

The Messerschmitt Bf 109 in Spain

There has been much confusion over the years about the number and types of Messerschmitt Bf 109s that served in Spain. This seems to originate, in part, from a lack of agreement between the published lists for the aircraft sent to Spain and the photographic evidence available. The major problem is that the Bf 109A, Bf 109 B, and particularly the Bf 109 C, and Bf 109 D are externally rather similar.

This page is my attempt to clarify this issue. I am particularly grateful to Paul Whelan for pointing this issue out to me in the first place. This is definitely not the last word on this subject, and I'm sure there is much more evidence that can be brought to bear on the subject. I'm sure I've also made a few mistakes in what follows. Please [let me know](#) if you can provide any additional information for this page. I updated this page on 27 May 2007 with more information gleaned from the literature, particularly Ritger 2005.

The published figures

The following table gives the disposition of Bf 109s as given in several reference works:

<i>Model</i>	<i>Emiliani & Ghergo (1986)</i>	<i>Howson</i>	<i>Ries & Ring</i>	<i>Emiliani & Ghergo (1997)</i>	<i>Mombeek et al.</i>	<i>Laureau</i>	<i>Ritger</i>
Prototypes	3 aircraft	V3, V4, V5 All without serials	V3: 6•3 V4: ?•? V5: ?•? V6: ?•?	4 aircraft	V3: 6•1 V4: 6•2 2 others (not coded)	V3: 6•2 V4: 6•1 V5: 6•3	V3: 6•2, later 6•1 V4: 6•1 V6: 6•3, later 6•2
A							6•3 - 6•18
B	55 aircraft	6•1 - 6•45	6•7 - 6•45	140 aircraft	6•3 - 6•45	6•4 - 6•45	6•19 - 6•45
C	19 aircraft	6•46 - 6•51*	6•46 - 6•50		6•46 - 6•50	6•46 - 6•50	6•46 - 6•50
D	9 aircraft	6•52 - 6•86*	6•51 - 6•86		6•51 - 6•86	6•51 - 6•86	6•51 - 6•86
E	44 aircraft	6•87 - 6•131	6•87 - 6•130		6•87 - 6•131	6•87 - 6•131	6•87 - 6•131
Total	130	134	130	144	133	131	132

Emiliani, A. and Ghergo, G.F. (1986) *Nei Cieli di Spagna - 1936-39 Immagini e documenti delle Forze Aeree in Guerra*. Giorgi Apostolo Editore, Madrid.

Howson, G. (1990) *Aircraft of the Spanish Civil War 1936-1939*. Putnam, London.

Ries, K. and Ring, H. (1992) *The Legion Condor - A history of the Luftwaffe in the Spanish Civil War, 1936-1939*. Schiffer Books, West Chester, Pennsylvania.
 Emiliani, A. and Ghergo, G.F. (1997) *Wings over Spain - History and Images of the Civil War 1936-39*. Giorgi Apostolo Editore, Madrid.
 Mombeek, E., Smith, J.R. and Creek, E.J. (1999) *Jagdwaaffe - The Spanish civil war*. Classic Publications, Crowborough, UK.
 Laureau, P. (2000) *Condor - The Luftwaffe in Spain 1936-1939*. Hikoki, Ottringham, UK.
 Ritger, L (2005) *The Messerschmitt Bf 109 Part 1: prototype to 'E' Variants*. Modellers datafile 9, SAM publications, Bedford, UK.

Thus there is quite a lot of disagreement about the coding of the prototypes that served in Spain, but general agreement about the number and identity of Bf 109Cs, Ds and Es (*NB. Howson states that there were 5 Bf 109Cs and 35 Bf109Ds, which suggests that he also considers 6•51 a Bf 109D). However the photographic evidence suggests that all the above authors are wrong about the identities of the Bf 109Cs and Ds, although it should be pointed out that Howson says that the figures he gives should only be used as a rough guide. Emiliani & Ghergo (1986) give rather different numbers, and may actually be closer to reality (at least based on the photographic evidence). In what follows, I'm only considering the photographic evidence, and I'm also assuming that the order of numbering of Bf 109 codes reflected their order of entry into service in Spain (and that Bf 109Ds, if present, were introduced after Bf 109Cs).

There is, on the other hand, little dispute about the number of Bf 109 Es sent to in Spain, probably because these are easily identified in photographs from almost any angle.

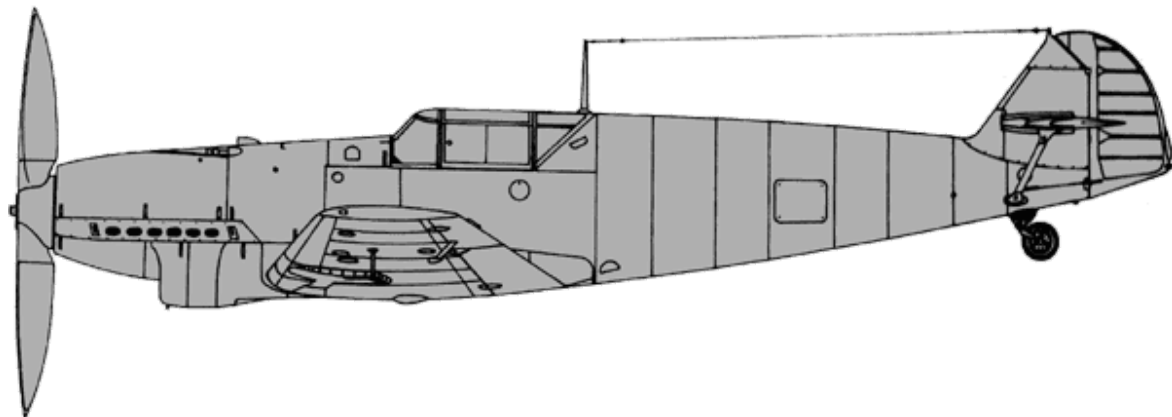
Bf 109 types used in Spain

In an attempt to shed some light on this problem, here is a brief run-through of the differences between the types of Bf 109 that served in Spain.

Prototypes

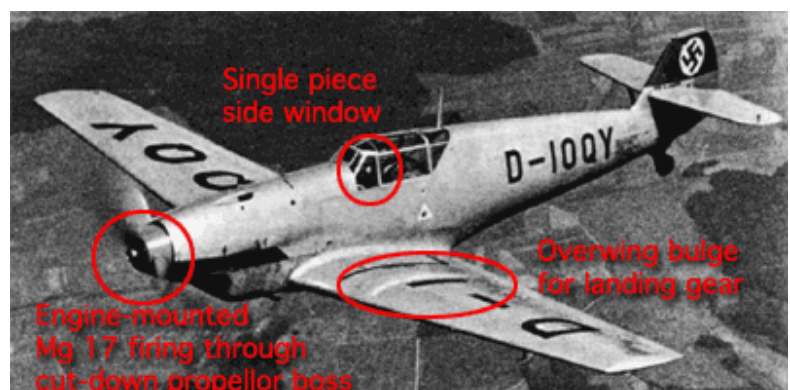
Bf 109 V-3

This machine was quite distinctive, and had, in addition to the two Mg 17 above the engine cowling that would become standard on all Bf 109s, an engine-mounted Mg 17 (or possibly an Mg FF 20 mm cannon) firing through a cut-down propellor boss. The wheels were also larger than on subsequent aircraft, necessitating bulges on the upper surface of the wing to house the retracted landing gear.



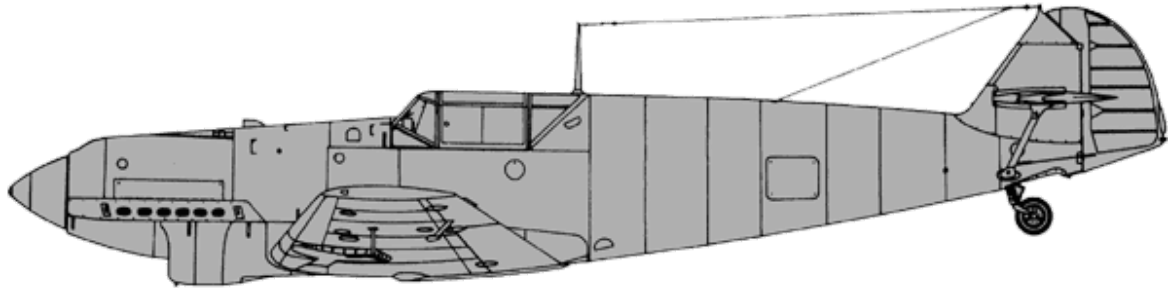
The picture to the right shows the Bf 109 V-3 in flight in its German civil markings. The characteristic spinner, side windscreen and wing bulges are highlighted.

This machine also lacked the under-wing oil cooler found on later prototypes and production aircraft.



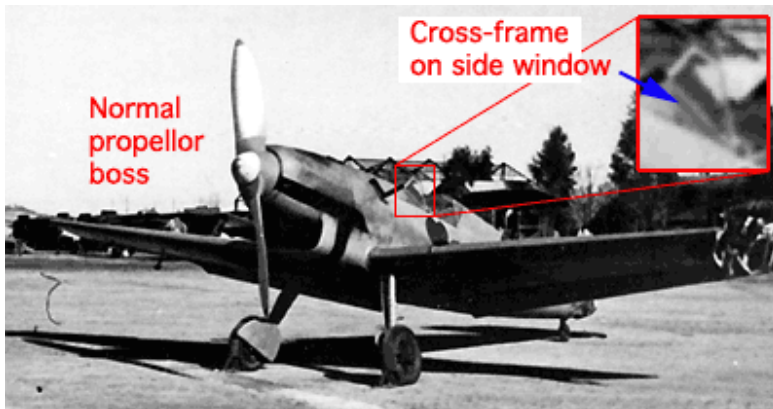
Bf 109 V-4, V-5 and V-6

Much less is known about these aircraft, and few photographs seem to exist, but they are all thought to have had the same general arrangement, with armament confined to two Mg 17s mounted above the engine. These aircraft served as the pre-production versions of the Bf 109 B. All lacked the under-wing oil cooler found on later prototypes and production aircraft.



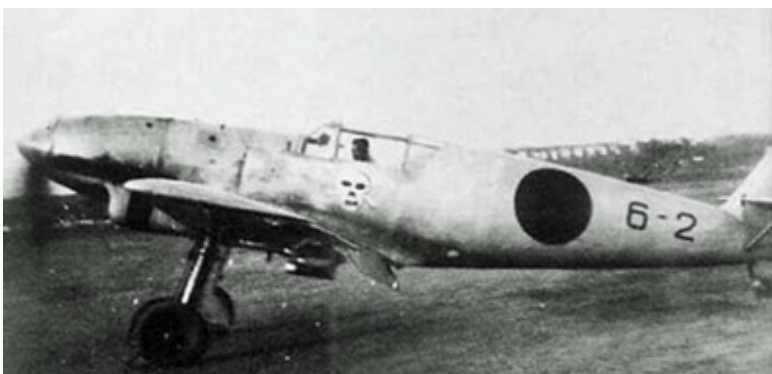
Prototypes in Spain

As can be seen from the above table, 6•1, 6•2 and 6•3 have been thought to be examples of prototype aircraft by various authors, while others have thought that the prototypes tested in Spain were unmarked. Below are some pictures of 6•1, 6•2 and 6•3, plus a curious spinner on an unidentified aircraft.



The picture to the left shows the aircraft that's normally acknowledged to be 6•1.

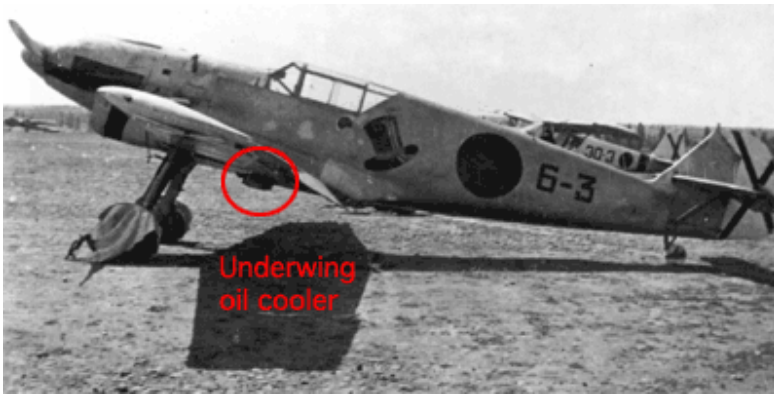
While the oil cooler cannot be seen, this aircraft can definitely be ruled out as being the Bf 109 V-3 prototype, and seems to have the characteristics of a Bf 109 A. It is possible that this aircraft is the V4, which may have arrived before the V3, and was destroyed soon after arrival.



To the left is a rather grainy photograph of 6•2. This is very interesting as it does show what appears to be the V3 prototype with the single-piece side window, but, however, with normal propellor boss.



This excellent photograph of 6•2 clearly shows the side window, and bulge for the landing gear, as well as providing an excellent view of the distinctive skull-and-cross-bones emblem below the cockpit.



Underwing
oil cooler

To the left is 6•3, which again appears to be a standard production early Bf 109 A, with oil cooler under the port wing.



This photograph appears to show an unusual spinner arrangement - a fixed pitch wooden propeller, but with an annular vent, presumably for engine or gun cooling.

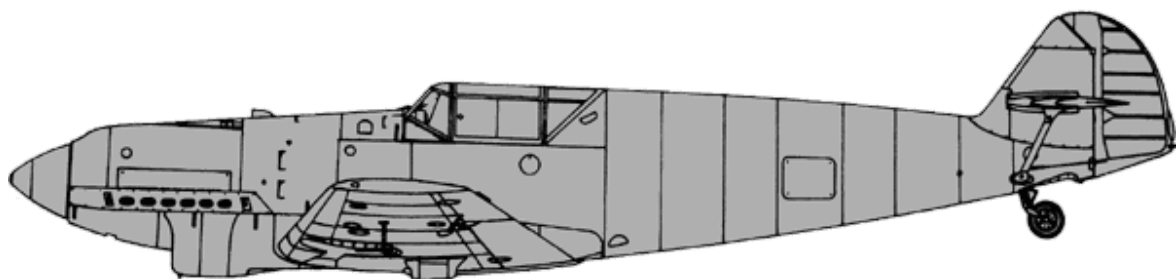
Engine and gun cooling was a persistent problem on early Bf 109s, and various solutions were tried out, so maybe this was one of them.

The oil cooler can once again be seen under the port wing.

Bf 109 A

NB. previously referred to as the Bf 109 B-1, but Ritger (2005) argues convincingly that these models were actually designated Bf 109 A

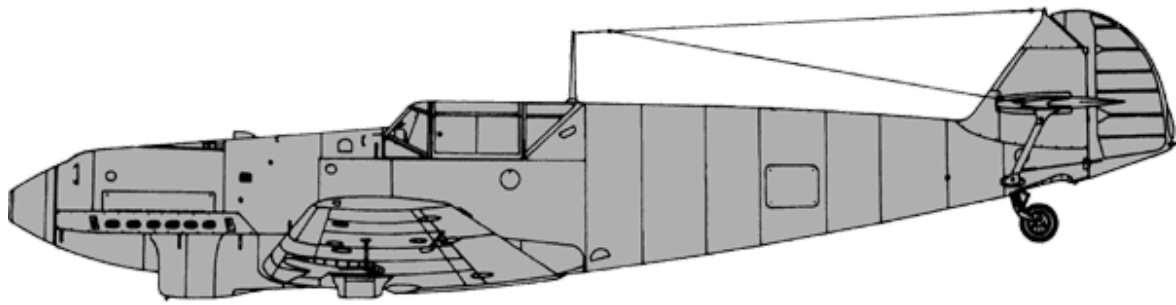
Fitted with Junkers Jumo 210 D engine. Armament consisted of two Mg 17 guns above the engine cowling. Fitted with a 2-blade fixed-pitch wooden propeller, oil cooler mounted under the port wing, behind the middle of the chord. The first aircraft had spinners that were slightly smaller than the forward cowling, so exposing small annular air intakes around the propeller. The seams between fuselage panels may have been taped, since they are not clearly visible on photographs. Wing slats were full-length.



Bf 109 B

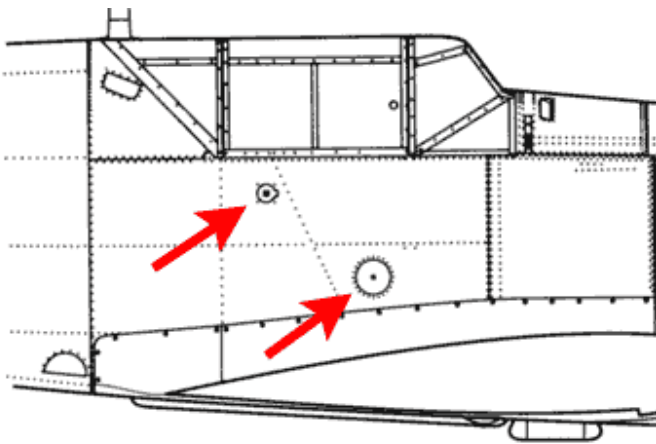
The fixed pitch propeller was replaced by a variable-pitch Hamilton propeller (this was also associated with the ability to fit an Mg 17 mounted between the engine blocks, but it is unclear how often this was fitted). Three large cooling slots were cut into the top and one into the bottom of the forward cowling to increase gun and engine cooling. The underwing oil cooler was also repositioned slightly further forward on later machines. Shorter wing slats were also introduced during the production of the B series.

NB. Many (if not all) Bf 109 A's were upgraded to B standard in the field, when the variable pitch propellers became available. The cooling slots were also added at various stages, so that the combination of cooling slots and fixed-pitch propeller can be seen on several photographs.

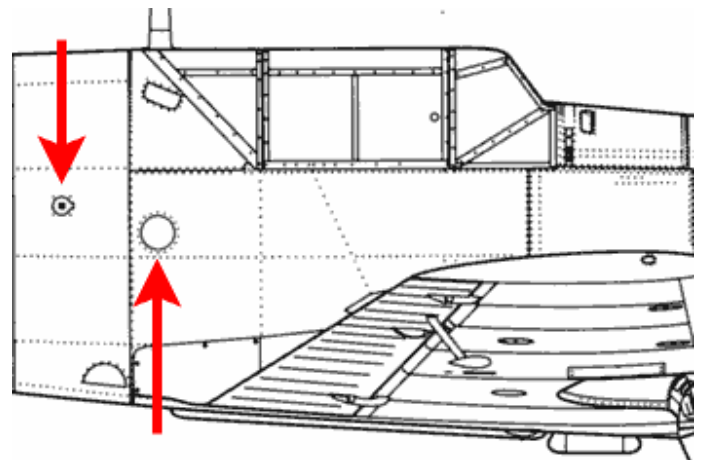


Bf 109 C

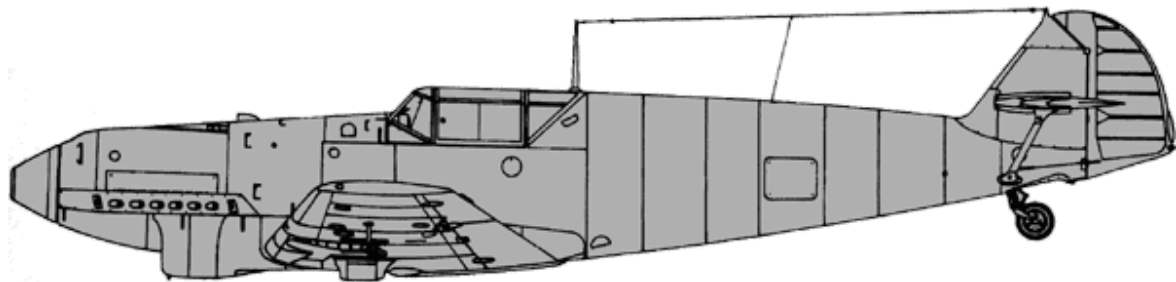
Fitted with Junkers Jumo 210 Ga engine, which had direct fuel injection (giving increased high-altitude performance). Armament increased to four Mg 17s by the addition of one Mg 17 in each wing (the muzzle of which was within the wing). The exhaust ejector stubs projected from the sides of the cowling rather than being flush as in previous models. The position of the oxygen filler and electrical socket on the starboard side of the aircraft was also moved from under the cockpit to further back on the fuselage (see below).



Bf 109 B



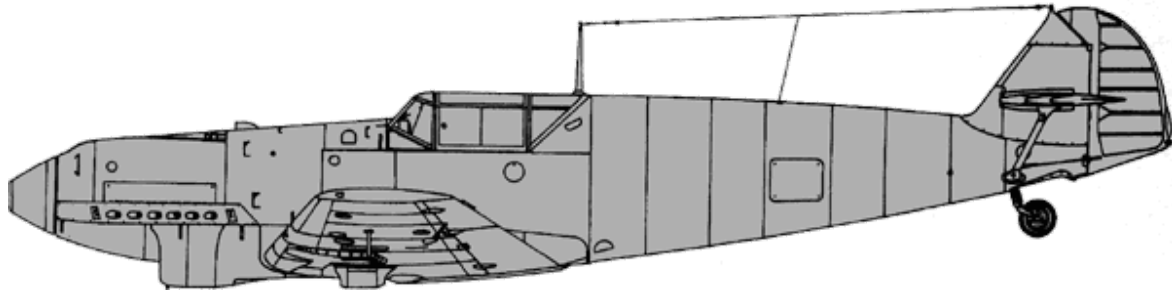
Bf 109 C & D



Bf 109 D

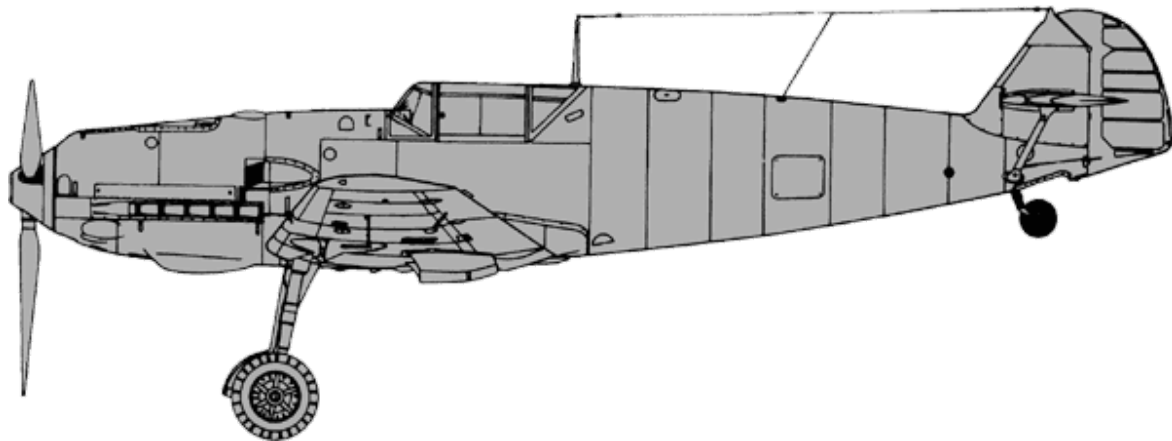
Reverted to the Junkers Jumo 210 D engine, but had the additional wing guns. A new tailwheel design (without the "scissor" link found on earlier aircraft) was introduced, though it is unclear whether this was a characteristic of all D versions, or was introduced during the life of the D series.

NB. It used to be believed that the D series was fitted with the Daimler Benz DB 600 engine, and this information is still found on several Bf 109 web sites, but this misconception seems to have been as a result of successful German pre-war propaganda, fuelled by the appearance of the DB 600 powered V13 at the Zurich air show in 1937. It seems that the original plan was for the D series to be DB 600 powered, but that shortage of the engine meant that the Jumo 210 D was used instead. In preparation for the planned introduction of the DB 600 engine, the aircraft was strengthened, and it was as part of this upgrade that the rear wheel design change was made.



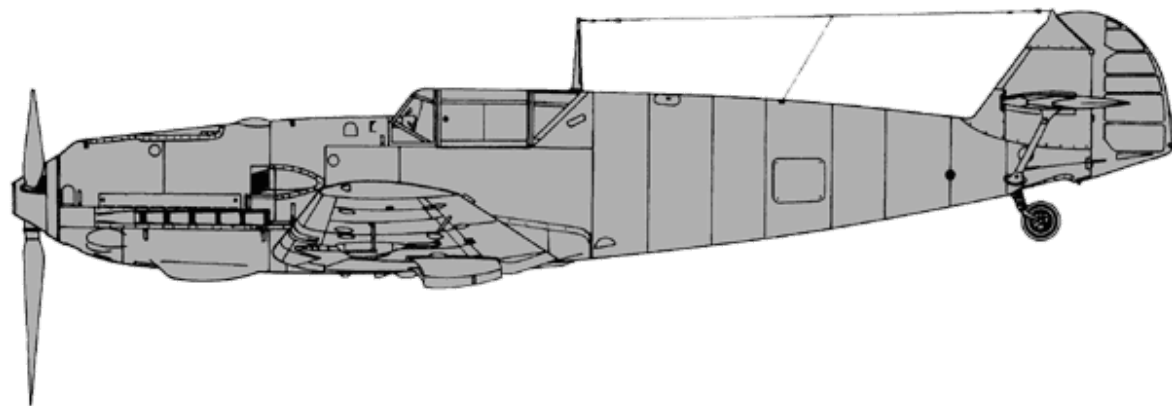
Bf 109 E-1

Powered by the Daimler-Benz DB 610 engine, driving a three-blade propellor. An entirely new nose shape resulted from the installation of this engine, as well as new under-wing radiators. There were numerous other minor alterations which mean that Bf 109 Es are quite distinctive from most angles.



Bf 109 E-3

As the Bf 109 E-3, but with the wing guns replaced with 20mm Mg FF canon, which had muzzles that projected beyond the leading edge of the wing. Laureau gives 6•107 as a Bf 109 E-4, although this may simply be a misprint (The E-4 had a redesigned canopy with less rounded framing to the windscreen).



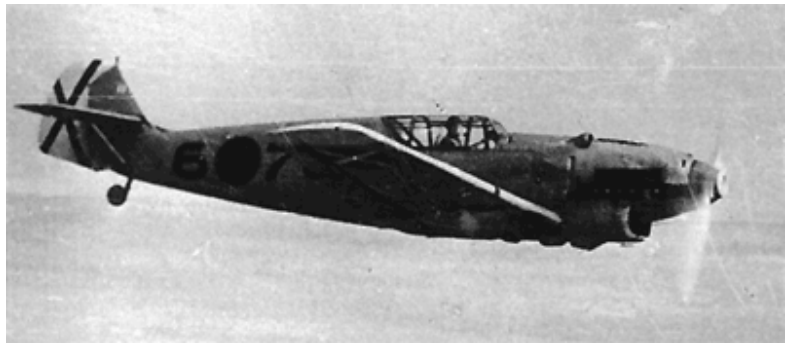
The photographic evidence

The major external difference between the B and C & D models is thus the extra pair of wing guns possessed by the Bf 109 C and D. On photographs of Bf 109s in Spain, the ports for these guns are usually quite noticeable if the appropriate section of the wing leading edge is in shot, since the dark muzzle hole contrasts with the light coloured paintwork. The gun ports are often quite noticeable even in fairly distant photographs of flying aircraft. The other major difference is the position of the oxygen filler and electrical socket on the starboard side of the aircraft (see above). Yet another difference is the projecting exhaust stubs of the C and D series (the B series having exhausts flush with the cowling sides). This difference is far less easy to see in photographs, however, as the lighting needs to be just right to show up the exhausts.

The first clearly-identified aircraft on which the wing guns can be seen is 6•79, the famous "Luchs" of Werner Mölders, where there are several well-known photographs showing re-arming of the wing guns. Note also that the oxygen filler and electrical socket (outlined in red) are on the rear fuselage rather than under the cockpit.



There is also a photograph of another aircraft bearing wing guns, and where the extended exhaust stubs of the C-model are visible, but where the last digit of the serial is mostly obscured; it could be 6•73, 6•75, 6•76 or 6•78.



The fuselage of 6•74 also clearly shows the oxygen filler and electrical socket on the starboard side of the aircraft in the position characteristic of the C- and D-models, behind the cockpit.



There are relatively clear photographs of 6•60 which DONOT show any sign of wing guns, which suggests that the change over from Bf 109 Bs to Bf 109 Cs took place somewhere between 6•60 and 6•74.



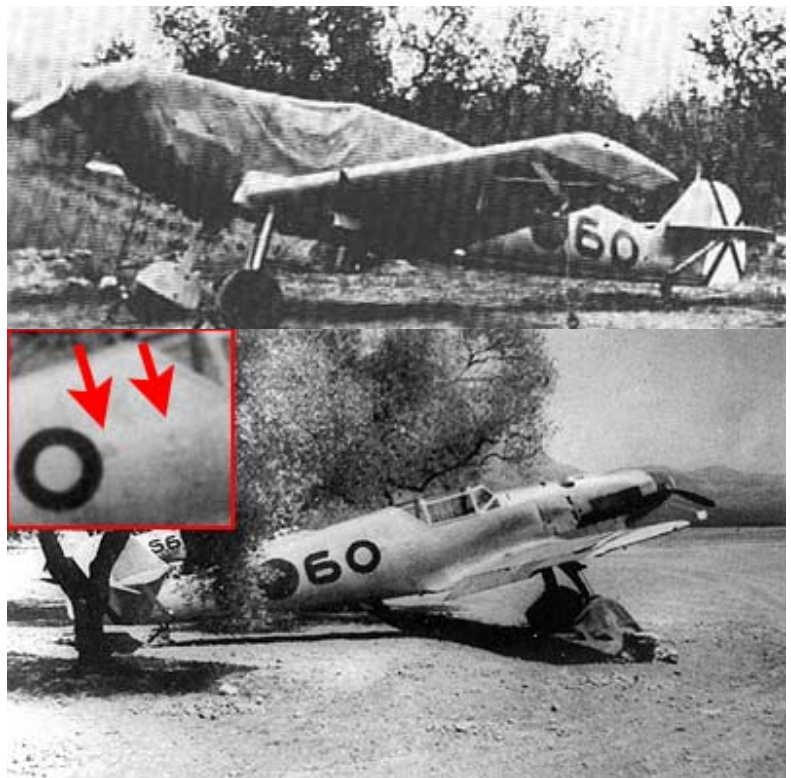
If anyone has any clear photographs of aircraft in this range of codes, please [let me know](#).

On the other hand, there is another photograph of 6•60 which does apparently show wing guns (thanks to Paul Whelan) - although I must admit to being a little sceptical about this picture, as the dark mark on the leading edge of the wing seems to be much darker than the rest of the shadow areas, and also rather an odd shape (an inverted "v") -

which suggests that it may be a scratch or another mark on the original negative. I should add that I've only seen rather low quality JPEG versions of this picture so far...

In another picture of 6•60, the starboard side is clear, and with quite a bit of imagination there do appear to be a couple of slightly darker patches on the side of the fuselage in the positions of the oxygen filler and electrical socket of the C- and D-models. There are no obvious (or suggested) marks under the cockpit, so I'm now verging toward the opinion that 6•60 is a Bf 109 C or D. If that is the case, the change from B- to C- model must have taken place between 6•56 (see below) and 6•60.

Again, any additional evidence or pictures that people could [provide me with](#) would be very useful!



The change from Bf 109 C to Bf 109 D is even more difficult to pin down, because there are few if any clear differences in external appearance between the C and D models. One difference that *may* have existed is in the exhaust outlets, where the Bf 109 D may have had slightly longer exhaust stubs than the Bf 109 C, associated with the engine difference between the two models ('though I can't see the difference). The main noticeable difference seems to be in the new tailwheel design that was introduced in the D series.

A new set of Bf 109 B-D scale plans was published in the September 2003 issue of *Aircraft monthly* which suggested that there was a difference in windscreen shape between the C and D models. However, having spent some time with a ruler and some photographs of Bf 109s, I come to the same conclusion that other authors have come to, that this difference was actually introduced during the life on the B model.

If anyone can help me out with other differences, please [let me know](#).

IF the new cantilever tailwheel was characteristic of all D models, then there is no evidence of any D models serving in Spain at all, since there are pictures of 6•86, which is acknowledged as the last Bf 109 sent to Spain before the E models began to arrive, which clearly show the "scissors" link (see left).

If the new cantilever tailwheel was introduced during the life of the D-model, however, then the mystery still remains unsolved, since if Bf 109 Ds were sent to Spain they were certainly very early production models.

NB. The "scissors" link was quite slender, and is often "burnt out" on photographs of Bf 109s against light coloured backgrounds (e.g. the picture of 6•7? above).



6•56 - A case in point, and a source of confusion?

Interestingly, it may well be the most photographed Condor Legion Bf 109 of all, 6•56, that has contributed to much of the confusion. This was a long-serving aircraft, initially flown by Gotthard Handrick (who scored 5 "kills" in it in Spain), then by Walter Grabman (Who scored 7 "kills") and finally being handed over to the Spanish *Patrulla Azul*. While used by Gotthard Handrick, this machine had an emblem of the Olympic rings painted on both sides of the spinner - on one side with the date 1936 (Handrick won a gold medal in the modern pentathlon at the 1936 Berlin Olympic games), and on the other with the inscription "1940?" (Presumably he hoped to win another medal in the planned 1940 Tokyo Olympic games), as well as a stylized "h" on the fuselage roundel on the port side. Images of this machine were, not surprisingly, used by the German propaganda machine. It has been suggested that when Handrick returned from Spain to Germany in 1938, the German propaganda industry did not have all the pictures it desired, and since 6•56 remained in Spain, another machine was painted with the same markings and photographed in Germany. This could explain why there are two distinct versions of the Olympic rings symbols and "h" seen on photographs ('though it could also have been a re-paint in Spain, of course, but why that should result in a change in the placement of the rings is unclear). One set of photographs shows a typically arid Spanish background, no sign at all of wing guns, and with the Oxygen filler and electrical socket below the cockpit of this machine (see below), so I am in no doubt that 6•56 was a Bf 109 B-2.



The other set of photographs shows a much lush background. If this was the spuriously painted aircraft, and if this was a Bf 109 D, this may well be one of the reasons that the types used in Spain have been misinterpreted.

The first set of pictures clearly show a Bf 109 B, with exhausts flush with the cowling sides and no sign of wing guns. On this aircraft, the Olympic rings are arranged with two forwards and three to the rear, and the stylized "h" on the port fuselage roundel has a rather curved outline.

The second set of pictures show no useful features for identifying the model of this aircraft. On this aircraft, the Olympic rings are arranged with three forwards and two to the rear. The stylized "h" is also painted in a different, more angular, style.


[Home](#)

[Site Info](#)

[Background](#)

[Aircraft that took part](#)

[Aircraft that may have taken part](#)

[Aircraft that did not take part](#)

[Codes & Markings](#)

[Modelling](#)

[Site News](#)

[References](#)

[Links](#)