

DOWNLOAD PDF AIRCRAFT MONOGRAPH 16 MESSERSCHMITT ME 109 PT. 1 (BF 109)

Chapter 1 : Robert Michulec | Open Library

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Hermann Wurster left of center, wearing goggles, flight helmet and parachute with an early Bf Second from right, the tall man wearing a flat cap and leather coat is Prof. Airbus Group 11 November At Augsburg, Germany, Dr. It was equipped with a Daimler-Benz DB rated at horsepower. Note the long air intake above the exhaust ports. Unattributed On its return from Switzerland, V13 was prepared for a speed record attempt. It was given a standard drag reduction for racing airplanes, with all its seams filled and sanded smooth, and a coat of paint. A modified version of the DB engine was installed, reportedly capable of producing 1, horsepower for five minutes, with its maximum r. It used special Bosch spark plugs. A three-bladed variable-pitch propeller was driven through gear reduction, although the gear ratio is unknown. The DB had a displacement of An improvement of the DB , the series used direct fuel injection rather than a carburetor, and a hydraulically-driven two-speed supercharger. It could produce horsepower at 2, r. Its propeller gear reduction ratio was The DB A was It weighed 1, pounds The Bf also commonly called the Me was produced from to Seven plants produced the during World War II. After the war ended, Czechoslovakia produced a variant until Herman Wurster was born at Stuttgart, Germany, 25 September He earned a doctorate in engineering Dr. In and , Dr. From until , he was the chief test pilot for Bayerische Flugzeugwerk and Messerschmitt at Augsburg. After the war, Dr. He died in Augsburg 17 October at the age of 78 years.

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Chapter 2 : bf_literature [blog.quintoapp.com]

*Aircraft Monograph 16 - Messerschmitt Me Pt. 1 (Bf) [Robert Michulec] on blog.quintoapp.com *FREE* shipping on qualifying offers. Aircraft monograph, soft cover, pages, over b/w photographs, 18 pages of color profiles, 39 pages of highly detailed drawings in 1/48 and 1/72 scale.*

The following list is intended to help modelers in improving scale accuracy of an airplane model replica. In no way is it intended to support or be offensive towards a scale model company. As such, it is only the result of a progressive process and is in no way intended to be absolute or even comprehensive. Hence, it is intended to focus on commonly admitted discrepancies and will probably not cover some errors. It is up to the modeler to decide whether correcting the listed issues is worth the time and money he will have to invest in the quest for accuracy process. No aftermarket correction or detail set is mentioned in this document as the availability of such items may be very variable. Hence, refer to other LSP sections to find relevant information. Moreover, aftermarket sets do not necessarily correct all listed issues. Please refer accordingly to relevant documentation. The spinner base plate diameter should be 23mm long. Correct spinner tapered profile as well as the three propeller blade openings that should taper cropped teardrop shape. Add a slight indentation where the front portion of the spinner is attached to the rear portion. Enlarge blast tube and drill a 1. Add raised data plates on spinner and backing plates. Profile of supplied A11 propeller blades supplied is acceptable but not totally correct for a VDMA propeller. There is no hub detail on the blade root. Modifying the blades is a pain. Replacing them with aftermarket is a solution as far as some are available. Fortunately, this is not as noticeable as the spinner shape discrepancy. VDMA propeller blades were a little bit more curved and wider and had no gap between them and the spinner where is located the blade shank. Above the exhaust stacks, Me G-6s have two small cowl scoops. Most air frames had them in line with one another but kit has these depicted as being offset, the rear being higher than the fore. Hollow them and according to the air frame you want to build, possibly move the front one possibly using aftermarket parts. Hollow-out engine exhausts or replace them with aftermarket ones. There is no panel line between the top cowl and the cowl sides parts J1 or K1 and fuselage: Some details are missing on the supercharger intake: Note that parts should show no seam with the fuselage as part of the intake has been molded with the fuselage. Hollow-out MG nose barrel parts M Forward lower cowl is a little bit too angular near the first panel line behind the oil tank housing. Curve should be gentler than on the kit area. Sand it to smooth the angle. Underbelly oil cooler housing is misshaped part G4. Correcting this asks for a time-consuming job but the discrepancy is quite noticeable. Part should have a deeper cross section, wider and tapered sides and sharper front edges. Its flap door linkage is missing. Note that FO type had a rod in front of intake mesh whereas FO that was externally identical had none as the kit part. Correct the part or replace it with aftermarket parts. Do not forget to move them a little bit forward so that they do not foul the latch molded in front of the windscreen. Another vertical seam line is missing on the middle of each bulge refer to pictures. Similarly, a second seam line for the cowling should be added to depict the missing rubber seal around the rear of the cowling. Check if the plane you want to depict had an air scoop under the windscreen starboard side. If this was the case, open the aperture with the edge of a new scalpel blade. And on the other windscreen side port side deepen the flare pistol hole if it was present. Drill the MG cartridges ejection holes in the belly and possibly add plastic card-made boxes to add depth to the chutes. Add and drill the fuel fill ventilation outlet hole under the fuselage section 3. This should protrude from the belly. Correct trim tabs elevators as they were always offset on the ground. Add antenna between the mast M8 part behind the rear portion of the canopy and the tail mast do not forget to add insulators. Take care as the mast part to be glued behind the canopy has a tendency to be slanted a little bit too far forward. Note that from end of , the mast disappeared. Do not forget to leave a seam on the top and bottom and rear fuselage sections. Cut them in the middle and add 3mm. The easier way to do this is to cut the center section of gondolas from another kit and add it where the cut was made. Add internal extension to the ejection port. Lower wing parts

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have details for gun and rockets whereas they should only have either the former or the latter on the outboard panel just after the edge of wheel bay. The elliptical hatch and four small holes only appear on fall except on earlier planes already equipped with W. Leave the correct details according to the air frame you choose. There is a panel line on the top of the wing outboard of the wing root that does not continue to the bottom half of the wing. There is a riveted strip at the wing root that runs along the underside of the aircraft but does not continue to the top side. It should continue back to the vertical line on the wing root fairing. Kit has steps in the leading edges of the wing into which the slats retract. There are two solutions to fix this. Second option is simpler: Add one big bolt head e. Grandt line under the end of each arm of the opened leading edge slat. Reduce the thickness of the upper and lower rear edges of the slats by scraping those edges with a No. True nitpickers may also want to accurize slat sides as they are not flat as the kit part edges. Thin, replace or rebuild radiator flaps and add the missing activating levers. If you want to use them as such, fill the ejector pin holes in them. The wing radiators are well done with inserts providing the radiator faces for both the front and rear. However, Front face part is not correctly located: Move accordingly the parts to the front. Add the flap actuating arm. If you drill holes in upper wing parts intended to locate the bean-shaped parts on the wings, do not forget filling them afterwards. Drill the four elliptical holes in the landing gear leg well. Add missing oleo actuator behind them. Drop tank has too many weld seams. Fill the forward segment line and add the tank hanging strap. Possibly replace with aftermarket parts. Thin ETC rack part and drill recessed holes as the actual part is made of an embossed iron sheet. Correct drop tank anti-sway brace legs and add fuel connectors. Possibly replace the rack with aftermarket parts. However, another option will give better result if you use kit part. Cut the nice decal in parts before applying it on engraved instruments. Add cockpit UV lights on the windscreen frame. Add seat belts and their attachment points. Add oxygen hose, missing wires and details on the cockpit sides and on the right side of the floor throttle, oxygen system, etc. Remove section of tube on the upper edge of right cockpit side and replace it by clear tube to depict clear section intended to control fuel flow from external tank to internal ones. Kit pedals are correctly shaped but far too thick. Sand them and drill holes or replace them with photo-etched ones and add their leather straps. According to the specific plane you want to depict, possibly replace it with an aftermarket REVI 16B. Detail area behind the upper belts fixture points e. If you depict a later plane, add personal luggage compartment door details. This was the silicate dehumidifier capsule. Add canopy release lever, clear knobs as well as retainer spring lock with spring-shaped copper wire. Detail internal side of canopy parts: This is particularly necessary for moving central canopy part. Decrease thickness of B15 pilot head armor. Main landing gear doors are too thick.

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Chapter 3 : Bf | aircraft | blog.quintoapp.com

Aircraft Monograph 17 - Messerschmitt Me Pt. 2 (Bf) by AJ Press See more like this Airfix~~~Messerschmitt Me BfE~WW2 German~Sealed Model Aircraft Kit Brand New.

Authored by Staff Writer. In the years leading up to and during World War 2, the Messerschmitt Bf was the principle fighter of the German Luftwaffe fielded along all fronts where the German war machine raged. Upon its inception, the type immediately became the most advanced and capable fighter platform anywhere in the world, rendering all previous type these being largely biplane in their design obsolete. The Bf became a symbol of pride for the recovering German nation, led by the charismatic Adolf Hitler who had risen through the German political ranks to ultimately consolidate his power and bring an entire nation under his brutal control. The Bf was available in such large quantitative figures during the war that it bore the brunt of all aerial warfare for the German Luftwaffe - seeing combat actions in the Spanish Civil War, the invasion of Europe proper, the Battle of Britain, the Mediterranean Campaign, the North African Campaign, the West front and the East Front. It was helped by the arrival of the equally excellent Focke-Wulf Fw but still operated in larger numbers and in numerous variants throughout her wartime career. Amazingly, the type continued production for another decade after the end of the war in and was even selected as the primary fighter for the growing Israeli Air Force. One of the most celebrated fighter platforms of her era, the Bf was respected by all sides, making many aces of those who flew her, and earned its place in the annals of military history as one of the top aircraft designs of all time. Even with the arrival of the newer Fw series of fighters, the Bf line continued production and wide scale use unabated. Both were biplanes and decidedly influenced by a world war that was already several decades removed. Both managed a dual-wing assembly, open-air cockpits and fixed undercarriages which would do little in a modern war. The RLM requirement was handed down to interested parties in the summer of 1934. Up to this point, the Messerschmitt concern had recently developed the Bf "Taifun" Typhoon as a sports and touring aircraft, The type featured all-metal stressed skin construction, an enclosed crew cabin with seating for four, a wholly-retractable undercarriage and low-set monoplane wings. It first flew in 1935 and was introduced in 1936 and went on to set several air records for endurance. Within time, it also went on to serve the German Luftwaffe in the liaison role as well as a personal transport for staff. Some examples would ultimately be produced. With that said, Messerschmitt focused on the strong inherent qualities of their successful Bf series to produce the new German fighter. This included carrying over its all-metal skin construction as well as an enclosed cockpit, retractable undercarriage and monoplane cantilever wings. The goal was to fit the most powerful engine then available into the smallest possible airframe to produce both excellent speeds and handling. The aircraft was to be powered by the Junkers Jumo A inline engine developing 1000 horsepower which was undergoing its own development at the time. While Messerschmitt was hard at work on their submission, other notable firms were also involved in attempting to fulfill the RLM request. These included powerhouses Arado, Heinkel and Focke-Wulf. The odds of Messerschmitt winning the potentially lucrative defense contract were therefore quite low. Each of the involved firms put forth their attempts alongside the Messerschmitt fighter and all were evaluated against the stipulated requirements. Messerschmitt completed its prototype though the intended Junkers Jumo powerplant was not yet ready. In its place, ironically, the British Rolls-Royce Kestrel V inline engine of 1000 horsepower was substituted. The initial Bf prototype first flew on May 29th, - proving the design quite sound, rather excellent in fact. The second prototype was the one given the intended Junkers Jumo A series engine. After formal evaluations of the various systems, German authorities centered on the Heinkel He and Messerschmitt Bf submissions while the Messerschmitt design ultimately won out and an aviation legacy was formally born. The Bf was introduced into Luftwaffe service in 1936. The Messerschmitt Bf Designation Of note here is that the designation chosen for the aircraft utilized the "BF" marker. This was taken from the first production facility - "Bayerische Flugzeugwerke" of Bavaria - chosen to manufacture the type. Hence the full designation of "Messerschmitt Bf

" which is sometimes incorrectly shown in some publications as "Messerschmitt Me ". Similarly, the Messerschmitt Bf twin-engine, twin-seat heavy fighter follows this same designation route. Pre-Production and Messerschmitt Bf B Messerschmitt was contracted to produced ten pre-production aircraft based on their design and these went under the designations of Bf V-1 through Bf V Throughout its development, the Bf changed its engines and armament configurations consistently allowing for a dizzying array of production marks to follow and even these major marks produced sub-variants within. The Bf A designation served primarily as a pre-production version. This provided the route for the first formal production model to emerge in February of - the Bf B "Bertha". In that summer, the German government sent several pre-series examples to fight in the Spanish Civil War under the German Luftwaffe "Condor Legion" banner on the side of the Nationalists. The war proved to be a perfect testing ground of sorts for new military advances concerning the German Army and Air Force. Tactics involving the new German fighter were honed whilst pilots and warplanners took on priceless experience in a war environment, a process which would serve them well in the world war to come. The Bf was clearly the best fighter of the Spanish conflict and deemed the best fighter anywhere in the world by this time. Messerschmitt Bf C and Bf D Development of improved Bf models continued as soon as production facilities took on manufacture of new types. In November of , an airframe was fitted with a 1, horsepower engine and this served to set a new airspeed record of over miles per hour. This undoubtedly served the German propaganda machine back home quite well in showcasing German technological superiority and ingenuity. Several more public displays of the power inherent in the new Bf were noted at this time as rumors of war grew all across Europe. The Bf B was eventually followed into service by the Bf C "Clara" but both remained, for the most part, pre-series attempts to help work out kinks in the design. This version was given a new armaments configuration which was deemed lacking in early marks. The Bf E-1 production model was given 2 x 7. The E-1B introduced a fighter-bomber capability to the family line. The E-2 was a limited-run mark bringing with it 1 x cannon in the nose as well as 2 x cannons at the wings and 2 x machine guns in the engine cowling. The E-3 was armed with 2 x machine guns in the engine cowling and 2 x cannons in each wing. Production of this mark totaled 1, examples. The E-4 came online next and used a new set of 20mm cannons at the wings. The E-5 and E-6 marks proved to be reconnaissance marks with photography equipment installed aft of the cockpit. The E-7 introduced provision for fuel drop tanks to help increase operational ranges which were restrictive in previous models. This mark could also double as a fighter-bomber which improved its tactical value. Engine output ranged from 1, horsepower to 1, horsepower depending on engine fit. The E-8 was a longer-range fighter sub-variant while the E-9 was another reconnaissance version with drop tank support and a DB A engine of 1, horsepower. The Invasion of Europe The first available E-models were made ready at the start of Over 1, Bf fighters were available in inventory and quickly outclassed all available Polish types. From there, the fighter was used to spearhead the aerial advance upon lesser, ill-prepared enemies in Holland, Belgium and France as well as Norway. The only true threat to the air supremacy of the Bf in the early going was the new French Dewoitine D. Within time, half of Europe fell under German control. Hitler then eyed the conquest of England across the English Channel and readied his army for its eventually invasion through Operation Sea Lion. The latest versions of the Bf were delivered to veteran air groups of the Luftwaffe now stationed across northern France - within reach of the British Isles. The Battle of Britain The Luftwaffe sprung into action once more during the summer of to begin the Battle of Britain. Air superiority would be a key ingredient to the downfall of the heart of the British Empire and the Bf would certainly play a pivotal role in the upcoming battles. On the other side lay the capable Hawker Hurricane monoplane fighter as well as the only true Bf counter - the Supermarine Spitfire. The Bf was initially used in the dedicated fighter sweep role and with great success against RAF aircraft. However, the limitations of the Messerschmitt Bf two-seat, twin-engined heavy fighters proved lacking for the bomber escort role they were utilized for and this forced use of the Bf s in the same role - taking away their effectiveness as dedicated fighters. RAF aerial doctrine also improved over time and the staunch determination of the British peoples only exacerbated matters for the Germans. By this time, the tactical advantages of the Bf

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were slipping away as more and more restricted roles were being brought forth. As for the Bf and Spitfire, engineers on both sides of the Channel consistently attempted to better the other through constant evolution of their respective series - a throwback to the days of World War 1 flight where technology would quickly outmode new aircraft that were only months old. Ultimately, the Germans lost the Battle of Britain and Hitler shelved his grand invasion plans indefinitely. The main Bf model of the battle remained the Bf E series and this was further improved with subsequent sub-variants in a short amount of time. The Bf E-7 was powered by a Daimler-Benz DB N liquid-cooled inverted-V cylinder inline piston engine of 1, horsepower and armed with 1 x 20mm cannon in the propeller hub, 2 x 7. The Battle of Britain ended on October 31st, with nothing more than a defeat for the mighty German Luftwaffe. Hitler now turned his attention to the Soviet Union in the East - the feeling being shared among German leaders that a campaign in the east would last no more than a few weeks. The improved F-model -detailed below - saw only limited exposure in the Channel Theater after the arrival of the Focke-Wulf Fw in August of Messerschmitt Bf F "Friedrich" An improved form - though initially available in October of - was delayed in quantitative production until the spring of and this became the Bf F "Friedrich". The tail wheel was now fully retractable which improved airflow under the empennage and a new large spinner was added as a cap over the three-bladed propeller assembly. The wings were revised with rounded tips to help improved edge airflow and new ailerons and high-lift devices were added for improved handling overall. Armament included 2 x 7. Testing of the F-models ensued in the latter half of before serial production ramped up. As in previous Bf marks, F-models saw their fair share of subvariants, armament arrangements and engine fittings. It would be this mark that most historical observers would note as the best all-round Bf fighter developments - certainly a great evolutionary step for the breed. A lightly-armed reconnaissance version Bf F-5 and F-6 was also born of the F-models. There existed the F-0 through F-6 sub-variants overall. Initial gains were excellent as the German Army steamrolled its way to the doorsteps of Moscow thanks to air superiority, technological advantages, combat experience and an unsuspecting enemy. However, strained supply lines and the Soviet winter had set in grinding the German advance to a halt and allowing the Red Army time to recoup and mount a massive counteroffensive within time. Large numbers of Soviet aircraft were destroyed by Bf F models in the initial fighting and many German aces were made in the process - air superiority clearly in the hands of the invaders. During the important Battle of Kursk, Bf s were used alongside Fw fighters though the effort resulted in a decisive Soviet victory and a turning point in the war along the East Front. Bf Fs also made an impression in subsequent fighting over Libya beginning in April of against airmen of the Royal Air Force. Due to the hot-and-dry conditions encountered in this part of the world, it was necessary to modify participating aircraft with "tropicalization" kits. The Germans eventually lost their initiative in the east and were on the defensive for the rest of the war - the Soviets now having introduced more competent fighter types to contend with the masses of Bf s and Fw s. The German involvement in North Africa was only hurried by the lack of Italian success in the theater - as was the case with Crete, the Balkans and Greece. Messerschmitt Bf G "Gustav" The next evolution in the German series brought about the aforementioned Bf G "Gustav" of - largely appreciated by her pilots and marked by students of the war as the most prolific of the series as a whole. By now the Bf was committed to multiple fronts including the war against the Soviet Empire in the East and over Africa.

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Chapter 4 : [] Second Generation Bf s / Unusual Variants

Product Description The Messerschmitt Bf , often called Me , was a German World War.

I have read this and many other similar threads with great interest over the years, and I hope I will be forgiven for commenting here and reviving this old thread with what I think is some new data. In the past when these types of discussions were conducted we really had to guess as to the nature of these matchups. There was no hard data on things like turn rates, handling, comparative maneuverability between types, or most importantly, actual records of claims vs. As a result we were forced to contend with competing anecdotes, a few rare descriptions by veterans, and amateur physics models. These books break down casualties as well as claims and both squadron and personal accounts, with Shores Mediterranean books in particular providing very helpful summaries at the end of the entry for each day in the conflict, summarizing claims vs. In addition there are useful excerpts from aces on both sides. I thought it might be useful and perhaps appreciated if I shared some observations so far - these are based on Shores Books on the Med. The vast majority of engagements would start with a German attack which was a serious problem. In and most of Luftwaffe units were able to hunt DAF units at their leisure and engage or disengage at will. The second most serious problem faced by Commonwealth pilots in particular was tactical. The English were using a variety of ineffective formations which German pilots were extremely critical of, and tended to fly at lower altitude than their operational ceilings allowed. They also went into defensive circles as a way to defend against attacks from above. The third most serious problem faced by all DAF pilots, but Commonwealth pilots in particular, was training. Most Commonwealth pilots seem to have been fairly poorly trained particularly on the type. This seems to have been addressed by around mid but again, it cost many lives. How the problems were dealt with The last two issues mentioned, gunnery and extreme maneuvering, were gradually worked out by key individuals - often aces, and then disseminated to the squadrons though not always efficiently or equally shared. Clive Caldwell for example figured out how to practice gunnery by shooting at shadows on the ground and taught this technique to other members of squadron. Commonwealth squadrons still seem to have flown at relatively low altitude but did become more aggressive as they switched to Kittyhawk II and III types with more power. Overboosting of engines seems to have been rare at first but increasingly common. There are some detailed descriptions of this and it seemed to be an effective tactic. Units There was a wide disparity in success or failure between different P units. All the SAAF units did poorly with the P some worse than others and also tended to get the older models. They also tended to get the Fighter-Bomber assignments which were more dangerous. They suffered very high losses. These units also got the newer versions of the P earlier, i. Characteristics of the aircraft All pilots seemed to agree, P turned better and dove faster, Me climbed and accelerated better and had a higher effective altitude. All of the pilots interviewed in both volumes, DAF or German, including many who disliked the P, acknowledged that the P was more maneuverable than the Me and the MC and could easily out-turn the Me The German solution was to hit and run from above. On the deck the fight was more equal. The single most important advantage the Me had all types was the performance ceiling. I think the problem with the Hurricanes was that they could not disengage by diving and had too poor of a roll rate. Shores indicates what the records say: This is of course debatable though. Both sides also sometimes indicate what type of aircraft they think shot them down but not always accurately. Based on losses reported, the Tomahawk and Kittyhawk I flown by a competent pilot could handle E, but suffered high losses against the F. This varied a great deal by squadron though, squadron for example looks like it was about close to even against the F even with the Tomahawk or Kittyhawk I maybe or whereas the SAAF squadrons were probably like or But this also depends on the squadrons. All pilots interviewed, German, Commonwealth or American, acknowledged that all variants of the P were superior to the Hurricane. Hurricanes had poor combat records after mid when German aircraft started arriving in numbers. They did poorly against the , sometimes they got kills but they suffered catastrophic losses. Very few if any victories. MC seems to have done pretty

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well most of the time. Fairly low losses anyway. Overclaiming and misidentification All sides overclaimed, though DAF seems to have been a little worse than Luftwaffe. JG 27 also overclaimed, one Rotte in particular was even investigated for it by the Luftwaffe. Mariseilles seems to have done some overclaiming but probably unintentional. Things gradually began to shift in the DAF favor in One of these days involved significant overclaiming by the Luftwaffe, with USAAF reporting 7 kills and actually shooting down 6, while Luftwaffe reported 8 and actually shot down 1. DAF suffered no losses that day. I plan to provide more data from the books including, if anyone is interested, some of the other specific anecdotes on specific days.

Chapter 5 : Kagero Aircraft Monograph Series by Maciej Noszczak

All results related to messerschmitt bf found on 80 scale modeling websites and the scalemates kit database.

We originally believed that the kit was a completely new tool but upon closer inspection determined that the plastic is a re-pop of the ex-Fujimi kit. This is not entirely a bad thing as the older Fujimi moulds still hold up pretty well today and as you will see builds into a nice model. A pretty simple and "cost effective" kit makes for building more models rather than collecting them - but is this kit of a decent quality? KA Models have added some extra goodies into the kit to enhance the basic sprues and these include a small PE fret and metal pitot. New decals are also provided. The kit is engineered with optional parts to allow many of the common sprues to be re-used across different boxings of other variants such as the G As this was a fairly simple build I also added some figures from Verlinden and ICM to my home made grass base to complete the project. A G with an "Erla" canopy The clear sprues are different to allow for the change in canopy type between the G-6 and G The other G specific parts bulged cowling etc are also contained on a separate sprue. Both type of wing bulges are provided on the common sprues. As with most WWII fighter models the part count is low at least compared to modern jet kits anyway and generally makes for an easy build. The G-6 kit comes with striking box art and contains virtually all the same main sprues as the G I built. The sprues are well moulded with virtually no flash present at all. The Fujimi moulds seemed to have held up well over the years. I found that all the detail was sharp, unlike many more modern kits where the moulded on detail becomes soft and pillowy. Sprue F contains the parts specific to the G A new instrument panel and sidewall are provided along with the correct bulged cowlings of the later model BfG series. Separate rudder pedals and instruments moulded in plastic are a welcome change from the more common practice these days with relying on decals alone. Sprue D is shared across both the G and G-6 kits and therefore has two sets of: The inclusion of a metal pitot tube is most welcome as it looks much nicer than an equivalent plastic part and less prone to breakage. Two marking options are provided in the G kit. During my build I can report that the decals performed very well, responding to both decal setting and softening solutions. The Build I have gotten into the habit of doing fairly extensive dry fitting of major kit parts prior to doing any gluing. This allows me to identify any problem areas that may benefit from trimming or adjusting. As you see here the KA Models fitted together extremely well with almost no visible gaps between major parts like the wing and fuselage. The same excellent fit can be seen underneath with gaps between wing and fuselage almost non-existent. Although probably not needed, I chose to add some extra detail to the starboard sidewall as I had decided early on to display the model on the ground with the canopy open something which the kit does not really allow as no hinge is provided. Some brass rod and plasticard was used to busy up this area. Before closing up the wings you need to add either the plastic or PE radiator grills. I also added an actuating rod from plastic that was quite visible in photos of the real aircraft. The canopy and windshield have been masked both inside and out. The canopy framing is nicely done and makes masking if off that much easier. Because I wanted to display the canopy open I needed to manufacturer my own hinge. This was actually fairly easy and only required a thin strip of copper sheet folded with a 90 degree bend and then glued with CA to the edge of the canopy prior to painting. With the cockpit construction complete it was time for some interior paint. One omission from the kit PE fret was seatbelts. The sidewalls were likewise finished in RLM66 with the piping and details picked out by hand with Vallejo acrylics. A light dry brush of Model Master Chrome Silver completed this step. With the interior complete the fuselage was joined. No filler was required, with the seams disappearing with a light rub. Here you can see some card being used to enhance the rear cockpit bulkhead. Check your references carefully when eliminating the fuselage seam as you will need to re-scribe along the centreline on the rear fuselage both top and bottom as well as the hinge join on the engine cowling. To accommodate the variations between rudder types in the G family, the rudder and tail top have been provided as a separate piece. The horizontal join here was along a natural panel line but was not tight enough to avoid filling and subsequent re-scribing. With work on the fuselage and wing

sub-assemblies complete the two could be mated together. The kit has a visible step on the wing leading edge where the slat sits when in the retracted position. This is not accurate as the wing surface should be smooth. I have corrected this with some 10 thou card glued into the wing to remove the step prior to the slat being attached in the extended position. The completed tail unit. Note I have separated the elevators using a sharp blade and re-attached them in the relaxed position. All the seam work on the underside has also now been completed and checked under a coat of grey primer. The one join that did benefit from some filler using CA and re-scribing was the lower wing to fuselage seam. I have also re-scribed the centreline join along the entire rear fuselage. First step in the painting was to apply the RLM 76 Light Blue on the undersides and up the fuselage sides. Mr Color C was used. The fuselage band is supplied as a decal by KA but I wanted to paint this on to achieve a better result. With the painting complete I applied a thin coat of Future over the entire model. Decals were applied with Micro sol Set and Sol solutions. The decals are not the thinnest I have ever used but respond well to softening solution and sunk nicely into the panel lines. The swastika on the tail is provided in the kit as a two part decal so some care is needed to make sure this lines up properly. Once the decals are dry overnight I like to seal them under another thin coat of Future or your own preferred gloss clear. At this point I apply the panel wash over the entire airframe. A very thinned wash of Model Master Burnt Umber is my default color as I find it makes the panel lines visible but not distracting as can happen with darker colours like black. The panel wash dries very quickly due to the high content of thinner and is ready for clean-up within an hour of application. Using a clean cloth dipped in thinner clean off the excess wash from the surface of the model. For hard to get at areas use a cotton bud dipped in thinners. A final flat coat has now been applied to kill off the gloss of the Future. Wear marks on the wing root and engine cowl have been added using a very sharp silver Prismacolor pencil. This is most noticeable on the light undersides. To display the final model I put together a simple base using static grass from Noch and a handful of figures from Verlinden and ICM. This build took me about 5 weeks.

Chapter 6 : AJ-Press Aircraft Monograph Series by P. Butowski

Marek J. Murawski: Messerschmitt Bf F vol 1 and 2, Kagero Monographs 31 and 35 Jakub Plewka: Messerschmitt Bf E vol 1 & 2, Kagero Monographs 37 Krzysztof Janowicz: BF G/K vol 1 and 2, Kagero Monographs

September The following list is intended to help modelers in improving scale accuracy of an airplane model replica. In no way is it intended to support or be offensive towards a scale model company. As such, it is only the result of a progressive process and is in no way intended to be absolute or even comprehensive. Hence, it is intended to focus on commonly admitted discrepancies and will probably not cover some errors. It is up to the modeler to decide whether correcting the listed issues is worth the time and money he will have to invest in the quest for accuracy process. No aftermarket correction or detail set is mentioned in this document as the availability of such items may be very variable. Hence, refer to other LSP sections to find relevant information. Moreover, aftermarket sets do not necessarily correct all listed issues. Please refer accordingly to relevant documentation. The molding is generally crisp with engraved panel lines, rivets and details. However, some fuselage parts engraved details are softer i. General kit dimensions are nearly perfect and overall fit is excellent with some specific exceptions nose inserts and upper wing parts. Some details have been simplified or are incorrectly depicted. All panel lines and prominent rivets are recessed more particularly on the belly and lower wings. However, there are no rivets where they were flushed on the upper wings, the stabilators and the fuselage. Engine area has very well done door fasteners. Fabric surfaces are smooth with tape strips topped with delicate stitching detail. Clear parts are very thin and transparent. Two different styles of upper cowl panel. Two starboard nose sides including one with the gun bulge with the compressor housing seen on the G Open or closed LG doors. Windscreen with two small intakes or with the pistol port on the starboard side. Squared and Erla haube canopy. Standard ribbed or late-war wooden simplified cockpit floors. REVI 12 and 16 gun sights. Optional FuG16 Morane antenna mast. Multiple choices for some hatches e. The wing spar part ensures perfect dihedral and a good fit at the wing root. All movable surfaces are separate slats, flaps, ailerons, elevators, rudder, radiators and oil cooler flaps. Note that on the ground actual wing flaps were generally retracted. The instruction sheet is poorly designed. Parts numbering has no obvious logic and each sub-assembly asks for searching parts on all sprues as their identifying letter is not used. Late tall rudder with straight lower edge. The assembly results in the fact that the three propeller blade openings taper correctly with the accurate cropped teardrop shape. However, this has a drawback: Moreover, removing the seam between the two main spinner parts is really difficult and time-consuming. The prominent rivets are also missing as the small raised data plates on the spinner and backing plate. Last, there is no hub detail on the propeller axis or blade root shank. A time saving option: Profile of supplied propeller blades supplied is not correct for a VDMA propeller. Modifying the blades is a pain. The discrepancy is really obvious at the base as the actual VDMA propeller blade had a more cranked profile on its rear edge whereas the kit part has a smooth curve. They also look too pointy because they are too narrow. Replacing them with aftermarket is a solution as far as some are available. Replacing them with spare Hasegawa ones would improve the look in spite of the fact they are not fully accurate. Above the exhaust stacks, Me G-6s have two small cowl cooling scoops. Oddly, they are not hollow whereas there is a recess in the nose and insert parts. Hollow their front face with a sharp blade and a half-moon shaped file. Note the kit gives no vent tube option behind the starboard exhausts stack. Indeed, the same hatch was also used to get access to the compressed air bottles used for the MG machine guns from the G1 to the early G-6 batches. The hatch disappeared later when the MG mechanism was modified. The handle located near the rear starboard edge of the canopy disappeared simultaneously. Hollow-out the engine exhausts or replace them with aftermarket ones. Revel kit design asks for gluing them before closing the fuselage halves. This choice noticeably complicates the painting process. Even if this is not impossible, adding exhausts after fuselage assembly will ask for tedious modifications of the parts such as making a box in each internal side of the nose to receive the line of exhausts and sand the

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exhausts support to get the minimum height to put them afterwards. The two upper cowl panels are different. The first one with the pressed metal gun troughs is the typical original G-6 one and whereas the other with the insert gun troughs was generally used on G-5s it was also observed on some G-6s. Note there is no panel line between the top cowl and the cowl sides, or at the front and rear of such side inserts. Fill and sand smooth the seam between the nose inserts and the cowl and fuselage parts. Take your time checking the location of each part and dry-fit more than once as the fit is not absolutely perfect. To ease the process, glue first the rear of each insert, let it dry and then glue the front section. Some details are missing on the supercharger intake parts. Moreover this lip is too thin. Adding a thin strip of plastic and sanding a little bit the front edge to get a thicker look would improve noticeably the situation. Using an aftermarket part is another possibility. According to the chosen airframe and theatre of operations, using a tropical filter is yet another possibility to hide the lip issue. Note that the intake parts should show no seam with the fuselage as part of the intake has been molded with the fuselage. MG nose barrel parts 46 are plain, too thick and their ends are not hollowed. Hopefully, there are more accurate aftermarket alternatives with drilled gun sleeves. The oil cooler housing is misshaped part. Correcting this asks for a time-consuming job but the discrepancy is quite noticeable. Part should have a deeper cross section, wider and tapered sides and sharper front edges. The front intake shall have a 1mm smaller width and the rear ends are too straight. The flap door linkage is missing even if the hole used by this device is present in part. Note that the FO type had a rod in front of intake mesh whereas FO that was externally identical had none as the kit part. Correct the part or replace it with aftermarket parts. Each MG gun bulge has four small tabs whereas there are only two corresponding holes in the upper cowl edge and none in each cowling side panel. It is probably easier to remove the bulge lower tabs if you want to use the kit parts. However, as the parts are too flat and should be closer to each other on the nose, it is recommended to rebuild them, replace them with aftermarket ones if available or use more accurate plastic ones from another kit. Last, the small intake on the compressor bulge looks a little bit too small. The front end must be opened if the intake is present. Add a small tube deep inside the hole. Check if the plane you want to depict had an air scoop under the windscreen starboard side commonly seen of the pressurized G. If this was the case, open the aperture with the edge of a new scalpel blade. And deepen the flare pistol hole if it was present. Last, some late planes had no port scoop but a recessed air intake. So, check closely your references. Note that some planes had the drop-shaped support but not the antenna. Drill the MG cartridges ejection holes in the belly and possibly add plastic card-made boxes to add depth to the chutes. Add and drill the fuel fill ventilation outlet hole under the fuselage section 3. This should protrude from the belly. Check position of trim tabs elevators as they were always offset on the ground. Add antenna between the mast part and the tail mast do not forget to add insulators. For a GM1-equipped plane, add the missing GM-1 decompression valve hatch under the filler hatch. Fill the starting system fuel filler hatch starboard side of the spine near the tail for an early G. Do not forget to leave a seam on the top and bottom and rear fuselage sections. The instructions ask for the use of part 69 for the tail wheel fairing but oddly the opening on this part is too small. It is probably a mistake as part 70 seems having the correctly sized hole to fit the leg oleo scissor.

That's a good pair of links. It's all very scientific! I've built most if not all of those kits and for me, as a model builder, the Cyberhobby kit wins hands down.

The basic mock-up was completed by May, and a more detailed design mock-up was ready by January. V1 made its maiden flight at the end of May at the airfield located in the southernmost Augsburg neighborhood of Haunstetten, piloted by Hans-Dietrich "Bubi" Knoetzsch. V3 followed, the first to be mounted with guns, but it did not fly until May due to a delay in procuring another Jumo engine. The He arrived first, in early February, followed by the rest of the prototypes by the end of the month. Because most fighter pilots of the Luftwaffe were used to biplanes with open cockpits, low wing loading, light g-forces and easy handling like the Heinkel He 51, they were very critical of the Bf at first. However, it soon became one of the frontrunners in the contest, as the Arado and Focke-Wulf entries, which were intended as "backup" programmes to safeguard against failure of the two favourites, proved to be completely outclassed. The Arado Ar 80, with its gull wing replaced with a straight, tapered wing on the V3 and fixed, spatted undercarriage was overweight and underpowered, and the design was abandoned after three prototypes had been built. Although it had some advanced features, it used a novel, complex retractable main undercarriage which proved to be unreliable. The leading edge slats and ailerons would flutter rapidly in fast tight turns, making targeting and control difficult, and eventually putting the aircraft into a stall condition. They were also concerned about the high wing loading. Compared with the Bf, it was also cheaper. In addition, the V4 had a single-piece, clear-view, sliding cockpit canopy and a more powerful Jumo Da engine with a modified exhaust system. As a result, the He V4 which was used for the trials had new wings, spanning However, the improvements had not been fully tested and the He V4 could not be demonstrated in accordance with the rules laid down by the Acceptance Commission, placing it at a distinct disadvantage. It was felt that a quick decision was needed to get the winning design into production as soon as possible, so on 12 March, the RLM announced the results of the competition in a document entitled Bf Priority Procurement, which ordered the Bf into production. At the same time, Heinkel was instructed to radically redesign the He. Examples of this could be found in the use of two large, complex brackets which were fitted to the firewall. These brackets incorporated the lower engine mounts and landing gear pivot point into one unit. A large forging attached to the firewall housed the main spar pick-up points, and carried most of the wing loads. Contemporary design practice was usually to have these main load-bearing structures mounted on different parts of the airframe, with the loads being distributed through the structure via a series of strong-points. By concentrating the loads in the firewall, the structure of the Bf could be made relatively light and uncomplicated. It also allowed simplification of the wing structure, since it did not have to bear the loads imposed during takeoff or landing. The one major drawback of this landing gear arrangement was its narrow wheel track, making the aircraft unstable while on the ground. To increase stability, the legs were splayed outward somewhat, creating another problem in that the loads imposed during takeoff and landing were transferred up through the legs at an angle. If the forces imposed were large enough, the pivot point broke and the landing gear leg would collapse outward into its bay. This meant that pilots had to taxi in a sinuous fashion which also imposed stresses on the splayed undercarriage legs. Ground accidents were a problem with rookie pilots, especially during the later stages of the war when pilots received less training before being sent to operational units. By using high-lift devices, the handling qualities of the Bf were considerably enhanced. From the inception of the design, priority was given to easy access to the powerplant, fuselage weapons and other systems while the aircraft was operating from forward airfields. To this end, the entire engine cowling was made up of large, easily removable panels which were secured by large toggle latches. A large panel under the wing centre section could be removed to gain access to the L-shaped main fuel tank, which was sited partly under the cockpit floor and partly behind the rear cockpit bulkhead. Other, smaller panels gave easy access to the cooling system and electrical equipment. Each

of the legs was secured by two quick-release screw fittings on the firewall. All of the main pipe connections were colour-coded and grouped in one place, where possible, and electrical equipment plugged into junction boxes mounted on the firewall. The entire powerplant could be removed or replaced as a unit in a matter of minutes, [19] a potential step to the eventual adoption of the unitized-powerplant Krafft engine mounting concept used by many German combat aircraft designs, later in the war years. Most aircraft of the era used two spars, near the front and rear edges of the wings, but the D-box was much stiffer torsionally, and eliminated the need for the rear spar. Another major difference from competing designs was the higher wing-loading. With a low wing-loading and the engines available, a fighter would end up being slower than the bombers it was tasked with catching. A smaller wing area was optimal for achieving high speed, but low-speed flight would suffer, as the smaller wing would require more airflow to generate enough lift to maintain flight. To compensate for this, the Bf included advanced high-lift devices on the wings, including automatically-opening leading edge slats, and fairly large camber-changing flaps on the trailing edge. The slats increased the lift of the wing considerably when deployed, greatly improving the horizontal maneuverability of the aircraft, as several Luftwaffe veterans, such as Erwin Leykauf, attest. Fighters with liquid-cooled engines were vulnerable to hits in the cooling system. For this reason, on later Bf F, G, and K models, the two coolant radiators were equipped with a cut-off system. If one radiator leaked, it was possible to fly on the second, or to fly for at least five minutes with both closed. He agreed to show the Soviets how to service the plane. Soviet machine gun technician Viktor M. The Messer was a very well designed plane. First, it had an engine of an inverted type, so it could not be knocked out from below. It also had two water radiators with a cut-off system: The pilot was protected by armour-plate from the back, and the fuel tank was also behind armour. Our planes had fuel tanks in the centre of their wings: What else did I like about the Messer? It was highly automatic and thus easy to fly. Our propeller system, with variable pitch was hydraulic, making it impossible to change pitch without engine running. If, God forbid, you turned off the engine at high pitch, it was impossible to turn the propeller and was very hard to start the engine again. Finally, the German ammo counter was also a great thing. This kept the wings very thin and light. Two synchronized machine guns were mounted in the cowling, firing over the top of the engine and through the propeller arc. An alternative arrangement was also designed, consisting of a single autocannon firing through a blast tube between the cylinder banks of the engine, known as a Motorkanone mount in German. When it was discovered in that the RAF was planning eight-gun batteries for its new Hawker Hurricane and Supermarine Spitfire fighters, it was decided that the Bf should be more heavily armed. The problem was that the only place available to mount additional guns was in the wings. Only one spot was available in each wing, between the wheel well and slats, with room for only one gun, either a 7. To avoid redesigning the wing to accommodate large ammunition boxes and access hatches, an unusual ammunition feed was devised whereby a continuous belt holding rounds was fed along chutes out to the wing tip, around a roller and then back along the wing, forward and beneath the gun breech, to the wing root, where it coursed around another roller and back to the weapon. The tube channeled cooling air around the barrel and breech, exhausting out of a slot at the rear of the wing. A large hole was cut through the spar allowing the cannon to be fitted with the ammunition feed forward of the spar, while the breech block projected rearward through the spar. A round ammunition drum was placed in a space closer to the wing root causing a bulge in the underside. A small hatch was incorporated in the bulge to allow access for changing the drum. The entire weapon could be removed for servicing by removing a leading edge panel. Note the slats on the leading edge of the port wing. JG 2, France, late From the F-series onwards, guns were no longer carried inside the wings. All Messerschmitt aircraft that originated after that date, such as the Me, were to carry the "Me" designation. Despite regulations by the RLM, wartime documents from Messerschmitt AG, RLM and Luftwaffe loss and strength reports continued to use both designations, sometimes even on the same page. The aircraft was often nicknamed Messer by its operators and opponents alike; the name was not only an abbreviation of the manufacturer, but also the German word for "knife". They won in several categories: On 30 March, test pilot Hans Dieterle surpassed that record, reaching For propaganda purposes, the machine was called the Me R,

suggesting it was just another variant of the standard fighter, but in fact it was a racing aircraft having little in common with the Bf Messerschmitt Bf variants Bf E-3 in flight. When the Bf was designed in 1935, by a team led by Willy Messerschmitt and Robert Lusser, [46] its primary role was that of a high-speed, short range interceptor. The aircraft remained in production from 1935 through 1945 in many different variants and sub-variants. The most-produced Bf model was the G series more than a third of all Bf s built were the G-6 series, 12, units being manufactured from March 1942 until the end of the war. A few prototypes of these early aircraft were converted to use the more powerful DB 601. The Bf E, or "Emil", introduced structural changes to accommodate the heavier, but significantly more powerful 1, PS 1, HP Daimler-Benz DB engine, heavier armament, and increased fuel capacity. The F-type also omitted the earlier stabilizer lift strut on either side of the tail. Some Bf Fs were used late in the Battle of Britain in 1940, but the variant came into common use only in the first half of 1941. Odd-numbered variants were built as high-altitude fighters with a pressurized cockpit and GM-1 boost, while even-numbered variants were not pressurized, air superiority fighters, and fighter-bombers. Long-range photo-reconnaissance variants also existed. By early 1942, tactical requirements resulted in the addition of MW water injection boost and high-performance superchargers, boosting engine output to 1,160 PS 1, HP. From early 1942, some G-2s, G-3s, G-4s, and G-6s were converted to two-seat trainers, known as Gs. Though externally akin to the late production Bf G series, a large number of internal changes and aerodynamic improvements was incorporated that improved its effectiveness and remedied existing flaws, keeping it competitive with the latest Allied and Soviet fighters.

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Chapter 8 : Messerschmitt Bf Single-Seat Multirole Fighter - Nazi Germany

Messerschmitt's first military aircraft, the Me (based on the Bf), which in set the world speed record at miles (km) per hour. During World War II, about 35, Me s were produced for the German Luftwaffe.

In early , design work had begun on an evolved version of the Bf to take advantage of improved streamlining and accommodate even more powerful engine types. The result was the "Bf F". The most noticeable difference was a longer and more streamlined cowling ending in a large prop spinner, giving the new variant a cigar-shaped appearance that would be retained in subsequent Bf variants. The propeller blades were 10 centimeters 4 inches shorter and wider in chord. The underwing radiators were streamlined, with a ducting system introduced to divert airflow through the wing to reduce drag. The bracing struts for the tailplane were deleted; the wings were extended and had rounded wingtips; and there were other small modifications to the wing, tail, and fuselage. The Bf F also featured a semi-retractable tailwheel. Despite the fact that the Bf F-0 used the same engine as late production Bf Es, there was still a definite improvement in performance due to the aerodynamic refinements. Deliveries of the very similar initial production "Bf F-1" or "Friedrich" variant began in early . Some of the early F-1s suffered a mysterious loss of control and crashed, and so they were all grounded while Messerschmitt engineers investigated the problem. It turned out that eliminating the bracing struts from the horizontal stabilizer led to "flutter" of the tailplane at certain engine RPM levels. Reinforcing plates were added to fix the tailplane more solidly to the fuselage, and the flutter went away. While moving back to the engine-mounted gun must have worried Messerschmitt engineers, pilots had indicated that they preferred concentrating the guns in the nose to obtain more focused and effective firepower than could be obtained by placing guns in the wings. This decision was to prove controversial, since although Luftwaffe aces could make effective use of such armament, other pilots would protest that they required heavier armament and a wider field of fire than needed by the sharp-shooting aces. On the first day of the attack, a thousand Soviet aircraft were destroyed on the ground, while over were shot down. Samples of the Bf E had been provided to the Soviet Union during the period of Nazi-Soviet "friendship", but the Soviets -- possibly blinded by chauvinism and dulled by totalitarian bureaucracy -- were dangerously unimpressed by the Messerschmitt. Pitted against obsolete Soviet types like the I, Luftwaffe aces flying the Bf began to rack up staggering lists of kills. On 16 July, Werner Moelders became the first ace to score kills. Other Luftwaffe pilots were to exceed the hundred-kill mark, with a good portion of those kills provided by the Friedrich in the Russian campaign. By the end of the war, the top Luftwaffe aces would be Erich Hartmann, with kills, Gerhard Barkhorn, with kills, and Guenther Rall, with kills. Hartmann would be sent to Russian POW camps for ten years after the war, but returned to serve in the post-war Luftwaffe, along with Barkhorn and Rall. While it is certainly true that all air arms tend to exaggerate their kills, the Luftwaffe was apparently strict in their accounting standards. There were also other reasons, most of them essentially disadvantages to Germany, why some Luftwaffe fighter pilots could score so many kills. Germany engaged in combat over several fronts for a long period of time. Luftwaffe aces had a relatively soft time of it in Russia at first, engaging large numbers of obsolete Soviet aircraft that were comparatively easy kills. Even later in the war, when the Red Air Force had better tactics and fighters like the Yak-3 and La-5, the Soviets tended to trade quantity for quality both in terms of aircraft and pilots, and could still win playing that game. It was a "target rich environment", with plenty of things to hunt -- and the same number of potentially lethal threats. The numeric imbalance that favored the Red Air Force was increasingly reflected in the West as well, meaning that those Luftwaffe pilots that survived had many opportunities to engage Allied aircraft, while Allied fighter pilots found German aircraft relatively scarce. The definitive "Bf F-4" was produced in parallel with the Bf F-3, and in far greater numbers. Later Bf F-4 production dispensed with the tailplane reinforcements, the internal structure of the tailplane being redesigned to eliminate the vibration problem. Having scored five kills in the Battle of Britain, he rapidly accumulated victories over the desert due to his excellent marksmanship. Marseille died at age 22 on

30 September when his Bf caught fire, and he struck the tailplane while trying to bail out. He would be remembered as the "Star of Africa". There were, however, a number of new subvariant modifications of the Bf F-4 built in limited numbers, another confusing issue discussed below. The "Gustav", as it came to be known, was fitted with the still more powerful DB series engine, with was effectively a DB with bored-out cylinders, higher compression, and 1, kW 1, HP for takeoff. The new engine was heavier and generated higher torque, requiring airframe reinforcement and modifications. Some Gustav variants also featured a pressurized cockpit. Initial deliveries of the Gustav began in early However, the Reich had lagged in introducing new fighters; there were never enough Fw s to go around, while development of advanced jet fighters was delayed for technical and bureaucratic reasons until they would be, fortunately for the Allies, too few and too late to make a difference. Upgrading the Bf helped plug the gap for a while, but at a price. While the Bf was maneuverable, it had never been light on the controls, and as it became faster it also became more difficult to fly. Its handling on the ground, never good, only kept getting worse. The Gustav was a handful for experienced pilots and downright dangerous to inexperienced ones. Ironically, while the Spitfire was upgraded in a similar fashion through the war, the basic Supermarine design proved more adaptable to increased horsepower, armor, firepower, and weight, and later model Spitfires like the Mark IX were more than a match for contemporary Bf s. This Gustav was lost in an accident before it could be tested against a Tempest Mark V. Despite its limitations, as conditions became increasingly desperate, the Bf G would roll off the production line in tremendous numbers, with as many as 24, produced by Germany and her allies. Over 14, of them were built in alone. Due to problems with obtaining the new engines, the preproduction Gustavs were fitted with DB E engines. They had the same armament fit as the Bf F-4, with twin MG 17 7. The initial production "Bf G-1" began to arrive at Luftwaffe units in March It was identical to the Bf G-0, except that it was fitted with the proper DB A-1 or DB B-1 engine, with two new small cooling intakes in tandem on each side of the nose, just behind the propeller. The four intakes were added because the DB engine tended to overheat or even catch fire while the aircraft was idling on the runway on hot days. GM 1 nitrous oxide boost was standard. This modification replaced the MG 17 7. Messerschmitt had moved to a process of modification through factory conversion kits, or "Umruest-Bausaetz", designated by "U" modification codes; and field upgrade kits, or "Ruestsaetze", designated by "R" modification codes. These kits had been implemented in late Friedrich production, but reached full development with the Bf G. There were many of these kits; sources tend to be contradictory in descriptions of the kits; and it appears that the same modification code might have different meanings when applied to different subvariants. To complicate matters, a single Gustav might have several kits, or be adapted to different kits over time, but its designation might only reflect one of them. Finally, towards the end of Gustav production many of these modification kits were built in as standard. In general outline, kits included Jabo conversions codes variously given as "R1" and "R2" ; long-range fighters, with a centerline rack for a drop tank "R3" ; reconnaissance fighters "R2", again, and "R4" ; and "bomber destroyers". The bomber destroyer fits were particularly interesting and significant, since they were used in numbers to help defend the Reich against Allied bombers. Such modified aircraft were at a disadvantage in tangling with Allied fighters. The bomber destroyer modification was referred by pilots as the "Kanonboote Gunboat ". The big rockets were not very accurate and rarely hit anything, but they were useful for disrupting bomber formations. Pilots would simply lob them into a formation, where they would explode after being set off by a time fuze. The MK was a short barreled, low-velocity weapon that could fire mine shells. Crews called it the "Jackhammer" because of its appearance and the sound of its firing. The MK was a long barreled weapon and more potent than the MK , since it used a full-length round. It could fire tungsten-core armor-piercing rounds for use as an anti-tank weapon or incendiary rounds for air combat. Lack of availability of these heavy cannon meant they were a somewhat unusual weapons fit, and some sources claim they were never actually used on the Bf There were specialized kits, such as a radiocompass "R7" ; GM 1 nitrous oxide boost "U2" ; and "MW 50" water-methanol engine boost system "U3". Water-methanol boost permitted higher combat power by spraying the water-methanol mixture into the cylinders as a cooling measure. The water

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actually did the cooling, the methanol was only added as anti-freeze for winter and high-altitude operation. Another set of modification kits was implemented to provide a tail assembly with a wooden frame "U2" again in order to avoid use of increasingly scarce metals, and then a similar wooden tail assembly with a taller rudder "U4" again. The Bf G-2 was built in substantially larger numbers than the Bf G-1, and was produced in a wide range of modifications. After initial production, the Bf G-4 was also fitted with larger mainwheel tires, to handle the greater weight of the Gustav, and to accommodate the bigger tires a bump was built into each wing. This particular bump may have also led to the Gustav being known as the "Beule". Some later production featured the wooden tailplane assembly. It did not have cockpit pressurization. Late Bf G-6 production featured items such as a taller rudder, and a longer tailwheel leg to improve ground handling; radio compass as standard fit; and the new "Galland hood", a bulged canopy to improve field of view. The Bf G-6 was the most heavily produced of the Gustavs, with different subvariants using different versions of the DB It was sometimes fitted as a Jabo but particularly used as a bomber destroyer, with the "gunboat" modifications. The night fighter was also fitted with exhaust flame dampers and a radio compass, with the directional loop antenna fitted to the bottom of the aircraft as the Naxos Z antenna was fitted to the top, and was configured as a "gunboat". The radio compass was needed to help the pilot get back to base in the dark. The Bf G-5 was identical to the Bf G-6 except that it had cockpit pressurization. There was no production "Bf G-7". The "Bf G-8", introduced in late , was a reconnaissance fighter modification of the Bf G-6, with a camera in the rear fuselage, a gun camera in the left wing, and the twin cowling guns deleted. Gustavs were even used to drop fragmentation bombs with time-delay fuzes to break up the formations, but this approach was not very successful. As a night fighter, the Gustav was used in what were referred to as "Wilde Sau Wild Boar " tactics, in which day fighters fitted with little or no night-fighting equipment were sent to fly at high altitude over the target area. The target area, far from being blacked-out, would remain lit up, both by city lights and fires resulting from the bombing, to reveal the black silhouettes of RAF bombers below the Wilde Sau fighters. The Wilde Sau program was the idea of a bomber pilot, Major Hajo Hermann, and many of its warriors were bomber pilots as well. Initial experiments in the tactic were conducted starting in the spring of , but Wilde Sau became the "only game in town" when the RAF starting dropping "window", or strips of aluminum foil designed to jam radar, in July , blinding German air-defense radars and night fighters. Wilde Sau proved effective in killing RAF bombers, but night flying in aircraft poorly equipped for the task proved dangerous, particularly in bad winter weather. Trying to find someplace to put down could be a problem, and in many cases Wilde Sau pilots simply bailed out of perfectly good aircraft when their options ran out. Later production featured the taller tail, longer tailwheel leg, and Galland hood introduced with late-production Bf G-6s. The "Bf G" was a tandem two-seat trainer, field-modified from the Bf G-1 to help the inexperienced pilots the Reich was throwing into battle obtain survival skills from their elders. The Bf Gs were all field conversions of other Gustav variants. The new Daimler-Benz engines had improved supercharging, which had been judged to be more effective than either nitrous oxide or water-methanol boost. The "Bf G" was similar, but had the earlier DB D engine, standard five-gun armament, and a centerline rack.

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Chapter 9 : Revell 1/32 Messerschmitt Bf G-6, Early & Late Variants | Large Scale Planes

Messerschmitt Me - \$\$ The Bf was the most successful fighter of World War II, shooting down more aircraft than any of its contemporaries.

See Article History Alternative Titles: It was commonly referred to as the Me after its designer, Willy Messerschmitt. Designed by the Bavarian Airplane Company in response to a Luftwaffe specification for a high-performance single-seat fighter, the Bf was, in essence, the smallest airframe that could be wrapped around the most powerful in-line aero engine available and still carry useful armament. The resulting design was a small, angular low-wing monoplane with closely set main landing gear that retracted outward into the wings. The first prototype flew in October 1935, powered by a British Rolls-Royce engine, since even the Jumo was not yet available. The Jumo-powered Bf B, armed with four 7.7 mm machine guns. Meanwhile, fuel-injected Daimler-Benz DB engines in the 1,000-horsepower range had become available, resulting in the Bf E, armed with two wing-mounted 20 mm cannons. An additional cannon was to fire through the propeller hub, but this was not immediately successful. The Bf E, the principal German fighter from the invasion of Poland in 1939 through the Battle of Britain 1940, had a top speed of 360 miles km per hour and a ceiling of 36,000 feet 11,000 metres. It was superior to anything the Allies could muster at low and medium altitudes, but it was outperformed by the British Spitfire at altitudes above 15,000 feet 4,500 metres. It was faster in a dive than both the Spitfire and the Hurricane and, except for the Spitfire at high altitudes, could also outclimb both. The Hurricane was considerably slower, but it could outturn the Messerschmitt, as could the Spitfire in the hands of a skilled pilot. By improved models of the Spitfire had outclassed DB-powered Bf s, and the latter had given way to the Bf G, powered by the 1,700-horsepower DB 601. The Bf G was produced in greater numbers than any other model and served on all fronts. It was armed with a pair of 20 mm cannons. The final mass-produced version of the Bf , the K model, which entered service in the autumn of 1941, had a maximum speed of 410 miles km per hour and a ceiling of 41,000 feet 12,500 metres. The later models of the Bf had excellent diving and climbing performance, but they were less maneuverable and more difficult to fly than earlier versions. Some 35,000 Bf s were manufactured in all, more than double the number of any other Axis aircraft. The Spanish Air Force used Messerschmitts refitted with Rolls-Royce Merlin engines well into the 1940s, and the Bf continued in production in Czechoslovakia after the war as the Avia Avia s were among the first fighters acquired by the nascent Israeli Air Force in 1948.