamboyant and artistic personality had resulted in friction between him and the ambitious Milch, a situation further exacerbated by Göring's refusal to mediate in what had become a bitter power struggle within the most senior levels of Luftwaffe planning and procurement. On 17 November 1941, exhausted and depressed, Ernst Udet, one of Germany's greatest First World War flying aces, committed suicide.

A state funeral was to be held in Berlin. Göring would deliver a gushing address. A selection of the Reich's finest pilots would form an honour guard; Mölders, now the General der Jagdflieger, was returning from Russia especially. Horst Geyer was to carry Udet's baton.

"So I lost my boss, a great man," recalled Geyer. "Before the funeral I was advised that I had been appointed to a position on Mölders' staff, but soon afterwards and tragically, I took a call from Oberst Edgar Petersen, the commander of the Erprobungsstellen, who just said: 'You can't go to Mölders, there's been an accident.'"

On 22 November, while on its way to Berlin for Udet's funeral, the He 111 carrying the young General der Jagdflieger had crashed in bad weather near Breslau. Mölders and the aircraft's pilot were killed.



ABOVE: Hptm. Horst Geyer (centre), Kommandoführer of Erprobungskommando 25, at Achmer in early 1944. Geyer wearing a prized captured USAAF flying jacket. The aircraft in the background is one of his unit's Me 410s.



Focke-Wulf Fw 190 A-5, W.Nr. 181729, 'White 42' of Erprobungskommando 25, Achmer, early summer 1943

This profile shows that, without the usually colourful and attractive markings and insignia of front line units, the external appearance of German fighter aircraft could be rather dull. The camouflage finish is 74/75/76, the green 70 spinner had a one third white segment, and a black flash narrowly edged in white was applied over the exhaust area.



LEFT: Hptm. Horst Geyer (right) adjusts his life jacket in readiness for a flight at Achmer in the early summer of 1943. In the centre of the group is Lt. Willi Sbrassny, who was killed in action over Wangerooze on 22 June 1943. Note the aircraft, an Fw 190A-5, W.Nr. 181729, 'White 42' is carrying underwing 21 cm mortar tubes. This particular machine was lost over Oventrop on 30 November 1943 whilst being flown by Uffiz. Walter Topp, another pilot of Ekdo. 25.

"So I went to a second funeral and was subsequently assigned to the staff of the new General der Jagdflieger, Oberst Adolf Galland, whom I did not know at that time. Although I was based in Berlin and was able to be with my wife, it was a very busy time and we worked very hard. My role was that of Technisches Offizier im Stab and amongst other things I dealt with complaints from front line fighter and Zerstörer units on matters of armament and technical equipment.

"Suddenly, one day in May 1943, Galland strode into my office and said 'Geyer, I want you to go to Wittmundhafen tomorrow and take over Erprobungskommando 25. You'd better tell your wife' And that was that!"

The order for the establishment of *Erprobungskommando 25* was issued on 17 April 1943 and the unit formed up at Wittmundhafen briefly under the command of Major Heinz Nacke, the former *Gruppenkommandeur* of III./NJG 3, who had been awarded the *Ritterkreuz* for 12 victories scored as a *Zerstörer* pilot in 1940. Nacke was succeeded by another *Ritterkreuzträger* and experienced *Zerstörer* pilot, Hptm. Eduard Tratt, who arrived from his position as *Staffelkapitän* of I./ZG 1 in Russia. In early June, Tratt was posted to take over command of the Me 410-equipped II./ZG 26 and was replaced by

Geyer: "I was to take over from Hauptmann Tratt, an officer I had not previously met. I think Galland viewed my new appointment as a kind of thank you for flying a desk for so long."

Under Tratt's energetic direction, the *Kommando's* activities were channelled through three *Staffeln*, each one assigned a specific role. The *Jagdstaffel* under Lt. Sbressny was equipped with three Bf 109 Gs and approximately seven Fw 190s and was responsible for testing weapons suitable for single-seat fighters. The *Zerstörerstaffel* under Lt. Vossel was equipped with approximately five Bf 110s, one Me 210 and two Me 410s and was to assess the suitability of heavier calibre weapons. The *Kampfstaffel*, known to have been equipped with a small number of Do 217s, Ju 88s and at least one He 177, conducted experiments in air-to-air bombing and tested heavy weapons, air-burst bombs and towed bombs. Also tested were mortars, rockets and the radio-guided Hs 293 glide-bomb, which had been planned as an anti-shiping weapon and which saw limited operational use with KG 100 in mid-1943.

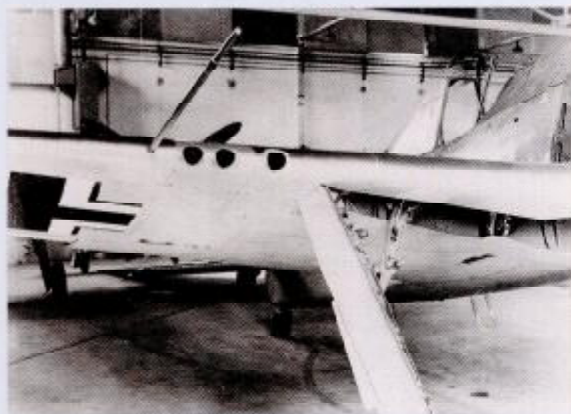
In July, personnel from *Erprobungskommando* 25 and JG 11 visited a detachment of KG 100 at Garz where crews were trained on the weapon with a view to exploring the possibility of deploying it against enemy bomber formations using either Fw 190s or Bf 109 G-5s as guidance aircraft. Geyer recalls that: "The idea was to fit this flying bomb onto a Ju 88 and fly at a considerable distance behind a bomber formation in the same way as the weapon was used to attack ships, thus avoiding the bombers' defensive fire. The carrying aircraft was to fly about three kilometres behind the formation and the guidance fighter, flying closer, would then steer the bomb towards its target. One day, an Hs 293 was delivered to our airfield and we fitted it onto one of our Me 410s. An unfortunate incident occurred when the aircraft was parked in a hangar undergoing routine maintenance. The Hs 293 had been positioned in front of the aircraft and momentarily left unattended while pre-flight checks were conducted. An engineer had been checking the ignition, but had applied the wrong procedure and set off the fuse. The missile ignited, blew up the hangar, killed five ground personnel and destroyed the Me 410. No trials were performed and this idea was eventually shelved."

Other experiments were conducted with rearward-firing weapons, periscopes, acoustic fuzes, and RZ-65 rockets which had been intended for use by Bf 109s in the ground-attack role against locomotives on the Eastern Front.

During the unit's formative period, the *Zerstörerstaffel*, tested heavy calibre fighter weapons intended to cause maximum impact on American bomber formations. Such weapons included single and twin underwing 21 cm WGr. air-to-air mortars, and varying types of rocket-projectiles of 8 cm and 30 cm calibre. Trials were also conducted with Me 410s variously fitted with the 30 mm MK 101 cannon, the 3.7 cm Flak 18, the 3.7 cm Flak 43 and the 5 cm Flak cannon. These latter weapons were installed in a variety of individual hand-fed, belt-fed or automatic configurations as well as in combinations with rockets, but results were not encouraging as the weight of the weapons affected the speed of the carrier aircraft and, in the relatively few operational missions flown, losses due to the bombers' defensive fire were disproportionately high.

Horst Geyer quickly rose to the challenge of his new command, however, and in mid-June 1943, probably during the American raids on Bremen and Kiel on the 13th, he took off from Wittmundhafen as part of a *Schwarm* of four Fw 190s from *Erprobungskommando* 25, two of which were fitted with WGr. 21 cm mortars, with the other two carrying 30 mm MK 108 cannon and two 'firing frames' each fitted with four spin-stabilized 65 mm RZ-65 rockets. Oblt. Hardtke, the commander of the *Jagdstaffel*, led one *Rotte* and Geyer led the other flying with RZ-65s. The powder-charged RZ-65 rocket had a range of 300 metres and the gases from the powder charge propelled the missile, giving it a rotating motion. Geyer recalled: "This was my first *Abschuss* as *Kommandoführer* of *Erprobungskommando* 25. Scattered bomber units were making their way home. There were no escort fighters in sight, so I attacked two B-17s which were flying close together. I fired all eight RZ-65s and after the two bombers were forced to separate, I was able to wreak havoc on the lower-flying machine to the right with several bursts from the MK 108s. From about 2,000 metres, I observed two parachutes fall out while the B-17 was evidently trying to go for an emergency landing somewhere. Meanwhile I had lost contact with my three comrades, but they all landed back at Wittmundhafen without damage."

BELOW AND
BELOW RIGHT:
An Fw 190A-5 of
Erprobungs-
kommando 25
which carried out
trials with wing-
mounted rockets at
Wittmundhafen in
the summer of
1943.



Despite this isolated success, deployment of the RZ-65 by Ekdo 25 proved largely unsatisfactory due to technical problems and further trials were dropped.

Geyer remembered: *"Erprobungskommando 25's main brief was to develop and test new and effective weapons with which to bring down heavy bombers. We tried many things, but the ideas did not always originate from within. We received many letters and proposals from civilians, other branches of the armed services and also from Rechlin - 'Why don't you try this, or that?' - and so on. All suggestions were investigated and if something looked hopeful, then we proceeded with trials. We were basically free to do what we liked, buy what we liked, design what we liked and test what we liked. But it fell to me to report everything to Galland and Rechlin."*

Between June 1943 and August 1944, *Erprobungskommando 25* tested a range of radical weapons including cable bombs, chemicals sprayed into engines and onto windscreens, the dropping of steel nets on to engines and propellers, and mounting batteries of upward-firing 21 cm mortars into an He 177 bomber. Geyer recalls: *"One member of the unit had contacts with the I.G. Farben company and he worked with them on trials designed to foul and clog up an engine using certain chemicals, but they found that the quantity of chemical needed even to disable one engine was too great, so to have brought down a four-engined bomber would have been impossible."*

"Tests were also carried out at Rechlin with chemicals designed to spray over cockpit and gun turret Plexiglas, but not to destroy it. Rechlin then asked us to conduct trials using an Fw 190 and we found, that depending which kind of chemicals were being used, it was not necessary to use large quantities. But Göring grew worried about the idea and instructed Galland not to pursue it, since he was concerned that the enemy would employ the same methods against us."

A weapon actually built and installed for trials was the SG (Sonder Gerät, or Special Apparatus) 116 'Zellendusche', a recoilless single-shot 30 mm weapon based around the barrel of an MK 103 cannon fitted to a breech block which was to be fired upwards as a fighter passed below a bomber. The weapon, built by Rheinmetall-Borsig, was to be activated and fired automatically using a photo-electric cell developed by the *Institut für Waffenforschung* at the *Luftfahrtforschungsanstalt Hermann Göring* in Braunschweig. Ekdo 25 undertook trials with the weapon at Parchim in late June/early July 1944, as Geyer explained: *"The intention was to make a frontal approach, fly under an American bomber and release the shot which was fired by means of an explosive charge built into the base of the barrel mounted in the side of an Fw 190. An optical automatic release system had also been developed. On one occasion (1 July 1944), Galland and some of his staff made an inspection trip to Parchim and we demonstrated the weapon using an Fw 190 fitted with three barrels mounted immediately behind the cockpit and each loaded with a 3 cm mine shell. We placed an NCO pilot in the specially rigged fighter and arranged for an Fw 58 Weibe towing a target drogue to fly overhead about 200 metres above the Fw 190. The Fw 190 flew in very low, about 100 metres, so that we on the ground could clearly observe the weapon and its full effect. In the interests of safety and because the Fw 190 was not a large aircraft, we had developed a firing system designed to allow the pilot to fire only one barrel at a time, thus avoiding the risk of blast damage from all tubes firing at once. Unfortunately, however, the NCO made a mistake and fired all the tubes simultaneously, causing them to explode and destroying the aircraft in the process. Fortunately, he somehow got out, but neither the Weibe nor the drogue were touched!"*

Further trials were conducted using a He 177 as a 'target', but these proved unsuccessful and further development was dropped.

Erprobungskommando 25 moved to Achmer in early October 1943 and from there Geyer claimed one more victory with the unit when he shot down a B-24 from a group belonging to the US 2nd Bomb Division between Münster and Osnabrück on the 8th. Geyer took off from Achmer leading a flight of three Fw 190s

each fitted with two 21 cm WGr. mortars as the US formation made its return home from a raid on Vegesack. Attacking from the rear, Geyer fired his mortars at one bomber, but realised only one of his launch tubes was functioning. As he jettisoned both tubes, he noticed that the B-24 had banked away from its formation and was falling through the sky. Geyer pursued it and opened fire with several long bursts from his MG 151/20 cannon, following which he observed *"considerable damage to the fin assembly and heavy smoke coming from the inner starboard engine. But right then several Mustangs suddenly rushed down on us and I gave the order to evade. One of my Katschmarek also succeeded in shooting down a B-24."*

(continued on page 71)

BELOW: The three barrels of the SG 116 'Zellendusche' installed in an Fw 190 of *Erprobungskommando 25*. This weapon was a recoilless, single-shot, 30 mm device and was to be fired upwards as the fighter passed under a bomber. The weapon, built by Rheinmetall-Borsig, was to be activated and fired automatically using a photo-electric cell. Trials were carried out by Ekdo 25 in 1944 but they proved largely unsuccessful.





ABOVE LEFT: Hptm. Geyer salutes Hermann Göring (back to camera) during the Reichsmarschall's inspection visit to Achmer in mid-November 1943. Also based alongside Erprobungskommando 25 at Achmer at this time was Sturmstaffel 1, some of whose pilots stand at the far left of the line. To the left of Geyer is Hptm. Wolfgang Späte, commander of Erprobungskommando 16, who was at Achmer to survey the airfield facilities for the possible deployment of the Me 163 rocket fighter.



LEFT AND ABOVE RIGHT: Hptm. Geyer welcomes Adolf Galland, the General der Jagdflieger, to Achmer to coincide with Göring's visit in November 1943. Galland flew into Achmer in his personal Fw 190 A-6, identifiable by its distinctive triple chevron and white '2' aft of the Balkenkreuz.

Focke-Wulf Fw 190 A-6, 'White 2' flown by Generalleutnant Adolf Galland, General der Jagdflieger, autumn 1943

The 74/75/76 camouflage on this rather lacklustre machine is hardly made any more interesting by the yellow panel under the nose, the white triple chevron outlined in black on the fuselage and the white '2' aft of the Balkenkreuz, these being the only markings of any note.





ABOVE: While groundcrew unload the General der Jagdflieger's leather overcoat and cap from the cockpit of his Fw 190, Galland talks to Geyer (second from right) and Hptm. Hans-Günter von Kornatzki (third from right), commander of Sturmstaffel 1.

RIGHT: Galland, now clad in his overcoat and cap, seen at the start of his inspection tour of the units at Achmer. Geyer and other officers of Erprobungskommando 25 wait respectfully behind.



BELOW: Galland (far left) makes his way past the two Me 410 Zerstörer of Erprobungskommando 25. Note the aircraft are fitted with 3.7 cm Flak 18 cannon which the unit was evaluating as a weapon to combat daylight bomber formations. Also seen are, from the left, Geyer speaking to Galland, Hptm. von Kornatzki (Sturmstaffel 1), Oberst Hannes Trautloft (soon to be appointed Inspector of Day Fighters), Oberst Günther Lützow (commander of 1. Jagddivision), Oblt. Reebman (Ekdo. 25), Oblt. Edu Neumann (Stab. G.d.J.), Stabs. Ing. Öhlkers (Ekdo. 25), and Oblt. Frodl (Ekdo. 25).





LEFT: Horst Geyer (centre) briefs officers of his unit during the inspection by the Reichsmarschall and the General der Jagdflieger at Achmer, November 1943. From left to right are Stabs Ing. Maibek (with back to camera), Oblt. Biemer, Geyer and Günter von Kornatzki.

RIGHT: Stabs Ing. Öhlkers (third from left) shows examples of heavy-calibre air-to-air mortar shells to Oberst Hannes Trautloft (second from left) and Oblt. Edu Neumann (far left). Trautloft had formerly been Kommodore of JG 54 in Russia before taking over the role of Inspizient Ost and then Inspector of Day Fighters. A highly regarded and fair-minded unit commander, he had been awarded the Ritterkreuz in July 1941 and ended the war with 58 victories. Neumann, another respected formation leader, had commanded JG 27 in North Africa and the Mediterranean before being appointed to the Stab of the General der Jagdflieger. Oblt. Frodl and Oblt. Reebmann of Ekdo 25 look on.



BELOW LEFT AND BELOW RIGHT: Geyer showing Galland - his familiar cigar clamped between his teeth - an array of heavy calibre weapons including, (*BELOW LEFT*), a 3.7 cm Flak 18 cannon equipped Me 410, and (*BELOW RIGHT*), a selection of mortar weapons.



In March 1944, *Erprobungskommando 25* transferred to Parchim and, following some changes in its internal organisation, moved briefly to Tarnowitz before moving again to Finow. At the end of July, *Erprobungskommando 25* was redesignated *Jagdgruppe 10* under the command of Major Georg Christl, a *Ritterkreuzträger* who had previously commanded III./ZG 26. *Jagdgruppe 10* was redesignated again as JG 10 and continued in its weapons development role until December 1944, by which time it was actually little more than an *Einsatzschwarm*. It moved to Erfurt in March 1945 and was disbanded soon thereafter.

Meanwhile Horst Geyer had been given another challenging assignment when he was ordered to replace Hptm. Werner Thierfelder, a *Zerstörer* ace, as commander of *Erprobungskommando 262*, the jet fighter test and evaluation unit at Lechfeld. Thierfelder had been killed in uncertain circumstances on 18 July

RIGHT: Horst Geyer (right), clad in a US flying jacket, and another unidentified officer of *Erprobungskommando 25* at Parchim in the spring of 1944.

BELOW: At the end of July 1944, *Erprobungskommando 25* was redesignated *Jagdgruppe 10* under the command of Major Georg Christl, seen here on the extreme left, a *Ritterkreuzträger* who had previously commanded III./ZG 26. Here, Adolf Galland (centre in leather overcoat) and Oberst Trautloft, the Inspector of Day Fighters (second from right), are seen visiting Parchim for the changeover in command of Ekdo. 25 from Geyer (talking to Galland) to Christl. Geyer subsequently became involved in the establishment of a trials unit dedicated to evaluating the Me 262 as a fighter.



flying an Me 262 in the Landsberg area. On Galland's orders, *Erprobungskommando 262* had been formed with two Me 262 prototypes to evaluate the jet's capabilities as a pure fighter aircraft despite demands from Hitler that it be used in the fighter-bomber role. Pilots were drawn from III./ZG 26 and by May 1944 the unit had some 25 jets with which it conducted experimental interceptions of Allied reconnaissance aircraft in July 1944.

Geyer's role was mainly administrative, but in September or October 1944 he claimed one victory flying the Me 262 as escort to *Ofbr.* Erich Hafke. Geyer and Hafke had been flying an operational patrol south of Munich when they encountered a formation of some four or five P-38

Lightnings. The German pilots decided to avoid combat with the American fighters, which they considered to be very manoeuvrable, and used their superior speed to climb to a higher altitude. Moments later, Geyer observed beneath him a lone B-24 flying on a homeward course. Pushing the Me 262 into a fast dive he opened fire on the bomber, scoring hits on the fuselage and tail assembly. The bomber later made an emergency crash-landing which was confirmed on the ground, but as a Flak unit also claimed to have shot the Liberator down, Geyer was not officially credited with the victory.

In late September, in what appears to have been chiefly a paper transaction, *Erprobungskommando 262* was redesignated 10./EJG 2 and the following February Geyer handed over command of the jet training unit to the redoubtable *Obstlt.* Heinz Bär and was assigned to oversee the formation of yet another fighter *Erprobungskommando*, this time to test and evaluate the new jet-powered Heinkel He 162 'Volksjäger'. However, although an order to establish the *Kommando* in *Gruppe* strength at Lärz was issued on 9 January 1945, by the 21st of the month, a new unit, JG 200, had been proposed to take over this role, although this continued to change until finally I./JG 1 assumed operational responsibility. It is believed Geyer was involved in the redesignation process.

Thereafter, Geyer's precise duties until the end of the war, become difficult to ascertain. He was accredited with 41 confirmed aerial victories, 10 of them gained in the West.

1944 – The Battle for Air Superiority

On the first day of 1944, General 'Hap' Arnold sent a simple message to his commanders in Europe to welcome the New Year: 'Destroy the enemy air force wherever you find them; in the air, on the ground, and in the factories.'

Behind the scenes however, Arnold was not so bullish. On 20 December 1943, the Chief of the Air Staff, Maj.Gen. Barney Giles, had advised Major Gen. Carl Spaatz, commander of USSTAF, that "Arnold had not been satisfied with the efforts made to date."

Arnold also packed General Ira C. Eaker off to the Mediterranean as a result of his increasing dissatisfaction with Eaker's reluctance to mount deep penetration missions and replaced him with General James H. Doolittle who would soon 'loosen the reins' on his long-range fighters by allowing them the opportunity to strike at targets of choice – particularly airfields – once their escort duty had been completed. This would soon wreak mayhem on the *Luftwaffe*.



ABOVE: Major General James H. Doolittle (centre), Eaker's replacement as head of the Eighth Air Force, emphasised allowing his fighters freedom to roam across north-west Europe and to strike at such targets of opportunity as the *Luftwaffe*'s airfields.

Thus, despite atrocious weather conditions prevailing in Europe, January 1944 marked the beginning of an escalation in American offensive action. Furthermore, American production and numbers of fighters and bombers reaching Europe were now literally swamping the Germans.

Generalmajor Schmid summarised that, in view of the poor weather, '... the technical deficiencies of German fighter aircraft and the low standard of training in replacement fighter pilots precluded steadily successful and effective combat against American superiority at high-altitude. Thus January 1944 was again characterised by the inability of German forces to provide an effective defence against American daylight attacks on the Reich, let alone prevent them. Only the utmost caution in employing aircraft in bad weather – especially when take-off and landing

conditions were uncertain – was able to keep German losses within reasonable limits. Even so, approximately one third of German aircraft losses was due to commitment under unfavourable weather conditions.'

January saw the *Luftwaffe* write off a debilitating 30.3 per cent of its single-engined fighters and 16.9 per cent of fighter pilots. Furthermore, the beginning of the year showed a percentage decrease in the *Luftwaffe*'s Order of Battle for Bf 109 and Fw 190 interceptors from 31 per cent in 1943 to 27 per cent at the beginning of 1944.

On the morning of 5 January, the German early warning system reported the assembly of large American formations over England. Just as on the day previously, which marked the first daylight attack against a German target in the New Year, Kiel was to be the target. Escorted by 70 P-38 Lightnings, 119 B-17 Flying Fortresses of the 1st Bomb Division and 96 B-24 Liberators of the 2nd Bomb Division set out to bomb the city's shipyards and a good concentration of bombs was achieved on the target.

However, the flight to the target was not without adversity. At 10.00 hrs, the first German fighters were scrambled to intercept but *Sturmstaffel* 1, I./JG 1 and II./JG 27 were kept on the ground for another two hours. When these units did finally take-off, it was the more experienced pilots of I./JG 1 who met the first elements of the bomber formation over Belgium at 12.45 hrs and subsequently scored one victory and four B-17 *Herausschuss*. However, the *Gruppe* paid a heavy price, losing three of its pilots killed.

In an inauspicious start for *Sturmstaffel* 1, the unit made no contact with the enemy and returned to Dortmund. Oblt. Richard Franz of *Sturmstaffel* 1 recalled: "At that time, we were the only unit which attacked the *Viermots* from the rear and all the other pilots who flew in the *Reichsverteidigung* thought we were a little crazy. They all preferred to attack head-on with the advantages and disadvantages that came with it. The *Sturmstaffel* pilots on the other hand, voluntarily bound themselves to bring down one bomber per engagement, either with their weapons or by ramming. I never had to ram, thank God."

The War Diary of I. *Jagdkorps* commented: 'The technique of attack from the front, which has proved to be most generally successful has not yet been mastered by all fighter units.'

The *Korps* reported the loss of 11 aircraft, while the Americans lost five B-17s, five B-24s and seven P-38s.

The actual pattern of American bombing throughout January was dictated to a great extent by the prevailing overcast weather over north-west Europe which necessitated pathfinder-led missions against German ports and industrial areas. The only major visual operation occurred on 11 January when the



ABOVE: An Fw 190 closes in on a B-17 from above and behind during the USAAF raid on Oschersleben on 11 January 1944. The B-17's port-side inboard engine is already on fire and may have been hit during an earlier attack by another fighter. Sixty bombers failed to return from the mission.

weather was expected to be fine. It was however to prove fickle and the American bomber force of 663 aircraft pushed on in deteriorating conditions to hit several aviation and industrial targets in the heart of the Reich – Oschersleben, Halberstadt, Braunschweig and Osnabrück – on a mission which was to mark the commencement of Operation 'Pointblank', the strategic air offensive against Germany designed to bring about '...the progressive destruction and dislocation of the German military and economic system.'

The *Luftwaffe* was to put up the fiercest opposition since the last Schweinfurt raid, although German fighters would fly only 239 sorties. In readiness, *Sturmstaffel* 1 and I./JG 1 transferred from Dortmund to Rheine and waited for the order to take-off. It came at 10.30. Thirty minutes later, I./JG 1 executed a frontal attack against the American formation and shot down three bombers in as many

minutes between 11.08 and 11.10. The *Sturmstaffel* separated from I./JG 1 and, in conformity with its intended tactical doctrine, attacked an American combat-box from the rear. Approaching at close range, *Oblt.* Othmar Zehart opened fire simultaneously with the other pilots of the *Staffel* and shot down a B-17 as the unit's first victory.

By the end of the mission, the USAAF had lost 60 bombers, almost 11 per cent of the total force, with one formation losing 19 per cent of its strength to enemy action. I. *Jagdkorps* reported 21 aircraft lost and a further 19 more than 60 per cent damaged.

Schmid recorded that German defensive operations were "...crowned with success, while our own losses were within reasonable bounds. Despite their numerical inferiority, the German single- and twin-engined fighter units demonstrated on 11 January that the employed tactics and striking power of the fighters... were capable of inflicting such high losses on the Americans, under favourable weather conditions at any rate, that they would soon exceed the limit of expendable loss."

On the 16th, JG 2 claimed its 2,000th aircraft of the war destroyed, of which no fewer than 350 were *Viermots*, but that day the *Geschwader* also lost three *Staffelkapitäne* and the *Geschwader Adjutant*, *Hptm.* Fritz Edelmann.

In the south new threats were developing as the US 15th Air Force in Italy began to attack targets in Austria and southern Germany, some raids being unescorted while others were accompanied by P-38s. Coinciding with this was the movement of Major Erich Hohagen's I./JG 2 to Aix-en-Provence in southern France and eventually to Italy, depleting *Luftwaffe* strength in the north which lost a valuable and experienced fighter Gruppe. In the south, Major Erich Gerlitz's I./JG 5 arrived at Obertraubling from Rumania and Bulgaria, where it had been operating against the 15th Air Force, to re-equip on the Bf 109 G-6/R6 'Kanonenboote'.

With the exception of an ultimately aborted large-scale raid planned against Frankfurt-am-Main on the 24th, bad weather temporarily halted Eighth Air Force raids over German territory until 29 January when the Americans came again, this time dispatching 863 B-17s and B-24s to targets in the Frankfurt area. Escorted by 632 fighters, a record 806 bombers dropped more than 1,895 tons of bombs over the primary target and the escorts allegedly shot down 44 *Luftwaffe* fighters between 11.00-13.05 hrs along the route over France, Belgium and Germany.

However, despite dense cloud cover, 21 aircraft from Major Klaus Quaet-Faslem's I./JG 3 and 10./JG 2 took off from Rheine and clashed with American fighters over Frankfurt and Aix la Chapelle, but suffered no losses.

At Bad Wörlshofen, 29 Bf 109s of III./JG 3 under Major Walther Dahl took off at 10.08 hrs and were directed to Mannheim where the formation sighted nearly 60 B-17s at 10.52 hrs over Mannheim-Ludwigshafen. In

BELOW: The first B-17 to be shot down by *Sturmstaffel* 1 fell to the guns of *Oblt.* Othmar Zehart on 11 January 1944. He is seen here in the cockpit of an Fw 190 A-6, 'White 7'. Note that cockpit side armour has been fitted but there is no additional protection on the windscreen or canopy.



RIGHT: On 11 January 1944, I./JG 1 was involved in its first major engagement for three weeks. Eleven B-17s were claimed by ten of the unit's 15 operational pilots that day led by *Oblt.* Rüdiger von Kirchmayr, seen far left shortly after returning from the mission. Other pilots are: (from left to right): Fw. Sauer, StFw. Martens, Fw. Schönrock and *Oblt.* Burath, all of whom submitted claims.



heavy cloud, the *Gruppe* made a frontal attack from 1,500 m in which the *Gruppe* suffered two losses but claimed 12 *Abschüsse* and three *Herausschüsse* with Dahl and Ofw. Kurt Graf of 7./JG 3 each claiming two and raising their individual scores to 58 and 14 respectively, while Lt. Ekkehard Tichy of 9./JG 3, a pilot who would later go on to claim 11 *Viermots*, claimed a *Herausschuss*.

The following day, Generalmajor Schmid chaired a conference at an outpost of the I. *Jagdkorps* at De Breul in Holland. Present were the *General der Jagdflieger* and the commanders of the 1., 2. and 3. *Jagddivisionen*. Schmid informed the attendees: "The numerical strength of the American air forces in Great Britain has increased. We must face the fact that American offensive activity against the Reich will probably become greater during the coming weeks and months and that American fighter escort will become much stronger than at present. The estimated flight range of the Thunderbolt as far as Braunschweig has not yet been confirmed. On the other hand, we know that Lightnings, equipped with auxiliary fuel tanks, are able to provide a protective screen for the bombers as far as central Germany. It is extremely important that our high-altitude fighter units provoke the Lightnings to engage in combat so that they will be forced to dump their auxiliary tanks. If they can be forced to do this, they will have no alternative but to break off combat and return to base before running out of fuel. It does not seem likely that American fighters will be able to penetrate as far as Berlin at present.

"As regard the commitment of our day fighter units, we must try to follow the technique of assembling light, heavy and twin-engined fighters at combat altitude and of bringing them to bear against the incoming bombers in closed combat formation. In this way, we should be able to maintain numerical superiority at a given time in a given place.

"The practice of moving fighter units early in the morning will be discontinued; experience has shown that these units have not regained the required state of operational readiness by the time the Americans appear. If weather conditions or the military situation should render the transfer of fighter units necessary, they should be transferred on the evening before an attack is expected.

"In order to assure the smooth transfer of fighter units in the air from one divisional area of control to another, all fighter divisions will announce their control frequencies every evening. Each divisional command will inform its neighbouring commands of the transfer of any of its units. Before fighter units are ordered up for a second time against the same formation of bombers, they must be given all available information regarding the position of the enemy aircraft, especially when the fighter units are not in their own divisional command or have landed at fields other than those specifically assigned to fighter aircraft."

Lt. Richard Franz of *Sturmstaffel 1* recalled: "Although the Allies had gained air superiority in 1943, I think that the morale of our fighter pilots was not bad, especially when it is realised that the young pilots we had in the front-line units had very little experience and a life expectation of something like ten missions. It was a hard time for the young pilots as well as for their leaders.

"Normally, we were informed at about 07.00 hrs of a 'grosse Versammlung' – a large enemy assembly – over Great Yarmouth. After breakfast, we were driven to the *Staffel*'s dispersal and about 45 minutes before the expected take-off and after determination of the probable target area, 30 minutes cockpit readiness was ordered until, finally, the scramble order was given. After the scramble, all units were ordered to meet at a certain point and then form up into a battle formation of sometimes up to 100 aircraft before being directed to a pre-assigned attack position from where we would separate from the main formation for our rearward attack. The main formation would always try to overtake the bomber stream in order to get into position for a head-on attack."

At 10.30 hrs on 10 February, *Sturmstaffel 1* and I./JG 1 took off and, together with II./JG 1, were directed to attack the 169 B-17 Flying Fortresses of the 3rd Bomb Division heading for the aircraft plants around Braunschweig. Though the bombers were protected by 466 P-38, P-47 and P-51 fighters, the day would see some of the hardest-fought air combat ever to take place over north-west Europe.

Under the overall leadership of the veteran *Experte* and *Schwererträger*, Major Heinz Bär, the German fighters hit the bombers north of Osnabrück. Thirteen B-17s were claimed brought down by JG 1 as well as one *Herausschuss* and four P-47 Thunderbolts, for the loss of two pilots.

Successes for the *Sturmstaffel* were still proving to be hard-won and the unit claimed only one victory, a B-17 shot down by Ofhr. Heinz Steffen near Rheine. There were no losses.

The final losses incurred by the Eighth Air Force following the Braunschweig mission were considered unsustainable. In all, 295 crewmen and 29 bombers were listed as missing; 20 per cent of the force.

Later that month, prompted by Arnold's directive the previous Christmas, the American Eighth Air Force launched Operation 'Argument' or 'Big Week', a concerted and intense bombing campaign against German aircraft production centres commencing on the 20th, specifically against the principal

airframe, final assembly and component plants at Leipzig-Mockau, Halberstadt and Regensburg which were responsible for the output of single- and twin-engined fighter aircraft. The offensive was intended to do two things: destroy German aircraft on the ground and the means of replacing them; and force the *Luftwaffe* into the air to defend vital installations from attack. In all, 16 Combat Wings of heavy bombers, totalling 1,000 aircraft were committed to the operation, together with fighter protection from all available fighter groups in both the Eighth and Ninth Air Forces. It was to be the largest force ever assembled in the history of American strategic air power.

Between them, I. and II. *Jagdkorps* could muster approximately 750 serviceable aircraft. Yet, in the main, the flying and combat skill of most of the pilots comprising the component *Geschwader* was questionable. When *Generalmajor* Schmid made an inspection tour of fighter units under his command in mid-February 1944, he reported to *Luftflotte Reich* (which had assumed control of the air defence of the whole Reich and which had replaced *Luftwaffenbefehlshaber Mitte*): *'The morale and military attitude of the flying crews is excellent. Our daylight fighter crews are young and eager for action. The recent heavy losses, however, are ample indication of the fact that they are inexperienced in flight techniques as well as in tactics. I would suggest that, even after they have been assigned to their units, their training be continued until they are actually needed for commitment. Intensive training with the Fw 190, with conditions of actual combat closely simulated, is urgently needed from the point of view of personnel economy and the extra time required would more than pay for itself in the form of more experienced crews with better developed tactical ability and of increasing effectiveness with fewer losses.'*

Nevertheless, this did not prevent the *Luftwaffe* from showing its teeth intermittently during 'Big Week' although the first raids mounted against objectives in the Braunschweig and Leipzig areas saw 'unaggressive' and 'remarkably weak' reaction from the *Luftwaffe*. The later raids, however, provoked an angry response and following its mission to Gotha on 24 February, the American 2nd Bomb Division reported its B-24 Liberators as *'...being attacked almost the entire period over Germany.'* It seemed that the German fighters had gained a new confidence, the Fw 190s of JG 1 and JG 26 *'... pressing home vicious nose attacks'*, whilst elsewhere, *'...some groups were forced far off course and these formations and especially stragglers were attacked unceasingly.'* That day, the 2nd Bomb Division alone lost 33 four-engined bombers.

The 15th Air Force added its weight to the attacks when, on the 24th, it launched a simultaneous raid on aircraft component factories at Steyr in Austria. Mortar-equipped fighters from JG 3, JG 27 and ZG 1 attacked B-17s of the 2nd BG, shooting down a box of ten bombers. Particularly successful was III./JG 3 which claimed six *Abschüsse* and three *Herausschüsse*.

In some ways, 'Big Week' caused unexpected reactions; in summarising operations in his sector during February, Schmid wrote: *'... in the interest of the overall conduct of the war, the Luftwaffe must face the fact that its most important mission is the prevention of American daytime attacks on the Reich. The most vital prerequisite to the successful accomplishment of this mission is the regaining of air supremacy over the territory of the Reich. It is doubtful if this goal can be attained with the fighter aircraft types presently available, especially in view of the fact that Germany is not in a position to rival the United States in the production of fighter aircraft.'*

On 23 February, *Generalfeldmarschall* Erhard Milch addressed a conference on aircraft production in Berlin attended by senior officials from the RLM and the aircraft manufacturers. He lamented: *"The effect on our day fighter production has been very severe and we are faced with great difficulties. If you go into a fighter plant – I have seen Erla-Leipzig and Oschersleben – there is nothing to be seen but bent wires, like a bombed block of flats here in Berlin. Outside there are bomb craters eight to nine metres deep and 14-16 metres across... But the struggle is not hopeless; it can be managed..."*

"We should have reached a monthly output of 2,000 fighters by February. However, there is no prospect of this programme being carried through. Considering the present situation, we can be very content if we produce 1,000-1,200 fighters. At most factories, we have already dispersed plant in all directions. The Erla works was perhaps still too close to the Leipzig area, but the other factories were much more widely dispersed. However, even dispersed installations have been hit..."

The same afternoon, another conference was held at the HQ of 2. *Jagddivision* at Stade. Chaired by Schmid, also in attendance were: Galland; *Oberst* Hannes Trautloft, the Inspector of Day Fighters; *Generalmajor* Max Ibel, commander of 2. *Jagddivision*; *Oberst* Walther Grabmann, commander of 3. *Jagddivision*; *Oberst* von Lachemeyer of the RLM planning staff; *Oberst* Walter Oesau, *Kommodore* of JG 1; *Obstlt.* Hermann Graf, *Kommodore* of JG 11, and *Major i.Genst.* Bode and *Hptm.* Tesarek of Schmid's staff.

1943-1944



ABOVE: The purpose-built bunker – codenamed 'Sokrates' – which served as headquarters to 2. Jagddivision at Schwarzenberg near Stade and which played an instrumental role in the air defence of the Reich between mid-1943 and February 1945.



ABOVE: "The enemy obviously plans to assure air supremacy as a prelude to a large-scale invasion. The air situation in the Reich is tense and serious...": Generalmajor Josef Schmid (right), commander of I. Jagdkorps addressing regional and fighter unit commanders at a conference at the headquarters of 2. Jagddivision at Stade in February 1944. Next to Schmid is Generalleutnant Adolf Galland, the General der Jagdflieger.

Schmid announced: "The enemy obviously plans to assure air supremacy as a prelude to a large-scale invasion. The air situation in the Reich is tense and serious. The damage the enemy has inflicted on our air armaments industry is not inconsiderable. In order to meet the inherent threat from the enemy daylight attacks, all available units must be prepared for all-out commitment. We must find a way to turn back the enemy before he can enter the Reich, otherwise we may soon be faced by attacks from the British by day. The tactical mistakes made during the last few days are not the fault of the operational units, but of the Fighter Division HQs. Chief among these was the failure to recognise in time the American diversionary manoeuvres for what they were..."

It was agreed that within the area assigned to the I. Jagdkorps, the following distribution of forces were to become effective immediately:

1. Jagddivision

Command area: Hannover-Magdeburg

I., II., III. and IV./JG 3 (Brandenburg-Briest, Burg, Gardelegen, Stendal, Magdeburg-Ost), I., II. and III./ZG 26 (Völkenrode, Hildesheim, Wunstorf) and three *Gruppen* drawn from JG 300 and JG 302.

2. Jagddivision

Command area: Oldenburg-Bremen-Rothenburg

I., II. and III./JG 11 (Oldenburg, Wunstorf, Rothenburg) and III./JG 54 (Lüneburg)

3. Jagddivision

Command area: German-Dutch border

I., II. and III./JG 1 (Twente, Rheine, München-Gladbach) and I./JG 300

Under Göring's directive of February 1944, aptly entitled 'Imminent Danger West', *Generalfeldmarschall* Sperrle's *Luftflotte* 3, which assumed overall tactical control throughout north-west France and the Low Countries, was haltingly reinforced. It was, of course, realised that the drain of the defensive campaigns in the East as well as the continual need for an effective fighter umbrella over the Reich, would prevent any satisfactory level of reinforcement in the event of an Allied invasion in the West, although it was hoped that the relatively short distances involved would assist in the rapid transfer of the required fighter units to the invasion zone when needed. Sperrle's *Luftflotte* was, in reality, ill-suited for the task demanded of it; a total of 815 combat aircraft were based in northern France and Belgium of which the ground-attack element, III./SG 4 with less than 50 bomb-carrying Fw 190 Fs, formed only nine per cent of overall strength. The single- and twin-engined day fighter strength, consisting of 220 aircraft from JG 2 and JG 26 and two *Zerstörergruppen*, was marshalled under the command of II. Jagdkorps.

But it was to the north-east, in the area of the recently formed *Luftflotte Reich* and I. Jagdkorps and where the need for air defence was greatest, that Galland had assembled the bulk of his fighter force, yet the odds were depressing. In its summary for February, *Luftflotte Reich* recorded: 'In number as well as in technical performance, the daylight fighter units assigned to air defence activity are inferior to the American fighter forces. In spite of their demonstrated courage and their willingness to make every sacrifice for their country, in the long run our forces are fighting a hopeless battle.'

'The tactics presently employed by German fighter units – i.e. going after the bombers – should be revised and modified, since they are leading to heavy losses. Knowing that they need not fear an attack by German fighters, American fighters are able to move into range and attack our fighters from above. Because of our heavy personnel losses and the lack of sufficiently well-trained replacements, our daylight fighter forces are unable to maintain any degree of effectiveness in a lengthy combat. If the German air defence forces continue to operate as they have in the past, there will be no chance of minimising the effectiveness of the American attacks. Continuation of the present system is tantamount to the deliberate destruction of valuable personnel and materiel without hope of tangible results.'

The air fleet calculated that the prevailing numerical ratio was as follows:

Total American strength (bombers and fighters): 3.6:1

German single- and twin-engined fighter strength (I. Jagdkorps): 1:1

American fighter strength: 1.6:1

German single- and twin-engined fighter strength (I. Jagdkorps): 1:1

Aircraft of I. Jagdkorps flew 2,861 sorties in February and losses in its area at the end of the month stood at 299 aircraft or 10.3 per cent of the total number committed. These losses increasingly included valued *Experten* and *Ritterkreuzträger*, among whom was *Hptm.* Egon Mayer, *Kommodore* of JG 2, the first pilot to accumulate 100 victories solely on the Channel Front, who was shot down by US fighters on 2 March. Mayer's loss was especially significant as he had become the highest scorer against the bombers, 25 of his 102 victories being *Viermots*.

Order of Battle, Luftflotte Reich Fighter Units, 29 February 1944

Stab/JG 1	Fw 190	Rheine	<i>Oberst</i> Walter Oesau	5	(3)
I.Gruppe/JG 1	Fw 190	Rheine	<i>Hptm.</i> Rudolf-Emil Schnoor	22	(17)
II.Gruppe/JG 1	Fw 190	Rheine	<i>Hptm.</i> Hermann Segatz	26	(16)
III.Gruppe/JG 1	Bf 109	Mönchen-Gladbach	<i>Hptm.</i> Fritz Eberle	45	(19)
Stab/JG 3	Bf 109	Salzwedel	<i>Oberst</i> Wolf-Dietrich Wilcke	2	(2)
I.Gruppe/JG 3	Bf 109	Burg bei Magdeburg	<i>Major</i> Dr. Langer	42	(24)
II.Gruppe/JG 3	Bf 109	Ludwigslust	<i>Hptm.</i> Detlev Rohwer	28	(20)
III.Gruppe/JG 3	Bf 109	Leipzig	<i>Major</i> Walther Dahl	35	(25)
IV.Gruppe/JG 3	Bf 109	Salzwedel	<i>Major</i> Friedrich-Karl Müller	18	(10)
I.Gruppe/JG 5	Bf 109	Herzogenaurach	<i>Major</i> Erich Gerlitz	30	(22)
Stab/JG 11	Bf 109, Fw 190	Husum	<i>Obstlt.</i> Hermann Graf	11	(5)
I.Gruppe/JG 11	Fw 190	Rotenburg	<i>Major</i> Rolf Hermichen	32	(10)
II.Gruppe/JG 11	Bf 109	Wunstorf	<i>Major</i> Günther Specht	30	(23)
III.Gruppe/JG 11	Fw 190	Oldenburg	<i>Major</i> Anton Hackl	27	(18)
10.Staffel/JG 11	Fw 190, Bf 109	Aalborg-West	<i>Oblt.</i> Heinz Grosser	11	(10)
11.Staffel/JG 11	Bf 109 T	Lister	<i>Oblt.</i> Herbert Christmann	11	(7)
Einsatzstaffel Erla	Bf 109	(unknown)	(unknown)	6	(4)
Erprobungskommando 25	Various	Achmer	<i>Major</i> Horst Geyer	42	(5)
I.Gruppe/JG 27	Bf 109	Fels am Wagram	<i>Major</i> Ludwig Franzisket	40	(29)
II.Gruppe/JG 27	Bf 109	Wiesbaden-Erbenheim	<i>Hptm.</i> Werner Schroer	33	(25)
II.Gruppe/JG 53	Bf 109	Wien-Seyring	<i>Major</i> Julius Meimberg	34	(19)
III.Gruppe/JG 54	Fw 190	Lüneburg	<i>Hptm.</i> Rudolf Klemm (acting)	25	(18)
Sturmstaffel 1	Fw 190	Salzwedel	<i>Major</i> Hans Günther von Kornatzki	17	(13)
Stab/JG 300	Fw 190	Deelen	<i>Obstlt.</i> Kurt Kettner	2	(2)
I.Gruppe/JG 300	Bf 109	Bonn-Hangelar	<i>Hptm.</i> Gerhard Stamp	23	(12)
II.Gruppe/JG 300	Fw 190	Rheine	<i>Major</i> Kurt Peters	12	(3)
III.Gruppe/JG 300	Bf 109	Wiesbaden-Erbenheim	<i>Major</i> Iro Ilk	4	(2)
JG 301(less 10.Staffel)	Bf 109	Schleissheim, Neubiberg, Wien-Seyring and Zerst	<i>Major</i> Manfred Mössinger	62	(42)
JG 302 (less 1.Staffel)	Bf 109, Fw 190	Döberitz, Jüterbog, Ludwigslust and Oldenburg	<i>Obstlt.</i> Ewald Janssen	46	(30)

1943-1944



LEFT: Major Bacsla jumps from the cockpit of his Fw 190 A-6 following a mission on 30 January 1944 during which he claimed the destruction of a B-17. Note the the Sturmstaffel 1 emblem applied to the aircraft's cowl and the heavy exhaust staining.



Focke-Wulf Fw 190 A-6, 'White 7' of Sturmstaffel 1, Dortmund, January 1944

For the pilot's extra protection while engaging close formation of US heavy bombers, which themselves relied on their combined firepower for protection, this Fw 190 A-6 has supplementary armour added to the sides of the cockpit and canopy. The camouflage finish is the now familiar 74/75/76 scheme and the rear fuselage is painted with black-white-black bands, thinly edged in white at either side.

BELOW: Major Bacsla reports to Major Günter von Kornatzki on the outcome of the Sturmstaffel's first mission from Dortmund against American heavy bombers, January 1944. From its overall condition, the Fw 190 A-6 in the background appears to have been newly delivered to the unit.



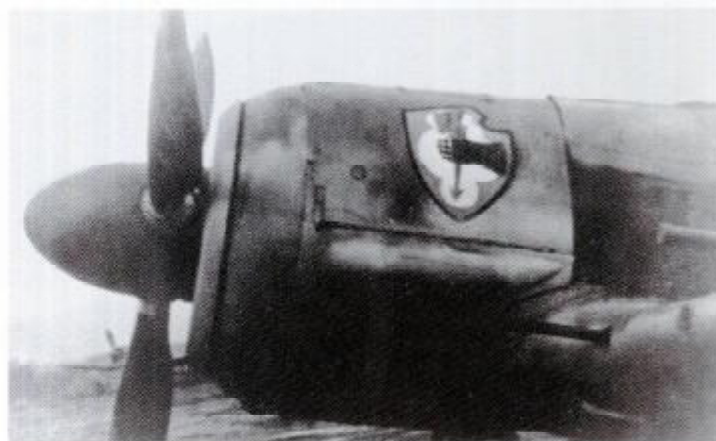
BELOW: Major Erwin Bacsla (right) describes the events of the Sturmstaffel's first mission from Dortmund to his ground crew, mid-January 1944. This photograph clearly shows the cockpit side armour and armoured glass quarter-panels and side 'blinkers' fitted to the cockpit of Fw 190 A-6 'White 7'.





ABOVE: Oberst Walther Grabmann, commander of 3. Jagddivision, addresses the pilots of Sturmstaffel 1 at Dortmund in early 1944. Grabmann was a veteran of the Legion Condor's campaign during the Spanish Civil War and later commanded ZG 76 before taking up regional command positions.

BELOW The gauntlet and lightning bolt badge of Sturmstaffel 1 seen on the cowling of an Fw 190 at either Dortmund or Salzwedel in 1944. According to former members of the unit, the clenched gauntlet represented the aircraft's specially-fitted armour and the lightning bolt symbolised the speed and ferocity of a Sturmstaffel attack on a formation of bombers.



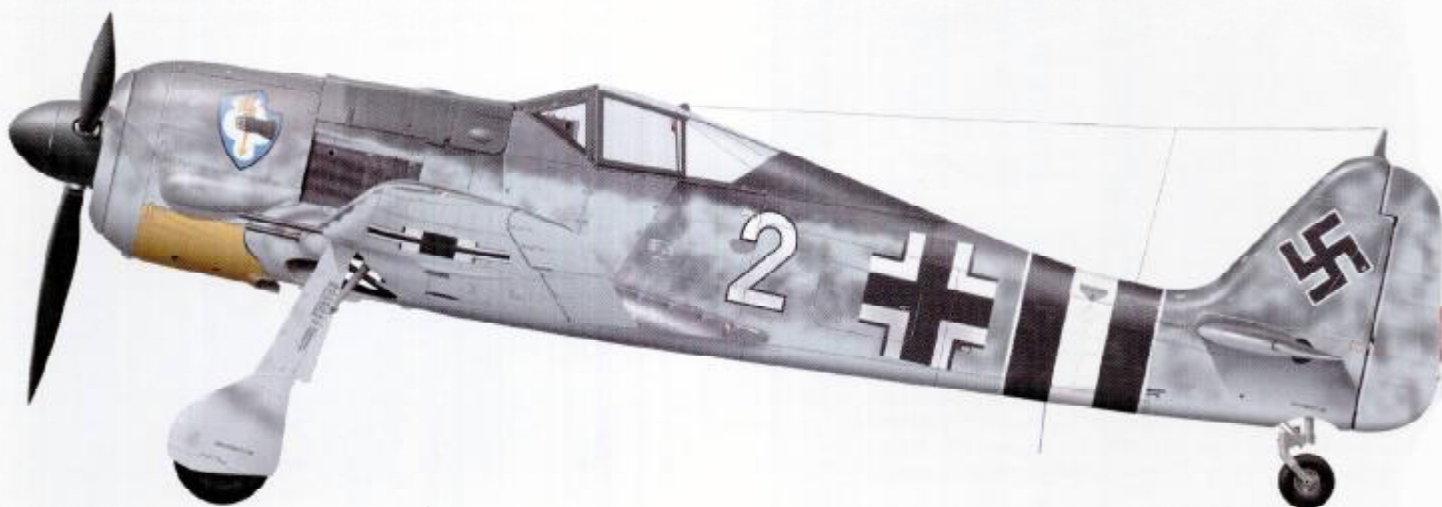
RIGHT: An Fw 190 A-6 of Sturmstaffel 1 runs up its engine. This aircraft was probably photographed at Dortmund in the early spring of 1944 and carries the unit badge on its cowling. Black-white-black identification bands have been applied around the rear fuselage; a yellow panel appears under the nose, and the machine has been fitted with extra armour around the cockpit and canopy.



RIGHT: Personal baggage belonging to the pilots of Sturmstaffel 1 is unloaded from a Gotha Go 242 transport glider on a wintry day at Salzwedel following the unit's arrival there from Dortmund at the end of 1944. To the right of the picture, bending down to pick up a suitcase is Uffiz. Willi Maximowitz. Note the Fw 190 in the background with its distinctive black-white-black fuselage bands.



1943-1944



Focke-Wulf Fw 190 A-6, 'White 2' of Sturmstaffel 1, Dortmund, early 1944

Apart from the fuselage numeral, this aircraft is similar to 'White 7' shown on page 78 and the same colour notes apply. Note, however, the repainted area under the cockpit where the supplementary armour has been added.



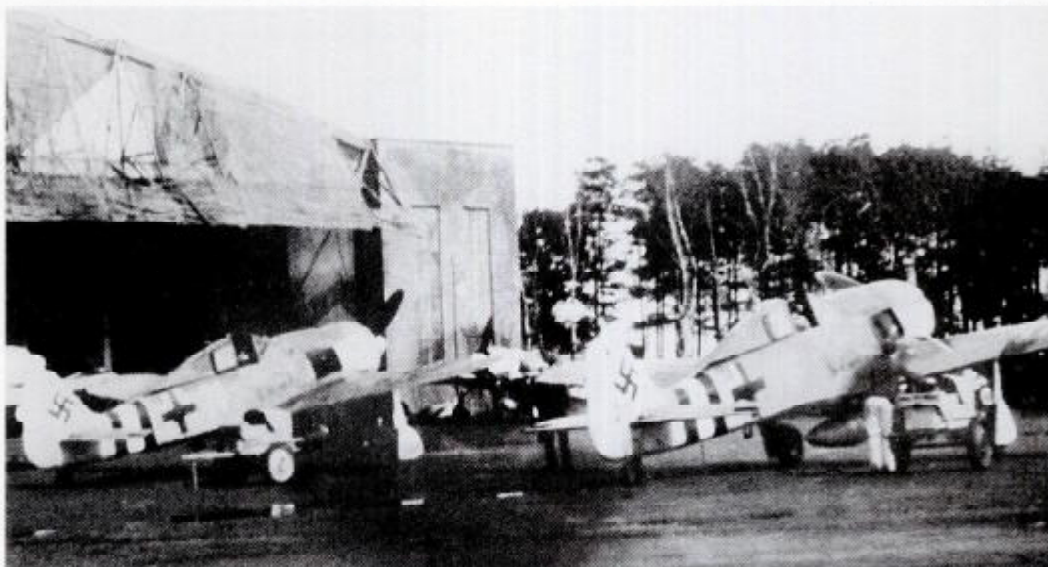
**Emblem of
Sturmstaffel 1**

RIGHT: Uffz. Willi Maximowitz (left) and Gefr. Gerhard Vivroux of Sturmstaffel 1 with 'White 2' an Fw 190 A-6, at Dortmund in early 1944. Clearly visible is the armoured glass side panel fitted to the aircraft's canopy and the large gauntlet and lightning emblem of the Sturmstaffel on the machine's engine cowling. Maximowitz's first victory was a B-24 which he shot down on 30 January 1944. He was credited with a B-17 Herausschuss on the 6th and claimed two more B-17s destroyed, one of which he rammed, before leaving Sturmstaffel 1 to join 14./JG 3. With 15 Viermots to his credit, he was awarded the German Cross in Gold on 1 January 1945 but failed to return from a mission on the Eastern Front on 20 April 1945. His final tally was 27 victories.



LEFT: At the end of February 1944, Sturmstaffel one moved from Dortmund to Salzwedel, where this photograph was taken in late February or early March 1944. The aircraft on the far left of the row closest to the camera is Oberst von Kornatzki's 'White 20'.

RIGHT: 'White 11' and 'White 16', two Fw 190 A-7s of Sturmstaffel 1, parked on the apron at Salzwedel in early 1944, clearly showing the Staffel's identification bands on their rear fuselages.

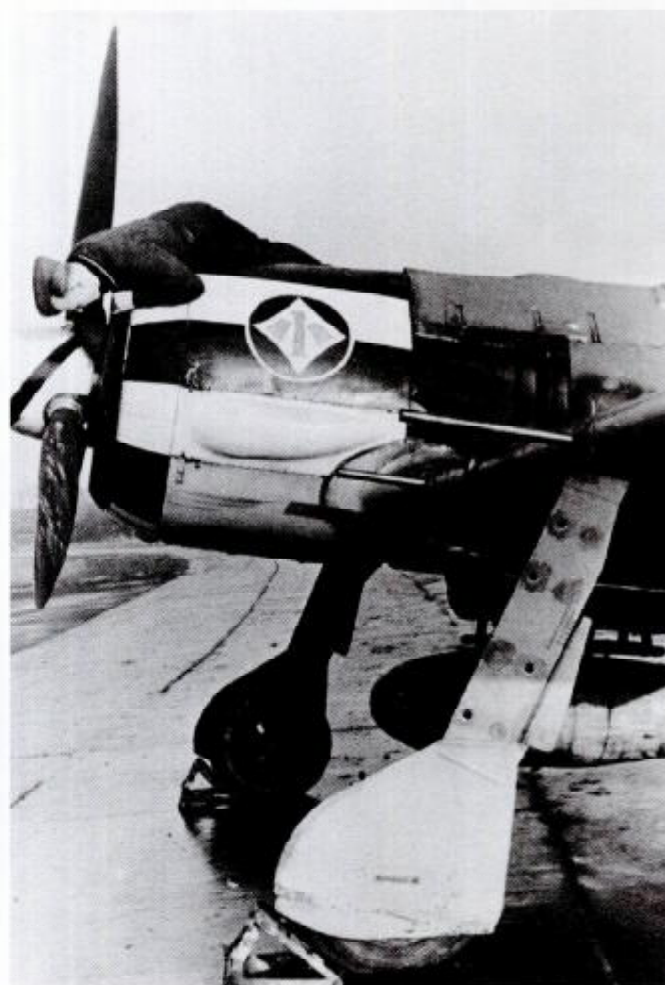


ABOVE: Ground personnel with the Fw 190s of Sturmstaffel 1 at Salzwedel in February or March 1944. All aircraft have been fitted with 300 litre drop tanks and the spinners have been painted with a black and white spiral.



ABOVE: Hptm. Walter Hoeckner, Kommandeur of II./JG 1, seen here on the left in conversation with his Kommodore, Obstlt. Walter Oesau, in early February 1944. Hoeckner eventually left II./JG 1 to take command of I./JG 4.

BELOW: A mechanic working on the the engine of an Fw 190 A-7 of I./JG 1 at Dortmund in early 1944. Apart from the new Geschwader emblem and Reich defence band, I./JG 1 also reintroduced the black and white stripes on the engine cowling similar to those used earlier by Stab I./JG 1 in the spring of 1943. Note, however, the yellow panel under the engine and the white spinner with a black spiral.



1943-1944



BELOW: An Fw 190 A-6 of I./JG 1 runs up its engines outside one of the hangars at Dortmund, early 1944.

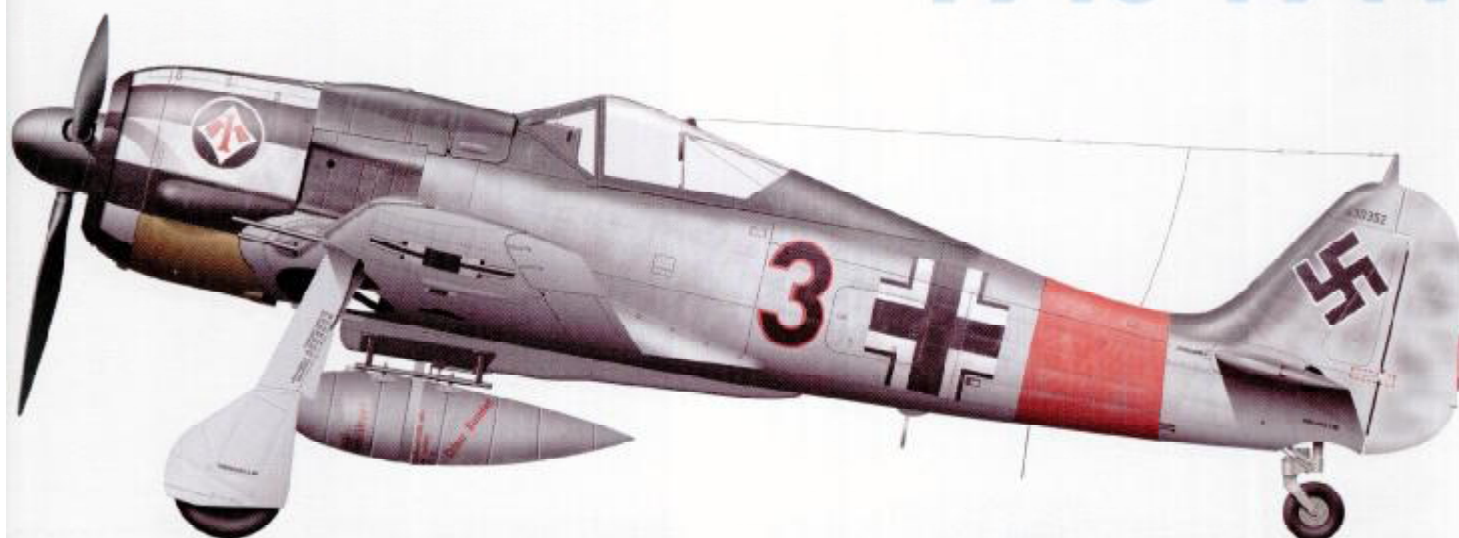


LEFT: While a member of the ground personnel opens the access panel to the BMW 801 D-2 engine of an Fw 190 A-7 of I./JG 1, another fills the drop tank mounted under the fuselage. Note the circular Panzer Ölkühler, or armoured oil cooler, on the front of the engine.

RIGHT: Fw 190 A-6s of I./JG 1 taking off from Dortmund, early 1944.



LEFT: Hptm. Alfred Grislawski, Staffelführer of I./JG 1, with his Fw 190 A-7 'White 9' at Dortmund in early 1944. Note that the 13 mm MG 131 machine guns mounted above the engine have been fitted with flash suppressors so that when flown on night operations the pilot's night vision was not impaired. Note also that the tip-mounted pitot tube on the starboard wing is more characteristic of the A-8 series, with which JG 1 would progressively re-equip from April 1944. Although the tone of the lower engine cowling panel matches that of the red fuselage band, it is thought that this is due to the type of film used and that the lower panel was yellow. This aircraft, W.Nr. 430965, was lost in combat with USAAF heavy bombers while being flown by Gefr. Alfred Martini of 2./JG 1 on 22 February 1944.



Focke-Wulf Fw 190 A-7, W.Nr. 430352, 'Black 3' of 2./JG 1, Dortmund, January 1944

This aircraft carries the unit's reintroduced black and white stripes on the engine cowling and has a red Reich defence band around the rear fuselage. The new unit emblem was applied to the port side only and the tactical number on the fuselage was narrowly edged in red. The overall colour scheme was 74 and 75 on the uppersurfaces with 76 undersurfaces, and the spinner and armoured oil cooler were black.



LEFT: 'Black 3', an Fw 190 A-7, W.Nr. 430352, of 2./JG 1 preparing to take off from Dortmund in January 1944. Note the relatively clean appearance of this machine, which has only a trace of exhaust staining and that the only camouflage mottling is on the vertical tail surface and rudder.

RIGHT: This Fw 190 A-7 of Stab I./JG 1 shows that despite the alternating black and white bands around the rest of the cowling, the standard recognition panel beneath the nose was retained. This machine has been fitted with an armoured windscreen and quarter windows and has a camera gun mounted between the weapons in the port wing.



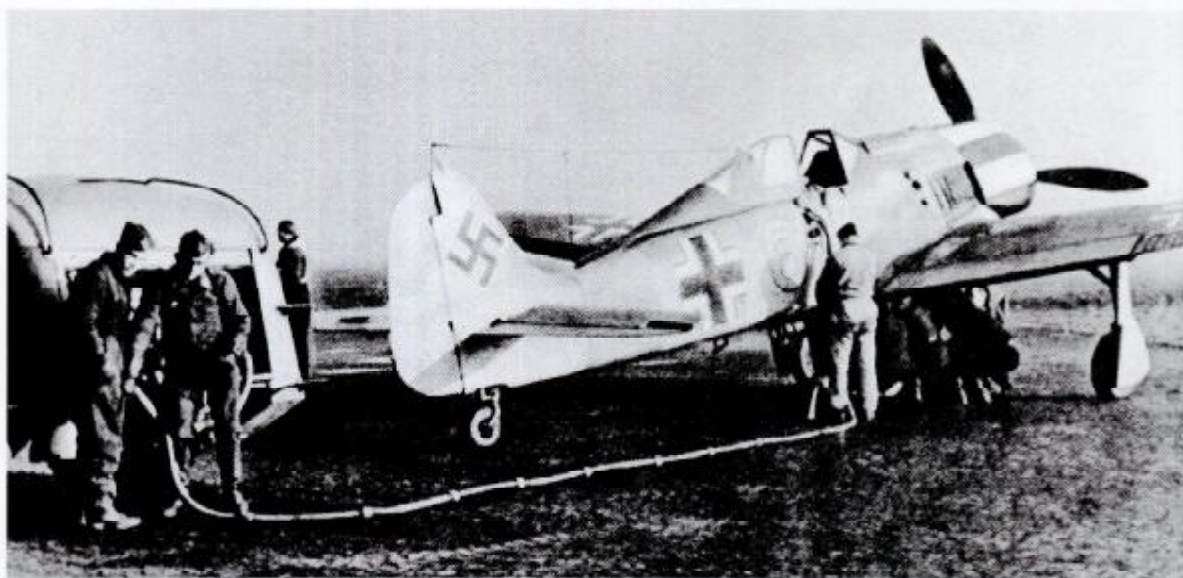
1943-1944



Focke-Wulf Fw 190 A-7, W.Nr. 340283, 'Yellow 6' of 3./JG 1, early 1944

'Yellow 6' has standard 74/75/76 camouflage and only extremely light mottling on the fuselage sides. The upper wing crosses were in the white outline style, but the crosses on the undersurface of the wings are the solid black variety outlined in white and show a return to the further black outer outline style. Note that on this aircraft the W.Nr. 340283 has been applied to the base of the fin.

RIGHT: Ground personnel refuelling 'Yellow 6', an Fw 190 A-7, W.Nr. 340283, of 3./JG 1. The aircraft carries a red defence of the Reich band around the rear fuselage and has the Geschwader emblem on the port side of the engine cowling only. This aircraft was lost on 8 February 1944 when being flown by Fw. Gerhard Giese of 3./JG 1 who was killed during operations against US heavy bombers.



ABOVE: Uffz. Ludwig Bertram of 10./JG 11 with an Fw 190 A-7, 'White 11' at Aalborg-Ost in Denmark in early 1944. The mottling of the fuselage camouflage is relatively heavy and has been neatly applied.

BELOW: A line-up of Fw 190s of 3./JG 11, all carrying the Geschwader's yellow Reich defence fuselage band, parked on the extensive wooden apron and taxiing area at Husum.





ABOVE: Another view of the Fw 190s of 3./JG 11 as shown on the page opposite. The two machines in the centre have the Staffel badge on their engine cowlings.



ABOVE: An Fw 190 A-7 of JG 11 receives routine maintenance at Husum in early 1944.

RIGHT: Accompanied by a small group of German soldiers, Ofw. Wilhelm Lorenz of 3./JG 11 stands on the wing of his Fw 190 A-7, 'Yellow 6', following a forced landing at Svendborg in Denmark after the 'Big Week' raid on German aircraft plants on 20 February 1944. Lorenz had shot down a B-17 during the raid, but his aircraft was damaged by return fire which caused a fuel leak. Note that the uppersurface camouflage on this aircraft has almost certainly been modified or completely repainted, for while the emblem of 3./JG 11 has been applied to the engine cowling, all the original factory-applied national insignia have been overpainted and had still not been re-applied when the machine crash-landed. Note how the undersurface camouflage wraps around the leading edge of the wings and terminates in a wavy demarcation line.



Focke-Wulf Fw 190 A-7, 'Yellow 6' flown by Ofw. Wilhelm Lorenz of 3./JG 11, Husum, February 1944
Ofw. Lorenz's machine was camouflaged in 74 and 75 on the uppersurfaces with 76 undersurfaces and is remarkable for having no national markings on the uppersurface. The demarcation line on the fuselage was wavy and positioned just below the canopy, while the mottles on the fuselage came well down the sides. The aircraft carried the badge of 3./JG 11 on the cowling, had a yellow band around the rear fuselage and, as shown in the photograph above, the demarcation line where the undersurface 76 met the uppersurface colours on the wing was wavy and extended noticeably around the leading edge.



1943-1944

RIGHT: Pilots of II./JG 26 walk out to their Fw 190s at Cambrai-Epinoy, February 1944.

BELOW: Adolf 'Addi' Glunz with the tail of his 'White 9', an Fw 190 A-7, W.Nr. 642527. As Glunz's victories on 22 February have still to be added, the 54 markings on the rudder represent his kills up to and including 21 February 1944, but even allowing for numerous cases of misidentification the display shown bears no resemblance to the known sequence of Glunz's victories. For example, in the bottom row of seven victories, the first three bars should have RAF roundels and the remaining four US stars.



RIGHT: One of the most successful German fighter pilots in the west in early 1944 was Ofw. Adolf Glunz, Staffelführer of 5./JG 26, seen here returning to Cambrai-Epinoy on 22 February 1944 after leading 5. Staffel against US bombers heading for factories in central Germany. During this attack he shot down three B-17s and claimed *Herausschüsse* against two others as well as downing a P-47 of the 78th FG. It was his most successful day as a *Jagdflieger*. The day before he had shot down a B-17 over Holland. He would end the war credited with 71 victories, 19 of which were four-engine bombers.



RIGHT: Uffz. Franz Seyringer of 4./JG 27 poses on the wing of Bf 109 G-6, 'White 5', W.Nr. 410300, at Wiesbaden-Erbenheim in January 1944. The aircraft has a prominent black and white spiral pattern on its spinner and is fitted with a 300 litre drop tank. Note also the protective covers pulled over the barrels of the underwing MG 151/20 cannon. This aircraft was lost when Seyringer was wounded during an air battle with Allied fighters over Holland on 30 January 1944 and baled out.



RIGHT: A sequence of photographs showing Bf 109 G-6s of I./JG 27 at Fels am Wagram in Austria in early 1944. This Gruppe had left North Africa in November 1942 and had been relocated to France where it was deployed on the Channel Front for the first six months of 1943, before being moved south to Marignane. By the end of July, the unit was at Fels am Wagram for operations in the Reichsverteidigung under the temporary command of Oblt. Hans Remmer, the Kapitän of 1. Staffel, who was standing in while a replacement was found for Hptm. Erich Hohagen, the Kommandeur, who had been wounded in action in June.



LEFT: A pair of cannon-armed aircraft of I./JG 27 carrying the Gruppe badge on their cowlings with a particular variation being used by 3. Staffel, the so-called 'Staffel Marseille', named after the unit's most famous pilot, Hans-Joachim Marseille, the 'Star of Africa'. In this case, some aircraft had the name of the Staffel in a ring around the emblem (see photograph below). The undersides of the cowlings are yellow but while one aircraft has a completely green 70 spinner, the other has a one third segment in white on the spinner tip. Note also that the machine in the background has the green fuselage band of JG 27 which was introduced in January 1944.

RIGHT: Pilots of 3./JG 27 – the 'Staffel Marseille' – admire the suitably modified badge of I./JG 27 on the cowling of a Bf 109 G-6 at Fels am Wagram.



1943-1944

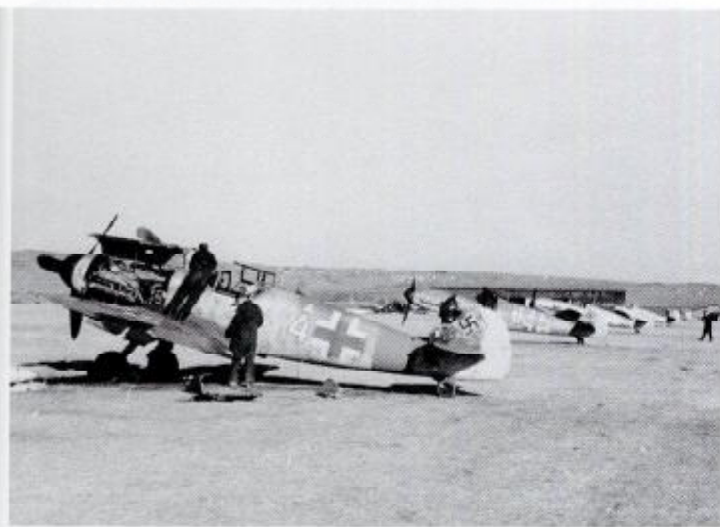


ABOVE AND RIGHT: Bf 109 G-6s of 1./JG 27 at Fels am Wagram in early 1944. Note again the variations in spinner designs and, on the aircraft in the foreground, the wavy demarcation line between upper and undersurface colours. The aircraft in the foreground has been fitted with an air cleaner over the supercharger intake.



RIGHT: Ground crew apparently carrying out pre-flight checks on the Bf 109 G-6s of 1./JG 27 at Fels am Wagram in early 1944. All aircraft have JG 27's green Reichsverteidigung band around the rear fuselage and some have a yellow rudder. The machines with the tactical numbers 'White 10' and 'White 11' belonged to 1. Staffel, while 'Yellow 7', in the foreground, W.Nr. 140255, was a machine of 3. Staffel. Note the contrast between the dark grey centres to the Balkenkreuz on 'Yellow 7' and 'White 11' compared with 'White 10'.

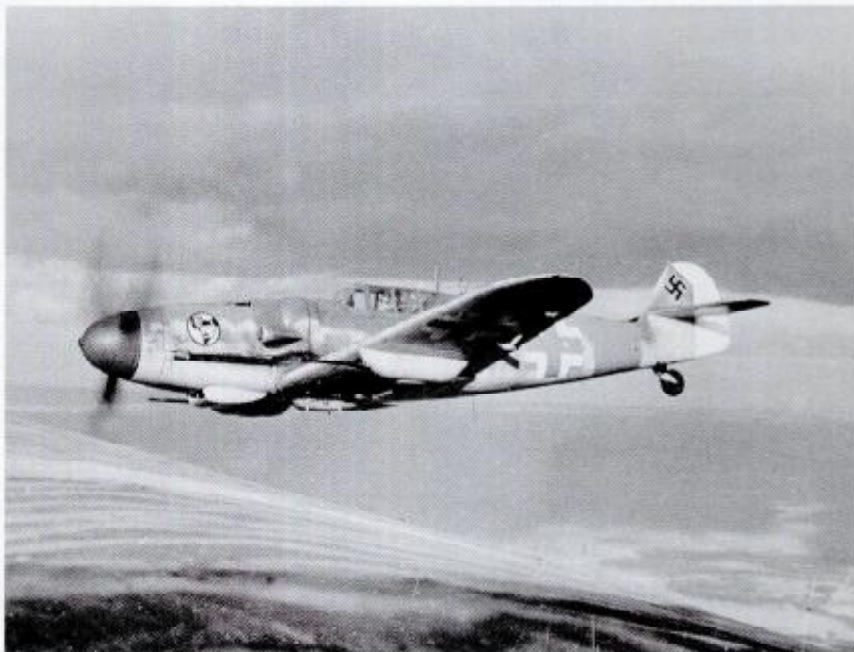




LEFT AND BELOW Two views of Bf 109 G-6s of I./JG 27 on the airfield at Fels am Wagram. The aircraft have yellow undersides to their cowlings, the Gruppe emblem on the engine cowling, white tactical numbers, green Reichsverteidigung fuselage bands and yellow rudders. They are 'Kanonenboote' fitted with MG 151/20 cannon in underwing gondolas and carry 300 ltr drop tanks.



RIGHT: The Bf 109 G-6 'Kanonenboot' of Major Ludwig Franzisket, Gruppenkommandeur of I./JG 27, in flight somewhere over Austria or southern Germany in early 1944. Franzisket was appointed Adjutant of I./JG 27 in October 1940 but transferred with the unit to North Africa in the summer of 1941. On 29 October 1942, Franzisket was shot down whilst in action against RAF Spitfires and, in baling out, struck his aircraft's tailplane and broke a leg. Nevertheless, when I./JG 27 was withdrawn from North Africa at the end of 1942, he had 39 victories to his credit. From 1 July 1943, he led I./Ergänzungsjagdgruppe Süd and then attended a fighter leader's course before being appointed Gruppenkommandeur of I./JG 27 engaged in the Reichsverteidigung and claimed two B-17s during the Schweinfurt raid on 14 October, 1943. On 12 May 1944, he was hit by return fire from a bomber formation and was badly wounded but baled out and, after recovering from his wounds, led the fighter leaders' courses at Königsberg in Neumark from 1 October 1944. On 15 December 1944, Franzisket rejoined JG 27 and was appointed Kommodore on 30 December. He was credited with 43 victories, all obtained in the Mediterranean area or in the defence of the Reich.



Messerschmitt Bf 109 G-6 flown by Major Ludwig Franzisket, Gruppenkommandeur I./JG 27, early 1944
This aircraft was finished in a standard 74/75/76 splinter and mottle scheme and had a green 70 spinner and a yellow panel under the nose. The white rudder indicated that this was a unit leader's aircraft, as confirmed by the Kommandeur's double chevron in solid black forward of the Balkenkreuz. The bright green rear fuselage band of JG 27 was in RLM 25 and the badge of I./JG 27 was applied to both sides of the engine cowling with the lioness's head always facing forwards.





Messerschmitt Bf 109 G-6, W.Nr. 440141 'Yellow 1', flown by Oblt. Wilhelm Schilling of 9./JG 54, Ludwigslust, 20 February 1944

The camouflage on this aircraft consists of the usual day fighter scheme of 74, 75 and 76 with a slightly lower than usual demarcation line and large, regular mottles on the fuselage. Aft of the Balkenkreuz, the aircraft features the blue Reichsverteidigung fuselage band of JG 54, and the tail area has been partially resprayed, possibly to tone down a bright area of 76 on the fin and to render less conspicuous the bright yellow rudder. The devil's head badge of 9./JG 54 was applied to the engine cowling and the III./Gruppe badge, superimposed upon the Geschwader's Grünherz, has been painted below the cockpit. This aircraft was destroyed when the pilot was obliged to bale out during an air battle on 20 February 1944.

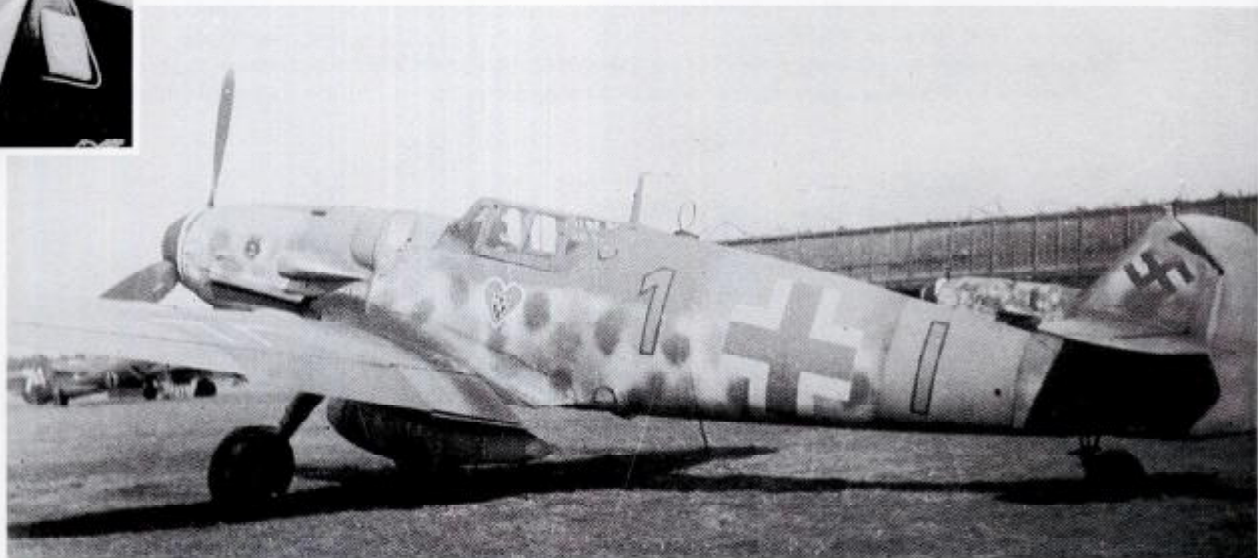


Emblem of
III./JG 54

BELOW AND INSET: The Bf 109 G-6 'Yellow 1' flown by Oblt. Wilhelm Schilling (*LEFT*), Staffelführer of 9./JG 54, photographed at Ludwigslust in February 1944. As an Unteroffizier, Schilling obtained his first victory over Brussels on 12 May 1940 while with 2./JG 21 which, in July 1940, was redesignated 8./JG 54. However, it was during the Russian campaign that his tally began to steadily increase, by which time Schilling was an Oberfeldwebel flying with 9./JG 54. His first Soviet victory was achieved on the second day of the Russian campaign, after which Schilling was credited with numerous victories. On 25 February 1942, he had to make a forced landing when his Bf 109 F-4 developed engine trouble but survived unhurt and by 14 March 1942 had 20 victories. He was awarded the German Cross in Gold on 4 August 1942 and by 31 August had 35 victories. His 40th victory was obtained on 2 September but on 16 September, after Schilling had shot down an Il-2 as his 46th victory, his Bf 109 G-2, was hit by Soviet anti-aircraft fire and shot down. Schilling survived, but was seriously wounded in the right leg and was still in hospital when he was awarded the Knight's Cross on 10 October. After recovering from his wounds, Schilling, now an Oberleutnant, returned to 9./JG 54 in September 1943 as its Staffelführer. By this time, III./JG 54 was in Germany, having been assigned defence of the Reich duties in the spring of 1943. On 14 February 1944, his original Bf 109 G-6 coded 'Yellow 1' was damaged and Schilling was slightly wounded in air combat. Six days later, he was flying the aircraft shown here, W.Nr. 440141, when he was again wounded and had to bale out. Back in action again on 24 February, he shot down a B-17, one of four Victrolas this pilot is believed to have destroyed. He continued to lead 9./JG 54 until early March 1944 and ended the war with a total of 63 victories accomplished during 538 operational flights.



Emblem of
9./JG 54



RIGHT: A Bf 109 G-5, 'Yellow 11' of 9./JG 54, at Ludwigslust in February 1944. Although shown here with Fw. Emil Hecker in the cockpit, this aircraft is known also to have been flown by Fw. Fritz Ungar and Uffz. Gerhard Kroll who was flying it when it was shot down on 8 April 1944. The aircraft, W.Nr. 27119, has the blue Reichsverteidigung band of JG 54 around the rear fuselage and carries appropriate Staffel, Gruppe and Geschwader badges. The panel under the nose and the spinner are yellow, although the backplate to the latter still shows the original green 70 finish with white segment.



BELOW: This Bf 109 G-6, 'Yellow 9', also of 9./JG 54 in January or February 1944, has similar camouflage and markings to the machine shown above but has a tall tail unit and rudder.



BELOW: The transfer of III./JG 54 to the defence of the Reich was a disaster for the unit for, although the Gruppe's pilots had accounted for more than 1,000 victories in the East, they lacked experience in attacking four-engined bombers. Consequently in its first two operations against US heavy bombers, III./JG 54 lost 15 Bf 109s and some of its best pilots. In February 1944, the Gruppe took part in the air battles of 'Big Week' and on the first day, although six B-17s were shot down, eight Bf 109s and three pilots were killed. The next day, the Gruppe lost four aircraft and four pilots were lost without destroying any bombers, and during the two following days III./JG 54 was credited with 11 bombers and two escort fighters but lost two aircraft and two pilots. Here, pilots of the Gruppe's 9. Staffel gather outside their dispersal hut at Ludwigslust in early 1944. The devil's head Staffel badge shown on the pennant was carried on the unit's aircraft since 1940.



ABOVE: Fritz Ungar with one of III./JG 54's 'Kanonenboot' Bf 109 G-6's at Ludwigslust in early 1944.



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RIGHT: Major Heinz Bär (centre, standing on wing) visits the B-17 F 'Miss Quachita' of the 91st BG which he shot down on 21 February 1944. At this time, Bär had been with 6./JG 1 for some two months, arriving from a fighter training school in the south of France. Despite his experience and numerous victories, he was assigned to the Staffel as an ordinary pilot by Göring on account of his forthright comments. Within five months, however, Bär would command successively the Staffel, the Gruppe and finally the Geschwader. Bär insisted that his wingmen were sufficiently experienced to be able to lead the Gruppe themselves in case of his absence but the manpower situation in units operating in defence of the Reich, was now strained and, as a means of urgently mustering experienced personnel, Galland requested volunteers from other branches of the Luftwaffe. Especially needed by Luftflotte Reich and Luftflotte 3 were officers prepared to give their utmost as fighter and formation leaders in defence of the Reich.



Target Berlin: the 'Big-B'

In order to equal the capability of the Allied opposition, the *Luftwaffe* required pilots with the ability to fly in bad weather, and Adolf Galland now proposed that new schools should be opened, staffed by qualified instructors and with facilities for blind- and bad-weather flying. However, when such proposals were submitted to OKL, they were quietly brushed aside.



ABOVE: On 6 March 1944, P-51 Mustangs with twin drop tanks ranged as far as Berlin, placing ever more strain on the *Jagdflotte's* defensive capabilities. Here a pair of P-51Bs of the 363rd FG take off for an escort mission in the spring of 1944.

a force of 500 B-17s and B-24s escorted by 770 fighters headed for the capital. The concept behind the 'Big-B' missions was not solely to bomb the important industrial targets of Berlin, nor even to dent civilian morale, but rather it was an attempt to coax the *Jagdflotte* into the air in order to inflict further unsustainable losses. The Eighth Air Force's trump card was once again the P-51 Mustang which, equipped with twin 108 US gallon wing tanks, was now able to escort the bombers as far as Berlin.

Surprisingly, despite this new but not altogether unexpected menace, the German response to this first, crucial raid was light and although I. and II. *Jagdflotte* deployed 149 aircraft from *Sturmstaffel* 1, JG 1, JG 2, JG 3, JG 11, JG 26, JG 27, JG 53, JG 300, JG 301 and JG 302, American losses were due more to poor operating conditions than the sporadic reaction by the German fighters. Luckily for the city, adverse weather conditions prevented all but 30 aircraft from reaching their primary target and these unloaded 68 tons of bombs but inflicted little damage. Of this force, five aircraft were shot down.

However, when the Americans dispatched a force of 730 bombers with a formidable escort of 796 fighters to bomb the capital on 6 March, they were met by determined opposition which attacked the moment the bomber streams crossed the Dutch coast and continued to do so all the way to Berlin and back.

In March, following the attacks on the aircraft manufacturing centres during 'Big Week', the Americans felt sufficiently confident to concentrate their efforts on Berlin. With a 1939 population of just over 4,300,000, the German capital was the greatest commercial and industrial centre on the continent of Europe and the centre of Germany's war effort. Housing the administrative and ministerial headquarters of all three armed services, it was also a major rail centre with 12 main lines converging there from all over Germany.

The first strike was mounted on 4 March when

BELOW: The reaction of Eighth Air Force bomber crews in the briefing room at Polebrook air base in England in the early hours of 6 March 1944 when it was announced that the target was Berlin.



The *Luftwaffe* had been expecting the raid and had prepared itself by practising the assembly of large formations of fighters – so-called *Gefechtsverbände* – over the Steinhuder Meer north-west of Hannover several days before in an attempt to meet mass with mass. So it was that on this day, no fewer than 19 *Jagdgruppen*, three *Zerstörergruppen* and four *Nachtjagdgruppen*, together with a handful of miscellaneous units, were available to take on the *Viermots*.

The first US aircraft took off at 08.50 hrs. From that moment the German radar listening services were continually tuned into the Eighth Air Force's 250th bombing mission so that preparatory orders had already been issued to the German fighter units more than an hour before the first American aircraft crossed the Channel. For this attack, the units of 2. and 3. *Jagddivision* would work closely together under the tactical directorship of the *Gruppenkommandeur* of I./JG 11, *Hptm.* Rolf Hermichen.

The first B-17s reached the coast of Holland at 10.52 hrs. Flying at cruising speed to conserve fuel, the escort fighters slowly made up the distance between themselves and the bombers.

At last, on the majority of *Luftwaffe* fighter bases across western Europe, the seemingly interminable *Sitzbereitschaft* (cockpit readiness) came to an end. At Twente, *Major* Schnoor's I./JG 1 took off at 10.55 hrs, setting course for the Steinhuder Meer. I. *Gruppe* was joined over Rheine by the 21 Fw 190s of II./JG 1, led by *Major* Heinz Bär. The two *Gruppen* were the last to arrive over the Lake, meeting up with 50 Bf 109s and Fw 190s from JG 11 and 20 Bf 109s from III./JG 54. JG 1's arrival meant that a force of more than 100 fighters would go into action, a force which far exceeded the usual German strike capability. For the first time in a long while, and despite being outnumbered, the young German pilots experienced a feeling of invulnerability.

The initial German attack took place in the Quackenbrück area and soon the first blazing American victims fell away from the formation. But then it was the turn of the German fighters to become boxed in, as, slowly but surely, the escort reacted. One of the first victims was the Fw 190 of *Oblt.* Wolfgang Kretschmer, recently arrived from JG 54, who is believed to have shot down a *Viermot* during a frontal attack but then lost contact with the rest of II. *Gruppe*. Alone, he was preparing for a second attack from the rear when, at full throttle, Colonel 'Hub' Zemke, commander of the 56th FG, flew his P-47 towards Kretschmer. The latter realised the gravity of his situation too late and despite frantic evasive manoeuvres, could not escape. The American opened fire. The Focke-Wulf's fuselage was hit and the aircraft began to break up and burn. Blinded by the flames and deafened by the noise around him, Kretschmer managed to extricate himself with difficulty from the spiralling inferno. Finally clear, only the shock of his parachute opening brought home to him the fact that he was still alive. He was later discovered on the ground, his face, hands and clothing ravaged by flames. An ambulance took him away for treatment and he subsequently spent ten weeks in convalescence in Quackenbrück. High above, the action continued.

Shortly after 11.30 hrs, seven Fw 190s from *Sturmstaffel* 1 joined the Bf 109s of IV./JG 3 as they took off from Salzwedel and headed towards Magdeburg where they were due to form up into a *Gefechtsverband* drawn from units of 1. and 7. *Jagddivision* and placed under the command of *Major* Hans Kogler, *Kommandeur* of III./ZG 26. Rendezvous was made at 8,000 m near Magdeburg.

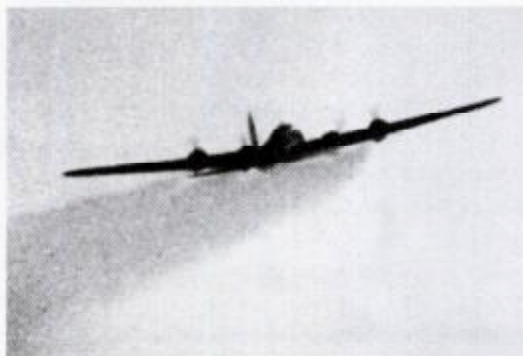
Once assembled, this large *Gefechtsverband* consisted of a lead element of 41 Bf 110 and Me 410 *Zerstörer* from II. and III./ZG 26 and I. and II./ZG 76, many equipped with four 21 cm WGr. mortars to break up the approaching enemy formation. Behind the *Zerstörer* came no fewer than 72 Bf 109s and Fw 190s from I., II. and IV./JG 3, *Sturmstaffel* 1, JG 302 and the Erla works defence *Jasta*.

Towards 12.30 hrs, this formation sighted the enemy bombers; 112 B-17 Flying Fortresses of the 1st and 94th Combat Wings of the 1st Bomb Division. First to attack were the twin-engined heavy fighters which fired their mortars. As they did so, P-51 Mustangs of Lt. Col. Don Blakeslee's 4th FG



ABOVE:
B-17s of the 303rd Bomb Group brave the Flak on their way to Berlin, 6 March 1944.

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ABOVE: A B-17 over Berlin in March 1944 under attack by a German fighter

dived out of the sun to intercept and forced the *Zerstörer* pilots to break off their attacks early. The result was that many of the mortars exploded way off target.

Following the Bf 110s and Me 410s, the Bf 109s of IV./JG 3 attacked the bombers head-on and from out of the sun. By the time the *Gruppe*'s action was over, its pilots had claimed 12 of the bombers either shot down or separated from their formation plus one P-51 destroyed.

For *Sturmstaffel* 1, it was to be the most successful day since the unit's formation. Moving in to attack from the rear, the *Staffel* closed in on the B-17s of the 91st BG. *Uffz.* Kurt Röhrich scored his third victory at 12.35 hrs, *Uffz.* Willi Maximowitz claimed a

Herausschuss and Lt. Gerhard Dost scored his first victory. Three minutes later, *Fw.* Hermann Wahlfeld who had shot down two bombers just two days before, added to his personal score and recorded his third victory. *Obt.* Othmar Zehart followed at 12.55 hrs when he scored his second victory.

One *Fw* 190 of *Sturmstaffel* 1 descended slightly as it approached and took hits, but then climbed determinedly towards 'My Darling Also', a B-17 of the 91st Bomb Group, now already badly damaged, and struck the Boeing, severing the entire right stabiliser. The B-17 fell out of control and, of the crew of ten, only two baled out and were taken prisoner.

By the time the *Gefechtsverband* broke off its attack, eight B-17s had been shot down and three more destroyed in collisions. Four P-51 escort fighters also went down in the Berlin area. However, for the Germans, the price of this success was high; of the seven Bf 110s of III./ZG 26 which went into action, five were destroyed and the remaining two damaged. Eleven further *Zerstörer* were destroyed and at least two more damaged. For the single-engined fighters, losses were five Bf 109s and two *Fw* 190s.

JG 1's score for the day was most gratifying – a total of 26 claims; 23 B-17s shot down, one *Herausschuss*, one P-51 and one P-47. Heinz Bär downed two B-17s during a first mission, and a third during a following sortie. *Uffz.* Helmut Stiegler of 4./JG 1 who flew with Bär, opened his tally with two B-17s, one on each mission. *Hptm.* Segatz shot down two B-17s in two minutes and the *Kommodore*, Walter Oesau, the P-47 and a B-17 15 minutes later; *Obt.* Rüdiger Kirchmayr claimed a B-17 and the P-51; *Fw.* Walter Köhne, two B-17s.

The *Luftwaffe* suffered a total of 87 single- or twin-engined fighters lost or damaged on 6 March, with 36 pilots killed and another 27 wounded. Among those lost was the *Ritterkreuzträger* *Obt.* Gerhard Loos of III./JG 54 who had 92 victories to his credit. He baled out over Oldenburg but fell to his death when he released his parachute harness to avoid drifting into high-tension wires. Lt. Hugo Frey, *Staffelkapitän* of 7./JG 11, claimed four bombers that day before being shot down and killed near Sleen in Holland. He had 32 victories including 26 four-engined and would be awarded the *Ritterkreuz* posthumously.

On the American side, 53 B-17s and 16 B-24s failed to return, 293 B-17s and 54 B-24s were damaged and five other B-17s and one B-24 written off. Seventeen crew were killed, 31 wounded and 686 were listed as missing. It was the highest loss rate for a mission so far. As each side withdrew to lick their wounds and assess losses, both were devastated by the savagery of the combat and questioned whether such targets were worth the cost, but of even greater psychological impact on the Germans was the realisation that Berlin was no longer out of range and no longer immune from attack. The pressure on the pilots of the outnumbered fighter units operating in the defence of the Reich could now only increase and, indeed, there was to be no let-up. On 8 March, 320 B-17s and 150 B-24s attacked the VKF ball-bearing plant at Erkner and more bombers attacked targets of opportunity in the German capital. A record 891 USAAF fighters provided escort and support.

At Salzwedel, IV./JG 3 was scrambled to intercept at 13.48 hrs, probably accompanied by the six operational *Fw* 190s of *Sturmstaffel* 1. At 7,500 metres over Magdeburg, the fighters formed up into a *Gefechtsverband* with a small number of Bf 110 *Zerstörer* from ZG 26 and other elements of JG 3. Following a course to the north-west, at 13.25 hrs the *Gefechtsverband* sighted the American bombers, flying east-south-east at 6,000 metres with strong fighter escort. Once again, the *Zerstörer* went in first, followed by JG 3 which mounted a frontal attack, and once again the *Gruppe* demonstrated its extraordinary tenacity by claiming 13 victories.

The attrition continued over Berlin throughout the month, forcing the Eighth Air Force to write off 349 bombers over a period of 23 operationally active days, 13 of which involved all-out effort.



ABOVE: *Obt.* Gerhard Loos of III./JG 54, a *Ritterkreuzträger* with 92 victories, was lost in the air battle to defend Berlin on 6 March 1944.



ABOVE: Obstdt. Wolf-Dietrich Wilcke, a highly respected Jagdwaffe personality, Kommodore of JG 3 and holder of the Ritterkreuz with Oakleaves and Swords, was killed by Mustangs east of Braunschweig on 23 March 1944.

For the *Luftwaffe*, the months of February and March 1944 marked a grim chapter in its history. Pilot losses had been crippling and were no longer confined to the younger and less experienced, hurriedly-trained replacements. Galland's dilemma was now the increasing loss of valuable, experienced and virtually irreplaceable unit leaders. On 23 March, Obstdt. Wolf-Dietrich Wilcke, Kommodore of JG 3 and holder of the Ritterkreuz with Oakleaves and Swords, was lost to Mustangs east of Braunschweig. Wilcke was a veteran of the Channel Front, Russia and the Mediterranean with 162 victories scored in more than 730 missions.

As an example of the attrition being suffered by the home defence *Gruppen*, in the four days from 15-18 March 1944, III./JG 3 flew four combat operations and lost five pilots with six more wounded and a further seven forced either to make emergency landings or bale out. Losses included the 108-victory Ritterkreuzträger, Hptm. Emil Bitsch, the Staffelführer of 8. Staffel. Lt. Ekkehard Tichy, Kapitän of 9. Staffel was shot down and subsequently lost an eye.

April brought little respite. On 27th, during a month which had seen the loss of 489 pilots and the arrival of only 396 replacements, Galland addressed the *Jägerstab*, the committee of aircraft industry executives and production specialists set up by Speer and Milch the previous month to manage and resuscitate the flagging fighter production industry. He told Otto Saur, the *Jägerstab*'s Chief Executive: "The problem which the Americans have set the Jagdwaffe is quite simply the problem of air superiority. The situation is already beginning to be characterised by enemy mastery of the air. The numerical ratio in daylight operations is approximately between 6:1.6 and 8:1. The enemy's standard of training is astonishingly high. The technical capabilities of his aircraft are so manifest that we are obliged to say that something must be done immediately..."

Across the Channel, the Allies were poised to exploit their air superiority and employ it as a key part of their plan to land in force on the Normandy beaches between Cherbourg and Le Havre on the coast of France. This area was chosen for a number of reasons, not the least of which was because it was within easy reach of the fighter bases in southern England. Thus, while the battle over the Reich was the most immediate problem for the *Luftwaffe*, it was clear also that the coming summer would see the long awaited Allied invasion supported by overwhelming Allied air forces.

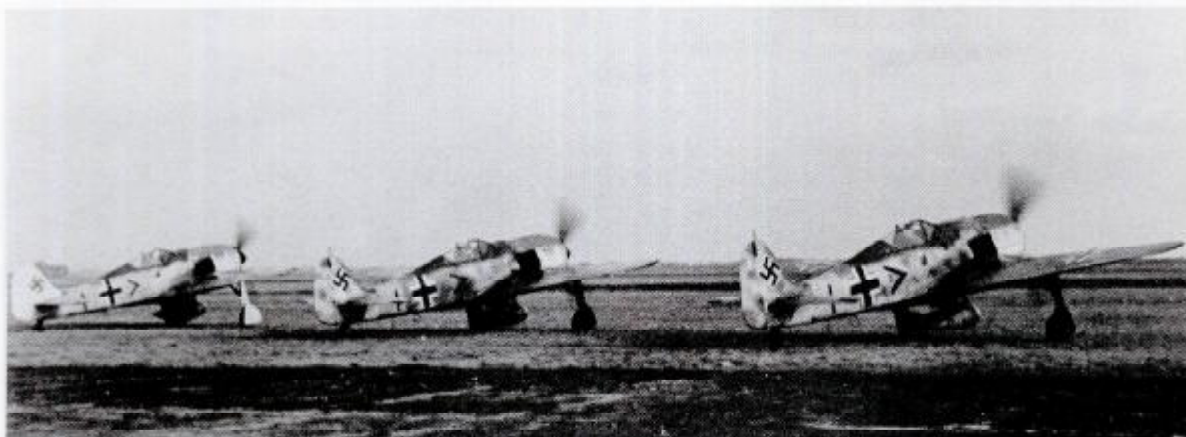


ABOVE: One JG 1's 'old hares', Ofw. Otto Bach (centre) of 5. Staffel is photographed with two mechanics on front of his Fw 190 which bears the winged 'I' emblem of JG 1. On 8 April 1944, Bach claimed the destruction of a B-14 and B-17.

BELOW: Bf 109s of Major Walther Dahl's III./JG 3 being refuelled at Leipzig in March 1944. The aircraft in the foreground, 'Black 9', has a white spiral on the spinner and the black vertical bar of III. Gruppe has been applied to the white band of JG 3 on the rear fuselage.



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Emblem of
Stab III./JG 11

ABOVE: Three Fw 190s of the Stabsschwarm of III./JG 11 run up their engines prior to take-off from Oldenburg in April 1944. All aircraft carry 300 ltr drop tanks and the machine to the far left is that of the Gruppenkommandeur, Major Anton Hackl, who led the Gruppe from January to May 1944. The aircraft carry chevrons forward of the Balkenkreuze, together with the yellow Reichsverteidigung fuselage band of JG 11. The emblem of Stab III./JG 11, a red dragon on a black and white shield, is just visible beneath the cockpit of Hackl's aircraft as well as on the machine in the foreground which is marked with a small '2' inside the chevron.



LEFT AND ABOVE: Fw 190 A-7/R2 W.Nr. 643701, 'Black 1' of 2./JG 11 at Rotenburg, near Hannover in late March 1944. The A-7/R-2 variant was armed with two MG 131 machine guns in the engine cowlings and two MG 151/20 cannon in the wing roots but instead of the standard A-7, which had another two MG 151/20s in the outer wings, it was converted to carry two 30 mm MK 108 cannon. This weapon, which has been described as a masterpiece in weapons engineering, was quite capable of severing the wing of a B-17 and soon acquired a fearsome reputation among Allied bomber crews who, on account of its rapid rate of fire, referred to it the 'pneumatic hammer'.

Focke-Wulf Fw 190 A-7/R2 W.Nr. 643701, 'Black 1' of 2./JG 11, Rotenburg, March 1944

Although finished in a standard 74/75/76 scheme, the unusual feature of this machine is that all national insignia on the upper surfaces have been oversprayed, leaving the original markings only faintly visible. The yellow panel under the nose was a standard recognition feature on all operational German fighter aircraft, but the yellow on the rear fuselage is the Reichsverteidigung band allocated to JG 11. Note that although the standard spinner colour was RLM 70, a very dark green which already contrasted well with a white spiral and therefore frequently remained this colour, in this instance it appears to have been repainted black. Note the MK 108 in the outer wing.

