

K32009 1/32 Messerschmitt Bf 109K-4

By 1944 the fame of the Messerschmitt Bf 109 in aviation history was assured forever. Produced in vast numbers and operating in a dozen war theatres, the Bf 109 had shot down more enemy aircraft than any other aeroplane. As the Nazi war machine ran riot in 39-42 the 109 became a feared symbol of Hitler's regime, and was justly renowned for its lethal attributes in air combat.

However in mid 1944 it would have been fascinating to have a heart-to-heart conversation about the 109 with Messerschmitt AG part-owner and namesake Willi Messerschmitt.

On the one hand he was selling thousands of Bf 109Gs to the Nazi government via the Reichsluftfahrtministerium (RLM) and making good profit on them. This was partly achieved by the unconscionable use of slave labour in horrific conditions. On the other hand his engineers had completely failed to design a successful piston-engine replacement for the 109. The 209 and 309 had become ignominious failures.

The ongoing competition with Kurt Tank at Focke-Wulf for single-seat fighter dominance was in full swing. It appears that very little information was shared between Messerschmitt and Focke-Wulf, either directly or via the RLM, but the Fw 190D was in flight testing by mid-1943 and was showing great promise. The apex Focke-Wulf of the war, the Ta 152, was in development.

Messerschmitt's reputation had been badly damaged by the Me 210 debacle, and while the Me 410 was a serviceable aeroplane, it was no great advance on the Me 110 and was found wanting when P-51s roamed the German skies. The revolutionary Me 262, possibly the most beautiful aeroplane ever, had been hijacked by Hitler and his bomber obsession and the Jumo engines were a constant headache. The science fiction Me 163 was too temperamental for even gifted pilots to use effectively, and while incredibly fast was going nowhere tactically or strategically. Messerschmitt's Me 264 "Amerika Bomber" consumed vast amounts of engineering resource for no visible result.

In this environment the Bf 109K was born.

Like Supermarine with the Spitfire (but unlike Hawkers) the Messerschmitt engineers had squeezed progressively more powerful engines into an airframe that first flew in 1935, and didn't change much at all. Always a handful to land and take off with its narrow-track undercarriage, this characteristic was only emphasized by the increased power on tap.

One major change from the early 109G models was the adoption of much bigger tyres. This was necessary to cope with the increasing weight of the aircraft, particularly to allow the fitment of bigger brakes. Improved ground handling was an ancillary benefit. This necessitated a bulged upper wing skin, but rather than use circular or oval bulges like the Spitfire and earlier 109s did, long-chord rectangular bulges were fitted. Remarkably these had been aerodynamically tested pre-war in the aeronautical research institute near Braunschweig, one of the most advanced in the world in 1939.

For most aircraft designs, increasing engine power leads to the need for bigger vertical tail surfaces and the 109 was no exception. A tail of greater area had already been used on some Gs, and this became standard on the K, with an attempt to preserve precious aluminium by having sub-contractors use wood as much as possible.

Daimler Benz had worked miracles to wring up to 1775 horsepower from their DB 605 engine, which was produced in slightly different versions to suit either 87 or 96 octane fuel. Water-methanol injection was standard, used to cool the fuel-air mixture in the engine cylinders and reduce pre-detonation, therefore allowing increased power for short periods of time. The methanol also stopped the water from freezing at altitude. The DB 605 D was the intended motor for the K-4, and the oil cooler and nose contours were designed to suit.

In an attempt to improve aerodynamic cleanliness outer doors were fitted to enclose the main gear, and a retractable tail wheel was fitted. Despite being first tested on the Bf 109F in 1941, the main gear doors were still not reliable in 1944, and many machines had them removed. Reliability issues also affected the tail wheel which was often fixed in the extended position and the doors wired shut.

In many respects the K can be seen as a developmental offshoot of the attempt by Messerschmitt and Daimler Benz to develop a true high altitude fighter (Höhenjäger) to combat high-altitude USAAF bombers and P-51s. The Me 109H proved abortive, and the competing Focke-Wulf Ta 152 was a much better aeroplane, though it arrived too late to affect the course of the war.

Many other less obvious K-4 features will be called out at the relevant points in this instruction booklet.

COMBAT SERVICE

It is a cliché, because it is true, that Allied bombing didn't really cut off the supply of aircraft to the Luftwaffe in 44-45, it cut off the supply of fuel. The simultaneous ascent of the P-51 as the dominant fighter in the sky (ably assisted by a variety of other Allied aircraft) meant that German pilots were not safe anywhere. The clumsy Luftwaffe training scheme, which had never been as efficient as the Allied pilot-training effort, was overwhelmed.

It is commonly accepted that the K-4 entered service in October 1944 and in a few months the various factories supplied over 1400 machines to Luftwaffe units. How many of them were ever flown, let alone flew in combat, will never be known. However units across both the Western and Eastern fronts received the latest 109, and a few were even supplied to ANR units still fighting on the Axis side in Italy.

Mixed units of Gs and Ks seems to have been common, and it is doubtful that any Allied pilot, Western or Russian, would have known which version they were fighting in the air unless a turning combat ensued and the overwing bulges were obvious, and even then some G model aircraft had these.

Few first-person accounts of what it was like to fly the 109K-4 seem to have survived. There is little evidence that it was viewed as a major improvement over the G, but pilots must have been aware of which version they were climbing into because of the substantial cockpit differences. There are a few accounts describing a well-made and fully-functioning K in capable hands being able to hold its own against most Allied fighters, but the halcyon days of 1940-42 were long gone. In most instances the limited known combat records detail a sad story of losing many inexperienced pilots against overwhelming numbers of enemy aircraft flown by seasoned flyers.

Despite this, the aura of the Bf 109K still exists. It was the culmination of a decade of development by one of the foremost aircraft manufacturers in the world. In the last year of the war no Allied pilot would have taken on a 109 without respect, and in the hands of an ace the K was still a killer.

We hope you enjoy building your Kotare Bf 109K-4 as much as we enjoyed creating it.

Mark Robson, 2025

Wingspan:		Length:		Max Weight:		Max Speed:			
9.92 m (32.54ft)		9.02m (29.59ft)		3400kg (7500 lb) approx.		710 km/h (440 mph) approx.			
Number Manufactured:		Production:		Engine:		Ceiling:		Armament:	
Approximately 1400–1600		August 1944 to March 1945		1750hp Daimler-Benz DB605 DB/DC		12200m (40000 ft)		1 x 30 mm (1.18in) MK 108 cannon & 2 x 13mm (0.51in) MG 131 machine guns	

Kotare Models would like to sincerely thank the following people who have assisted with this project:

Lynn Ritger for sustained help in a variety of ways, Kerry Carlyle, Brett Green, Sam Dwyer, Scott Samo and Drewe Manton for test-shot builds and critique, Roger Gaemperle, Vincent Kermorgant, Ronnie Olsthoorn, Tomas Tjærnber, Eduardo Brittas, Tony Argudo and Alexander Schreijnders for feedback on kit design.

We also thank David E Brown for colour comment, Dorland Bray for the loan of books and Craig Sargent for his work on 3D printing exhausts.

We also appreciate the people who have taken the time to contribute to online forums such as Hyperscale, Large Scale Planes and Britmodeller and the Facebook pages Kotare Models Fans, Barracuda Studios Ready Room and our Kotare Models page.

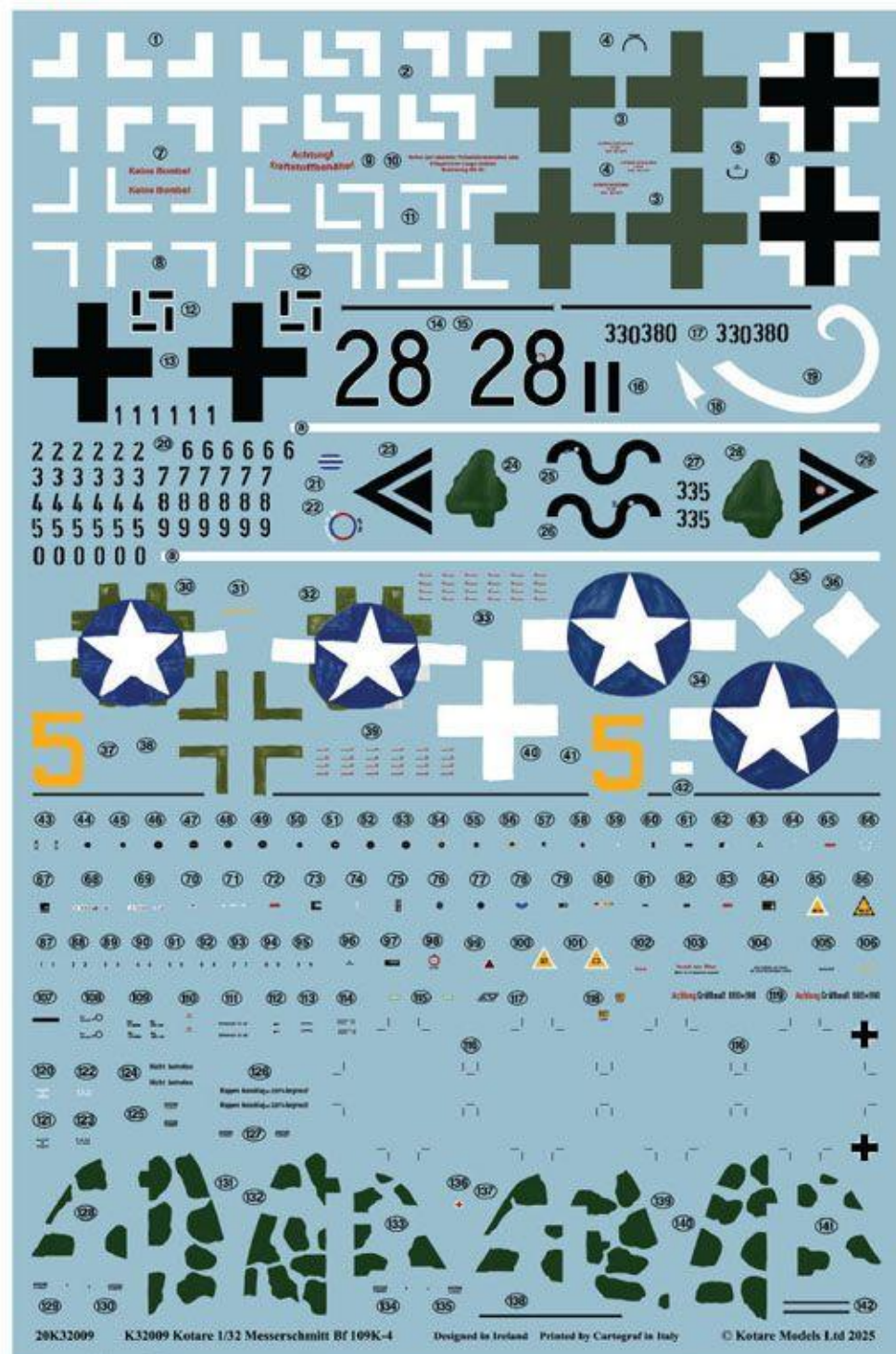
In addition the following people and companies provided photos for publication in this instruction booklet, for which we are incredibly grateful:

Eagle Editions Ltd. LLC www.eagle-editions.com - Roger Gaemperle Vintage Eagle Publishing - Kees Mol
www.2images.com - Ventura Publications - Private collections (various) - Shane Casey - Colin Owers

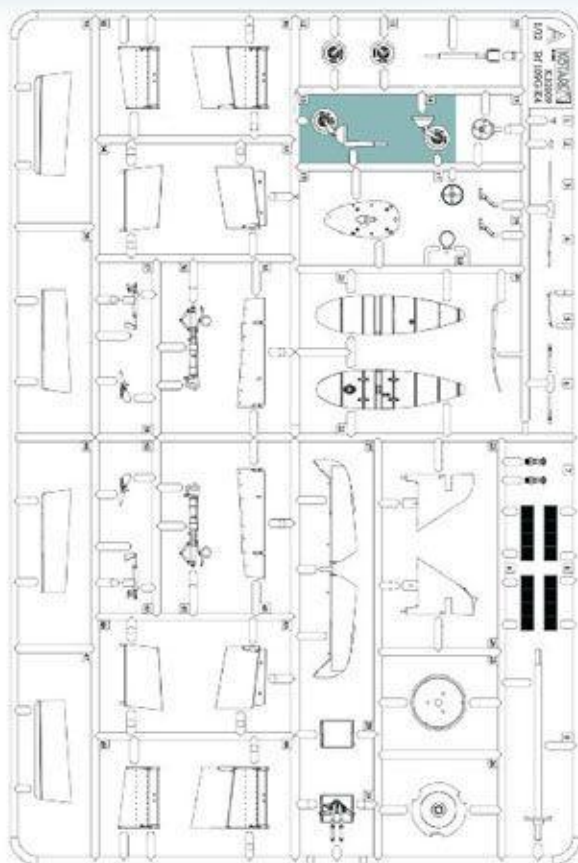
K32009 1/32 Messerschmitt Bf 109K-4

- Warning:** Choking hazard. Keep small parts and plastic bags away from children. Use glue/cement and paint in a well-ventilated area. Always wear protective eyewear when cutting and protective mask when painting, gluing and sanding. Do not breathe in dust. Beware of sharp edges.
- Assembly:** Read all the instructions carefully 3 times before starting assembly. Yes, even if you are very experienced. Use glue/cement intended for plastic models. Assemble metal and resin parts (if included) with cyanoacrylate (CA) or epoxy glue. Select a marking option before starting assembly and note the optional parts required on your instructions.
- Optional Detail:** Optional Detail can be ignored if you don't feel comfortable doing it. It is not 100% necessary to complete your model. For rigging long control cables and aerial wire we recommend stretchy elastic type material like "EZ Line" etc and thin metal or plastic for short control cables and rods etc. Stretched "sprue" is also commonly used for this type of detail.
- Painting:** Only use paint designed and suitable for plastic model kits. If in doubt, test on scrap plastic from this model before using.
- Decals:** Avoid painting unnecessary and harsh colour demarcation lines under white decals. Cut out each decal only as required. Soak in warm water for around 15 seconds. Help avoid "silvering" by not over-soaking and washing off the decal glue. Slide decal off backing paper on to smooth painted surface of model and move into position using a fine paint brush and/or tweezers. It can be helpful to apply a small drop of water mixed with PVA glue to the area where decals are being applied to make them easier to manoeuvre into position and help avoid silvering. If necessary, use decal setting and solvent solutions but only after first testing on spare decals from this model. Alternatively, carefully use a hair dryer or very hot water (applied with a brush) to soften and conform decals to surface details. Do not overheat because you will damage your model.
- Hints & Tips:** Please visit www.kotare-models.com for any additional hints and tips to help you get the best result from your model.

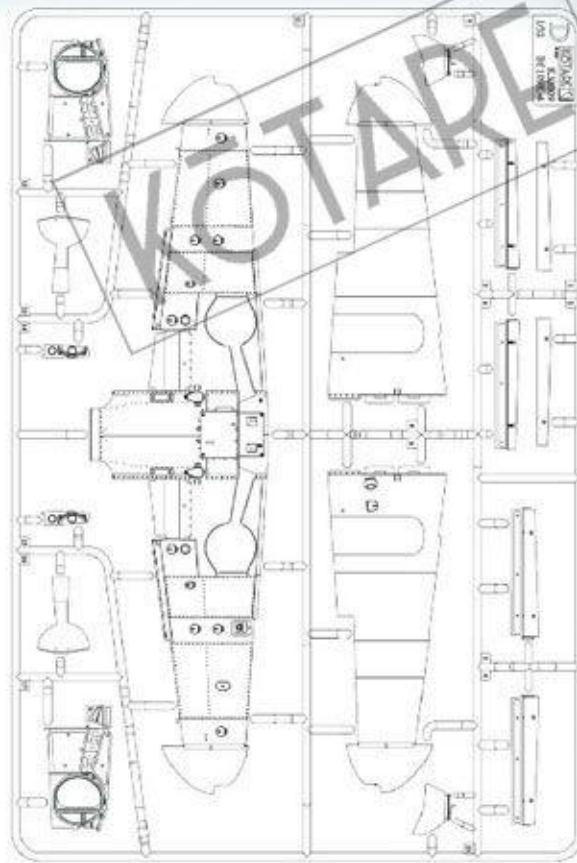
Decals



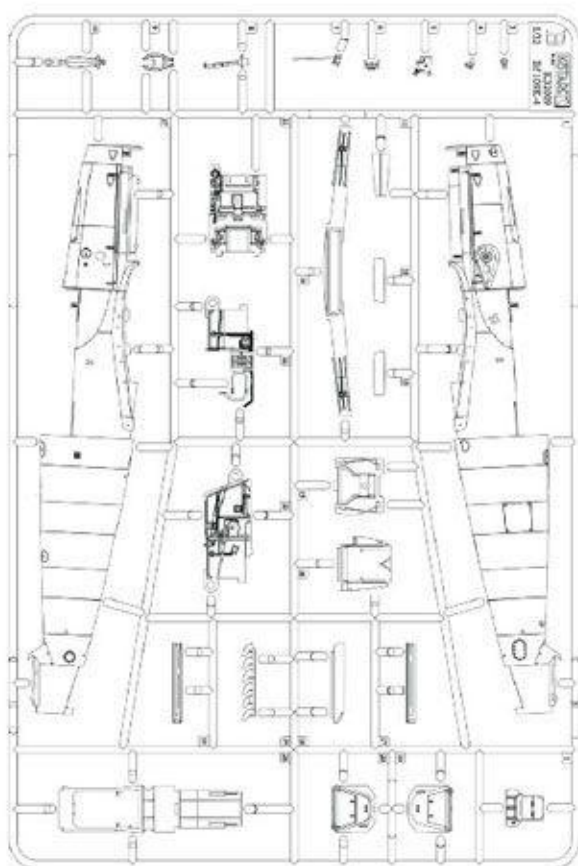
A parts



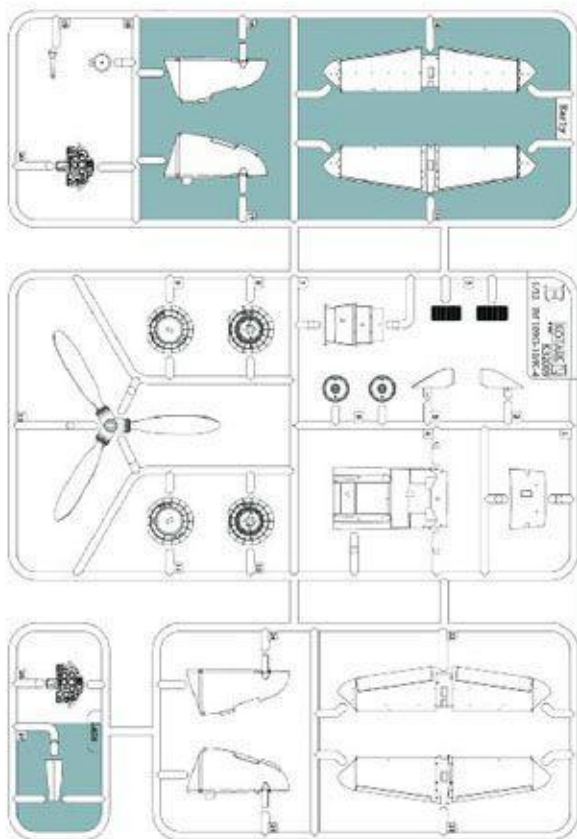
D parts



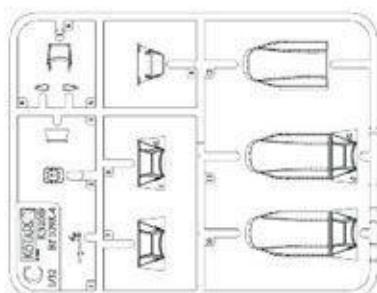
B parts



E parts



C parts



■ = Not used

Colour chart

	Colour*	Tamiya Acrylic	SMS	Mr Hobby Acrylic	Mr Color Lacquer	Mr Paint Lacquer	Atom Acrylic	AK Gen3 Acrylic
a	RLM 66 Black-gray	XF24	PL38	H416	C116	MRP-059	20158	11820
b	Black	XF1	PL01	H12	C2/C33	MRP-005	20163	11029
c	White	XF2	PL02	H11	C62	MRP-004	20000	11001
d	Painted aluminium	XF16	PMT09	–	C8	MRP-128	20164	12209
e	Red brown	XF79	PL126	H47	C41	MRP-029	20062	11419
f	RLM 02 Gray	XF22 (x20) +XF49(x2) + XF2(2)	PL179	H70	C60	MRP-050	20078	11812
g	RLM 74 Gray-green	XF24(x3) + XF2(x1)	PL187	H68	C36	MRP-064	20157	11825
h	RLM 75 Gray-violet	XF24(x5) + XF50(x1)	PL188	H69	C37	MRP-065	20147	11826
i	RLM 76 'Green version'	XF12 (lightened)	PL124	H74	C368	MRP-181/ MRP-182	20140	11829
j	RLM 70 Black-green	XF27	PL185	H65	C18	MRP-060	20101	11821
k	RLM 76 Light blue	X23(x4) + XF2(x1)	PL189	H417	C117	MRP-066	20130	11828
l	RLM 81 Brown Violet	XF51(x1) + XF64(x2)	PL192	H421	C121	MRP-070	20059	11835 11836 11837
m	RLM 82 Light green	XF5(x1) + XF2(x1)	PL193	H422	C122	MRP-071	20075	11838
n	Unidentified dark green	XF24(x1) + XF51(x1)	PL194	H423	C123	MRP-072	20065	11839
o	Tyre black-gray	XF69	PL123	H77	C137	MRP-173	20159	11027
p	Clear red	X27	PL18	H90	C47	MRP-266	A. MIG 0093	11213
q	Clear green	X25	PL20	H94	C138	MRP-268	A. MIG 0092	11216
r	Steel	–	PMT05	H18	C213	MRP-030	20166	11210
s	Iron	XF84	PMT08	H76	C61	MRP-148	20169	11212
t	RLM 04 Yellow	XF3	PL180	H413	C113	MRP-051	20020	11813
u	RLM 23 Red	XF7	PL29	H414	C114	MRP-052	20029	11092
v	Unpainted aluminium	X32	PMT01	H8	C218	MRP-008	20165	11207
w	Chrome	X11	PMT04	–	C211	MRP-031	20164	–
x	RLM 24 Dark blue	XF8	PL04	H5	C5	MRP-053	20110	11176
y	Canvas	XF57	PL131	H85	C21	MRP-210	20005	11031
z	RLM 26 Brown	XF68	PL13	H47	C43	MRP-161	20062	11106
z1	Brass	X31	PMT13	–	MC219	MRP-150	20173	11194
z2	RLM 25 Light green	X28	PL207	H319	C319	MRP-054	20091	11145

* Colours matched to the best of our ability.

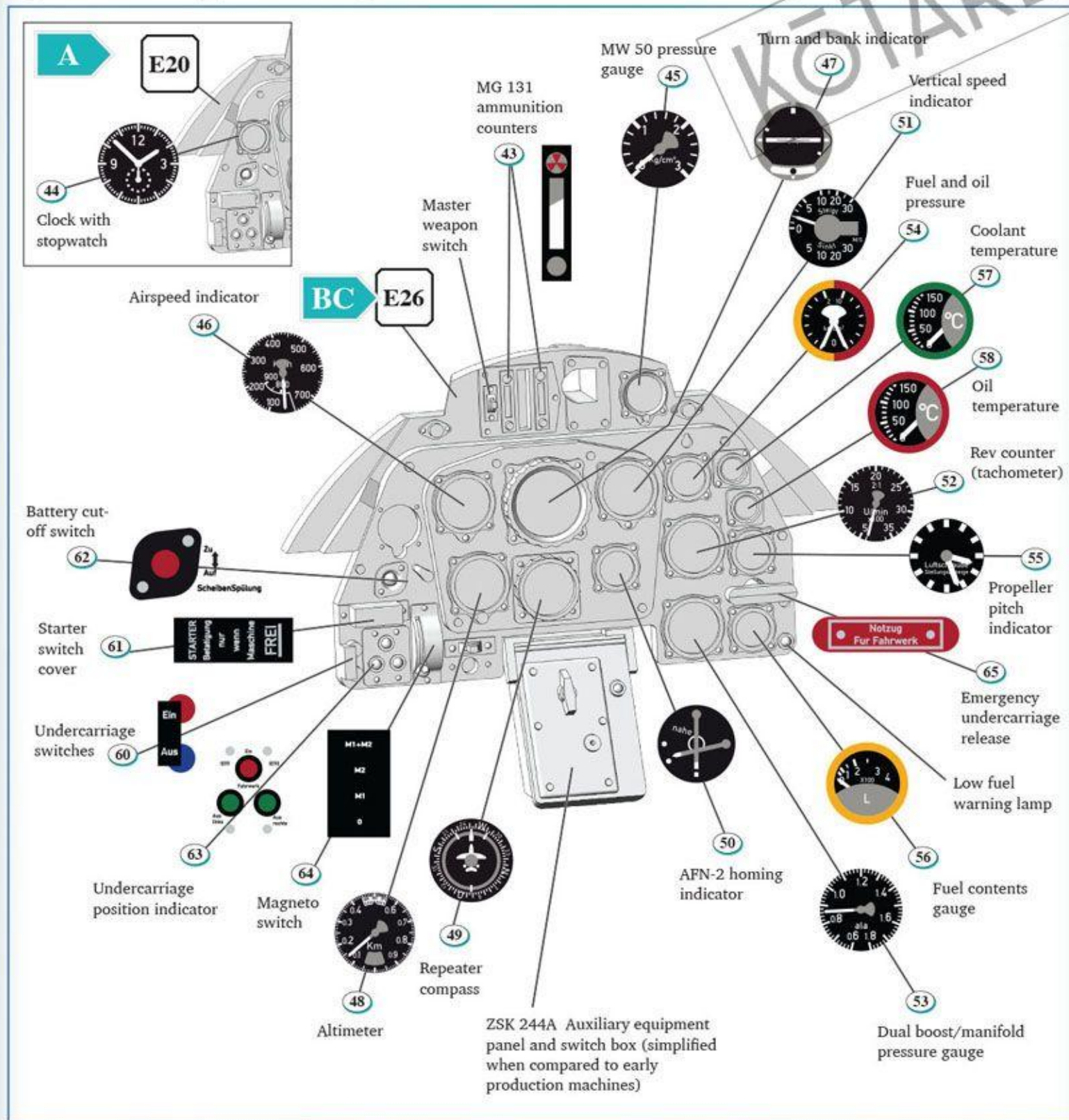
** Not all colours are used for the options in this boxing.

*** We have been persuaded by the argument that RLM 83 is a blue maritime colour. However many hold a contrary opinion, which is fine. Our colour "n" is what others call RLM 83. We won't speculate here on how this colour actually looked or whether it had an official RLM designation.

Note: Apply clear varnish to achieve the desired gloss, semi-gloss and matt finish.

1 COCKPIT - DECAL GUIDE

All parts are RLM 66 black gray unless otherwise specified.



These images are provided now because many modellers like to paint and decal cockpit parts before assembly. In that case, please take care to clean paint from mating surfaces. Many modellers will use a drop of clear varnish or other gloss-finish product to the dial decals to replicate the glass instrument face.

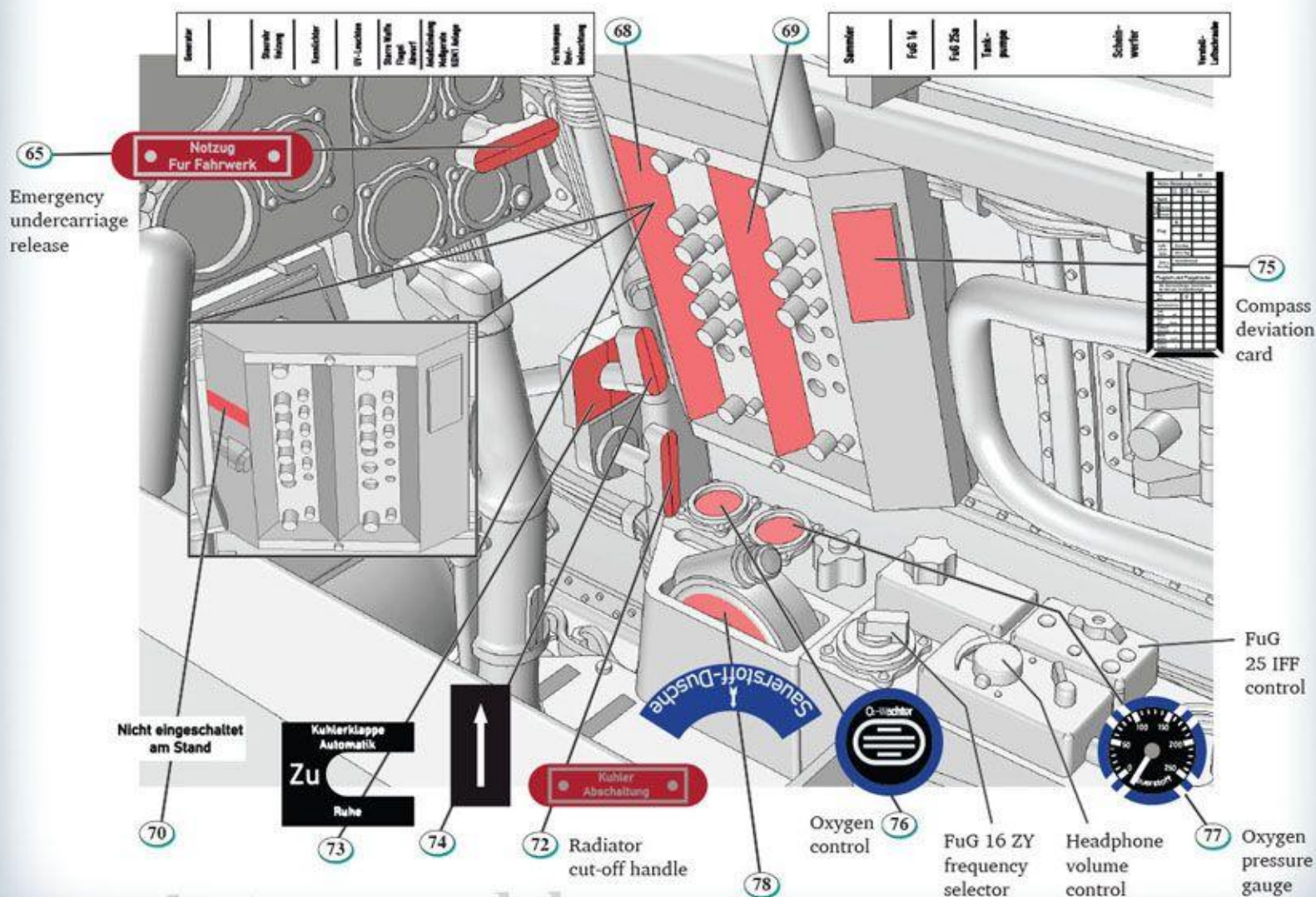
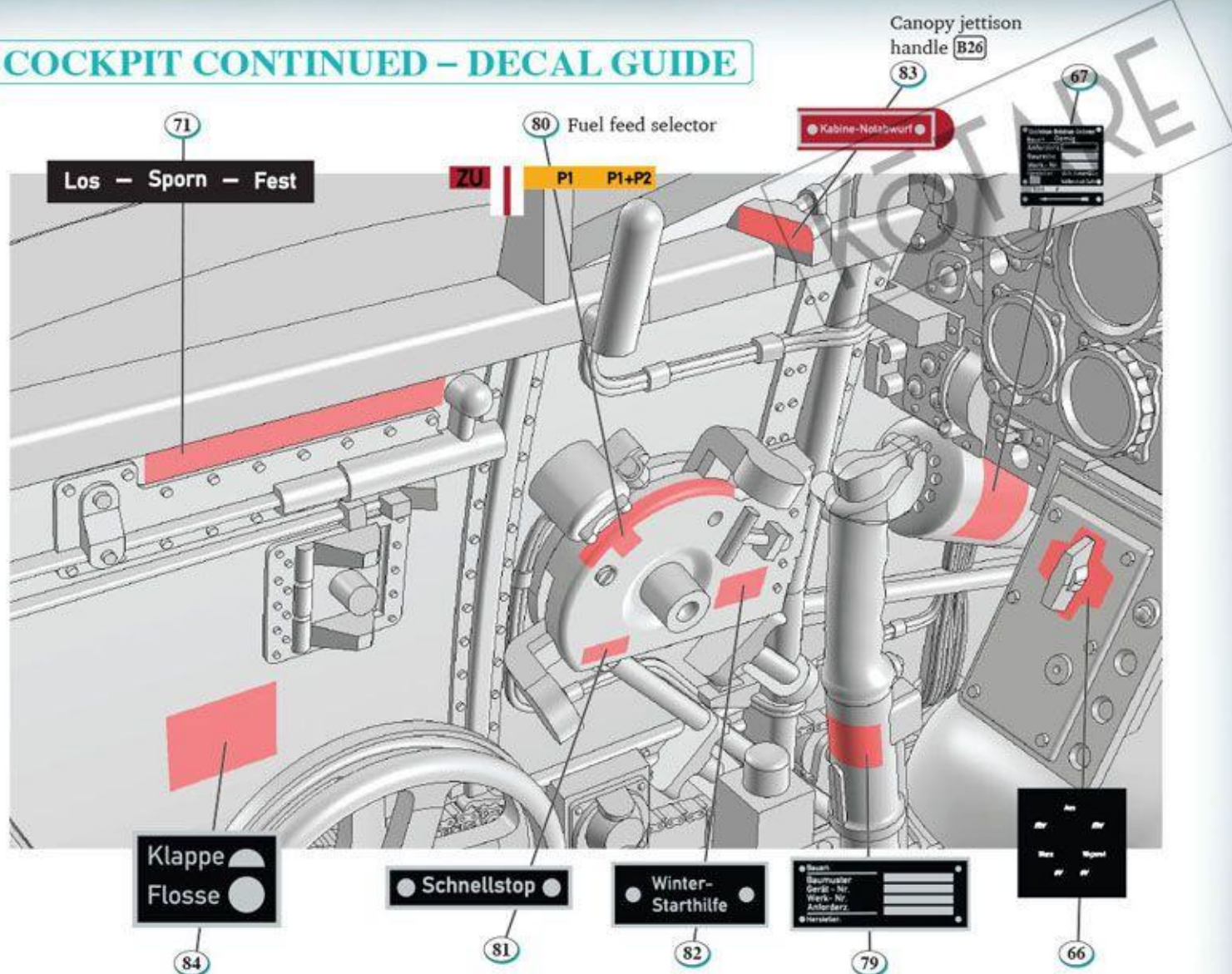
In Memoriam

It is not possible to design and manufacture a kitset of a late war Messerschmitt Bf 109 without acknowledging the sacrifice of tens of thousands of concentration camp victims who died while being subjected to slavery by the Messerschmitt company and the Nazi regime. Far more eloquent writers than we have detailed the horror that afflicted innocent people, and those that survived were no doubt affected for life.

There is really nothing exculpatory we can say, except that it would be a difficult thing to build a business to create models of aircraft that only flew for countries with a completely clean ethical record.

Perhaps the only rational thing is to hope that we all do our best to make sure that no country ever again descends into the moral depravity of Hitler's Third Reich.

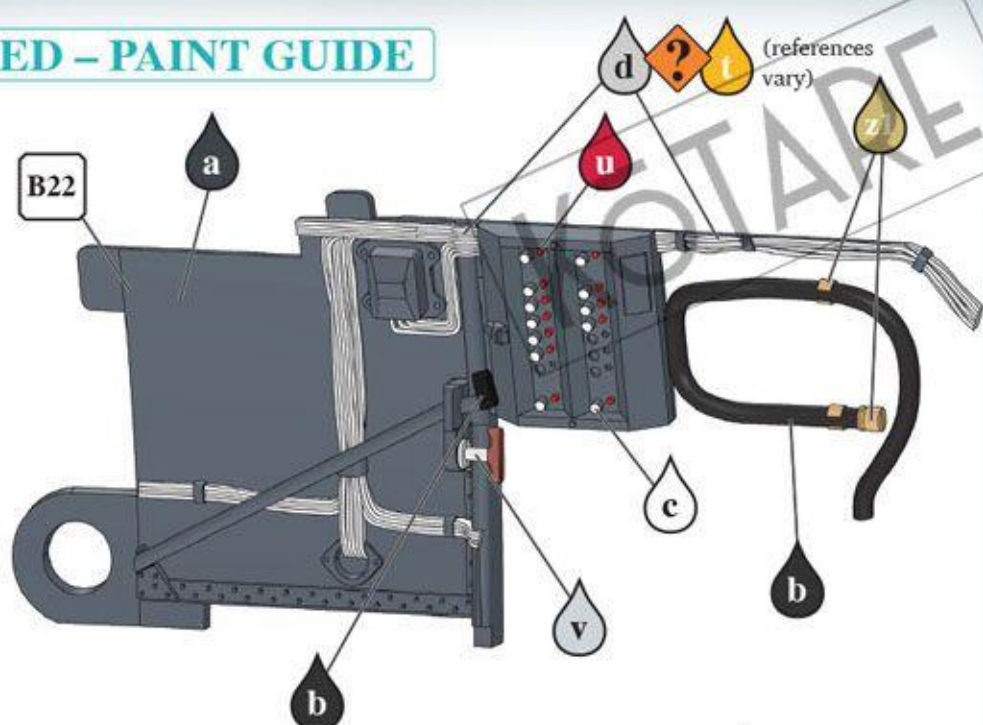
1 COCKPIT CONTINUED – DECAL GUIDE



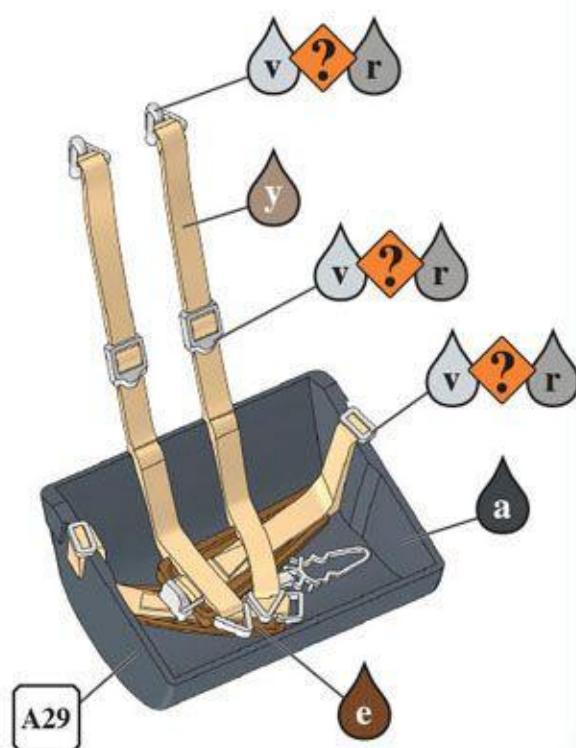
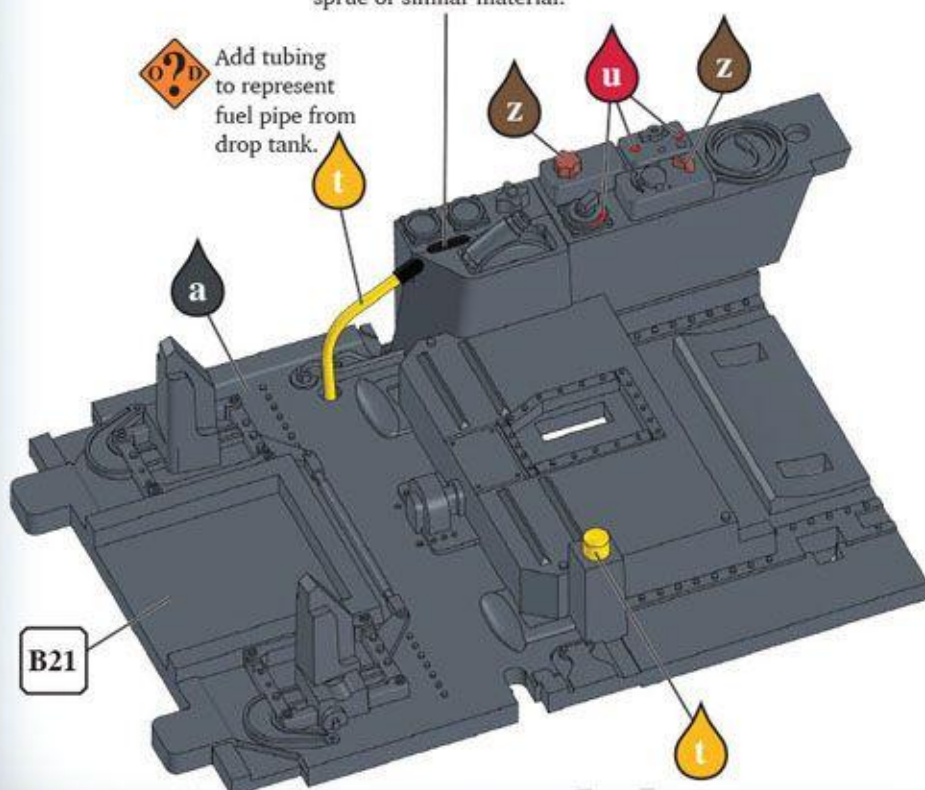
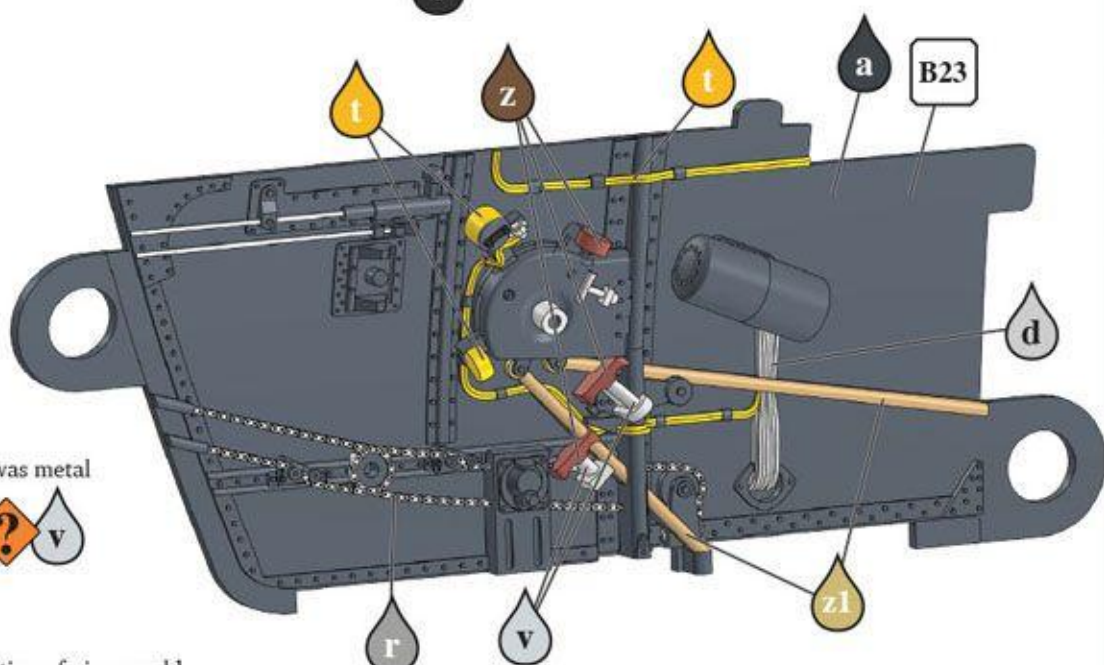
2 COCKPIT CONTINUED – PAINT GUIDE



Offset control column
with KG 13C hand grip

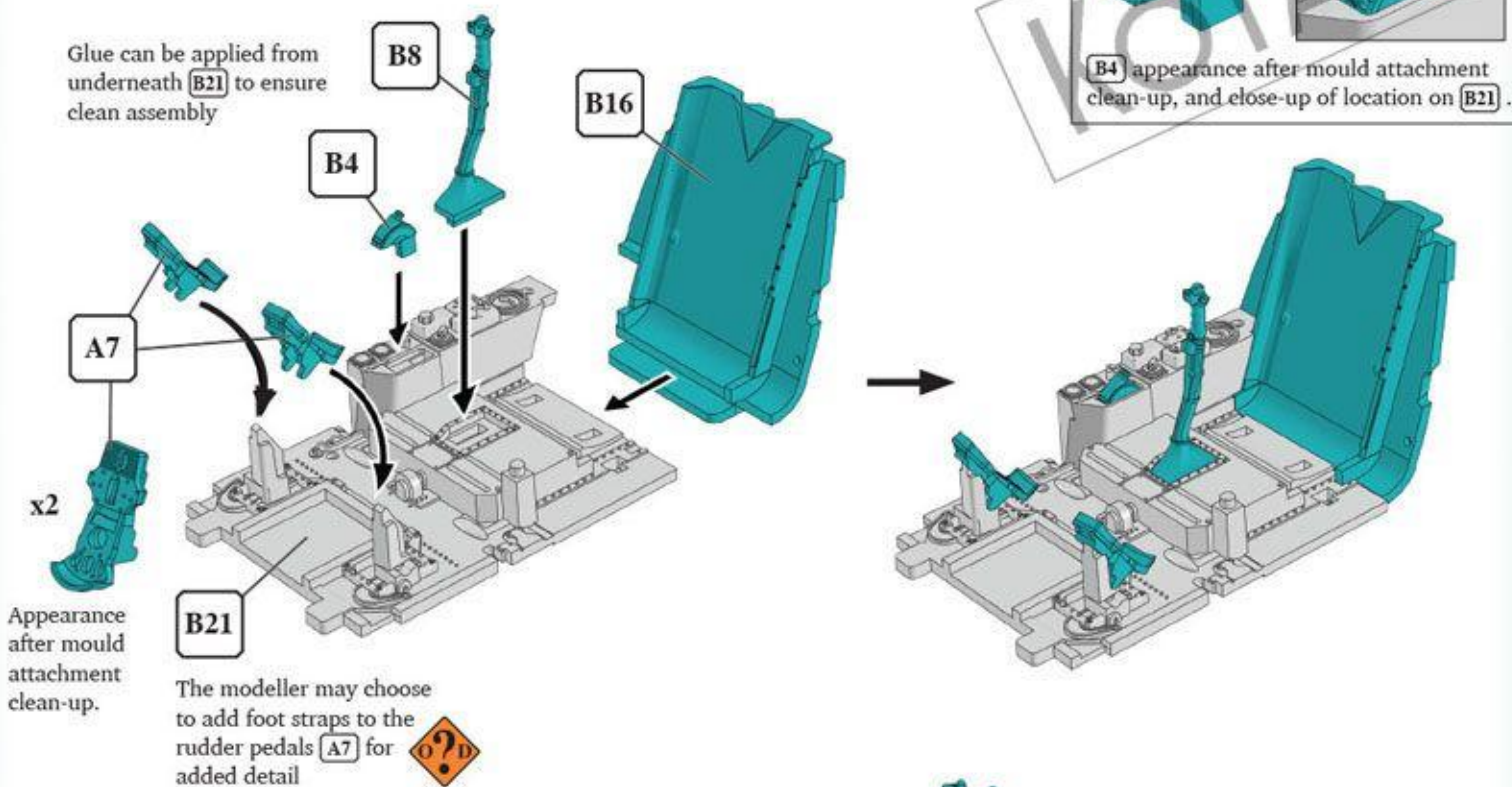


A clear section of pipe would
be visible to the pilot in this slot;
represent with clear stretched
sprue or similar material.



3 COCKPIT ASSEMBLY

All parts are RLM 66 black gray unless otherwise noted.
Please see page 7 for detailed painting guide.



Firewall and MK 108 magazine

B15

B2

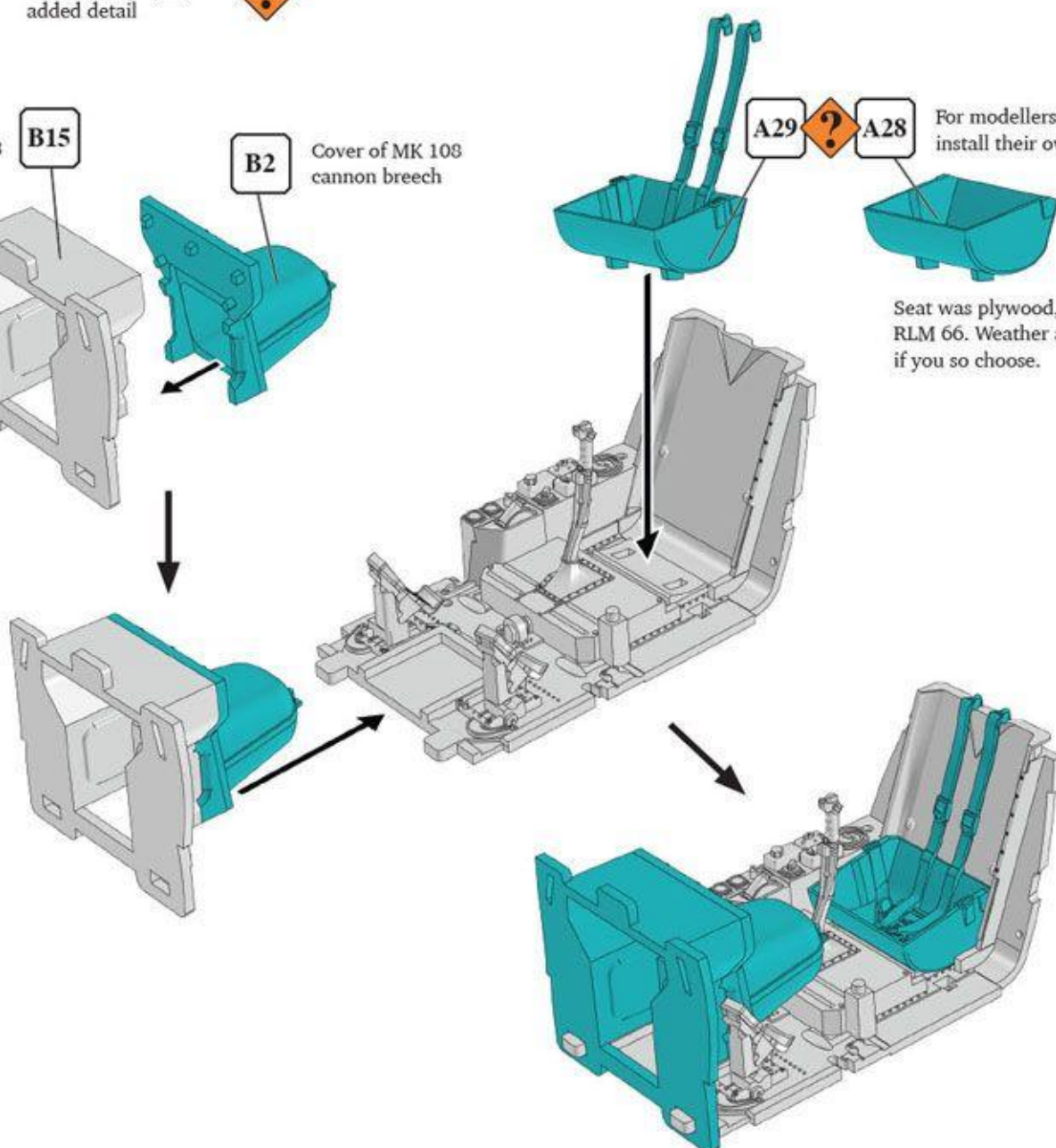
Cover of MK 108 cannon breech

A29

A28

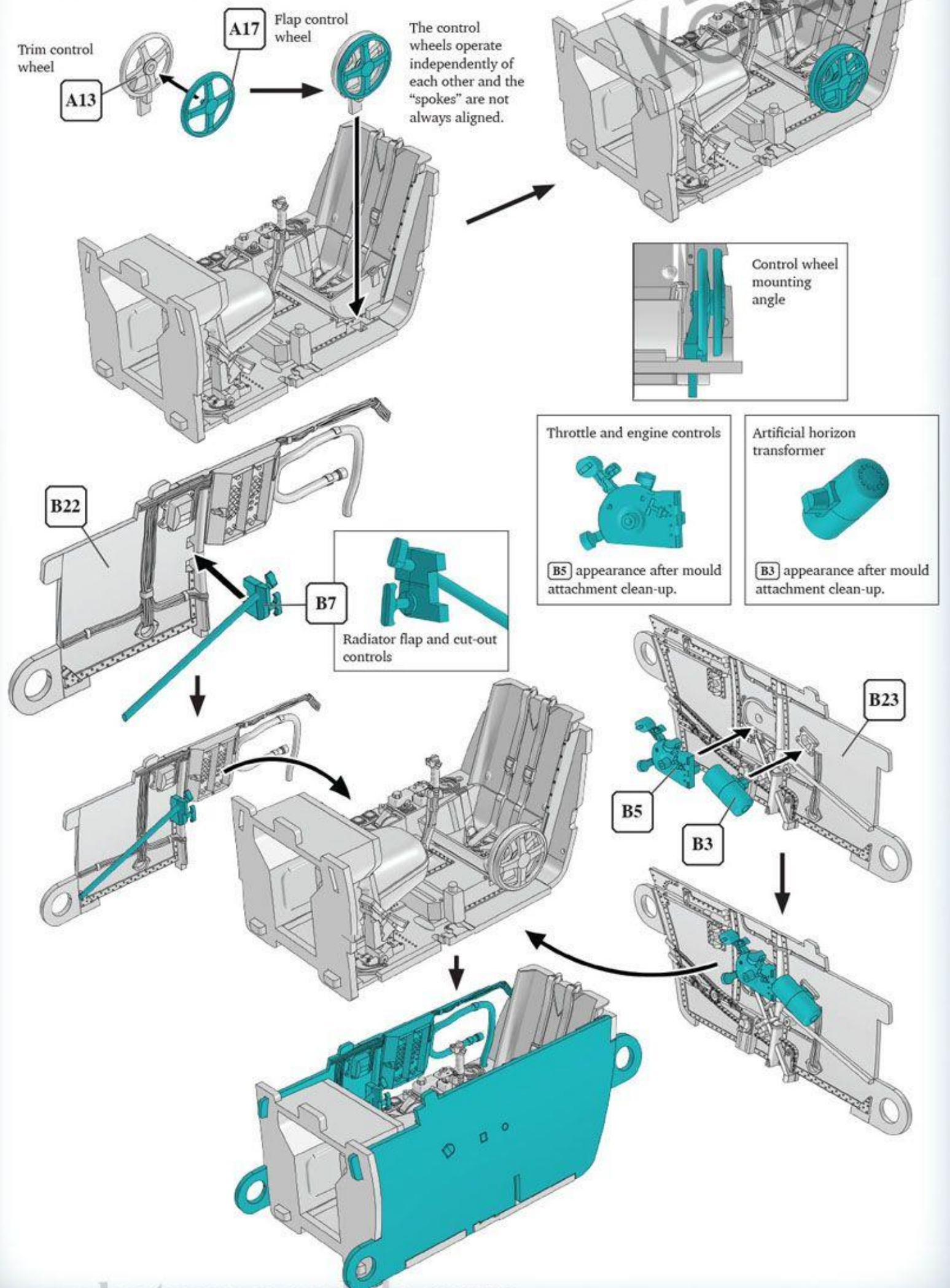
For modellers who prefer to install their own harness.

Seat was plywood, painted RLM 66. Weather accordingly if you so choose.



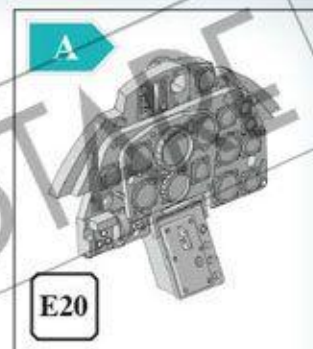
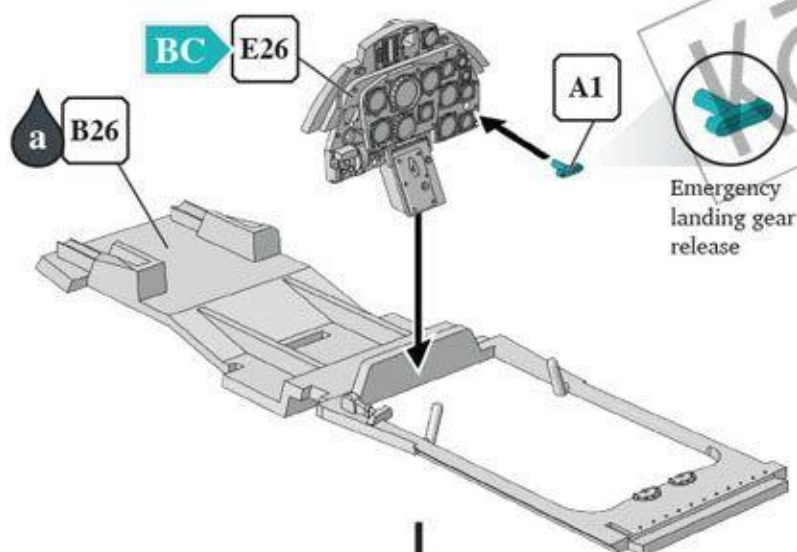
3 COCKPIT ASSEMBLY CONTINUED

All parts are RLM 66 black gray unless otherwise noted.
Please see page 7 for detailed painting guide.

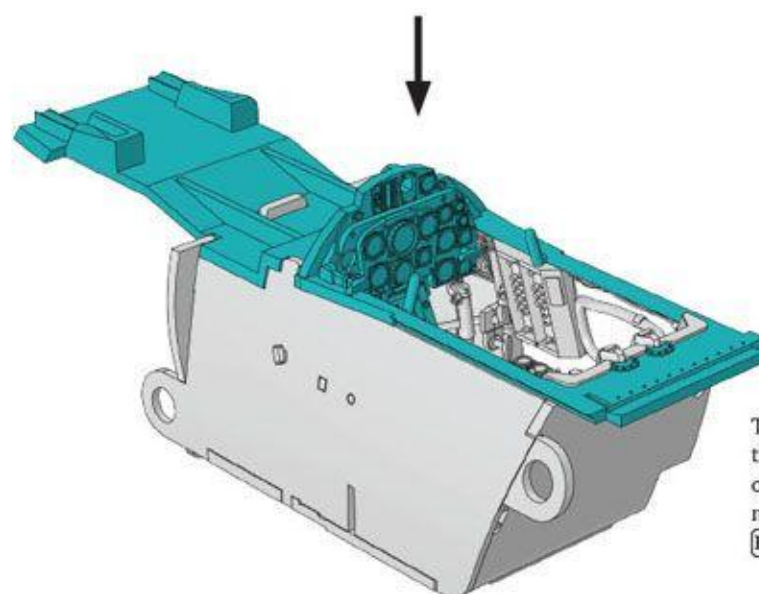
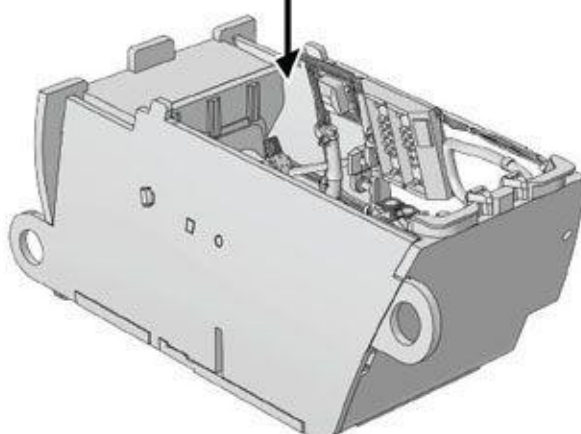
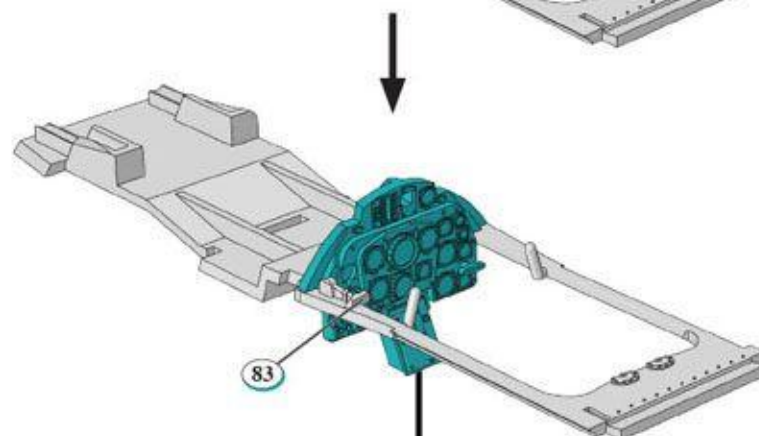
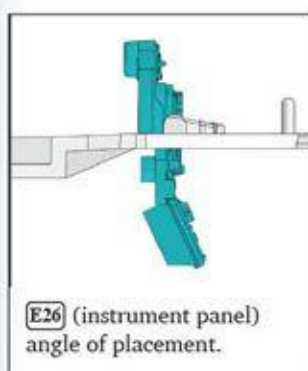


3 COCKPIT COMPLETED

All parts are RLM 66 black gray unless otherwise noted.
Please see page 5 for painting and decalling of the instrument panel.



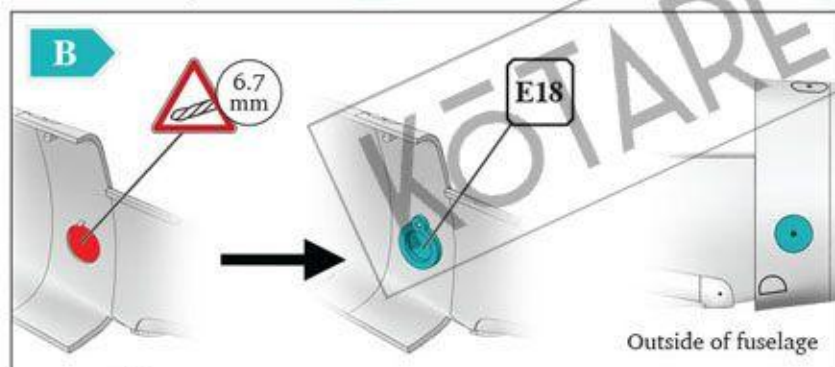
Add **A1** to **E20** if modelling **A**.



The modeller may find that some gentle leverage of the cockpit tub walls might be needed to allow **B26** to click into place.

4 FUSELAGE INTERIOR

Some K-4 fuselages were built using a segment from G-series aircraft which had this redundant access panel still fitted. **B** in this kitset was one of these aircraft.

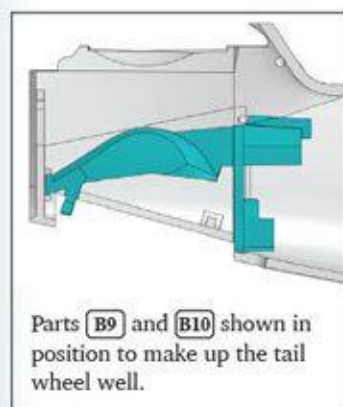
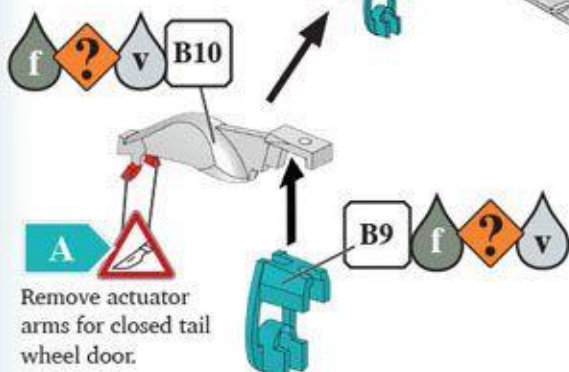


Inside of rear fuselage could have been

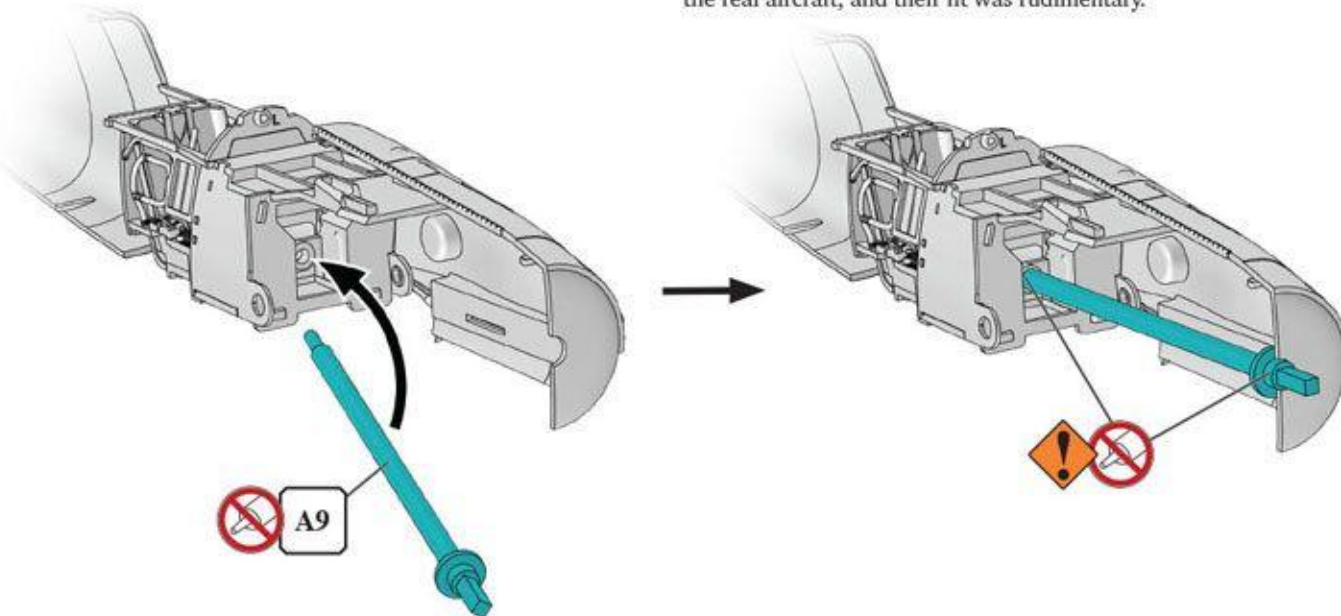
f or v

B1

Some sanding of the inside of the fuselage may be needed to get part **E18** to sit flush. Alternatively, the modeller may choose to scribe a circle on the outside of the fuselage.

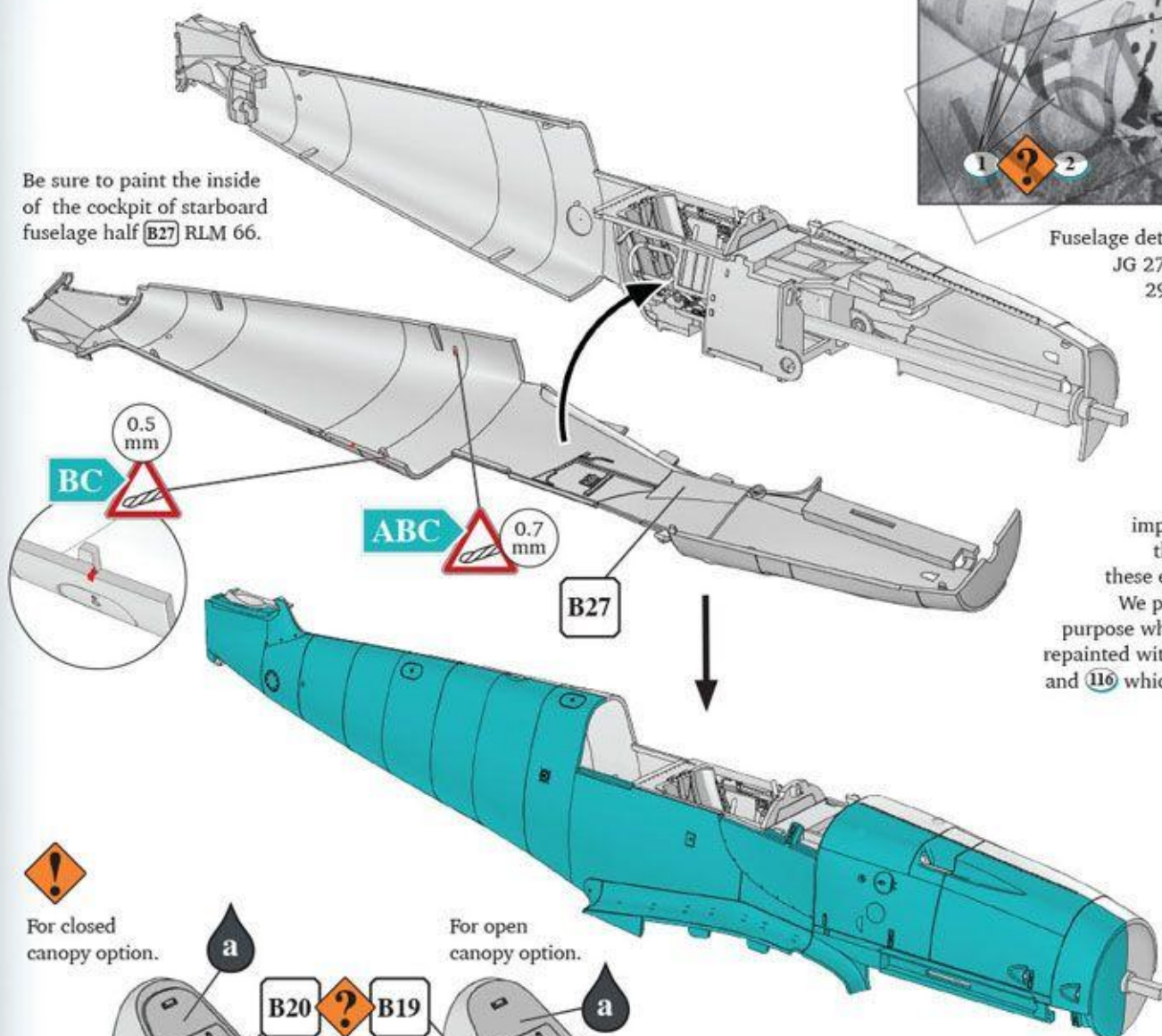


The metal u-shaped "channels" that sit under the machine gun barrels were mounted to the engine on the real aircraft, and their fit was rudimentary.



5 FUSELAGE EXTERIOR

Be sure to paint the inside of the cockpit of starboard fuselage half **B27** RLM 66.



Fuselage detail from the unidentified JG 27 Bf 109K-4 seen on page 29. Note the smooth finish of the fuselage achieved by the application of mastic filler over flush rivets and panel joints. Note how the darker camouflage colour has been extended into the center of the cross to improve its visibility against the pale fuselage sides on these early production aircraft. We provide decals **3** for this purpose which can be used as is (or repainted with your preferred colour) and **116** which needs to be painted in your preferred colour.



For closed canopy option.

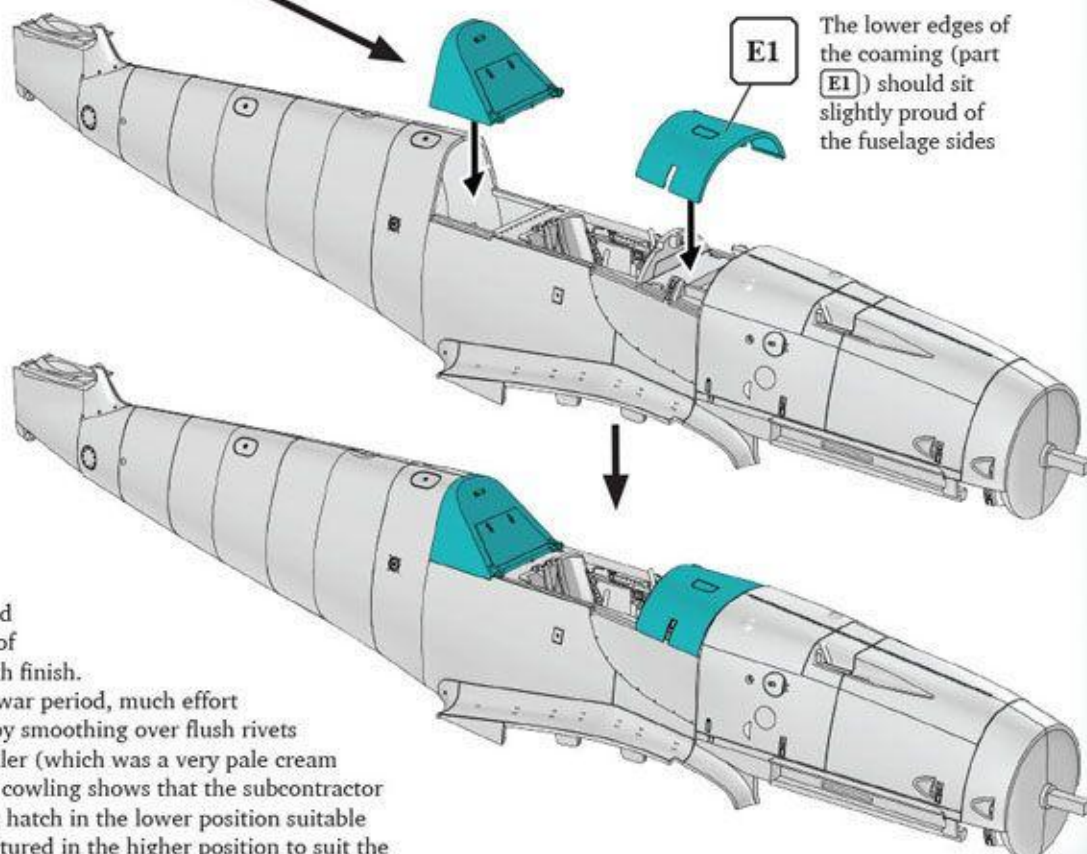
For open canopy option.

Paint exterior camouflage colour at appropriate time.

Be aware when weathering that the door in parts **B19**/**B20** was made of wood.



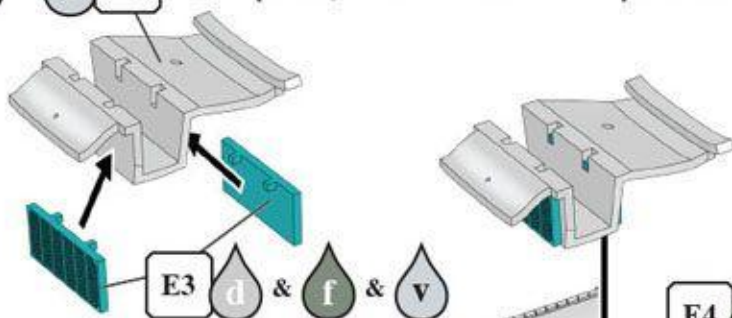
Engine cowling detail from the unidentified Bf 109K-4 seen on page 42. Note the lack of MG 131 armament and surprisingly smooth finish. Despite the chaotic conditions in this late-war period, much effort was still put into improving performance by smoothing over flush rivets and many panel joints with mastic resin filler (which was a very pale cream colour in its natural form). This particular cowling shows that the subcontractor initially installed the cold weather starting hatch in the lower position suitable for earlier versions. It was then remanufactured in the higher position to suit the engine of the 109K-4.



5 FUSELAGE EXTERIOR CONTINUED

f & v E7

It is difficult to give firm recommendations about how the oil cooler grille and the inside of its fairing were painted, hence the mention of multiple colours.



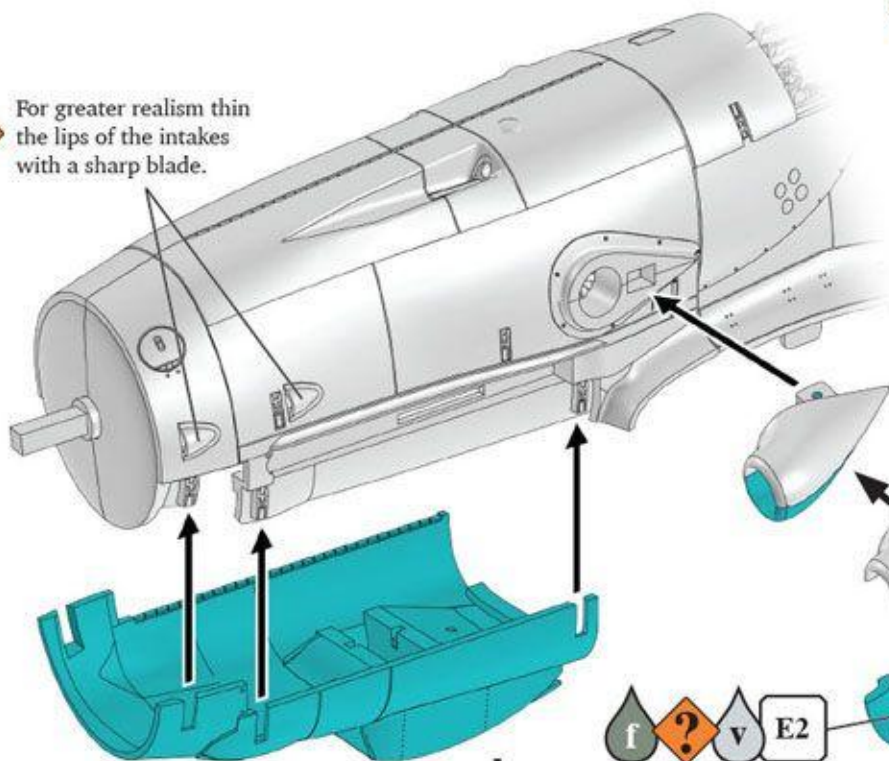
Many modellers will choose to paint and weather the faces of the oil cooler matrices before installation.

The distinctive deep fairing [E4] of the Fo987 oil cooler from late production Me 109K-4 335148 as seen on page 41. Also note the bulged fairings required to clear the coolant pipes under the enlarged camshaft covers of the inverted DB605D engine.

E4 f & v
Inside

For greater realism drill out oil drain hole.

For greater realism thin the lips of the intakes with a sharp blade.

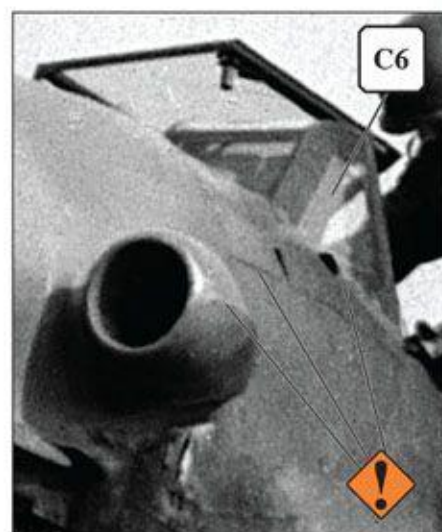


0.50mm

The modeller may choose to add this rod/tube detail. Some assert that this was solely a strengthening strut between the lips of the intake, others believe it was a drain.

E5 f ? v
Inside

f ? v E2
Inside



Supercharger intake and cheek fairing detail from Me 109K-4 335148. Note the cockpit coaming panel [E1] sitting proud of the fuselage side, weld line on intake, windscreen fairing with small air intake [C8], and armoured glass [C6].

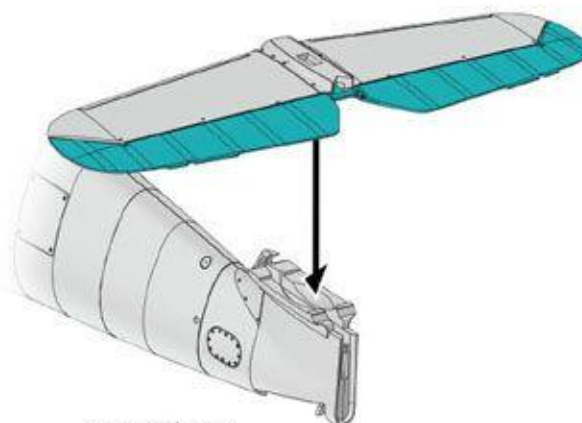
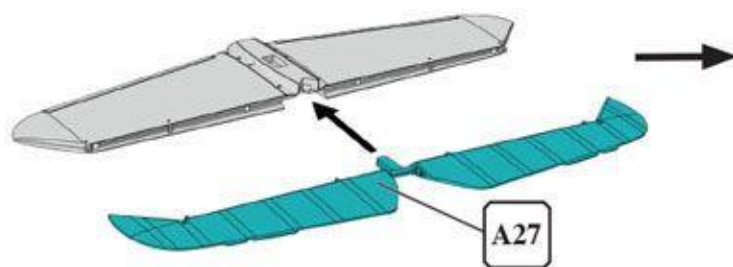
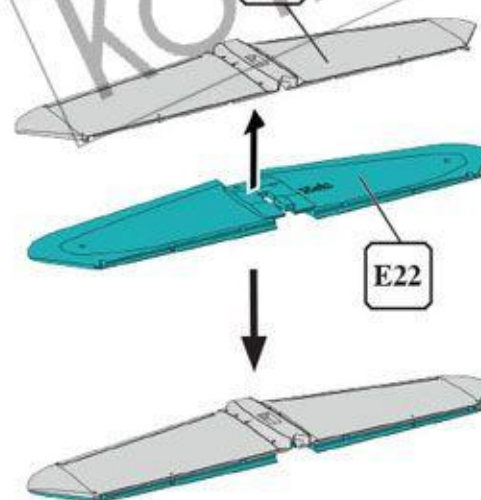
The concept of "perfect imperfection". All around the nose of the 109 there were various panels that fitted less than perfectly even when new, and this effect seemed to worsen with hard usage. Obviously this partly nullified the attempts to achieve aerodynamic cleanliness detailed in the caption at the bottom left of page 12. After close inspection of many photographs we have tried to depict an average appearance. The modeller may choose to improve or worsen fit to suit their references for their particular model.

6 TAIL SECTION

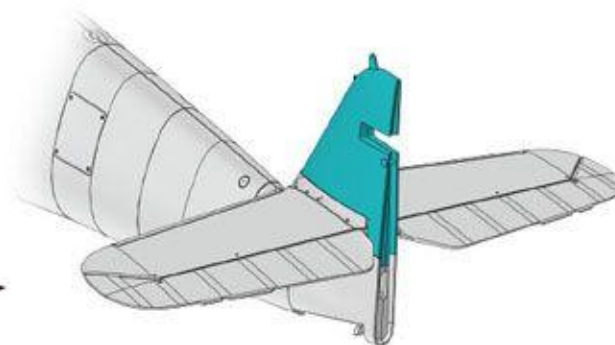
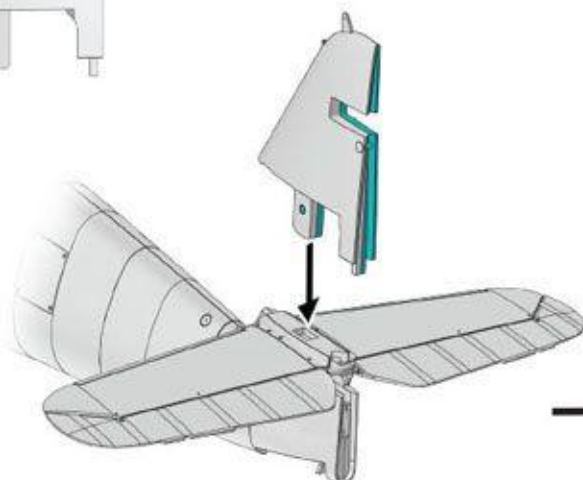
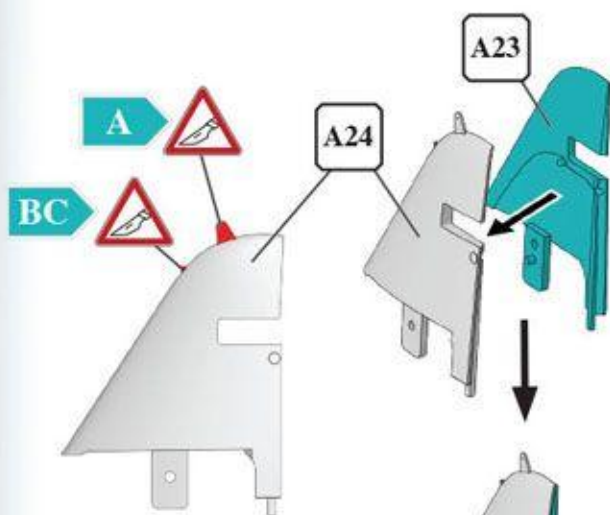
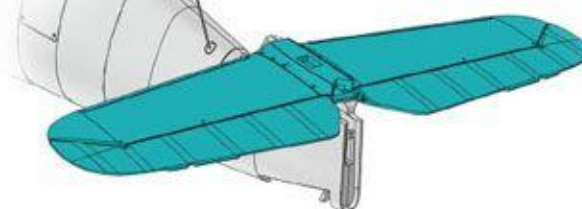


Tailplane detail from the unidentified mid-production Bf 109K-4 "White 81" seen on page 28. Note the various different unconfirmed upper surface camouflage colours and red painted trim tabs on the elevator.

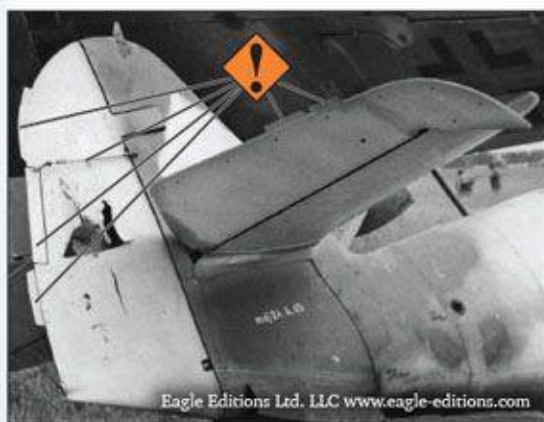
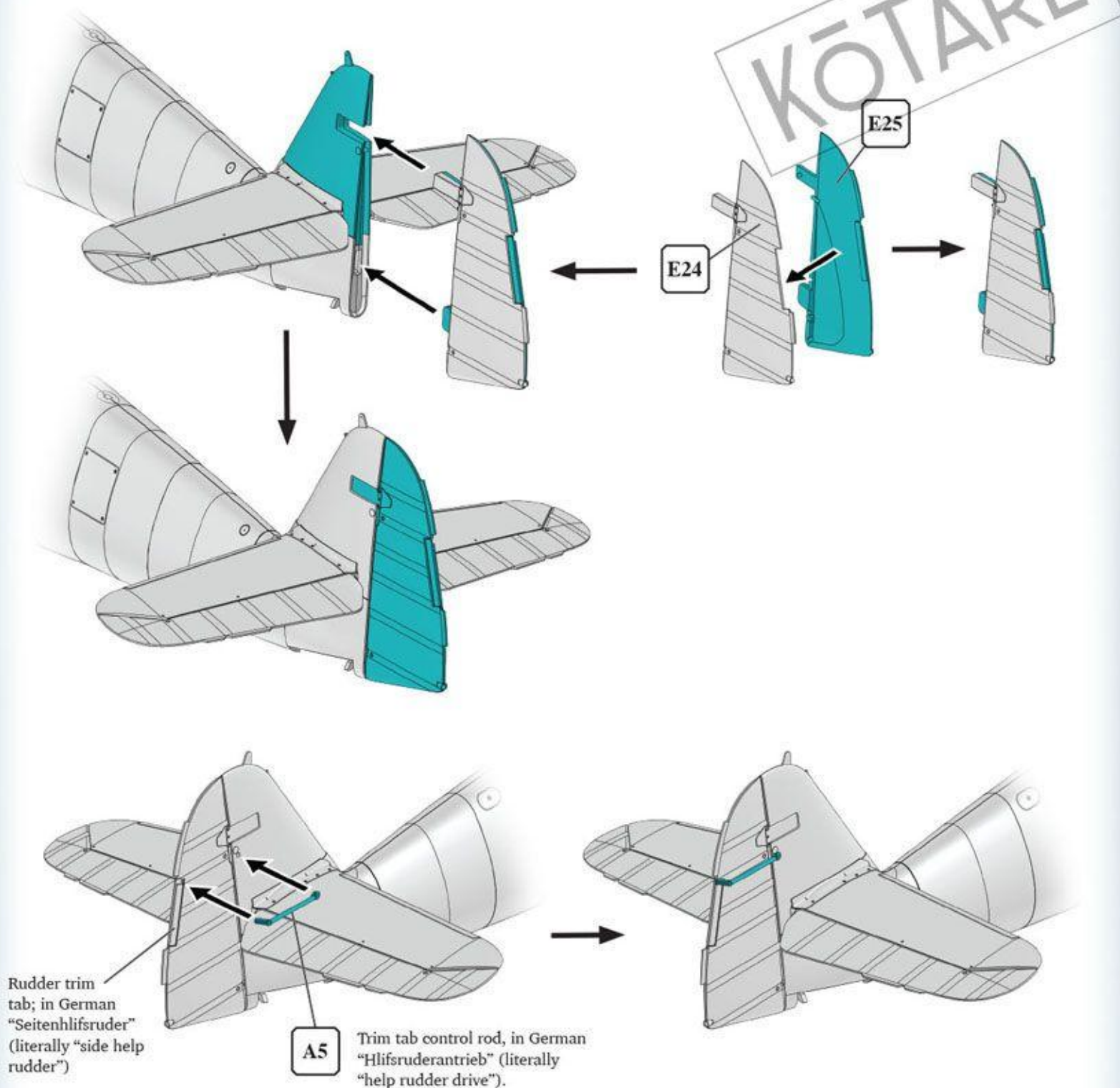
Wooden horizontal stabilisers



For aerial wire



6 TAIL SECTION CONTINUED

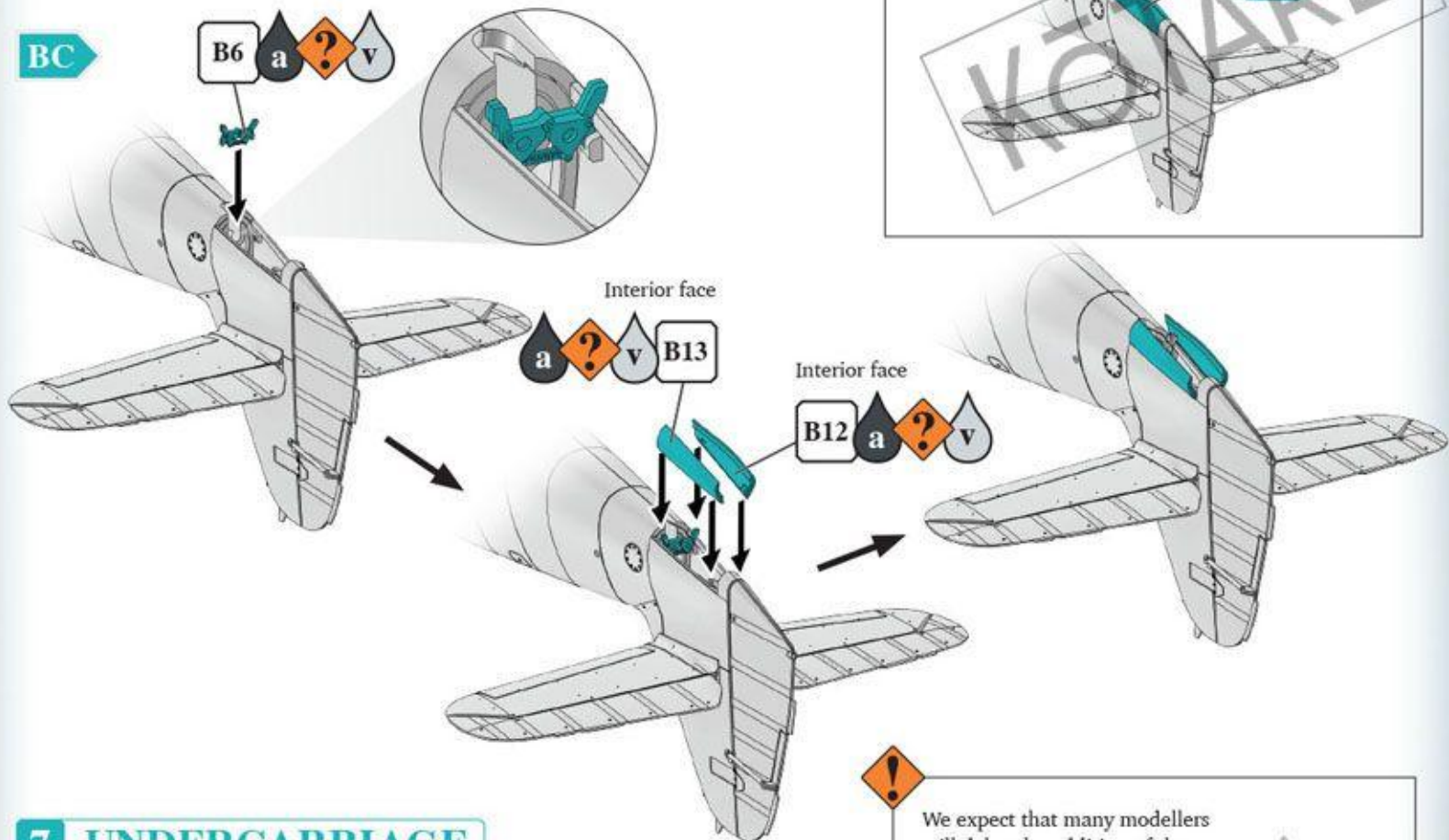


Tailplane detail from late production Bf 109K-4 **C2**. Note the fixed trim tabs on the rudder and elevator, Flettner tab and control rod on the rudder, and the small air pressure balance holes along the trailing edge of the elevator.

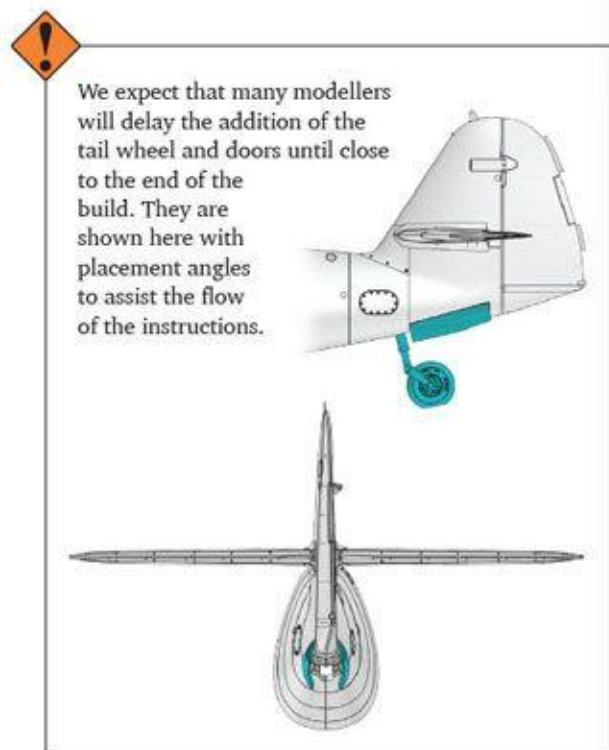
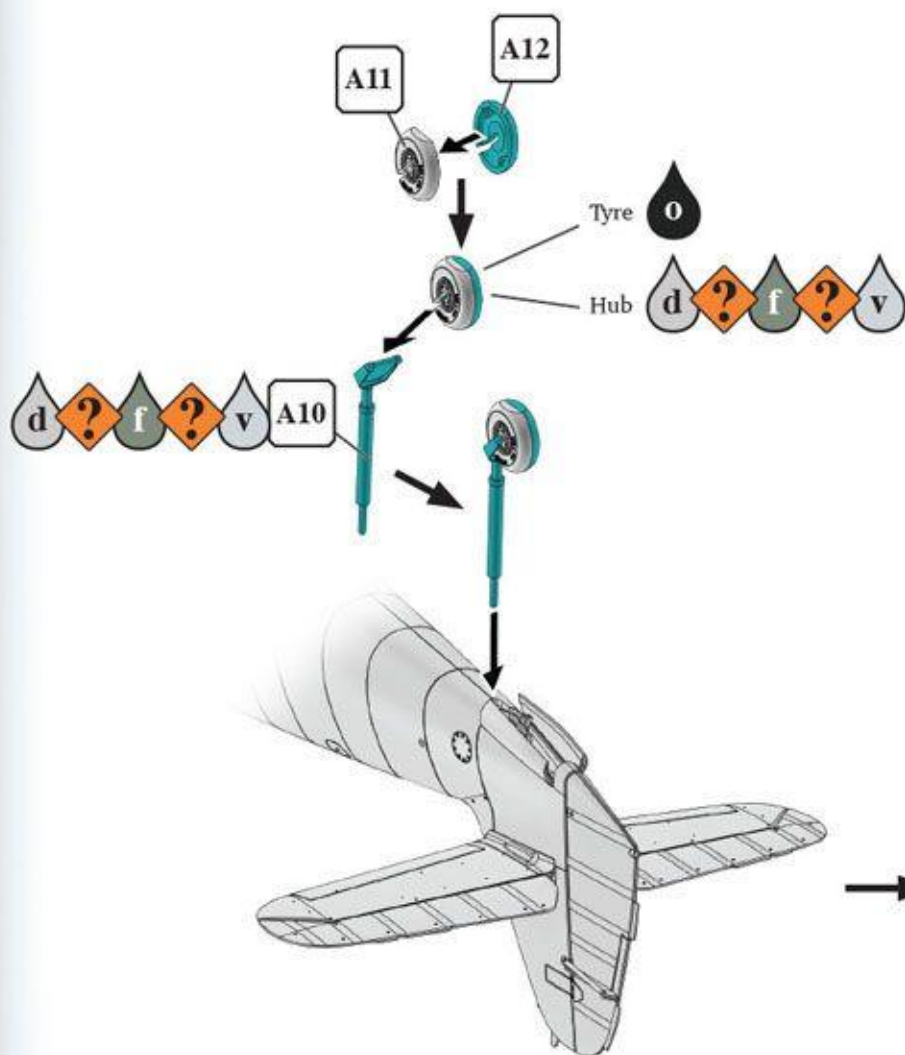


Open tailwheel doors as seen on **C2**. Trouble with getting the tailwheel retraction to work reliably resulted in these doors being fixed shut **B11** on early production aircraft, although this is sometimes also seen on mid and late-production aircraft.

6 TAIL SECTION CONTINUED



7 UNDERCARRIAGE

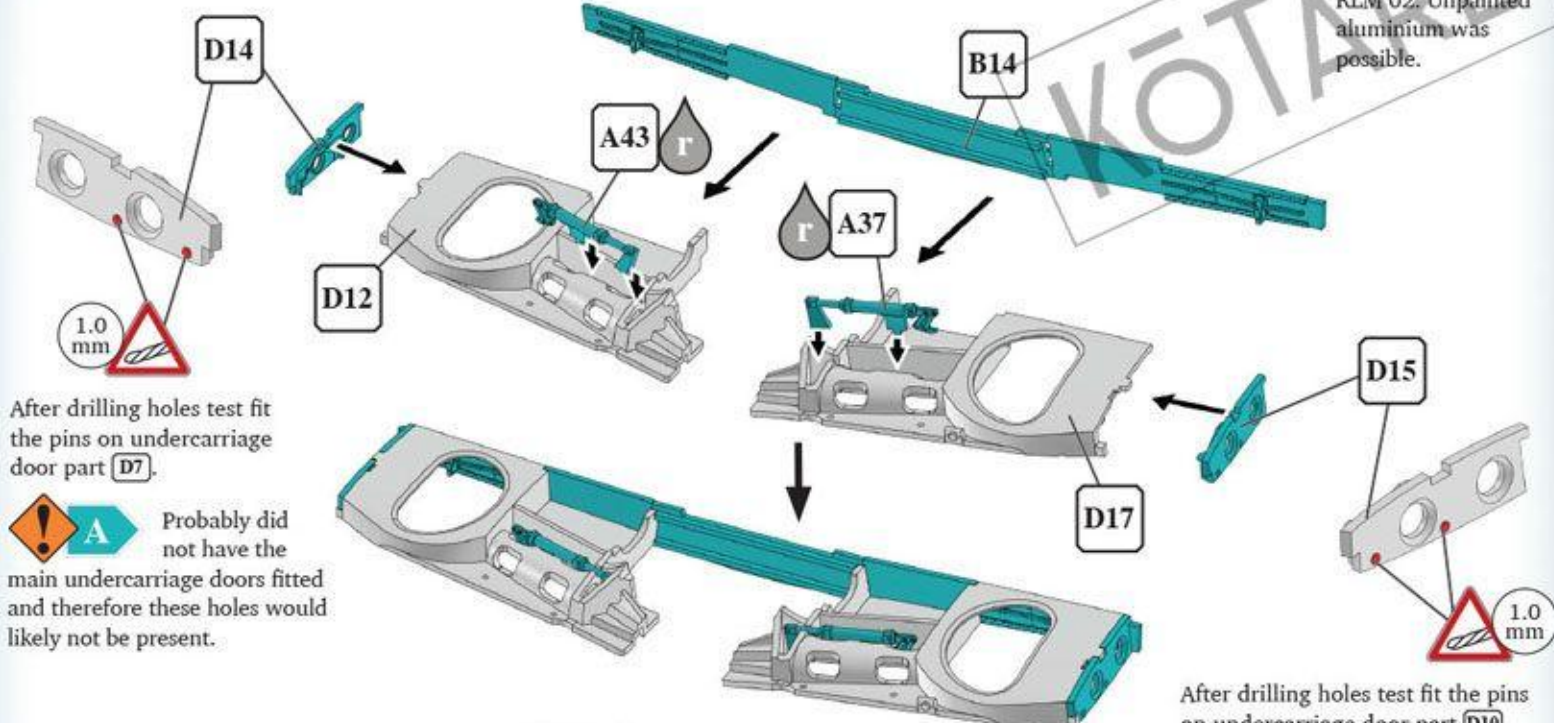


8 MAIN PLANES



Please see page 31 for enlarged images to aid placement of undercarriage retraction jacks parts [A43] and [A37].

The entire interior of the undercarriage bay was very likely RLM 02. Unpainted aluminium was possible.



After drilling holes test fit the pins on undercarriage door part [D7].

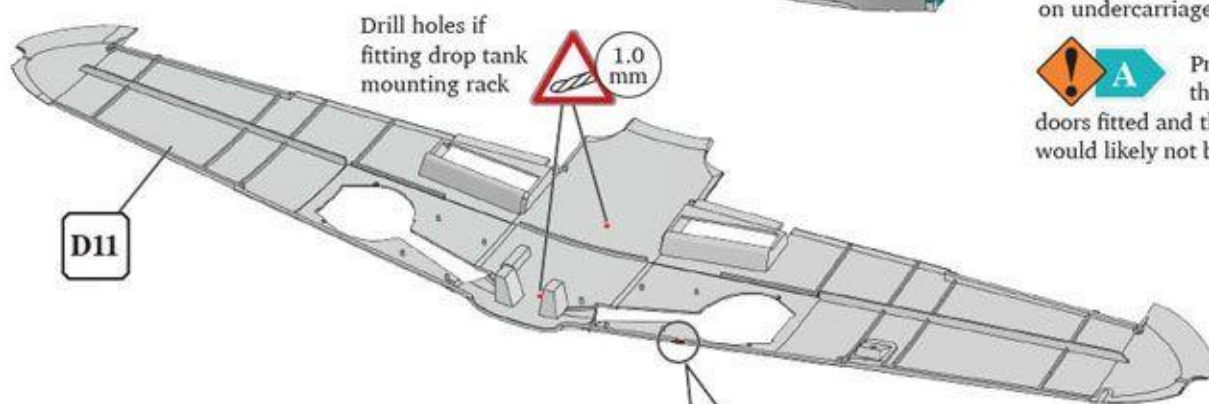


Probably did not have the main undercarriage doors fitted and therefore these holes would likely not be present.

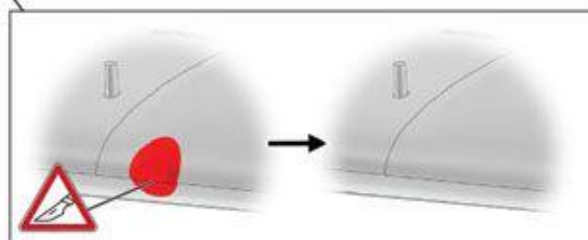
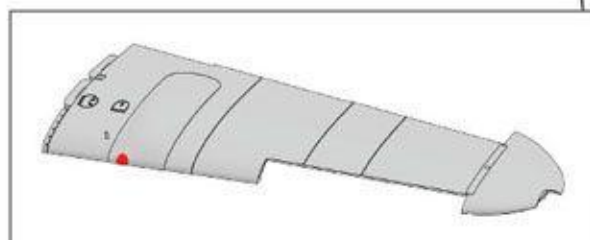
After drilling holes test fit the pins on undercarriage door part [D10].



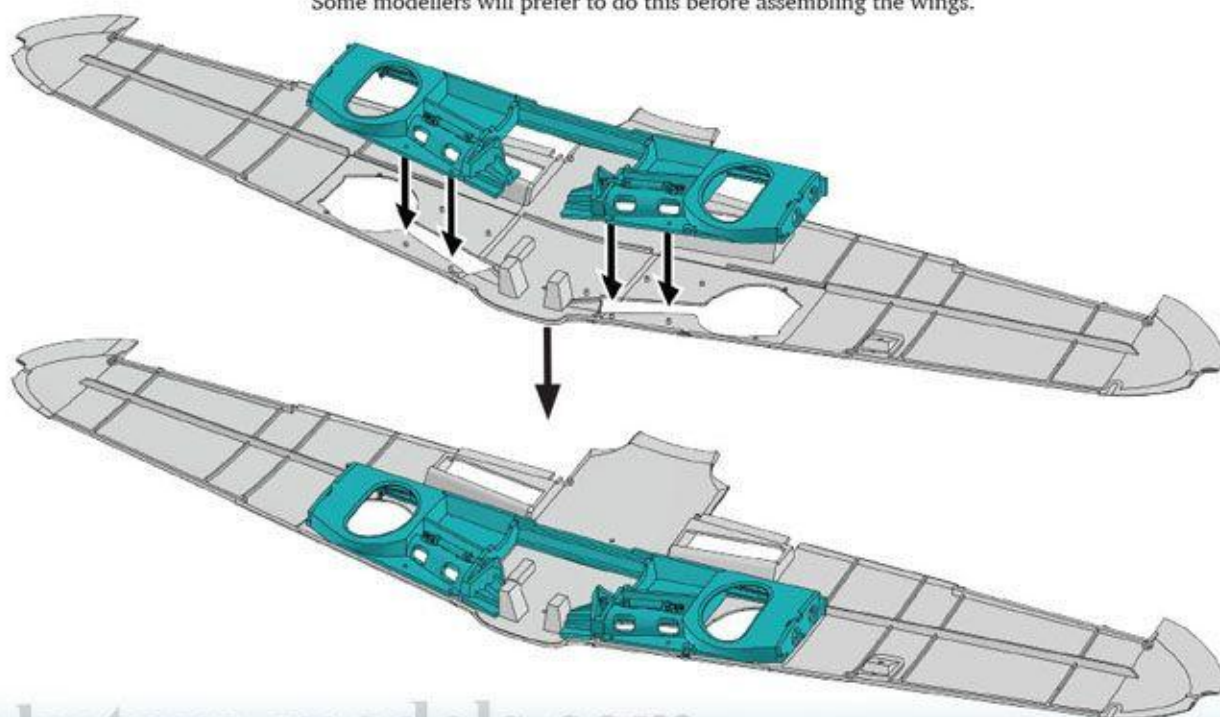
Probably did not have the main undercarriage doors fitted and therefore these holes would likely not be present.



Drill holes if fitting drop tank mounting rack



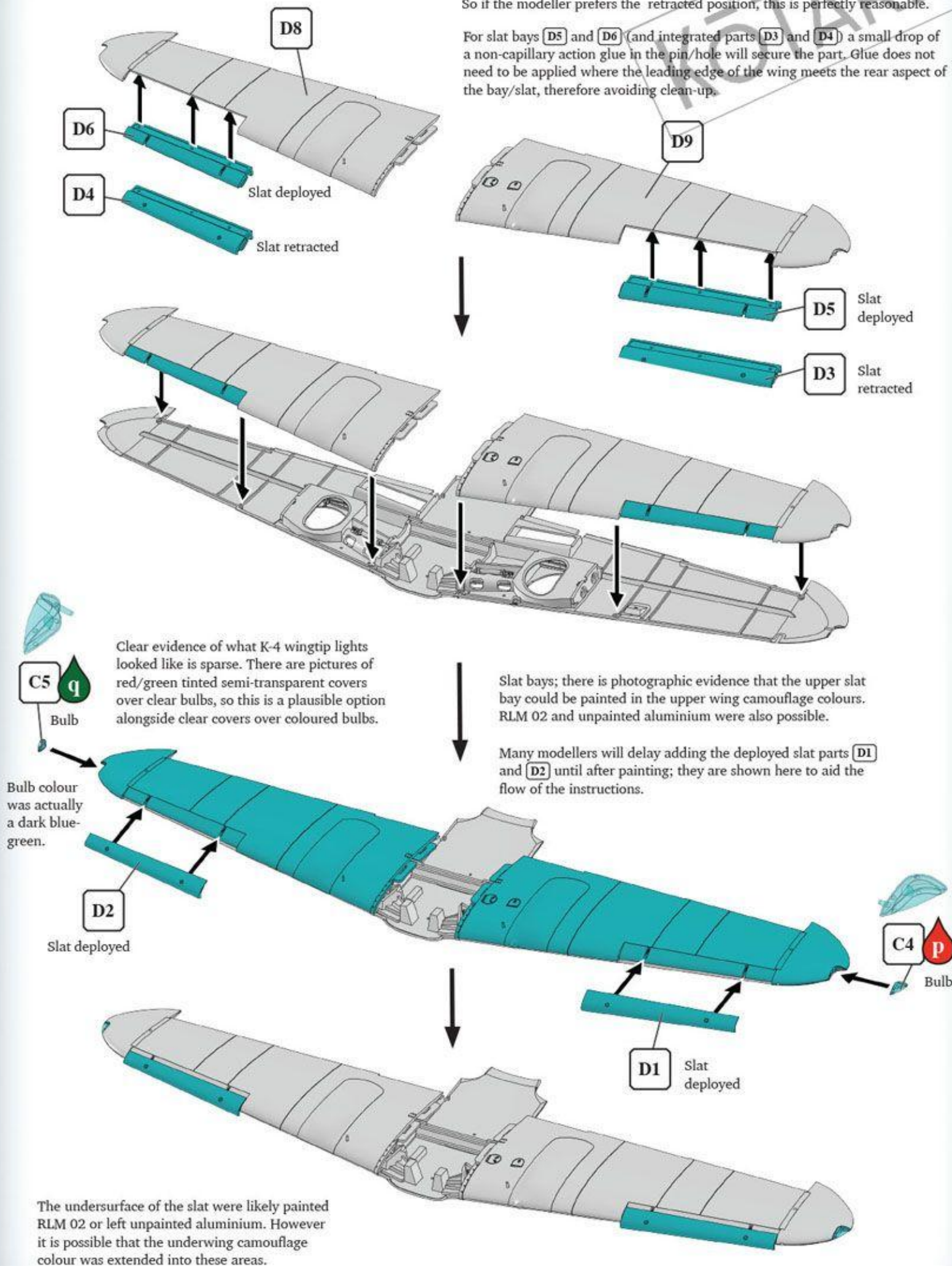
Remove the R6 BSK 16 gun camera fairing for all of the options in this kit. Some modellers will prefer to do this before assembling the wings.



9 MAIN PLANES AND SLATS

Slat position; while the slats tended to fall open under the influence of gravity, there is plenty of photographic evidence that they could remain in the closed position, at least long enough to be photographed! A perfect example is the famous photograph of "White 1" from JG 77 on page 42 of these instructions. So if the modeller prefers the retracted position, this is perfectly reasonable.

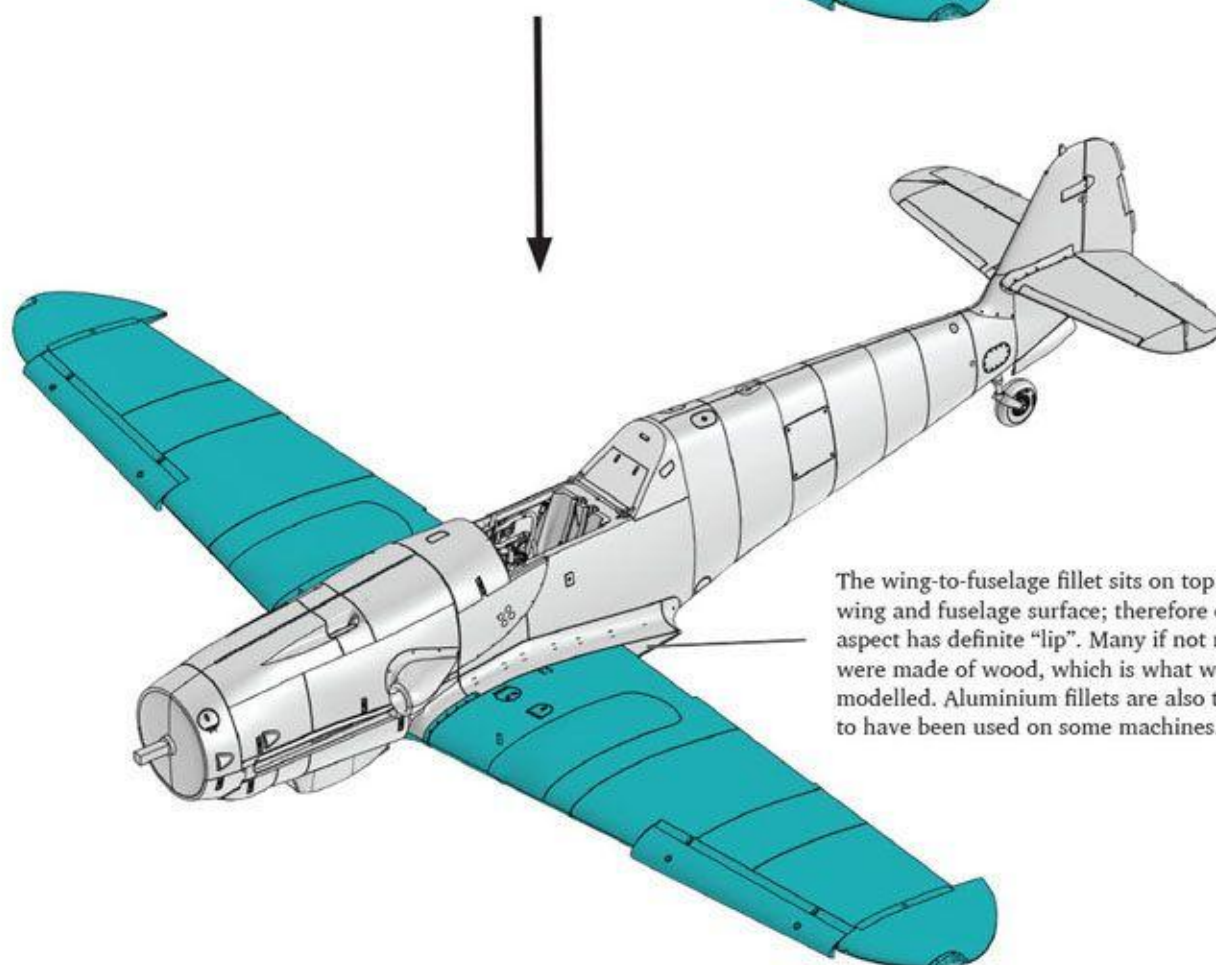
For slat bays **D5** and **D6** (and integrated parts **D3** and **D4**) a small drop of a non-capillary action glue in the pin/hole will secure the part. Glue does not need to be applied where the leading edge of the wing meets the rear aspect of the bay/slat, therefore avoiding clean-up.



10 MAIN PLANES & FUSELAGE ASSEMBLY

Experienced modellers of the Bf 109 will have formed an opinion about what the fuselage seams should look like after completion of the model. There is plenty of evidence that the method of fuselage construction left a visible fine longitudinal panel line dorsally and ventrally. However there is evidence that sometimes this seam was filled and smoothed in an attempt at aerodynamic improvement. There are almost no clear photographs of this feature on wartime K-4s but there are some that hint that these joints were not visible.

Undercarriage position indicators

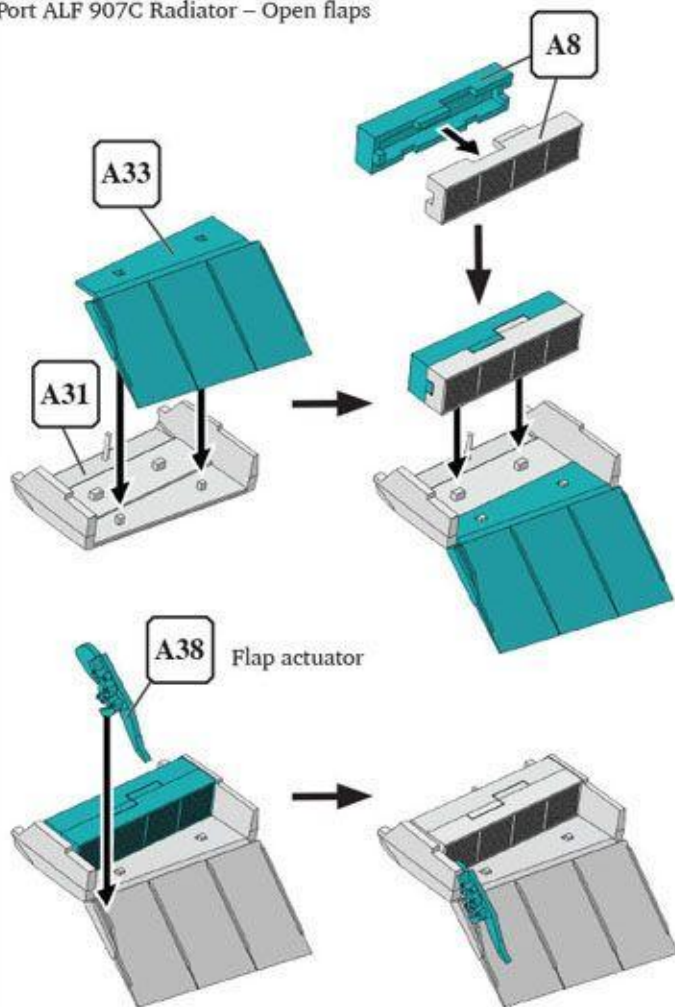


The wing-to-fuselage fillet sits on top of the wing and fuselage surface; therefore each aspect has definite "lip". Many if not most were made of wood, which is what we have modelled. Aluminium fillets are also thought to have been used on some machines.

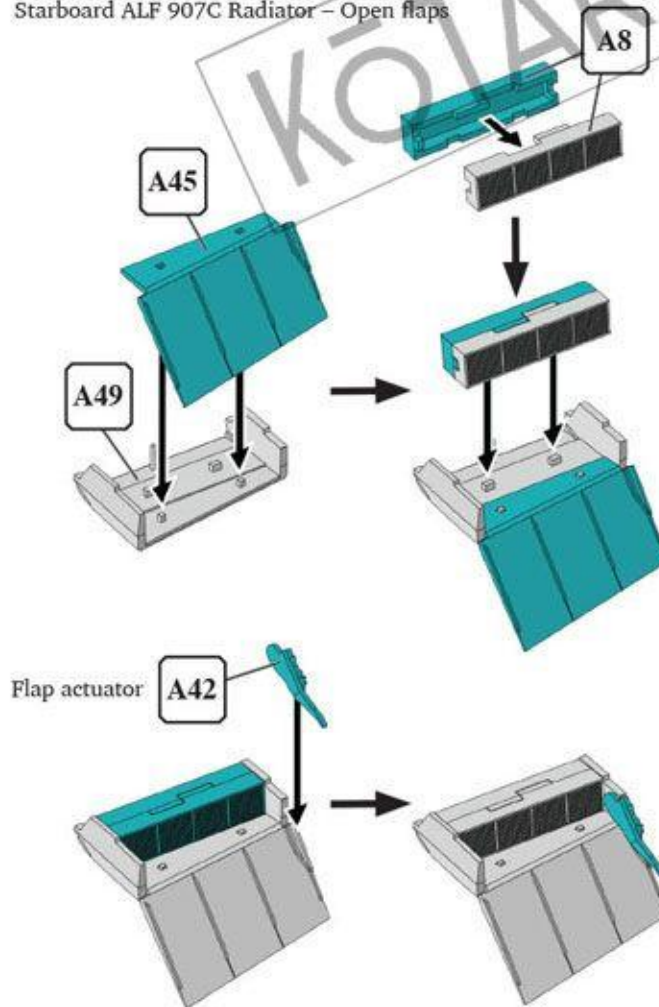
11 RADIATORS

For comment on detail painting of the radiators and their housings please see below.

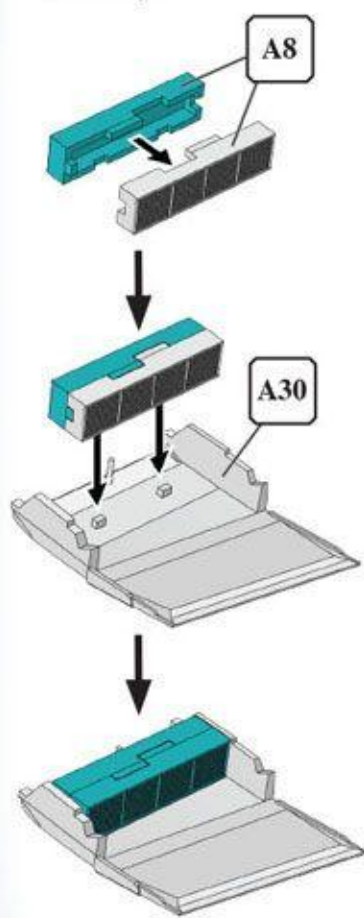
Port ALF 907C Radiator – Open flaps



Starboard ALF 907C Radiator – Open flaps



Port ALF 907C Radiator – Closed flaps



Detail painting suggestions

There is insufficient documentation to give authoritative guidance on the detailed painting of the radiators and their housings.

No doubt RLM 02 was the intended finish for most parts other than the natural or painted aluminium radiator mesh faces. Most photographs that show a glimpse of the open interior faces of the radiator flaps suggest a painted finish that is most likely RLM 02, but it is well-known that there were variations of this colour.

However it is highly likely that paint was not applied as diligently as it was earlier in the war, and the modeller could choose a variety of 02, painted aluminium and unpainted aluminium with little fear of being proven wrong. So you can use your imagination and have some fun in this area!

Radiator flaps and their relationship to the landing flaps

The operation of the later Bf 109 radiator flaps is a complex subject beyond the scope of this booklet. One should probably not be too dogmatic about what angles of landing flaps and radiator flaps were seen in relationship to each other. There were only so many possibilities from an engineering point of view, but in terms of that was "typical", photographs can be found to support many combinations.

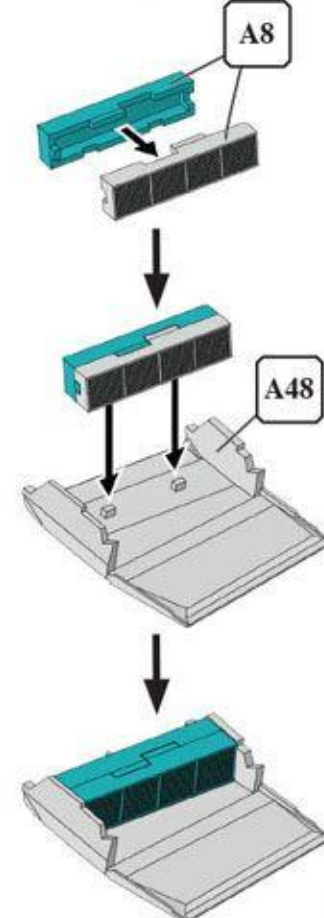
However, for kitset parts WE have to choose something reasonable to mould. Therefore if using the open radiator flaps option, it would be common to see the landing flaps dropped at approximately the same angle as the lower radiator flaps. This angle is moulded-in to parts A33 and A45. The upper radiator flaps A34 and A46 and flap actuators fit together in such a way that the angle of the upper flap is one that is often seen in photographs.

The open radiator flaps option parts A31 and A49 feature the drooped lower lip of the front of the housing to increase air flow.

For the closed radiator flaps option, it would be typical (but not compulsory based on photographic evidence) for the landing flaps to be fully retracted. This might also suit an in-flight display option if the modeller so chooses.

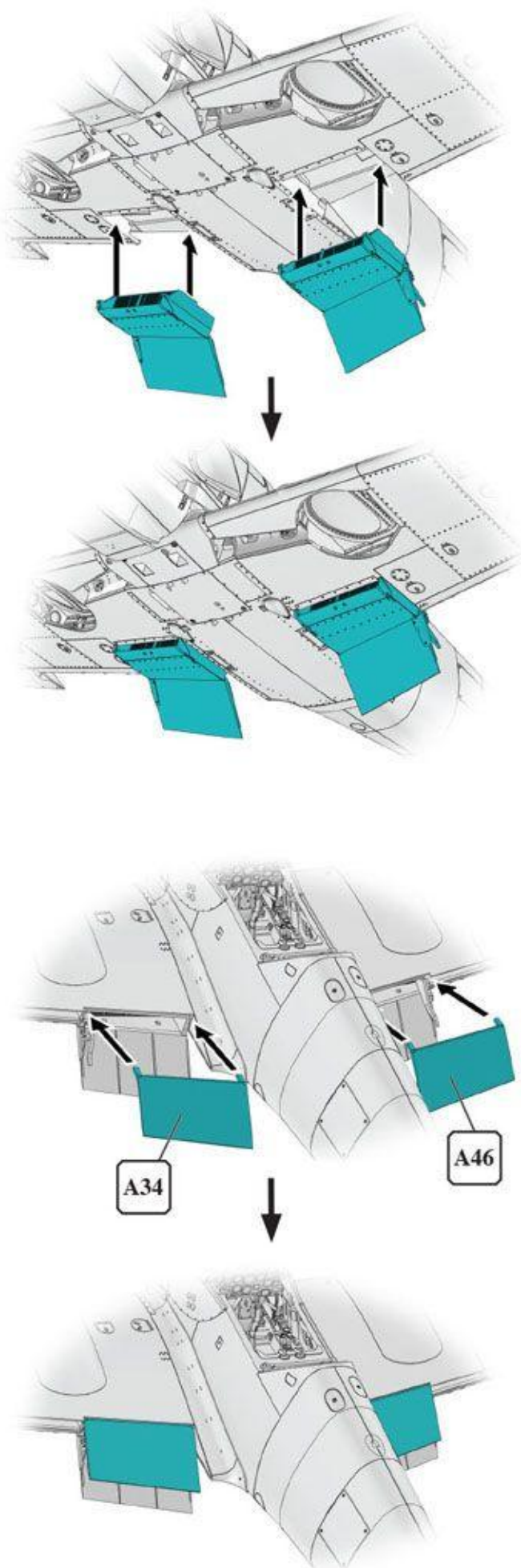
Modellers can of course modify the parts to suit their references for a particular machine at a particular time.

Starboard ALF 907C Radiator – Closed flaps

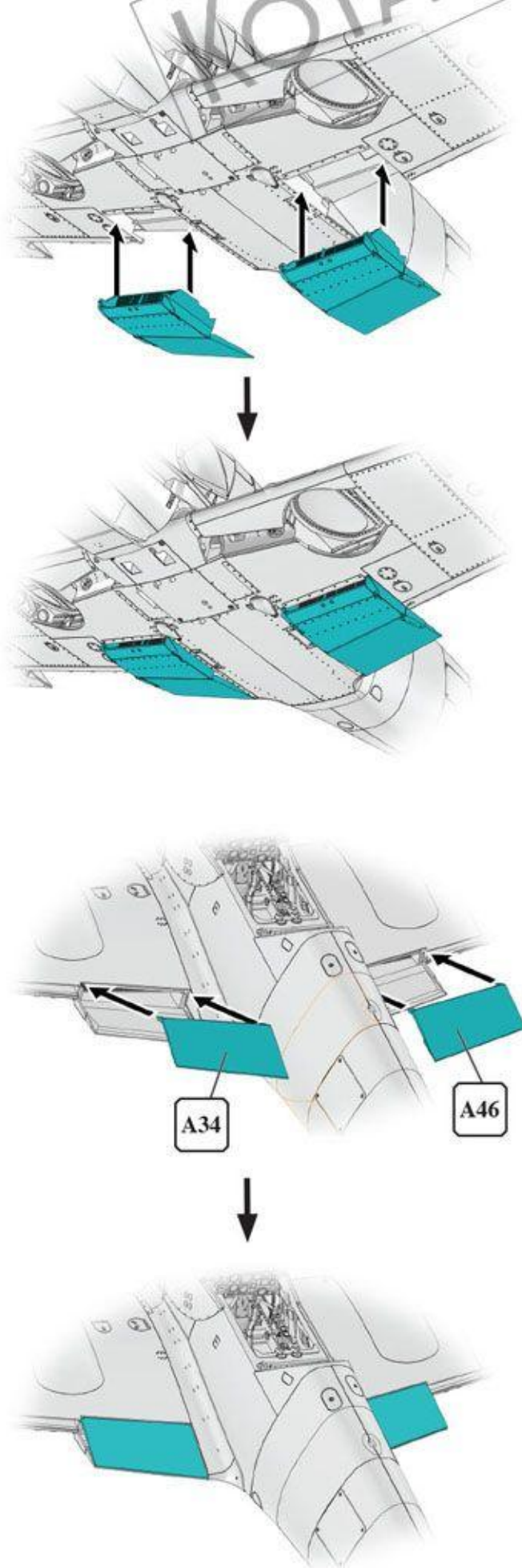


11 RADIATORS CONTINUED

Open Radiator Flaps

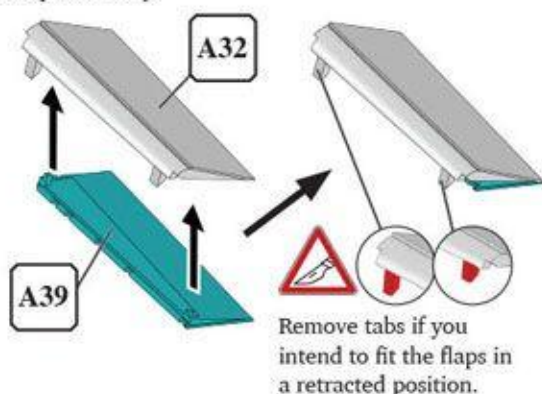


Closed Radiator Flaps

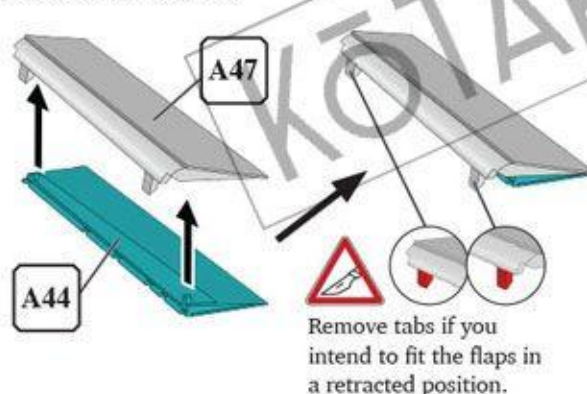


12 AILERONS AND FLAPS

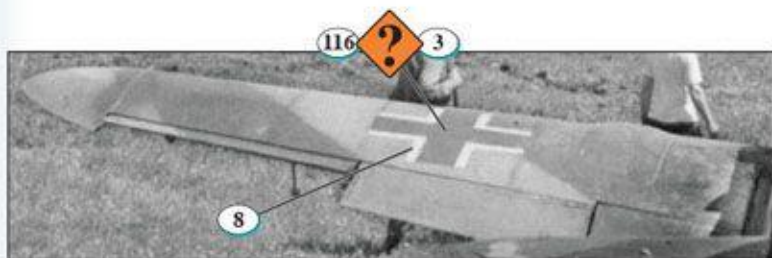
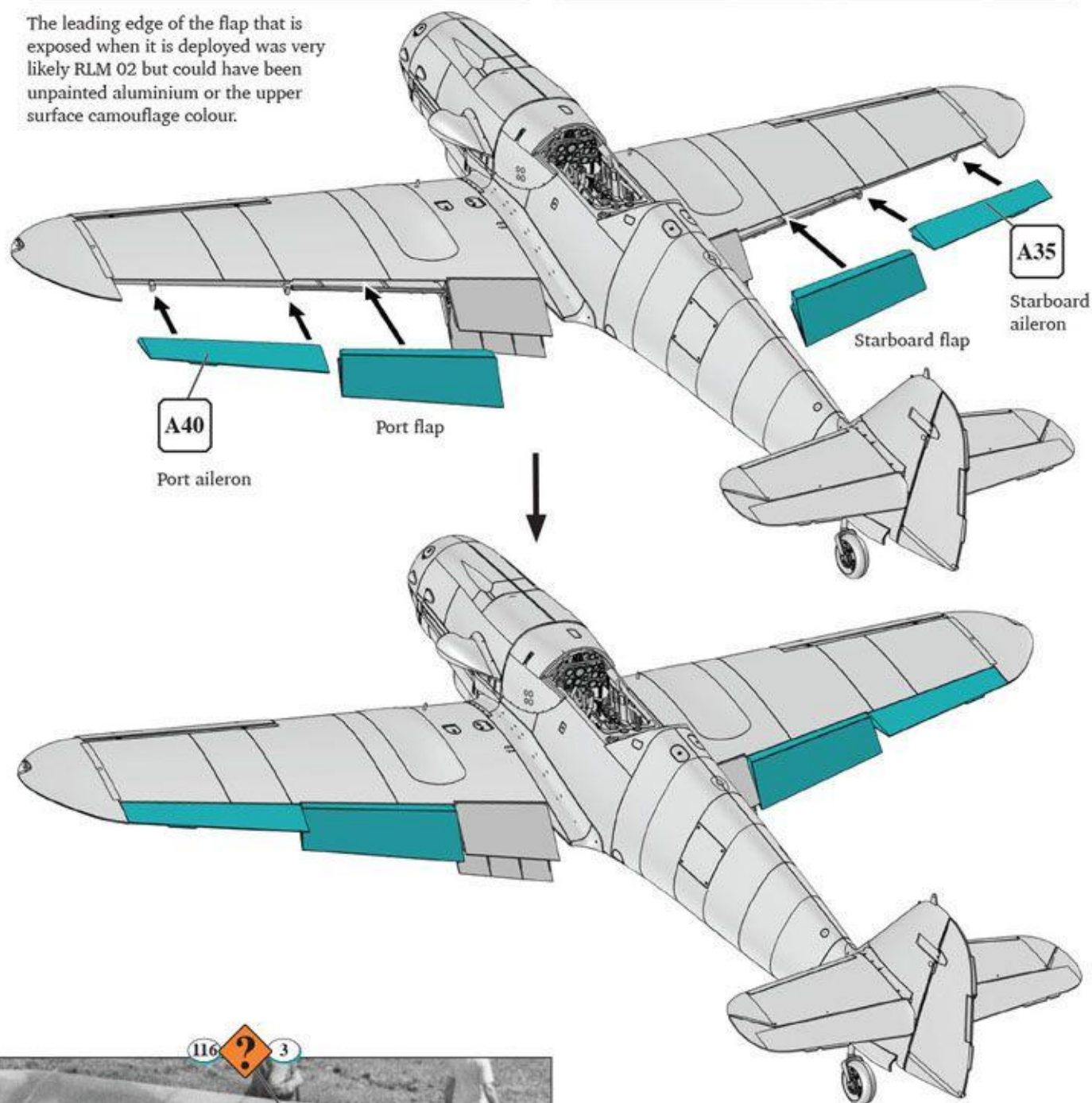
Port Flap Assembly



Starboard Flap Assembly



The leading edge of the flap that is exposed when it is deployed was very likely RLM 02 but could have been unpainted aluminium or the upper surface camouflage colour.



Port wing detail from Me 109K-4 "White 81". Note that the centre of the Balkenkreuz has been filled in with the darker camouflage colour. To help represent this oft-seen feature, we provide decals ③ which can be used as is (or repainted with your preferred colour) and ⑪⑥ which needs to be painted your preferred colour.



Starboard wing from Bf 109K-4 "White 81". Note the darker "shadow lines" where the panel join lines were filled as well as the over-sprayed wingtip joint tape.

Mounting angles of Undercarriage and Doors, Morane Aerial, Aileron Mass Balances and Pitot Tube

These parts are shown in detail over the next three pages.

Morane antenna

The Morane antenna (in German "Moranemast") was the transmitting element of the FuG 16 ZY radio equipment. The aerial wire from the fin to the fuselage (or mast) was the receiving element.

Many subject matter experts believe the aerial was made of wood with the metal wire aerial sandwiched between wooden components and projecting out of the bottom of the mast. There is at least one report of a surviving 109G mast being made of metal. There are photographs of a museum aircraft with a varnished wooden mast but the vast majority of 109K photographs indicate a painted finish, almost certainly in the underside colour.

The derivation of the word Morane is unclear. Some believe that it was a generic name for a style of mast used by French manufacturers, eg Morane-Saulnier. However by the time the 109K was in production all possible French sources of the components were back in Allied hands.

For the attachment to the wing with the clear Plexiglas part [C2] here is an explanation from noted Bf 109 researcher Lynn Ritger;

"The antenna isn't mounted directly to the wing undersurface - it's mounted in a square base/socket that's inset into a panel in the wing.

The Plexiglas panel serves two purposes:

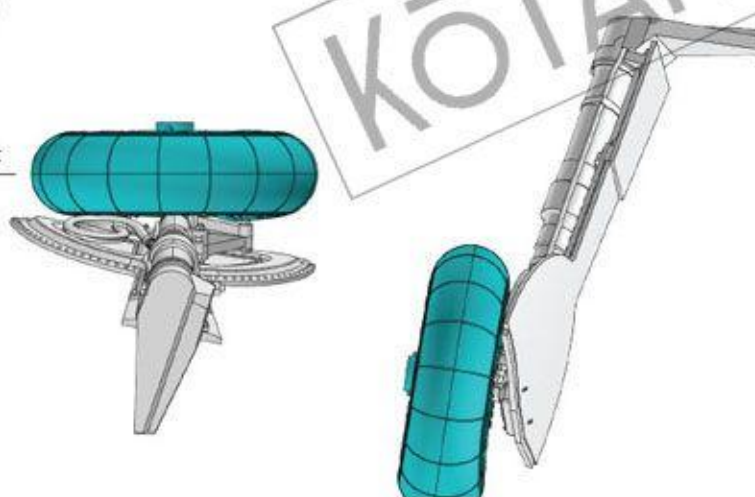
- It restores smooth aerodynamic flow over that area
- It serves as an insulator to eliminate the possibility of the transmitter antenna touching the airframe itself, which could cause problems with the radio functionality."

To confuse the issue, we have been sent photographs of a Morane aerial and baseplate where both components are clearly made of metal. Inside the baseplate a block of wood is mounted, no doubt to provide electrical isolation.

Note placement angles of undercarriage doors, Morane aerial, aileron mass balances and pitot tube.

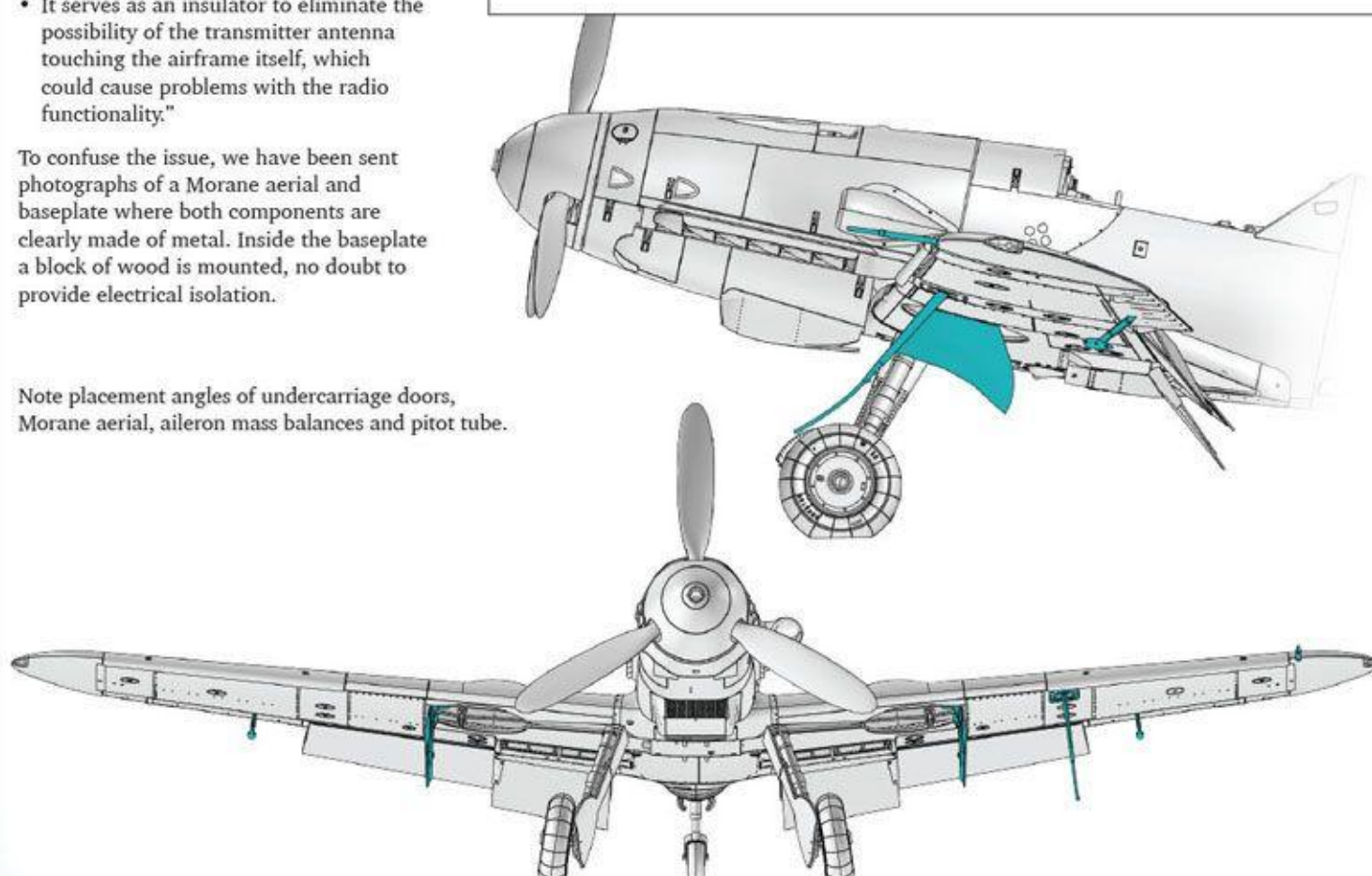
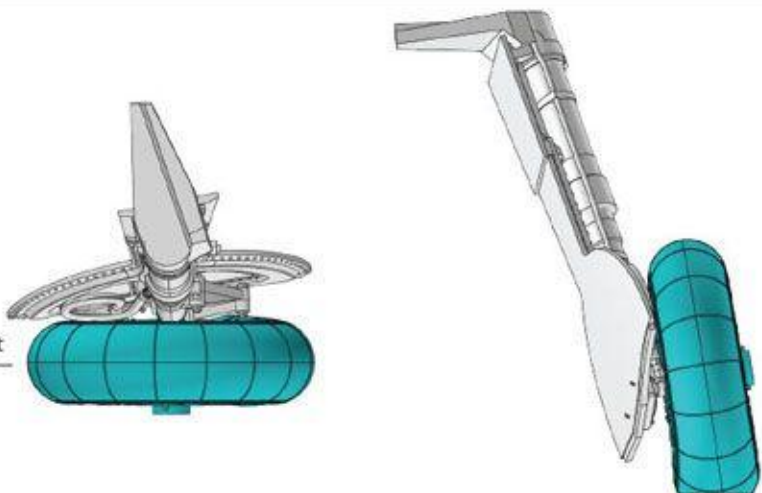
Starboard

Front



Port

Front



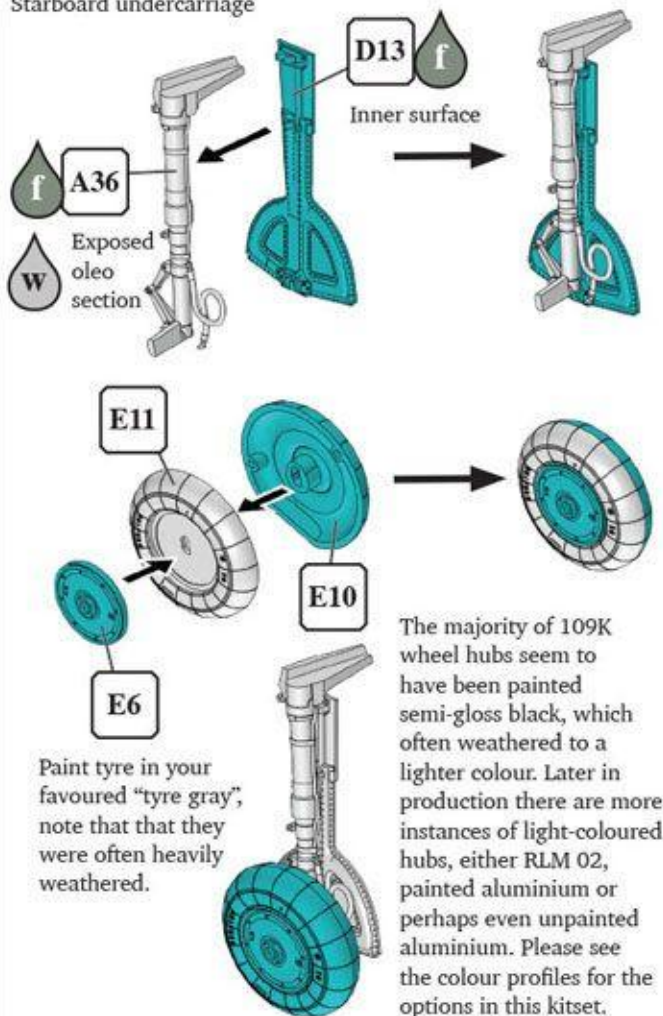
13 UNDERCARRIAGE

Many modellers will choose to add the undercarriage after final painting. It is very likely that the legs will slot into place accurately without glue, as long as paint has not covered the tab and its recess.

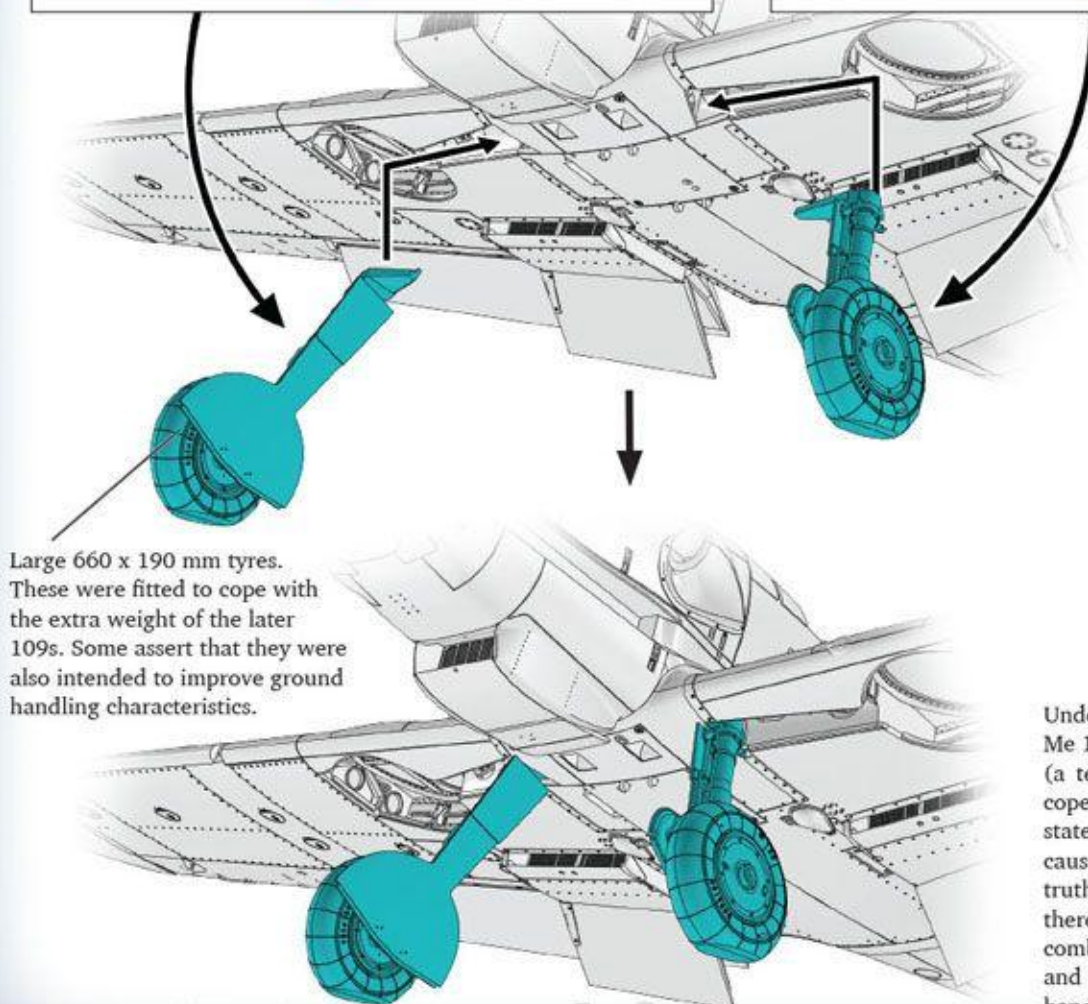
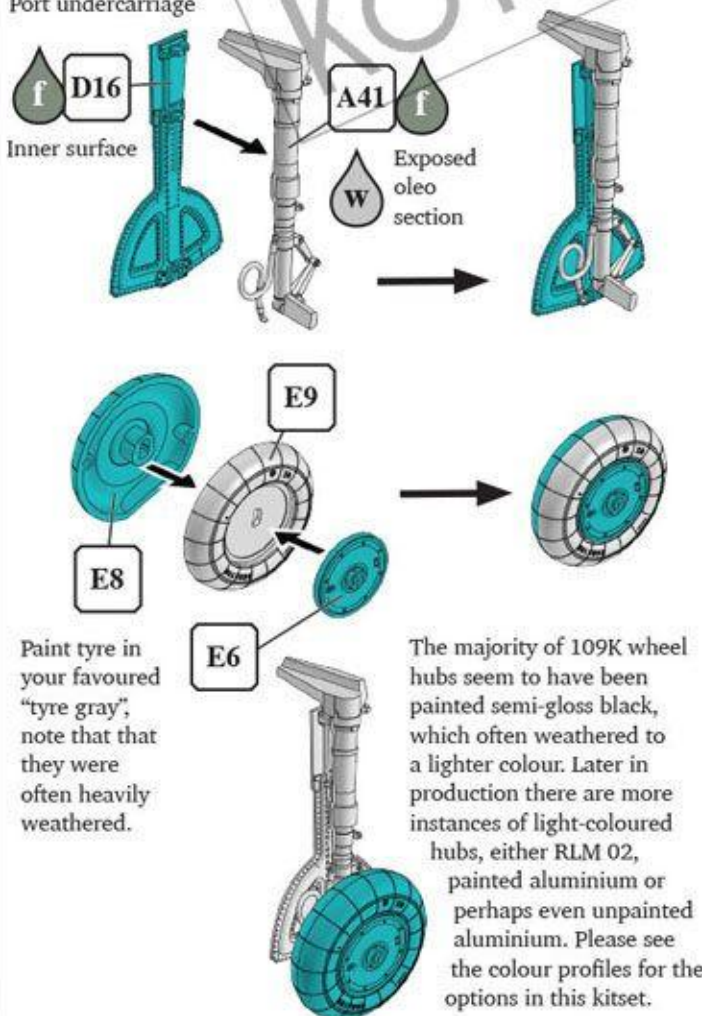


Please see detailed drawings on page 23 for more precise information on the correct placement angles of the undercarriage doors (D13 and D16) and the undercarriage itself. See page 33 for undercarriage stencil placement before fitting to wings.

Starboard undercarriage



Port undercarriage



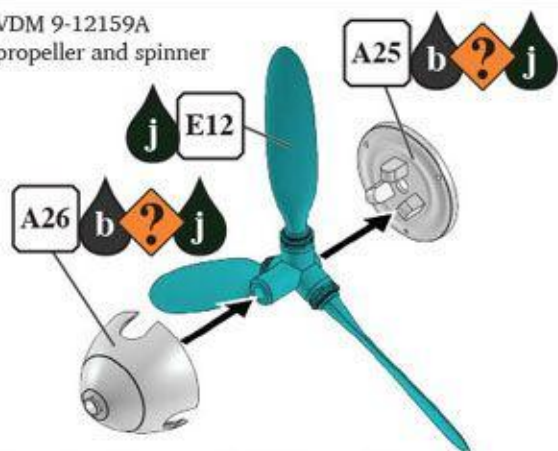
Note that it is very difficult to confirm evidence of the raised tyre "tread" ring detail in contemporary photographs.



Undercarriage detail from late production Me 109K-4 335148. Note the strengthened struts (a term synonymous with legs at the time) to cope with increased weight. The oft-quoted statement that the narrow track was a major cause of accidents is likely a simplification of the truth (the Spitfire track was narrower). However there is plenty of anecdotal evidence that the combination of narrow track, engine torque and marginal vertical tail area made the 109 a handful for inexperienced pilots.

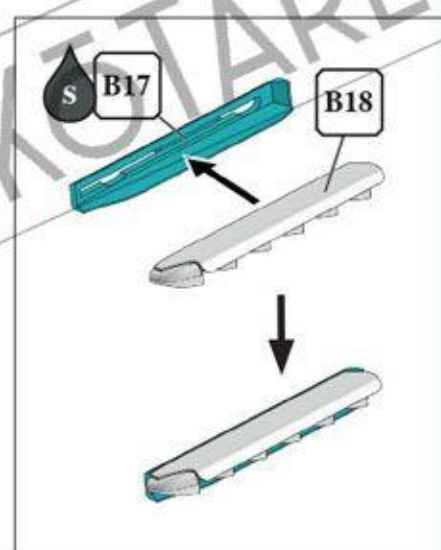
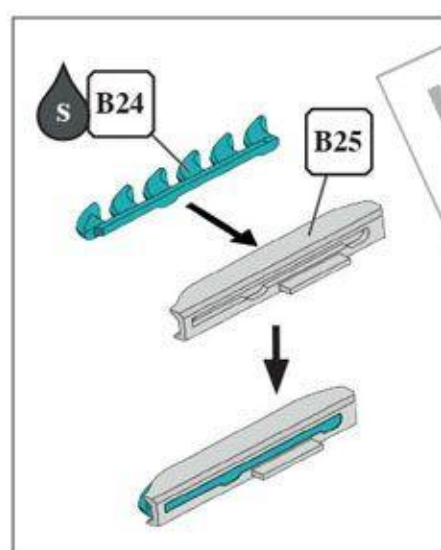
14 DETAILS

VDM 9-12159A
propeller and spinner

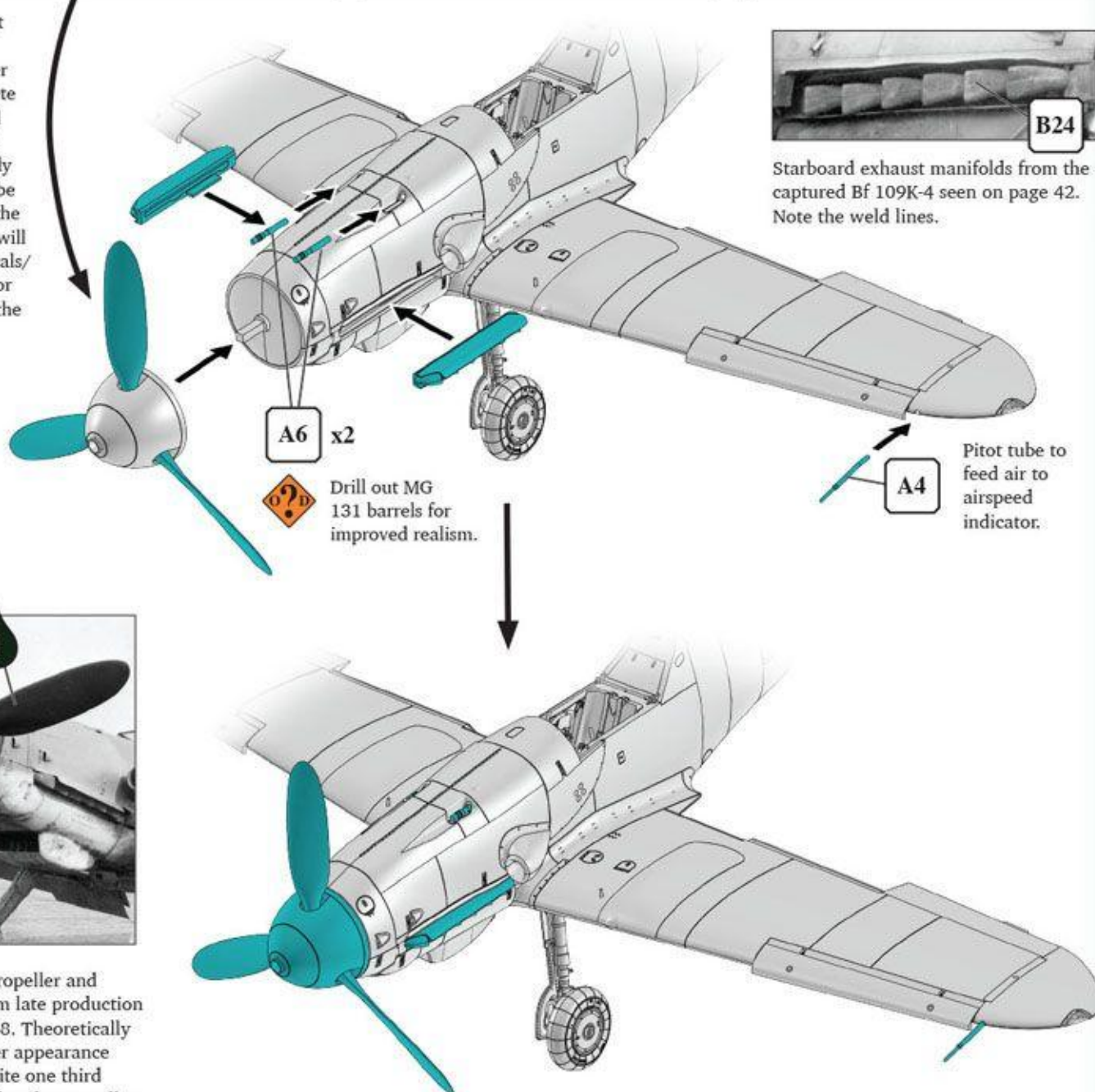


The hubs of the propeller blades could be painted a dark colour (most likely RLM 70) or a variety of metallic shades.

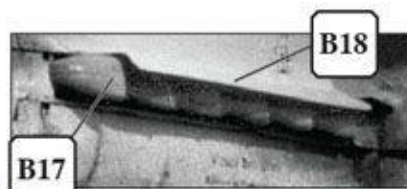
We appreciate that many modellers will wait until after painting is complete to add the painted spinner/propeller assembly. It is likely that glue will not be needed, and that the plastic prop shaft will allow some removals/replacement (eg for transport) before the fit degrades.



Starboard exhaust manifolds from the captured Bf 109K-4 seen on page 42. Note the weld lines.

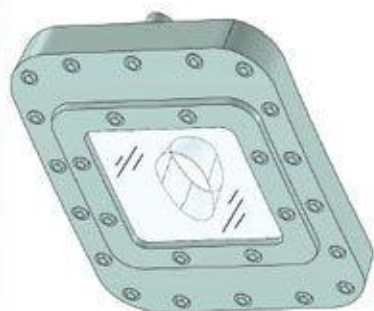


VDM 9-12159A propeller and spinner detail from late production Me 109K-4 335148. Theoretically the default spinner appearance was a sprayed white one third segment that bordered a propeller blade as here. Please see page 37 for a fuller discussion of spinner colour options. The 30mm Maschinenkanone 108 (MK 108 cannon) fired through the centre of the spinner and its exhaust gases vented through the bottom of the fuselage.



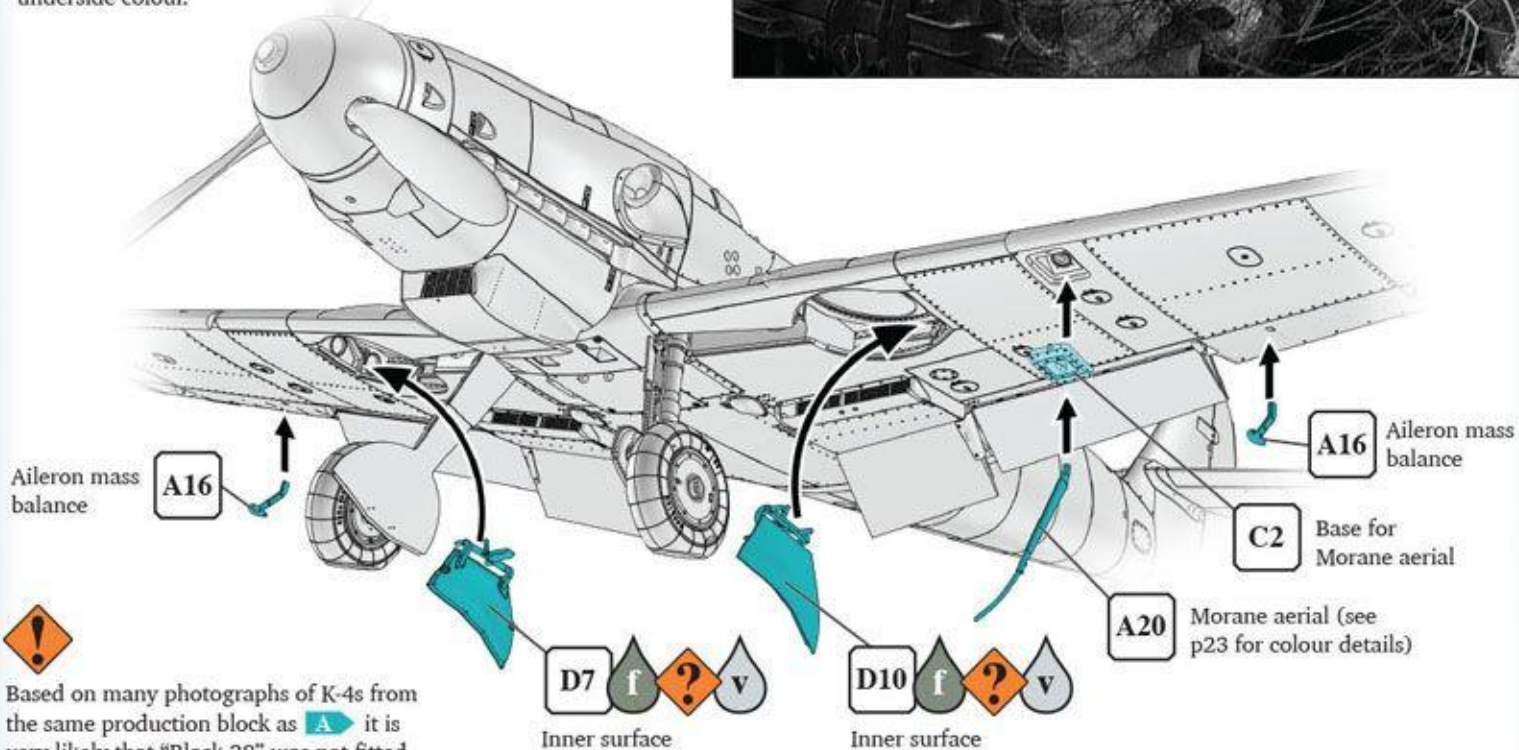
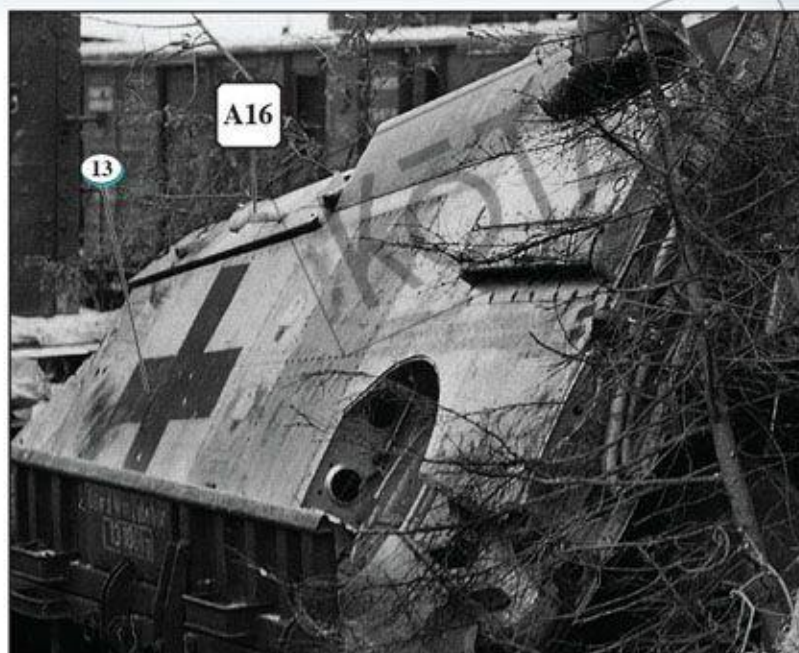
Port exhaust manifold and shield detail from late production Me 109K-4 335148. The extended and downward-deflected shield diverted hot exhaust gases away from the supercharger intake.

14 DETAILS CONTINUED



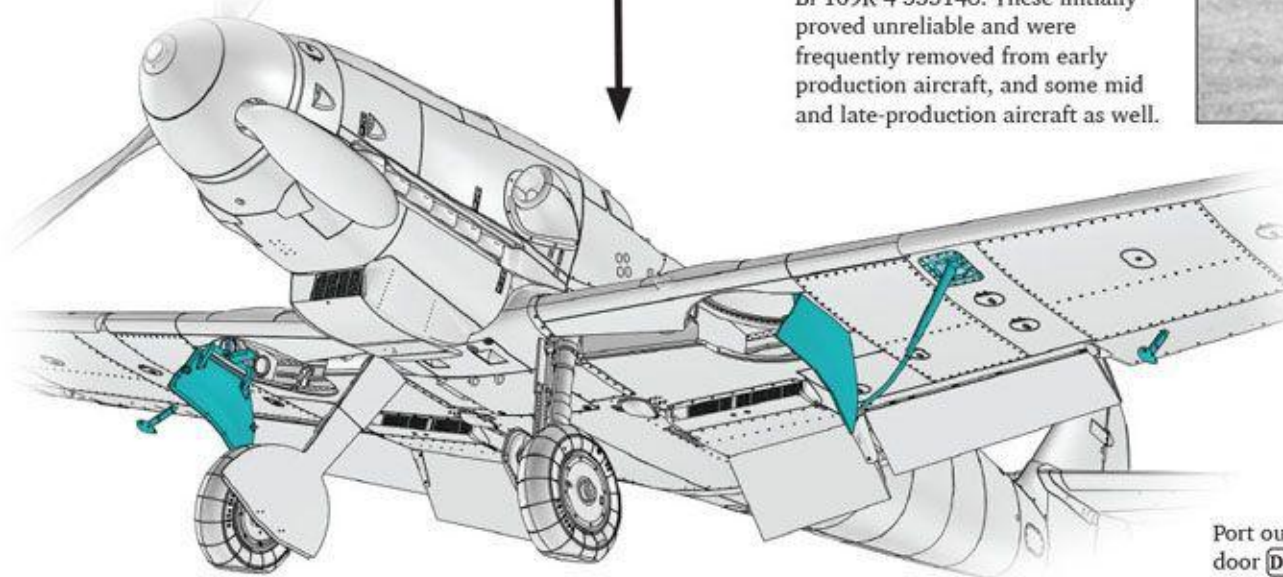
Painting guide for **C2**, the base for the Morane aerial. Please see page 23 for details about this item. It is highly likely that it would be painted the same as the underside colour.

Starboard wing underside detail from the captured Bf 109K-4 seen on page 42. Note the aileron mass balance **A16** and the later production style Balkenkreuz **13** on the thicker removable outer panel. The wheel well does not appear to have the fittings installed for retracting the outer door.



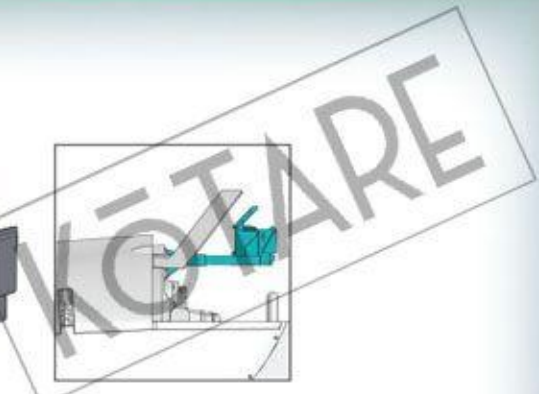
Based on many photographs of K-4s from the same production block as **A** it is very likely that "Black 28" was not fitted with the main undercarriage doors **D7** and **D10**. However because we have no photograph of "Black 28", we cannot be definitive about the fitment or absence of these doors.

Starboard outer undercarriage door **D7** detail from late production Bf 109K-4 335148. These initially proved unreliable and were frequently removed from early production aircraft, and some mid and late-production aircraft as well.

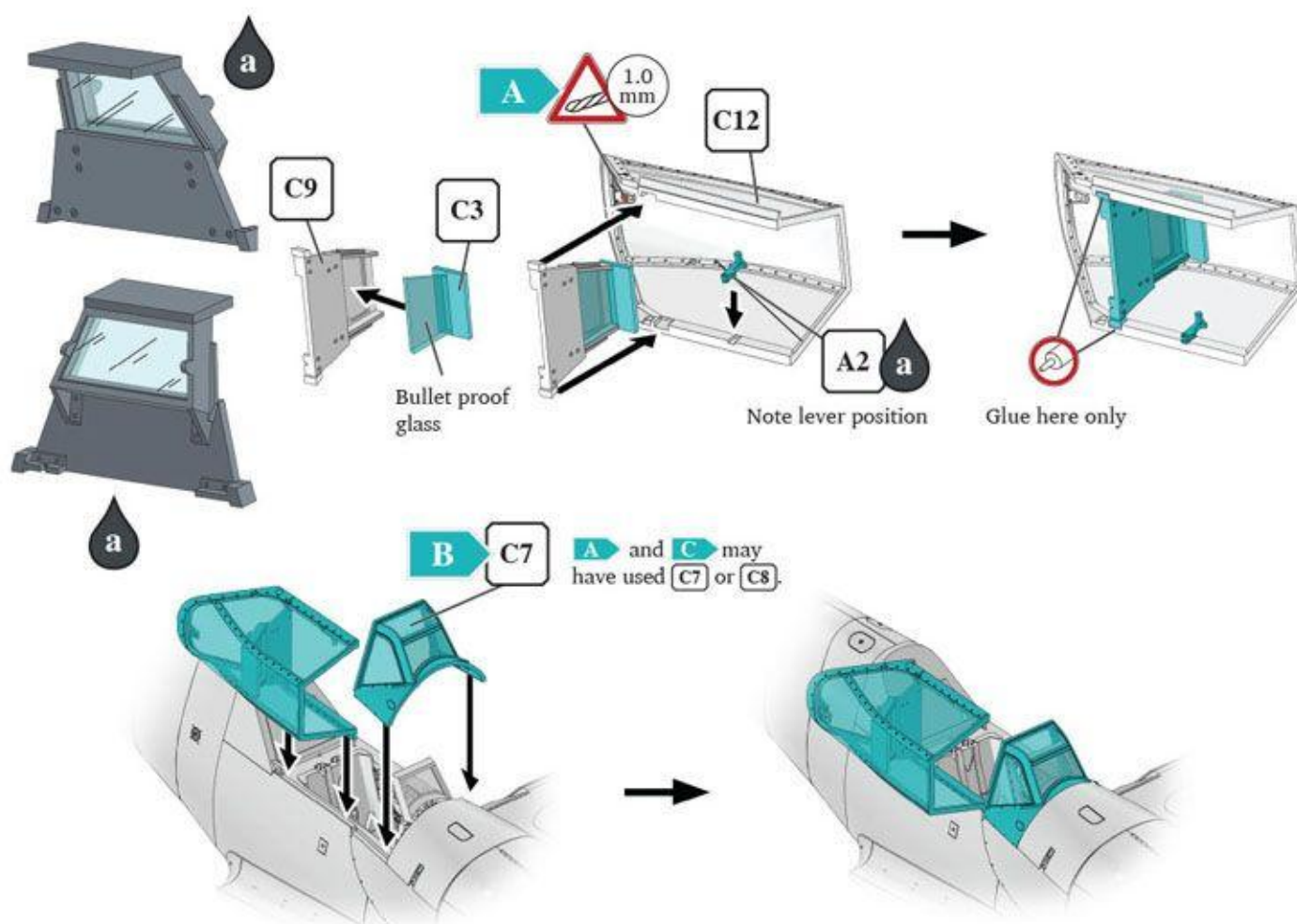


Port outer undercarriage door **D10** detail from late production Bf 109K-4 335148.



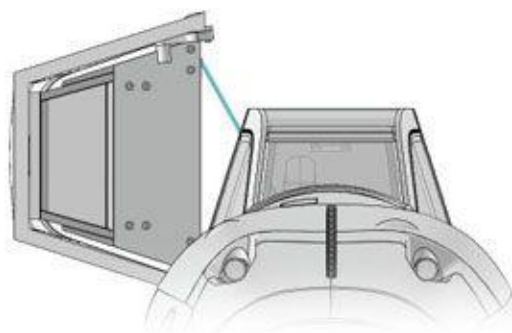
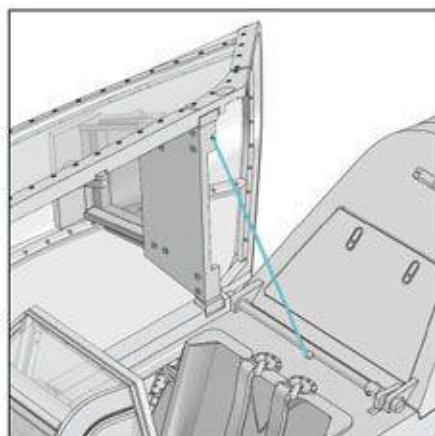
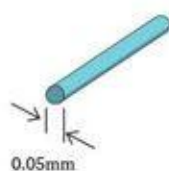


Open Canopy



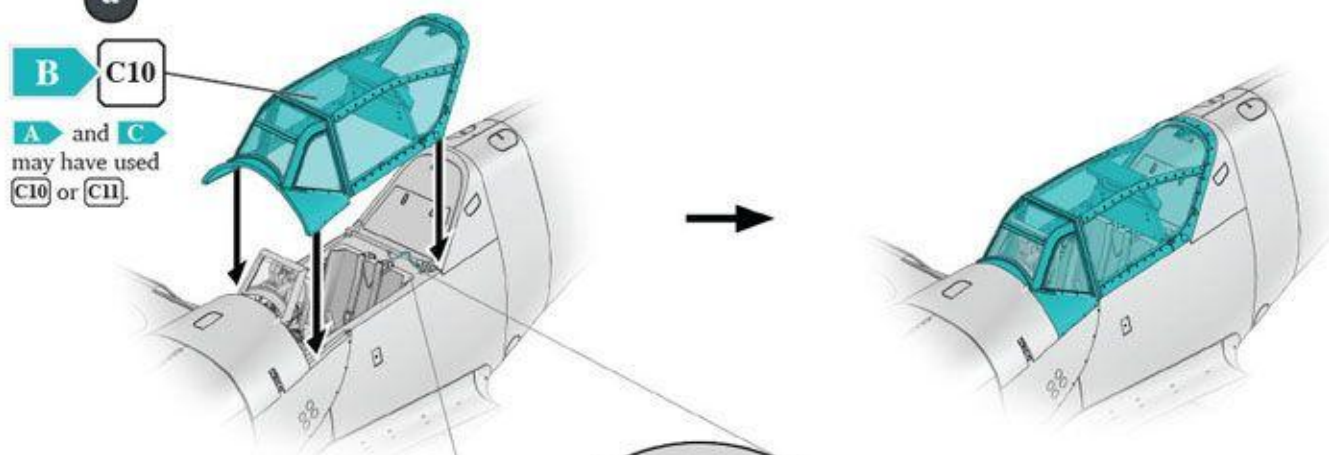
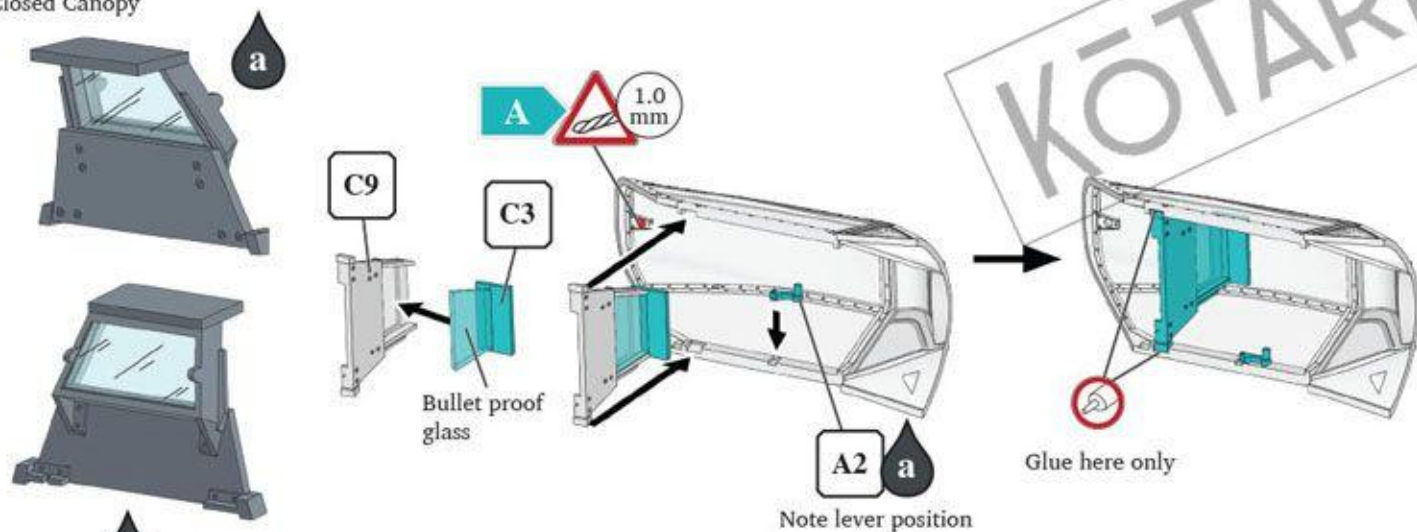
RIGGING

Canopy restraining wire
(rigging material not supplied)



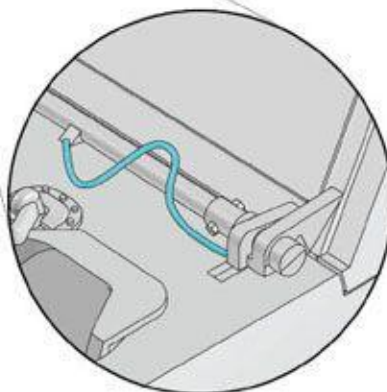
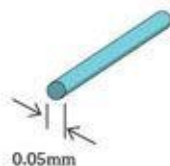
15 TRANSPARENCIES CONTINUED

Closed Canopy



RIGGING

Canopy restraining wire
(rigging material not supplied)

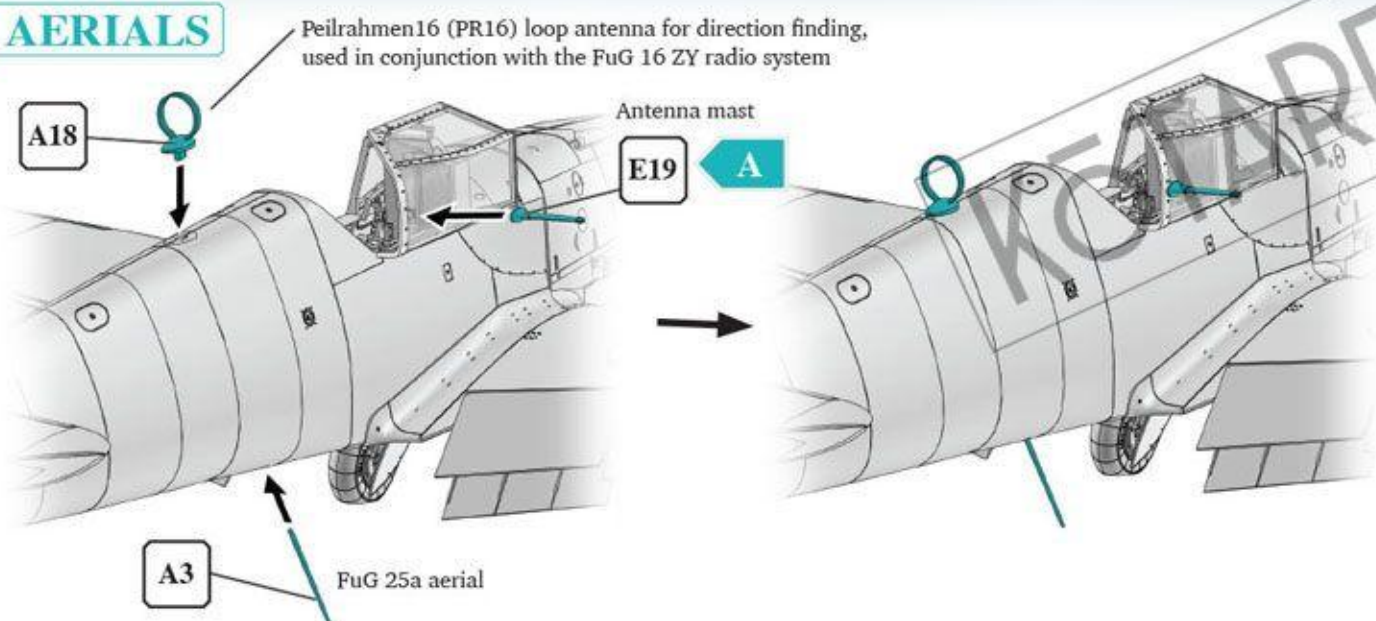


There is some evidence that the aerial wire could hang loose when the cockpit canopy was closed without a person inside to lock the canopy and hence tension the wire. However there are images showing a taut wire in this same scenario. We believe the modeller can choose their preferred appearance.



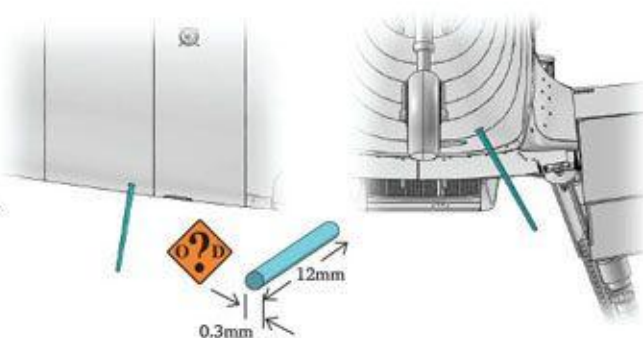
Unidentified mid-production Me 109K-4 "White 81" appears to be from the 332### to 334### serial number ranges and is seen here while being inspected by American GIs after capture. Note the various tones of the unconfirmed camouflage colours, the darkest of which has also been used to fill in the centres of the wing Balkenkreuz as seen on a number of Bf 109K-4s.

16 AERIALS



The FuG 25a IFF (Identification Friend or Foe, in German Freund-Feind-Kennung) was an electronic system designed to allow the aircraft that carried it to be identified as "friendly" by first the Würzburg and later the Freya radars of the Luftwaffe defensive electronic systems. Anecdotal evidence from JG 26 pilots (see Caldwell in the reference section) suggests that while the aerial might have been generally fitted, the electronic systems that used it were not necessarily in place. This was especially true in the chaotic last months of the war. The system was manufactured by GEMA (Gesellschaft für Elektroakustische und Mechanische Apparate).

Angle of placement of the FuG 25a IFF aerial. Because of the limitations of injection moulding, the modeller may choose to replace this, but note that it is in reality an untapered rod of approximately 10mm diameter.



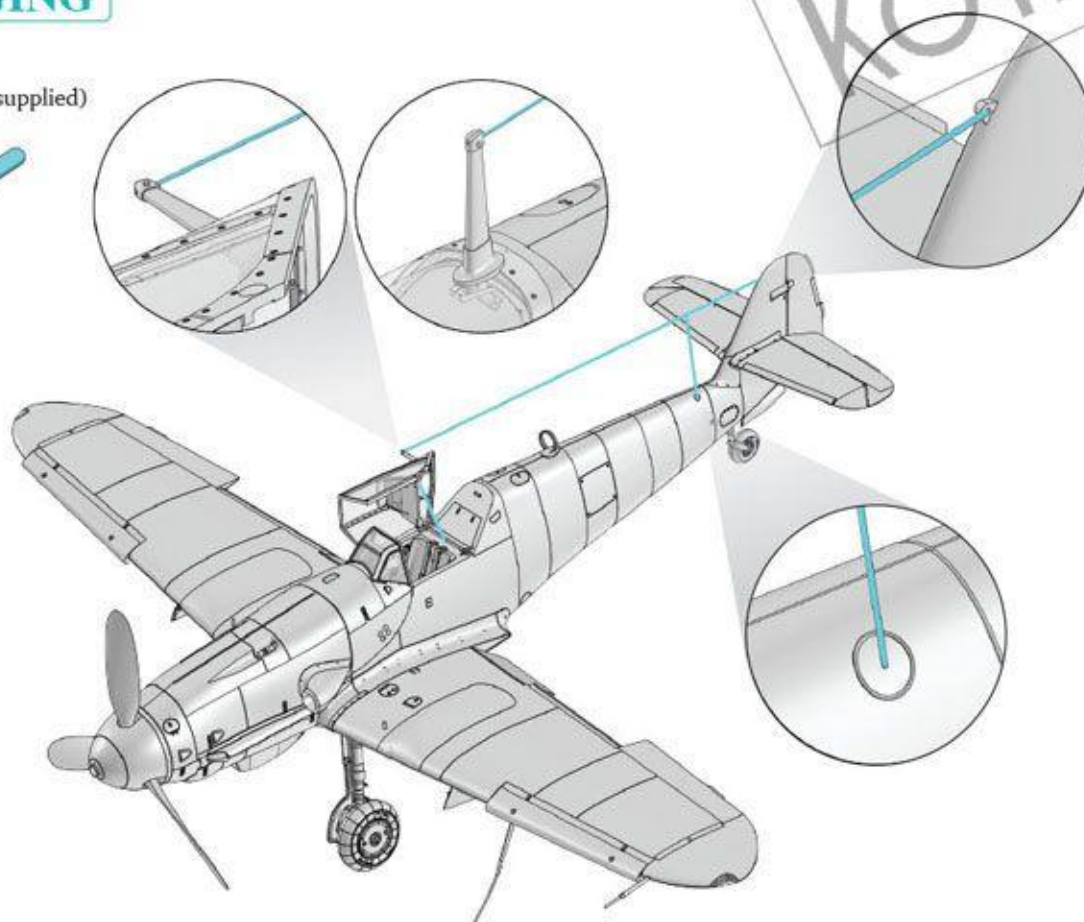
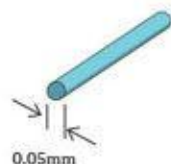
The fuselage from an unidentified early production Me 109K-4 from JG 27. Note the high camouflage demarcation line common (but not unique) to aircraft from the initial production batch (serial numbers 330100 to 330500), pale colour painted at the top of the fin and the JG 27 green band around the rear fuselage. The rare all-black swastika on the fin tends to indicate it is another aircraft from the 3302## serial number range as per 330255 as seen on page 43 and perhaps hints to a disruption in deliveries from the regular sub-contractor at that time.

16 AERIALS CONTINUED

The long aerial wire was the signal-receiving element of the FuG 16 ZY radio system. The Morane antenna under the port wing was the sending element (as noted elsewhere). The near-vertically oriented wire entering the rear fuselage was the component that actually connected to the radio set.

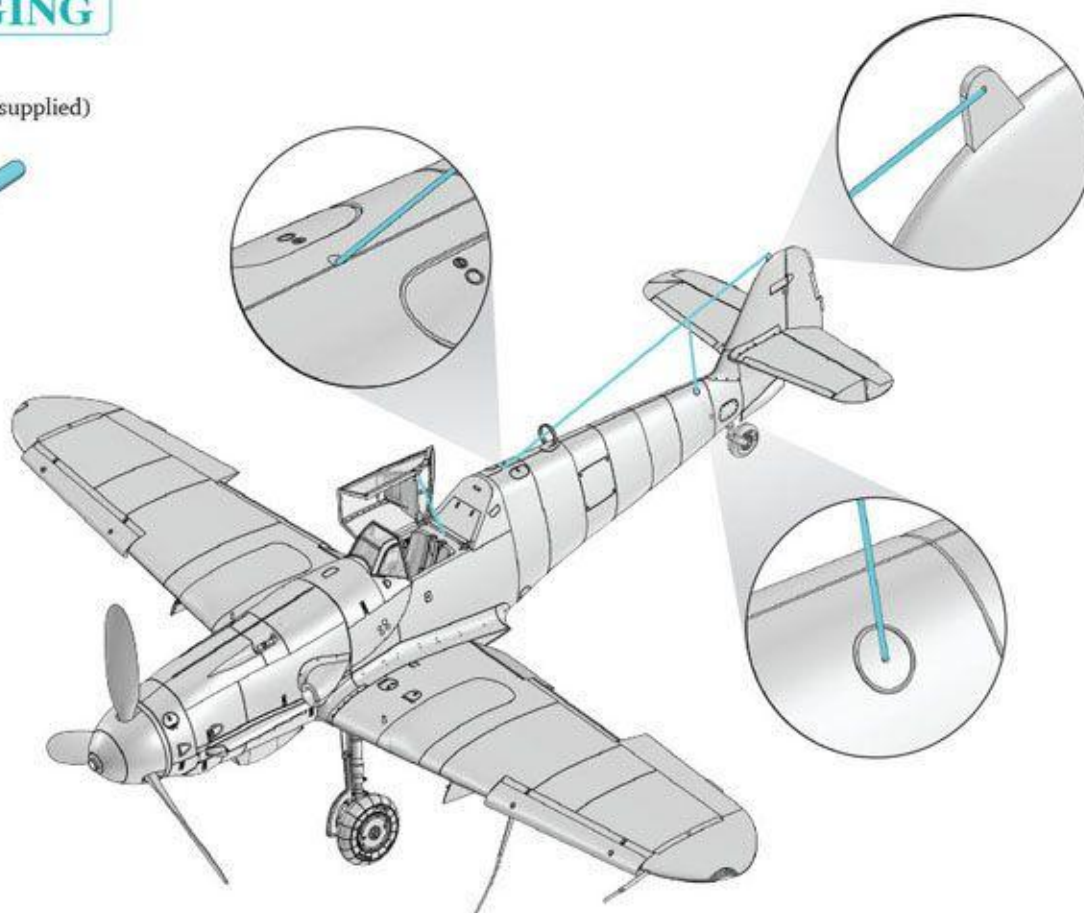
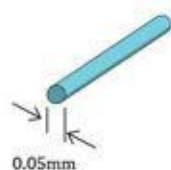
A RIGGING

Aerial wires
(rigging material not supplied)



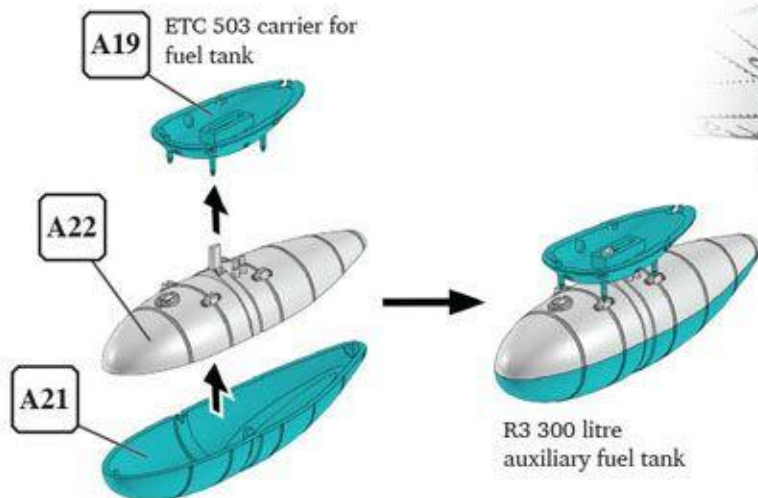
BC RIGGING

Aerial wires
(rigging material not supplied)



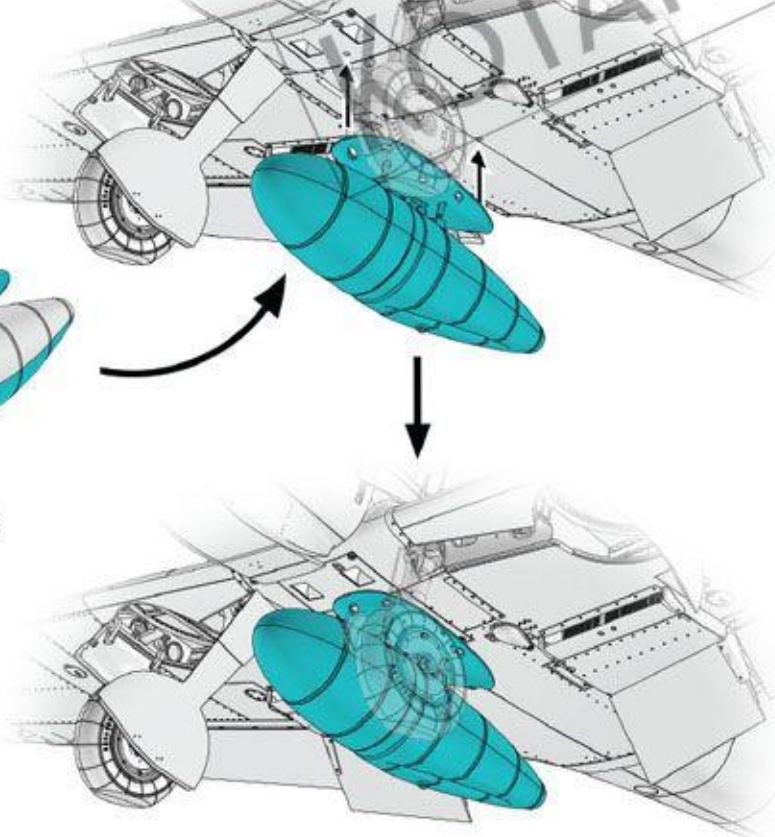
17 DROP TANK AND RACK ASSEMBLY (OPTIONAL)

Many modellers will attach the rack to the fuselage before adding the tank, and of course the rack can be seen in place without a tank attached.

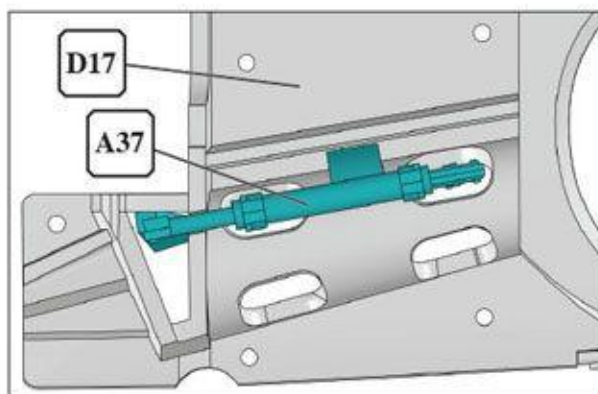
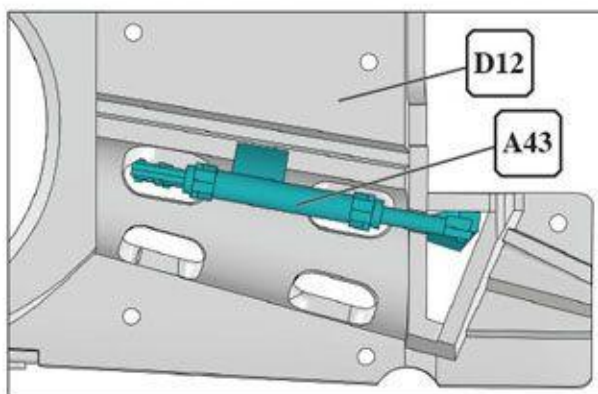


Rack and tank colours

It is not possible to be sure which colours were used to paint the rack and auxiliary fuel tank on every 109K-4. It is likely that in most cases they were the same colour as the underside, but as the "standard" RLM 76 colour became more and more variable, or indeed unavailable, it is likely that various mismatched colours could be seen.



Placement of the main undercarriage retraction jacks from page 17



The pattern of weathering on the underside of 109K-4 examples and some 109G aircraft shows a heavy collection of grime at the edges of some underwing panels, along with a different fastener type. We are indebted to the Australian War Memorial museum in Canberra, who allowed photography of the 109G in the collection there. Fortuitously the aircraft has been disassembled and is at ground level during museum redevelopment.

This machine has long been regarded as a precious artifact for Luftwaffe researchers. While it is a hybrid aircraft with wings from 2 different aeroplanes, it is (externally at least) surprisingly complete and has never been repainted. These images (and others) clearly show that some panels are of thicker gauge aluminium than others, and stand "proud" of the wing surface. We theorise that these panels were intended to allow for carriage of underwing rockets or gun pods and the internal fittings associated with those weapons (which never entered service).



These images portray a full set of stencils as defined by the 109K-4 handbook. It is unlikely that many aircraft received all stencils, especially in later production blocks.

Vorsicht beim Öffnen Kühler ist im haubenteil eingebaut
Caution when opening the cooler is built into the hood part

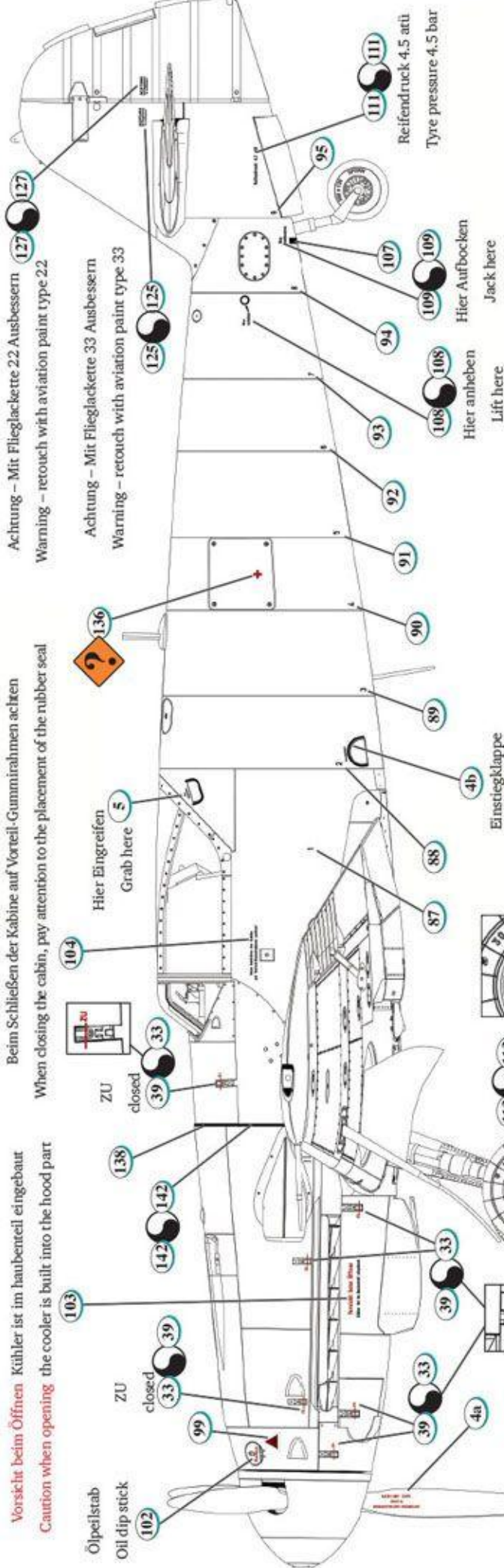
Beim Schließen der Kabine auf Vorteil-Gummirahmen achten
 When closing the cabin, pay attention to the placement of the rubber seal

Hier Eingreifen
 Grab here

Achtung – Mit Flieglackette 22 Ausbessern
 Warning – retouch with aviation paint type 22

Ölpeilstab
 Oil dip stick

Achtung – Mit Flieglackette 33 Ausbessern
 Warning – retouch with aviation paint type 33



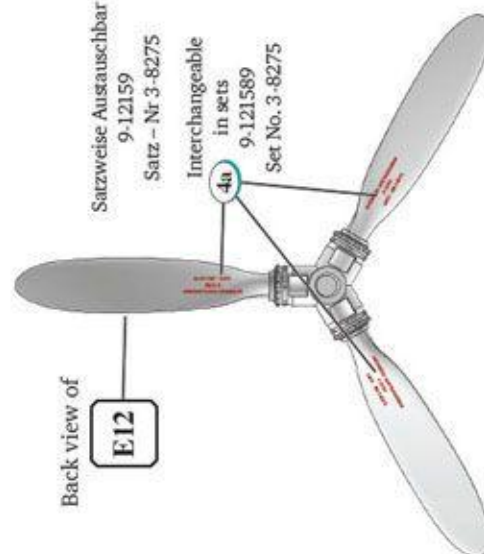
Reifendruck 4.5 atü
 Tyre pressure 4.5 bar

Hier anheben
 Lift here

Einstiegklappe
 Entry hatch

Back view of

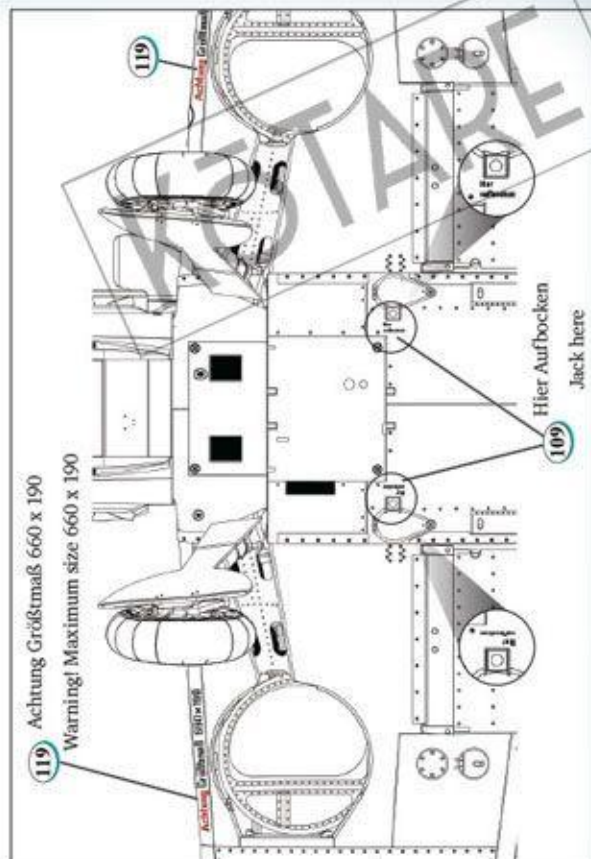
E12
 Satzweise Austauschbar
 9-12159
 Satz – Nr 3-8275
 Interchangeable
 in sets
 9-121589
 Set No. 3-8275



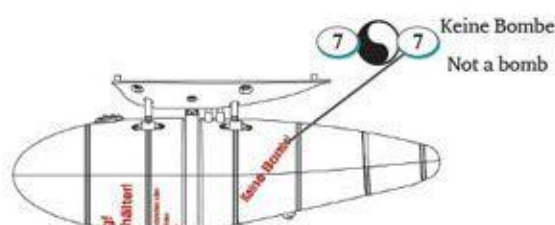
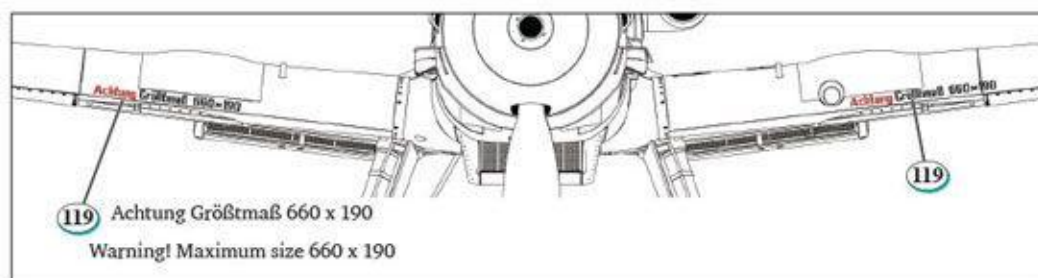
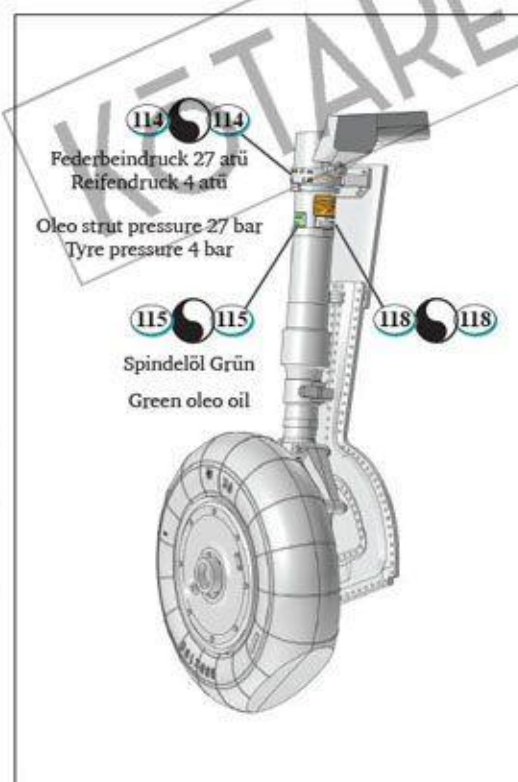
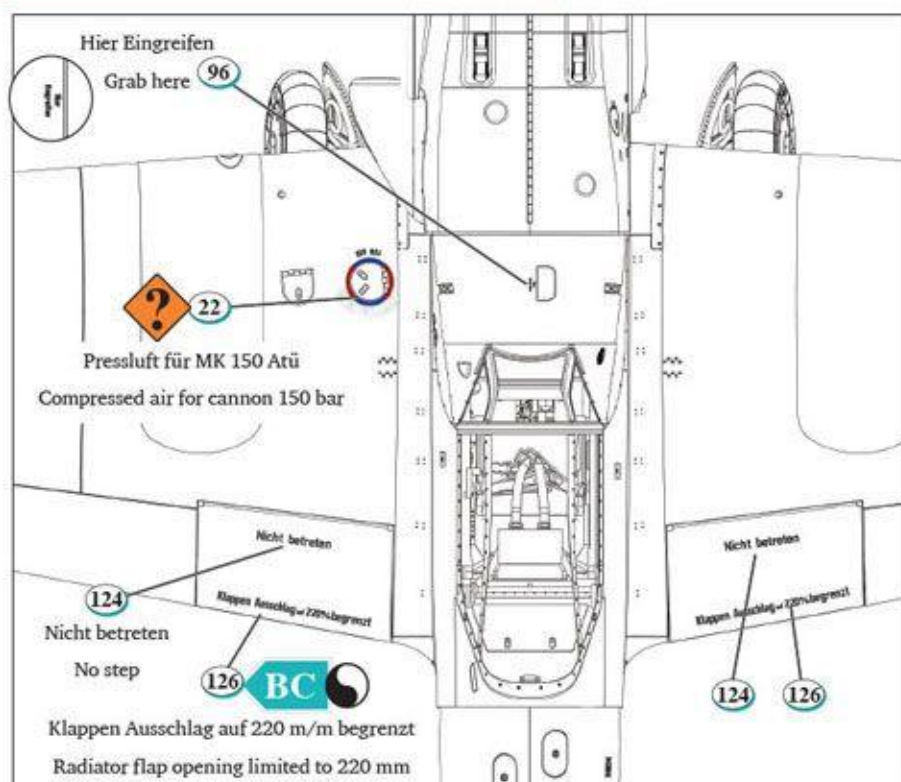
Achtung – Mit Flieglackette 22 Ausbessern
 Warning – retouch with aviation paint type 22

Achtung – Mit Flieglackette 33 Ausbessern
 Warning – retouch with aviation paint type 33

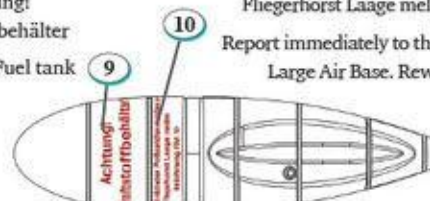
Achtung Größtmaß 660 x 190
 Warning! Maximum size 660 x 190



18 STENCILS CONTINUED



Sofort bei nächster Polizeidienststellen oder
Fliegerhorst Laage melden. Belohnung RM 10
Report immediately to the nearest police station or
Large Air Base. Reward 10 Reich Marks



Our box art subject, Bf 109K-4 "Black 28" flown by Ltn Walter Kopp is profiled in the next 2 pages, but here is a piece of history supplied by Luftwaffe expert Lynn Ritger, found coincidentally as a result of his research in the Bundesarchiv in Germany.

It is remarkable that even as the military situation deteriorated in January 1945 the staff of JG 26 were still keeping up with the administrative work. The first image is the loss report filed after the combat with 486 Squadron Tempests on 14 January 1945. It is unlikely that the administrative staff knew what had happened. Of course, the wellbeing of a pilot was of great interest to his family and friends, so it can be imagined that this was one task that was diligently performed to the end, not to mention the need to inform higher command that a replacement pilot and aircraft would be needed.

The second document contains a correction (highlighted in red) because as you can see the first report had Ltn Kopp with I./JG 26, whereas his actual unit was III./JG 26.

While it is true that from a New Zealand perspective Walter Kopp was the enemy, it is still sad to think of his family slowly losing hope for his recovery as the weeks and months went by. If anyone knows more about his background and family we would be glad to learn more, and can add information to future editions of these instructions and post it on our website.

Gen.Qu.6.Abt.Nr.760/45 g.Kdos.(V) v. 21.1.45 lfd.Nr.34 27

Lw.Kdo.West

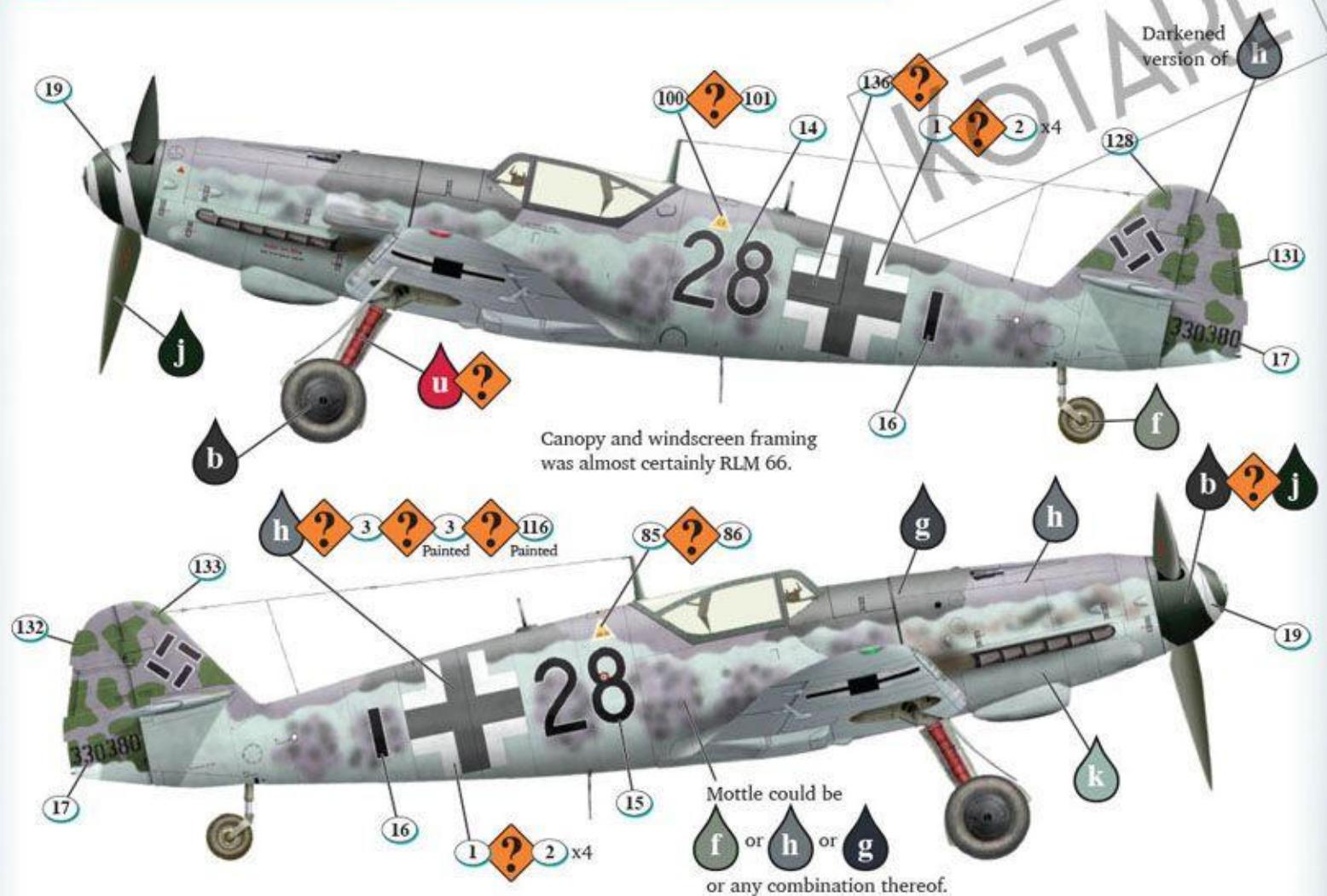
vermisst:
14.1.45 I./J.G.26 Bf 109 K4 330380 (schwarze 28)

Ltn. K o p p Walter F

Ort des Verlustes: unbekannt

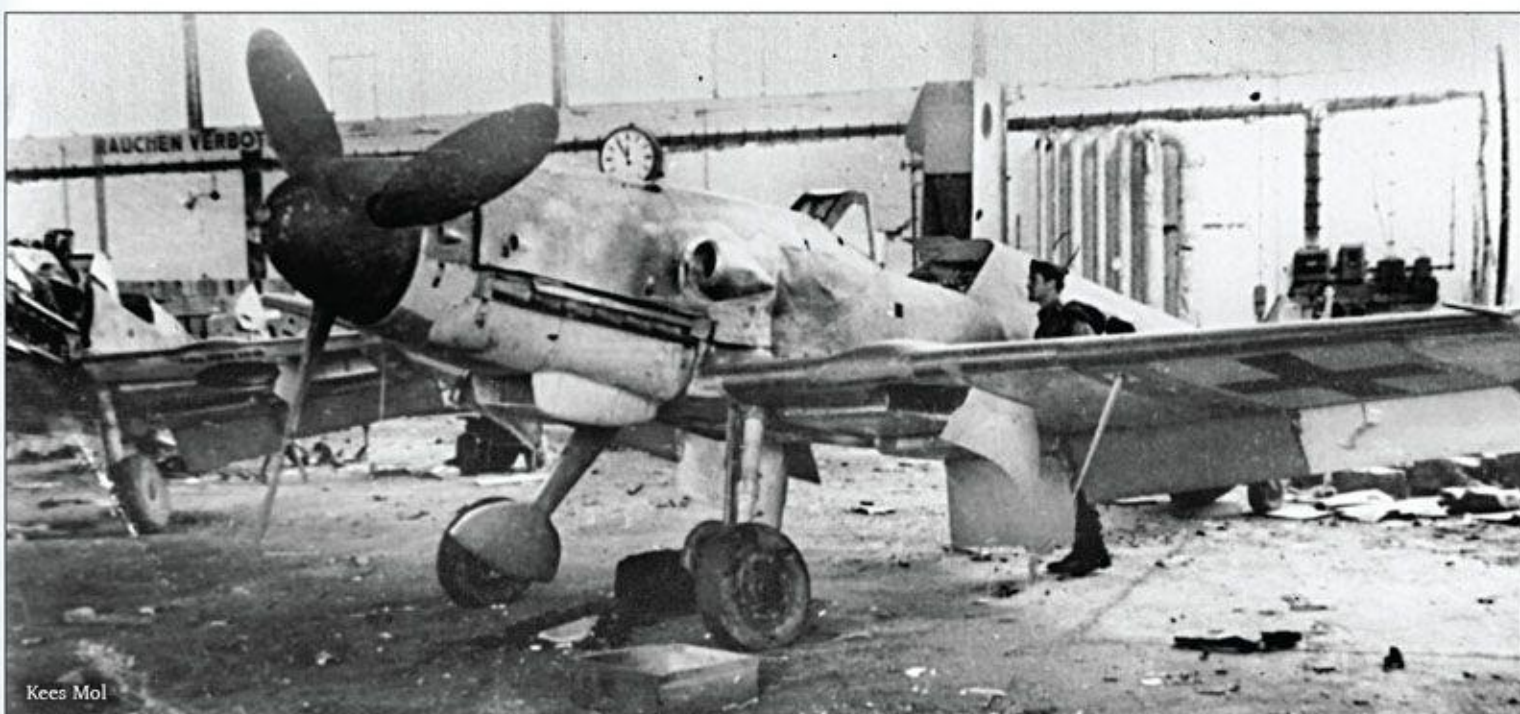
Ursache: unbekannt

Ergebnisse			
a)	77	80: 0,44	*
b)	62	82: 1,40	*
c)	43	83: 1,40	*
d)	27	84: 1,40	*
e)	20	85: 1,40	*
f)	21	86: 1,40	*
g)	22	87: 1,40	*
h)	23	88: 1,40	*
i)	24	89: 1,40	*
j)	25	90: 1,40	*
k)	26	91: 1,40	*
l)	27	92: 1,40	*
m)	28	93: 1,40	*
n)	29	94: 1,40	*
o)	30	95: 1,40	*
p)	31	96: 1,40	*
q)	32	97: 1,40	*
r)	33	98: 1,40	*
s)	34	99: 1,40	*
t)	35	100: 1,40	*
u)	36	101: 1,40	*
v)	37	102: 1,40	*
w)	38	103: 1,40	*
x)	39	104: 1,40	*
y)	40	105: 1,40	*
z)	41	106: 1,40	*



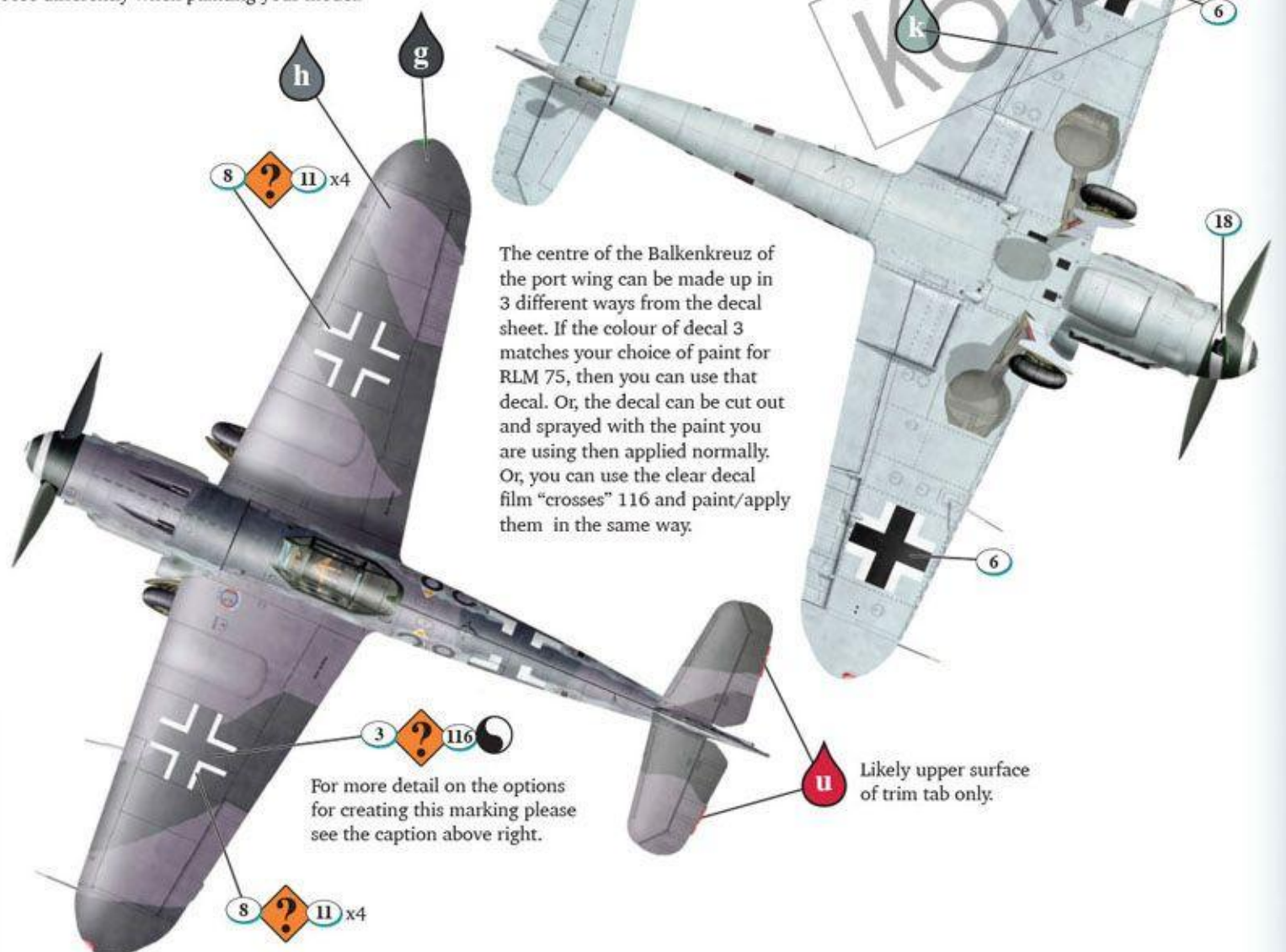
Bf 109K-4 330380 was from the first production batch constructed at the Messerschmitt factory at Regensburg in Bavaria. References suggest that this first production block was numbered 330 100 to 330 500 and was constructed between August and November 1944. There is no known photograph of this machine, so our depiction of the camouflage scheme is based on photographs of contemporary K-4s from the same batch and from photographs of G-10 and G-14 aircraft produced in parallel at the same factory.

The reason why a fairly standard 74/75/76 mid-war scheme was broken up by the vertical tail and rudder in its somewhat incongruous scheme of green blotches on a background that is noticeably darker than RLM 74 but lighter than RLM 75 is unknown. Those components were constructed at a sub-contractor and largely of wood, but the precise reason why the anomalous scheme was used on almost all K-4s will likely never be known.



A couple of incomplete late production Bf 109K-4 reportedly found at the Messerschmitt Regensburg factory. Note the tyre size stencil (119) positioned well below the leading edge of the aircraft in the background, undercarriage outer doors, FuG 16 ZY Morane aerial, pitot tube, and the mixture of panels making up the underside of the wing. Some appear to be unpainted, and some seem to be in a pale shade of paint, perhaps the "standard" RLM 76 light blue or a variation thereof.

A wavy leading edge camouflage demarcation was very common, perhaps almost ubiquitous on 109K-4 aircraft. In many examples the underside colour is not visible from above, and we have chosen to depict this machine in that way. However of course you can choose differently when painting your model.



Why have we chosen a machine for which no known photograph exists? The main reason was the fact that Lt Walter Kopp (about whom we can find very little information to date) was engaged by 486 Squadron RAF Tempest pilot Flt Lt Colin McDonald from New Zealand. Lt Kopp was a young man, only 23, and likely had very little experience in the K-4. His JG 26 unit had been involved in an air battle with P-51s on the morning of January 14, 1945. JG 26 suffered serious losses in this engagement but Lt Kopp survived and was probably attempting to return to base at an altitude of about 1500 feet, in the company of an unidentified Fw 190.

He had the misfortune to be seen by experienced RAF fighter pilots flying one of the best fighters of the war. Sadly for Lt Kopp he had little chance and was shot down and killed, though his death was not confirmed until his wrecked K-4 was discovered in a forest near Borghorst (NW of Munster) in 1990.

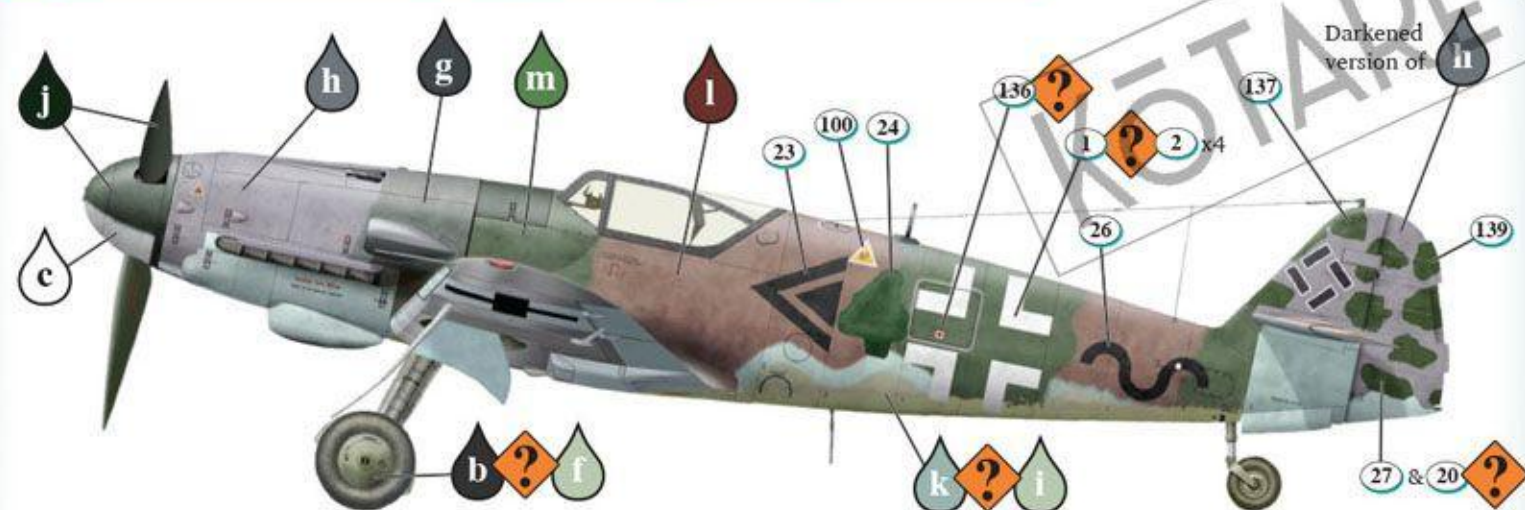
A secondary reason to pick this machine is that it affords the modeller many options to produce a unique model, based on what YOU think the aircraft would have looked like. The upper wing camouflage could have been any one of the patterns in use at the time, and the fuselage mottling was always variable so you can paint it any way you like.

The leading edge "wavy" pattern may or may not have been used, although almost all K-4 photographs that show the wing leading edges do show this pattern. It is likely that the undersides still wore a standard coat of RLM 76, but the modeller can defend the use of some unpainted panels or the "pale green" version of 76. The spinner may have had a spiral or a sprayed white third. There are even photographs of machines with both, so choose your favourite!

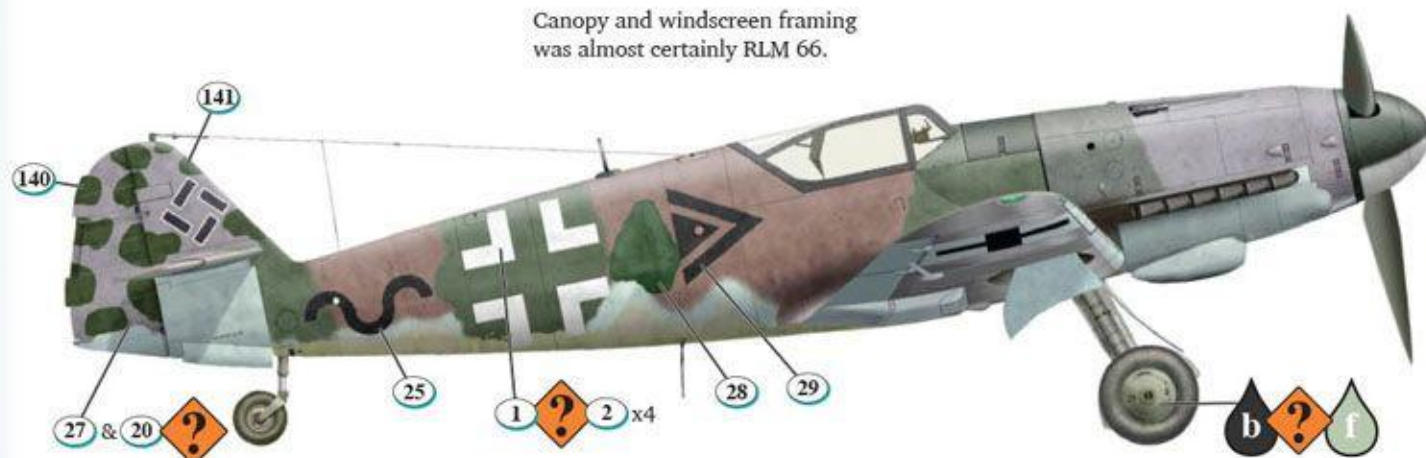


Mid-production Bf 109K-4 "Black 12" is being salvaged post-war. It wears the wavy mid-fuselage height camouflage demarcation line mainly attributed to aircraft from the 331### serial number range and is tentatively identified as belonging to II./KG(J)6. Note the engine cowling in the foreground, ripped fabric covering the cheek fairing, the distinctive K-4 fuselage hatches, lack of fuselage stencils, and the damaged port wing leading edge slat. This unit appears to have repeated the fuselage number on the leading edges of the wings.

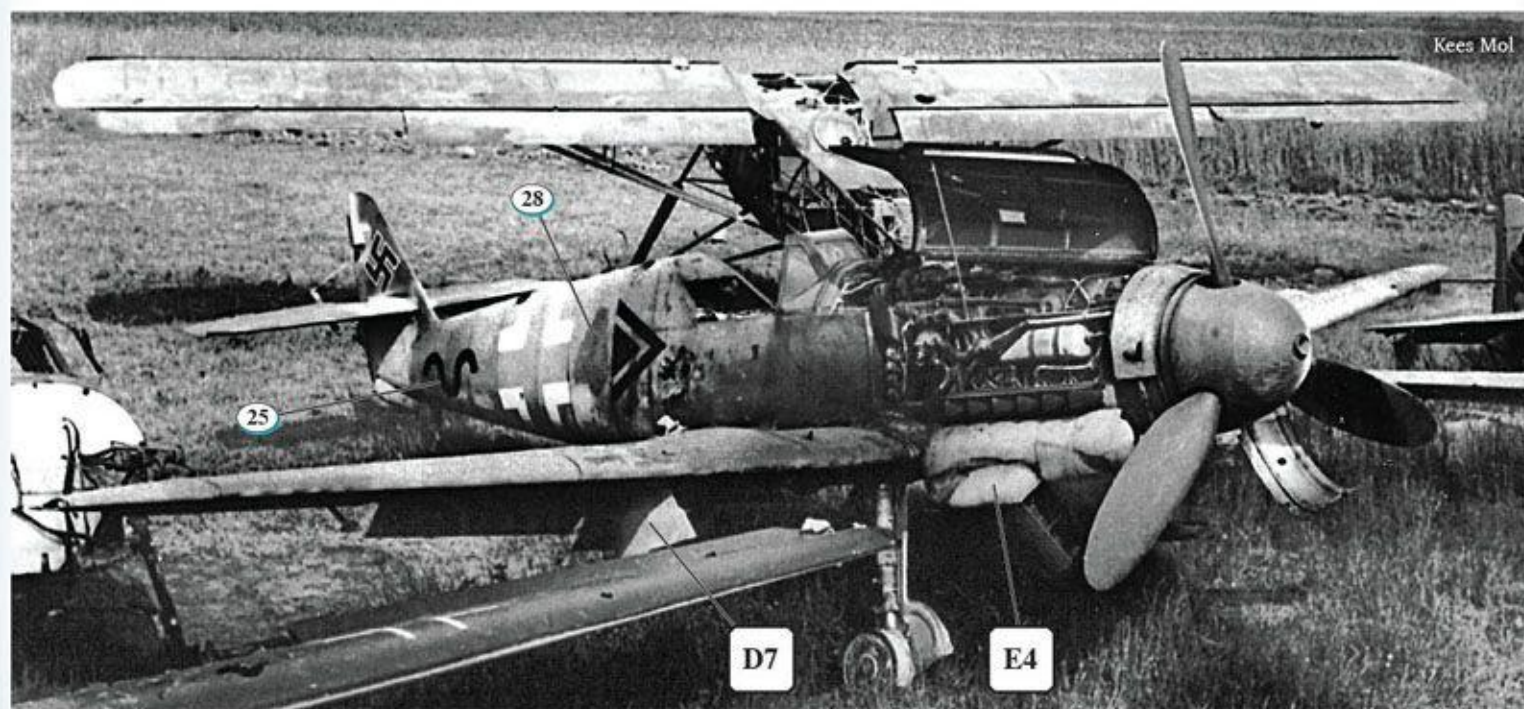
B Bf 109K-4 335###, Adolf Borchers, Stab III./JG 52, April-May 1945.



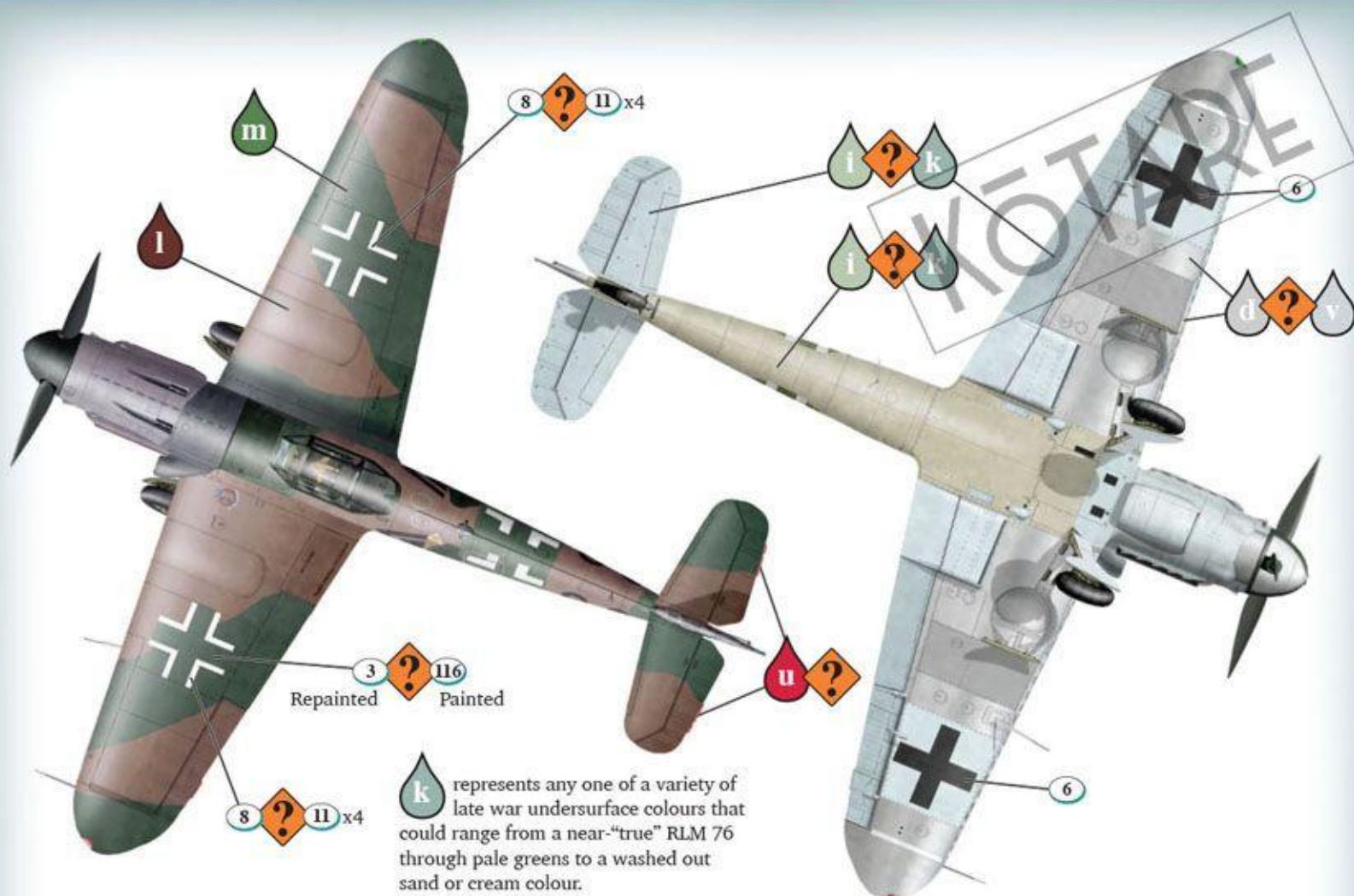
Canopy and windscreen framing was almost certainly RLM 66.



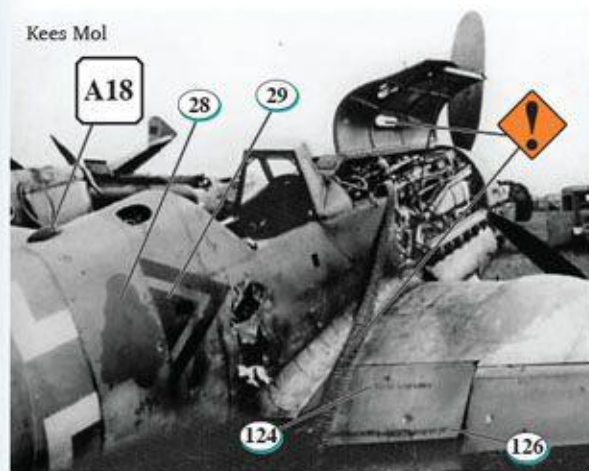
This unidentified late production Bf 109K-4 was flown by Stab III./JG 52 commander Adolf Borchers in April-May 1945 and was found at Německý Brod post war. Note the sprayed one third white spinner, two-tone engine cowling, commander's chevron markings, and overpainted previous fuselage number "4". We include optional decals (27) and (20) for you to assemble your own choice of serial number because the actual number is unconfirmed. The low camouflage demarcation line and pattern is characteristic of aircraft from the 335### serial number range while the rarely seen Me 109G-style redundant compass hatch in fuselage section 2 (found on some other 335### numbered aircraft, including 2 identified as 335013 and 335141) narrows the serial number range down a little more. Some of these aircraft had their fuel triangle stencils incorrectly applied on fuselage section 3 (in the Bf 109G-style). At the time this aircraft was completed the camouflage scheme had reportedly been changed to mainly green and brown shades optimized for concealment on the ground, with the undersides directed as being left "unpainted". The supply of materials had now mostly collapsed, which resulted in sub-contractor supplied sub-assemblies being delivered in wildly variable shades and colours as they made do with whatever paints they had available. The undersides of the wings feature a mix of bare metal and painted sub-assemblies.



Our **B** is this unidentified late production Bf 109K-4 which was flown by Stab III./JG 52 commander Adolf Borchers in April-May 1945 and was found at Německý Brod post war.



Adolf Borchers was born in February 1913 and joined the Luftwaffe in 1937. He flew with the Condor Legion in the Spanish Civil War and was serving in JG 51 when Germany and Russia invaded Poland in September 1939. Borchers was credited with his first victory during the invasion of France and was shot down and rescued from the English Channel during the Battle of Britain. He continued to serve with JG 51 following the German invasion of the Soviet Union in June 1941 until June 1944 when he was made group commander of I./JG 52. He was made commander of III./JG 52 in February 1945 and had been credited with 132 victories by the time he surrendered to American forces, at which time he was handed over to the Soviets. Borchers was released from captivity in 1950 and was 83 years old when he died in February 1996.



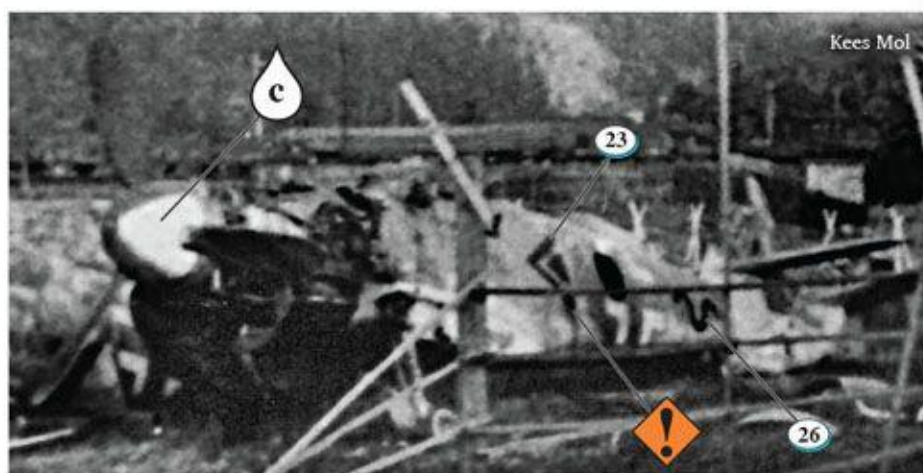
Another view of Borchers' aircraft showing his commander's chevron markings, the overpainted previous fuselage number "4", and the heavily stained forward fuselage. Note the DF loop aerial [A18], radiator flap warning stencils [124] & [126], large opening in the cowl to fit around the MG 131 muzzle and flash guard, and the loose belt of 13mm ammunition.

Stab markings

Stab (staff) marking were applied to aircraft flown by headquarters officers. In this instance the double chevron indicates that the pilot is a Gruppenkommandeur (group commander, with a group typically comprising 30-40 aircraft earlier in the war).

The "welle" (wavy horizontal line) close to the tail was one of the standard insignia meaning III Gruppe, so this aircraft "belongs" to the commander of the third group of JG 52.

Gruppenkommandeur was a role, not a rank, and Borchers is listed as holding the rank of Major at the end of the war.



Although this photograph of Borchers' aircraft is of less than perfect quality, it is worth reproducing here due to its rarity and the fact that it shows the port side.

Spinner painting options for Bf 109K-4s

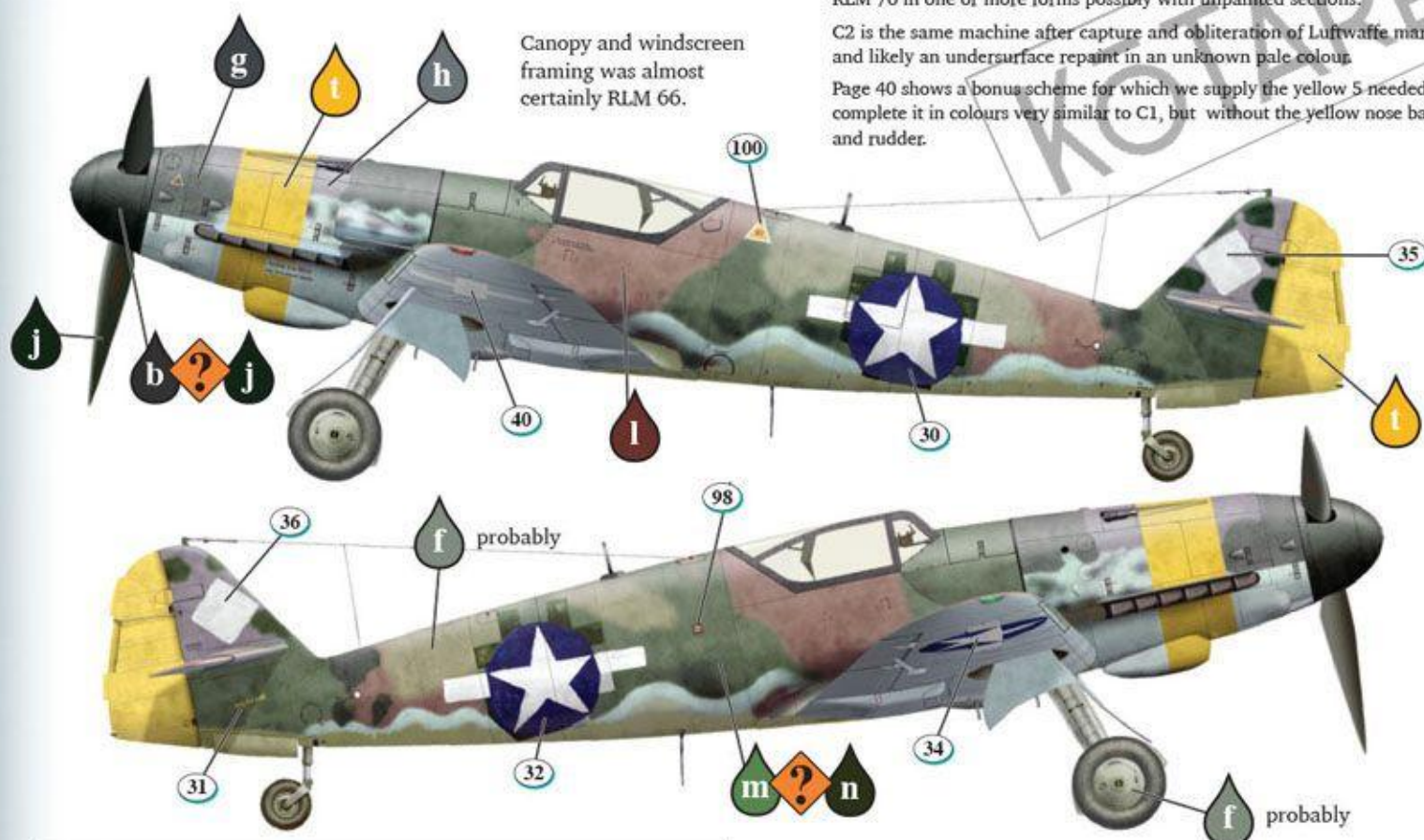
Theoretically the default appearance of the spinner on these machines was supposed to be a white third, sprayed moderately tightly but not using masking so there is no hard edge. The third was supposed to include the root of one propeller blade, but sometimes did not.

However a review of hundreds of images of in-service K-4s in which the spinner is visible revealed that about 40% of aircraft had a white third. Approximately 50% had a white spiral, and the rest either had a monochrome spinner or in rare cases a third AND a spiral. Further variety is visible when considering the colour of the spinner itself. Some are clearly black, some appear to be RLM 70.

The spiral was supposed to be painted in a standardised fashion but there are examples that are painted "in reverse" and there is at least one picture where the spiral is outlined in black on an RLM 70 spinner.

C2 Bf 109K-4 "USAAF", (ex-II./JG 52), May-June 1945.

Canopy and windscreen framing was almost certainly RLM 66.



Pages 38, 39 and 40 detail three optional schemes to paint and decal your model.

C1 is shown in the photograph below left, with the upper surface camouflage as depicted in the profiles, pre-capture. The undersurface would have been RLM 76 in one or more forms possibly with unpainted sections.

C2 is the same machine after capture and obliteration of Luftwaffe markings and likely an undersurface repaint in an unknown pale colour.

Page 40 shows a bonus scheme for which we supply the yellow 5 needed to complete it in colours very similar to C1, but without the yellow nose band and rudder.

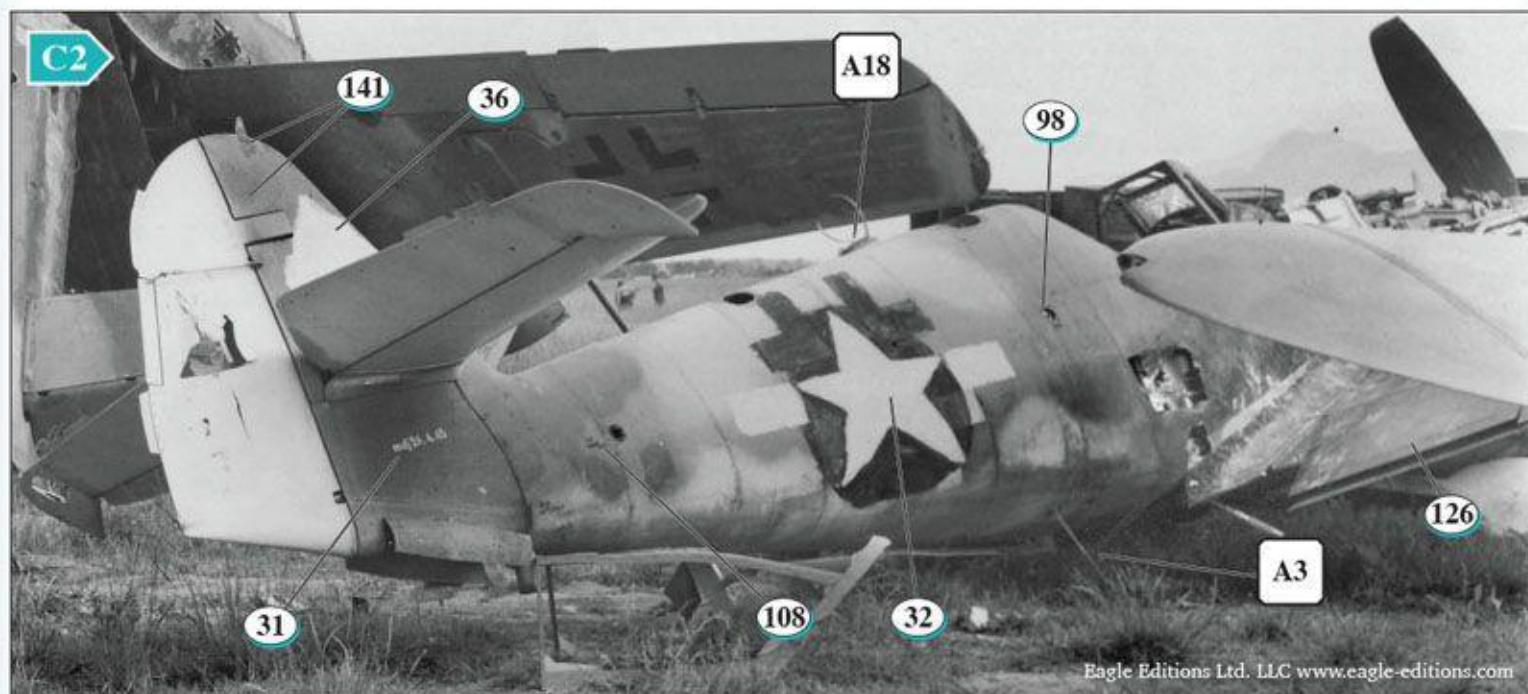
C1

Eagle Editions Ltd. LLC www.eagle-editions.com



An American soldier poses with this unidentified late production Bf 109K-4 from II./JG 52 at Salzburg-Maxglan airfield shortly after capture. Note the II./JG 52 unit markings of a yellow rudder and band around the nose, open tailwheel doors, and the low fuselage demarcation line indicative of late production aircraft in the 334### and 335### serial number ranges. Other photos of this airframe indicate that the spinner was possibly all RLM 70. This aircraft was later repainted in USAAF markings **C2**.

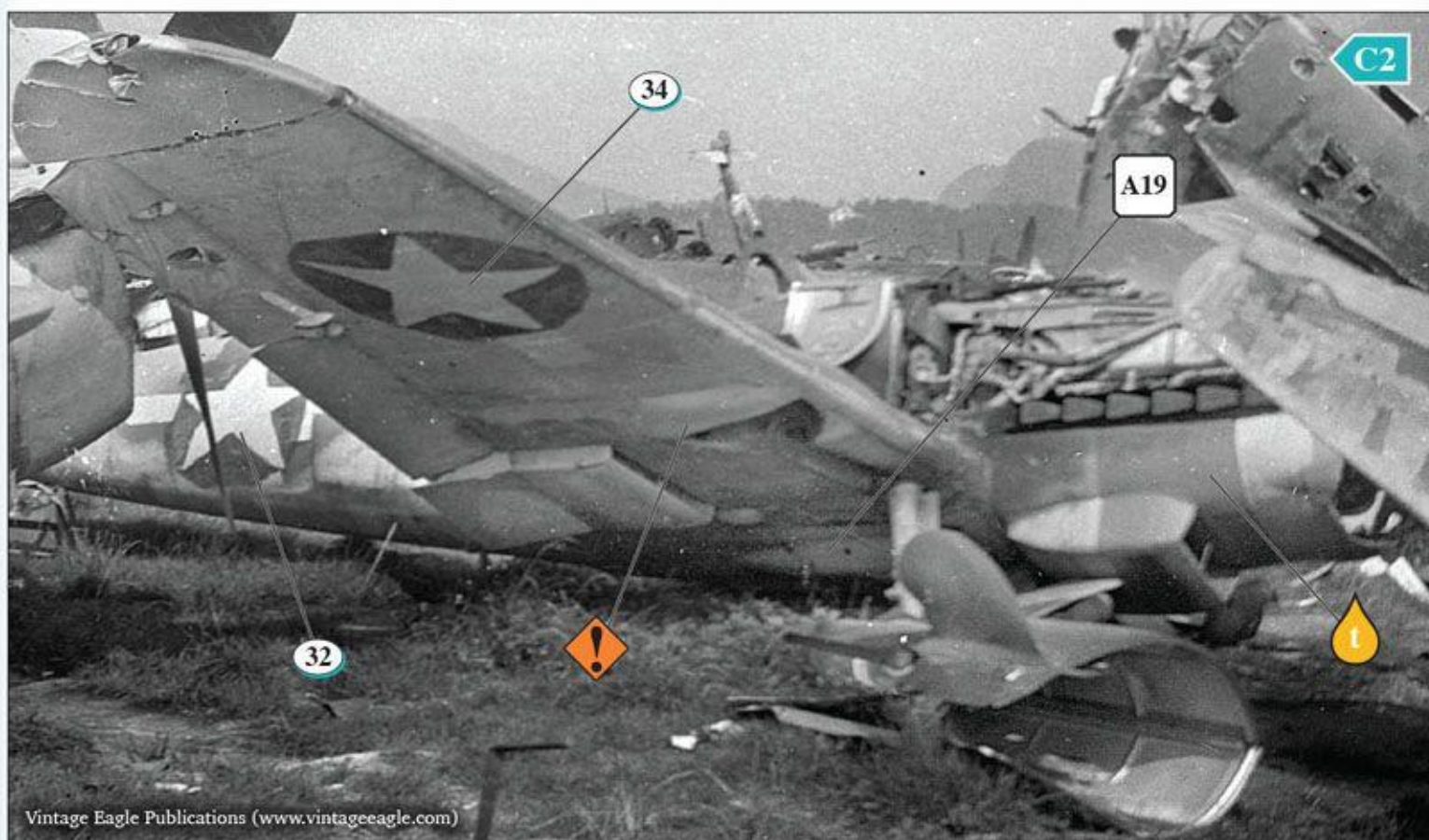
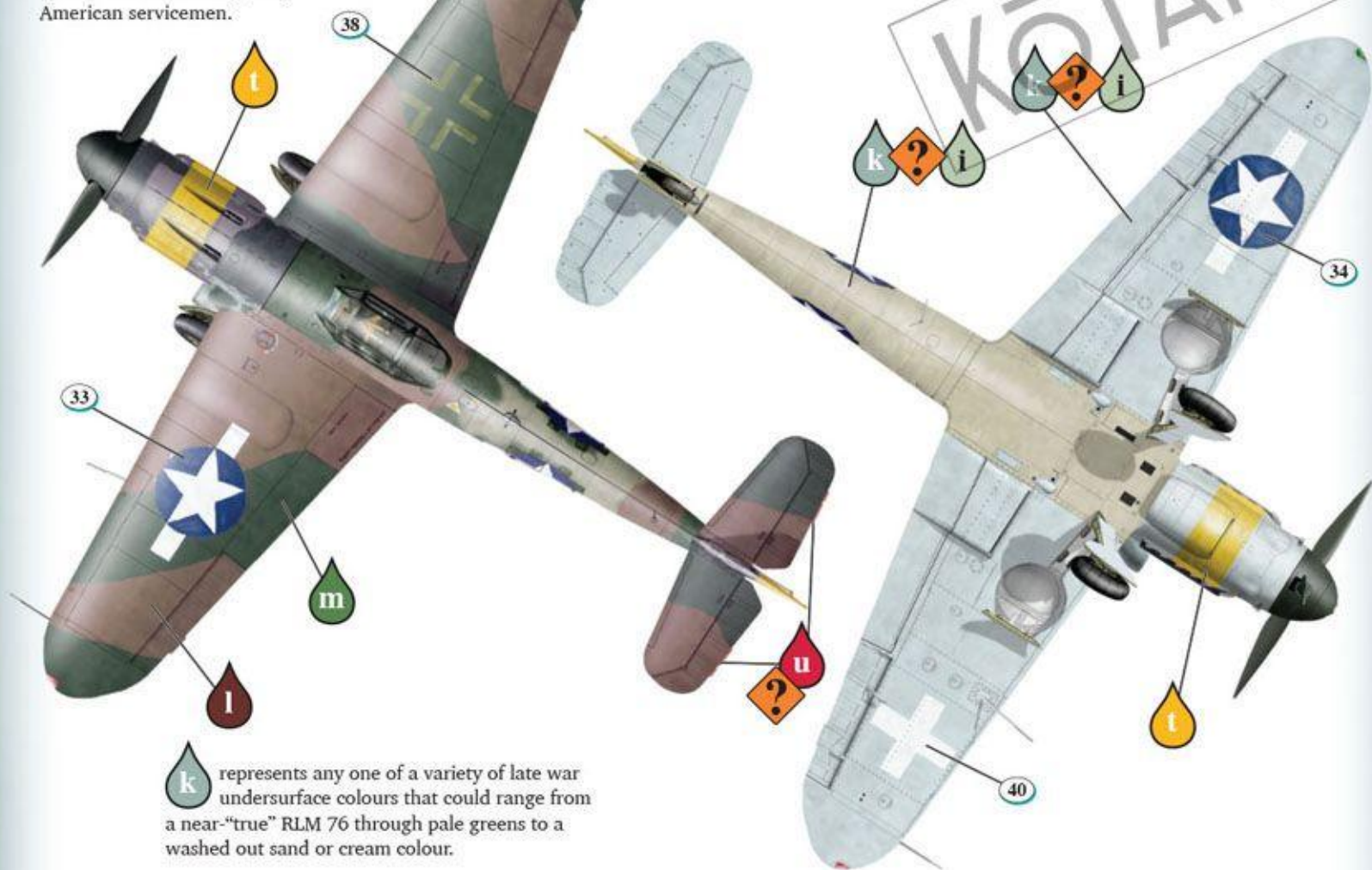
C2



Eagle Editions Ltd. LLC www.eagle-editions.com

Bf 109K-4 **C1** was subsequently repainted in USAAF markings and is seen here much later amongst other ex-Luftwaffe wreckage at Salzburg-Maxglan. This aircraft would have been completed early in 1945 in "standard factory" camouflage but had substantial additional (repair?) work performed on it by Flugwerke u. Metallbau that was completed on 24 April 1945, as evidenced by decal (31) which has resulted in a non-standard finish, particularly obvious around the rear of the fuselage. Despite being repainted in USAAF markings it is unconfirmed if it was flown this way. The rudder appears to retain its JG 52 yellow finish although it might have been overpainted with white in the same way as the swastikas. Interestingly, the orientation of the crudely painted USAAF cockade marking does not follow that of the overpainted Balkenkreuz. Note the angle of the FuG 25a IFF aerial (A3).

The upper wing colours are even more speculative than most colour callouts on K-4 profiles, because there is no way to know whether the colours were changed by American servicemen.

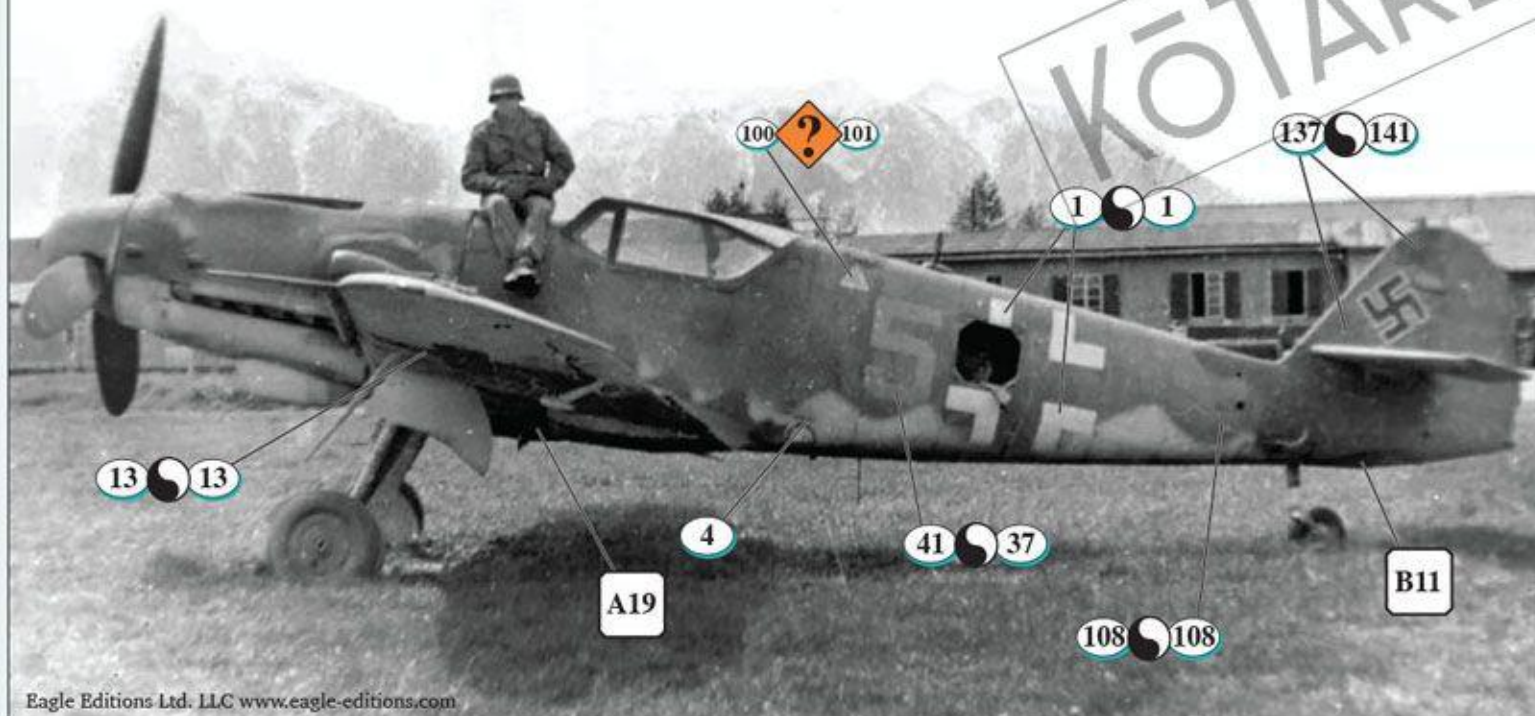


Vintage Eagle Publications (www.vintageeagle.com)

Another view of **C2** showing the USAAF cockades, yellow band marking on the Fo987 oil cooler fairing and pale (RLM 02?) undercarriage leg. The undersides of the wings appear to have been repainted with a very pale colour which has probably covered the wavy pattern which very likely featured along the leading edge. Note the closed outer undercarriage door and ETC 503 carrier **A19** for the R3 300 litre auxiliary fuel tank.

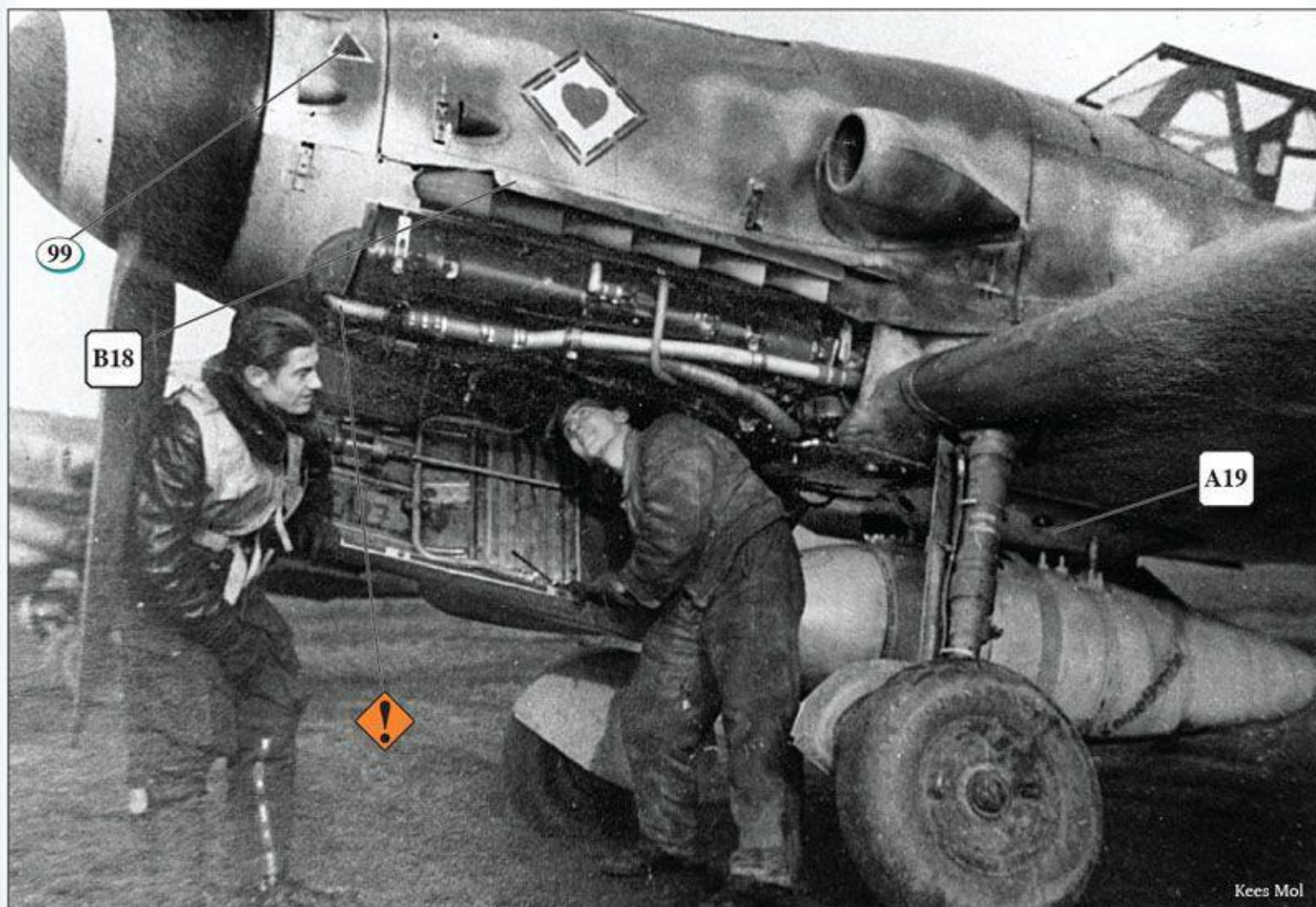
BONUS

Bf 109K-4 "Yellow 5", III./JG 52, May 1945.



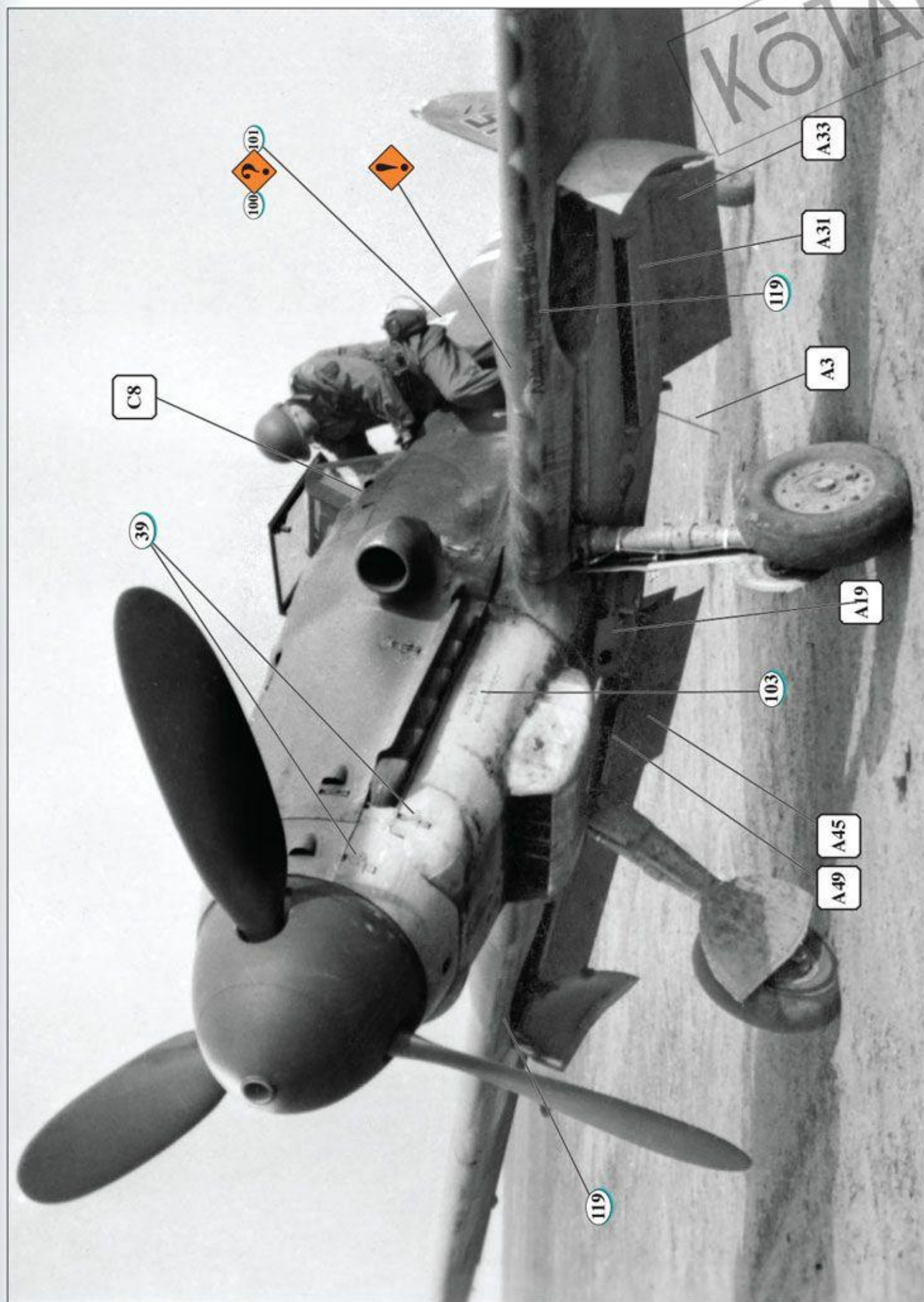
Eagle Editions Ltd. LLC www.eagle-editions.com

Late production Bf 109K-4 "Yellow 5" was also found at Salzburg-Maxglan alongside [C1](#) and may have also had additional work performed on it by Flugwerke u. Metallbau. Although superficially similar to [C1](#), the "Yellow 5" fuselage marking, lack of a yellow band around the nose, and the fixed shut tailwheel doors pretty much preclude it from being the same aircraft. The rudder appears to be a solid (unconfirmed) camouflage colour but is almost certainly not yellow as seen on [C1](#). Note the closed tail wheel doors, likely wired shut due to erratic function. [B11](#)



Kees Mol

Early production Bf 109K-4 330197 from 12./JG 77. Note the oil tank filler stencil [99](#), downward facing exhaust shield, and the generally poor fitting cowlings. Also note the pipe protruding below the camshaft cover which necessitated the clearance bulges under the front of the Fo987 oil cooler fairing, the 300 litre auxiliary fuel tank and ETC 503 carrier [A19](#), and the large 660 x 190mm tyres. Bf 109K-4 330197 "Blue 13" was damaged in action on 23 December 1944 while being flown by Karl Reinberg.



This Bf 109K-4 being inspected by an American GI at Gardelegen is believed to be very late production 335148 photographed in April 1945. Note the dropped flaps of the ALF907C radiators, the R3 ETC 503 carrier [A19] for the 300 litre auxiliary fuel tank [A21]+[A22]. The bulged fairings on the wings for the enlarged 660 x 190mm tyres appear to be set up for the R6 BSK 16 camera option in the port wing, but the cover remains in place. Also note the various aircraft stencil markings, pale (RLM 76?) oil cooler fairing [E4], and outer undercarriage doors. The engine cowling appears to be finished in 2 unconfirmed colours with a band of the darker colour around its rear. The typical wavy camouflage on the leading edge of the wings seems to have uncommonly extended high enough to be seen from above the aircraft.



US Signal Corps

This Bf 109K-4 appears to have suffered a belly landing before being fitted with a replacement wheel (most likely taken from an earlier production Me 109G-6) before being loaded on to this railway wagon, possibly to be sent away for salvage. The two-colour engine cowling appears to be finished similarly to 335148 as seen on page 41.



Kees Mol

Early production Bf 109K-4 330204 "White 1" from 9./JG 77 is seen here at Neuruppin in November 1944. As seen on almost all early production aircraft, the outer undercarriage doors are not installed due to them constantly failing. Note the high fuselage camouflage demarcation line, MG 131 muzzle [A6], ETC 503 auxiliary fuel tank carrier [A19], FuG 16 ZY Morane aerial [A20], and aileron mass balance [A16]. Also note the heavily weighted tyres, R6 BSK 16 camera port with cover installed, and how the tyre size stencil [119] is positioned further outboard than usual as well as being centered on the leading edge of the wing. Bf 109K-4 330204, now renumbered "White 13" was destroyed in a crash landing on 1 January 1945 while being flown by Herbert Abendroth.



Early production Me 109K-4 from Stab. III./JG 27 is tentatively identified as 330255 and is seen here after capture at Wunstorf. Note the noticeably thicker white areas of the fuselage Balkenkreuz ① as found (almost uniquely) on the Bf 109K-4. Also note the high camouflage demarcation line characteristic of aircraft in the 330### serial number range, which necessitated the centres of the fuselage Balkenkreuz being filled in with the darker camouflage colour to increase their visibility against the pale fuselage sides. Also note the green band around the rear of the fuselage as worn by JG 27 aircraft at the end of the war and the spiral painted around the spinner. If you are one of those modellers that believes that some undercarriage legs were painted red to indicate the need for 96 octane C3 fuel, then this photograph will validate your conviction. If you are not then you will consider that the leg was painted one of a number of possible dark shades of paint because it looks too dark to be RLM 02 or aluminium. Although not visible in this photo, the fin was a rare type featuring an all-black swastika that appears to have been used on a small number of aircraft from around this serial number. (Lindsay Richards, standing, via Malcolm Laird)

Kotare team

Product Design & Decal Art – Radu Brinzan

Born in Romania, Radu developed a fascination with Messerschmitt aircraft in the late-eighties after reading an article about the Bf 109 of the Romanian Air Force. This initial spark ignited a lifelong study of the subject. Over the past two decades, his keen interest in the technical intricacies of the Bf 109 has led to his involvement in numerous projects. He has contributed his expertise as a writer, translator, researcher, adviser, and designer for a variety of products, including scale model kits, detail sets, photo-etched parts, and decals across all major scales. Radu currently resides in Ireland with his wife, Elaine.

Additional product design by Darren Mildenhall.

Additional decal art by Malcolm Laird.

Profile Art – Ronny Bar

A former rock musician, Ronny Bar has had a lifelong interest in aircraft since growing up near the El Palomar Air Force Base in Buenos Aires. He started drawing and building models of aircraft soon after a flight in a T-34 Mentor trainer at the age of 10, Spitfires and Messerschmitt first... Camels and Fokkers later. After retiring from the R'n'R scene he returned to his early interest of aviation artwork. Visit Ronny's Facebook page at <https://www.facebook.com/pages/RONNY-BAR-Aircraft-Profiles/166538664131>.

Box Art – Darryl Legg

Darryl was born in Cape Town, South Africa in 1975 and his interest in aircraft and passion for art inspired him from an early age. He has been a full-time professional artist since he was 20 years old and is considered to be one of the world's finest aviation artists. He currently lives in the Karoo town of Middelburg. Find out more about Darryl's work at www.aviationartsa.com

Proprietor & K32009 Product Manager – Mark Robson

Mark is a practising veterinary specialist in the field of small animal internal medicine and has had a lifelong interest in scale modelling and aviation since his dad bought him his first Airfix kit when he was just 5 years old. Mark is excited to share his love of models with modellers through Kotare and hopes that they will get as much enjoyment out of these models as he does. Mark is a committed dad to two grown children and loves beaches, craft beer and music.

Additional product management by Richard Alexander.

References

Messerschmitt factory engineering drawings – Workschrift 2109 K-4, Bf 109 K-4 Flugzeug-Handbuch, November 1944 – Ersatzteil-Liste Me 109 K, Messerschmitt A.G. Augsburg, Juli 1944 – Messerschmitt Bf 109K, T Poruba & A Janda, Japo, 1997 – Messerschmitt Bf 109K camouflage & marking, Tomas Poruba & Kees Mol, Japo, 2000 – Bf 109G/K vol.II, Krzysztof Janowicz, Kagero, 2005 – Messerschmitt Bf 109 F, G, & K Series, An Illustrated Study, Jochen Prien & Peter Rodeike, Schiffer – Messerschmitt Bf 109 F-K, Development Testing Production, Willy Radinger & Wolfgang Otto, Schiffer, 1999 – Bf 109 K, Thomas H. Hitchcock, Monogram Close Up 16, 1979 – Australian War Memorial Museum – www.arsenal45-shop.de – The Messerschmitt Bf 109, A Comprehensive Guide for the Modeller Part 2, Lynn Ritger, SAM Publications 2007 – Messerschmitt Bf 109 Recognition Manual, Marco Fernández-Sommerau, Classic Publications 2004 – German Aircraft Landing Gear, Günther Sengfelder, Schiffer, 1993 – Luftwaffe Camouflage and Markings, KA Merrick with Jürgen Kiroff, Classic Publications 2004 – German Aircraft Cockpits 1911-1970, Peter W Cohausz, Schiffer 2003 – German Aircraft Interiors 1935-1945 Vol 1, KA Merrick, Monogram Aviation Publications 1996 – The Wild Winds, Paul Sortehaug, Otago University 1998 – JG 26 Top Guns of the Luftwaffe, Donald L Caldwell, Orion Books 1991.

Kurfürst?? Despite a reasonable amount of investigation we can find no evidence that in wartime Germany the Bf 109K was ever referred to as the "Kurfürst", at any level of the military from the RLM to operational personnel. This term (which was a political/religious rank last used in the 19th century) is perhaps an unlikely nickname for a warplane. If you have evidence to change this conclusion, please contact us at help@kotare-models.com or via our Facebook page and we will gladly adjust these instructions in future editions.

Thank you for your support.



K32009	Messerschmitt BF 109K-4	Qty
00K32009A	A parts	1
00K32009B	B parts	1
00K32009C	C parts	1
00K32009D	D parts	1
00K32009E	E parts	1
10K32009.1	Instructions	1
20K32009	Decals	1

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