5542

Walk Around

Messerschmitt Me 262

Don Greer

Squadron Signal Publications

Walk Around Number 42

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Introduction

The Messerschmitt Me 262 was the first operational jet fighter in the world. Its Jumo 004 turbojet powerplants and swept wing made it one of the most extraordinary designs of World War II. The Me 262A-1a achieved an incredible top speed for its time of 870 km/h (497 mph) at an altitude of 6000 meters (19,685 feet), nearly 200 km/h faster than the North American P-51 Mustang. The Me 262 also employed the deathly firepower of four nose-mounted MK-108 30 mm cannon. Its operational service, however, was hampered by the unreliability of its engines and its weak undercarriage.

The first serial-produced Me 262A-1a (*Werknummer* 130006/VI+AF) took off on its maiden flight on 28 March 1944. The first Me 262s were allocated to *Erprobungskommando* 262, a special fighter evaluation unit of the Luftwaffe under the command of *Hauptmann* (Captain) Werner Thierfelder, on 19 April 1944 at Lechfeld airfield in Bavaria.

Leutnant (Lieutenant) Alfred Schreiber scored the first victory with the Me 262, and the first victory ever of a jet-powered fighter, when he shot down a Mosquito on 26 July 1944.

The Blitzbomber (literally "lightning bomber") version received the designation Me 262A-2a. The Me 262A-2a had the upper two MK-108 cannons removed and a pair of ETC 503 *Wikingerschiff* ("Viking ship") bomb racks mounted on the nose undersurface. The Me 262A-2a could carry either two SC-250 blast bombs or two SD-250 fragmentation bombs.

A total of 1,433 Me 262s were built, assembled at Leipheim (Kuno I and Kuno II), Schwäbisch Hall-Hessental, Obertraubling near Regensburg, Neuburg/Donau-Bruck, Eger, Kahla, and Brandenburg-Briest. Messerschmitt AG made wide use of concentration camp prisoners and forced labor supplied by the Waffen SS-owned *Deutsche Erd- und Steinwerke GmbH* (German Earth and Stone Works Company) to keep Me 262 production at a rapid pace. Nearly 53,000 prisoners and forced laborers were employed in the manufacture of parts, components, and final assembly.

Czechoslovakia became the only other country in the world to use the Messerschmitt jet fighter operationally. The Avia company at Cakovice began building the Me 262 from components left behind in the country after the end of World War II. The type received the designation S-92. A total of seven S-92 and three CS-92 trainers were built, the last S-92 being accepted on 24 September 1948. The S-92 became a training aircraft in 1949. Most S-92s and CS-92s were phased out of service after 1951 and subsequently scrapped.

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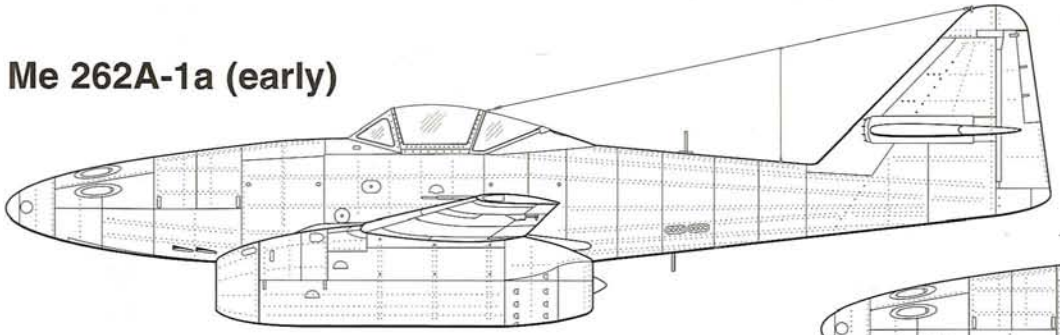
(Front Cover) The beginning of the end: Ground crew of 2./KG 51 prepare Me 262A-2a 'Black X' (*Werknummer* 500200) for its final flight on 8 May 1945. Piloted by *Fhj. Ofw* Fröhlich, 'Black X' was the first of five Me 262s surrendered to British forces at Fassberg. After evaluation in England, the aircraft was shipped to Australia, where it is today on display at the Australian War Memorial in Canberra. (Original computer art by Don Greer)

(Title page) Me 262A-1a 'White 13' and 'White 6' of III./EJG 2 prepare for a scramble from Lager Lechfeld airfield in Bavaria during early 1945. The yellow stripe behind the cockpit is a recognition marking for this unit. III./EJG 2 was disbanded on 23 April 1945, and most of its remaining pilots were allocated to JG 7 and JV 44. (Willy Radinger)

(Back Cover) B-17 Flying Fortresses of the 94th Bomb Group, 8th Air Force, come under attack by Me 262s of 9./KG(J) 54 on 9 February 1945. Commander of I./KG(J) 54, Maj Ottfried Sehrt, and his wingman each shot down one B-17 and damaged one. 'Yellow 3' (*Werknummer* unknown) carries the unit's *Totenkopf* ('Death's head') badge in the *Gruppe* color. (Original computer art by Don Greer)

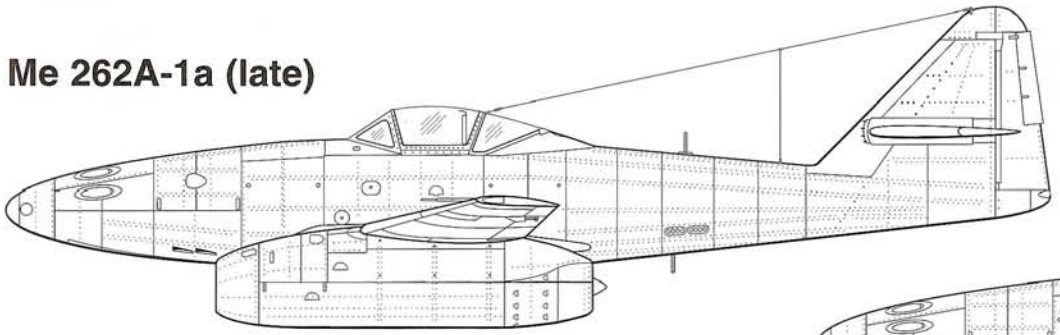
Messerschmitt Me 262 Development

Me 262A-1a (early)



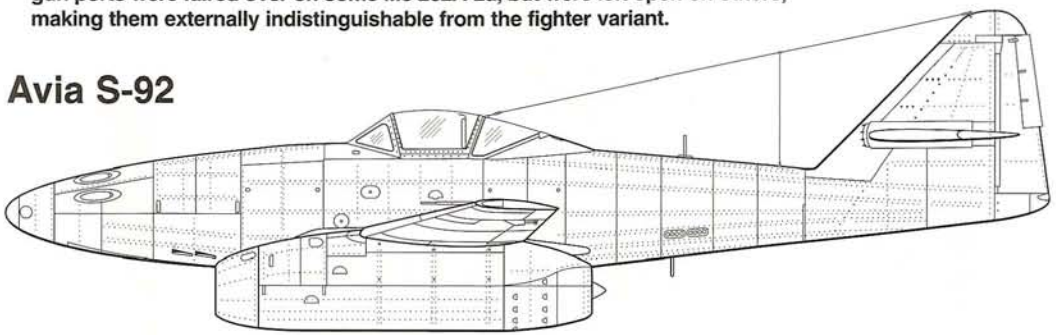
Although built at different locations within the Third Reich, most standard production Me 262s were almost identical externally. The torque scissors on the nose wheel leg of early production Me 262s was replaced by built-in shimmy dampers, and a position light replaced the transparent cover on the rudder.

Me 262A-1a (late)

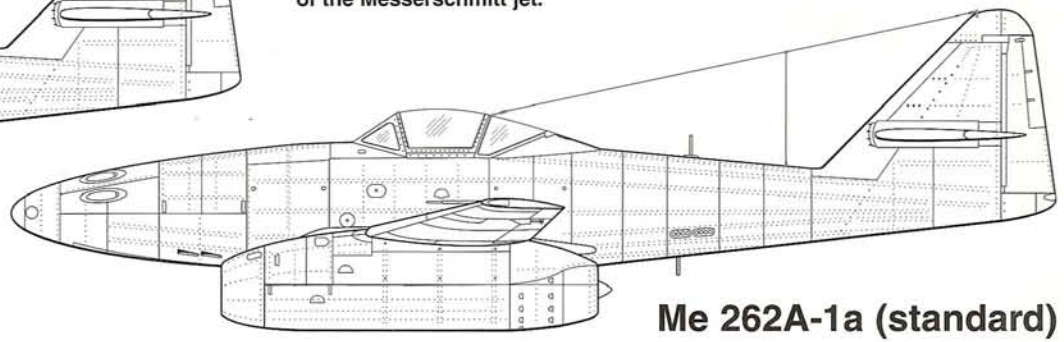


The Me 262 A-2a 'Blitzbomber' (fast fighter bomber) had the upper pair of MK-108 30 mm cannons deleted, and two ET 503 or *Wikingerschiff* ("Viking ship") bomb racks mounted on the lower nose undersurface. It could carry either two SC-250 blast bombs or two SD-250 fragmentation bombs. The empty upper gun ports were faired over on some Me 262A-2a, but were left open on others, making them externally indistinguishable from the fighter variant.

Avia S-92

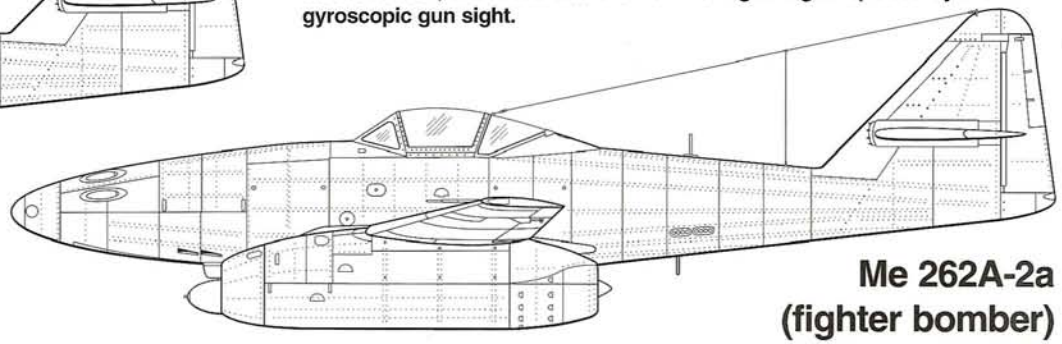


The early production Me 262A-1a had a torque 'scissors' link mounted on the nose wheel leg and a rear navigation light covered by a transparent lower cover of the rudder and were equipped with a different refueling system than that of standard production aircraft. The Me 262A-1a was the fighter version of the Messerschmitt jet.



Me 262A-1a (standard)

The late production Me 262A-1a was equipped with a 16 mm armor plate behind the pilot's seat and a blister, necessary to accommodate new, spent cartridge ejector chutes for the MK-108 30 mm cannons, on both gun access panels. Some late production Me 262 A-1a were equipped with a broad trim tab on the rudder, and a few had the Revi 16 B gun sight replaced by the EZ-42 gyroscopic gun sight.



Me 262A-2a (fighter bomber)

The Avia S-92 was rebuilt from abandoned Me 262s and components found in Czechoslovakia after the end of World War II. The S-92 adopted the long chord trim tab and the pilot's armor of late production German Me 262s. Some S-92s had either the upper two or all four gun ports faired over with a sheet of alloy, and most lacked the blister on the armament access panel. Unlike German-built Me 262s, S-92s were equipped with a total of two hydraulic pumps, one mounted on each M-4 engine. German Me 262s only had a single hydraulic pump on the port Jumo 004B-1 powerplant.

▲ This Me 262A-1a (*Werknummer* 130167) first flew on 30th May 1944. It was allocated to the Messerschmitt AG for factory test trials as 'V167,' after the last three digits of its serial number, and had made over 300 flights by March 1945. In December 1944 it received a 1200 mm long nose probe for longitudinal stability tests of the airframe. (Willy Radinger)

▲ 'V167' was involved in a wide variety of tests. This particular Me 262A-1a was assembled by the Autobedarf Schwäbisch Hall at Schwäbisch Hall-Hessental airfield, a subsidiary of Messerschmitt AG Augsburg. A typical feature for Schwäbisch Hall-built Me 262s was the lack of rearming instruction placards for the MK-108 cannons below the gun bay doors. Me 262s assembled at the Autobedarf Schwäbisch Hall had only the last three digits of the *Werknummer* (factory number) painted on both sides of the tail. Schwäbisch Hall-Hessental continued with this practice until production came to a halt in late March 1945. (Willy Radinger)

◀ Me 262A-1a (*Werknummer* 110956) 'White 17' belonged to III./EJG 2 and was based at Lager Lechfeld airfield in Bavaria during early 1945. This particular Me 262 had been previously flown by *Oberstleutnant* (Lieutenant Colonel) Heinz Bär, who had commanded III./EJG 2 until the unit was inactivated on 23 April 1945. The white 'S' (for *Schule* — training) applied in the *Balkenkreuz* (literally, 'bar' or 'beam' cross) national marking denotes that this particular Messerschmitt was not approved for combat. This Me 262A-1a was assembled at Schwäbisch Hall-Hessental, north of Stuttgart in Southern Germany. (Willy Radinger)

◂ Me 262A-1a (*Werknummer* 500071) in front of *Halle* (Hangar) 9 at Dübendorf Air Force base near Zurich during summer 1957. A considerable portion of the original upper camouflage on the fuselage and engine nacelles was repainted by the *Schweizerische Fliegertruppe* (Swiss Air Force) before the aircraft was handed over to the Deutsches Museum on 30 August 1957. Since 7 May 1958, this particular Me 262 has been on permanent exhibit in the German Museum at Munich and is by far the most authentic example of this type in the world. The red dot on the engine nacelle of the Jumo 004B-1 powerplant is the nacelle panel joint mark. Most Me 262s had a small red circle painted on the engine cowling. It is believed that the solid red dot was a feature of late production Me 262s manufactured at Obertraubling near Regensburg. (Martin Kyburz)

▾ Shortly before the delivery of the Me 262 A-1a (*Werknummer* 500071) to the Deutsches Museum in summer 1957, the aircraft was taken to the same spot at Dübendorf air base, where it came to a halt after its landing on 25 April 1945. This aircraft did not carry a BSK-16 gun camera in the nose, and its aperture was covered with tape. (Martin Kyburz)

▾ Me 262A-1a 500071 photographed during summer 1957, before it was donated by the Swiss Government to the Deutsches Museum. The entire nose section was repainted by the Swiss Air Force before the Messerschmitt was returned to Germany. The port *Hakenkreuz* (swastika) was also overpainted. (Martin Kyburz)

▲ **Seconds before the final touch down: *Oberfähnrich* (Leading Cadet) Hans-Guido Mutke brings 500071 on final approach to Dübendorf Air Force Base in Switzerland on Wednesday, 25 April 1945. There were only 80 liters of J2 brown coal fuel oil in the tank, enabling only a further two minutes of flight. Mutke had taken off from Fürstenfeldbruck airfield at 0815 hours. Fürstenfeldbruck was, in addition to Landau, Mühldorf and Plattling, one of the bases for the III. *Gruppe* (3rd Group) of *Jagdgeschwader* 7 (7th Fighter Wing). (Swiss Air Force Museum via Andrea Lareida)**

Me 262A-1a Werknummer 500071

Me 262A-1a Werknummer 500071, on permanent exhibit in the Deutsches Museum (German Museum) at München (Munich), Bavaria, since 1957, is by far the most authentic aircraft of this type in the world. It was assembled at *Waldwerk* (forest factory) *"Stauffen"* at Mooshof near Obertraubling and made its first flight, piloted by *Einflieger* (factory test pilot) *Feldwebel* (technical sergeant) Gerhard Ertelt, on 20 January 1945 from Obertraubling to Erding airfield in Bavaria, where it remained until accepted by the Luftwaffe on 25 March 1945.

In April 1945, 500071 was flown from Erding to Fürstenfeldbruck airfield where it was assigned to 9./JG 7 (9th *Staffel* of *Jagdgeschwader* 7/9th Squadron of the 7th Fighter Wing) and received its unit markings, a white bar for the III. *Gruppe* (3rd Group) and the individual aircraft letter "white 3," in addition to the red and blue *Reichsverteidigung* (Reich defense) stripes on the rear fuselage. The emblem of JG 7, a running fox, was never painted on the aircraft.

The exact circumstances regarding the final flight of 500071 on 25 April 1945 are still not fully understood. The pilot, *Oberfähnrich* (Leading Cadet) Hans-Guido Mutke, told Swiss interrogators he had to lift off from Fürstenfeldbruck airfield during an attack by about 20 Martin B-26 Marauders. His Me 262 was only half refueled when the American bombers approached over the airfield, and he had to scramble from a runway covered with bomb craters. However, records indicate no B-26 Group belonging to the USAAF or Royal Air Force flew a raid to Fürstenfeldbruck airfield that day.

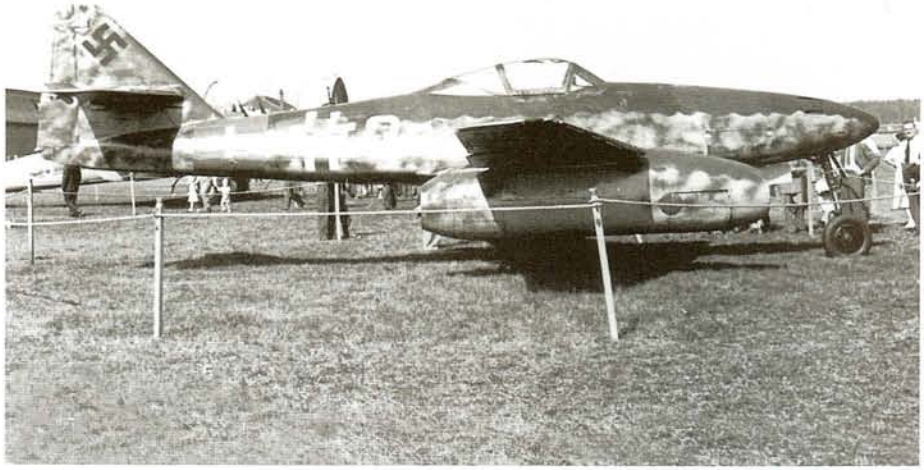
Although its engines and airframe underwent extensive evaluation by Swiss aeronautical engineers, the Me 262 was never flight tested by the Swiss Air Force. The Swiss also feared that the grass runway of Dübendorf air base could be too short for a safe takeoff. Swiss Air Force authorities also rejected the offer of a Swiss-German citizen, who had flown Luftwaffe Me 262s during World War II, to instruct Swiss pilots on this type.

On 30 June 1948 the General Staff of the Swiss Air Force issued an order to scrap the Me 262 along with all other remaining Luftwaffe aircraft being interned in Switzerland. But on 29 April 1945 the Deutsches Museum had requested return of the aircraft, and 500071 escaped destruction. The *Schweizerische Bundesrat* (Swiss Federal Council) decided on 1 July 1957 to make a present of the Me 262, which was in excellent condition, having been stored in a hangar at Dübendorf during its 12-year-long stay.

In 1983 the aircraft underwent restoration performed by the employees of the Werft Schleissheim, a branch of the German Museum Munich. More than 200 Allied and Axis aircraft sought refuge in Switzerland, but less than a handful survived and are now on public exhibit in museums. The Me 262A-1a is among these few examples.

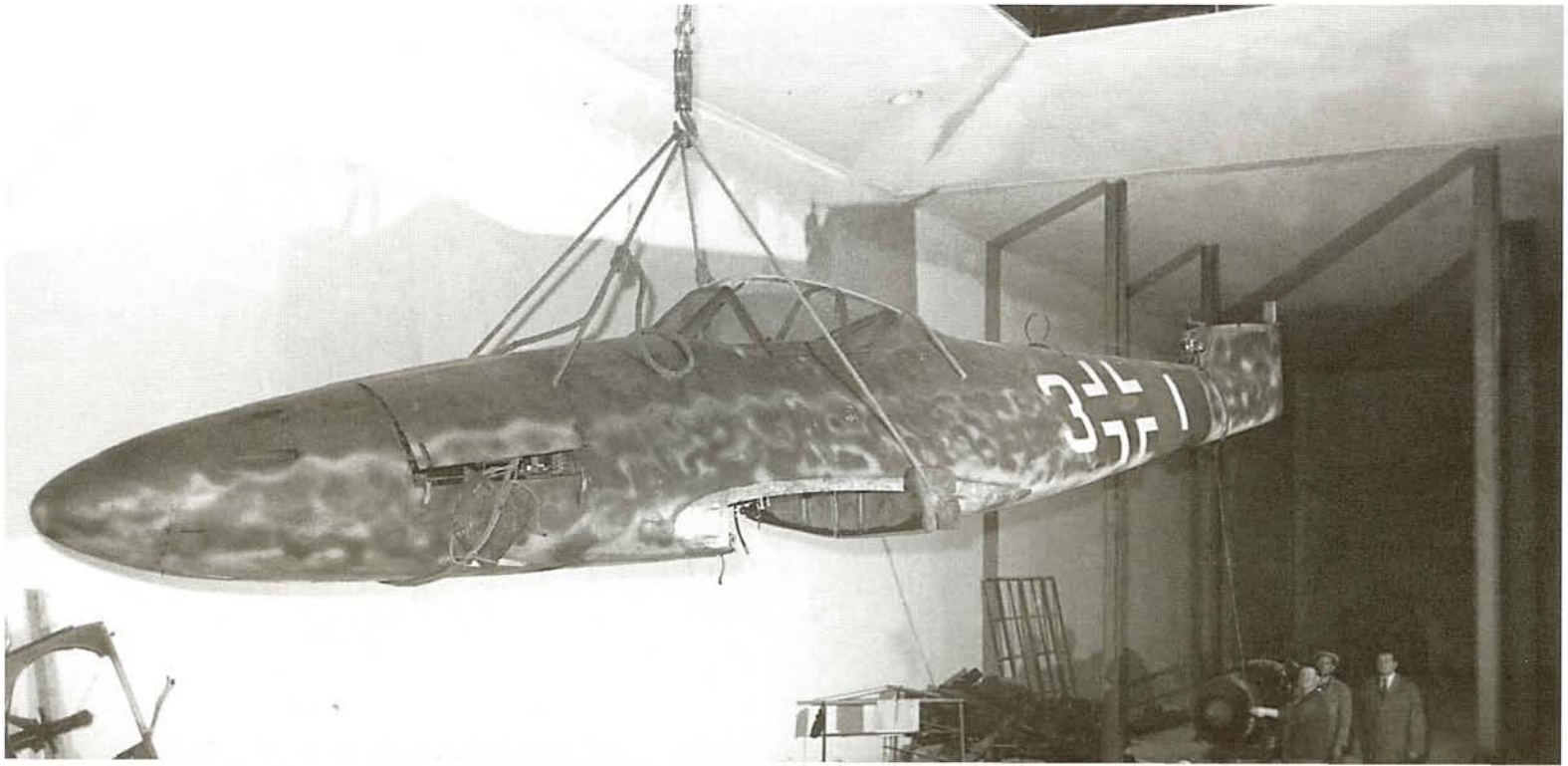
▼ **500071 is towed at Dübendorf by an American-manufactured Cletrac. The Me 262A-1a belonged to 9./JG 7, part of the III. *Gruppe* (3rd Group) of that unit. The III. *Gruppe* occupied a number of airfields in southern Germany and Bavaria in the closing days of World War II. (Swiss Air Force Museum via Andrea Lareida)**

▼ **500071 was assembled from components manufactured at the Obertraubling plant, which was a subsidiary of the Messerschmitt GmbH at Regensburg, Bavaria, and made its first flight to Erding on 20 January 1945. It was still at Erding for its final acceptance flight on 25 March 1945, exactly a month before landing at Dübendorf. (Martin Kyburz)**



▲ 500071 on exhibit during an air show on 25 September 1949 at Dübendorf Air Force base. The Messerschmitt still carries its original camouflage, which had not yet been overpainted by the Swiss Air Force. The *Werknummer* (factory number) was not painted on the starboard side of the tail fin. (Martin Kyburz)

▲ The Me 262A-1a (*Werknummer* 500071) rests in April 1947 next to a Bf 110G-4 (*Werknummer* 5547/VQ+KU), a Swiss Air Force Bf 109 E-3, and a Macchi C.205V (MM 92289). (Swiss Air Force Museum via Andrea Lareida)



◀ The Swiss Government donated 500071 to the Deutsches Museum in 1957. The airframe and wings were shipped by rail from Dübendorf to München (Munich), where the Me 262 has been on exhibit since 7 May 1958, when the Aviation Branch of the Museum was opened to the public for the first time since the end of World War II. The General Staff of the Swiss Air Force had issued on 30 June 1948 an order to scrap the Messerschmitt, along with all other interned Luftwaffe aircraft stored in Switzerland. With the exception of the Me 262 and a Ju 88A-4, all these aircraft were destroyed by November 1949. (Deutsches Museum)

◂ Messerschmitt Me 262A-1a *(Werknummer* 500071) in summer 1957, prior to delivery of the aircraft to the German Museum. The entire nose section had been completely repainted by the Swiss Air Force. The Me 262A-1a carried a very thin coat of paint when it landed in Switzerland. The aperture for the BSK-16 gun camera was faired over by tape when the plane touched down on Swiss soil. The nose bay contains the four Rheinmetall-Borsig MK-108 30 mm cannons, the ammunition supply of a total of 370 rounds, and a 900 liter fuel tank. The two slots above the single nose wheel door are shell ejection ports for the 30 mm cartridges. The gun bay is covered by two large access panels that open upwards. (Martin Kyburz)

▾ The nose of 500071. When this Me 262A-1a landed in Switzerland, no gun camera was installed. Instead, the circular aperture was covered by tape. The circular glass was added by the Deutsches Museum before the aircraft was placed on display.

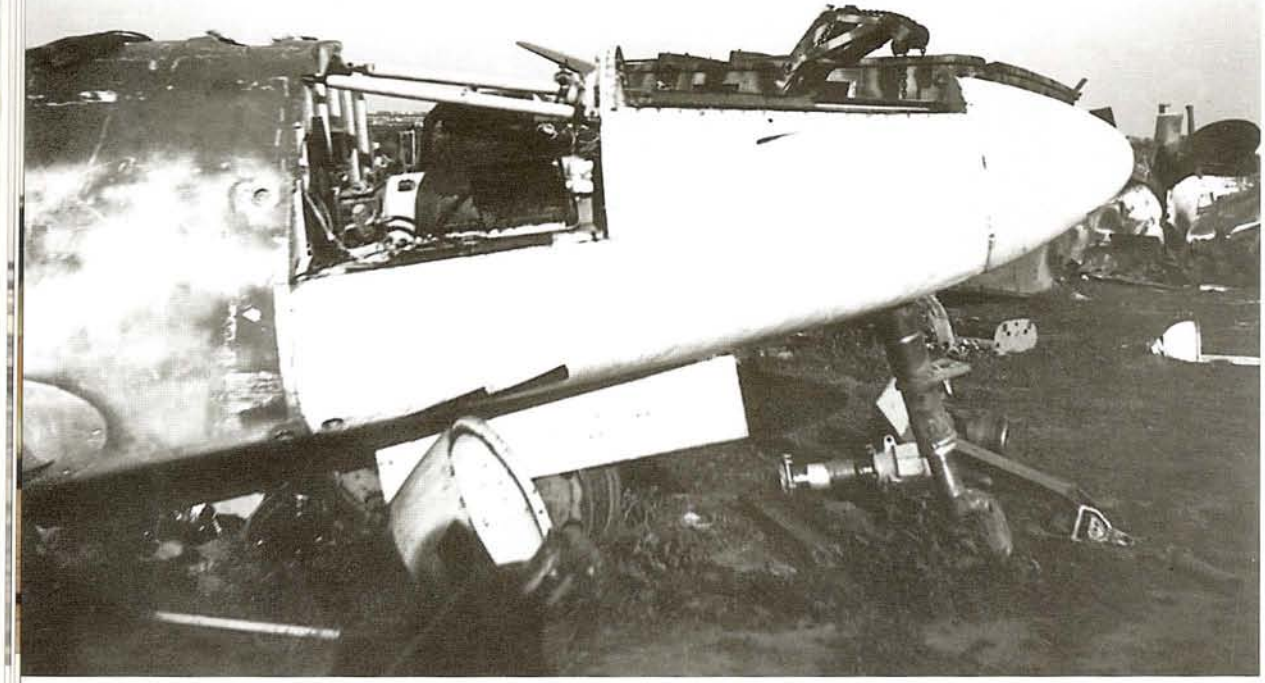
▾ The port nose of 500071. The circular access hatch behind the circular window for the BSK-16 gun camera was mounted on the port side only. Ground crews inserted and removed the film for the BSK-16 gun camera through this circular aperture.

▲ The two starboard ports for the blast tubes of the Rheinmetall-Borsig MK-108 30 mm cannons. The two ellipse-shaped ports were mounted in a staggered position on the upper nose panels.

▲ The gun ports and blast tubes of the port Rheinmetall-Borsig MK-108 30 mm cannon. These tubes led the blast generated by the firing of the MK-108 cannon outside the fuselage and prevented the skin of the nose from being damaged.

▼ All Rheinmetall-Borsig MK-108 30 mm cannons mounted in the Me 262 had an L-shaped slot cut in the blast tubes. With the help of this slot, the blast tubes could be inserted or removed from the barrel of the MK-108 cannon.

▼ The port side lower gun port of a Rheinmetall-Borsig MK-108 30 mm cannon. Overall length of the weapon was 1057 mm (41.6 in). One drawback of the MK-108 was the lack of a method to harmonize them once they were installed in the nose of the Me 262.



This abandoned Me 262A-1a, 'Black 4,' received a new nose manufactured by the Avia plant at Grosstschakowitz (now Cakovice in the Czech Republic) but the repair process had not been finished by VE-Day. At the end of World War II, many parts of the Me 262 could not be camouflaged because of a lack of paint. Subassemblies for the Messerschmitt Me 262 were manufactured at many different locations. This strategy made the Me 262 production less vulnerable against Allied air strikes, but was rather time-consuming, as subassemblies had to be transported to the assembly area on a heavily damaged road and railway network. As the Me 262 was built of modular assemblies, the exchange of damaged parts was an easy task for Luftwaffe ground crew. No armament is carried by this Me 262A-1a, but a black spent cartridge ejector chute still rests in the armament bay. (Stanislav Reithar via JaPo Collection)

'Black 4,' previously belonging to 2. *Staffel* of *Jagdgeschwader* 7 (2./JG 7), litters the Prag-Rusin (now Praha-Ruzyne) airfield in Czechoslovakia at the end of World War II. The 'U'-shaped black panel in front of the Me 262A-1a is the upper part of the 900 liter self-sealing front fuel tank. The repairs on this particular Me 262 A-1a could not be completed by the time all Me 262s based at Rusin moved to their last operational base at Saaz (now Zatec) on 6th May 1945. Praha-Ruzyne airfield subsequently became the international airport of Prague. (Stanislav Reithar via JaPo Collection)

▲ This Leipheim-built Me 262A-1A (*Werknummer* 110813) was involved in bombing trials at Lechfeld in Bavaria during the the winter of 1944-45, serving as a test bed for the 'Blitzbomber' version. At the conclusion of the tests, the Me 262 was allocated on 4 January 1945 to III./JG 7. In February 1945 it was assigned to III./EJG 2 and received the tactical number 'White 1.' (EADS Corporate Heritage via Hans-Ulrich Willbold)

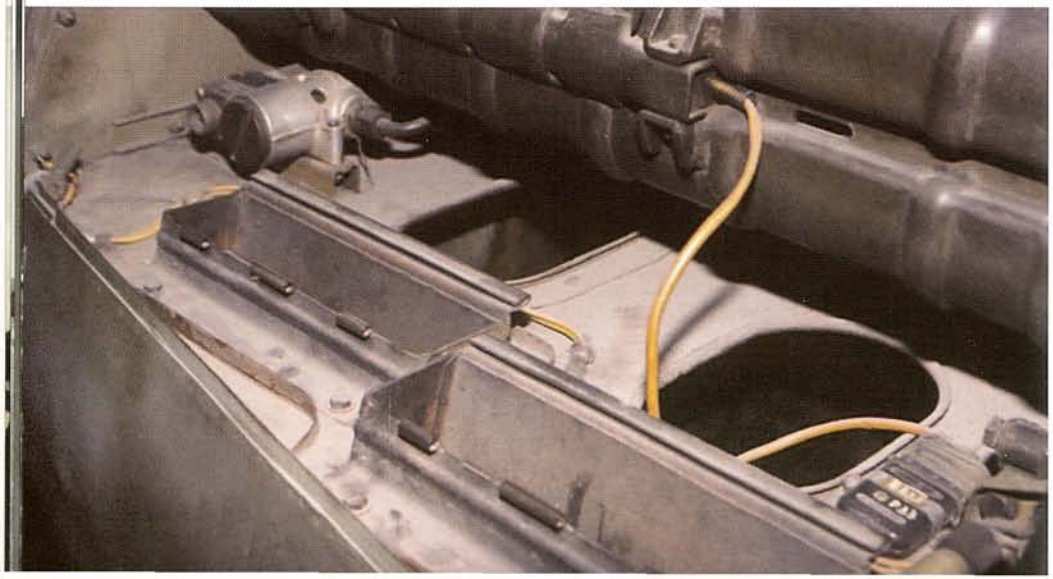
▶ Ground crew hoist a SC500 500 kilogram bomb from a trolley to a *Wikingerschiff* bomb rack on 110813. This Me 262A-1a retained its original four MK-108 30 mm cannons during the trials at Lechfeld. The location of the two labels with rearming instructions under the gun bay door is a typical feature for Leipheim-built Me 262s. The rear flush snap-fit fastener is partially open. (EADS Corporate Heritage via Hans-Ulrich Willbold)

▼ This Me 262A-2a Blitzbomber is equipped with two ETC 503 bomb racks. This Me 262A-2a belonged to KG 51 (*Kampfgeschwader* 51/Bomber Wing 51) '*Edelweiss*'. It lacks the upper two MK-108 30 mm cannons, and as a result only the two apertures for the lower MK-108 30 mm cannons are visible in the nose. (EADS Corporate Heritage via Hans-Ulrich Willbold)

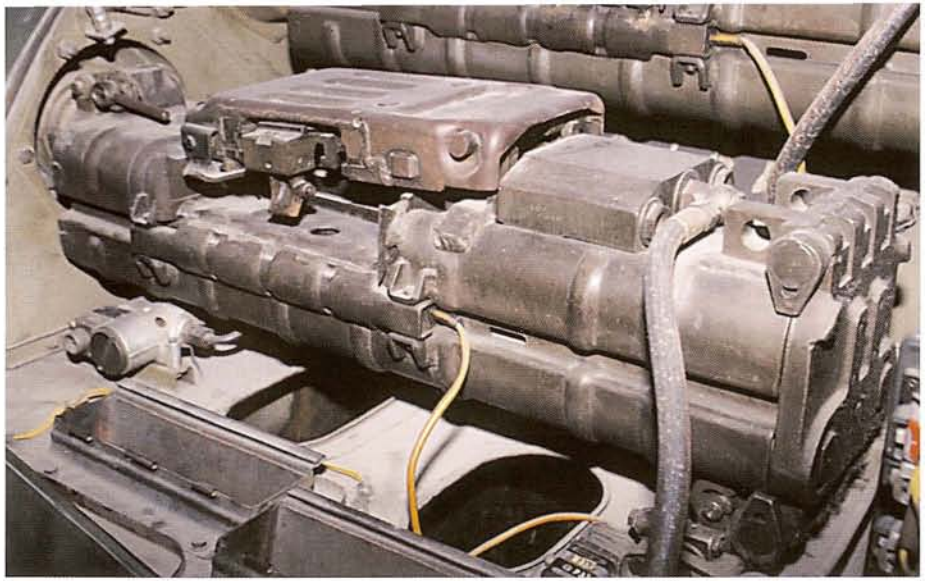
▲ Looking forward into the port side of the gun bay of 500071. The large tube is a strut connecting the front and rear gun bay bulkheads. The small rod is a stay which holds the bay cover door open.

▲ The two port Rheinmetall-Borsig MK-108 30 mm cannons of 500071. The strut provided the nose section with additional structural support. When the Messerschmitt touched down in Switzerland, the port lower MK-108 cannon was charged with 59 rounds and the port upper cannon with 91 rounds.

▼ The two port cartridge ejection tunnels located in the nose bay of the Me 262A-1a (*Werknummer* 500071). The 30 mm ammunition was fed by a disintegrating belt. The projectile had a weight of 300 grams (11.6 oz), the cartridge a weight of 480 grams (1.05 lbs).

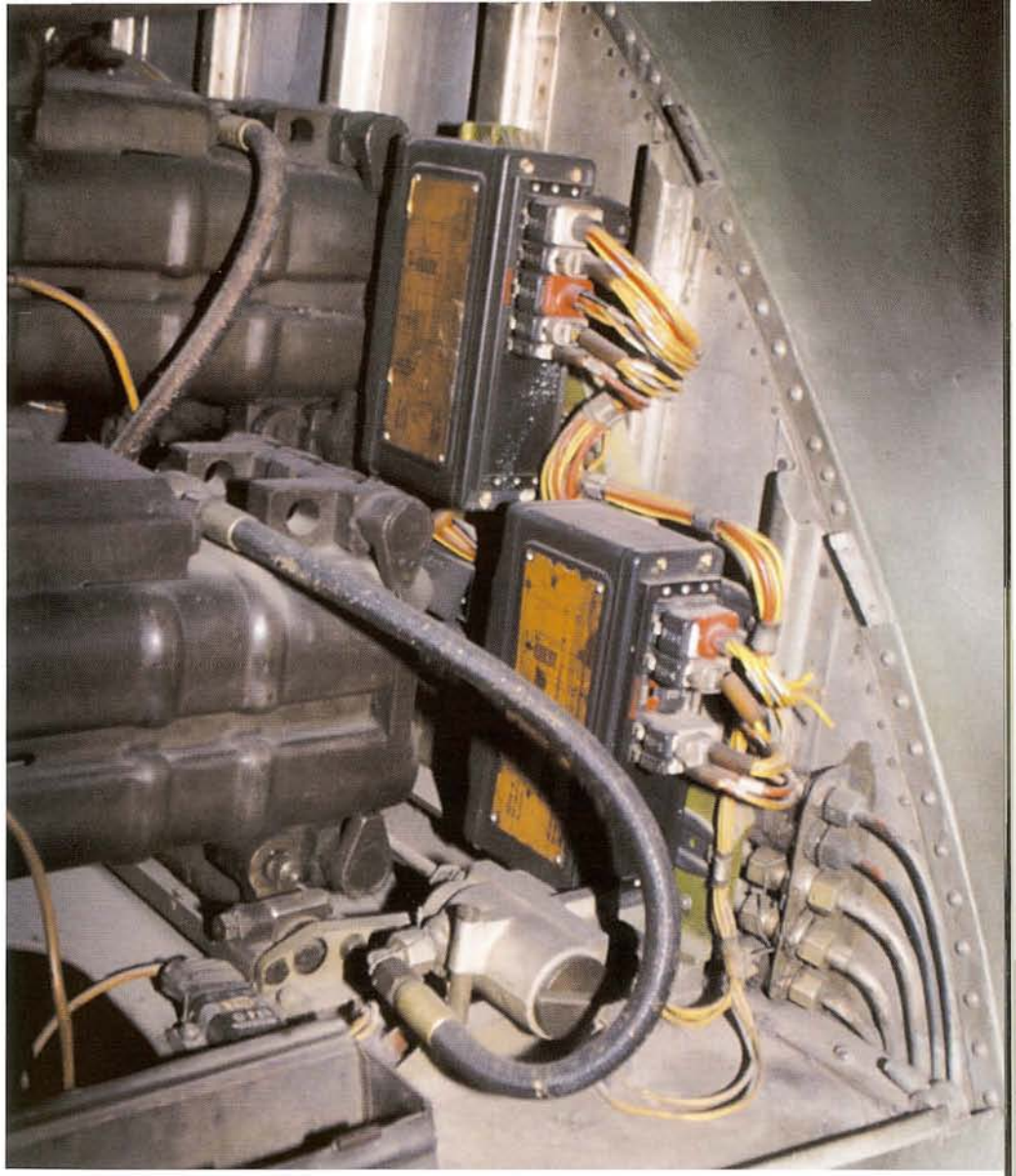


▼ The port lower and upper Rheinmetall-Borsig MK-108 30 mm cannons were located side-by-side in the nose bay. The starboard cannons have been removed from the aircraft, and the starboard gun bay door is closed when the fighter is on exhibit.

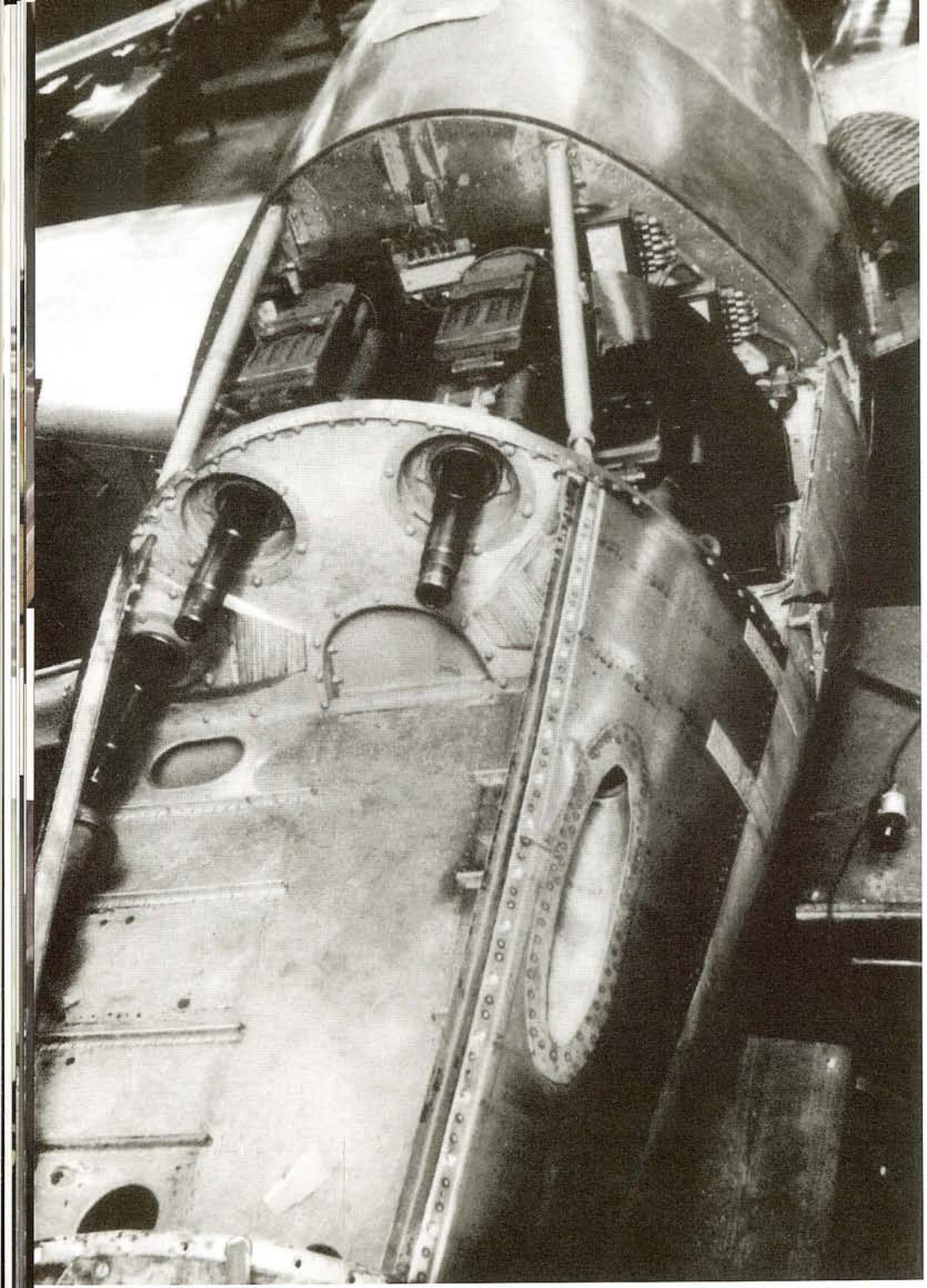


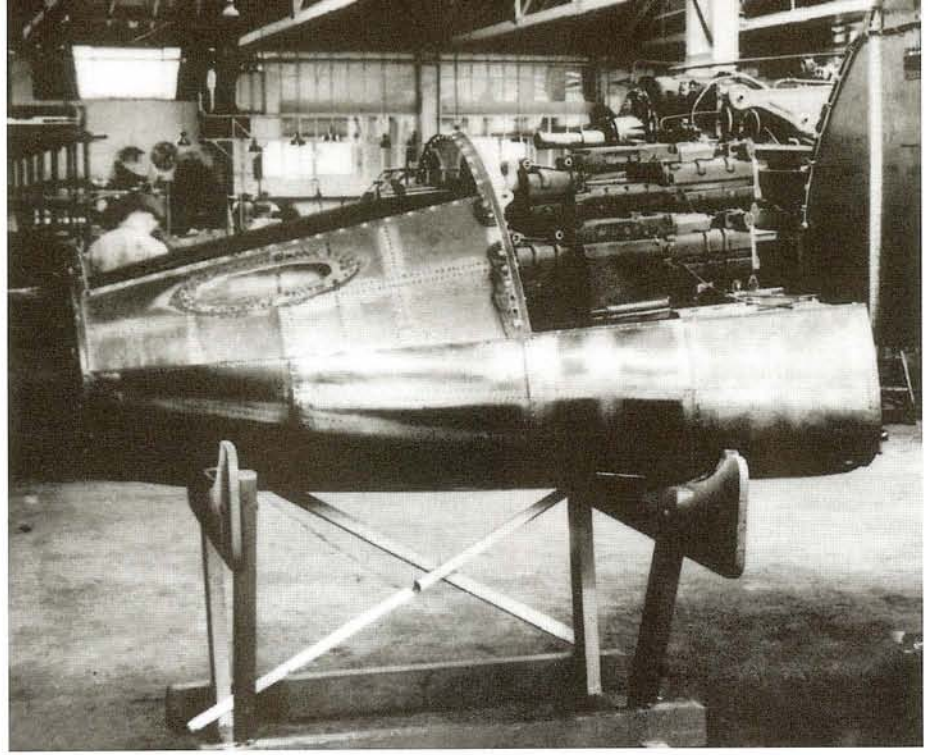
▲ The port lower MK-108 30 mm cannon mounted in 500071. For exhibition purposes, the ejection chutes connecting the weapons with the shell ejection ports have been removed from the aircraft. The MK-108 cannon used both high explosive incendiary and high explosive tracer shells.

▼ The two port Rheinmetall-Borsig MK-108 30 mm cannons in 500071. With four 30 mm cannons, the Me 262 was one of the most heavily armed fighters of World War II. The MK-108 weighted 58 kilograms (128 lb) and had a rate of fire of 660 rounds per minute. The short barrel of only 460 mm (18 in) length resulted in a low muzzle velocity of only 500 to 540 meters (1,640 to 1,772 ft) per second. Many parts of the MK-108 were manufactured of pressed sheet metal stampings, which allowed an economic production.



▲ The MK-108 had an electric ignition and was charged and triggered by compressed air supplied by eight bottles located under the gun bay. Each of these eight bottles had a capacity of 2 liters (.52 gal) and a working pressure of 150 bar (217.5 psi). The hose seen here connects the compressed air bottles and the cannon. The boxes mounted on the rear wall are electric ignition plugs. On the MK-108 cannon neither the barrel nor receiver moved in recoil. The entire force of firing was absorbed by the rearward movement of the bolt against the driving springs.

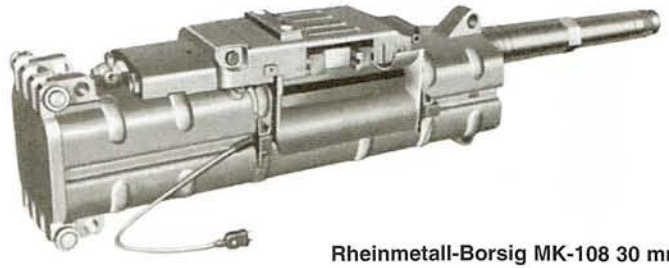




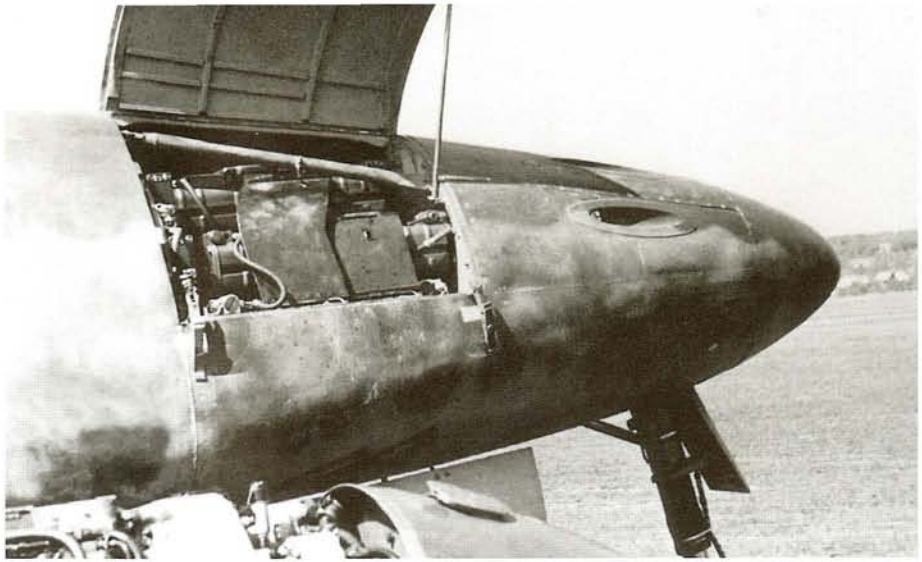
▲ The four MK-108 30 mm cannons were were installed in the gun bay before this section was mated with the remainder of the nose. This is one of three pre-series Me 262s, V8 to V10 (*Werknummer* 130003 to 130005), which were assembled at Augsburg-Haunstetten. Workmanship was excellent due to the skilled workers at this factory. Subsequent production Me 262s had inferior workmanship due to the wide use of unskilled workers and an increasing reliance on forced labor. (Willy Radinger)

◀ The upper decking of a pre-series Me 262. The Me 262s V8, V9, and V10 were built in the experimental shops of Messerschmitt AG at Augsburg-Haunstetten. The four Rheinmetall-Borsig MK-108 30 mm cannons are already installed. The short barrel is evident. Ammunition capacity was 80 rounds each for the two lower cannons and 100 rounds each for the two upper cannons. (Willy Radinger)

Armament



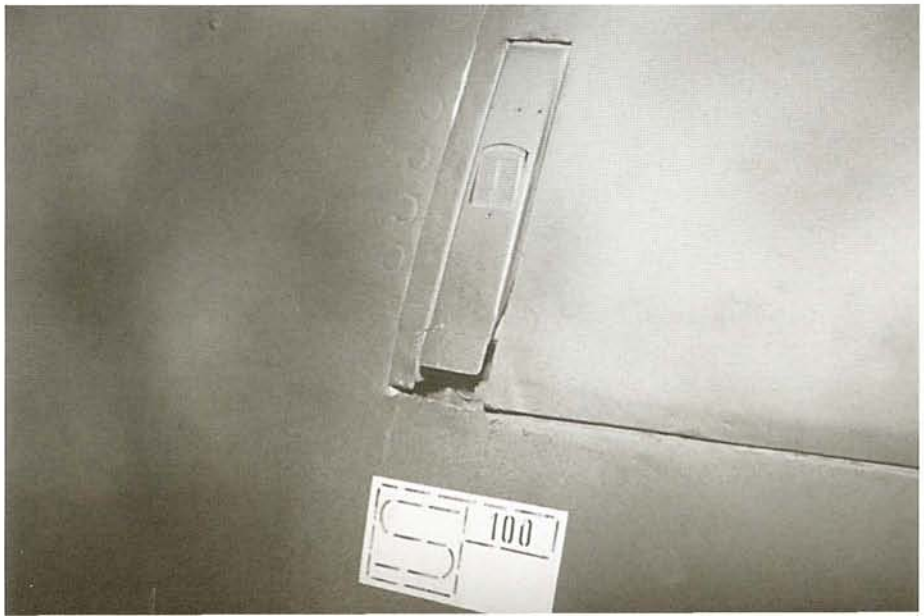
Rheinmetall-Borsig MK-108 30 mm cannon



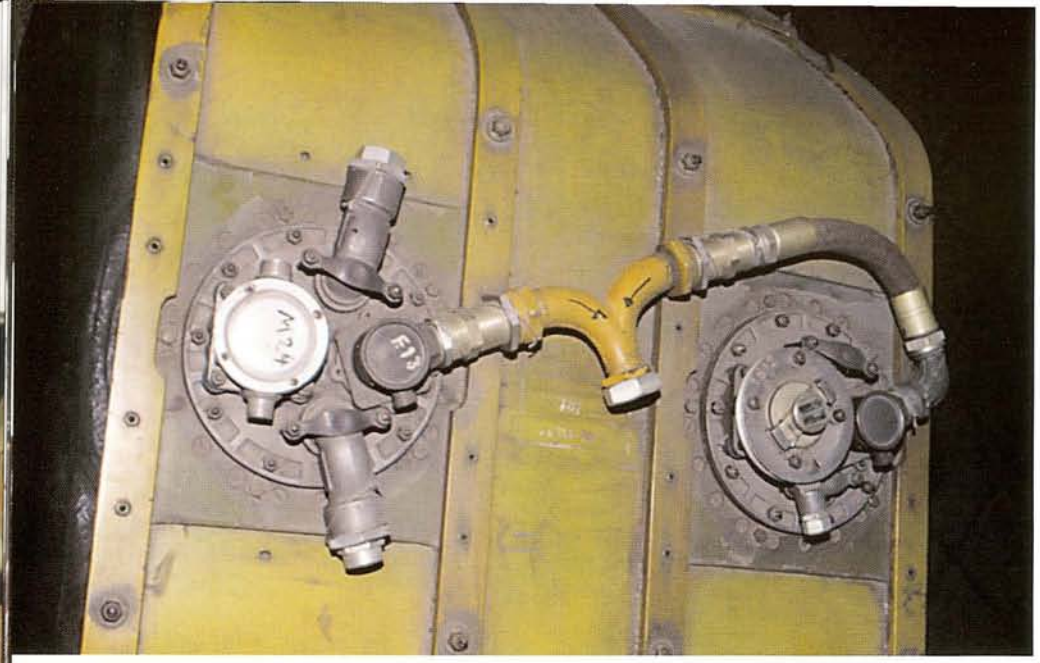
▲ The open starboard gun bay of 500071. The two spent cartridge ejector chutes are still installed. The two starboard MK-108 cannons (serial numbers 12549 and 43786) were subsequently removed by the Deutsches Museum. Below the two snap fasteners are two labels with instructions for loading the cannons, one label for each cannon. (Swiss Air Force Museum via Andrea Lareida)

▲ As currently exhibited at the Deutsches Museum at Munich, Bavaria, 500071 has had its two port spent cartridge ejector chutes removed in order to allow visitors a better view of the MK-108 cannons and the armament bay. Operational Me 262s always had cartridge ejector chutes installed. The gun bay door is held open with the help of a stay.

▼ The rear snap fastener of the starboard armament bay door of 500071. The white label under the fastener is the instruction placard for proper loading of the MK-108 30 mm cannon. A label was attached for each cannon. This means that the four-cannon-equipped Me 262A-1a had two labels on each side, while the two-cannon-equipped Me 262A-2a had only a single label attached. Not all Me 262s received these instruction placards on the production line.



◀ The stay that holds the port gun bay door open. Strengthening ribs were attached to the inner surface of the door. Both port and starboard gun bay doors have a stay to hold them open.



▲ The Me 262 carried two identical 900 liter (237.75 gal) main fuel tanks, one forward and one aft of the cockpit. Two electrical pumps were mounted on top of each tank. The Me 262 consumed brown coal fuel oil, known as 'J2' in the Luftwaffe. An alternative fuel to J2 was diesel oil or a mixture of oil and B4 high octane fuel for piston engine aircraft. Either engine could be supplied from either tank.

▼ One of the two electrical pumps mounted on top of the 900 liter main fuel tank. The fuel pumps are put into operation by push-button switches located in the main switch panel. As the fuel consumption of the Me 262 was twice that of a standard twin-engine Luftwaffe aircraft, J2 fuel was preferred over high octane fuel, which was in short supply.

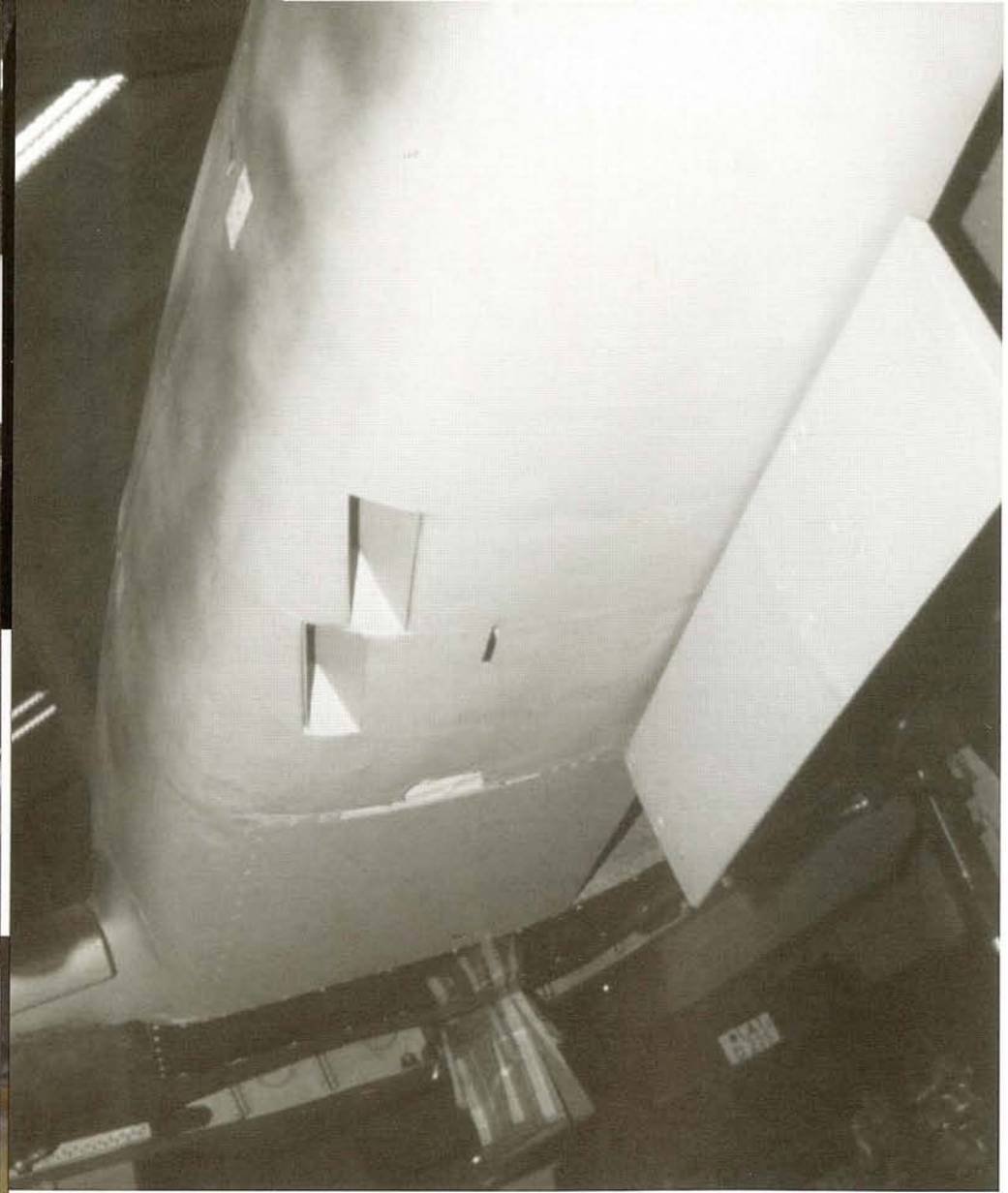
▲ The forward 900 liter main fuel tank of 500071, which formerly occupied the forward fuselage of the Me 262A-1a, on exhibit in the Deutsches Museum. In addition to the two main fuel tanks, a third fuel tank with a capacity of 200 liters (52.8 gal) was located under the cockpit. Total fuel capacity of the Me 262A-1a was 2,000 liters (528.3 gal). An alarm alerted the pilot when the fuel quantity dropped below 250 liters (66 gal). When 500071 touched down at Dübendorf Air Base in Switzerland, there were only 80 liters (21 gal) of fuel in the tanks, enough for only another two minutes of flight.

▲ A fuel filter was attached to the bottom of each fuel feed pipe.

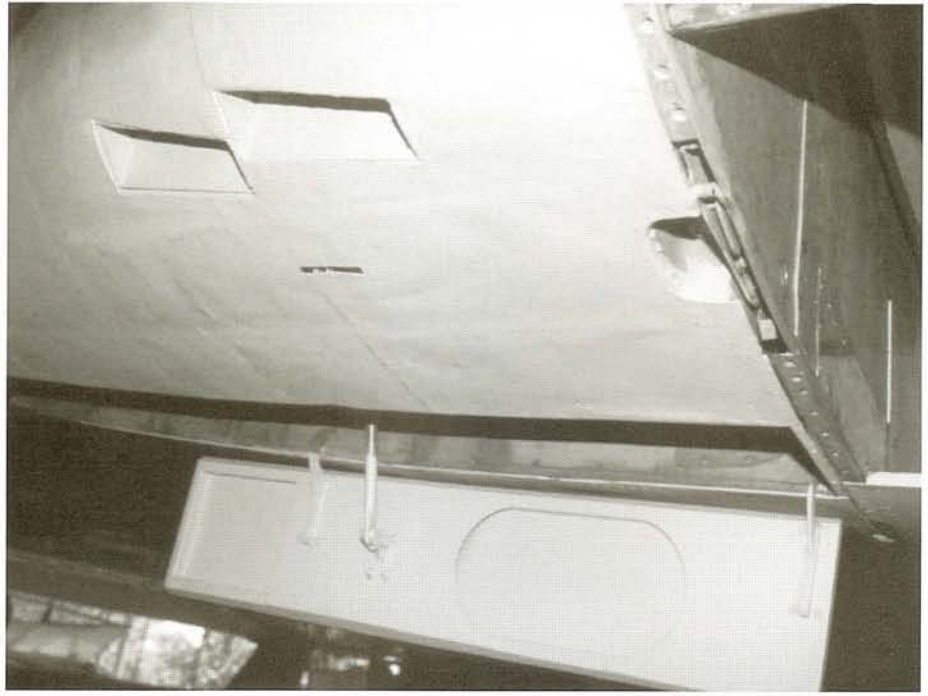
▲ Looking up into the front tank bay of 500071. The inner port wall is visible, as well as the leading edge slat in front of the port wing. The nose tank has been removed from the aircraft as well as its access panel. The tank of the Messerschmitt is also on exhibit.

▼ The two pipes lead to the fuel pumps in the tank. Below is visible the nose wall of the front fuel tank bay.

▼ Both the tank and tank cover have been removed from the lower nose, revealing the two fuel lines. The use of two identical main fuel tanks in the Me 262 made aircraft production and maintenance easier. A tank easily could be exchanged by removing the lower panel.

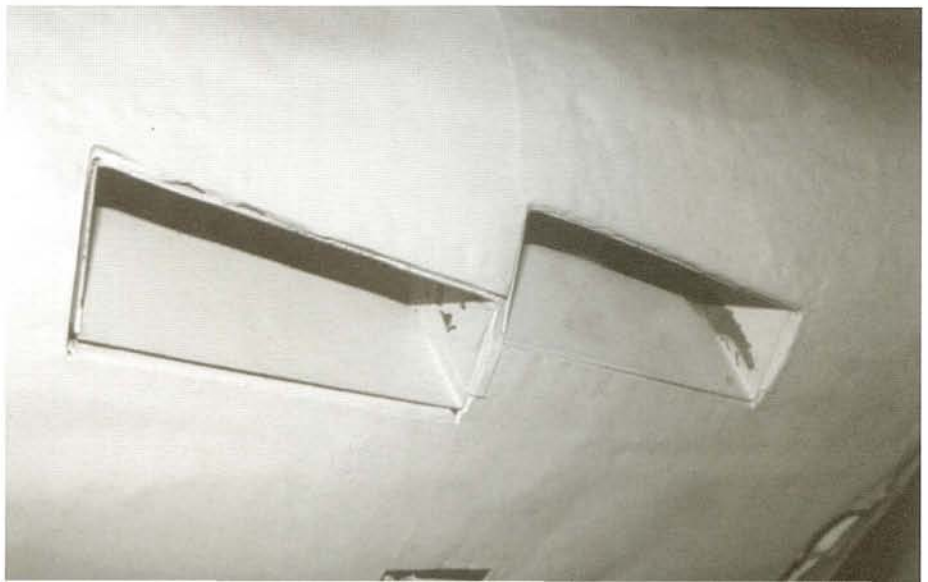


▲ The starboard lower nose of 500071. The Me 262 had a single main nose wheel door attached to the starboard side of the nose wheel well. The two rectangular slots are the shell ejection ports for the two starboard MK-108 cannons. The small slot between the two shell ejection ports and the nose wheel door is a provision to attach either the ETC 504 bomb rack or the *Wikingerschiff* bomb rack. The entire lower nose section is painted with a solid coat of RLM 76 *Lichtblau* (Light Blue), which is not accurate. When 500071 touched down in Switzerland, the nose was only partially painted with a very thin and very irregular coat of RLM 76 *Lichtblau*. As a result, traces of the natural metal color of the skin were very visible.



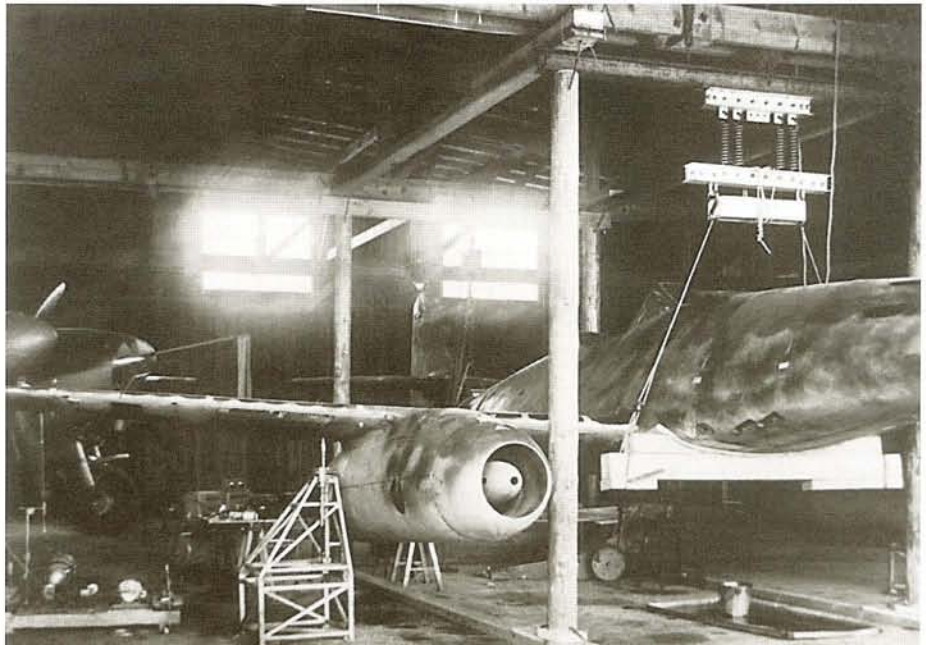
▲ The lower port fuselage with the two shell ejection ports for the port MK-108 cannons. Behind the nose wheel well is the tank bay. The tank had been removed for exhibition purposes, as well as the fuselage access panel.

▼ The two shell ejection ports for the two port MK-108 30 cannons of 500071. All Me 262s were equipped with two shell ejection ports on each nose undersurface, even the Me 262A-2a fighter bomber, which were only equipped with a single MK-108 cannon on each side.



◂ 500071 was closely investigated by the *Schweizerische Fliegertruppe* (Swiss Air Force) and the Swiss aviation industry during the summer of 1945. As seen here, the entire fighter was jacked up and the undercarriage retracted. In addition, the port Jumo 004B-1 engine was removed for further investigation. At the beginning of the 21st century, the hangar still exists, providing cover for the F-5E Tiger IIs and the F/A-18 Hornets of the Swiss Air Force. Visible in the background of the hangar at Dübendorf air base are three Bücker Bü 131 B 'Jungmann.' (Franz Schraner)

▾ 500071 underwent ground vibration trials at Dübendorf Air Force Base during August 1947. Responsible for these tests was the *Eidgenössische Flugzeugwerk Emmen* (Federal Aircraft Factory) at Emmen near Lucerne. The entire Me 262A-1a was jacked up and the canopy was removed for these trials, which were performed in one of the old wooden hangars. (Franz Schraner)



▾ 500071 is prepared for ground vibration trials in the wooden hangar at Dübendorf airfield during August 1947. The canopy of the Me 262 has been removed from the fuselage. The canopy could be jettisoned by operating a lever in the cockpit section. A makeshift steel bar has been attached on the rim of the nose wheel in order to steer the Messerschmitt properly. (Swiss Air Force Museum via Roland Küng)

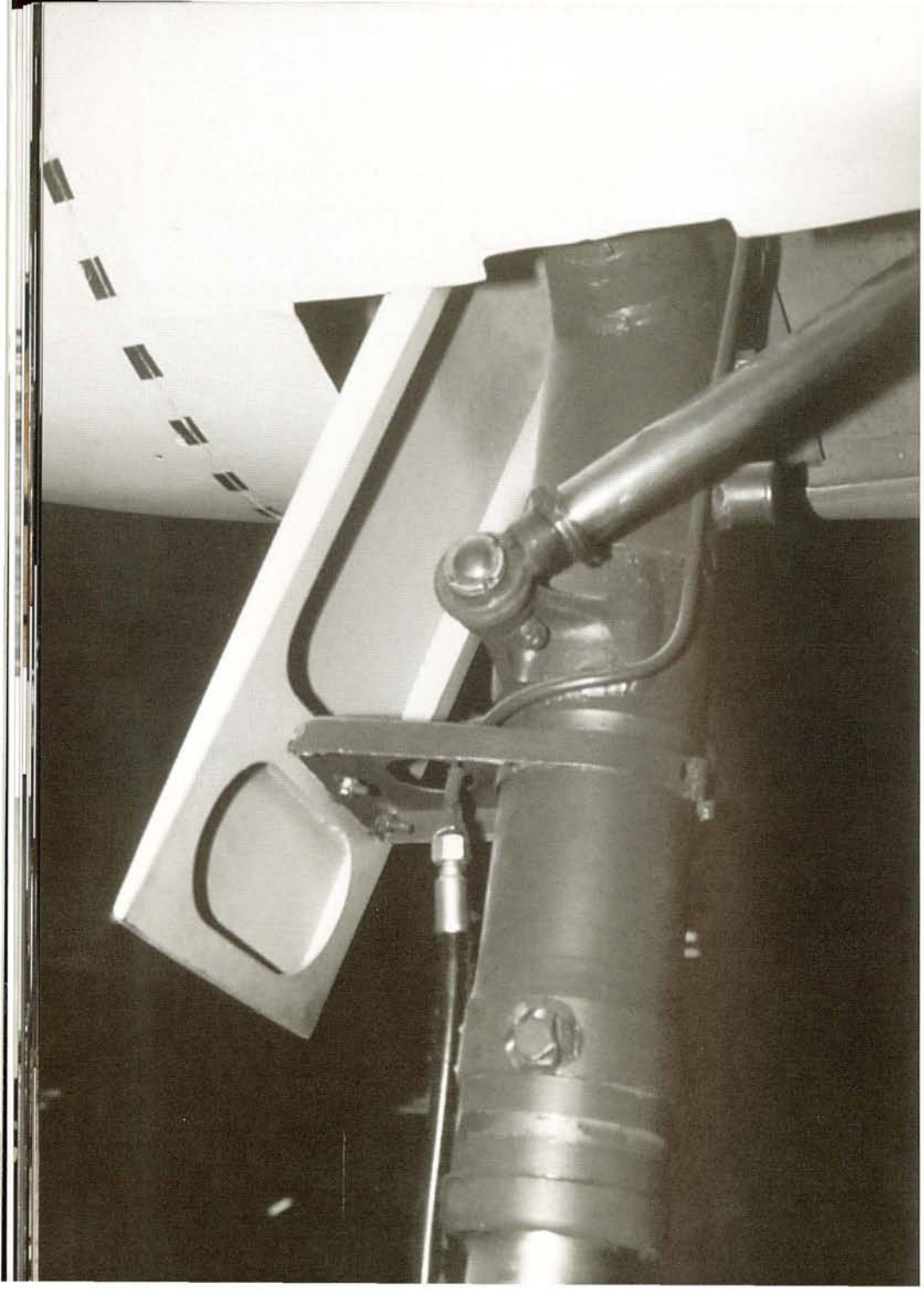
▲ The nose wheel of the Messerschmitt Me 262A-1a was in fact a main wheel of a Messerschmitt Bf 109G-10 piston engine fighter. The nose wheel has a dimension of 660 x 160 mm. The tire was made of synthetic rubber, called Buna.

◀ The nose wheel of 500071 as displayed in the German Museum at Munich. The entire nose gear was retracted and released hydraulically. Pressure was generated by a hydraulic pump located on the port Jumo 004B-1 engine. In case of an emergency, the nose wheel could be released pneumatically. A bottle with pressurized air for the emergency retraction of the undercarriage was located on the port mid-fuselage section. Early production Me 262s were equipped with a torque scissors link mounted on the rear of the nose wheel strut. These scissors links were deleted on most production Me 262s and replaced by built-in shimmy dampers, as on 500071.

▼ The nose wheel of a Me 262 was equipped with a drum brake, which was operated pneumatically by means of the nose wheel brake control lever located in the cockpit of the aircraft.

The nose gear of a Me 262A-1a consisted of a single strut. A pneumatic brake pipe was attached to the strut.

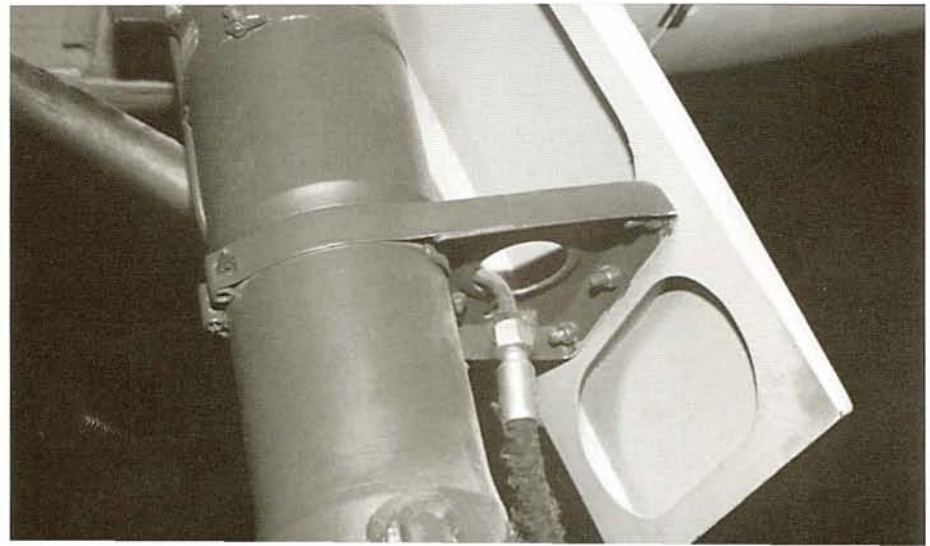
The port side of the nose wheel with the wheel strut and the pneumatic brake pipe attached to the strut.

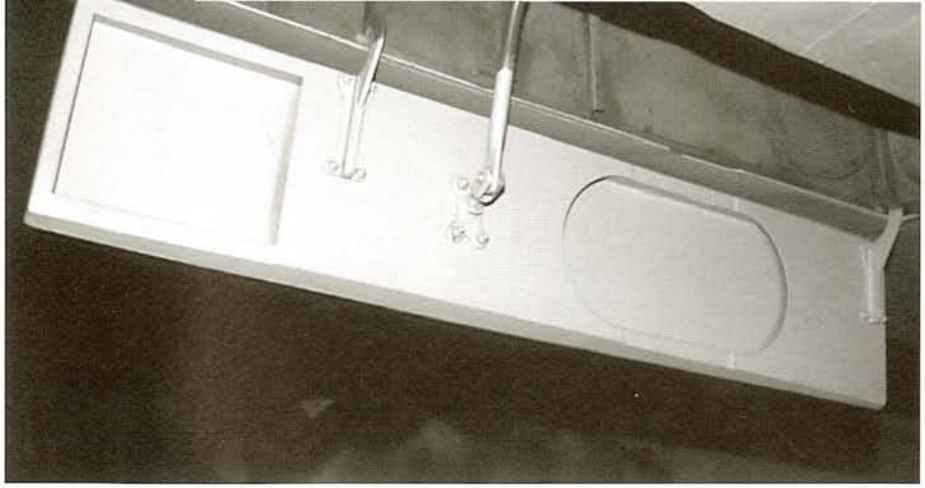


▲ The forward nose wheel door carried the inscription *"Achtung! Nicht am Bugrad schleppen!"* ("Caution! Do not tow nose wheel!"). Most Me 262s assigned to combat units had their tactical number repeated on the front nose wheel door. The size and layout of the white '3' on 500071 is not accurate. When the aircraft landed in Switzerland, the number was not stencilized and was painted over the black instructions. During the restoration, the inscription was written over the tactical number.

◀ The upper nose wheel strut with the oleo strut and the front nose wheel door attached to the oleo strut. The retraction actuator hydraulic cylinder was attached on the port side of the nose strut.

▼ The inner surfaces of the front nose wheel door. The front nose wheel door was attached to the oleo strut. The pneumatic brake pipe is attached between strut and door.

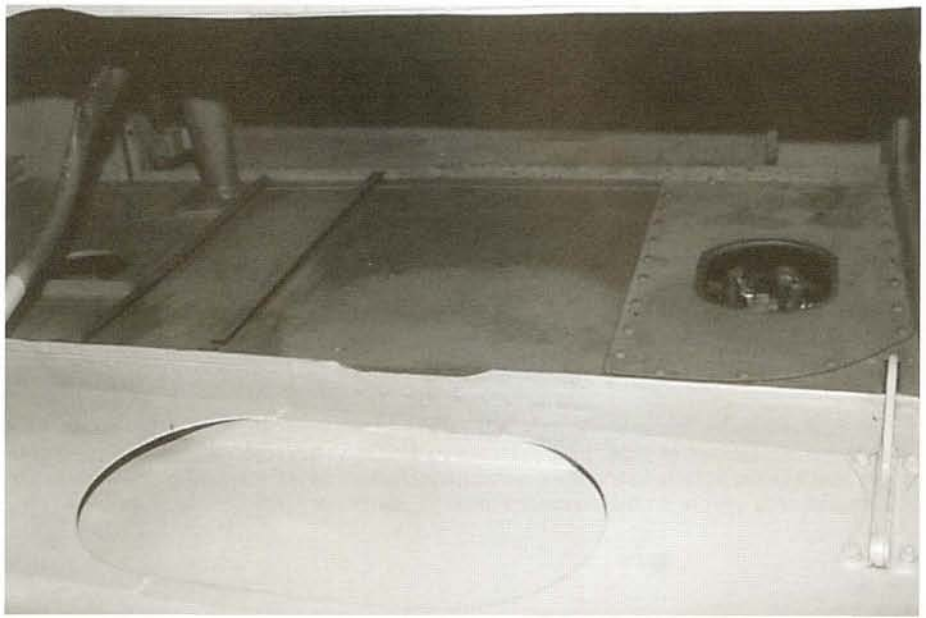




▲ The inner surface of the main nose wheel door. This door was attached to the starboard nose wheel well. The main nose wheel door operated mechanically.

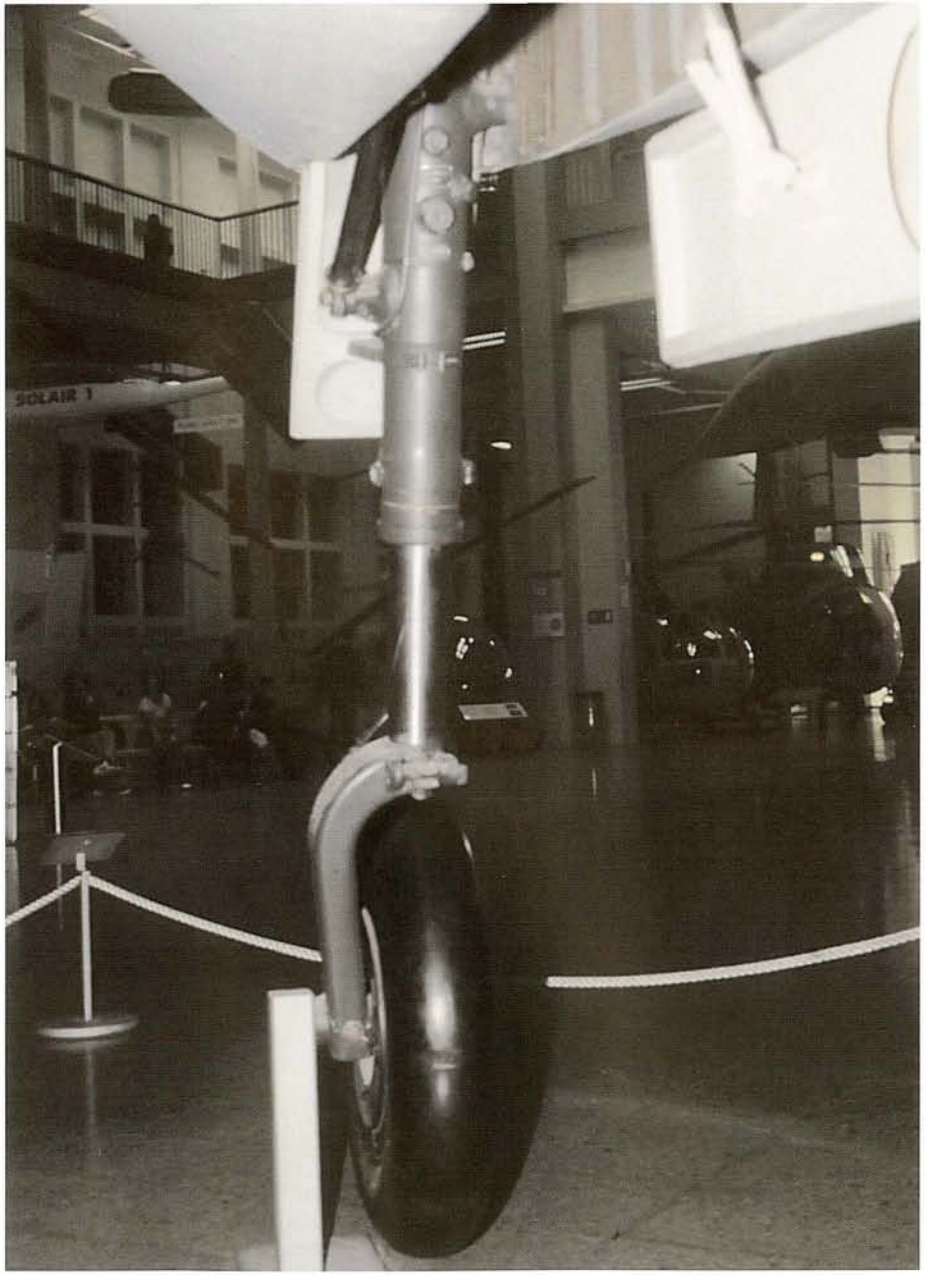
▶ Early production Me 262A-1a fighters and Me 262A-2a fighter-bombers had a torque scissors mounted on the nose wheel leg, as on this Blitzbomber. This is an Me 262A-2a of KG 51 (*Kampfgeschwader* 51/Bomber Wing 51) *'Edelweiss'* with ET 503 bomb racks mounted under the nose. A typical feature for the Me 262A-2a fighter bomber was the lack of the upper two MK-108 cannons. The apertures for the muzzles have been faired over on this particular fighter, and the nose, including the circular gun camera aperture on the nose, has been painted in white, indicating that a BSK-16 gun camera has not been installed. (EADS Corporate Heritage via Hans-Ulrich Willbold)

▼ The starboard nose wheel well wall of 500071 The inner surface of the nose wheel door was repainted by the Deutsches Museum, while the nose wheel well still remains in its original color.



▲ Looking aft into the nose wheel well of 500071. Electrical wiring is visible at the top.

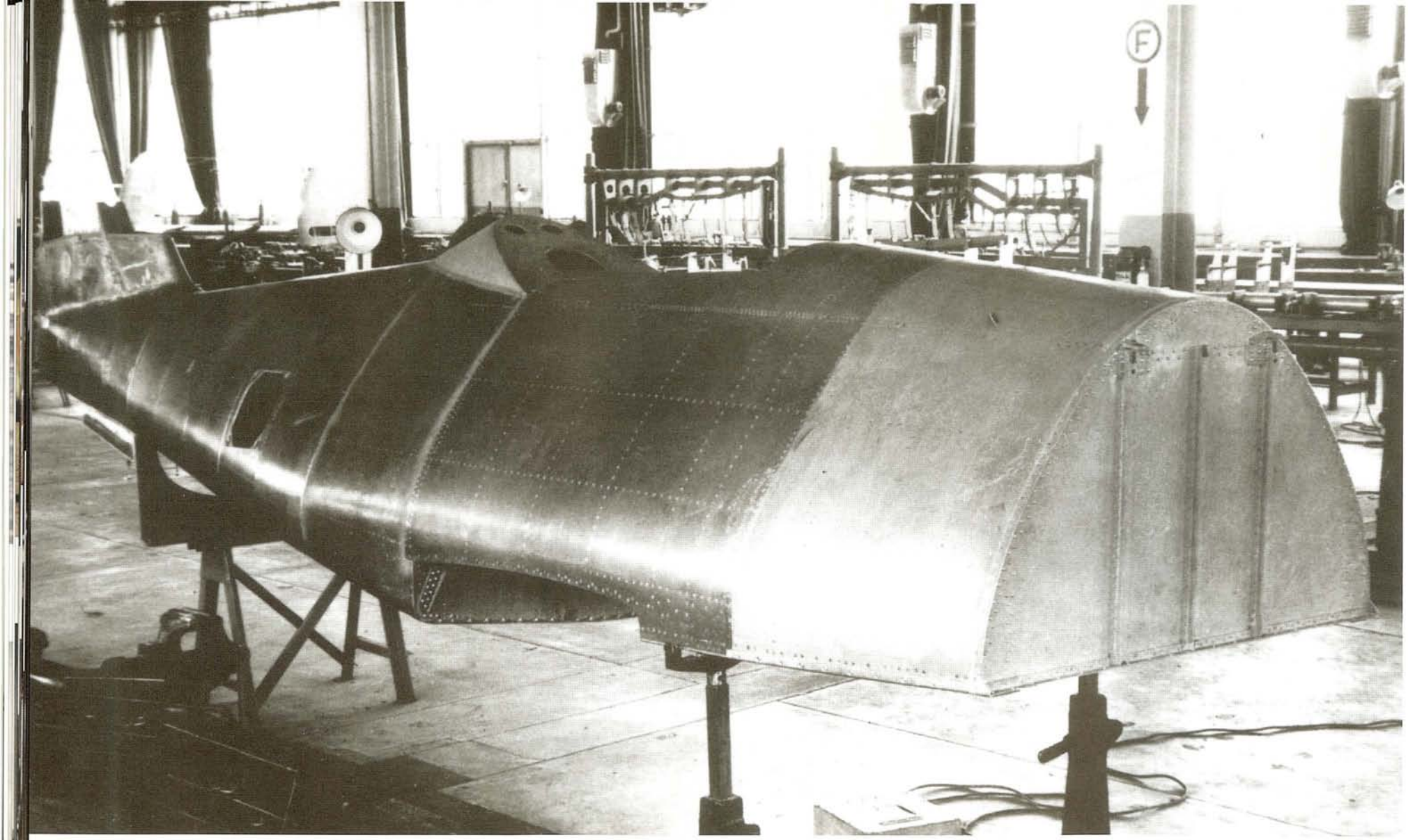
◀ The nose wheel well of 500071. The retraction actuator hydraulic cylinder is attached to the port side of the oleo strut. The mechanical actuating mechanism of the main nose wheel door is visible on the starboard side.



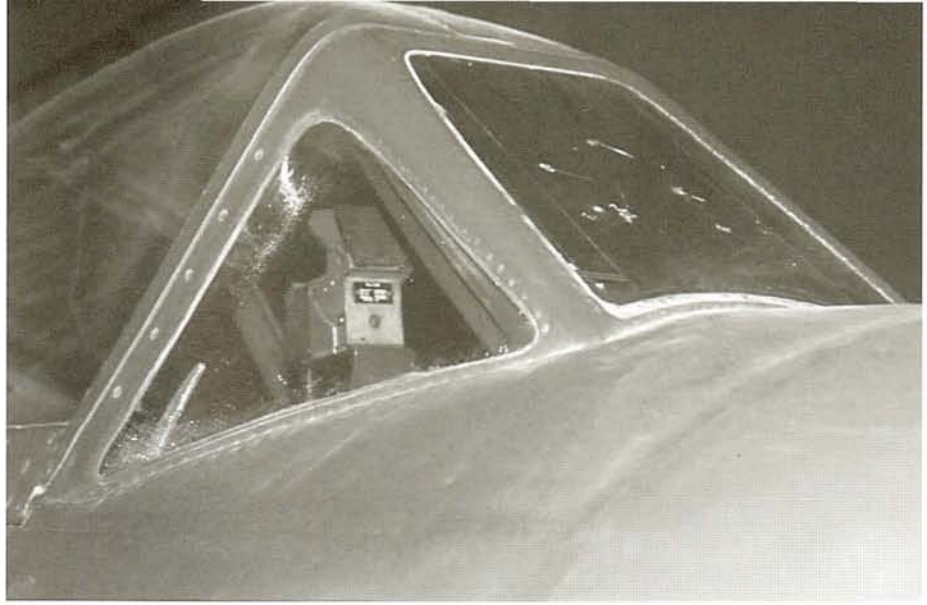
▲ The nose gear of 500071 as viewed from the rear. Early production Me 262s were equipped with a torque scissors mounted on the lower rear oleo strut. However, the torque scissors was deleted on standard and late production models of the Me 262 and replaced by built-in shimmy dampers.

▲ The electrical and pneumatic wiring in the nose wheel well of 500071.

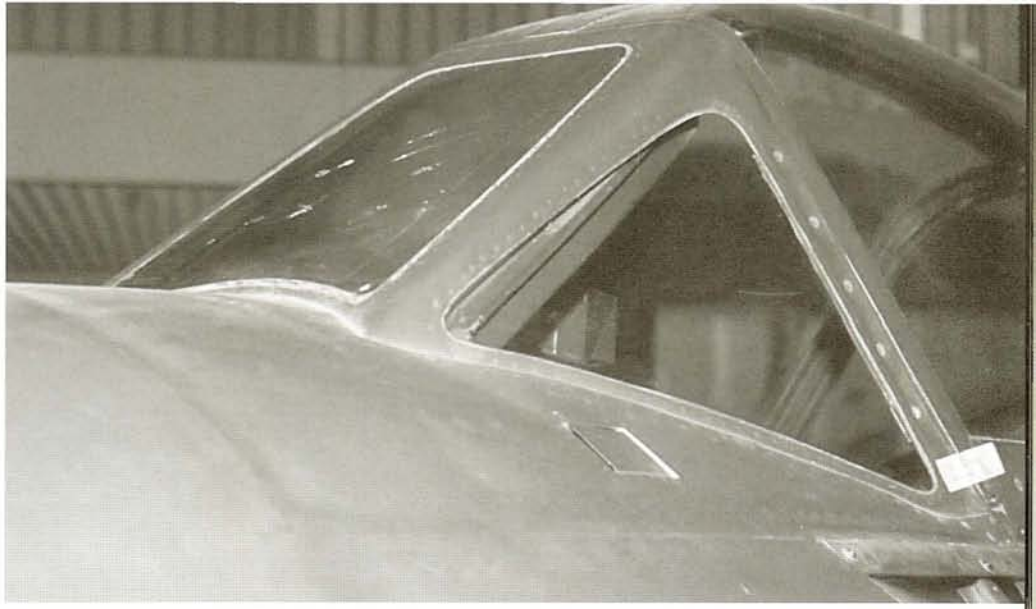
▼ The rear of the nose wheel well with the main nose wheel door mounted on the starboard side. The rear hinge is visible. The nose wheel door was attached to the fuselage by two hinges. Behind the nose wheel well is the open tank bay.



The cockpit section of one of the three pre-production Me 262s (V8 to V10), which were manufactured in the experimental shops of Messerschmitt AG at Augsburg-Haunstetten. A total of ten Me 262 were built at Augsburg. The Me 262 has an almost triangular cross section with rounded corners. The stressed skin fuselage assembly was built up from four sub-assemblies. The three forward sub-assemblies were manufactured as a single unit, with the rear fuselage and the tail unit attached to the main body of the airplane by sixteen bolts. Three apertures were cut in the rear cockpit decking, a feature which was adopted by the standard production Me 262s. The bathtub-shaped cockpit compartment was mated with the mid-fuselage section. No rear pilot's armor plate was mounted on most operational Me 262As, in sharp contrast to the contemporary late production Bf 109G and Bf 109K. It took about 6,400 man-hours to complete a single Me 262. The unit price excluding armament, engines, and radios was 87,400 Reichsmarks. By 3 May 1945 a total of 987 Me 262 fuselages had been assembled in a 50,000 square meter (538,213 sq ft) tunnel at St. Georgen, Austria. This underground plant, some 10 kilometers (6.2 miles) long, received the code name *Bergkristall* ('mountain crystal'). The fuselages were assembled from subcomponents by some 16,000 prisoners from the *Aussenlager Gusen II* at St. Georgen, Austria, and brought by railway cars of the *Deutsche Reichsbahn* during the night from *Bergkristall* to the various assembly sites, such as Obertraubling, Leipheim, or Schwäbisch Hall-Hessental. Nearly 53,000 prisoners of various *Konzentrationlager* (concentration camps) as well *Zwangsarbeiter* (forced labor) were involved in the production of the Me 262 between 1944 and 1945. (Willy Radinger)

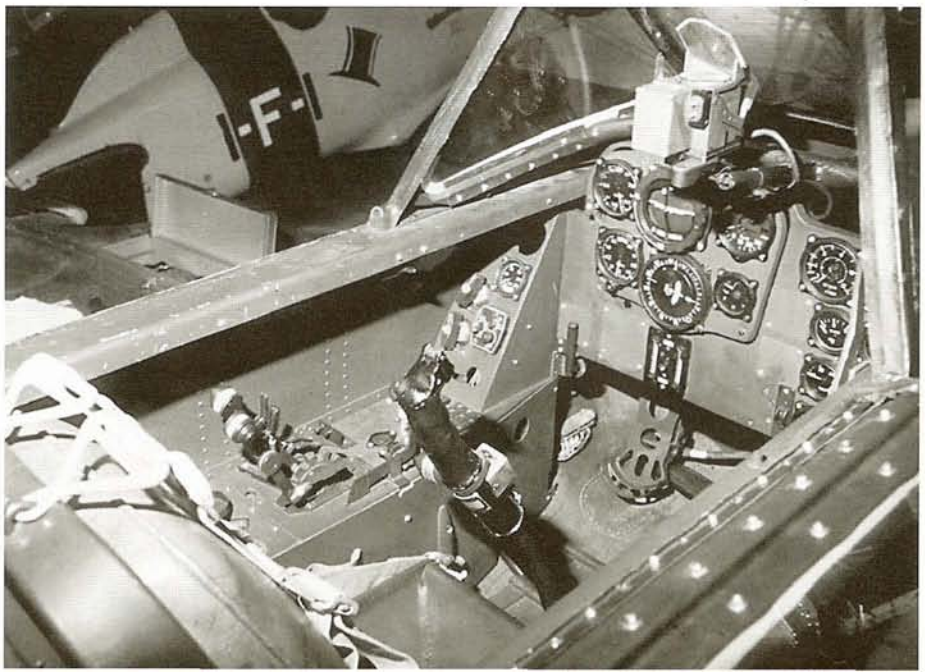


▲ The starboard windshield of 500071. The bullet-proof windshield has a dimension of 270 x 370 mm (10.6 x 14.6 in). The armor glass is 90 mm (3.5 in) thick and electrically heated. The windshield heater switch was located on the starboard cockpit console.

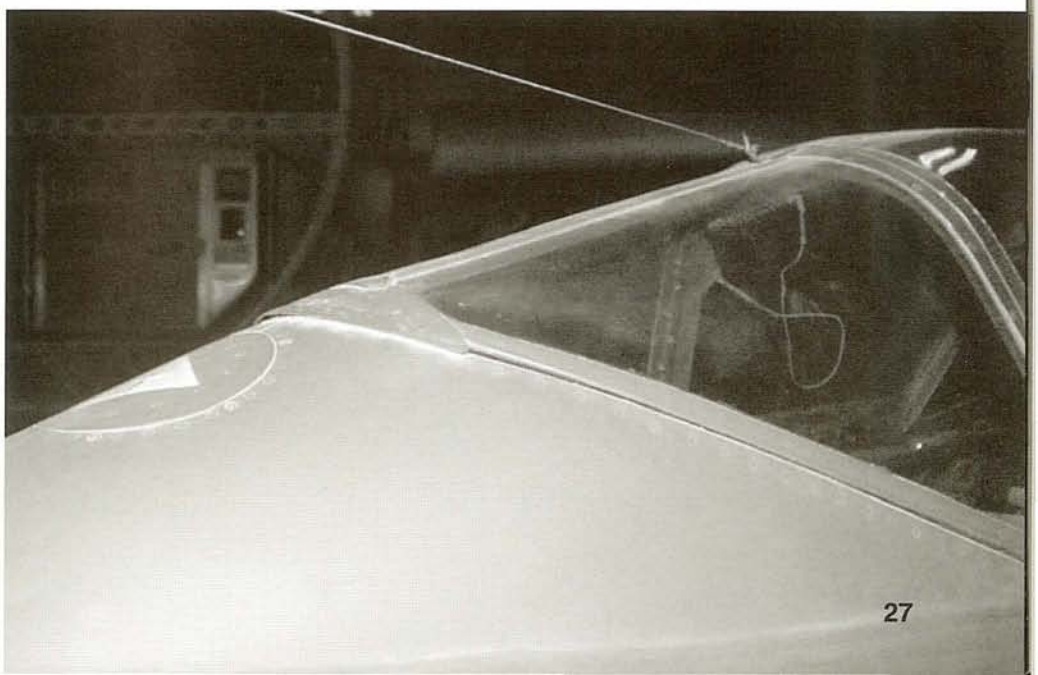


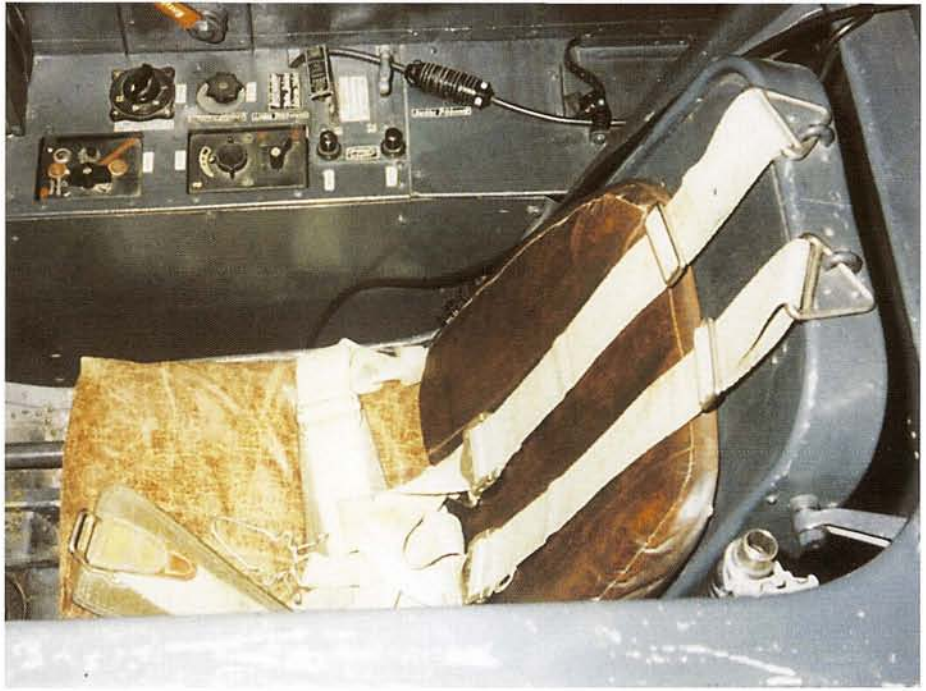
▲ The port windshield of 500071. The panel below the port windshield is the air scoop for cockpit ventilation. The scoop is operated by means of a control lever. The damage in the windshield occurred after the Messerschmitt had been donated to the German Museum.

▼ The cockpit of Me 262A-1a *Werknummer* 500491, which is now on exhibit in the National Air and Space Museum at Washington DC. The Revi 16 B sight could be retracted and folded down above the instrument panel during take off and landing. (Richard P. Lutz)



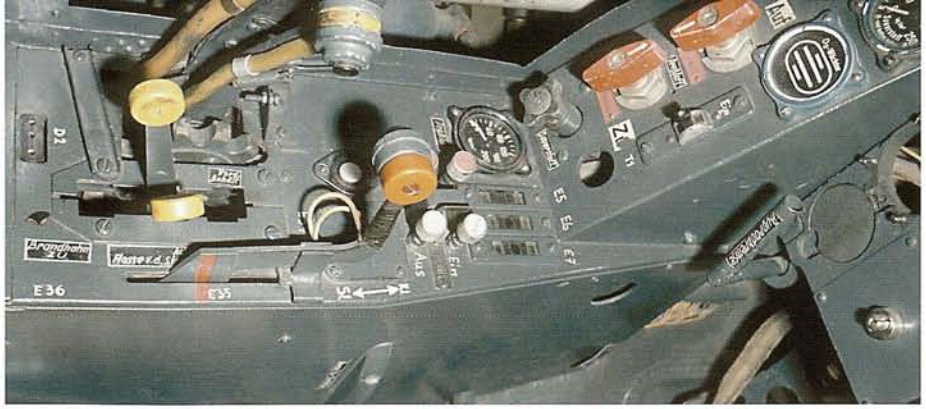
▼ The aft cockpit glazing of 500071. In the dorsal spine is the refueling point hatch for the rear 900 liter fuel tank. The aft cockpit glazing could be jettisoned in case of an emergency by a red lever, located above the starboard console in the cockpit, which also jettisoned the canopy.





▲ The starboard cockpit console of 500071. The Telefunken FuG-25a *Erstling* IFF transponder control switch, the Lorenz FuG-16ZY radio operating and frequency selector switch, and the starter control switch are all located on the starboard console. The seat can be adjusted in height. (Willy Radinger)

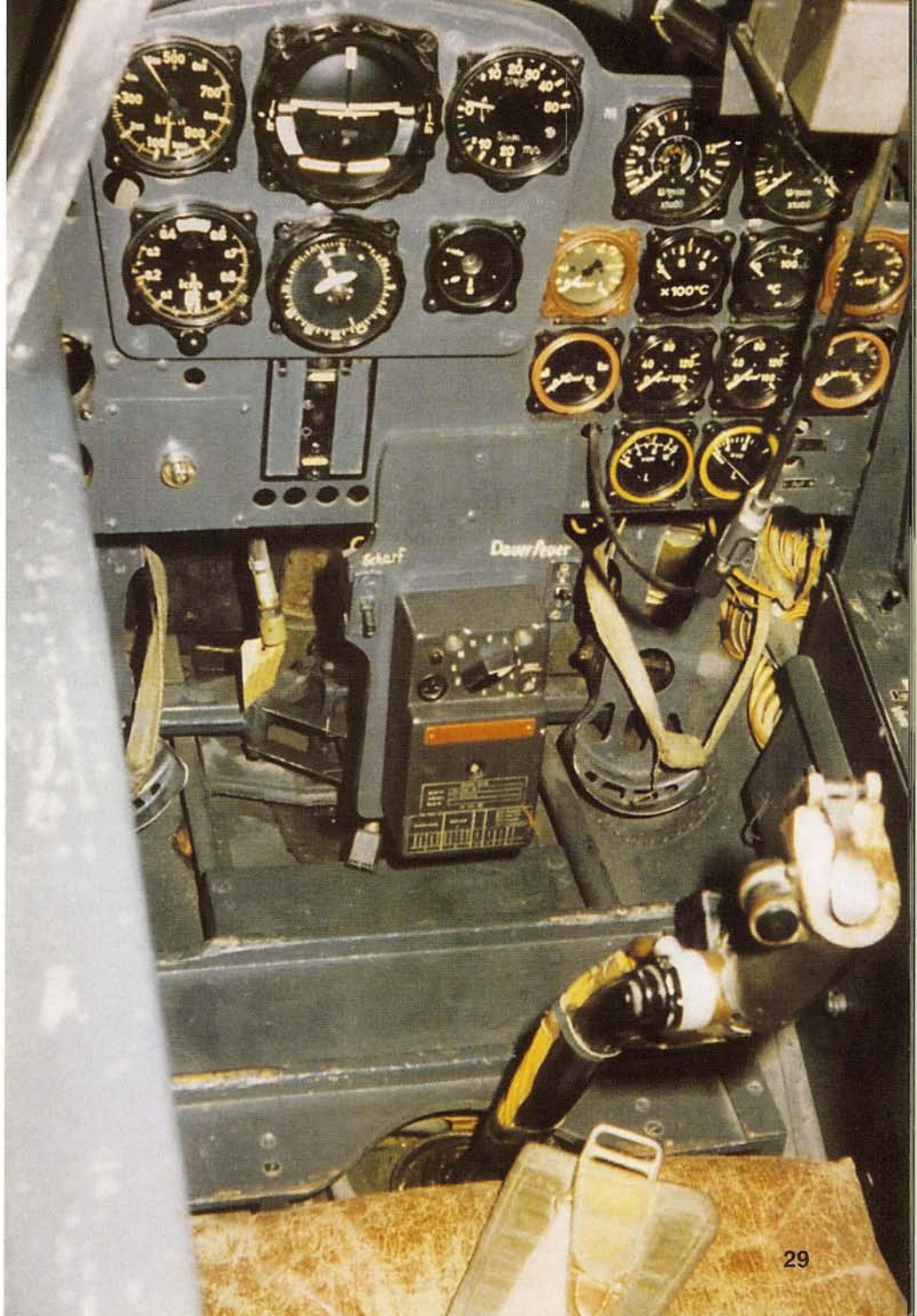
◀ The cockpit of 500071. On the extreme left part of the instrument panel are mounting holes for the oxygen flow indicator and oxygen pressure gauge, which were missing when the Me 262 touched down in Switzerland on 25 April 1945. The upper row of instruments in the center of the instrument panel are the air speed indicator, the turn indicator, and the vertical speed indicator. In the lower row are the altimeter, the repeater compass, and the AFN (radio direction finder) indicator. The box attached at the bottom of the instrument panel is the bomb release control box. The Revi 16 B gunsight is offset some 40 mm (1.6 in) to starboard. The majority of all Me 262s were equipped with the Revi 16B. Some few aircraft received the new gyroscopic gunsight EZ-42, which proved to be extremely troublesome in operation and disliked by the pilots. Unlike the majority of Me 262s, the Revi 16B in 500071 could not be folded down above the instrument panel but could be retracted into the instrument panel in a similar fashion as on the Messerschmitt Bf 109G. The lever below the starboard canopy frame is the canopy jettison lever, which also jettisoned the aft cockpit glazing. (Peter W. Cohausz)

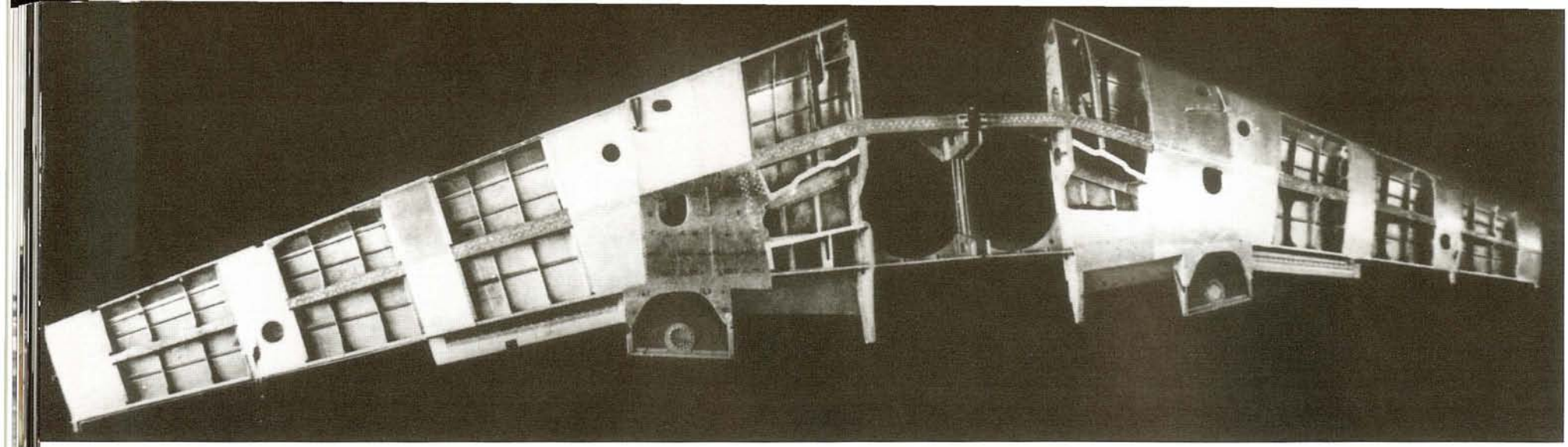


▲ The port console of 500491. Prominent are the two throttles for the two Jumo 004B-1 powerplants. The black buttons on each throttle are used to close the ignition circuits for the engines. The throttles are equipped with stops to prevent accidental full closing and stalling of the engines. The two small levers are the fuel tank selectors. On the instrument panel extension are the two switches for the emergency landing flap control lever and for the emergency landing gear. Below these two switches is the oxygen valve. (Richard P. Lutz)

▶ The main instrument panel of 500071 as exhibited in the German Museum. Like many of the Me 262s built in the war, the instrumentation is rather incomplete. Many Me 262s lacked components and instrumentation not vital for operation. The small circular aperture on the left side of the instrument panel is for the missing indicator signal for the pitot head heater. The squared panel under the pilot's repeater compass is for the fire safety cut-out switches. The four lower switches are missing as indicated by the four empty circular apertures. Under the main instrument panel is the bomb release control box. (Willy Radinger)

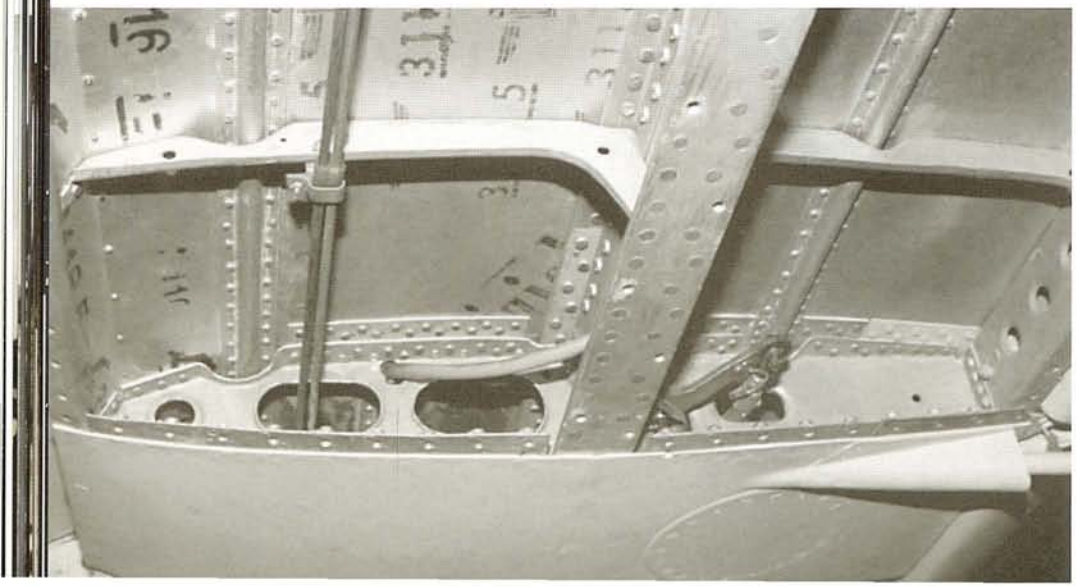
▼ The starboard console of 500491. The long lever is the emergency bomb release. This particular Me 262 was built at Obertraubling. (Richard P. Lutz)





The wing of one of the three pre-series Me 262s (V8, V9, and V10), which were built in the experimental shop at the Messerschmitt AG at Augsburg-Haunstetten. The Me 262 had a cantilever, single spar, stressed skin wing. With the exception of the undercarriage wells, the entire structure of the wing was a torsion box. The skins were 1 to 3 mm (0.04 to 0.12 In) thick from tip to root. All skins more than 2 mm (0.08 in) thick were machine countersunk. Because the lower wing skins were not designed for torsion loads, they were made up from panels permanently screwed in position, and the entire wing assembly was built overstrength. A considerable number of wings were produced by the *Arbeitsgemeinschaft Gutbrod* (Gutbrod working pool) in a converted tunnel of the *Reichsautobahn* (Reich superhighway) at Leonberg, near Stuttgart. A total of 2,189 prisoners from *Konzentrationslager* (concentration camps) and *Zwangsarbeiter* (forced laborers) were involved in the manufacture of wings in the tunnel. Messerschmitt AG made wide use of *KZ-Häftlinge* (concentration camp prisoners), most of whom were supplied by the Waffen SS-owned *Deutsche Erd- und Steinwerke GmbH* (German Earth and Stone Works Company). (Willy Radinger)

▾ The Deutsches Museum has cut away a part of the port lower wing skin of 500071 for exhibition purposes. An electric wire for the position light and the pitot tube was located under the skin. It is assumed that the inscription on the inner wing surface was done by *Zwangsarbeiter* (forced laborers) employed in the manufacture of the wing.



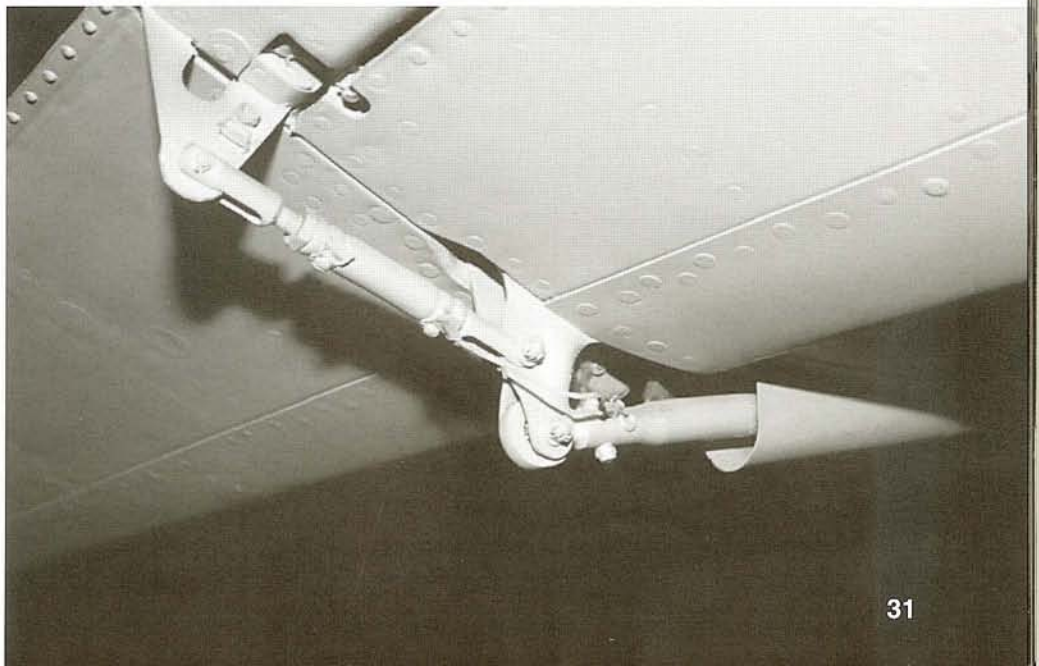
▾ The ailerons on both wings were equipped with a trim tab operated hydraulically by a control rod. Part of the rod was covered with a conical fairing.

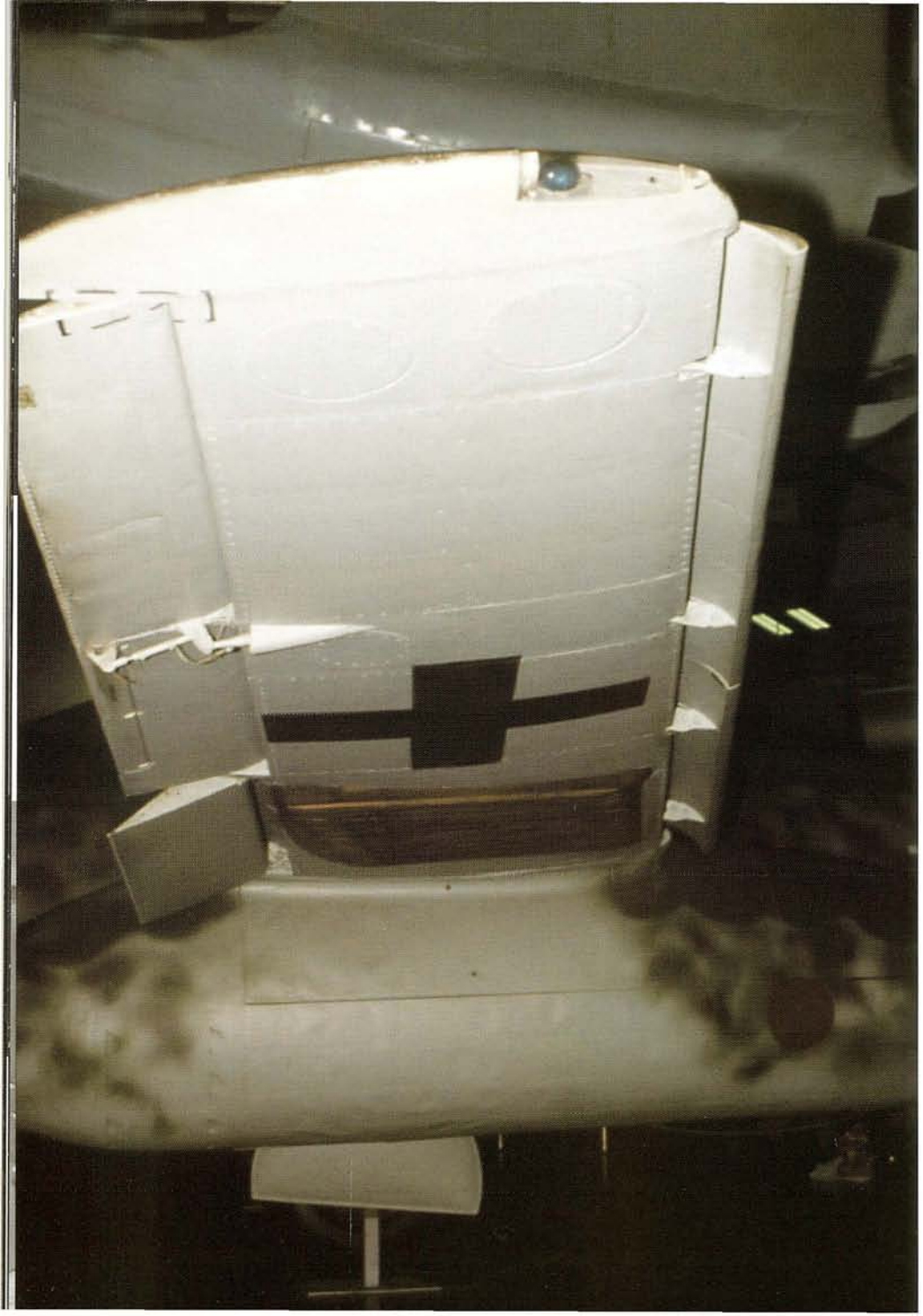
▲ The lower port wing section of 500071. Like the Messerschmitt Bf 109, the Me 262 was equipped with leading edge slats, which were deployed for take off and landing. These slats were manufactured of sheet steel and were divided into three separate, unconnected sections.

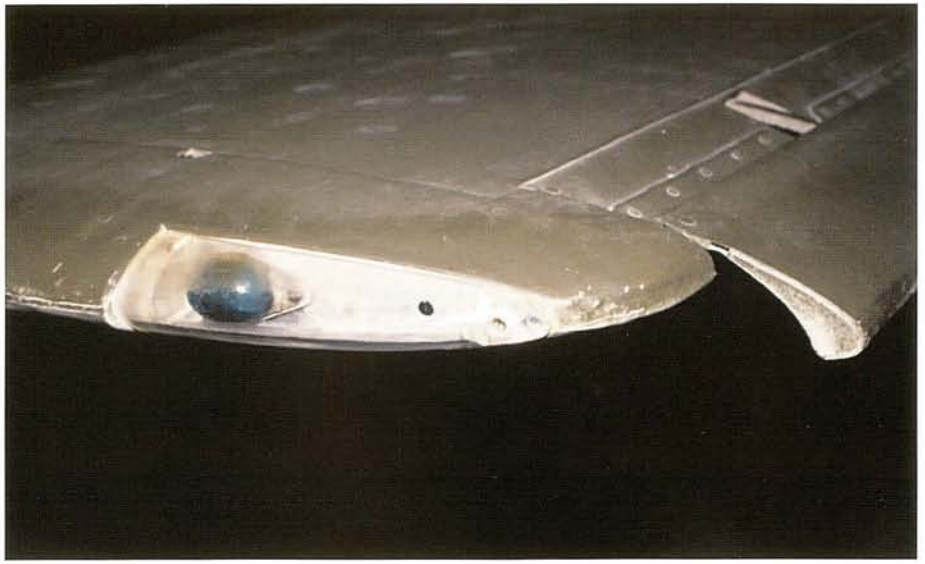
▲ The control rod for the starboard aileron trim tab. These rods were operated hydraulically by a pump attached to the port Jumo 004B-1 engine. A trim tab was attached to both port and starboard ailerons. *"Nicht anfassen"* ("Do not touch") is painted on the trim tab.

▼ The attachment for the wing leading edge slats. These wing leading edge slats were divided in three sections. A total of six attachments were mounted on the leading edge of each wing, two for each segment.

▼ The trim tab control rod of the port wing. A covering was mounted in front of the trim tab control rod. An almost identical trim tab control rod design was used on the Soviet MiG-15 'Fagot' fighter.



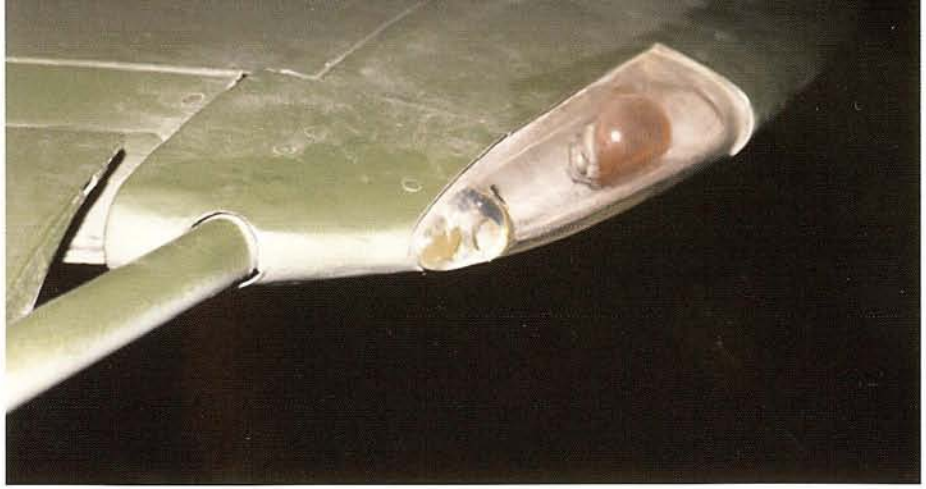




▲ The starboard position light mounted on the wing tip of the Me 262A-1a. The wing leading edge slats are deployed. According to international rules, the starboard position light on aircraft is always green. The position lights were operated by a switch located on the main switch panel.

◀ The starboard wing of 500071, which had been assembled at Obertraubling. The wing leading edge slats were divided in three sections and were not interconnected. These slats were automatically released at speeds below 300 km/h (186 mph) during take off and landing as well below 450 km/h (280 mph) in a turn or climb. A trim tab is attached to the aileron.

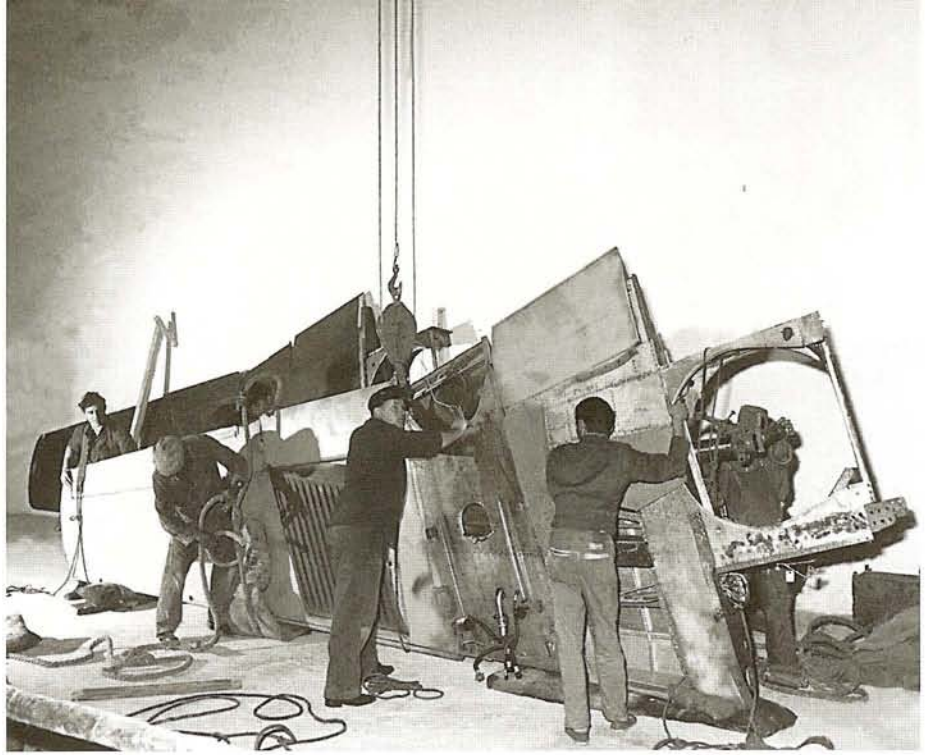
▼ The lower wing tip of an Me 262A-1a. All Me 262s had two circular access hatches located under each wing tip.



▲ The port red position light of an Me 262A-1a. The pitot tube is on the wing leading edge adjacent to the position light. The electrical system ran on 24-volt power provided by two generators, one on each Jumo 004B-1 powerplant.

▶ The port wing tip of 500071. The access panels on the wing undersurface and the engine cowlings have been removed. The wing leading edge slats are deployed. The outer wing leading edge slats consisted of two pieces, which were not connected. An EG-R4M wooden launching platform for R4M air-to-air rockets was mounted on both wings. Only a few Me 262 A-1a fighters were equipped with the EG-R4M.

▼ The pitot tube of a Me 262A-1a. A single pitot tube was mounted on the port wing tip and was equipped with a defrosting system that operated continuously. There was a indicator signal for pitot head heating located on the main instrument panel. This indicator was missing from 500071.



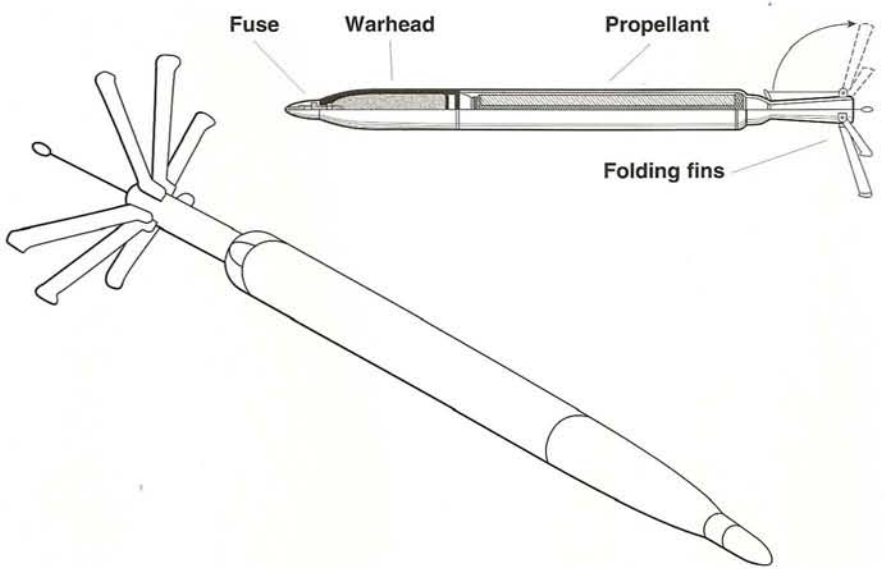
▲ Employees of the Deutsches Museum give an impression of the size of the Me 262 wing. The surfaces between the wing root and the engine nacelles had not been painted, as is evident in this view. The wing was attached to the fuselage by two 20 mm (0.78 In) and forty-two 8 mm (0.3 In) bolts at four points. During the transport from Dübendorf, Switzerland, to Munich, the main wheel leg remained in the main wheel well. (Deutsches Museum München)

◀ The port wing of the Me 262A-1a *Werknummer* 500071 after its arrival at the Deutsches Museum at Munich during autumn 1957. The two panels have not yet been cut out from the skin of the wing undersurfaces, and the EG-R4M rocket launchers are still installed. There was a very thin coat of RLM 76 *Lichtblau* (Light Blue) sprayed over the outer two-thirds of the wing undersurfaces. The entire wing interior was not painted, a measure introduced by Messerschmitt GmbH to save precious paint in the closing weeks of World War II. The style of the black *Balkenkreuz* was not in accordance with Luftwaffe painting specifications. (Deutsches Museum München)

▲ The EG-R4M wooden launching platform for the R4M air-to-air rockets attached to the wing undersurfaces. Each platform carried 12 rockets. Most of these launching platforms were mounted on Me 262A-1a aircraft of *Jagdgeschwader* 7 (7th Fighter Wing).

▲ The starboard EG-R4M wooden launching platform. The platform was attached to the wing with four screws, and U-shaped launch rails were fixed into the slots. It was not painted but impregnated with a liquid preservative. The EG-R4M platform was a field modification.

R4M Unguided Air-to-Air Rocket



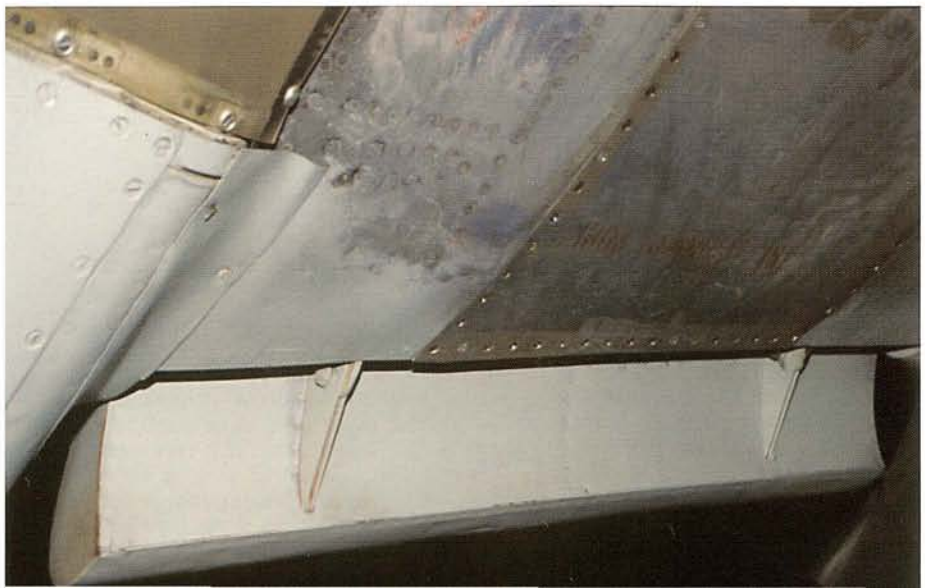
▼ The starboard wing of this Me 262 is armed with a total of 12 R4M rockets. The unguided R4M had a length of 814 mm (32 in), carried a 520 gram (1.15 lb) high-explosive warhead, and had a range of 800 meters (2,625 ft). Main targets were the American B-17s and B-24s of the 8th and 15th Air Forces. (EADS Corporate Heritage via Hans-Ulrich Willbold)

▲ The leading edge slat of the Me 262A-1a was comprised of three independent sections. A single slat was attached to the wing leading edge between fuselage and engine nacelle. The slat shown here is fully deployed. This was the standard setting for takeoff or landing.

▲ The outboard end of the inner leading edge slat, adjacent to the engine nacelle, reveals its cross-section. These parts were built by the *Arwa Strumpfwerke* at Auerbach, a plant which formerly produced hosiery for the private consumer before World War II.

▼ The port inner leading edge slat of a Me 262 as viewed from below. The hinges were heavier than those of the outer two slats because of the heavier weight of the inner slat.

▼ The starboard inner leading edge slat of a Me 262. Each slat was attached by two hinges to the wing leading edge. The slats were operated hydraulically.



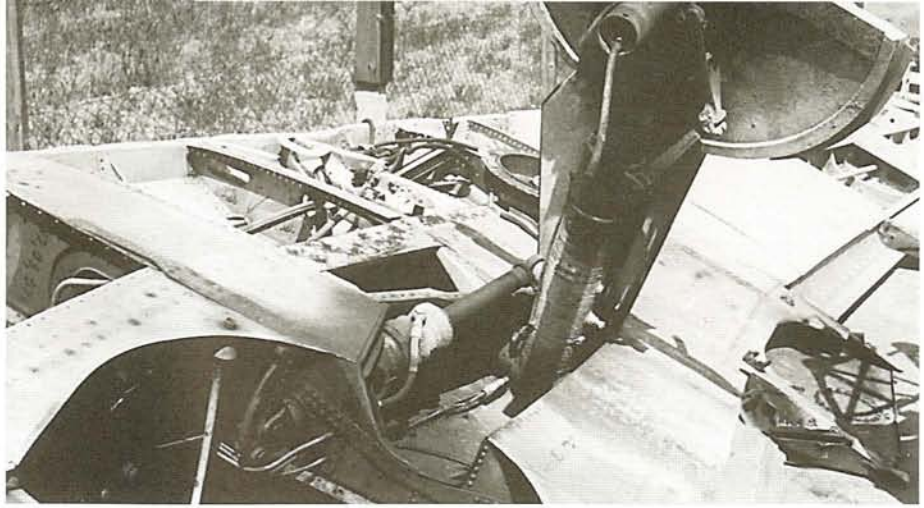
▲ The inner starboard trailing edge flap. The inscription *"Nicht betreten"* means "No step." The flaps had a maximum deflection of 60 degrees. The flaps of the Me 262 were manufactured by the *Blattgold Metallwarenfabrik* (Blattgold hardware factory) at Wasserburg, one of many small enterprises in the Third Reich tasked with building parts for the Me 262.

▲ The outer starboard wing flap of an Me 262A-1a. The inner and outer flaps were all operated hydraulically. Power source was a single hydraulic pump attached to the port Jumo 004B-1 engine. Emergency lowering of the wing flaps was accomplished by the use of a compressed air system.

▼ The outer starboard trailing edge flap shows its maximum deflection of 60 degrees. The aileron is in the upward position.

▼ The port inner flap, fully deployed at its maximum deflection of 60 degrees, reveals the interior of the wing root fairing.

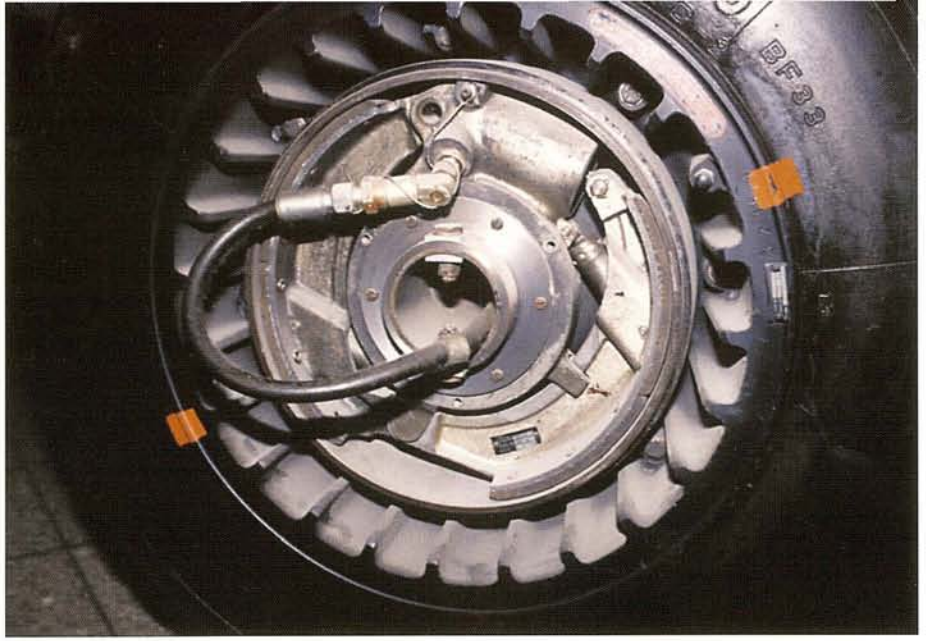
Me 262A-1a *Werknummer* 113332 suffered a belly landing at Tousson, France, on 6 September 1945. This particular Leipheim-built Me 262 previously flew with JV 44, which was renamed IV./JG 7 on 3 March 1945. It was captured by American forces at München-Riem, Bavaria, and subsequently given to the *Armée de l'Air* (French Air Force), which repaired it and continued flight testing, installing a pitot tube on the nose. The position of the two instruction placards under the gun bay door is a typical feature for Leipheim-built Me 262s, and the small blister in the center of the armament bay door is typical of late production Me 262s. Belly landings of Me 262s often followed the malfunction of the single hydraulic pump located on the port Jumo 004B-1 powerplant. There were intentions to mount a second hydraulic pump on the starboard Jumo 004B-1 as a backup in case of a failure, but the war ended before this modification could be introduced on the Me 262 production lines. (ECPAD France/ECPA AIR 7110)



▲ The port main gear strut of a Me 262A-1a found at Prag-Rusin (now Praha-Ruzyne) airfield in Czechoslovakia at the end of World War II. The pneumatic brake pipe rests on the wheel shaft. The inner and outer flaps had been removed from the wing, as well as the Jumo 004B-1 powerplant. The Me 262 had an undercarriage track of 2.54 meters (8.33 ft). (JaPo Collection)

▶ The starboard main landing gear of 500071. The oleo scissors link is located on the rear of the strut. The two main wheel doors were attached independently on the main landing gear leg. While the nose wheel tire had a smooth surface, the two main wheel tires have hexagonally-shaped treads. The tires were made of Buna synthetic rubber.

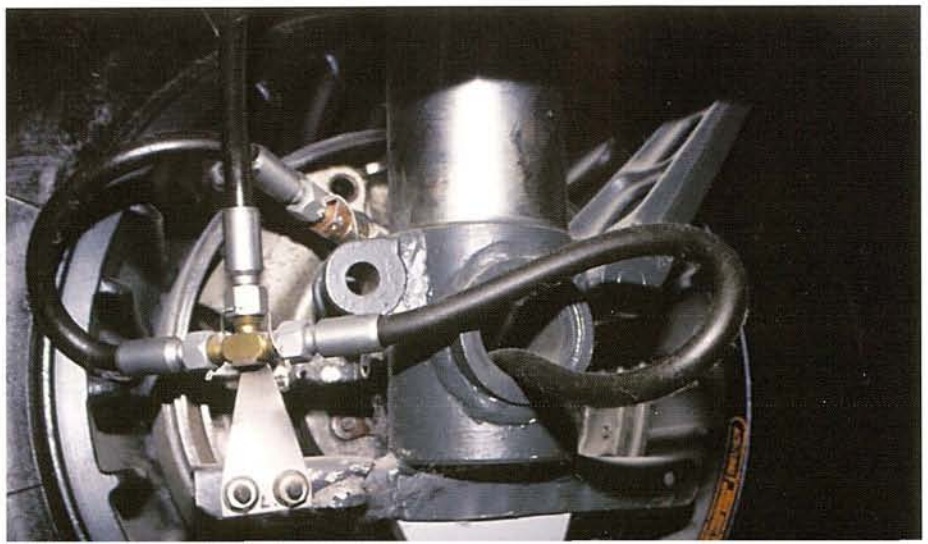
▼ The port wing section found at Prag-Rusin airfield. Part of the lower wing panels have been removed. The two-piece main landing gear cover door consisted of an upper and a lower segment. At the front wing root section was located electrical wiring and fuel and hydraulic lines. Due to the limited capacity of the hydraulic pump, the retraction speed of the main landing gear on the Me 262 was slow. (JaPo Collection)



▲ The main wheel of the Me 262A-1a. The pneumatic brake pipe leads from the wheel shaft into the brake caliper. The main wheel has a dimension of 840 x 300 mm (33.6 x 12 in). The two red stripes on the tire and rim are an indication that the tire has not slipped around the rim. The German Continental tire company manufactured most of the main tires for the Me 262.

◀ The port main landing gear viewed from the front. The brake pipe was attached to the main landing gear leg. The oleo strut toes in 4 degrees in extended position.

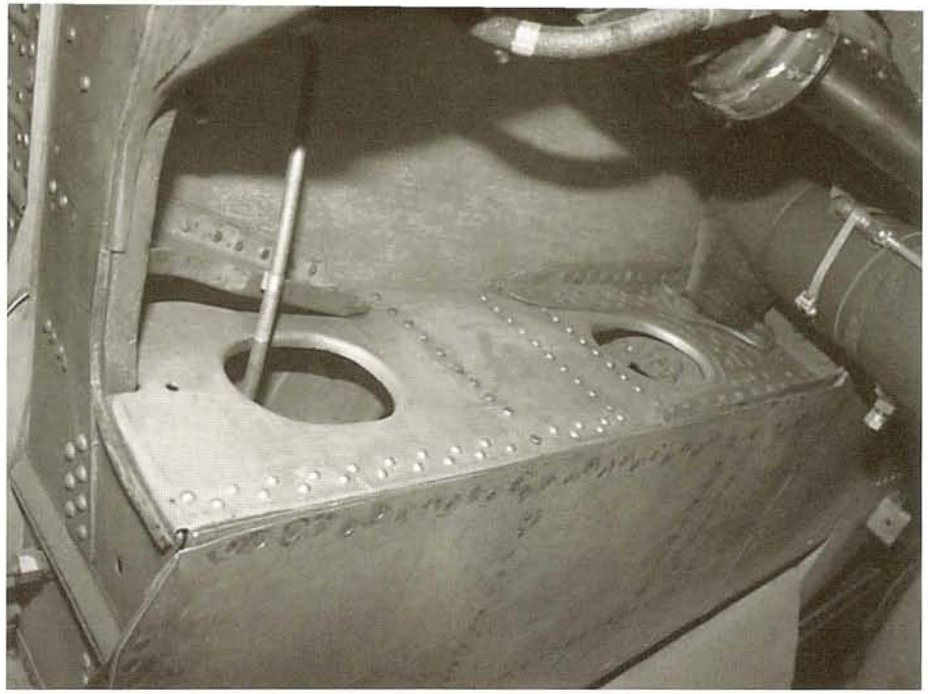
▼ The outboard rim of a Me 262A-1a main wheel. Part of the lower oleo scissors link is visible as well as the T-shaped brake pipe. The pneumatic brake pipe operates the drum brakes located in the rim of the main wheel. Operation of the main wheel brakes is accomplished by applying pressure with the toes on the rudder pedals.



The starboard main landing gear. The main landing gear legs were manufactured by the *Adam Opel AG,* a subsidiary of the American General Motors company, at Rüsselsheim, Germany.

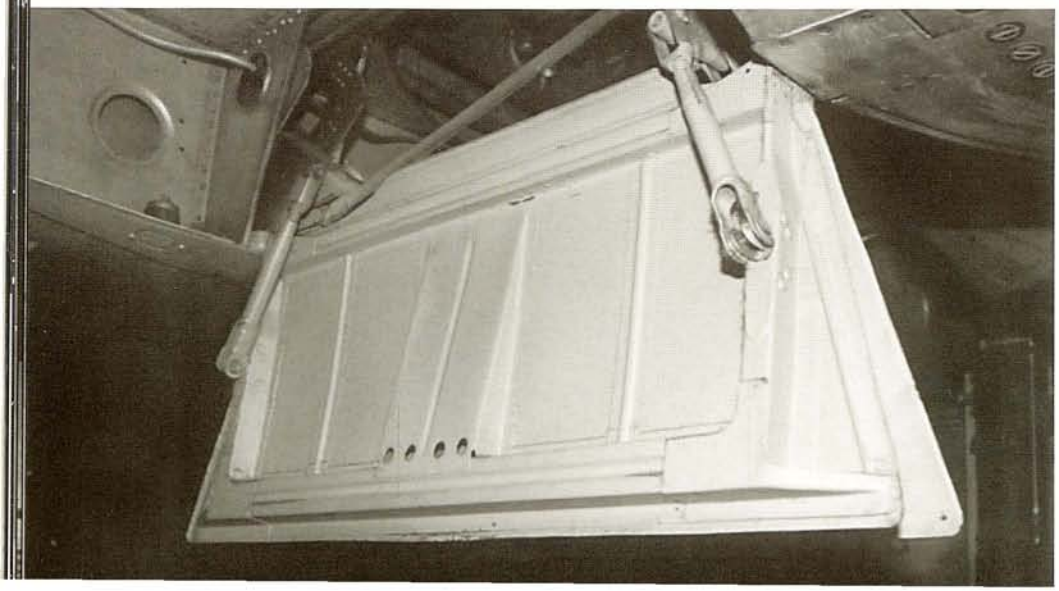
The port main landing gear of a Me 262 A-1a as viewed from the rear. The oleo scissors link as well the upper main landing gear cover door are visible.

▲ Looking aft into the main wheel wells of 500071. Behind the starboard main wheel well is the antenna for the Lorenz FuG-16ZY radio. The four circular cutouts are found only in the rear wall of the main wheel wells.

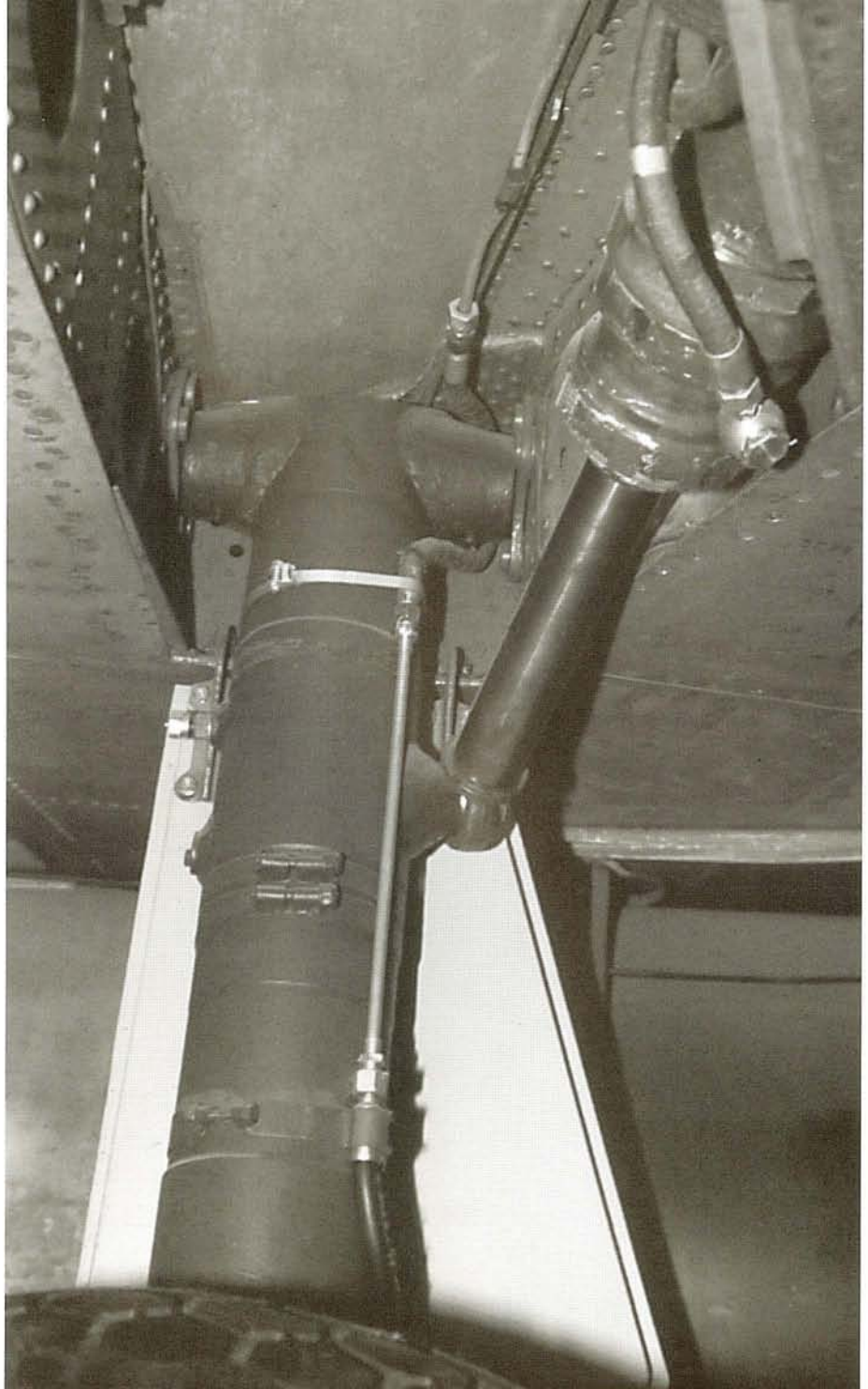


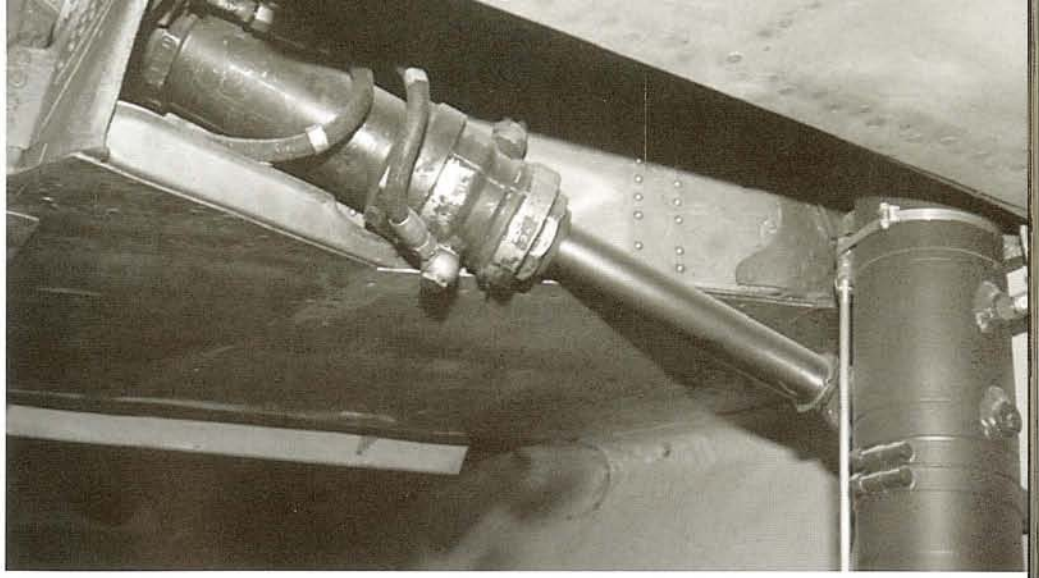
▲ Looking aft into the outboard portion of the port main wheel well. The two circular apertures were only cut in the rear wall. The oleo strut and retraction actuator hydraulic cylinder are also visible. The brake pipe connects the drum brake to the compressed air bottle.

▼ The starboard main wheel cover door of 500071. The doors are released and retracted mechanically with the help of a linkage system.



▼ The port main wheel cover door. Port and starboard main wheel cover doors of the Me 262A-1a are identical.



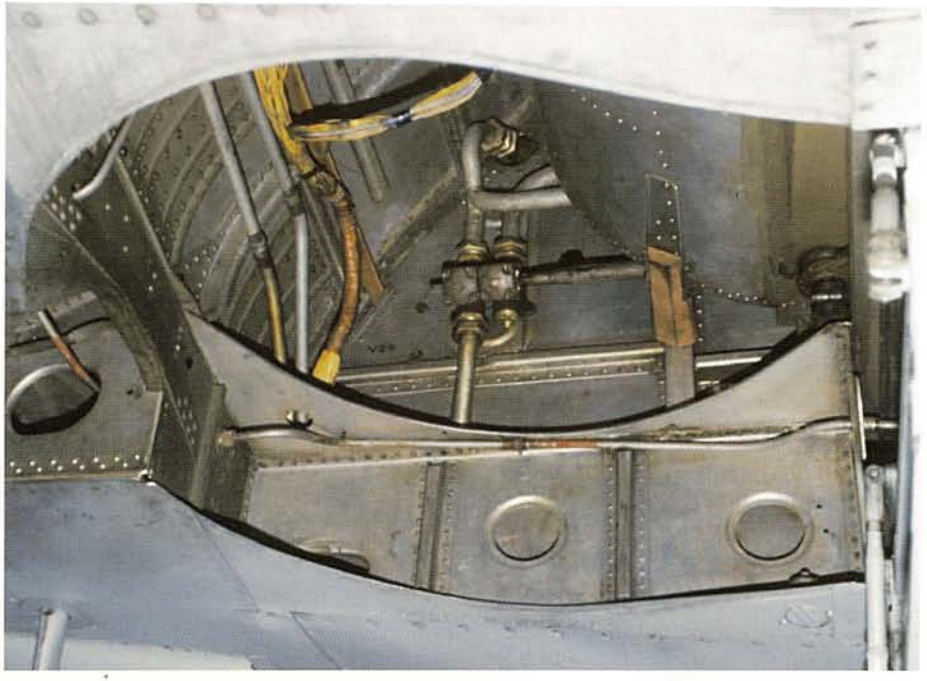


▲ The starboard landing gear retraction cylinder viewed from the rear. The hydraulic line leads into the head of the cylinder. The pneumatic brake line is attached to the main wheel leg.

◀ The port main landing gear of 500071. The retraction cylinder is attached to the front part of the oleo strut. The main landing gear was hydraulically operated. In case of a malfunction of the hydraulic system, there was a pneumatic backup system. The brake line is attached to the upper main wheel well decking.

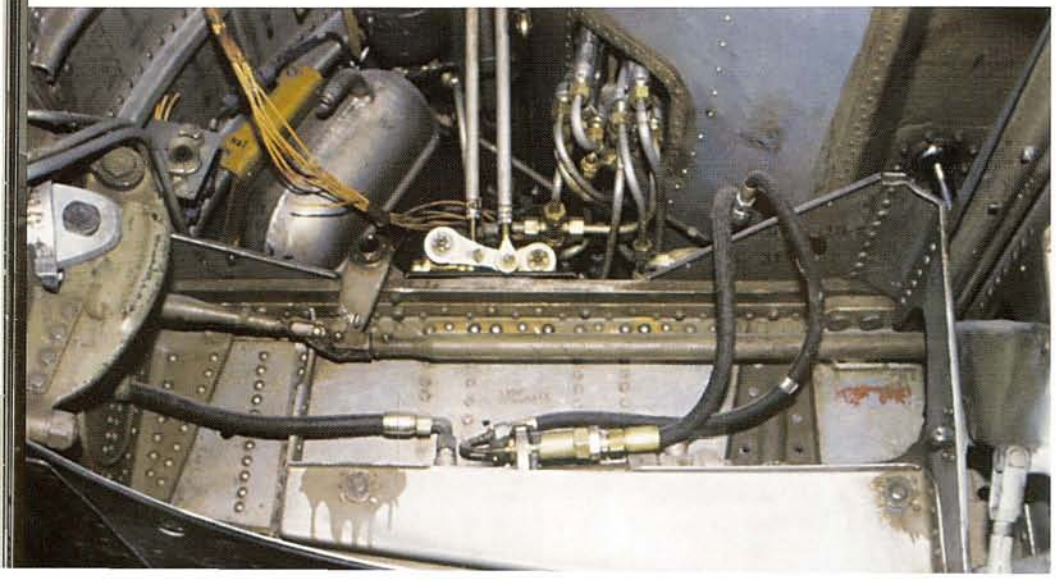
▼ The starboard main landing gear retraction cylinder seen from the front. The hydraulic line at left connects to the head of the cylinder. The hydraulic retraction cylinder is attached to the front of the main wheel strut.

▲ Looking forward into the starboard main wheel well. Port and starboard wheel wells were different in hydraulic, pneumatic, and electrical wiring layout. The retraction cylinder is attached to the mid-fuselage. Between the cockpit floor exterior (at left) and the inner fuselage skin are the electrical distribution boxes.



▲ Looking aft into the starboard main wheel well of 500071. The bottom of the bathtub-shaped cockpit enclosure is visible at top right. A hydraulic pump is attached to the rear wall. Much of the yellow wiring connects the various cockpit switches with the FuG-25a IFF transponder and Lorenz FuG-16ZY radio located in the rear fuselage.

▼ Looking forward into the port main wheel well of 500071. Electrical wiring is located between the cockpit floor exterior (top right) and the inner fuselage skin. The rods and tubes leading into the lower cockpit section belong to the throttle and oxygen system.

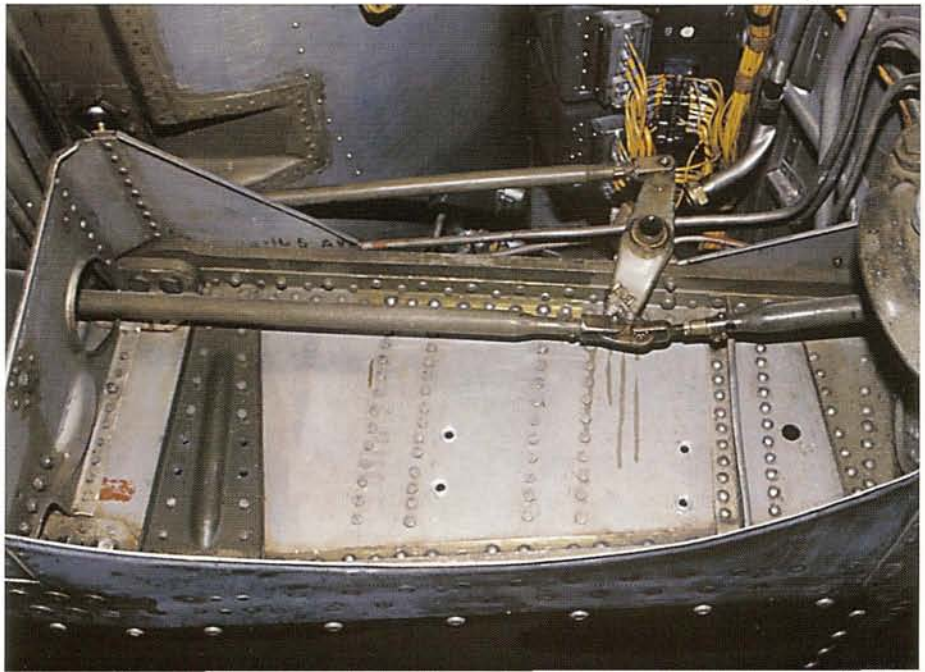


▼ The inner surfaces of the port main wheel cover door. A mechanical linkage system opens and retracts both port and starboard main wheel cover doors. The main landing gear of the Me 262A-1a is retracted and released hydraulically.

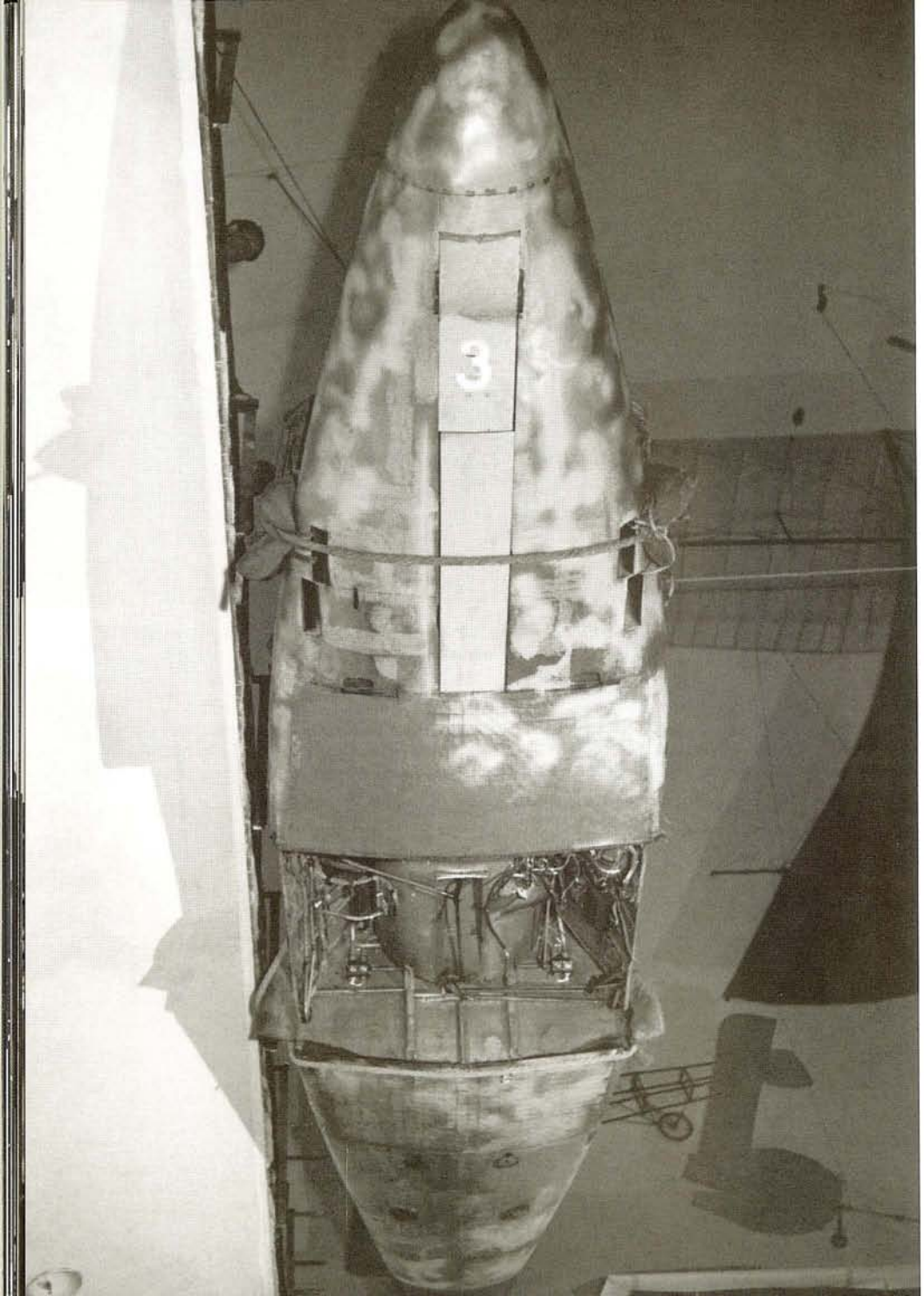
▲ Looking forward into the port main wheel well of 500071. The blue bottle supplies compressed air to the emergency undercarriage release system. Below the air bottle is the hydraulic fluid reservoir. The actuating rods for the port aileron pass along the front wall.

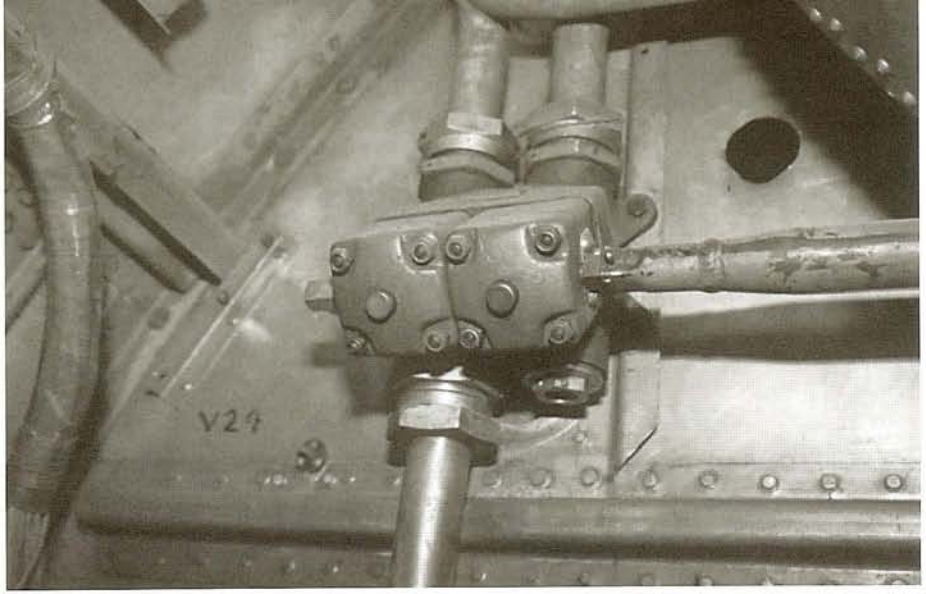
▲ The port rear wheel well wall of 500071. The layout of the hydraulic lines is different from that of the starboard wheel well. At top can be seen the port hydraulic pump.

▼ Looking forward into the starboard main wheel well of 500071. The rods and bellcranks are part of the aileron control linkage. Above the main wheel bay is the bottom of the cockpit enclosure. Electrical wiring is seen at top right.



▼ Looking upward into the port wheel well. At bottom is the underside of the cockpit enclosure, and attached to it are the control rods for the trim and throttle systems as well as electrical wiring. The blue compressed air bottle is for emergency landing gear extension.

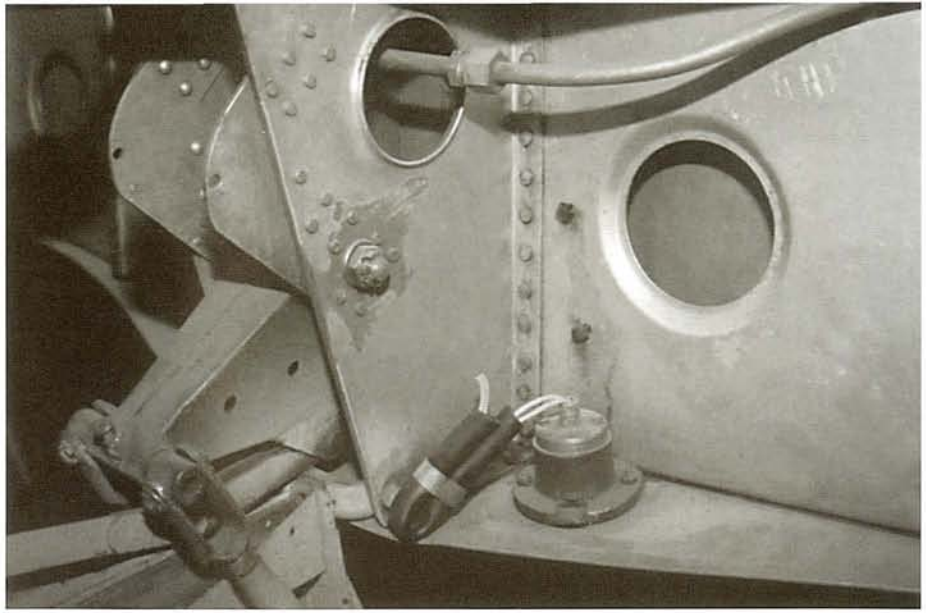




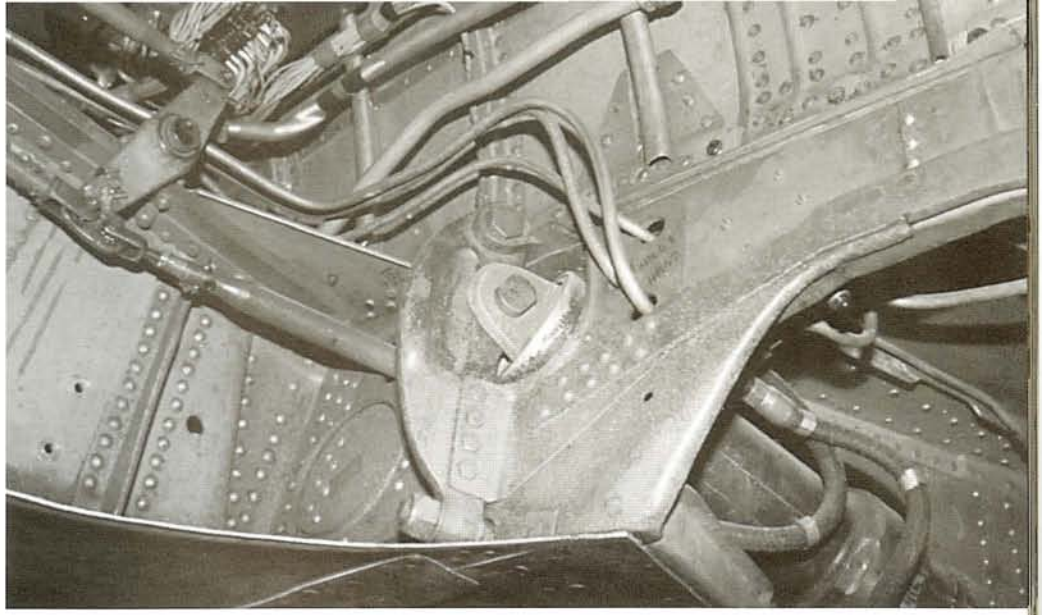
▲ The starboard hydraulic pump located in the rear mid-fuselage compartment. The pump is located between the cockpit enclosure and the inner wall of the fuselage.

◀ The Me 262A-1a is hoisted in the exhibition hall of the Deutsches Museum during autumn 1957. The lower nose section is very crudely painted in RLM 76 *Lichtblau* (Light Blue). Only the main nose wheel door is completely painted in *Lichtblau*. The front nose wheel door has only the lower portion painted, while the rest of the door remains in natural metal color. The rear lower fuselage has been only partially painted with *Lichtblau*. Almost all of the lower rear fuselage between the wing root and the fuselage band has been left in natural metal finish. In the cutout for the wing center section can be seen the bottom of the cockpit enclosure and the two hydraulic pumps mounted on the bulkhead, one on each side of the cockpit. (Deutsches Museum)

▼ The bellcrank for the aileron control system attached under the starboard rear lower fuselage compartment. Below the rod is the linkage system for the main wheel cover doors.

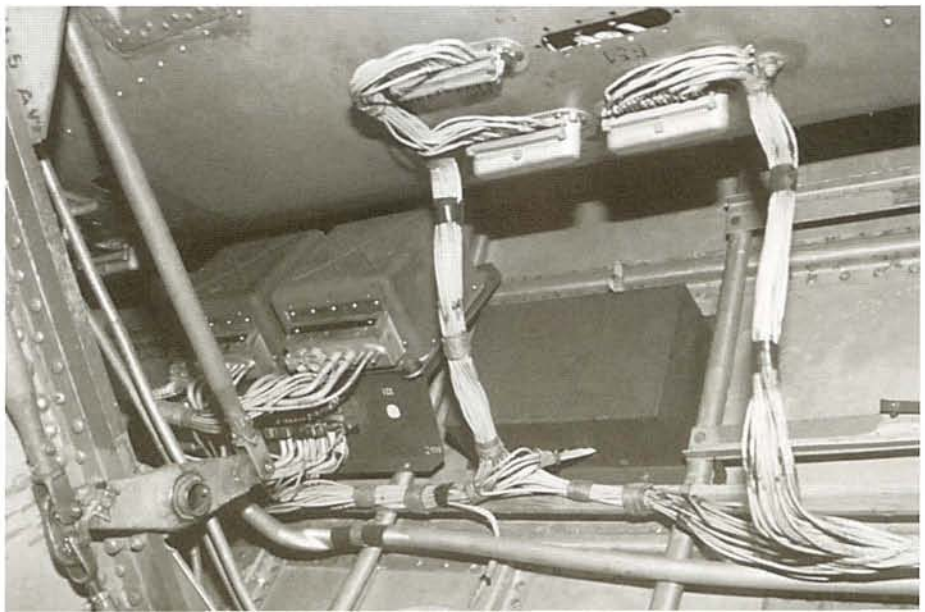


▲ The aft inboard corner of the port main wheel well and the rear linkage for the port main wheel cover door. At top is the line connecting the compressed air bottle with the drum brake on the main wheel.

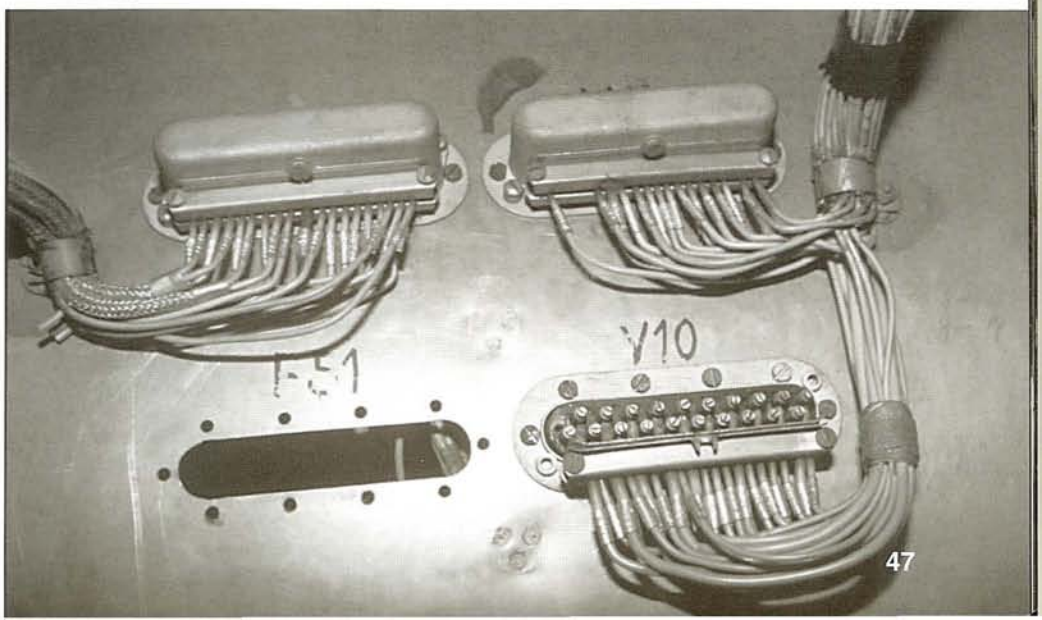


▲ The forward inboard corner of the starboard main wheel well of 500071. The bellcrank and rods are part of the control system for the flaps. The fitting at center is the attachment point for the starboard landing gear hydraulic retraction cylinder.

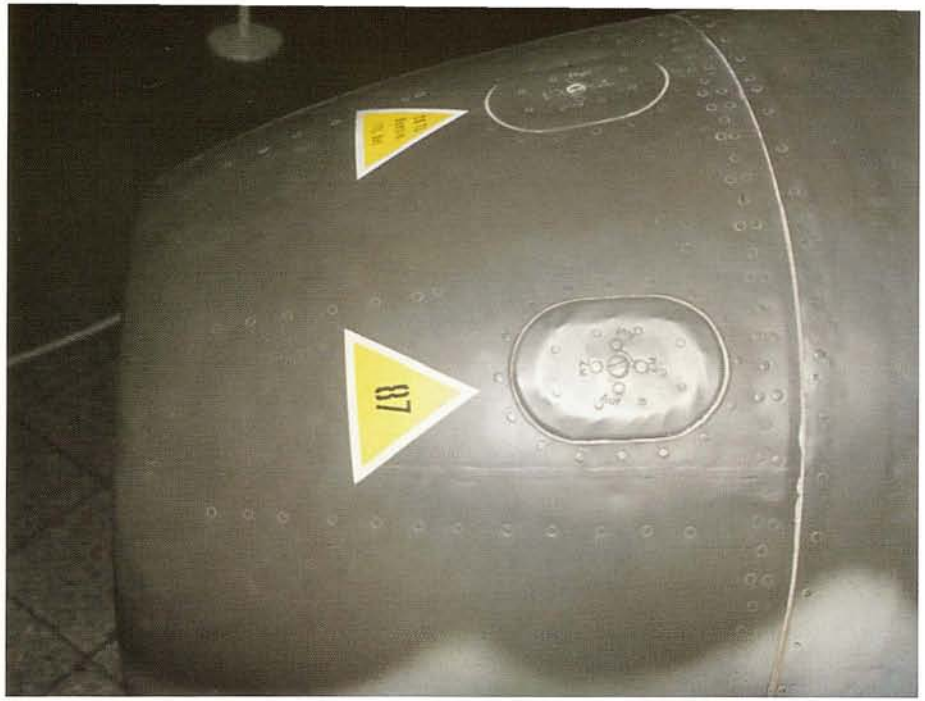
▼ Electrical distribution boxes attached on the lower starboard cockpit compartment and the inner panels of the mid-fuselage section. The electrical system ran on 24 volts and was powered by two 100-volt generators, one mounted on each Jumo 004B-1 powerplant. All electrical wiring is painted in yellow. The rods and bellcrank are part of the control system for the flaps.



▼ The distribution boxes for the electrical system attached to the starboard lower exterior of the cockpit enclosure. The cover of the lower distribution box is missing. The black numbers painted on the cockpit enclosure were a guide for proper assembly. All electrical wiring for the Me 262 was installed by forced labor at the *Bergkristall* underground factory near Linz, Austria.

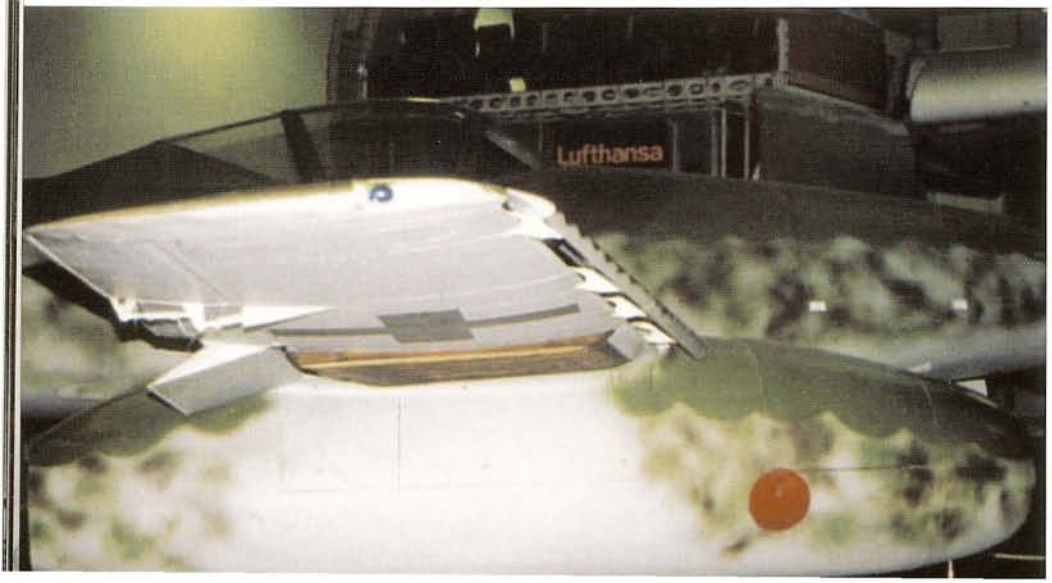


▲ The starboard Jumo 004B-1 axial flow engine of 500071. The starboard Jumo 004B-1 carries the serial number 100301 0859. The Jumo 004B-1 has a static thrust rating of 900 kilograms (1,984 lb).

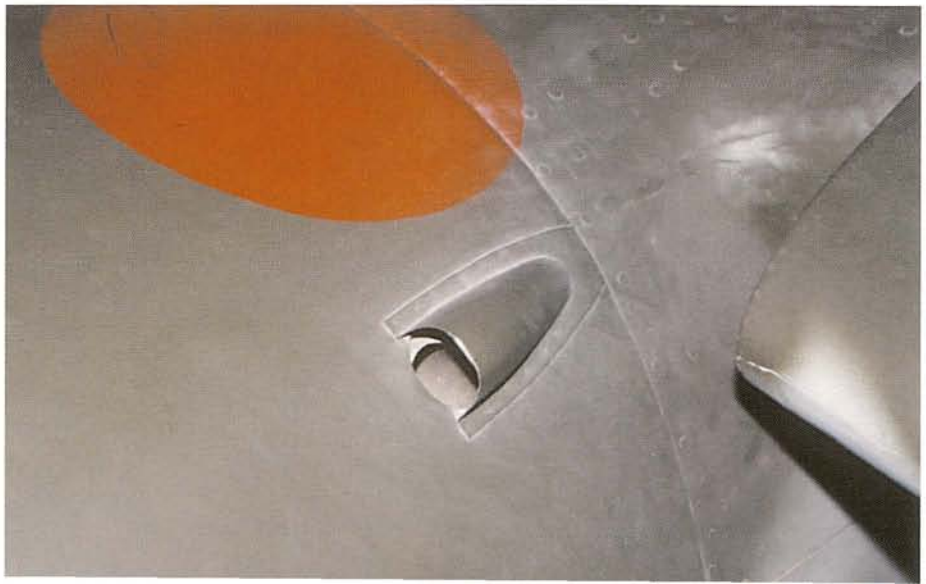


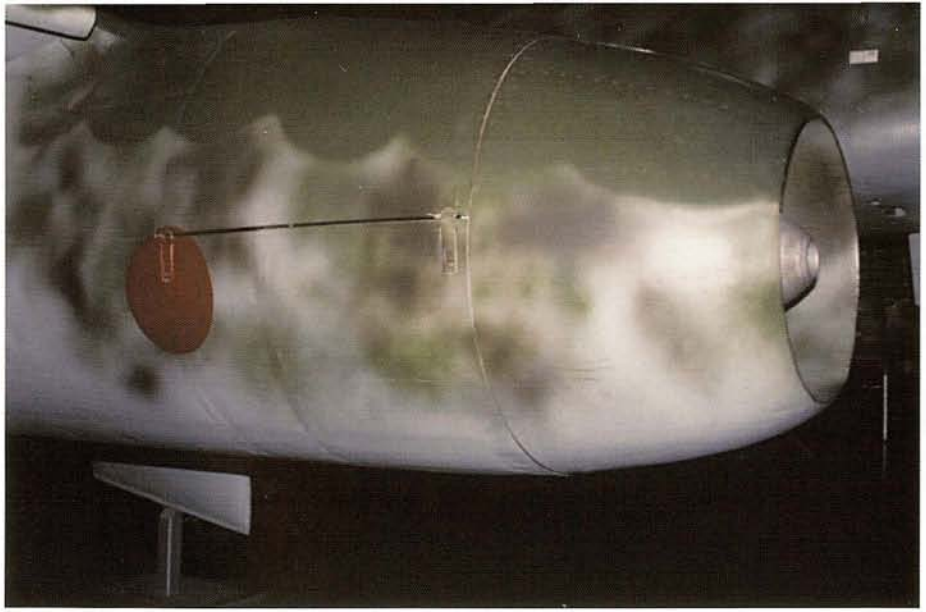
▲ Both starboard and port engine nacelles have two oval access hatches on top. The starboard hatch is for the oil tank of the Riedel-Anlasser RBA-S10 starter engine, and the port hatch is the access for its 1.5 liter (.4 gal) fuel tank. The number '87' denotes the octane rating of the fuel.

▼ The starboard engine nacelle of 500071. The construction of the nacelle and the access panels made the Jumo 004B-1 easily accessible to mechanics, a desirable feature considering the unreliability of the early turbojets.



▼ The air scoop on the port topside of each engine nacelle covered the exhaust for a Riedel Anlasser starter engine, a two-cylinder, two-stroke engine housed in the 'bullet' fairing in the nose of each engine and used to start the Jumo jet engine in the absence of external electrical power.



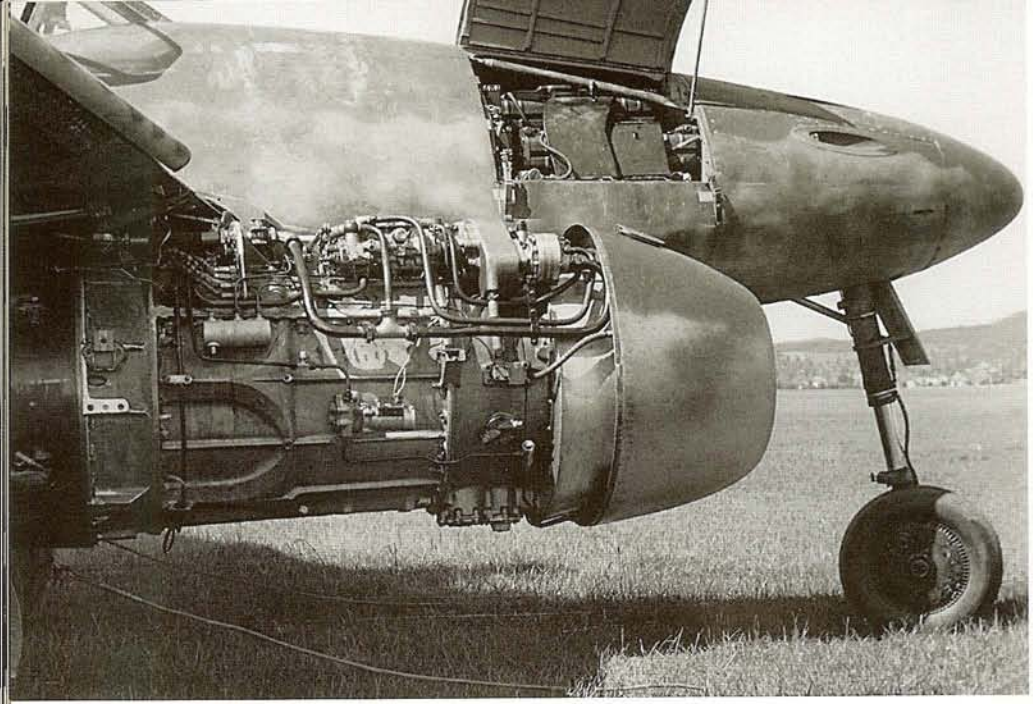


▲ The forward portion of the starboard engine nacelle of 500071. With the help of snap fasteners, access panels could be easily removed from the nacelle to expose the engine. The red dot is the engine nacelle panel joint mark, a feature seldom seen on production aircraft.

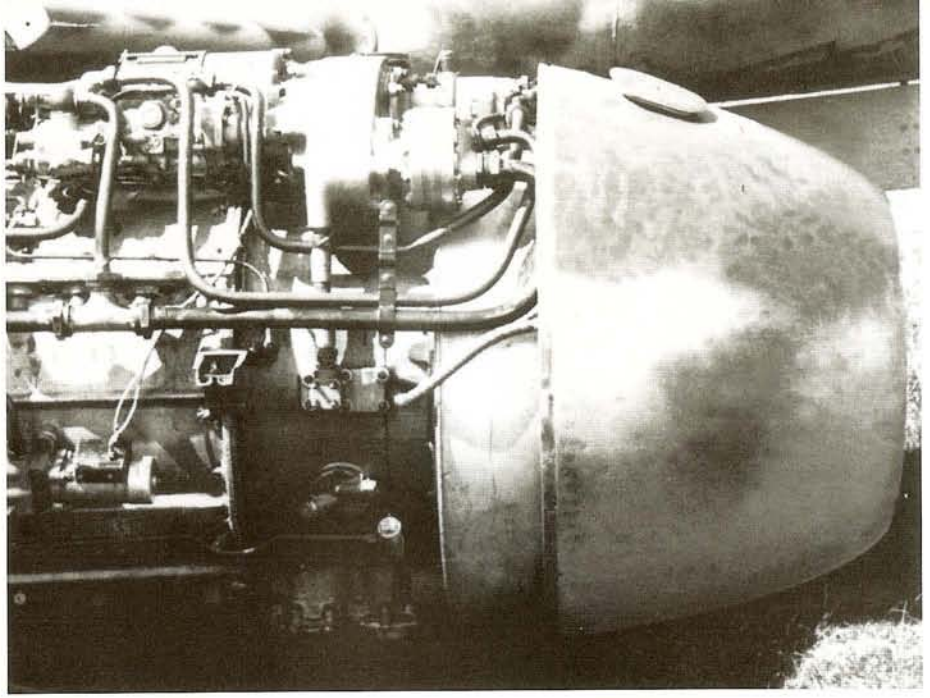
▲ The left side of the starboard Jumo 004B-1 engine. The red semicircle marks the position of a step, which is covered by a spring-loaded semicircular cover. Such a step was located on the port side of both nacelles.

▼ The starboard engine nacelle of the Jumo 004B-1 engine. The bullet-shaped covering covers the Riedel-Anlasser RBA-S10. The ring pull handle for the Riedel starter located in the center of the covering is missing.

▼ The exhaust nozzle of the starboard Jumo 004B-1. The cone protruding from the nozzle, nicknamed *"Zwiebel"* ("onion"), could move fore and aft to adjust the nozzle area in response to the required engine power. This *Zwiebel* is nearly fully retracted.



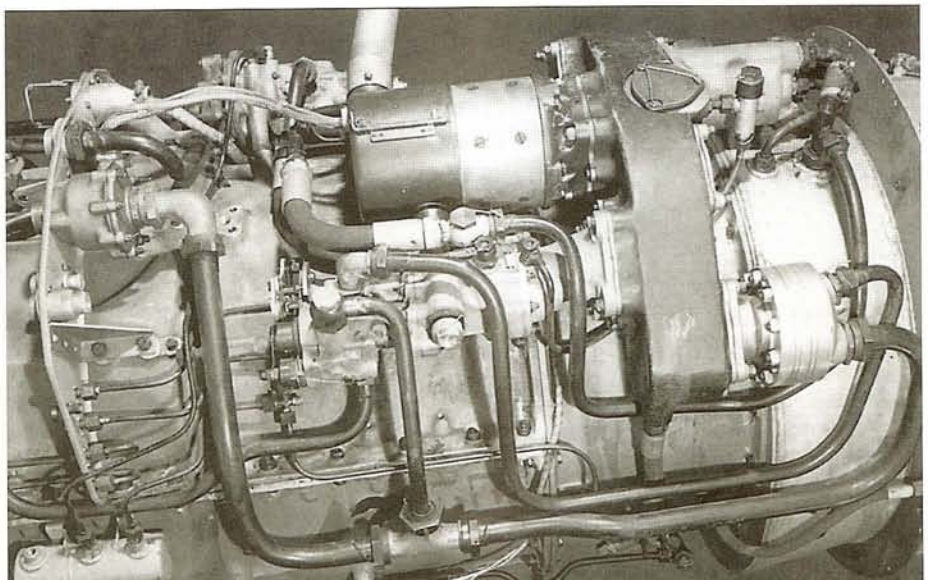
▲ The same day 500071 touched down at Dübendorf Air Force Base, Swiss engineers eagerly began investigating the jet powerplant. Here the nacelles have been removed from the starboard Jumo 004B-1. (Roland Küng)

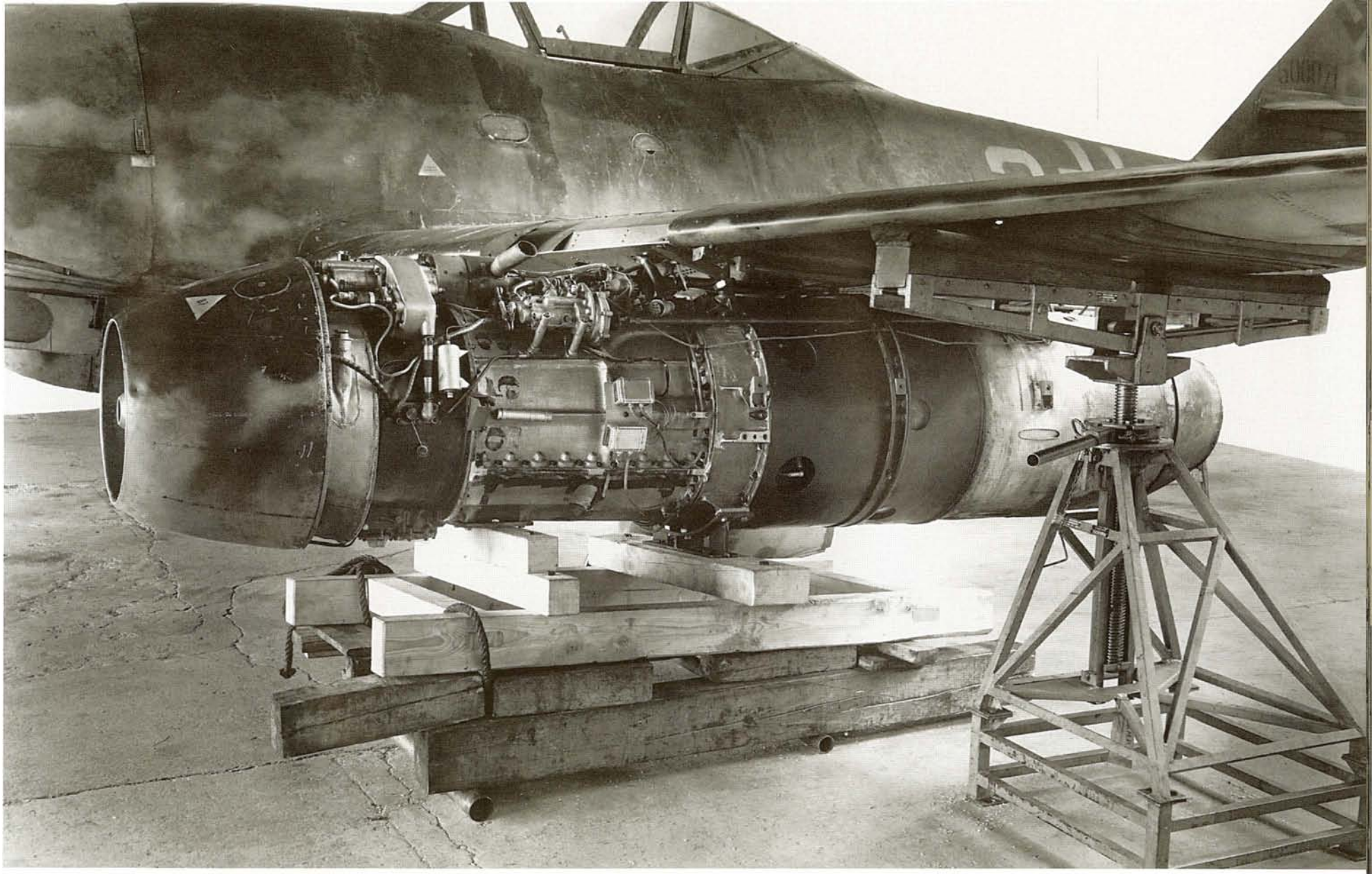


▲ The starboard Jumo 004B-1 with the nacelles removed. The Jumo 004B-1 powerplant had a TBO (time between overhaul) of only 50 hours. Above the engine is the fuel pump, with the fuel filter behind. (Swiss Air Force via Roland Küng)

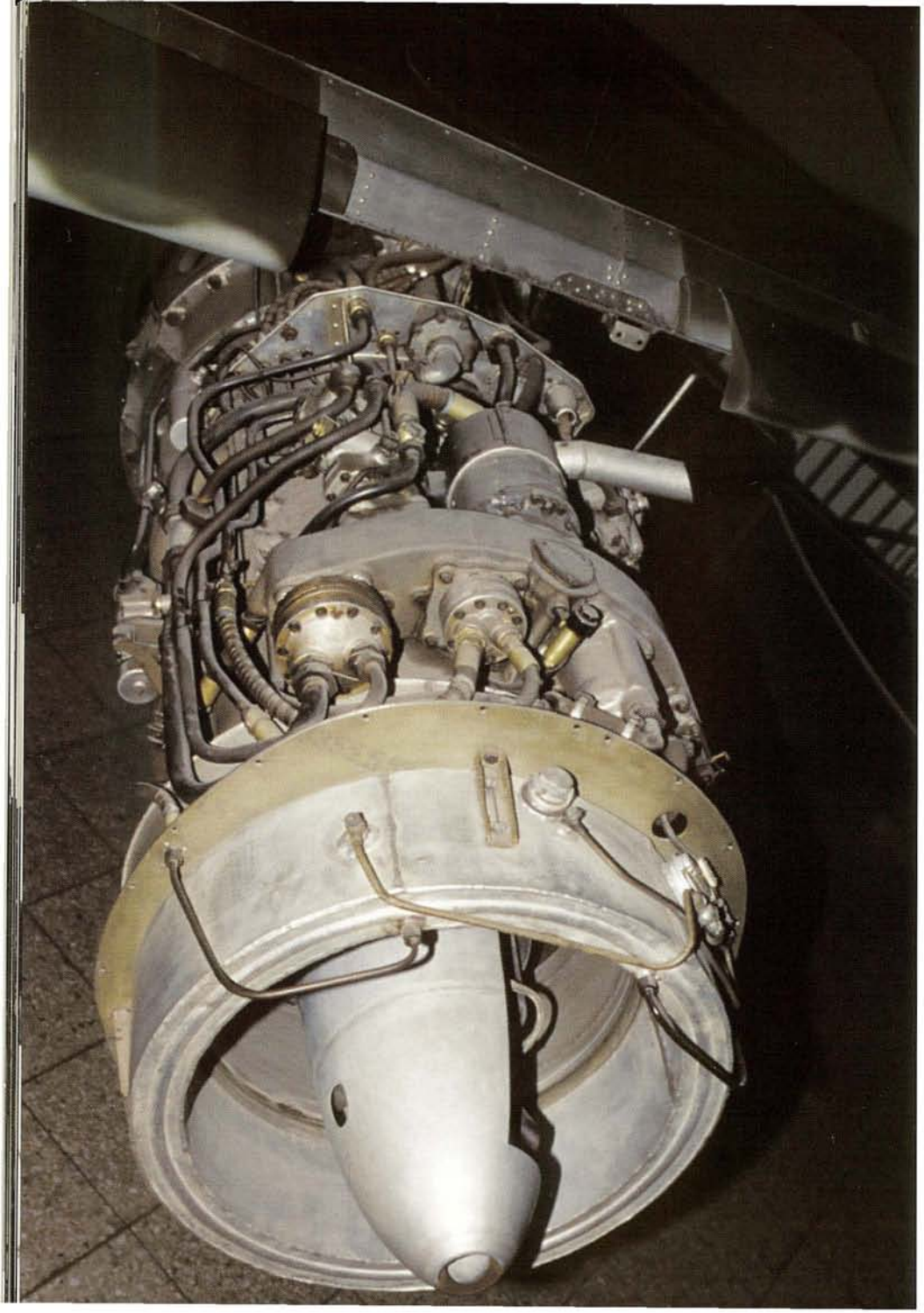
▼ The production Jumo 004B engines lacked any strategic materials such as nickel, cobalt, and molybdenum. These exotic and hard-to-obtain raw materials were replaced by mild steel (SAE 1010) with an aluminum coating to prevent oxidation. (Roland Küng)

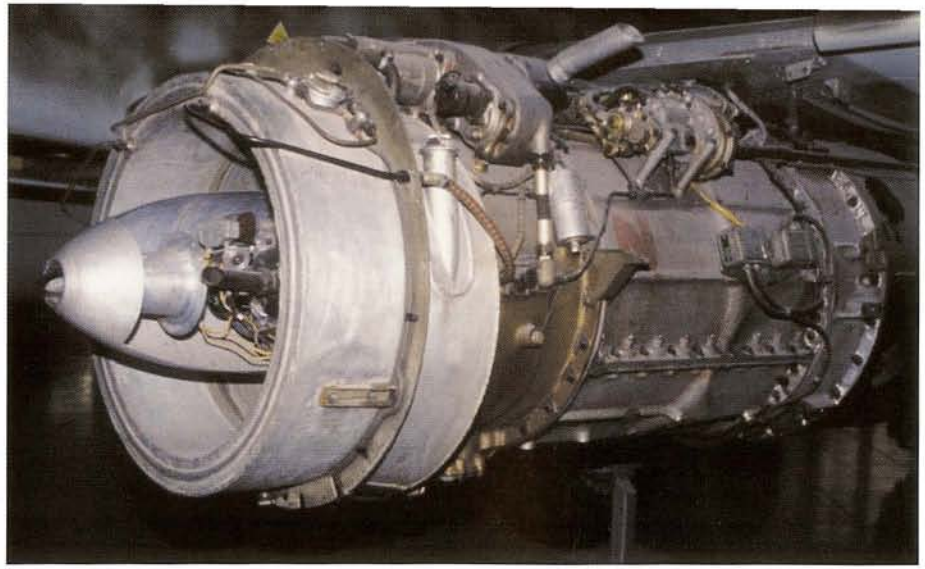
▼ The accessory section of a Jumo 004B-1. The Jumo engines were extremely well-built, but because of the lack of high-temperature materials in their construction, they had very short operating lives.





Me 262A-1a 500071 sits on jacks in a hangar at Dübendorf Air Force Base during summer 1945. The purpose of this work was to remove the port Jumo 004B-1 (serial number 102301 0047) from the wing for further investigation by various Swiss enterprises, such as the Brown Boweri Corporation (BBC) and Sulzer. A temporary wooden transport platform has been laid under the powerplant. The Jumo 004B-1 engine had the number '953' painted on the compressor chamber casing. On exhibit in the Deutsches Museum, a red 'N' is painted instead as well as the red number '259.' These markings were not on the aircraft when the Me 262A-1a landed in Switzerland. During summer 1945, the Messerschmitt still carried its original camouflage. The very thin paint coat is evident. At some spots on the fuselage, the natural metal of the skin is visible through the paint. (Swiss Air Force Museum via Andrea Lareida)

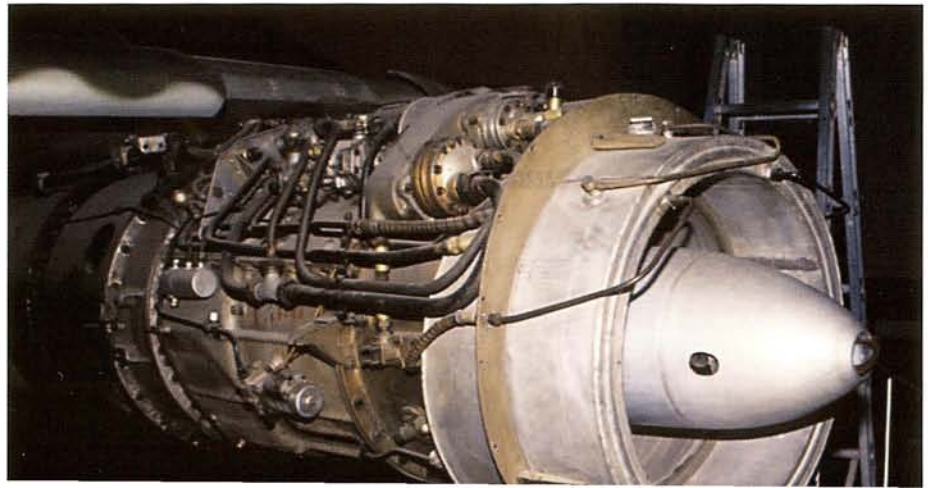




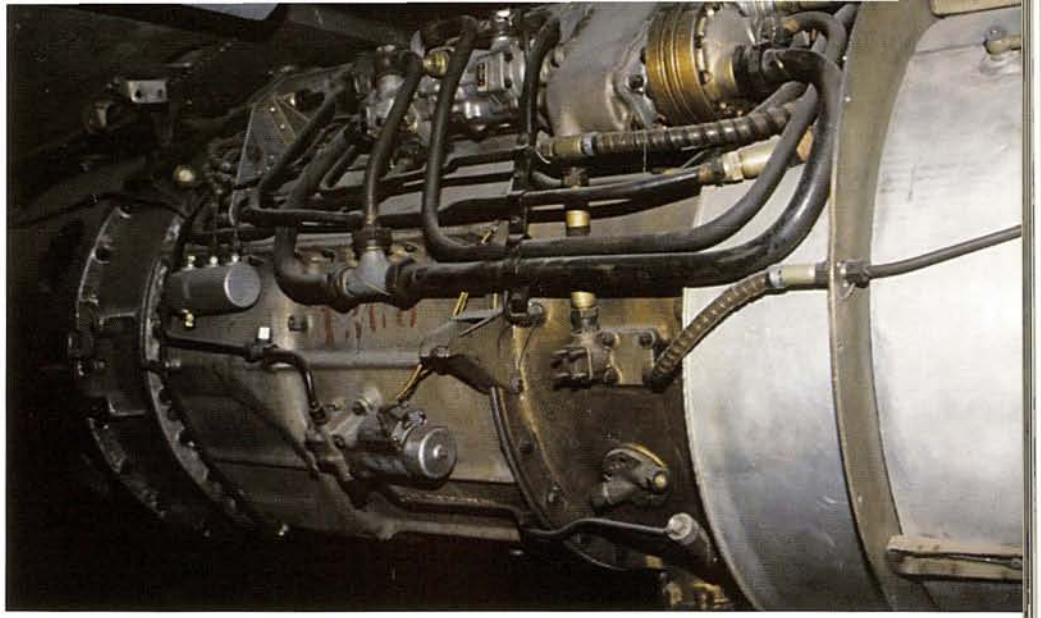
▲ The removed cowling reveals the annular oil tank for the Riedel-Anlasser RBA-S10 starter engine. On top of the Jumo 004B-1 engine is the hydraulic pump. The exhaust stub for the Riedel engine starter is located behind the fuel pump.

◀ For exhibition purposes, the Deutsches Museum has removed the entire nacelle from the port Jumo 004B-1. Also removed was the cowling, which was usually not removed for maintenance under field conditions. The Jumo 004B-1 compressor was an eight-stage unit with an airflow rate of 46.6 pounds per second and an outer casing of uniform diameter. The compressor rotor was made of eight aluminum disks held together by 12 bolts and located by spigots. The entire assembly was held together by a 38.75-inch long tie rod.

▼ The right side of the Jumo 004B-1. On top of the compressor casing is the fuel pump. The various pipes are connected with the hydraulic pump, which is located on the port side adjacent to the fuel pump. Cooling airflow was delivered from between the fourth and fifth compressor stages and diverted to the double skin around the combustion chamber. It then passed through the exhaust cone strut to circulate inside the cone and through small holes to cool the downstream face of the turbine disk.



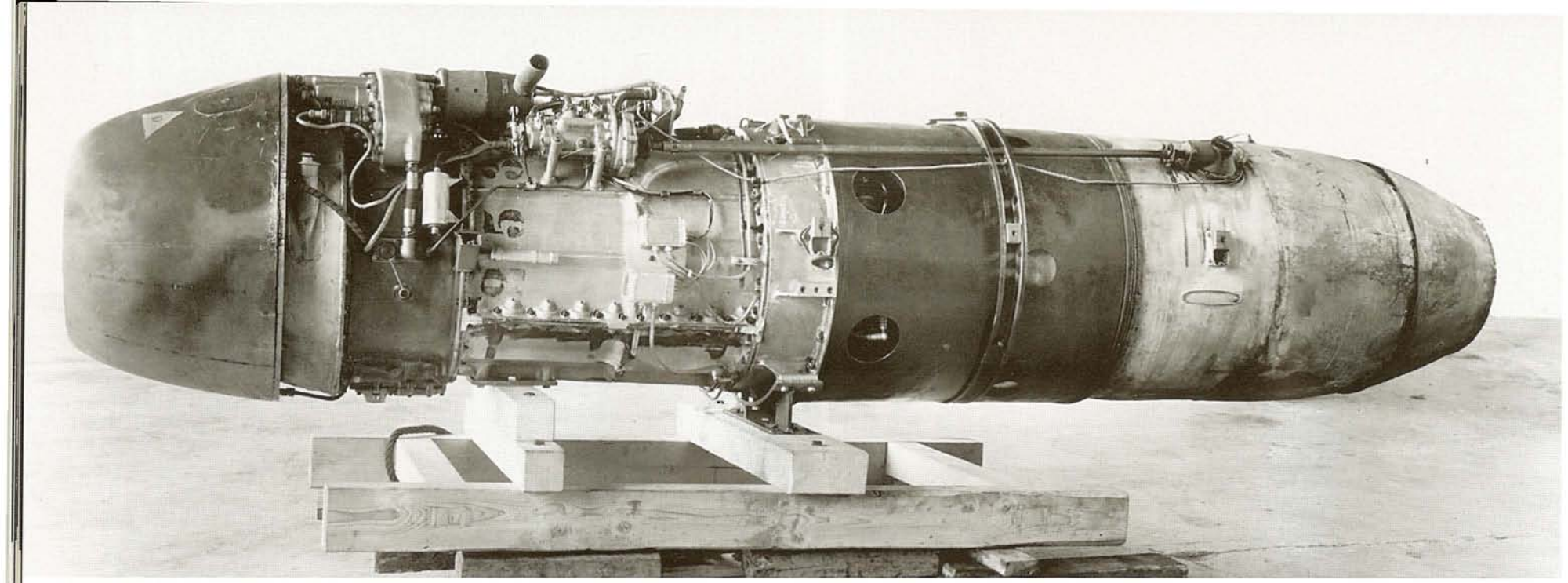
▲ The compressor casing of the port Jumo 004B-1. The Jumo 004B-1 engine was equipped with a total of eight compressor blade stages, with the compressor stator blades held in semicircular segments.



▲ The ring-shaped oil tank for the port Riedel-Anlasser RBA-S10 was mated to the Jumo's compressor casing. On top of the compressor casing is the hydraulic pump. The hydraulic pump supplied pressure for operation of the landing gear as well the flaps and ailerons.

▼ The exhaust duct of the starboard Jumo 004B-1. A snap fastener was mounted on both sides of the exhaust stubs. With the help of these snap fasteners, the nacelles could be easily attached and removed from the engine for maintenance and inspection purposes. Compressor discharge air was used to cool the hollow turbine blades.

▼ The port main engine casing with mounting points and the central turbine drive shaft. A snap fastener was attached on the black-painted combustion chamber outer casing. The Jumo 004B-1 had six combustor cans arranged around a central casting which carried the rear compressor bearing and the turbine shaft bearing.

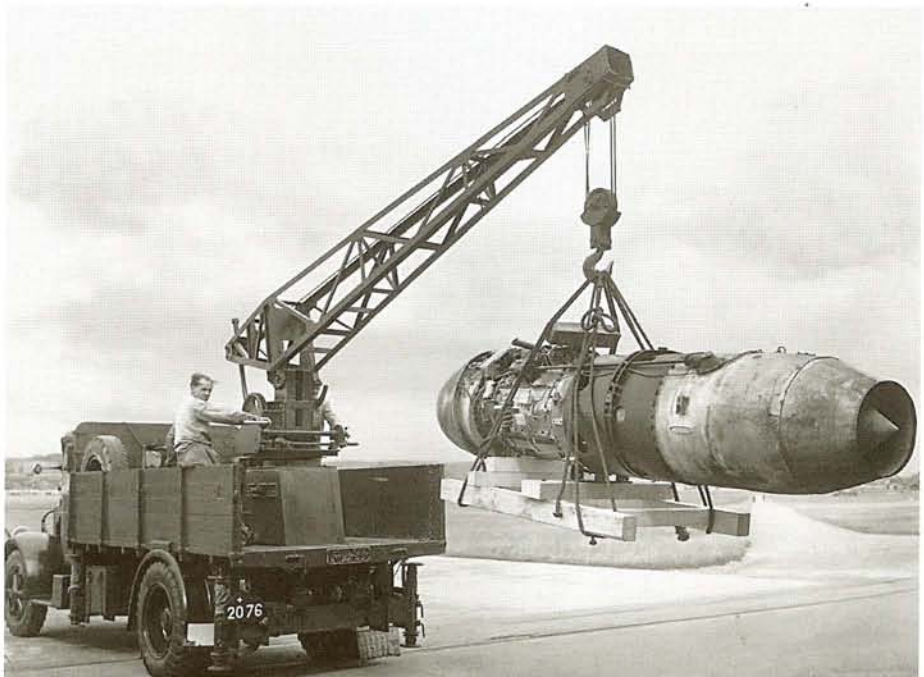


▲ The port Jumo 004B-1 of 500071 rests on a wooden platform in a hangar at Dübendorf Air Force base in Switzerland. The Jumo 004 was the first jet engine in the world to enter mass production. Its development started in early 1939, and on 11 October 1940 the first ground tests were performed with the prototype engine. A total of about 4,600 of these axial flow turbojet engines were built during World War II by the *Junkers Flugzeug- und Motorenwerke* (Junkers aircraft and aero engine plants). The main components of the Jumo 004B-1 are the eight compressor stages, the six combustion chambers, the single-stage turbine, and the variable nozzle cone. The Jumo 004B was designed to use a minimum of strategic materials. The single-stage turbine had 61 blades fixed to the turbine disk by a formed root and kept in position by rivets. The operational speed of the Jumo 004B-1 engine was 8,700 rpm. The consumption of the Jumo 004B-1 powerplant was 1,560 liters (412 gal) of J2 jet fuel per hour. The rod on top of the engine connects the valve needle adjuster mounted on the top of the exhaust duct with the bullet drive motor, which is mounted on top of the compressor casing. The principal designer of the Jumo 004 was Anselm Franz, an Austrian citizen who joined the *Junkers Flugzeug- und Motorenwerke* at Dessau during 1936 and eventually became a chief engineer. Franz settled in the United States after the end of World War II and worked for the USAF before joining Avco Lycoming in 1951. Franz was responsible for the T-53 that powered the Bell UH-1 Huey and the Bell AH-1 Cobra as well as the OV-1 Mohawk. A further development of Anselm Franz is the three-spool, 1,500 shaft horsepower AGT-1500 gas turbine, the power plant for the M1 Abrams main battle tank. (Swiss Air Force Museum via

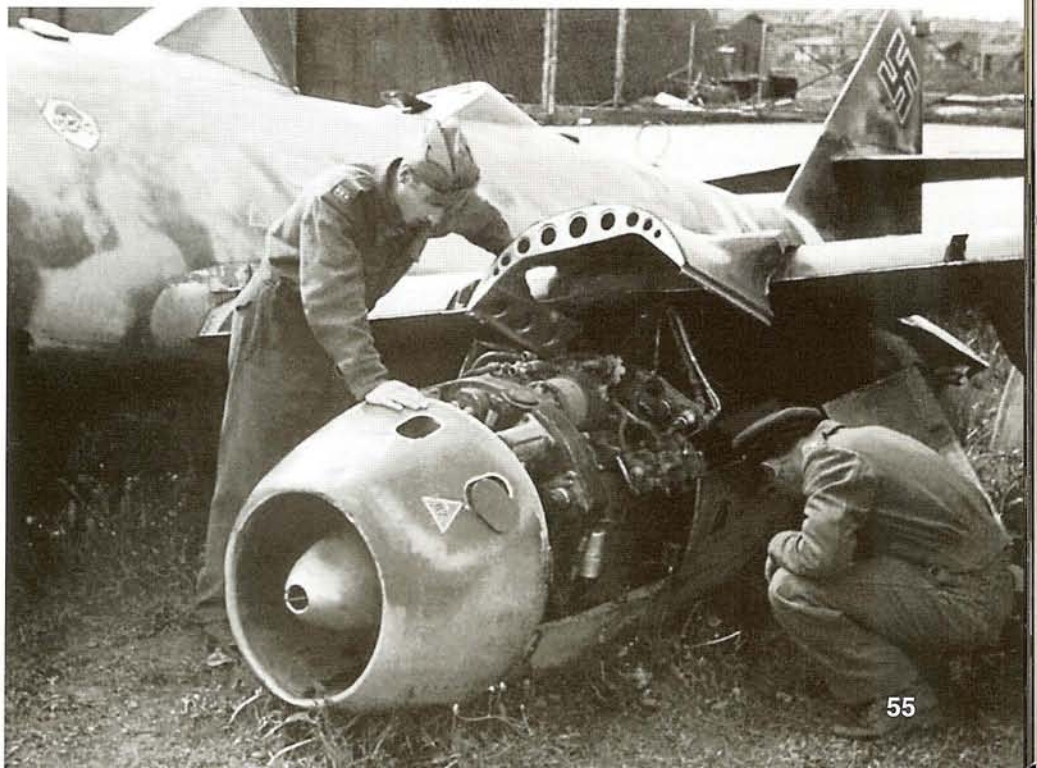
▲ Saaz became the last operational base of the Messerschmitt Me 262 in Czechoslovakia. The airfield was littered with Jumo 004B engines at the end of World War II. Wingless Me 262B-1 'Black A' and Me 262 A-1a 'Red 7' both flew previously with KG(J) 6. On 8 May 1945 many intact Me 262s flew from Saaz to Southern Germany and Bavaria, where they were surrendered to American forces. The last mission from Saaz occurred on 8 May 1945, when Me 262s of KG(J)6 flew strikes against Soviet armor column approaching the airfield from the North. The *Letectvo Ceskoslovenske Lidove Armady* (Czechoslovak Air Force) continued to use Saaz airfield under its original Czechoslovak name, Zatec. During the Cold War period, Zatec became home for the MiG-15s and MiG-21s of the 11. *Stihaci Leteckv Pluk* (11th Fighter Aviation Regiment). (JaPo Collection)

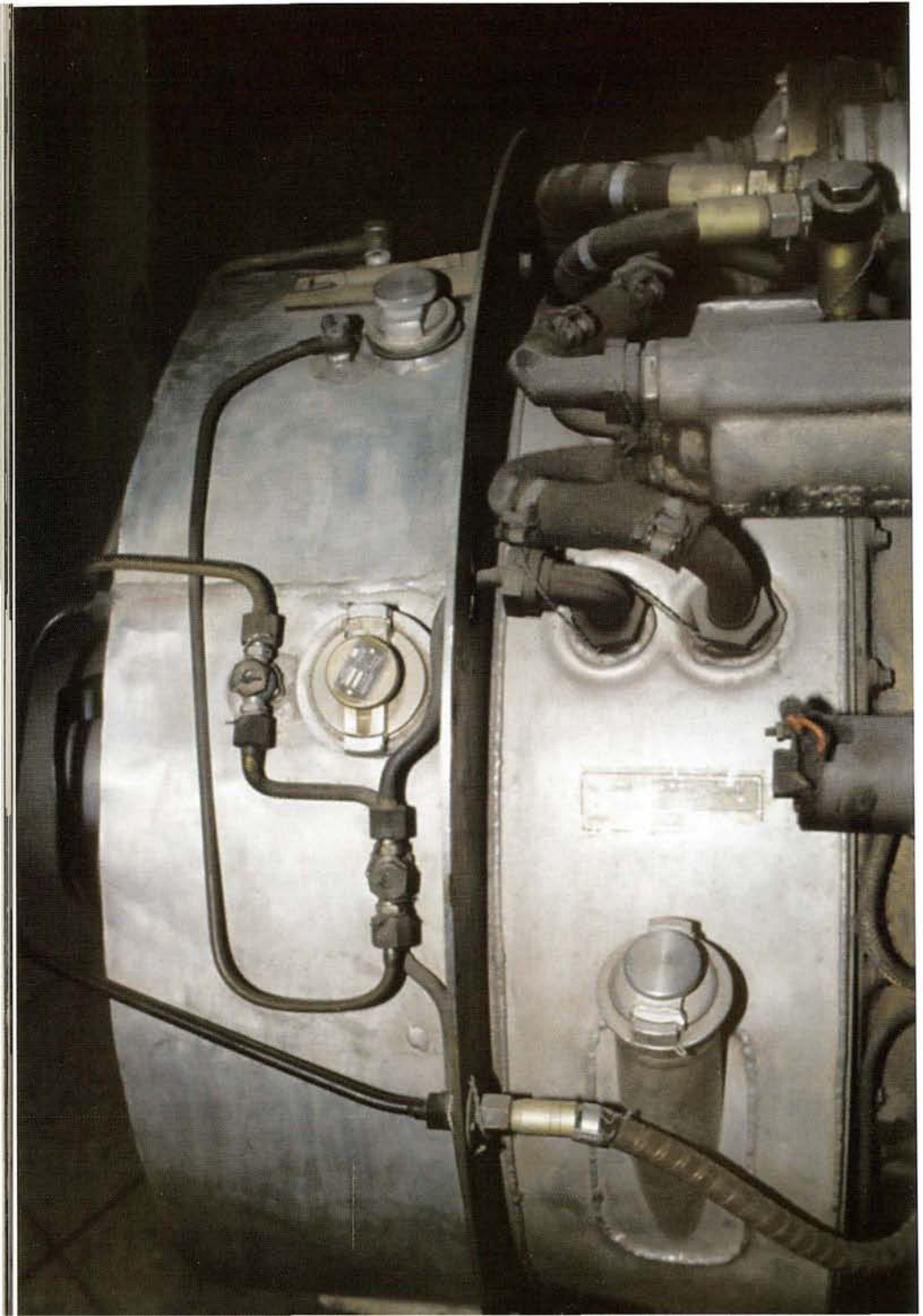
A Swiss ground crewman rests on the port Jumo 004B-1 powerplant of a Messerschmitt Me 262A-1a at Oberpfaffenhofen airfield near Munich in September 1948. The red dot on the engine nacelle is the engine nacelle panel joint mark and identifies this particular Messerschmitt as an Obertraubling-built example. The damaged cowling indicates that the Jumo 004B-1 powerplant had been destroyed with a hand grenade thrown in the intake, a common method used by Luftwaffe personnel to prevent Me 262s falling intact into enemy hands. The oval hydraulic pressure check panel as well as the circular fuel filler panel for the 200 liter fuel tank under the cockpit are open. (Martin Kyburz)

A Swiss Army truck carries away the port Jumo 004B-1 powerplant of 500071 at Dübendorf Air Force Base. The powerplant had been dismantled from the Me 262A-1a during summer 1945 for a close evaluation and test run. During these tests, the lower cowling on the air intake had been damaged. This damage was not repaired when the aircraft was donated to the Deutsches Museum in August 1957. The variable nozzle cone is in the fully retracted position. (Swiss Air Force Museum via Andrea Lareida)



This Me 262A-1a, 'Yellow 2,' carried the tactical markings B3+BL and previously belonged to 3./KG(J) 54. It operated as part of the *Gefechtsverband Hogeback* (temporary combat unit Hogeback) from Prag-Rusin (now Praha-Ruzyne) airfield, Czechoslovakia during the closing days of World War II. This improvised task force , which included elements of JG 7, KG(J) 6, I./KG(J)54, and 2./KG(J)51, commenced operations in March 1945 under the command of *Oberstleutnant* (Lieutenant Colonel) Hermann Hogeback, the *Commodore* (Commander) of the *Kampfgeschwader* 6 (6th Bomber Wing). Hogeback had accomplished more than 500 combat missions during World War II. This particular Me 262, belonging to the I. *Gruppe* (1st Group) of KG(J) 54, had the marking of *Kampfgeschwader* 54 (Bomber Wing 54), a *Totenkopf* (Death Head) emblem painted on the nose. The Messerschmitt carried a checkered white-blue band on the rear fuselage. The Me 262 was destroyed by retreating Luftwaffe soldiers who cut the attachment points of the Jumo 004B-1 powerplant. The various circular apertures in the upper engine cowling were a measure to save airframe weight. (Bohumir Kudlicka)





▲ The bullet-shaped fairing of this Jumo 004B-1 has been cut away to reveal the Riedel-Anlasser RBA-S10 starter engine. The gross weight of the Riedel engine was 16.5 kilograms (36.4 lb). It generated 10.5 hp at 1500 rpm. The ring pull handle for the starter is located in the center of the fairing. The pull handle was only used in emergencies. The standard starting procedure of the Riedel-Anlasser RBA-S10 was by means of an electric starter.

◀ The ring-shaped oil tank for the Riedel-Anlasser RBA-S10 starter engine. The cowling covering the intake of the engine was attached to the engine casing and was usually not removed during inspection. This tank also fed starting fuel to the combustion chambers of the Jumo 004B-1 engine.

▼ The port Jumo 004B-1 with the accessory drive gearbox housing mounted on top. Aft of the gearbox housing is the fuel regulator. Above the red 'N' is the drive motor for the nozzle cone. The boxes located below the drive motor comprise the ignition system.

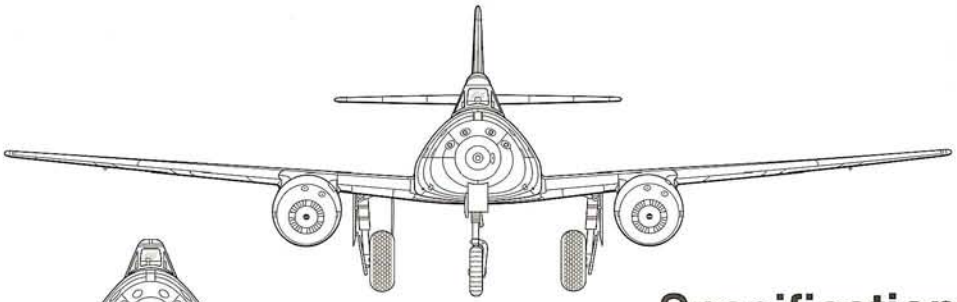
▲ Atop the port Jumo 004B-1 are various pumps and the accessory drive gearbox. On both sides of the engine are the wing leading edge slats.

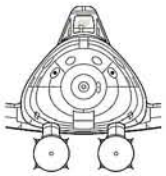
▲ The fuel pump is located beside the hydraulic pump on the upper engine casing of the Jumo 004B-1.

▼ The connection points for the panels of the Jumo 004B-1 powerplant on the port lower wing. Above the engine is the valve needle adjuster, which is connected by a rod to the steering device located on top of the front section of the powerplant.

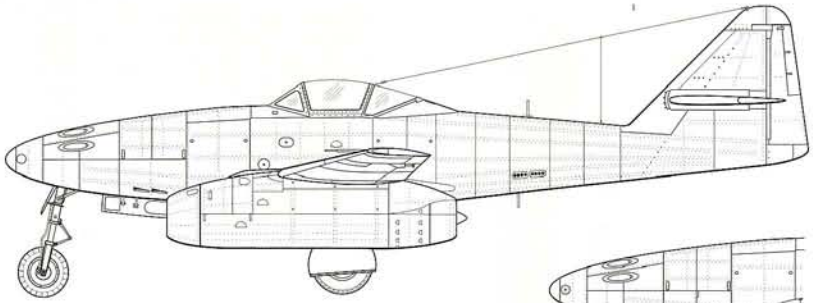
▼ There were a total of three attachment points for the Jumo 004B-1 powerplant under the lower wing surfaces of the Me 262 A-1a. The points were attached to the main engine casing.

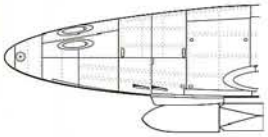
Messerschmitt Me 262A-1a





Me 262A-2

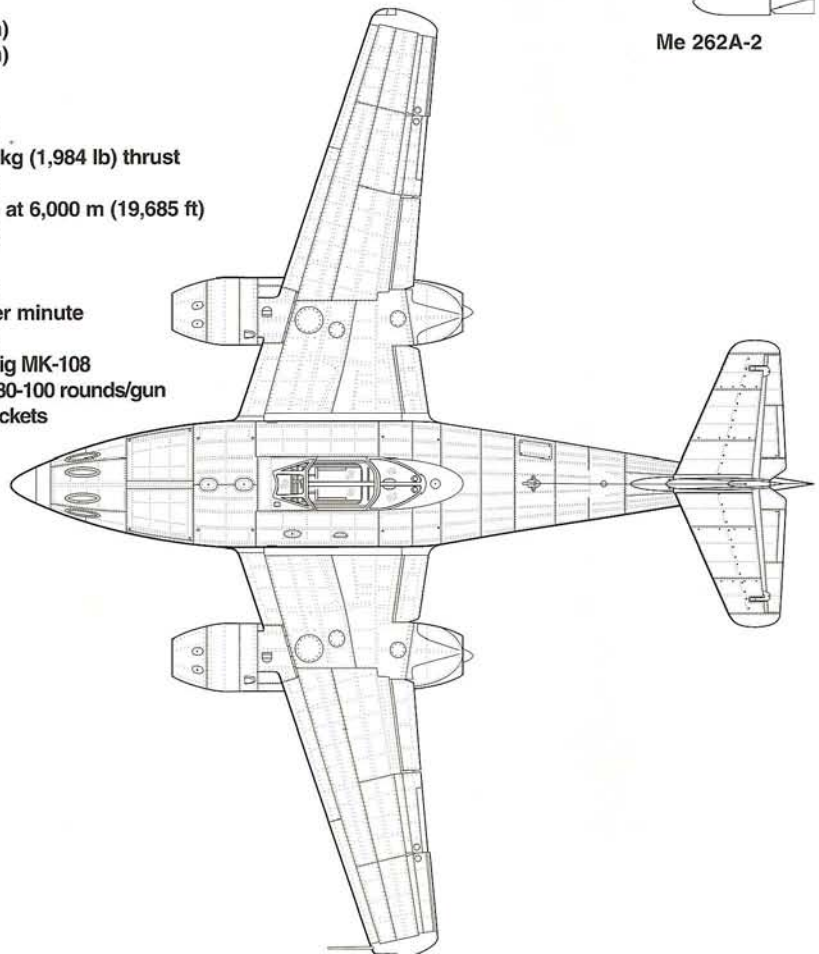


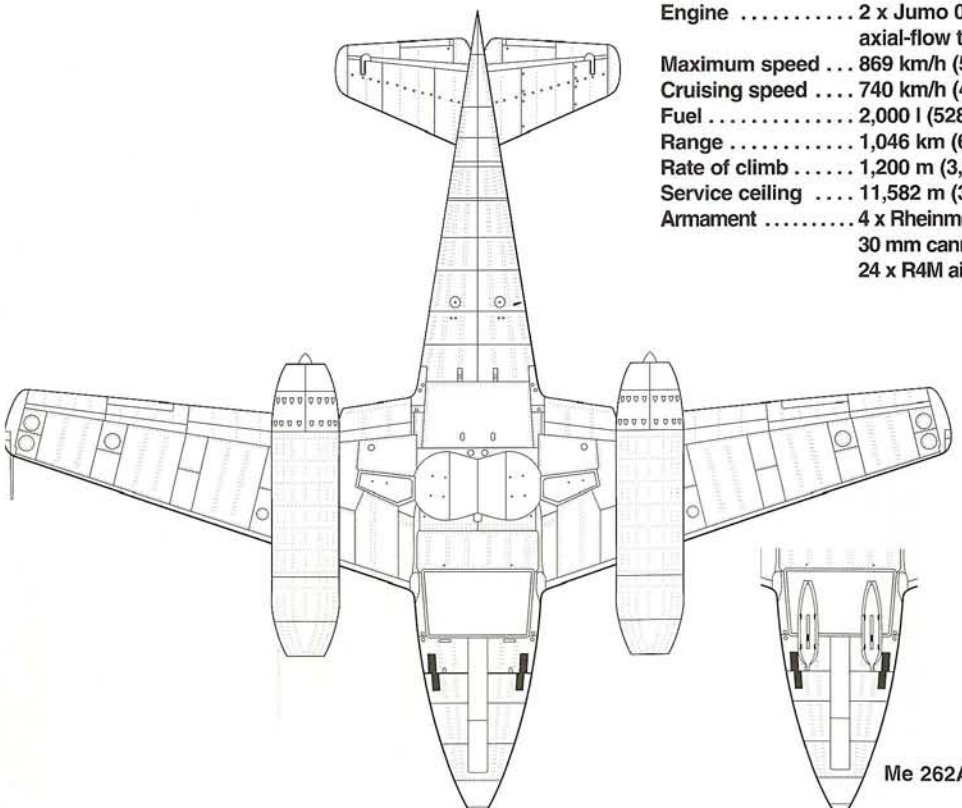


Me 262A-2

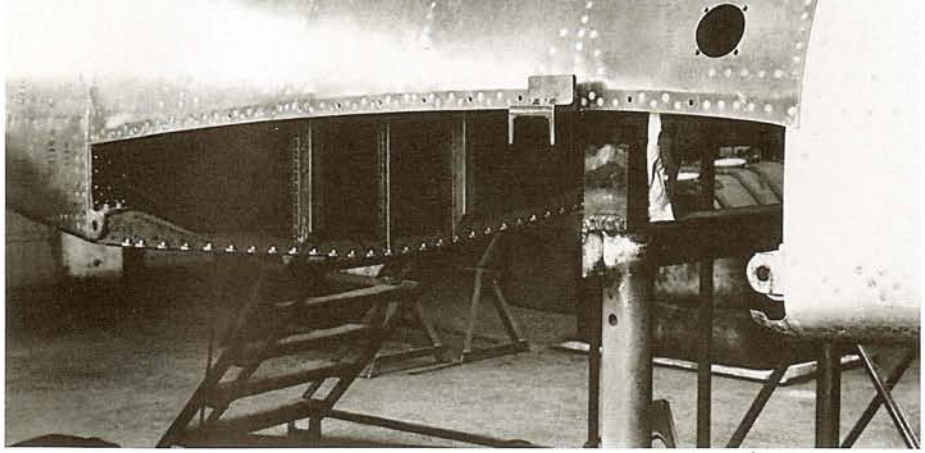
Specifications

Length ..... 10.605 m (34 ft 9.5 in)
Wingspan ..... 12.510 m (41 ft 0.5 in)
Height ..... 3.83 m (12 ft 7 in)
Weight, empty ..... 3,795 kg (8,378 lb)
Weight, gross ..... 6,387 kg (14,080 lb)
Engine ..... 2 x Jumo 004B 900 kg (1,984 lb) thrust axial-flow turbojets
Maximum speed ... 869 km/h (540 mph) at 6,000 m (19,685 ft)
Cruising speed .... 740 km/h (460 mph)
Fuel ..... 2,000 l (528.3 gal)
Range ..... 1,046 km (650 mph)
Rate of climb ..... 1,200 m (3,937 ft) per minute
Service ceiling .... 11,582 m (38,000 ft)
Armament ..... 4 x Rheinmetall-Borsig MK-108 30 mm cannon with 80-100 rounds/gun
24 x R4M air-to-air rockets





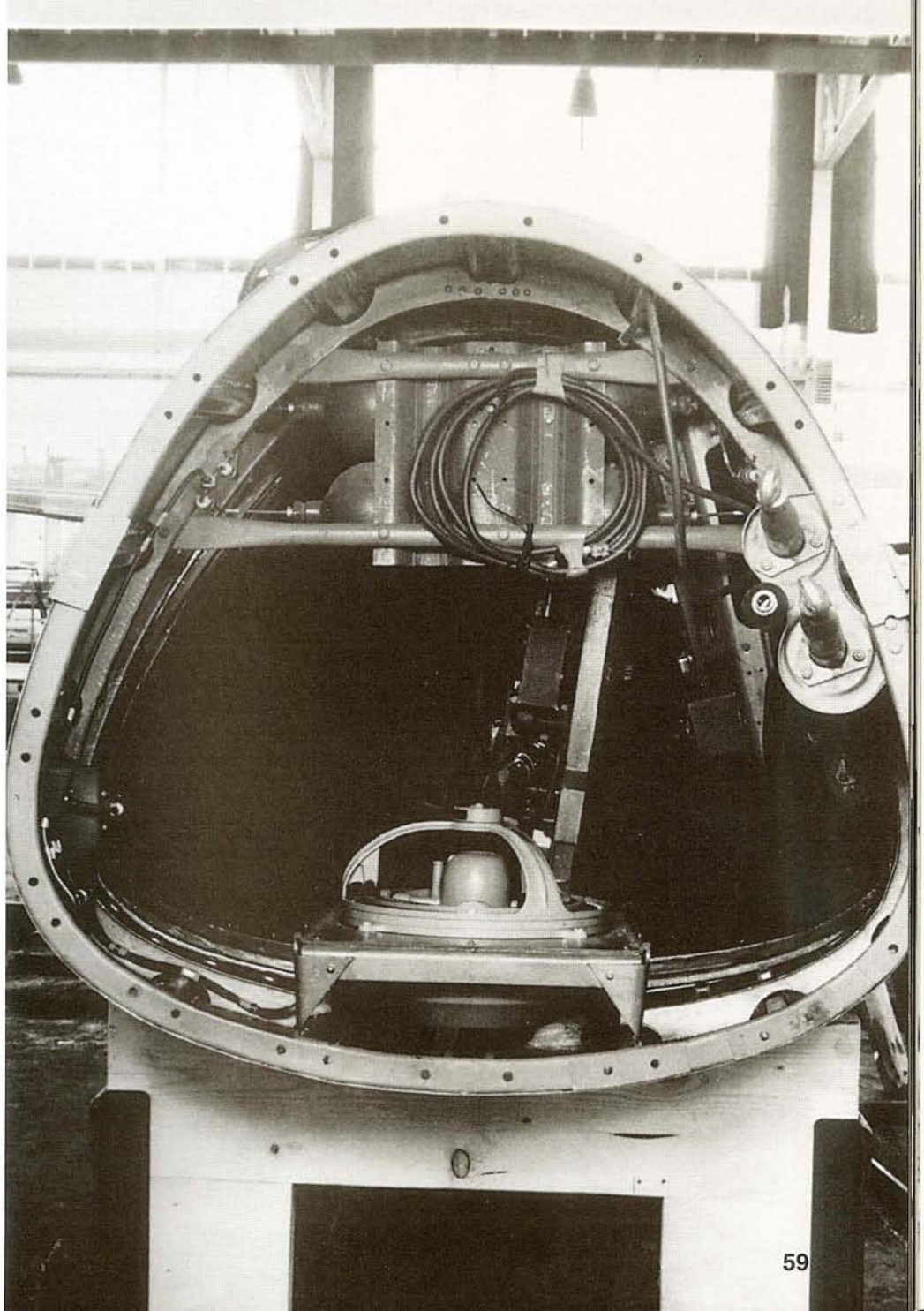
Me 262A-2



▲ The starboard wing attachment on the mid-fuselage of one of the pre-series Me 262s, which were built in the experimental shops at the Messerschmitt AG at Augsburg-Haunstetten. The attachments for the two 20 mm (0.78 Inch) bolts were fixed on the lower fuselage section. The circular aperture above the wing attachment is for the external power connection. (Willy Radinger)

▶ The rear fuselage section of one of the three pre-series Me 262 (V8 to V10), which were built in the experimental shops at the Messerschmitt AG at Augusburg-Haunstetten. The compass has been attached to the lower inner fuselage skin. The upper rod attached on the starboard inner fuselage is for actuating the elevator, while the lower rod is for the rudder trim tab. Also located in the rear fuselage section were the Lorenz FuG-16ZY radio and the Telefunken FuG-25a *Erstling* IFF transponder, although neither had been installed in the rear fuselage when this photo was taken. (Willy Radinger)

▼ The external power connection of the Me 262A-1 plugs into a socket on the starboard side of the fuselage. The onboard electrical system of the Me 262 runs on 24 volts.



▲ The AAG-16 antenna mast for the Lorenz FuG-16ZY radio was attached with four screws on the lower starboard wing surface close to the main wheel of the Me 262A-1a.

◀ The AAG-16 antenna mast of the Lorenz FuG-16ZY radio mounted on the rear lower starboard wing on the Me 262A-1a. The Lorenz FuG-16ZY was one of the principal VHF radios of the German Luftwaffe, using four pre-set frequencies in a band between 38.5 and 42.3 MHz. The FuG-16ZY radio was connected with the *Umformer* (transformer) U-17 as well the *Zielflug-Verstärker* (homing amplifier) ZVG-16. The radio was built in vast numbers by the German Lorenz company.

▼ The rear attachment point for the two Rheinmetall-Borsig R 109-502 rockets on the rear lower fuselage section.

▸ Me 262A-1a *Werknummer* 500071 at Dübendorf Air Force Base near Zurich, Switzerland, during summer 1957 before delivery to the German Museum. Prior to the handing-over ceremony, the entire fuselage section was completely repainted by the Swiss Air Force in order to replace the very thin and irregular paint originally applied to the aircraft with a solid coat of paint. Evident is the use of a horizontal wavy line of RLM 76 *Lichtblau* (Light Blue) on the upper section of the nose as well as the heavy use of RLM 76 on the upper fuselage section, which was never applied at the factory. RLM 76 was also painted around the *Hakenkreuz* on the tail, which was also not an original feature. The engine cowlings were also completely repainted. Repainting of the airframe caused the removal of the two white instruction placards below the gun bay doors. (Martin Kyburz)

▾ All Me 262A-1a had provision for mounting two Rheinmetall-Borsig R 109-502 RATO (Rocket Assisted Take-Off) solid fuel rockets behind the main wheel wells, but these were very seldom used on operational Me 262s. The front attachment point is located quite close to the rear main wheel well. The Rheinmetall-Borsig R 109-502 weighted 51 kg (112 lb) and had a thrust of 500 kilograms (1,100 lb) and a burning duration of 7.5 seconds. They were ignited with a switch mounted on the port cockpit console. After a successful take off, the rockets could be jettisoned.

▾ The front attachment point for the R 109-502 rockets. Immediately aft of the main gear wells are the two caps to drain fuel from the rear 900 liter fuel tank.

▲ A Me 262A-1a during trials with the *Nauchno Issledovatelskii Institut* (Scientific Research Institute of the Soviet Air Force) at Kratovo test center, located southeast of Moscow. The trials with the German jet fighter started in August 1945. Kratovo was renamed Zhukovsky in 1947 but is better known in the West as Ramenskoye, named by United States intelligence services after an adjacent town. The site is named after Nikolai Yegorovich Zhukovsky, the founding father of Russian aviation. (G.F. Petrov)

▲ The Soviet Me 262A-1a lacked the *Peilrahmen* (direction finding antenna) PR-16 for the *Zielflug-Verstärker* ZVG-16 homing amplifier, which was connected with the Lorenz FuG-16 ZY radio. The Soviet national markings were applied on the wing undersurfaces as well as to the rear fuselage and tail fin. No national markings were applied on the upper wing surfaces, which was common for Soviet Air Force aircraft during World War II. The red star was outlined with a wide white and narrow red border. (G.F. Petrov)

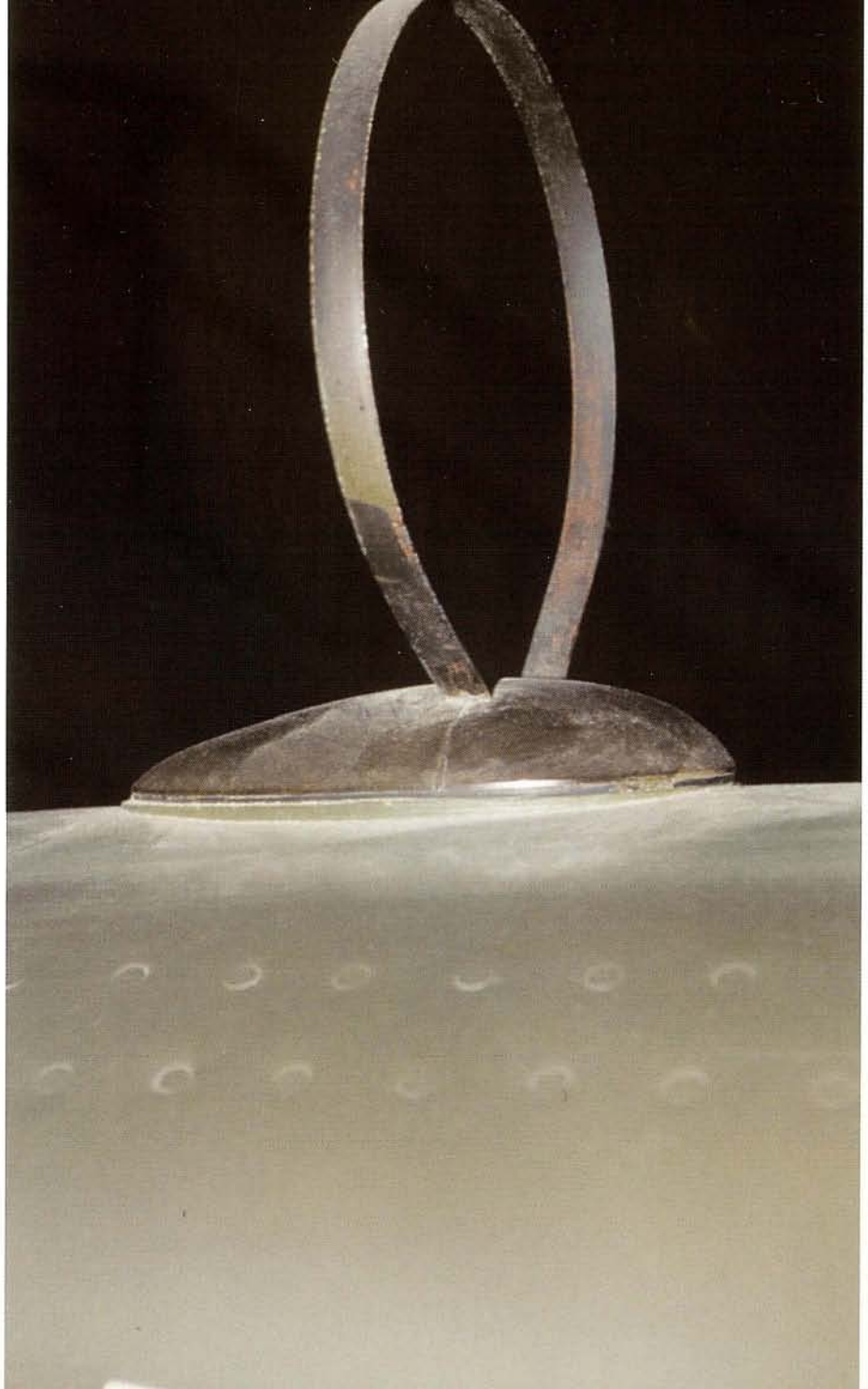
▶ Me 262A-1a 'White 9' (*Werknummer* 170063) previously belonged to the *Erprobungs-Kommando* (evaluation unit) at Lechfeld, but was transferred in August 1944 to the *Erprobungs-Kommando* at Lärz. After a crash landing at Kolberg-Bodenhagen (now Kolobrzeg, Poland) on the Baltic coast, it was taken to the Heiligenbeil repair depot, where it was captured by Soviet troops on 18 April 1945. The damaged jet was dismantled and taken to the repair shop of the Soviet Air Force at Chkalovskaya air base, where the rebuilding was undertaken. The repaired Me 262A-1a first flew from Kratovo on 15 August 1945. It has the four muzzles for the MK-108 30 mm cannon faired over, a modification that was done in the Soviet Union. In the rear canopy compartment is a movie camera mounted behind the pilot's seat. A new Jumo 004B-1 had to be installed with a new nacelle after the first flight, because of the malfunction of the original powerplant. The location of the rearming instruction placards for the MK-108 30 mm guns under the gun bay door on the nose is a typical feature for Leipheim-built Me 262s. (G.F. Petrov)

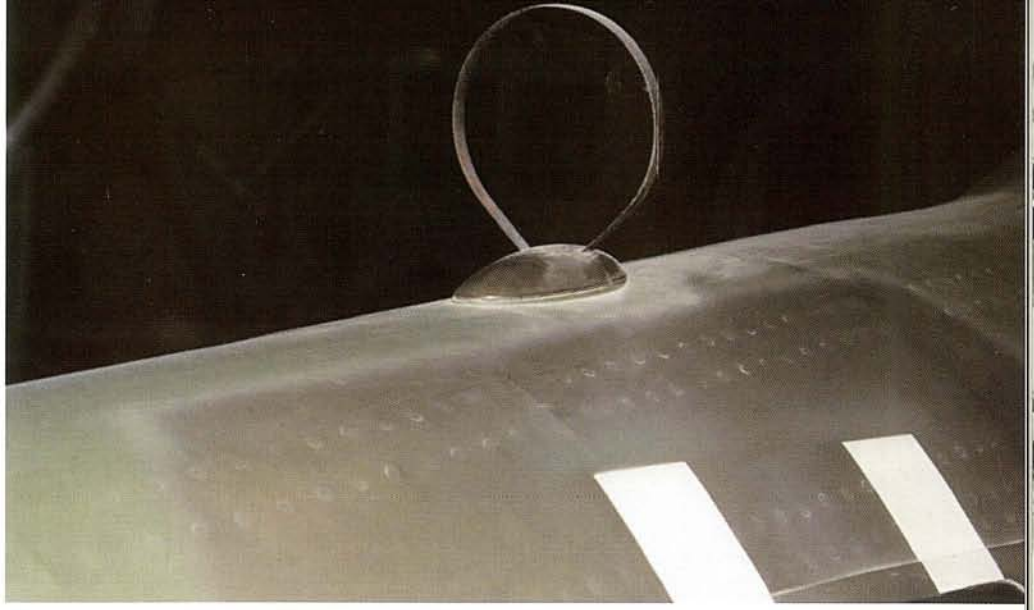
The Me 262A-1a (*Werknummer* 170063) during the trials with the *Nauchno Issledovatelskii Institut* at Kratovo. During these trials the Me 262A-1a attained a speed of 780 km/h (485 mph) at ground level and 850 km/h (528 mph) at an altitude of 7000 meters (22,966 ft). The Me 262 was about 180 km/h (112 mph) faster than the contemporary Soviet Lavochkin La-7 and Yakovlev Yak-9 fighters. The trials lasted from August to November 1945. Soviet test pilots praised the top speed, which was superior to contemporary piston-engine fighters, but shortcomings were the long take-off and landing runs the jet fighter required. A white tape is located over the faired over lower cannon muzzle of the Me 262 A-1a. The cowling on the air intake is in natural metal, a feature quite often seen on Leipheim-built aircraft. The Messerschmitt still carries its original port Jumo 004B-1 engine, which had to be replaced along with the engine nacelle after the first flight from Kratovo on 15 August 1945. A total of four Me 262s and 39 Jumo 004 powerplants were shipped to the Soviet Union for examination and evaluation, but this was the sole Me 262 flight tested by the *Nauchno Issledovatelskii Institut*. This jet fighter was involved in further flight testing in the Soviet Union and crashed on 17 September 1947, killing test pilot Victor Masitsh. The Me 262A-1a carried a camouflage consisting of RLM 82 *Hellgrün* (Bright Green) overall on the upper surfaces and RLM 76 *Lichtblau* (Light Blue) on the undersurfaces. The German markings were overpainted. (G.F. Petrov)

▲ The AAG-25a rod antenna for the Telefunken FuG-25a *Erstling* IFF transponder on the starboard rear fuselage. The FuG-25a worked on a transmitter frequency of 160 MHz and a receiver frequency of 125 MHz, had a range of about 100 kilometers (62 miles), and communicated with the Luftwaffe's *Freya* and *Würzburg* radar surveillance and communications systems. The *Erstling* IFF system included the AAG-25a boom shaped antenna, the *Bediengerät* BG-25 (control unit) as well as the *Widerstandskasten* WK-25 (resistance box). The *Erstling* weighed 8.4 kilograms (18.5 lb).

◀ The rear starboard fuselage of 500071 has been cut open for exhibition purposes by the German Museum and the original skin replaced by transparent Plexiglas. The upper transparent panel replaces the access panel for the radio and IFF transponder equipment and first aid kit. This panel was only installed on the starboard rear fuselage. On top of the fuselage is the *Peilrahmen* PR-16 loop-shaped direction finding antenna for the *Zielflug-Verstärker* ZVG-16 (homing amplifier). The *Peilrahmen* PR-16 is part of the Lorenz FuG-16ZY radio mounted in the rear fuselage. The AAG-25a IFF transponder antenna rod for the Telefunken FuG-25a *Erstling* IFF transponder extends below the fuselage.

▼ Adjacent to the AAG-25a rod antenna for the Telefunken FuG-25a *Erstling* IFF transponder is the external oxygen filler hatch located on the rear lower starboard fuselage. The inscription *"Sauerstoff"* (oxygen) is painted above the access hatch. Two oxygen bottles for the Dräger oxygen system were carried in the rear fuselage.

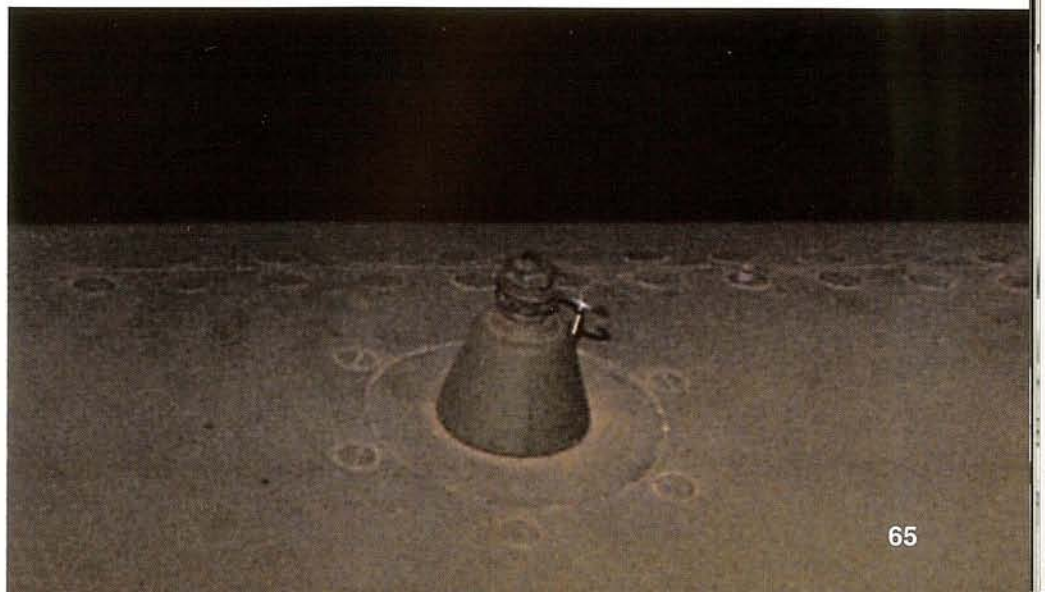


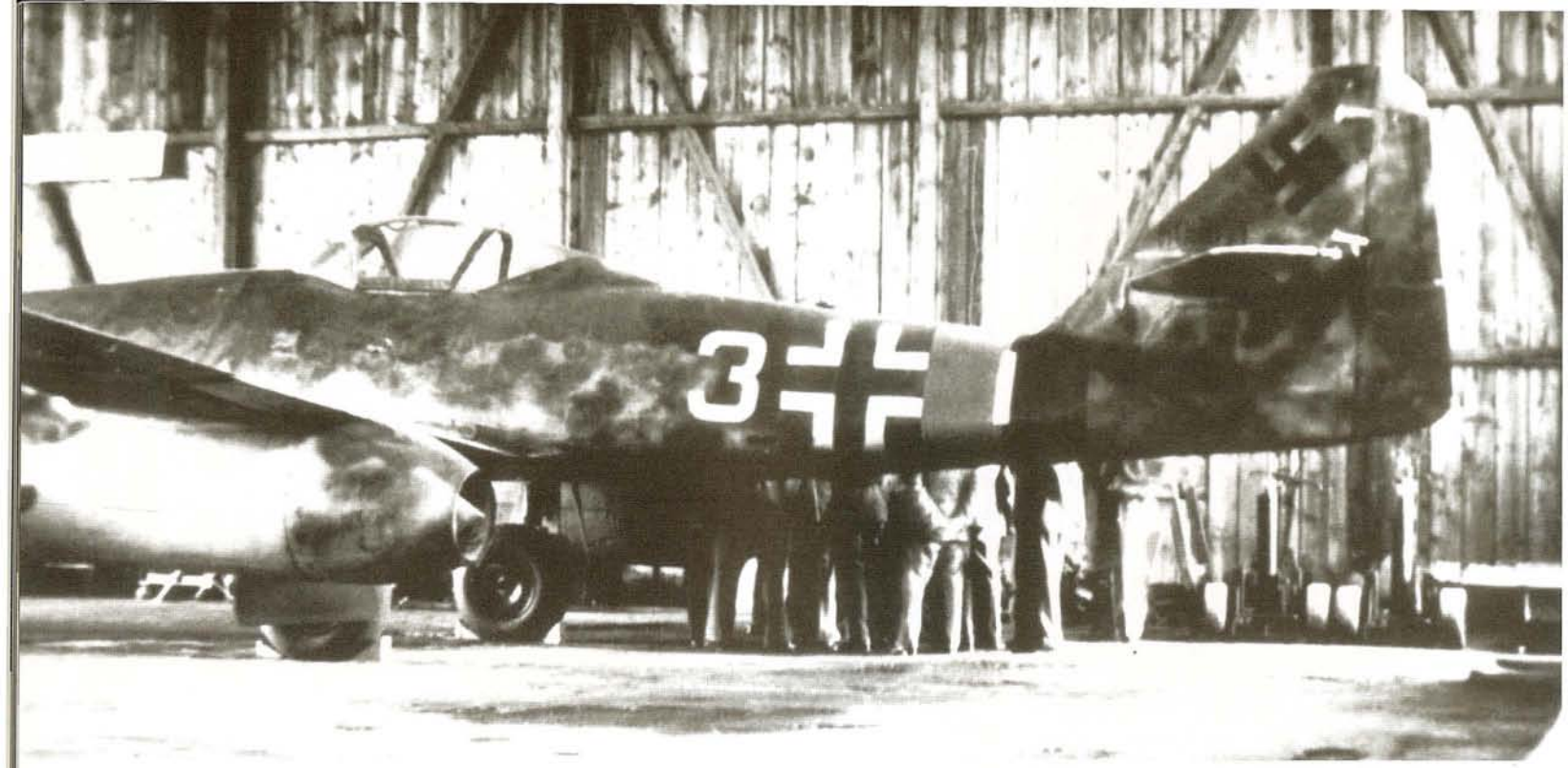


▲ The *Peilrahmen* PR-16 direction-finding loop antenna for the *Zielflug-Verstärker* ZVG-16 homing amplifier is mounted on the upper rear fuselage centerline of the Me 262A-1a. The antenna is attached on a teardrop-shaped platform.

◀ The *Peilrahmen* PR-16 direction finding antenna for the *Zielflug-Verstärker* ZVG-16, which is part of the Lorenz FuG-16ZY radio, has a diameter of 208 mm. The flush-riveted structure of the fuselage was fabricated for simplicity in assembly.

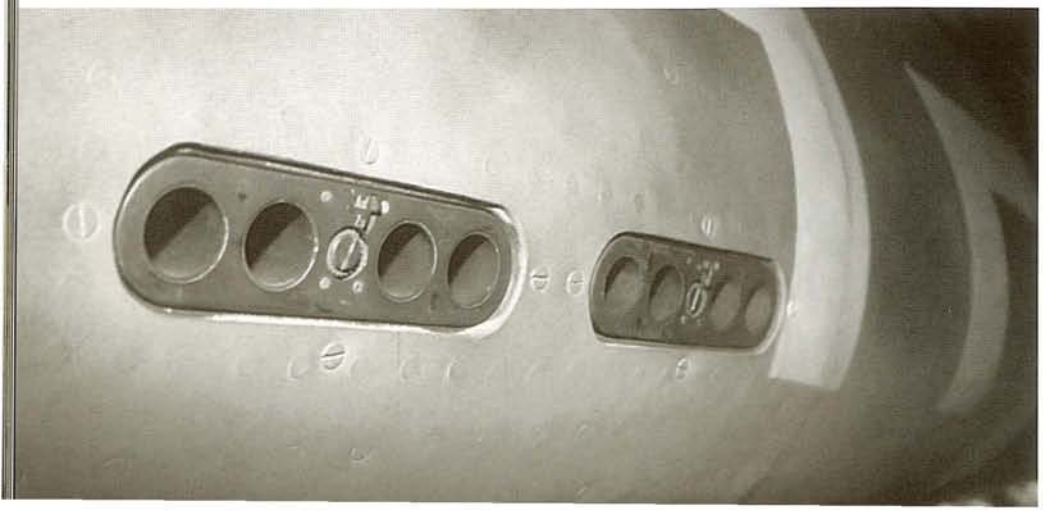
▼ The lead-in for the wire antenna of the FuG-16ZY radio was positioned on the top of the fuslage aft of the loop antenna and offset slightly to port of the aircraft centerline.



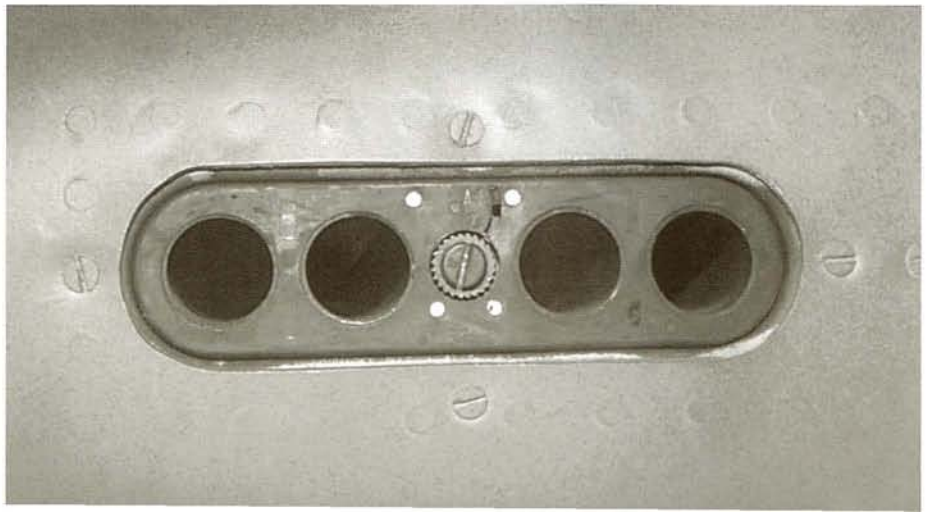


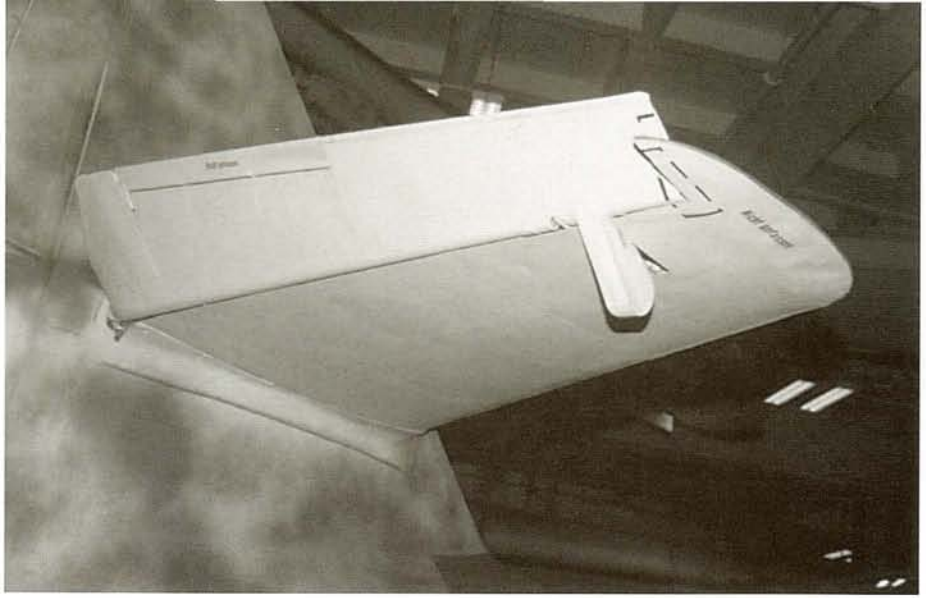
◂ 500071 was stored for 12 years in a wooden hangar at Dübendorf Air Force base and was in nearly original condition when donated to the Deutsches Museum in August 1957. For this reason, 500071 is the most authentic Me 262 on exhibit in the world. The Me 262A-1a still carried its original camouflage and the 450 mm blue and red recognition stripes of the *Reichsverteidigung* (Reich defense) on the rear fuselage. The blue and red stripes were issued to *Jagdgeschwader* 7. The white vertical bar indicates that the aircraft belonged to the 3. *Gruppe* (3rd Group), which consisted of the the 9., 10., and 11. *Staffel*, but the aircraft in fact belonged to the 9. *Staffel* of *Jagdgeschwader* 7. (Daniel Keller)

▾ Two units of the AZA-10 signal flare launcher were mounted on the lower rear port fuselage. 500071 carried four white and four red signal flares when it touched ground at Dübendorf airfield on 25 April 1945. The signal flares were fired by Me 262 pilots while approaching friendly airfields for landing, alerting ground crew and *Flak* (anti-aircraft) units that it was a friendly aircraft approaching the air base. The flares were removed from the aircraft before it was placed on exhibit in the Deutsches Museum.



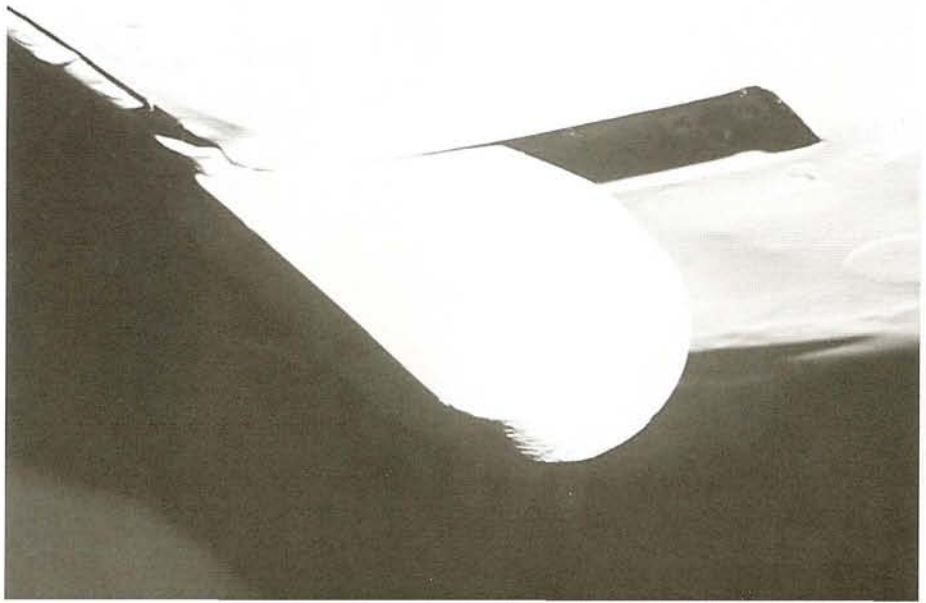
▾ Each AZA-10 signal flare launcher carried four flares. Flares of various colors could be ignited electrically by a switch mounted on the starboard cockpit console. The system was copied after the end of World War II by the Soviet aviation industry under the designation EKSR-46. The EKSR-46 signal flare launcher served in a number of Soviet fighters, including the MiG-15 and MiG-17. It is still in use in the early 21st century on Mi-8 and Mi-17 transport/attack helicopters as well as the Mi-24 'Hind' dedicated assault helicopter.





▲ The starboard stabilizer of 500071 on exhibit in the Deutsches Museum. Both stabilizers were equipped with a balance weight and a trim tab. The elevators were electrically actuated and traveled through an angle of 9 degrees. The electrical motor for the actuator was mounted in the tail section below the stabilizer.

▼ The balance weight of the starboard stabilizer. Port and starboard balance weights were identical on the Me 262 A-1a.



Nicht anfassen

("Do not touch")
Black or red letters 18 mm or 25 mm high.

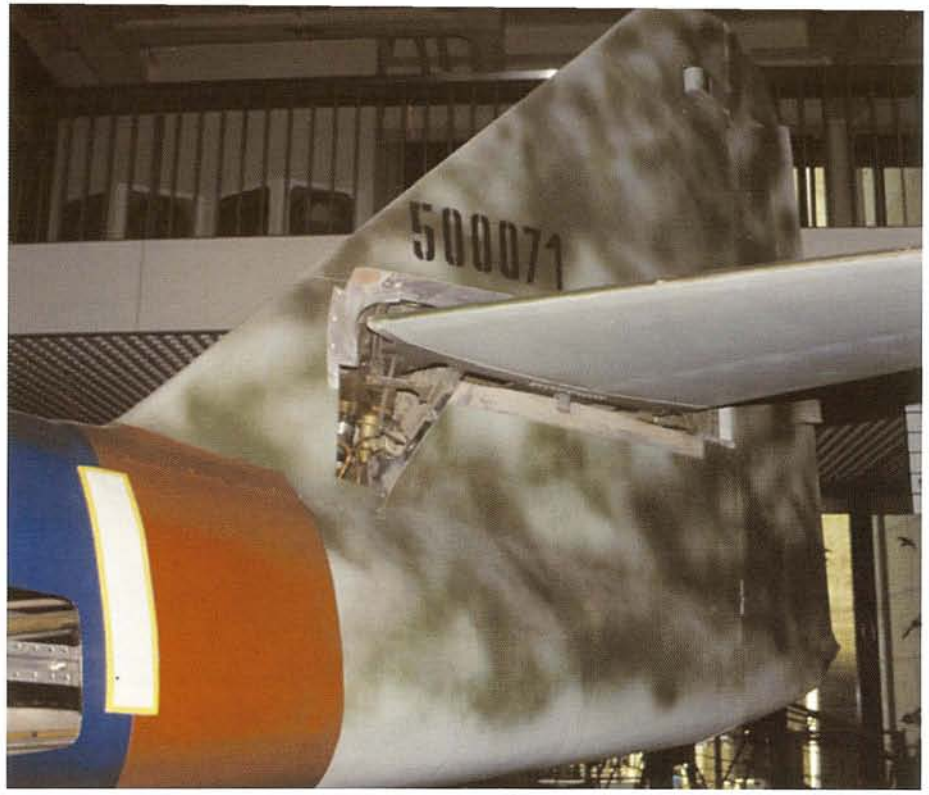
ACHTUNG! Nicht am Bugrad schleppen

("Caution! Do not tow nosewheel")
Black letters 18 mm high on forward nosewheel door.

▼ The port stabilizer tip. The inscription *"Nicht anfassen"* ("Do not touch") is painted in black on the lower tip.

▸ The black *Werknummer* (500071) was painted only on the port side of this particular Me 262A-1a. When the aircraft landed in Switzerland, the first digit (5) of the serial number was applied oblique and sloping. The last two digits (71) were applied slightly below the three zeros. This was the result of the hurried work of forced labor on the final assembly lines of the Me 262. After the careful restoration by the Deutsches Museum, the *Werknummer's* digits were painted nicely in line, according to the guidelines issued by the Luftwaffe. Part of the skin has been cut away for exhibition purposes revealing the electric trim actuator with its turnbuckle. A considerable number of Me 262 tail sections were built by Blohm & Voss at Wenzendorf near Hamburg and shipped by rail or truck to the assembly plants in southern Germany.

500071



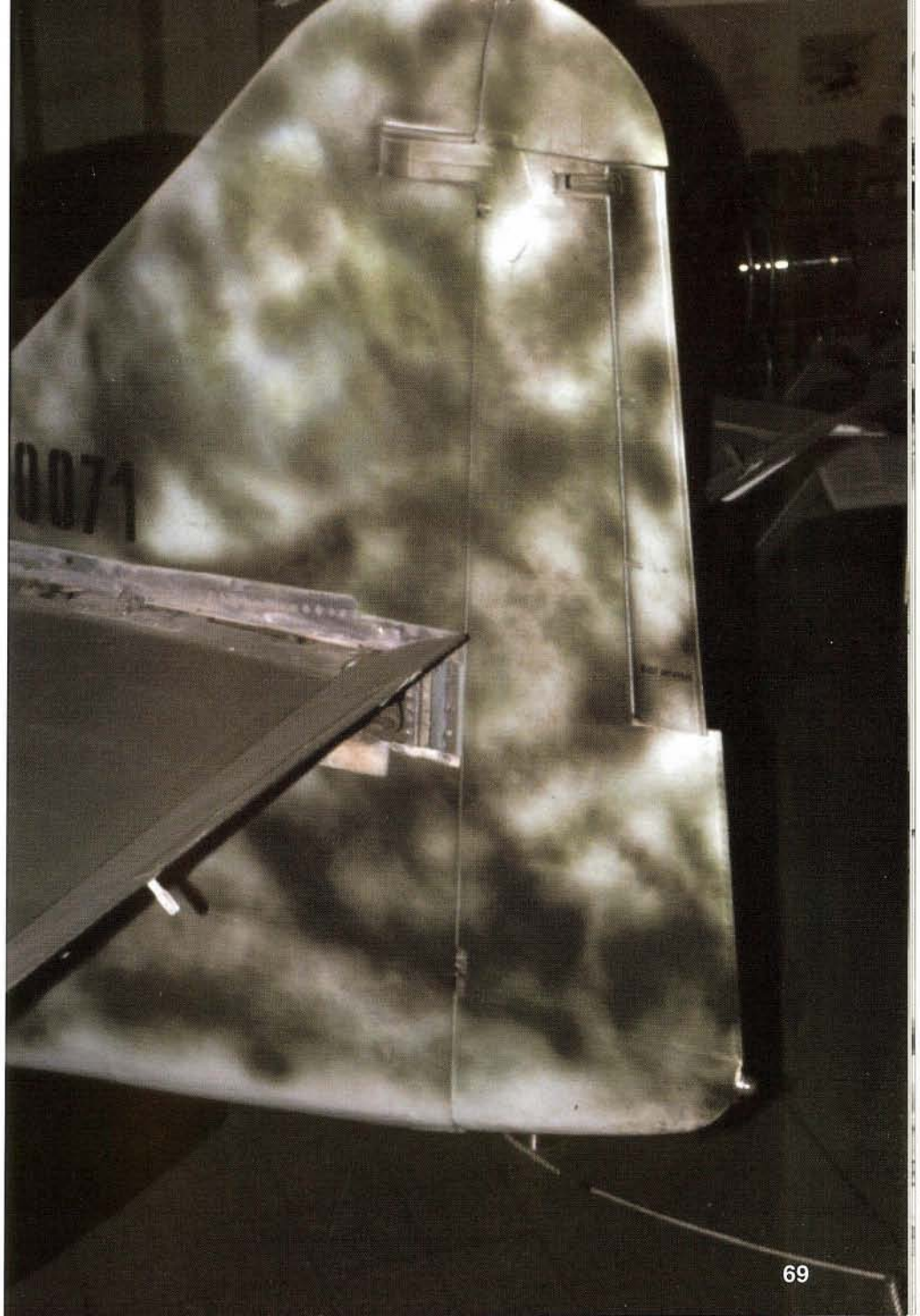
▾ The tail fin of the Me 262 A-1a on exhibit in the Deutsches Museum. The antenna cable for the Lorenz FuG-16ZY radio is attached on the leading edge of the tail surface.

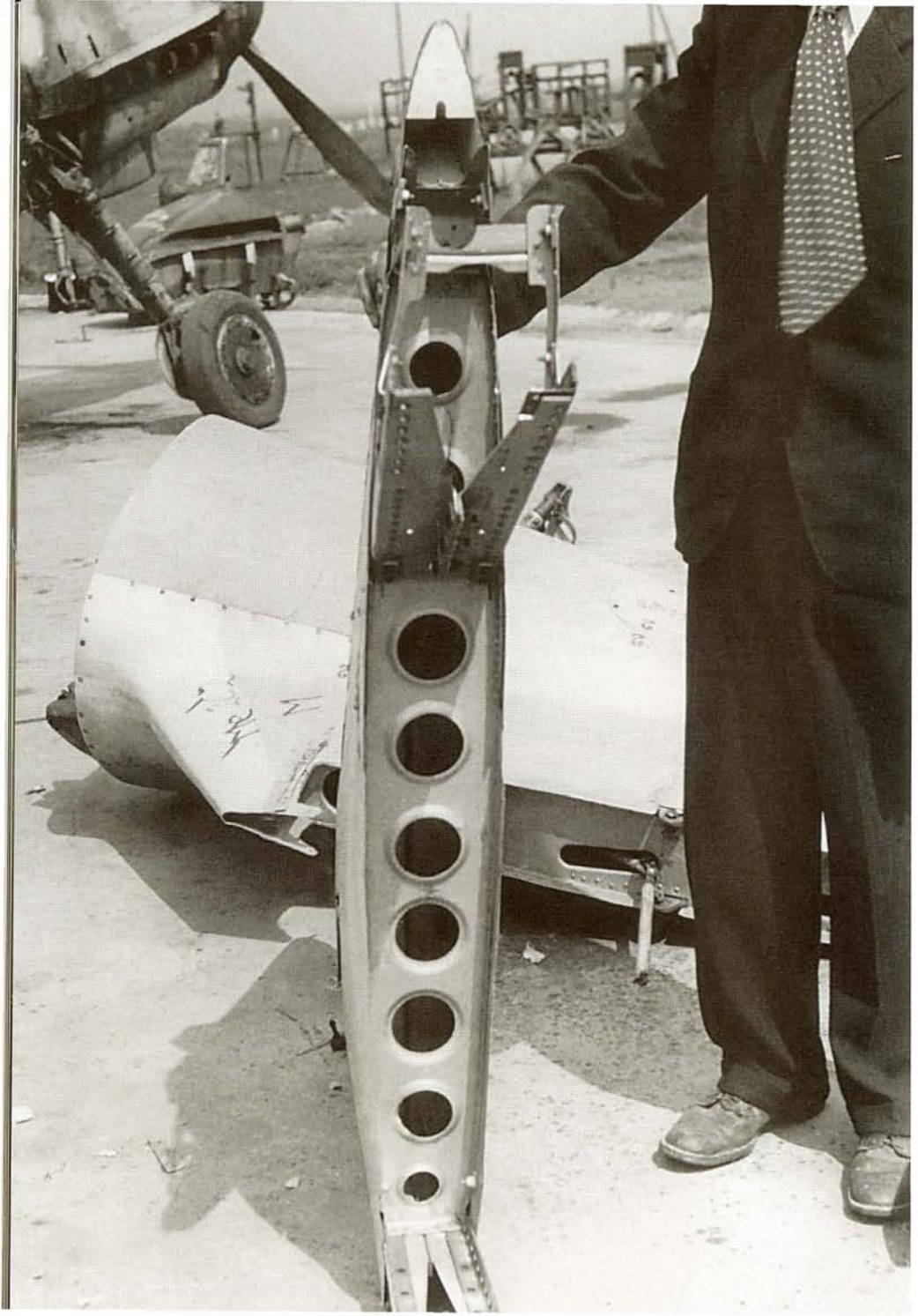
▾ The starboard side of the tail section. No *Werknummer* was carried on the starboard side of the vertical fin on 500071, in accordance with Messerschmitt guidelines to paint the *Werknummer* on the port tail only. This feature had been adopted from Bf 109 production, and the Obertraubling assembly line consequently followed this practice throughout the war. However, a number of Me 262s – for instance, most of the Leipheim-built Me 262s – had the *Werknummer* painted on both sides of the tail, and some Me 262s had no *Werknummer* painted at all. Almost all Me 262s assembled at Schwäbisch Hall-Hessental had only the last three digits of their *Werknummern* painted on both sides of the tail.

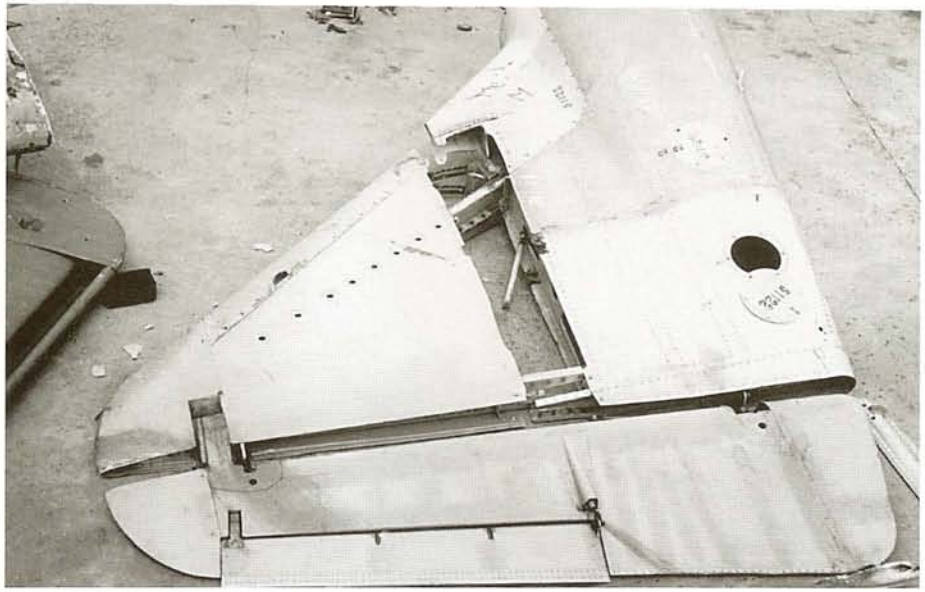
▲ The control rod for the rudder trim tab is on the starboard side only. The rod is protected by a fairing which reduced the amount of aerodynamic drag. "*Nicht anfassen*" ("Do not touch") is painted on the trim tab.

▶ The port side of the tail section of 500071. Due to laws prohibiting its display in the Federal Republic of Germany, the black *Hakenkreuz* (swastika) is not painted on the fin. The rudder is balanced by a weight at its upper extremity. Like the majority of Me 262s, this particular example is equipped with a narrow trim tab on the rudder. Except for the early production samples of the Me 262, all aircraft had a rear position light directly mounted on the trailing edge of the rudder.

▼ The rear position light is attached with screws to the rudder trailing edge. Early production Me 262 had a rear position light mounted under a transparent covering on the lower part of the rudder. For ease of production, all standard and late production Me 262 had the rear position light directly mounted on the trailing edge of the rudder.





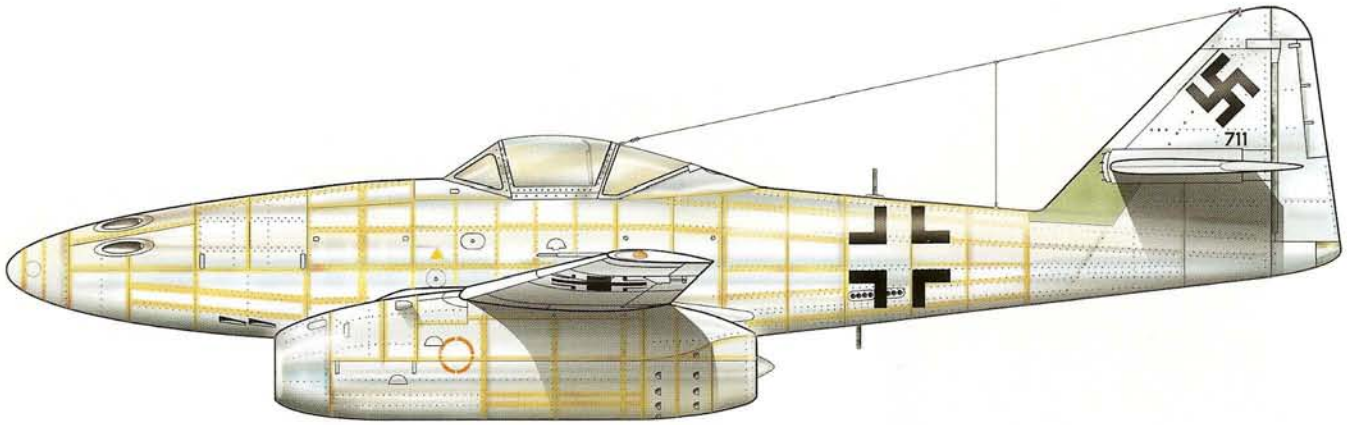


▲ The unassembled tail section of a Messerschmitt Me 262A-1a found at Prag-Rusin airfield. These parts had been manufactured by CKD-Praga. It was intended that CKD-Praga should undertake large-scale production of wings and tail units of the Me 262, but the war ended before production could proceed beyond the preparatory phase. These components have not yet been painted. The broad-chord trim tab was found only on very late production Luftwaffe Me 262s built at the Messerschmitt plant at Obertraubling near Regensburg. Standard production Me 262s had a narrow chord trim tab, the trailing edge of which was in line with the trailing edge of the rudder. The broad-chord trim tab was subsequently adopted on all Avia-built C-92s, which were in fact Me 262s rebuilt from existing components found in Czechoslovakia at the end of the war. (Japo Collection)

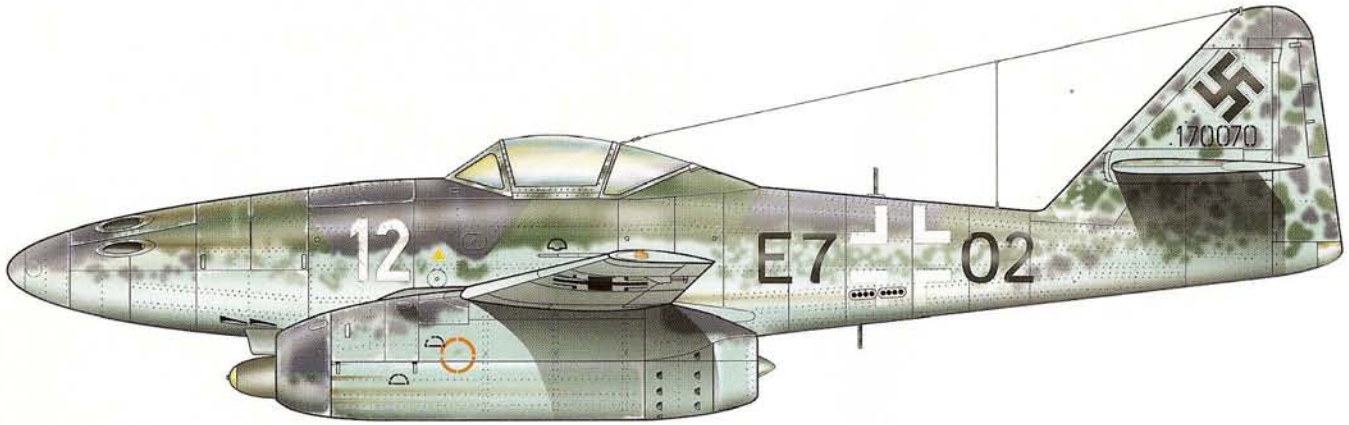
◀ The upper vertical fin segment with the two fin joint plates. The circular apertures cut in the rib were to lighten the structural weight. The lower tail segment lies behind on the ground. These components of unassembled Me 262A-1a were found at the end of the war at Prag-Rusin airfield in Czechoslovakia. (Japo Collection)

▲ Me 262 A-1a *Werknummer* 500071 photographed the same morning the Messerschmitt touched ground at Dübendorf airfield. The *Hakenkreuz* was painted in black and was not outlined, a feature not often seen and believed to be indicative of Me 262s built at Obertraubling in the late stage of World War II. Evident is the less-than-carefully applied serial number, with the digits not aligned. The *Werknummer* was only applied on the port side of this particular Messerschmitt. The application of the *Werknummer* on the port side only seems to be a feature of Me 262s assembled at Obertraubling. The Me 262A-1a has the standard fin trim tab, which does not extend beyond the trailing edge of the rudder. The front AZA-10 signal flare launcher of 500071 was loaded with four red flares, while the rear launcher was loaded with the same number of white flares. The color of the flares was painted on the head of the cartridges. (Swiss Air Force Museum via Andrea Lareida)

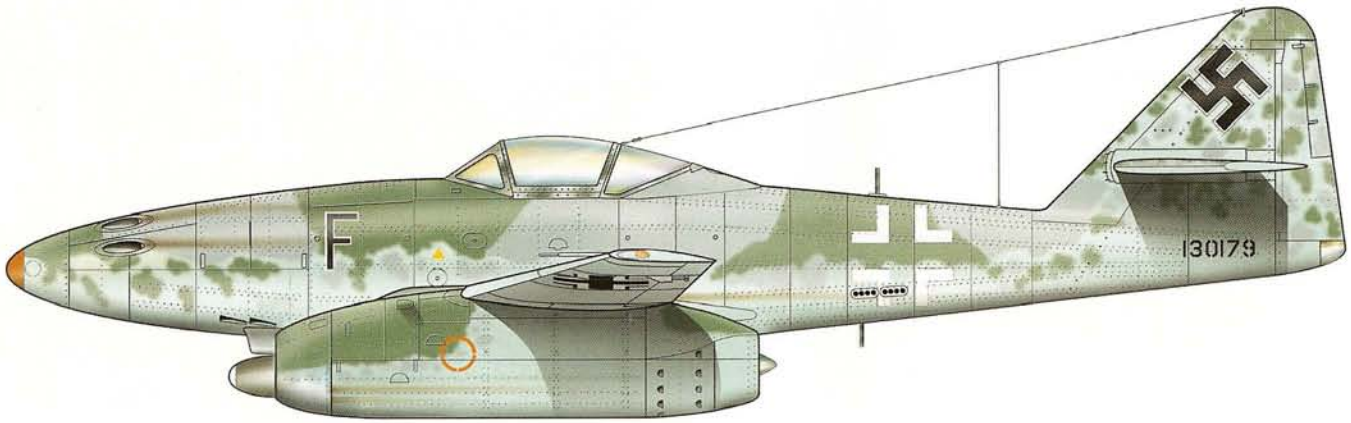
▶ A ground crew perform last-minute adjustments in the rear compartment housing radio master compass and oxygen bottle as the Avia S-92.2 of the *Letectvo Ceskoslovenske Lidove Armady* (Czechoslovak Air Force) is prepared for a mission. This was the second Me 262 copy built by the Avia company at Cakovice (formerly Grosstschakowitz) in Czechoslovakia. The S-92 featured the same broad trim tab on the rudder as the very late production examples of the German Me 262. The Avia S-92 is painted overall in a greenish-gray shade very similar to RLM 02. The registration number 'V-33' has been painted on the rear fuselage (the 'V' stands for *Vojensky Letecky Ustav* – Military Aeronautical Institute). The national marking is outlined in blue. Czechoslovakia reintroduced its pre-war national markings after the end of World War II. (Bohumir Kudlicka)



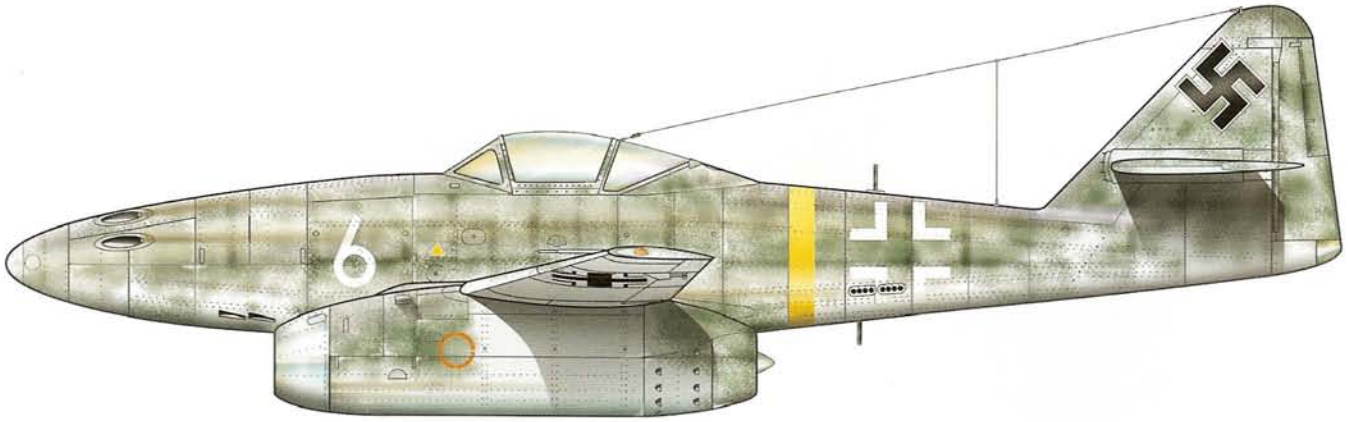
Me 262A-1a *Werknummer* 111711 was the first captured example of an Me 262, surrendered to US forces at Frankfurt/Rhein-Main by test pilot Hans Fay. The aircraft was overall natural metal with a light green panel on the fin and panel lines filled in with putty. It was one of the most frequently photographed examples of the Me 262 in the US until its crash at Xenia, Ohio.



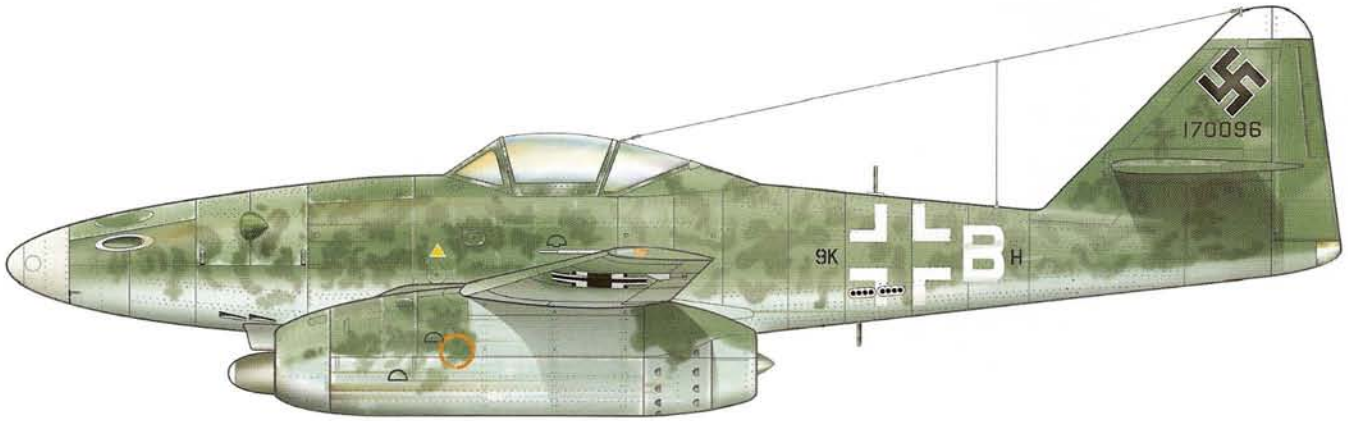
'E7+02' (*Werknummer* 170070), an early Me 262A1-a of the *Erprobungsstelle* (aviation research establishment) at Rechlin. The fuselage code denotes that the Me 262 was the second test aircraft of Rechlin's Department E7, which undertook armament trials. The white '12' on the nose may indicate the aircraft had previously served with an operational unit prior to being transferred to Rechlin.



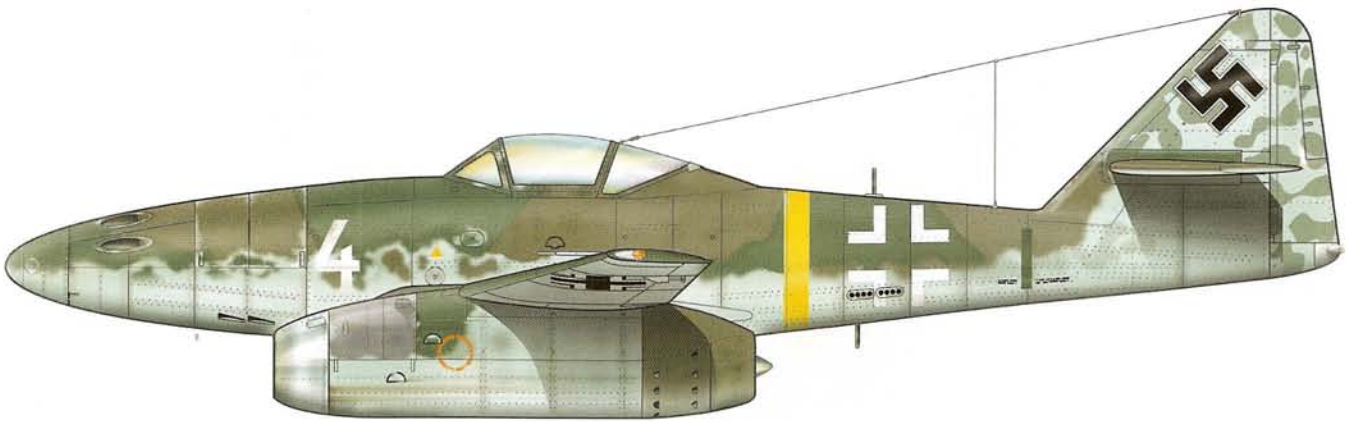
'Black F' (*Werknummer* 130179), a Schwäbish Hall-built Me 262A-1a of KG 51. This early Me 262A-1a was equipped with two *Wikingerschiff* bomb racks. The application of the *Werknummer* low on the aft fuselage below the horizontal stabilizer is unusual.



'White 6' (*Werknummer* unknown) was an early production Me 262A-1a of 10./EJG 2, a training unit for Me 262 pilots. The aircraft had previously served with *Kommando Nowotny*, as indicated by the yellow fuselage band.



'9K+BH' (*Werknummer* 170096), a Leipheim-built Me 262A-2a fighter-bomber of 1./KG 51, Rheine, September 1944. The camouflage scheme of RLM 81 *Braunviolet* and RLM 82 *Hellgrün* with RLM 76 *Lichtblau* undersurfaces was unique to KG 51. The tip of the nose cone, fin, and rudder are white, and the bottom gun ports are edged in white, the *Staffel* color.



'White 4,' a Leipheim-built Me 262A-1a of *Kommando Nowotny* (officially III./JG 6), Achmer, Germany, October 1944. The Luftwaffe's first jet fighter unit, *Kommando Nowotny* was named for its commander, 23-year-old Major Walter Nowotny, a Luftwaffe ace with 255 victories to his credit. The sharply defined mottle on the tail and the yellow fuselage band were distinctive features of the Me 262s of this unit.

▲ An early production Me 262A-1a (*Werknummer* 130179/SQ+WR), 'Black F' was originally assigned to 2./KG 51, the 2nd Squadron of the *Kampfgeschwader* 51 (Bomber Wing 51), but actually flew for the *Kommando Schenk* (Commando Schenk), which was the 3. Staffel (3rd Squadron) of I./KG 51. This Messerschmitt was built at Schwäbisch Hall-Hessental and is equipped with two *Wikingerschiff* bomb racks. (Harold Thiele)

▲ An Me262A-2a of *Kampfgeschwader* 51 prepares for takeoff. The unit marking is painted above the letter 'S,' which stood for *Schule* (training). The white *Hakenkreuz* (swastika) is non-standard. The upper two cannons have been deleted and the upper gun port faired over. The ETC 503 bomb rack is visible on the lower nose surface. (Martin Kyburz)

▼ Seen here scrapped at the *Umrüstbetrieb Deutsche Lufthansa* (conversion unit of the German Lufthansa airline) at München-Riem, Me 262A-1a 'White 9' (*Werknummer* 111617) previously flew for III./EJG 2 (*Erprobungsjagdgeschwader* 2 – 2nd Evaluation Fighter Wing), as denoted by the yellow band on the rear fuselage. III./EJG 2 was disbanded on 23 March 1945 and its remaining Me 262s were allocated to other units. The rudder is natural metal, while the tail section is camouflaged. The tactical number has a thin black outline. (Martin Kyburz)

▼ 'Yellow 8,' a Leipheim-built Me 262A-1a (*Werknummer* 112385), was found at Stendal-Borstel airfield in central Germany by US troops on 15 April 1945. This Me 262A-1a has a blister on the gun bay door, a feature of late production Me 262s, but lacks the broad rudder trim tab and the pilot's rear armor. It carries the badge of JG 7. Only the rear signal flare launcher is loaded, and the canopy and aft cockpit glazing have been removed. (Manfred Griehl)

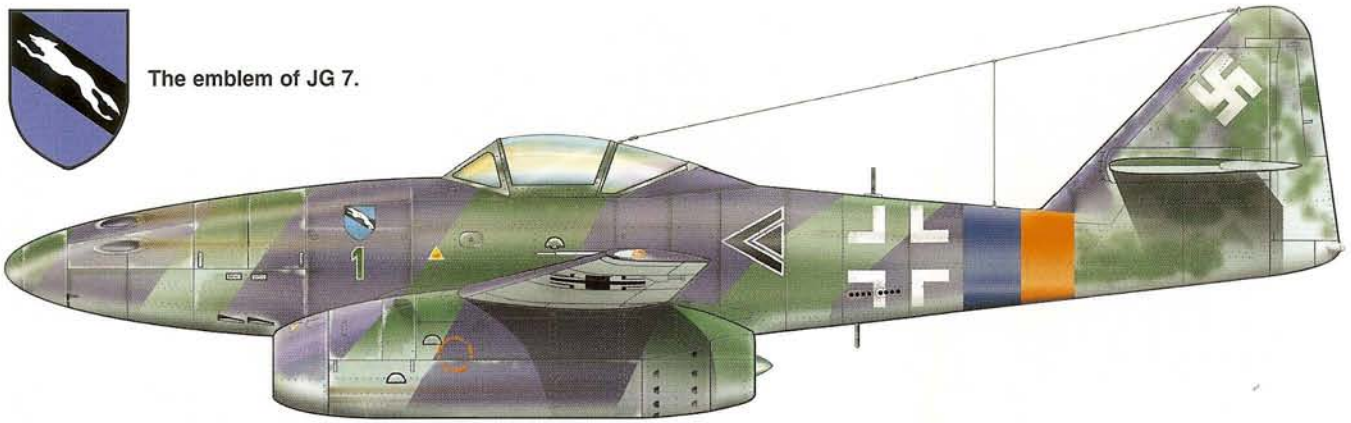
▲ The very last Me 262s assembled by Autobedarf Schwäbisch Hall lacked any camouflage. Factory test pilot Hans Fay defected with this Me 262A-1a (*Werknummer* 111711) to Rhein-Main airfield at Frankfurt on 30 March 1945. The cannon ports on the nose were faired over during evaluation in the United States. This particular Me 262 crashed on 20 August 1946 near Xenia, Ohio. (EADS Corporate Heritage via Hans-Ulrich Willbold)

▲ This Me 262A-1a, 'White 4,' belonged to *Kommando Nowotny*, named for its commander, 23-year-old Major Walter Nowotny. A feature of Me 262s assigned to this unit was the yellow band applied behind the cockpit section as well the sharply defined pattern on the vertical tail surfaces. The front engine cowlings for the Jumo 004B-1 powerplant on port and starboard remained unpainted. (EADS Corporate Heritage via Hans-Ulrich Willbold)

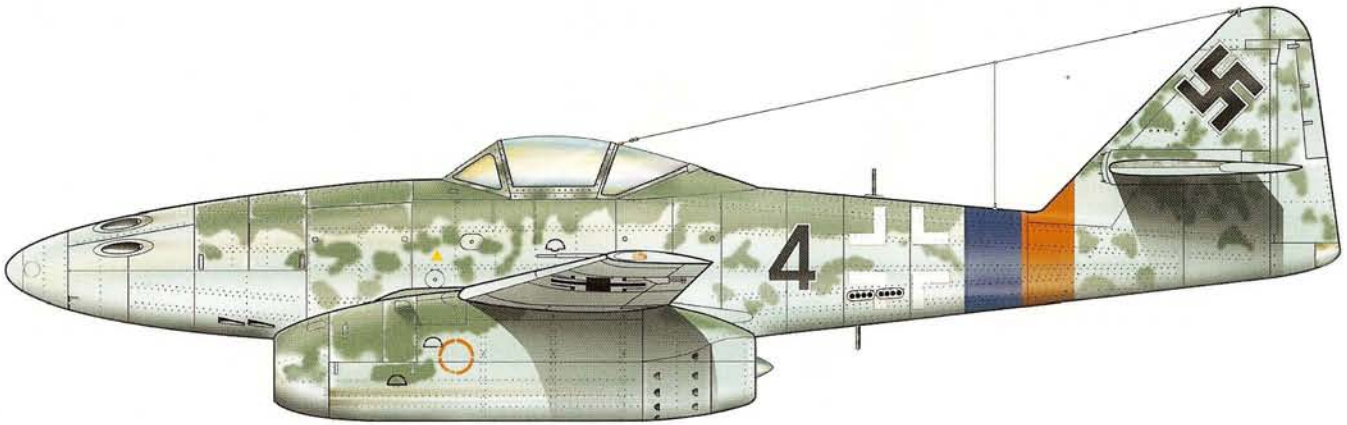
▼ This Me 262A-1a (*Werknummer* 110813) first flew from Leipheim on 16 December 1944 with Leutnant Wagner at the controls and was transferred to Memmingen air base a day later by Sepp Gerstmayr. After bombing trials at Lechfeld, the plane had been transferred to III./JG 7 on 4 January 1945. During February 1945 it was allocated to III./EJG as 'White 1.' Note the letter 'S' on the tail. (EADS Corporate Heritage via Hans-Ulrich Willbold)

▼ Soviet officers and Czechoslovak Avia workers poses in front of an intact but unpainted Me 262A-1a assembled by workers of the Czechoslovak Avia company at Cakovice (formerly Grosstschakowitz) during summer 1945. No national markings were carried by this particular Messerschmitt. The car in the background is a Volkswagen Kübelwagen, which used a chassis adopted from that of the VW Beetle. (Bohumir Kudlicka)

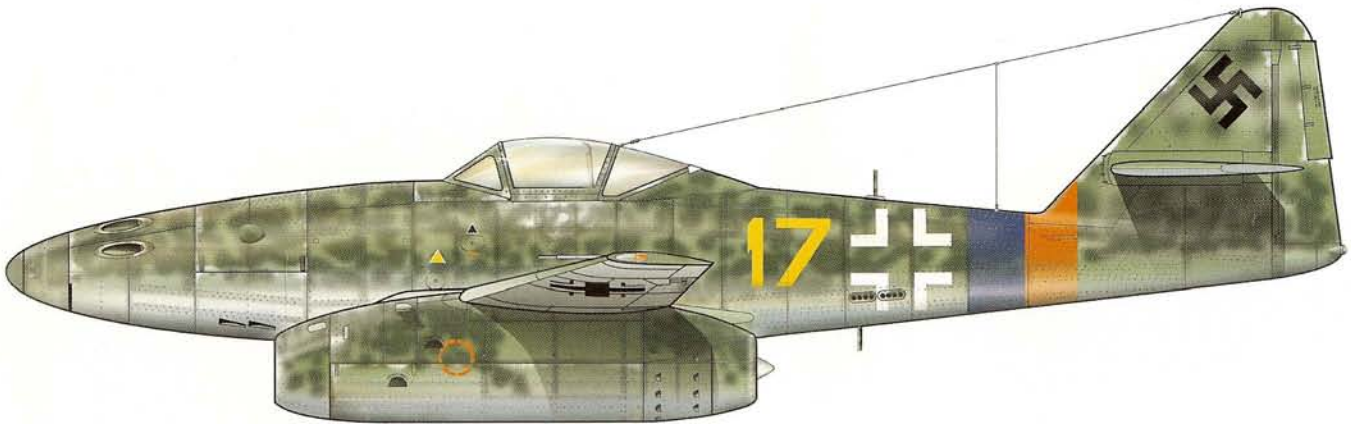
The emblem of JG 7.



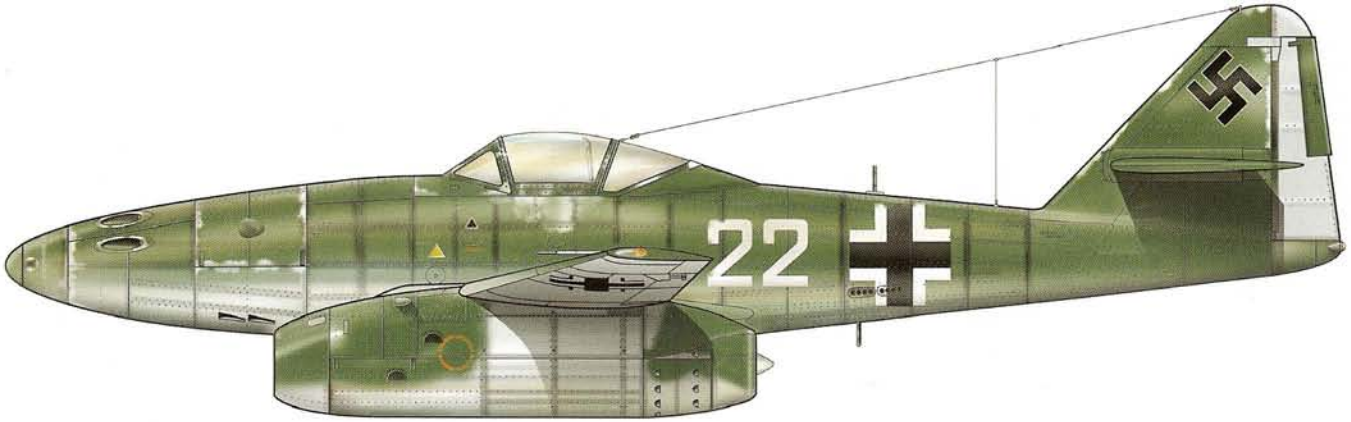
'Green 1,' an Me 262A-1a (*Werknummer* unknown) of Stab/JG 7, carried a non-standard camouflage scheme. The black double chevron behind the cockpit usually indicated that the aircraft was flown by a *Gruppenkommandeur* ('group commander,' equivalent to a USAAF squadron commander). Stab/JG 7 was an experimental unit, charged with developing the use of Wgr. 21 mortars and R4M rockets against Allied bombers.



'Black 4,' an Me 262A-1a of 2./JG 7 at Praha-Ruzyne, 1945. Upper surfaces were possibly RLM 83 *Dunkelgrün* with a mottle of RLM 83 and RLM 82 *Hellgrün.* Undersurfaces were RLM 76 *Lichtblau.* The nose (an Avia-built replacement) is white.

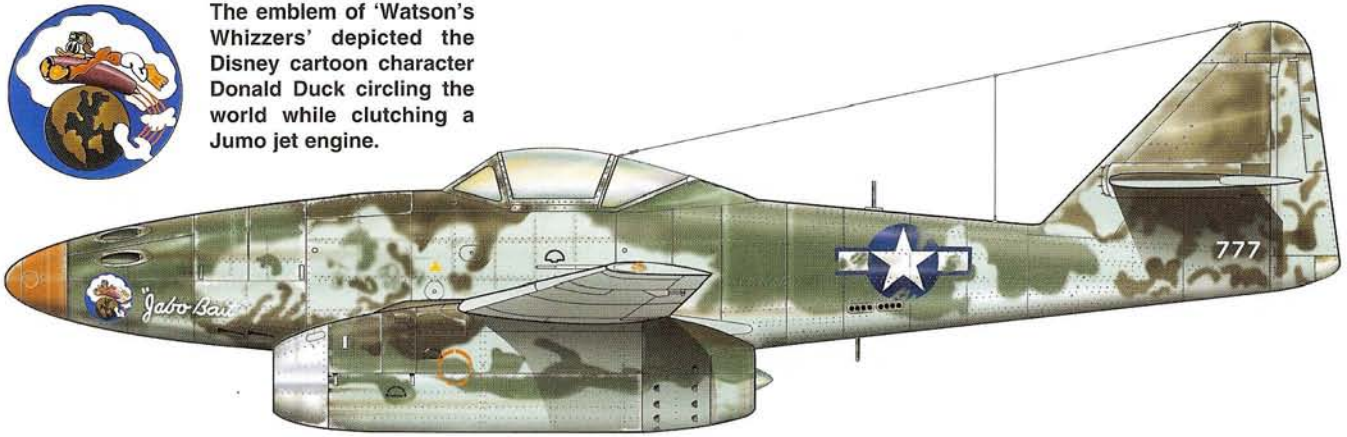


'Yellow 17,' a late production Me 262A-1a of 3./JG 7, had a broad-chord rudder trim tab unlike most Me 262s. This aircraft was surrendered by *Leutnant* Hans Dorn to British troops at Fassberg on 8 May 1945.

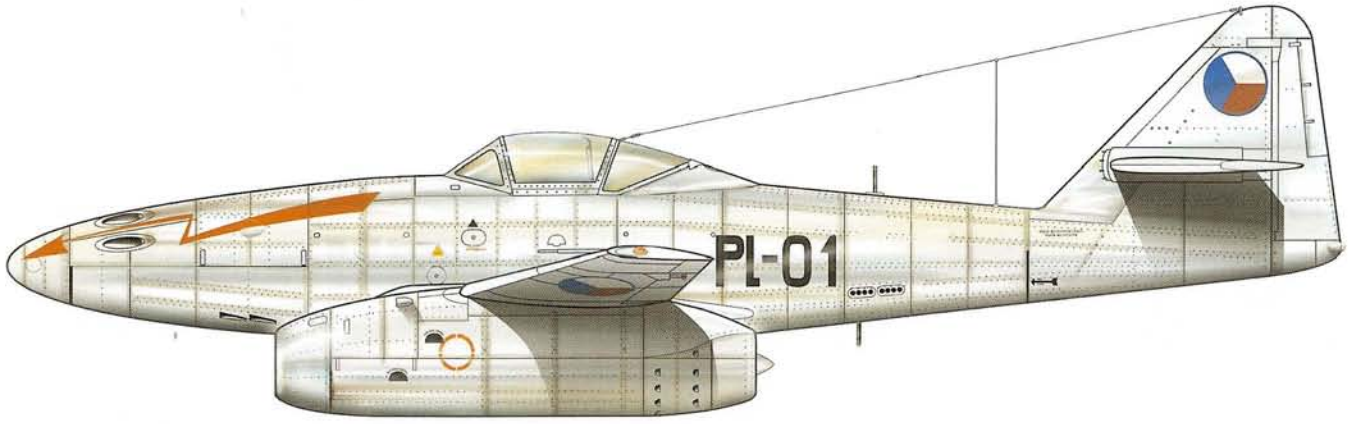


'White 22,' a Leipheim-built Me 262A-1a, was assigned to JV44. The upper surfaces were painted in a very thin coat of RLM 83 *Dunkelgrün* (Dark Green), a typical finish for late production Me 262s. The rudder was light grey, and the rudder trim tab was green. No *Werknummer* was applied to the fin.

The emblem of 'Watson's Whizzers' depicted the Disney cartoon character Donald Duck circling the world while clutching a Jumo jet engine.



'Jabo Bait,' an Me 262A-1a (*Werknummer* 110836) had served as '9K+LK' with 2./KG 51 and was flown until the end of the war by *Hauptmann* (Captain) Abrahamczik. It was captured at München-Riem and transferred to Lechfeld, where it fell into the custody of 'Watson's Whizzers,' a US air technical intelligence team headed by Col Harold E. Watson. It was brought to the US aboard HMS *Reaper* and arrived at Freeman Field, Indiana, on 28 September 1945 where it was assigned the Foreign Equipment number 'FE-110' (later 'T2-110'). After testing at Freeman Field and Wright Field, Ohio, it was placed on static display at Bolling Field, D.C., for several years and subsequently scrapped.



'PL-01,' an Avia S-92 of the 5th Fighter Squadron, Czechoslovak Air Force, assembled at Letnany Research Center in 1945. The aircraft was dull natural metal overall with a red lightning flash and arrow on the forward fuselage, and Czechoslovakian national markings in six locations.

▲ Me 262 A-1a *Werknummer* 500079. previously belonging to Stab/KG (J) 54 and carrying the tactical marking 'B3+DA,' fell into American hands at Giebelstadt air base near Würzburg in Bavaria in April 1945. In the center of the open gun bay door can be seen a blister, a typical feature of late production Me 262s necessitated by the introduction of larger cartridge ejector chutes. The port Jumo 004B-1 has been cut from its mounts. (Manfred Griehl)

▲ This factory-fresh Leipheim-built Me 262A-1a (*Werknummer* 111775) could not be delivered to the Luftwaffe because of the German surrender. It rests at its assembly line at Kuno II, near the *Reichsautobahn* (highway) from Ulm to Augsburg. It has the gun bay door blister and lacks the broad rudder trim tab and pilot's armor. The upper surfaces appear to be painted in RLM 83 *Dunkelgrün* (Dark Green) overall. (EADS Corporate Heritage)

▼ This unpainted Me 262A-1a was still derelict at Neubiberg, Bavaria, when Swiss Air Force ground crew visited the major Luftwaffe air base during September 1948. Unpainted Me 262s were quite common among the last production batches of the Messerschmitt fighter. Visible in the background at right is a Siebel Si 204 liaison aircraft as well as the nose of a Junkers Ju 87 Stuka. (Martin Kyburz)

▼ A Swiss Air Force ground crewman inspects an unpainted Me 262A-1a found at Neubiberg airfield. This Me 262A-1a has a swastika painted on the tail, but lacks the *Balkenkreuz* on the rear fuselage. The nose section is missing, giving view to the platform of the BSK-16 gun camera). The gun camera itself is not mounted, as was often the case with Me 262s. (Martin Kyburz)

▲ This Me 262A-1a, a late production example which served with KG(J) 54, received the US Navy BuAer number 121442 and was tested at the Naval Air Test Center, Patuxent River, Maryland, between December 1945 and January 1946. A total of 10.2 hours flight time were logged in Navy service. The gun bay doors have been sealed and the gun ports faired over. After its capture by US forces at München-Riem, the Me 262A-1a was initially nicknamed "Beverley Anne" while assigned to the 54th Air Disarmament Squadron. After its transfer to Air Technical Intelligence, the nickname was changed to "Screaming Meemie." This Me 262 is now on display at the USAF Museum at Dayton, Ohio. (Harold Thiele)

▲ Me 262A-1a 'White 5' (*Werknummer* 111690) was built at Schwäbisch Hall-Hessental and belonged to 1./JG 7. It had served with the *Gefechtsverband Hogeback*, operating from Saaz (now Zatec, Czech Republic). *Oberleutnant* (1st Lieutenant) Fritz Stehle took off from Saaz airfield on 8 May 1945 and surrendered to British forces at Fassberg, Germany. The RAF painted the British Air Ministry identification number '80' on the rear fuselage, obliterating all German national markings while retaining the tactical number. This Me 262 was sent to Canada in August 1946 aboard the SS *Manchester Shipper* and eventually destroyed in fire fighting exercises at Aylmer, Ontario, during 1949. (Imperial War Museum MH 4909)

▼ The first prototype of the Avia S-92 (S-92.1) took off for its maiden flight from Zatec airfield on 27 August 1945 with Avia chief test pilot Antonin Kraus at the controls. The first prototype had the upper aperture for the cannon muzzle faired over. The Czechoslovak S-92s were very similar to the late production Me 262A-1a with a 16 mm armor plate aft of the pilot's seat and a broad trim tab on the rudder, but lacked the blister in the gun bay doors common on German-produced aircraft. The S-92.1 was written off during an emergency landing near Chomutov on 9 September 1945, test pilot Antonin Kraus surviving the crash. (Bohumir Kudlicka)

▼ The second Avia-built S-92.2 ('S' for *Stihaci* – fighter) made its maiden flight on 24 October 1946 with Antonin Kraus at the controls and was delivered to the Czechoslovak Air Force at Zatec (formerly Saaz) airfield that same month, receiving the registration 'V-33' in September 1947. The plane was subsequently allocated to the *Stihaci Letka* 5 (5th Fighter Squadron). On 27 May 1947 it was demonstrated to a Yugoslavian Air Force purchasing delegation, which ordered two S-92, but the delivery never took place. The gun ports were faired over on the Avia S-92.2, as no armament was carried. All Czechoslovak built S-92s were equipped with the 16 mm armor plate in the rear canopy framing. (Bohumir Kudlicka)

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