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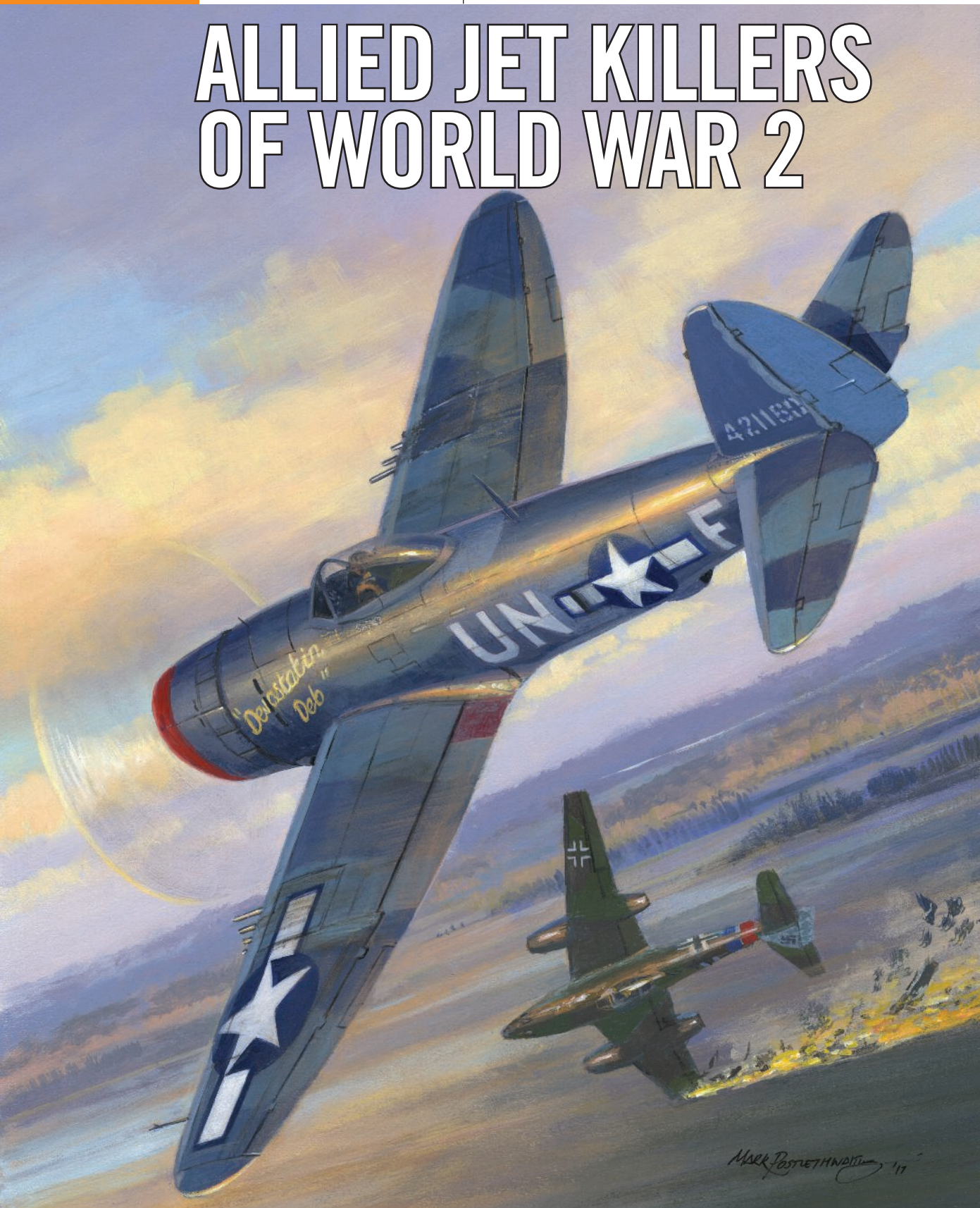
Stephen Chapis
and Andrew Thomas

ALLIED JET KILLERS OF WORLD WAR 2



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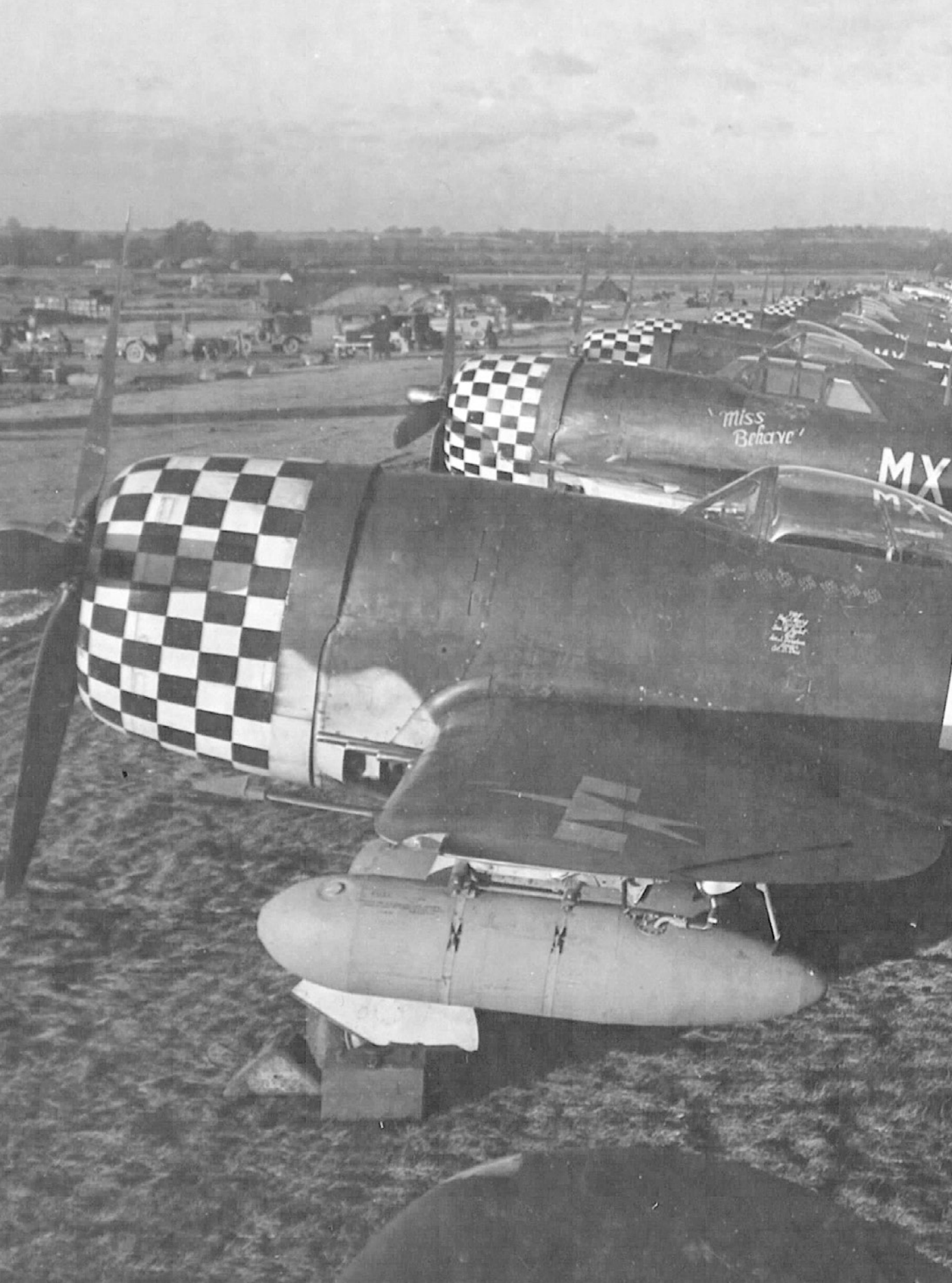
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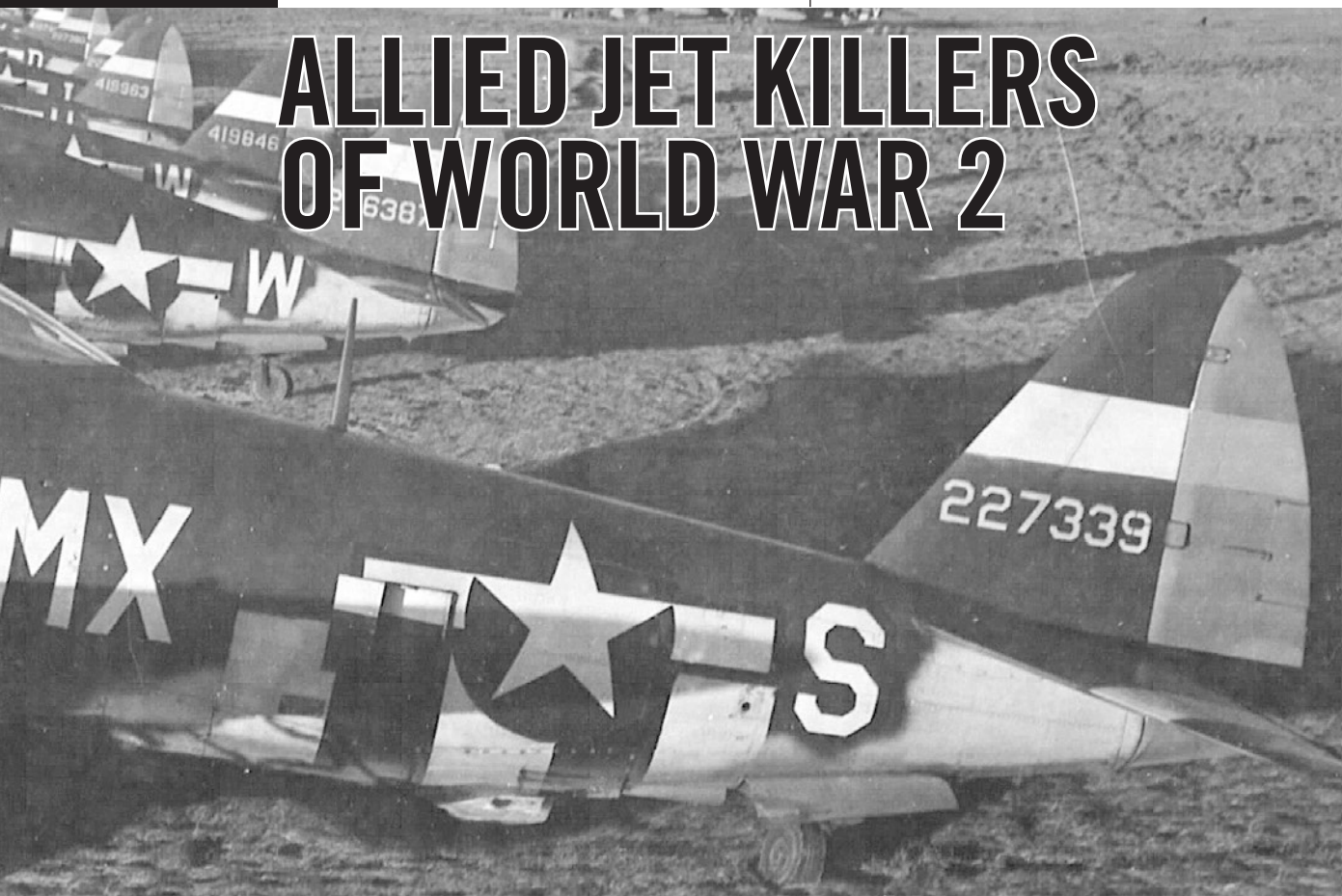

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Veteran fighter pilot Hauptmann Otto Böhner, *Staffelkapitän* of 2./JG 400, prepares to take off from Venlo in Klemm-built Me 163B Wk-Nr 440014 in August 1944. This aeroplane was serving with the unit when I./JG 400 was declared operational with the Komet. Its final fate remains unknown (*EN Archive*)

CHAPTER ONE

AERIAL WARFARE REVOLUTION

Contrary to popular belief, most of the jet- and rocket-powered aircraft developed by the Third Reich were not born out of desperation following the success of Operation *Overlord*. During World War 2, the Luftwaffe brought four jet- and rocket-powered aircraft into operational service – namely the Arado Ar 234, Heinkel He 162 and Messerschmitt Me 262 and Me 163. The initial design concepts for these aircraft, save the He 162, not only pre-date the US entry of into the war, but also the Battle of Britain!

Rocket-powered flight was pioneered in Germany. On 11 June 1928, Fritz Stamer made the world's first rocket-powered flight in a tailless glider fitted with a pair of black-powder rockets. It was called the *Ente* (Duck). The *Ente* was designed by Alexander Martin Lippisch, who was instrumental in the design and development of the world's only rocket-powered interceptor to be used in combat, the Me 163 Komet. During the course of World War 2 nine Komets were shot down in aerial combat by USAAF and RAF fighters, while in return, Me 163 pilots claimed 16 aerial victories – mostly B-17 Flying Fortresses and B-24 Liberators.

The radical and revolutionary Me 163 traces its roots all the way back to 1921 and the tailless delta-wing (flying wing) glider designed by Friedrich Wenk, founder of Weltensegler GmbH where Lippisch was employed. Between 1921 and 1926, while working at Weltensegler, Lippisch designed four tailless gliders designated Storch I to IV. In 1933, after a seven-

year stint at the Wasserkupe-based Rohn Rositten Gedellschaft (RRG), Lippisch joined the glider research institute Deutscher Forschungsanstalt fur Segelflug (DFS) in Darmstadt-Griesheim.

By the time Lippisch went to DFS, his Storch design had matured into the Storch IX, which was followed by the Delta IV-series that began life as the Fieseler F 3 Wasp in 1932. On its very first flight, Gerhard Fieseler found the F 3 (with two 'push-pull' Pobjoy R radial engines) to be highly unstable and it subsequently crashed. After several design refinements and further crashes, Fieseler abandoned the aircraft, but Lippisch believed the problems could be overcome and acquired the rights to the F 3, which he re-designated the Delta IV. He duly refined the aircraft over successive variants, creating the Delta IVa, b and c. In 1936, the latter aeroplane, powered by a single 75 hp Pobjoy R radial engine, was sent to the Luftwaffe flight test centre in Rechlin, where it was put through its paces by Heinrich Dittmar. The aircraft, which was subsequently granted an airworthiness certificate and redesignated DFS 39, was the first of Lippisch's designs to resemble the Me 163. The following year the RLM issued a contract for Lippisch to build a second DFS 39 that would be powered by a 'special powerplant' – a liquid-fuel rocket built by Hellmuth Walter.

This second prototype was not a new aircraft, but a rebuild of the two-seat propeller-driven pusher aircraft, designated DFS 40, that Lippisch had built in 1937. On 2 January 1939, Lippisch and his team were transferred to the top-secret 'Department L' at Messerschmitt in Augsburg, where they modified the DFS 194 (renamed *Project X*) to accept the 660-lb thrust Walter HWK R-1-203, the same motor that powered the Heinkel He 176. After a delay brought on by the start of World War 2 in September 1939, engine trials began at Peenemünde, on Germany's Baltic Sea coast, in October and the DFS 194 itself arrived in February 1940. After a number of unpowered flights, Dittmar made the first powered flight on 3 June 1940, and soon the DFS 194 proved to be far superior to the He 176.

In early 1941, the *Reichsluftfahrtministerium* (RLM – Ministry of Aviation) ordered Messerschmitt to construct two prototypes that would carry the designations Me 163A V4 and V5. The former made its first unpowered flight from Lechfeld on 13 February 1941. Shortly thereafter, the same aircraft, towed aloft by a Bf 110, reached a speed of 531.25 mph in an unpowered dive. After being moved to Peenemünde the prototype made its first powered flight on 10 August 1941 and soon set a world speed record of 471.87 mph. Then, on 2 October, fitted with an HWK RII-203 motor, which used T-Stoff and Z-Stoff high-test peroxide propellants, Dittmar set an unofficial speed record of 627.29 mph (0.84 Mach) in a dive. He explained post-flight that he could have gone faster had he not encountered what would later become known as 'compressibility' (a change in the density of the air around an aeroplane at transonic speed as it approached Mach 1).

Shortly after Dittmar's historic flight, Ernst Udet, *Generalluftzeugmeister* (Luftwaffe Director-General of Aviation Equipment), ratified Messerschmitt's proposal to have Wolfgang Hirth Werke produce eight pre-production Me 163A-0 *Antons* and four production standard Me 163B *Berthas,* which were followed by a further 66 B-models built in the Regensburg-Obertraubling facility.

Due to difficulties experienced in mass-producing the improved HWK 109-509 rocket motor and near-constant design changes to the aircraft itself, the programme suffered continuous setbacks throughout 1942-43. Nonetheless, *Erprobungskommando* (EKdo) 16, a special flight test unit, was formed at Peenemünde on 20 April 1942 under the command of Major Wolfgang Späte. The purpose of EKdo 16 was to train pilots and mechanics and to develop maintenance procedures and combat tactics. Initially, the unit had only the V4 and V5 prototypes on strength, but by November 1942 there were a number of *Antons* and five *Berthas* available for training.

After the devastating RAF Bomber Command raid on Peenemünde on 17/18 August 1943, EKdo 16 operations were moved to Bad Zwischenahn, near Oldenburg, where flight testing continued with seven *Antons* and a single *Bertha*. The unit suffered its first fatalities in late 1943, with Josef Pöhs (a close friend of Späte) being one of those killed when, on 30 December, his engine failed on takeoff. Lacking sufficient altitude to bail out, Pöhs attempted a manoeuvre that pilots had been taught *not* to do – he tried to turn back towards the runway. Pöhs actually completed the turn, but when he rolled out there was a radio antenna directly in his flight path. Lacking the momentum to fly around the obstruction, he clipped the antenna with his left wingtip and the Me 163 cartwheeled into the ground.

Major Wolfgang Späte, as CO of special flight test unit EKdo 16, made history on 14 May 1944 when he gave the rocket-powered Me 163B its combat debut. His attempt to attack a pair of P-47s was thwarted when he suffered intermittent problems with the HWK 109-509A-2 motor in his all-red Komet. Switching to the Me 262 in April 1945, Späte claimed five victories (all B-17s, which took his final tally to 99) whilst serving as the last *Kommandeur* of III./JG 7 (*EN Archive*)

Despite these setbacks, activity was picking up at Bad Zwischenahn by February 1944, when the first operational Me 163 unit, 20./JG 1, was formed and ten pilots began their training with the co-located EKdo 16, which consisted of nine operational *Berthas*. On 1 March 20./JG 1 was redesignated 1./JG 400 and transferred to Wittmundhafen under the command of Hauptmann Herbert Olejnik. The unit's first pilots began their training here, and by the end of the month six Me 163Bs had been delivered to Bad Zwischenahn.

On 14 May Späte made history when he gave the rocket-powered fighter its combat debut. Flying the Me 163B V41, which was fitted with the HWK 109-509A-2 motor that gave the *Bertha* a top speed of 596 mph, Späte's aircraft was painted bright red in honour of legendary World War 1 ace Manfred Freiherr von Richthofen. Fighter controllers on the ground directed Späte toward a group of USAAF fighters, and just as he spotted a pair of P-47 Thunderbolts above him, his engine quit. He managed to restart it after two minutes and set off after the American fighters, but as he reached 565 mph the Me 163 entered compressibility and flamed out again, thus allowing the P-47s to escape. Späte flew a second sortie later that same day, and endured similar problems.

The first production-standard Me 163B reached Wittmundhafen in mid-May 1944, and by early June 1./JG 400 had 16 fighters on strength. On 12 and 13 June demonstration flights took place for senior staff officers in the Jagdwaffe, Reichsmarschall Hermann Göring and Generalfeldmarschall Erhard Milch and delegations from Italy and Japan, which were both interested in the revolutionary interceptor. On 14 July, 1./JG 400 moved operations to Brandis, near Leipzig, and five days later

Unteroffizier Kurt Schiebeler flew the first combat sortie at the controls of the Me 163B V50 – he made an unsuccessful attempt to intercept a P-38 Lightning. Then, finally, on 29 July 1944, the Komets of JG 400 clashed with USAAF fighters for the first time.

LOST TO HISTORY – He 280

While the Me 262 rightfully holds the title of the world's first *operational* jet fighter, it was not the first jet-powered fighter to fly. This historic bragging right goes to the nearly forgotten Heinkel He 280, which was inspired by Ernst Heinkel's emphasis on high-speed flight research and built on his company's experience with the He 178, the world's first jet-powered aircraft, which made its maiden flight on 27 August 1939.

Designed by Robert Lusser and initially designated He 180 in 1939, the fighter featured elliptical wings, twin vertical stabilisers fitted to a horizontal stabiliser with a slight amount of dihedral and designed from the outset with tricycle landing gear and a compressed-air ejection seat. The latter was also a first in aviation history. The first prototype, He 280 V1, was completed in the summer of 1940, but with development of the Heinkel HeS 8 turbojet engine running into difficulties, the first flight – which took place on 22 September 1940 – was a glide test with ballasted pods fitted in place of the motors. On 30 March 1941, Fritz Schäfer strapped into the second prototype, He 280 V2, and took the world's first jet fighter up for its maiden flight under its own power. Less than a week later, Schäfer demonstrated the He 280 for RLM chief Ernst Udet, who was not overly impressed with the aircraft.

Over the next two years, development of the He 280 was hampered by ongoing engine problems. In 1942, RLM ordered Heinkel to abandon the HeS 8 and HeS 30 engines and focus on the development of the more advanced, albeit problematic, HeS 011. However, with the latter

The nearly forgotten Heinkel He 280 was inspired by Ernst Heinkel's emphasis on high-speed flight research and built on his company's experience with the He 178, the world's first jet-powered aircraft. On 30 March 1941, Heinkel's Chief Test Pilot Fritz Schäfer (seen here in the cockpit) took this aeroplane – the second prototype He 280 V2, photographed at Rostock-Marienehe – aloft. This was an historic occasion, for it was the first flight made by a jet fighter under its own power (*EN Archive*)

not expected to be ready for flight for some considerable time, Heinkel considered fitting the He 280 with BMW 003 turbojets, but that engine was also beset with problems.

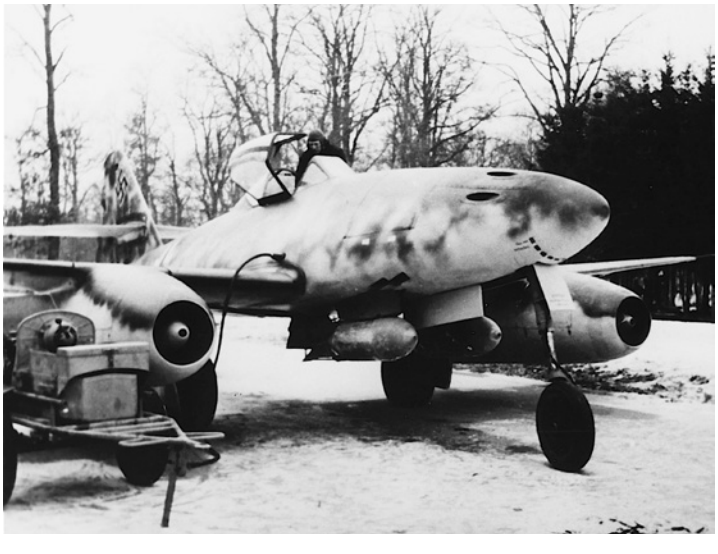
During the search for a suitable powerplant, Heinkel fitted the first prototype with eight Argus As 014 pulsejets – the same engine that powered the V1 'buzz bomb'. With Helmut Schenk at the controls, the aircraft was towed to altitude on 13 January 1942, but before the pulsejets could be ignited the airframe began to accumulate ice and the pilot was forced to eject from the stricken machine. The world's first ejection seat worked perfectly.

The second prototype was re-engined with Junkers Jumo 004s, but these were much larger and heavier than the Heinkel engines around which the He 280 had been designed. The first flight with these motors took place on 16 March 1943, and it soon became clear that the He 280's performance was inferior to the Me 262 when fitted with Jumo 004s. Therefore, on 27 March 1943, Erhard Milch ordered Heinkel to abandon the He 280 and concentrate on bomber development – a decision that greatly upset Ernst Heinkel.

WASTED POTENTIAL – Me 262

It was fortunate for the Allies that Hitler wasted precious time forcing the RLM to develop and deploy the Me 262 as a fighter-bomber rather than as an air superiority fighter as 'The General of Fighters' Generalleutnant Adolf Galland pleaded. Had the jet been used against RAF and USAAF bombers from the outset, it could have seriously challenged Allied air superiority over the Continent and potentially prolonged the war, increasing losses on both sides.

After a series of meetings with the RLM, Wilhelm 'Willy' Messerschmitt began work on an airframe that could be fitted with either gas turbine engines or rockets. Dubbed 'Projekt 1065', the design was presented to the *Technische Amt* (Technical Service) of the RLM in October 1938, where it was officially endorsed, thus allowing Messerschmitt to proceed with the development of the aircraft that would become the Me 262. The Me 262 V1, fitted with a single Junkers Jumo 210 piston engine, made its first flight on 18 April 1941. The third prototype made the first flight with jet power on 18 July 1942, with Fritz Wendel at the controls. Up until this point the RLM had shown little interest in the programme, but following Wendel's flight it ordered five prototypes and ten pre-production aircraft (V11 through V20), followed by a further 30 on 2 October 1942. However, unlike the first three prototypes, these new aircraft would feature tricycle landing gear.



An Me 262A-1a standard interceptor fitted with racks for bomb-dropping trials in late 1944. Leipheim-built Wk-Nr 110813 has been loaded with two 500 kg SC 500 bombs. The cable from a generator cart is plugged into the aircraft to charge its battery. This machine was used for training purposes by III./EJG 2 in 1944, and in 1945 it is believed to have been assigned to JG 7 (*EN Archive*)