



**The Bf 110 served throughout the war as fighter, attacker or night fighter. Although not so maneuverable as single engine fighters, it was capable multirole aircraft.**

It was in 1934 when the RLM (Reichsluftfahrtministerium; Reich Ministry of Aviation) issued a request for a new twin engine heavy fighter capable to successfully dogfight single engine fighters. Apart of the long range and high speed the heavy armament was also to be an advantage of the new aircraft. Hermann Göring, the Luftwaffe commander, was the "heavy weight" behind the concept and strong proponent of the new Kampfzerstörer.

The RLM requested a twin-engine, three-seat aircraft of all-metal design with internal bomb bay. Three manufacturers responded with their design: Focke-Wulf, Henschel and BFW (Bayerische Flugzeugwerke). The latter, which was to become Messerschmitt, defeated its opponents and was given funds to build three prototypes. Messerschmitt decided to omit the internal bomb bay in change for even more firepower than requested and this proved to be wise decision, as the ministry changed its mind (partly under pressure from Ernst Udet) about the internal bomb load. Now, with the focus on the attack capabilities, the sleek design of Bf 110 was superior in speed and range to its opponents, the Fw 57 and Henschel Hs 124.

#### From A to G

On May 12, 1936, Rudolf Opitz, the BFW company test pilot, flew the Bf 110 at Augsburg for the first time. It was powered by the two DB 600A engines. Although the Bf 110 was not as maneuverable as desired, it was faster than Bf 109B-1 single seat fighter. Thanks to it the order for four pre-production Bf 110A-0 units was placed with first of them delivered in January 1937 and after comparison with competitors it was ordered for serial production.

Due to the troubles with the DB 600 engine supplies, the Jumo 210B units had to be installed into early Bf 110s, leaving them underpowered with top speed just 268 mph (431 km/h). More to it, the armament was limited to four MG 17 7.92 mm machine guns in the nose. The more powerful Jumo 210G developing 515 kW (44 kW more to 210B unit) was used for the Bf 110B with three versions. The B-1 was first to finally get two 20 mm MG FF cannons, while B-2 was reconnaissance version fitted with camera and the B-3 was used as a trainer.

Just 45 of all Bf 110Bs were manufactured. The design team reworked the engine nacelles to adapt DB 601B-1 engines, when they became available in late 1938. The top speed improved to 336 mph (541 km/h) with the resulting Bf 110C version.

With the Bf 110D the designers concentrated on range increase. The D-1 thus got the 277 gal (1,050 l) conformal tank under the belly of the fuselage with large cover. Also, two 238 gal (900 l) external drop underwing tanks were adopted, increasing the total fuel capacity to 1,088 gal (4,120 l). But the added drag of the early "dachshunds" belly was too high to allow serial production. The big tank was only used after the improvement of the shape as Bf 110D-1/R1 whereas the D-1/R2 was equipped with two drop tanks. Later D-2 and D-3 versions retained the twin underwing 900 l drop tank capability, using multipurpose ordnance racks capable of holding either drop

tanks or bombs. The development then proceeded with the fighter-bomber E version and Bf 110F, which featured new DB 601F engines capable to deliver 1,350 PS (993 kW). More power allowed armor upgrade and strengthening the airframe without performance loss. The E version was considered best among all the Bf 110s. It was fully aerobatic and responsive, although not as fast as the Bf 109. Eventually 512 Bf 110F models were completed between December 1941 and December 1942 including the night fighter Bf 110F-4.

The F version might well be the last of 110s, but in the wake of the failure of the Me 210, the Bf 110G was designed. It was fitted with DB 605B engines, developing up to 1,475 PS (1,085 kW). It had also upgraded nose armament and underwent some aerodynamical changes. There were many field conversion packs (Rüstsätze) developed, making the G version the most versatile of all Bf 110s.

#### In combat

The Bf 110 served with considerable success in early campaigns of WWII until the Battle of Britain, where all its shortcomings became even more apparent when facing Hurricanes and Spitfires. The main weakness of the Bf 110 was its worse maneuverability, which was fully exploited by the RAF fighters. High losses of the Bf 110s during their day escort sorties forced Luftwaffe to change the tactics and scenarios when using this aircraft. Apart of this setback, there were still tasks in which the Bf 110 would serve well when deployed properly. It was used as an air superiority fighter and fighter-bomber in Africa, Balkan, Mediterranean and also on Eastern Front. It also developed into formidable night fighter with the airborne radar for searching the enemy bombers.

Early variants of Bf 110 were armed with two MG FF 20 mm cannons and four 7.92 mm (.312 in) MG 17 machine guns in the nose, while single 7.92 mm (.312 in) MG 15 machine gun was rearward firing self-defense weapon operated by gunner.

Later variants would replace the MG FFs with 15 mm MG 15s and the rear gunner's station would be armed with the twin-barreled MG 81Z (7,92 mm). Some Bf 110Gs got the 30 mm Mk 108 cannons instead of MG 17s. Many Bf 110G night fighters were retrofitted or factory-fitted with the Schräge Musik, the guns firing upwards at angle for shooting down bombers while passing underneath.

#### This kit: Bf 110E

In mid-1940 the Bf 110E fighter bomber (Zerstörer Jabo) was developed. It was capable to carry four 110 lb (50 kg) ETC 50 racks under the wing along with the centerline ETC 500 rack. Initially, the Bf 110 E-1 was powered by the DB 601B engine, but the production switched to the DB 601P when they became available. The E version had upgraded armor and reinforced fuselage in order to counter the added weight. And it was the added weight what proved troublesome. Pilots considered this version too slow with unresponsive controls. A total of 856 Bf 110E were built between August 1940 and January 1942.

ATTENTION



UPOZORNĚNÍ



ACHTUNG



ATTENTION



注意



Carefully read instruction sheet before assembling. When you use glue or paint, do not use near open flame and use in well ventilated room. Keep out of reach of small children. Children must not be allowed to suck any part, or pull vinyl bag over the head.



Před započítím stavby si pečlivě prostudujte stavební návod. Při používání barev a lepidel pracujte v dobře větrané místnosti. Lepidla ani barvy nepoužívejte v blízkosti otevřeného ohně. Model není určen malým dětem, mohlo by dojít k požití drobných dílů.

INSTRUCTION SIGNS

\* INSTR. SYMBOLY

\* INSTRUKTION SINNBILDEN

\* SYMBOLES

\* 記号の説明

OPTIONAL  
VOLBABEND  
OHNOUTOPEN HOLE  
VYVRTAT OTVORSYMETRICAL ASSEMBLY  
SYMETRICKÁ MONTÁŽNOTCH  
ZÁREZREMOVE  
ODŘÍZNOUTAPPLY EDUARD MASK  
AND PAINT  
POUŽIT EDUARDS MASK  
NABARVIT

PARTS



DÍLY



TEILE

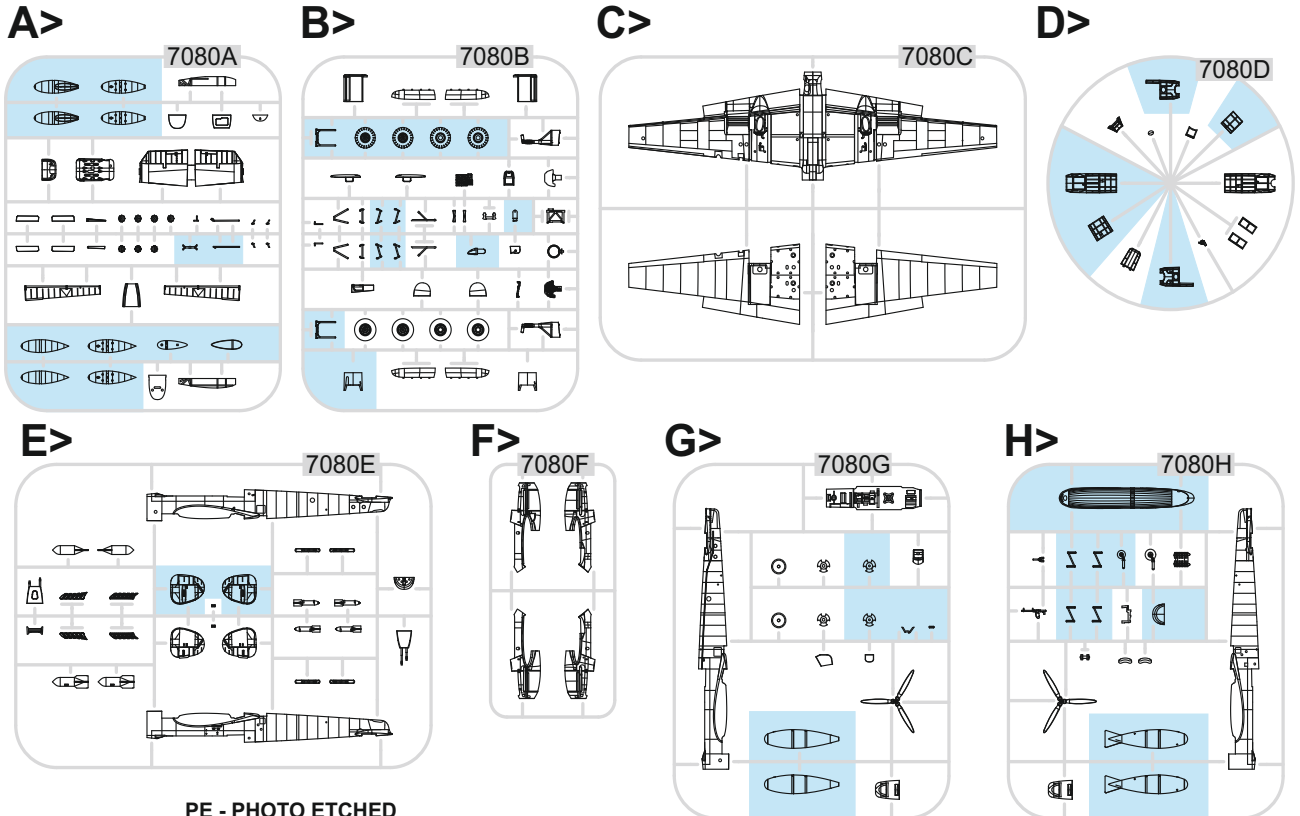
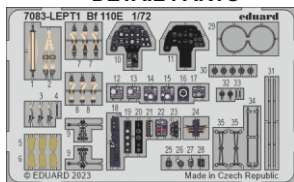
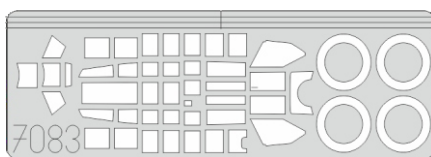


PIÈCES



部品

## PLASTIC PARTS

PE - PHOTO ETCHED  
DETAIL PARTSeduard  
MASK

-Parts not for use. -Teile werden nicht verwendet. -Pièces a ne pas'utiliser. -Tyto díly nepoužívejte při stavbě. -

使用しない部品

COLOURS



BARVY



FARBEN



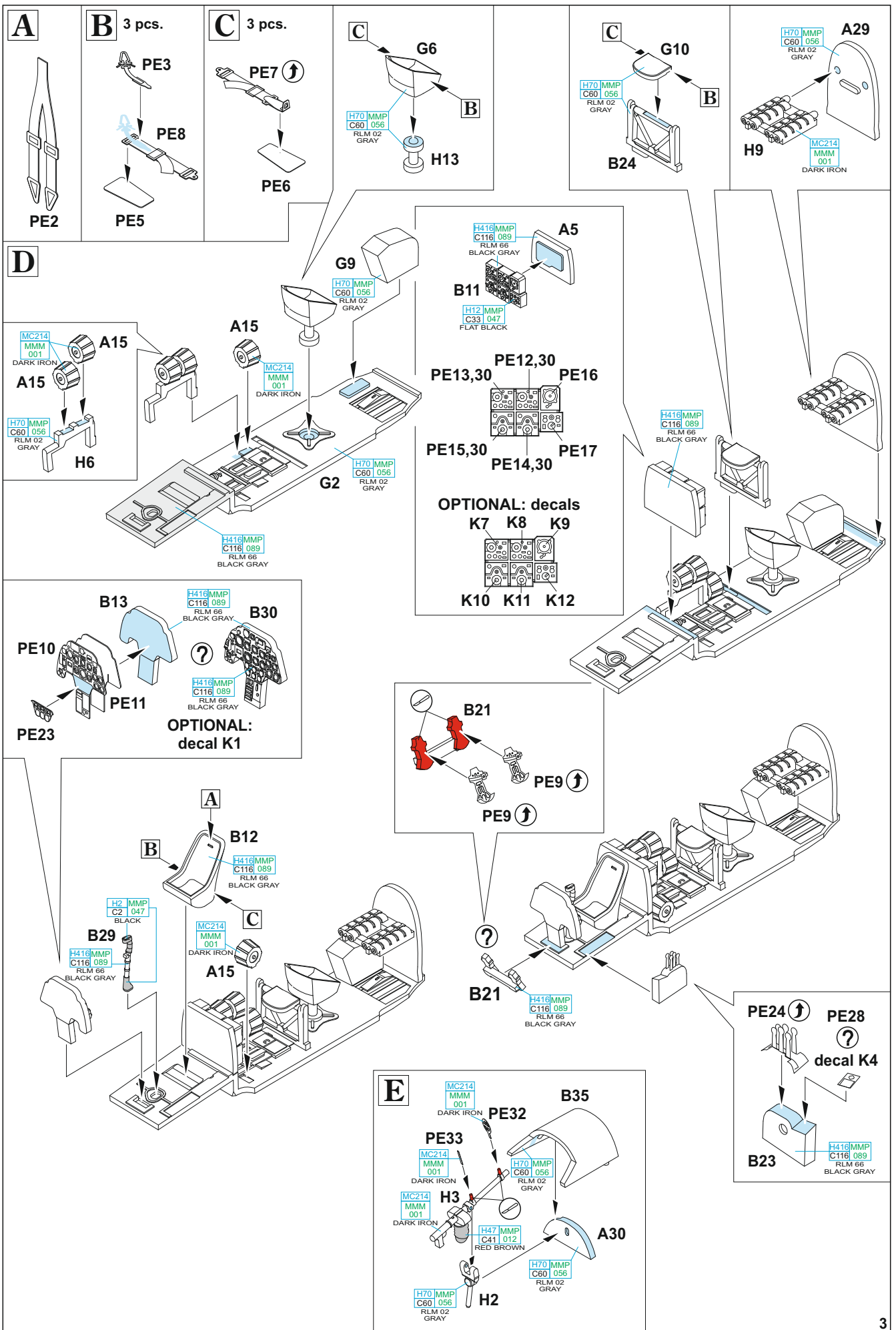
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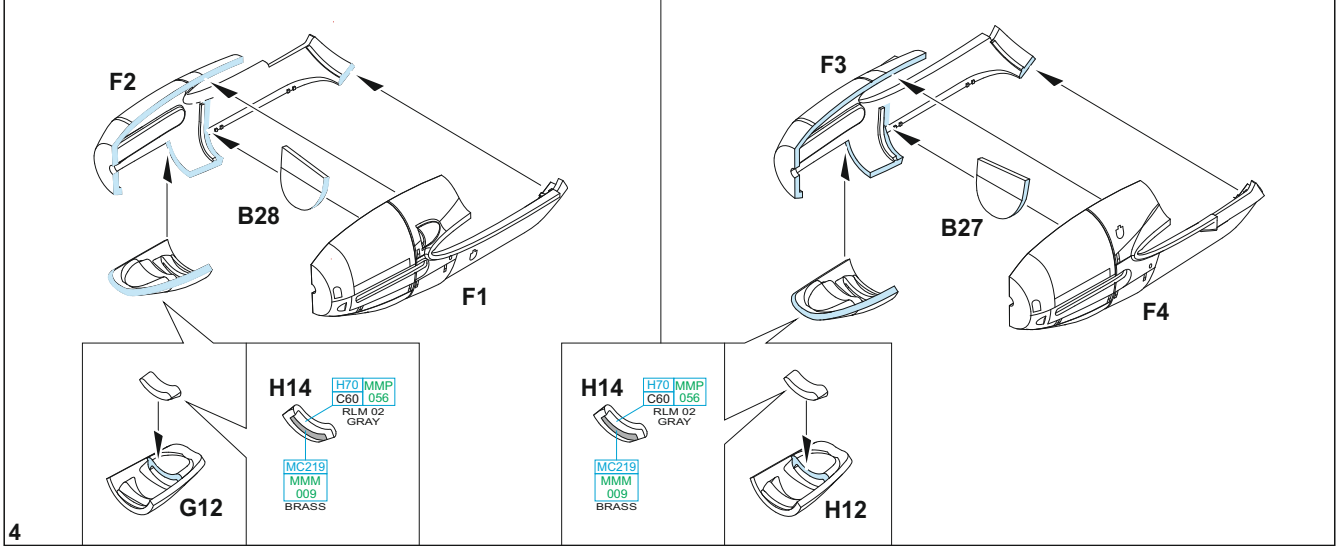
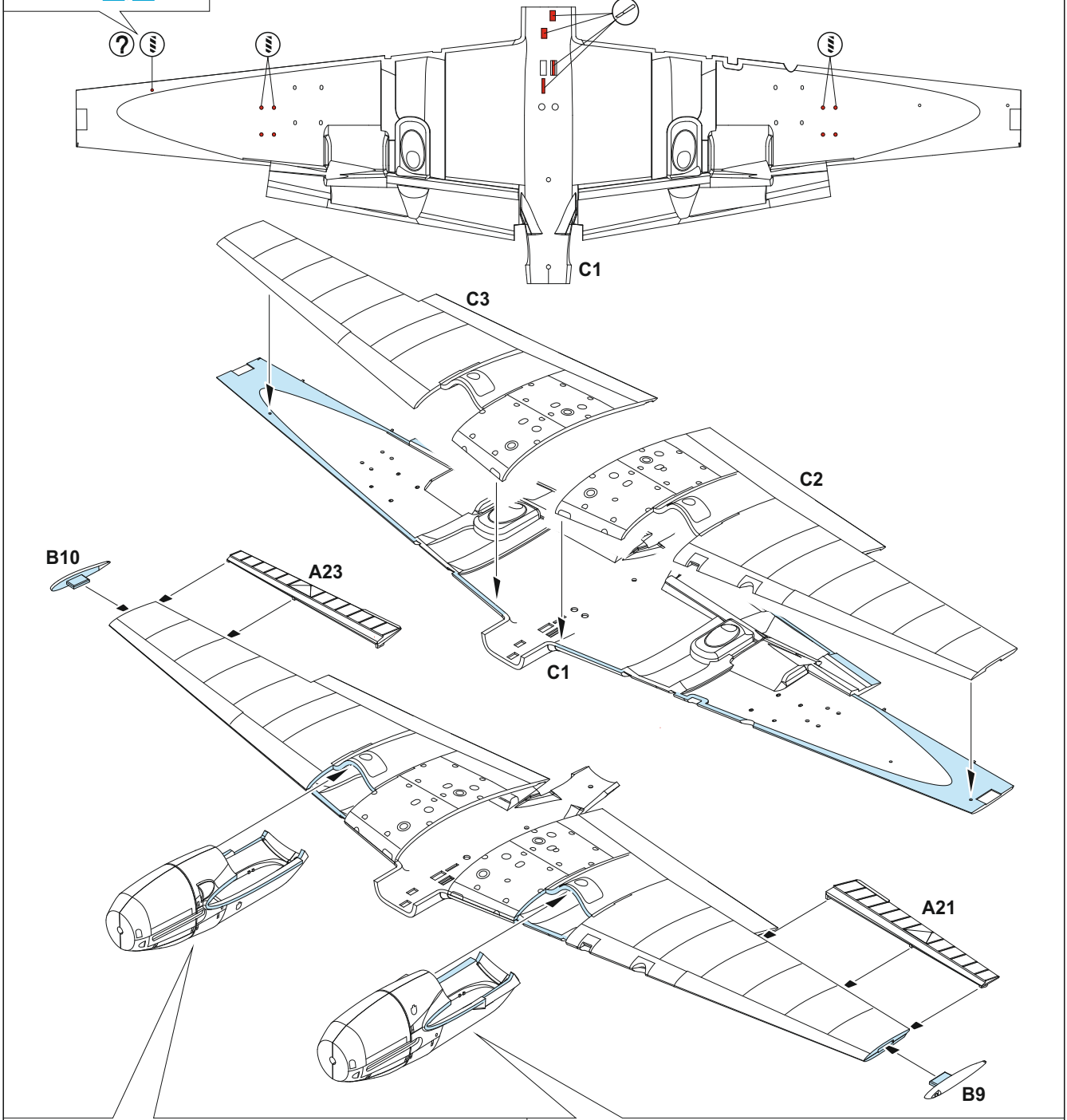
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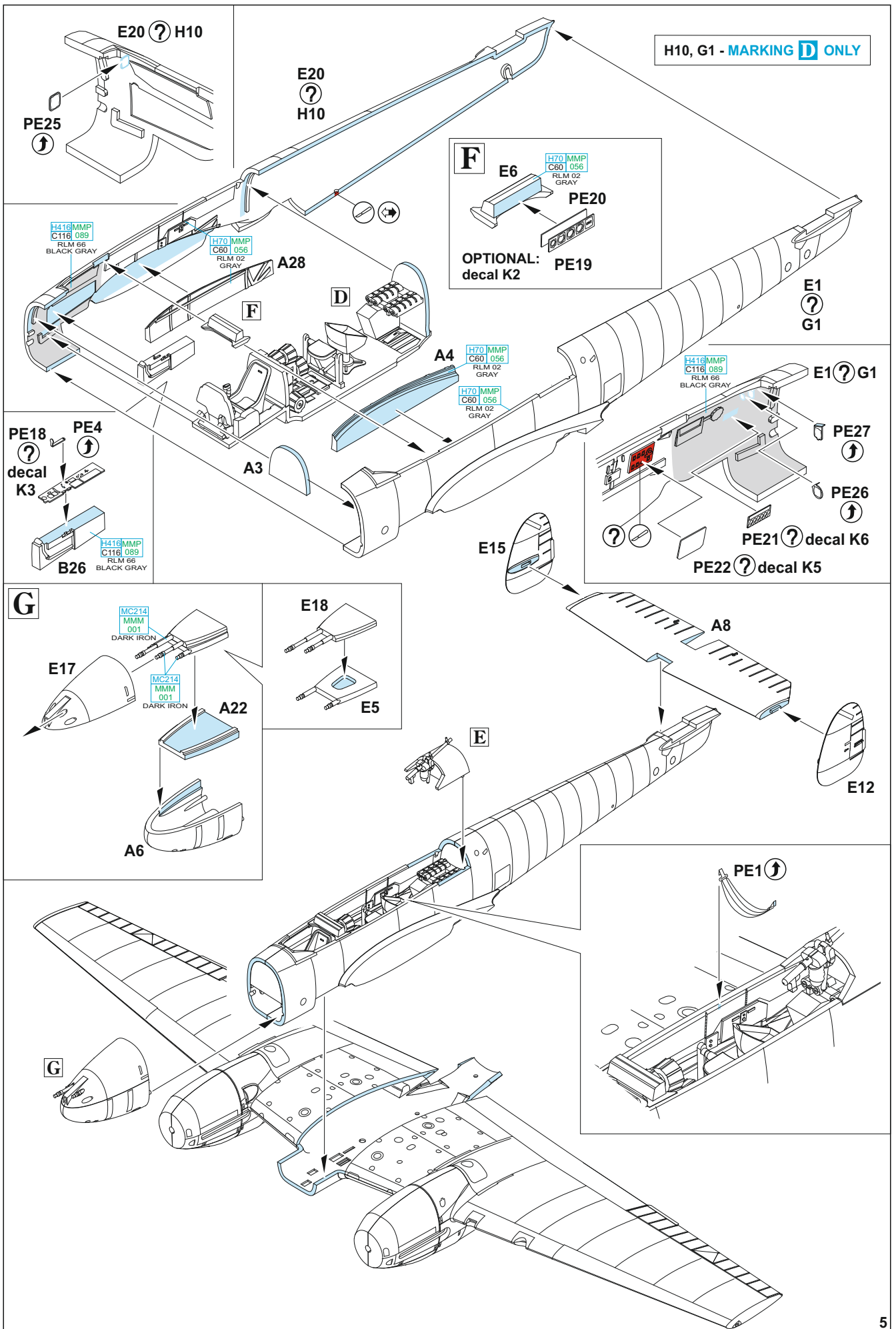
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AQUEOUS	Mr.COLOR	PAINTS	
H2	C2	MMP-047	BLACK
H11	C62	MMP-001	FLAT WHITE
H12	C33	MMP-047	FLAT BLACK
H37	C43		WOOD BROWN
H47	C41	MMP-012	RED BROWN
H64	C17	MMP-087	RLM71 DARK GREEN
H65	C18	MMP-088	RLM70 BLACK GREEN
H67	C115	MMP-057	RLM65 LIGHT BLUE
H68	C36	MMP-049	RLM74 DARK GRAY
H69	C37	MMP-050	RLM75 GRAY
H70	C60	MMP-056	RLM02 GRAY
H77	C137	MMP-040	TIRE BLACK
H80	C54		KHAKI GREEN

GSI Creos (GUNZE)		MISSION MODELS	
AQUEOUS	Mr.COLOR	PAINTS	
H90	C47		CLEAR RED
H94	C138		CLEAR GREEN
H320	C320	MMP-112	DARK GREEN
H413	C113	MMP-090	RLM04 YELLOW
H414	C114		RLM23 RED
H416	C116	MMP-089	RLM66 BLACK GRAY
H417	C117	MMP-051	RLM76 LIGHT BLUE
Mr.METAL COLOR		METALLICS	
MC214		MMM-001	DARK IRON
MC219		MMM-009	BRASS
Mr.COLOR SUPER METALLIC		METALLICS	
SM201		MMC-001	SUPER FINE SILVER 2



MARKINGS **B, C** ONLY





H10, G1 - MARKING **D** ONLY

**F**

E6

H70 MMP C60 056 RLM 02 GRAY

PE20

OPTIONAL: decal K2

PE19

PE18 ?

PE4

decal K3

B26

H418 MMP C116 089 RLM 66 BLACK GRAY

**G**

E17

A22

A6

MC214 MMM 001 DARK IRON

E18

E5

E1 ? G1

PE27

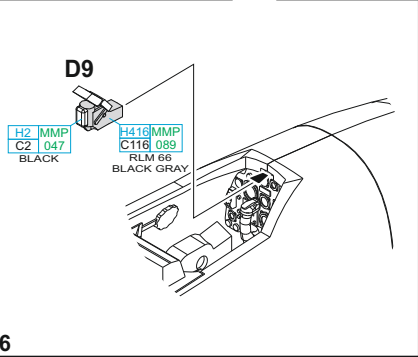
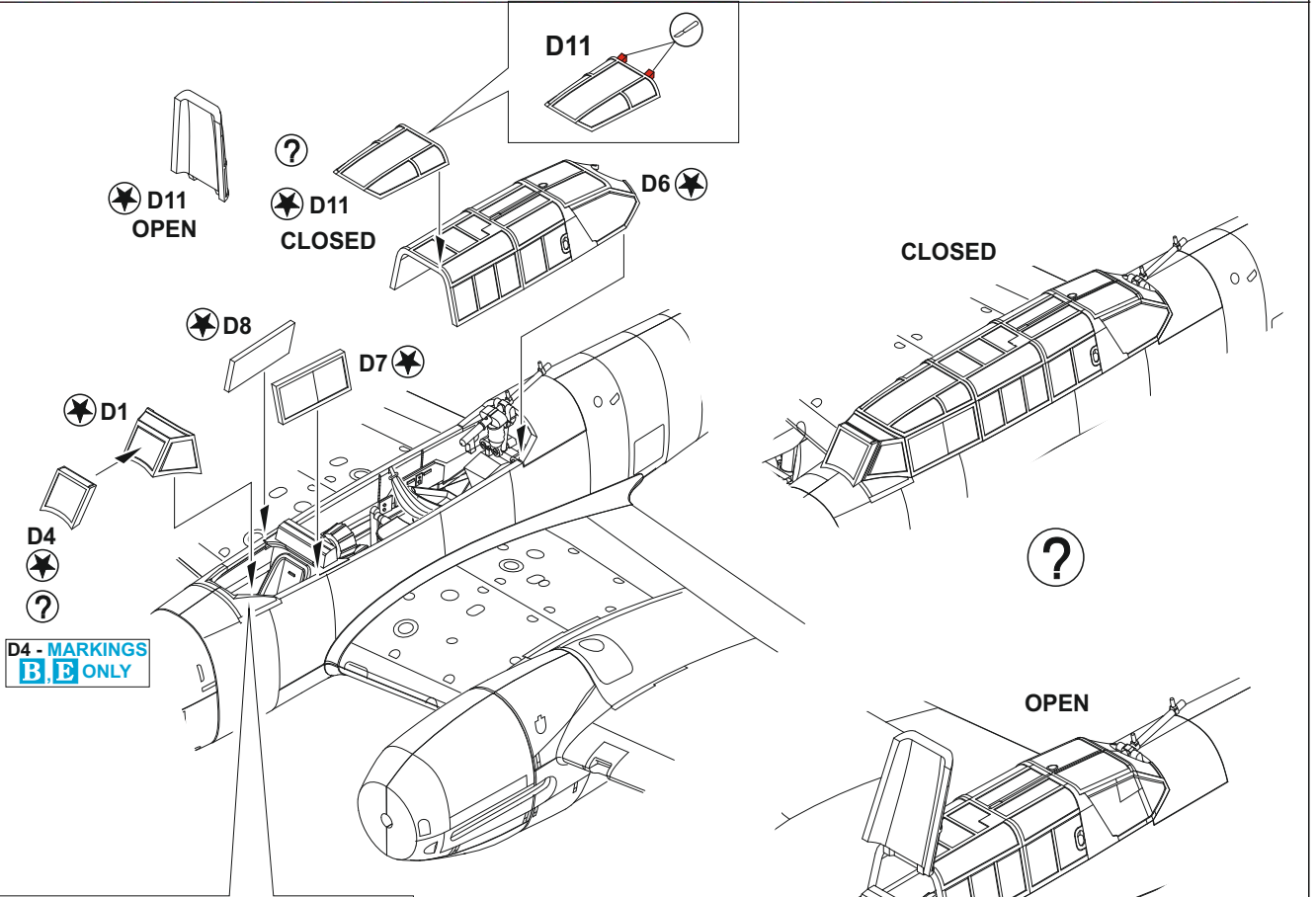
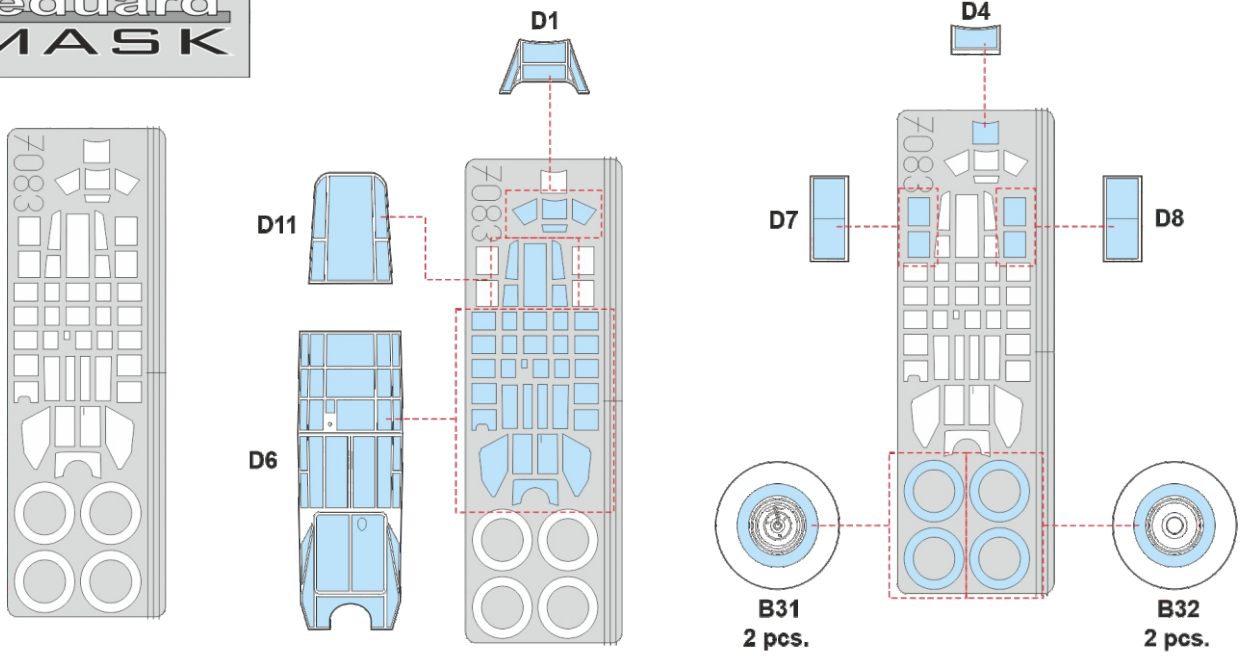
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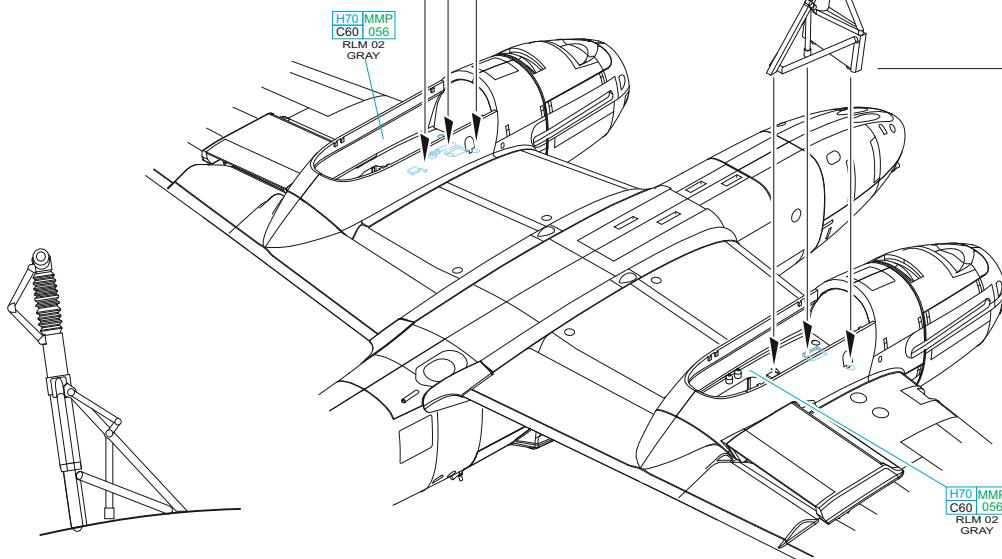
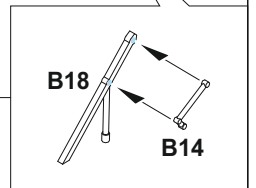
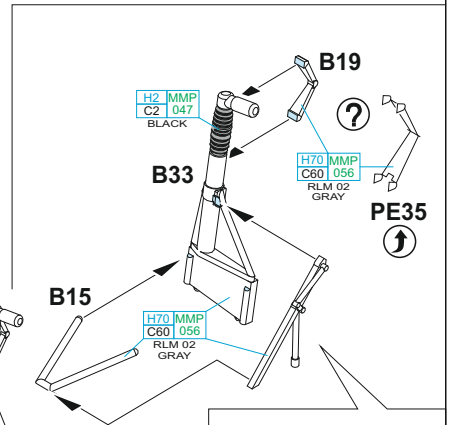
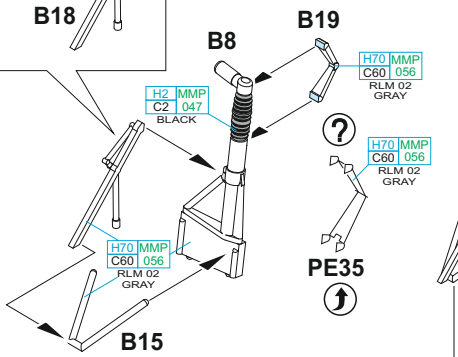
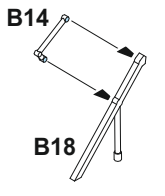
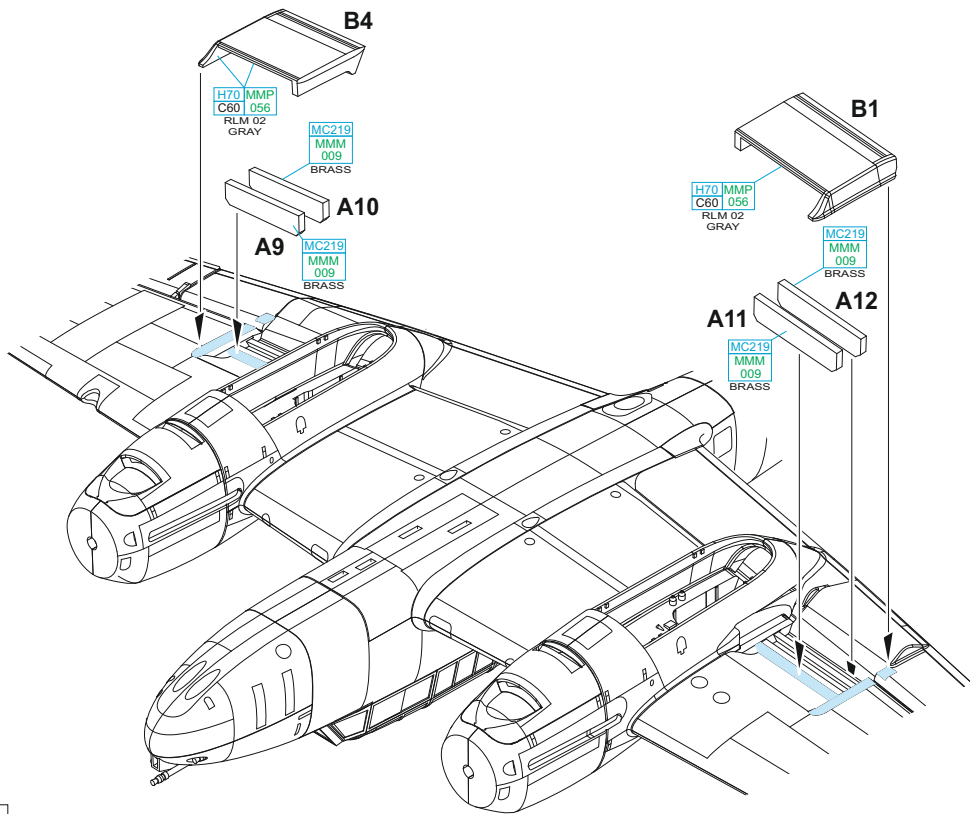
PE21 ? decal K6

PE22 ? decal K5

H418 MMP C116 089 RLM 66 BLACK GRAY

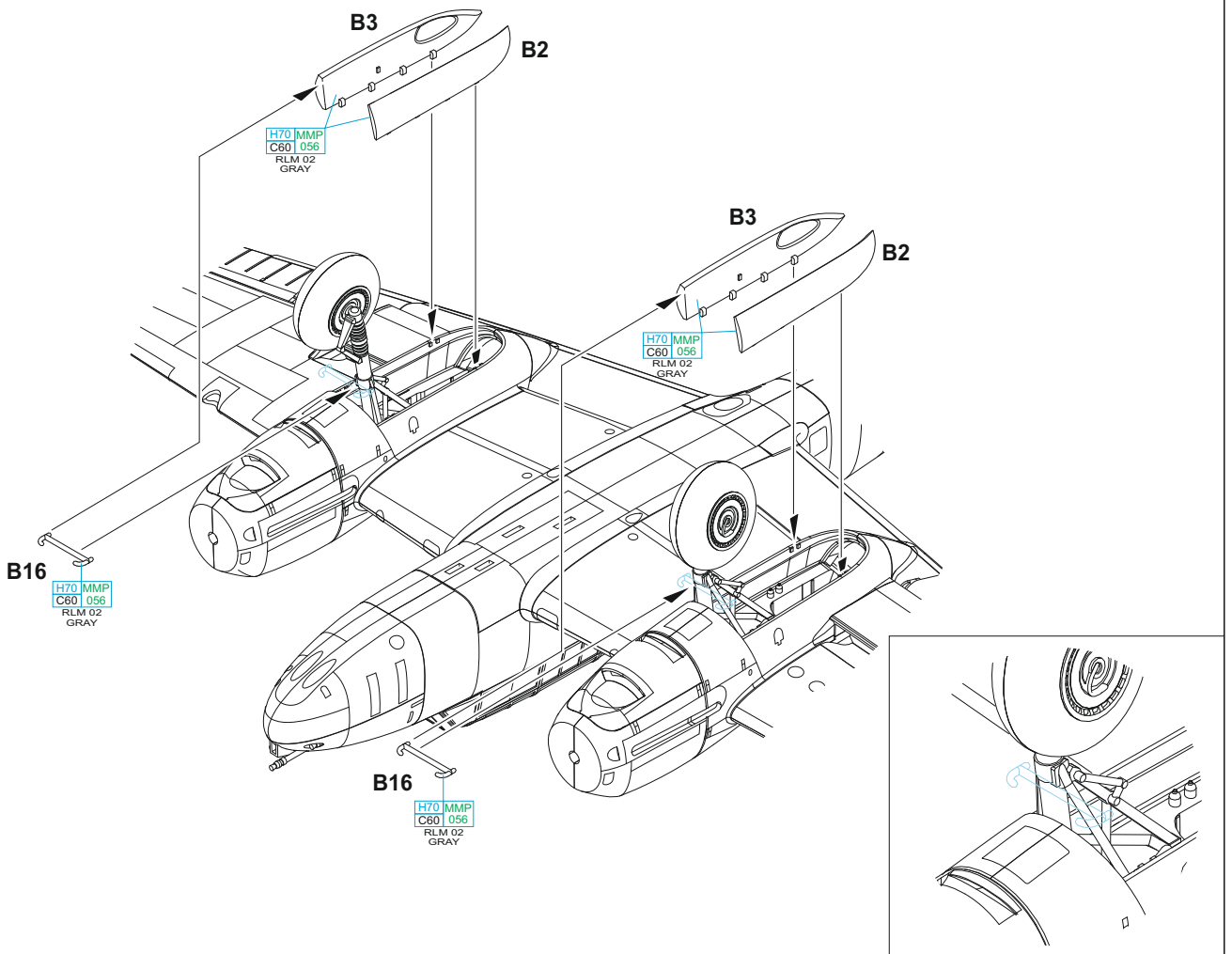
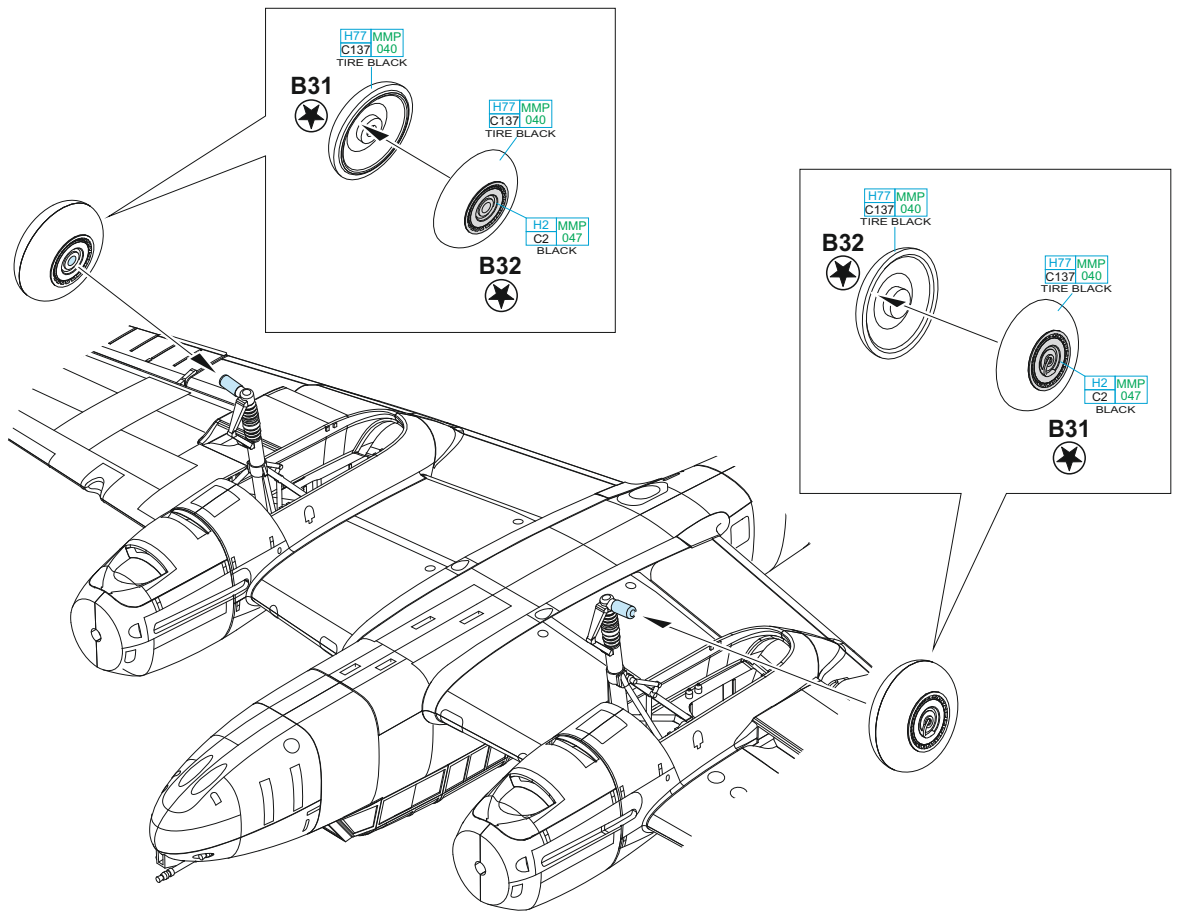
PE1



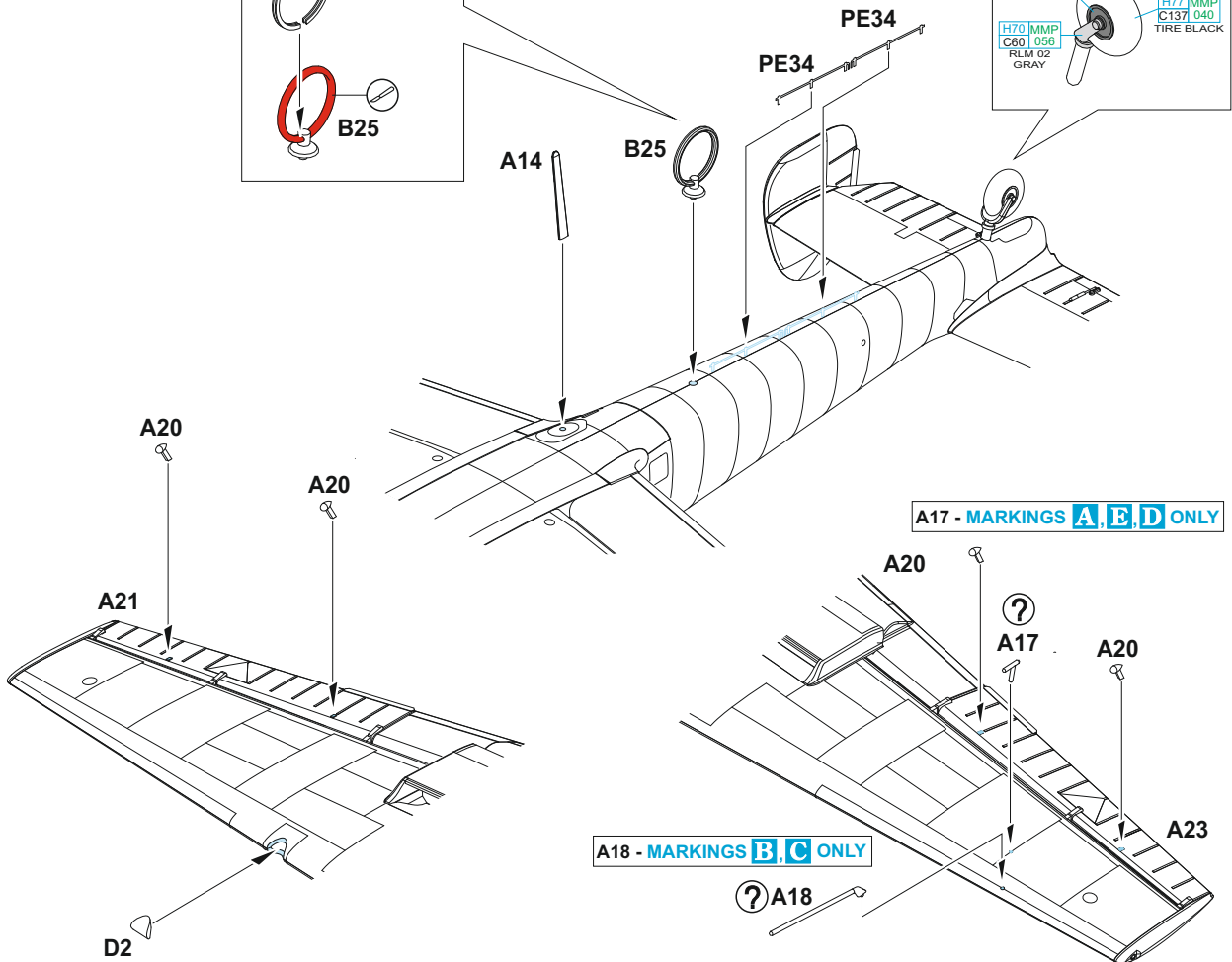
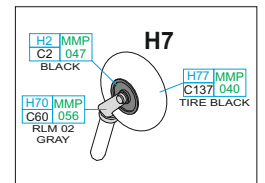
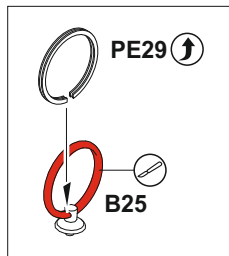
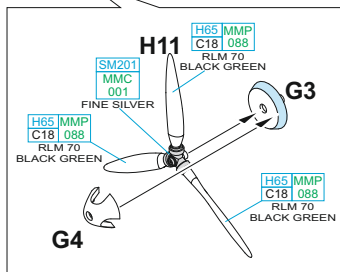
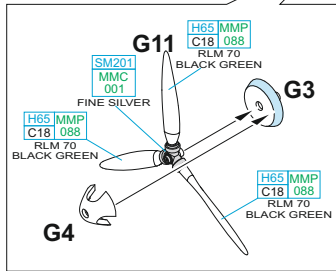
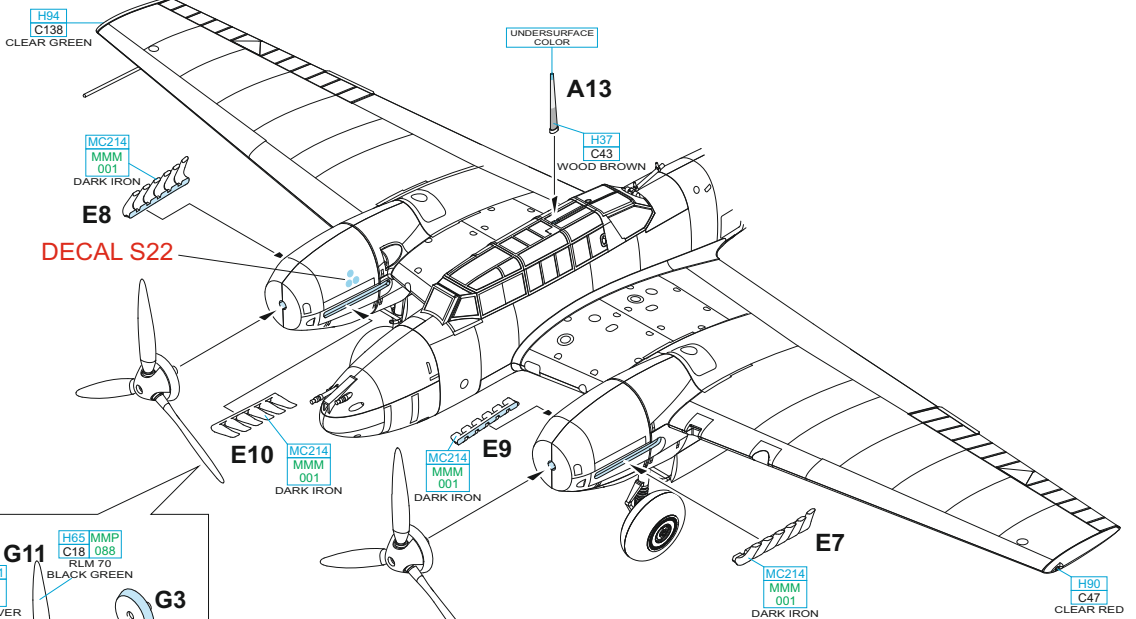


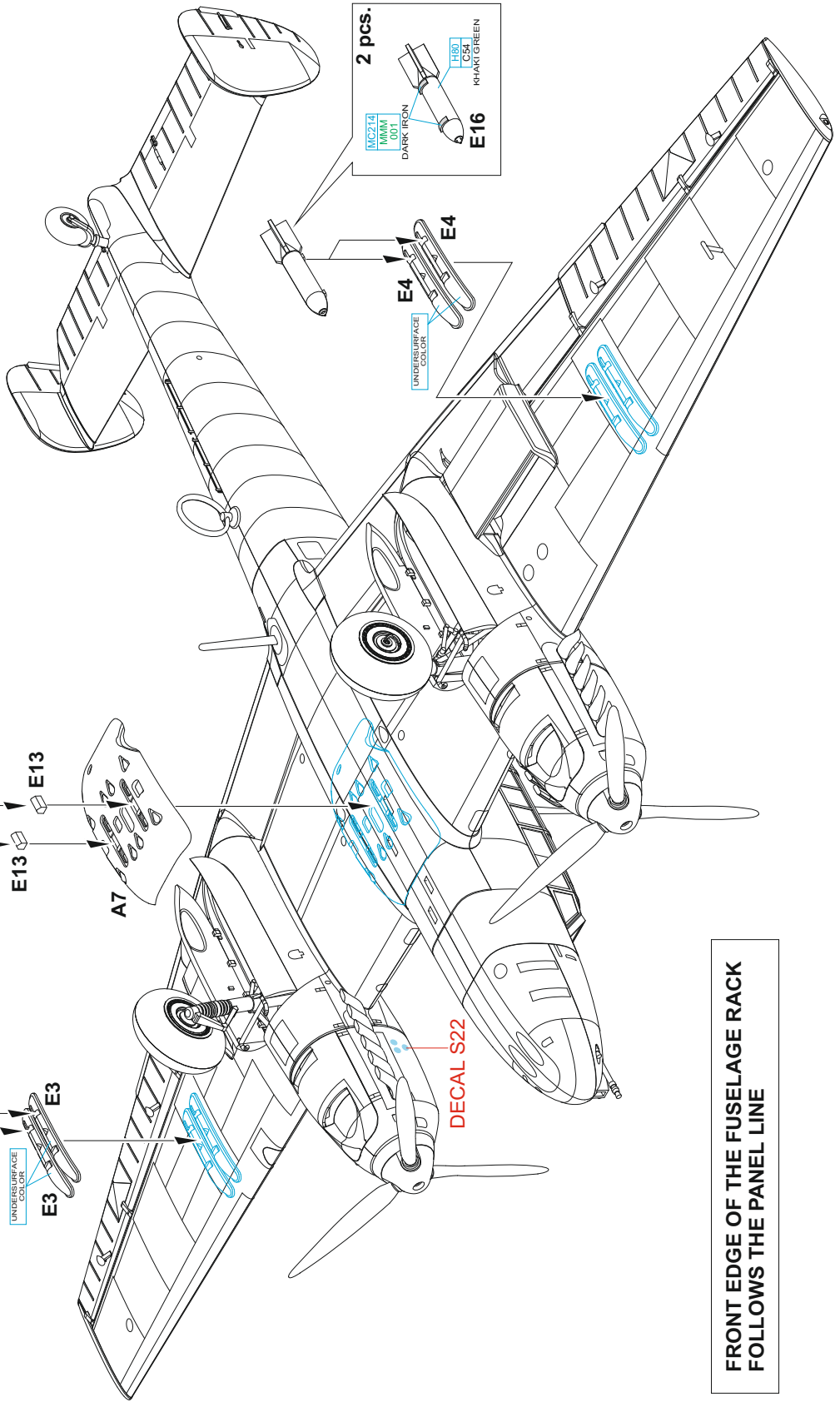
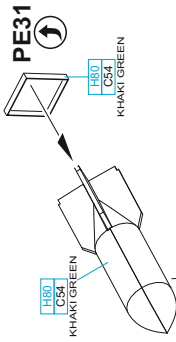
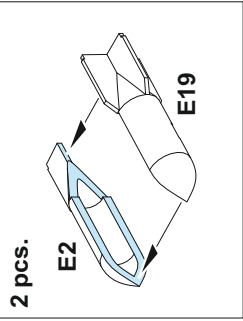
SIDE VIEW

REAR VIEW





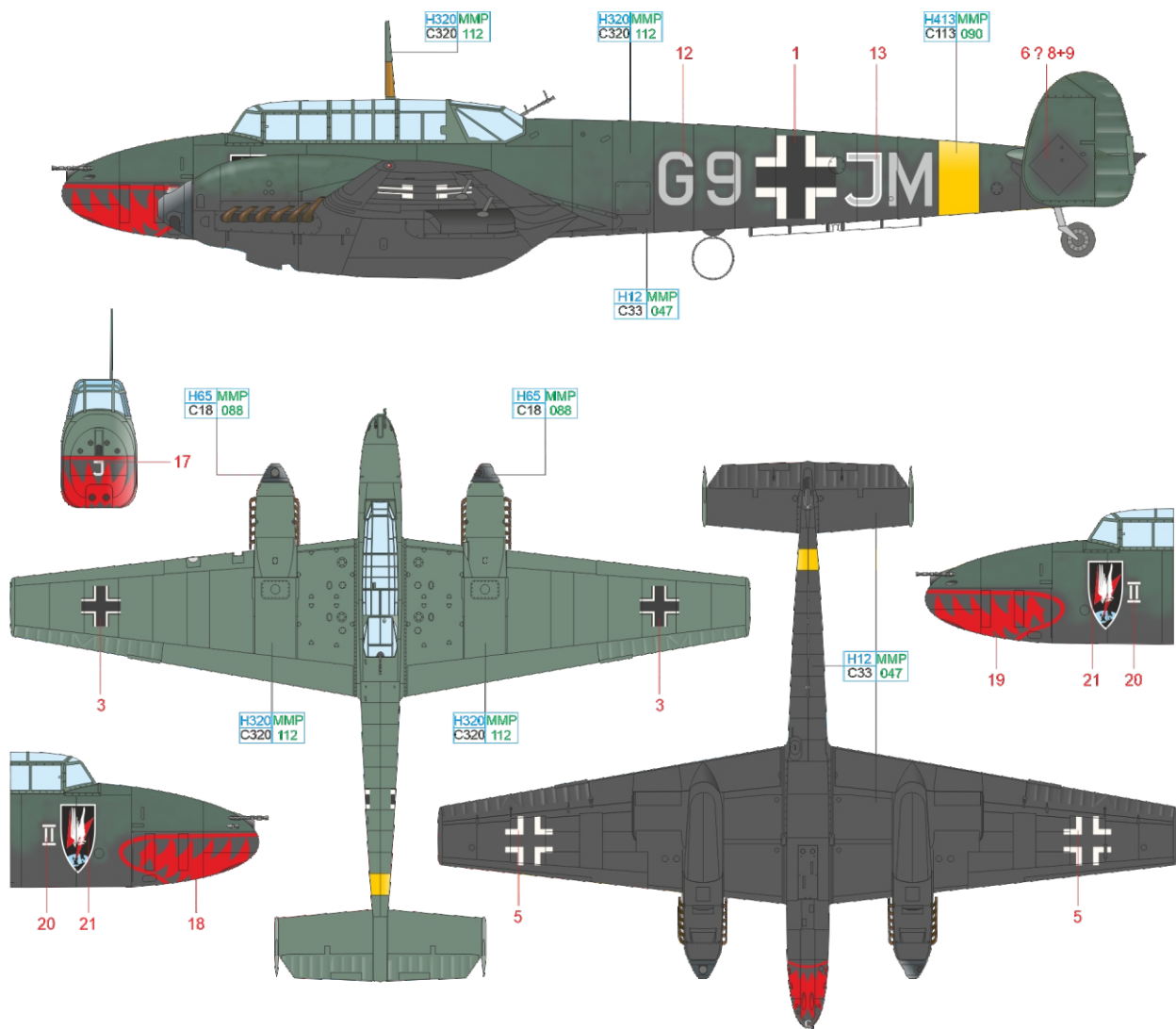




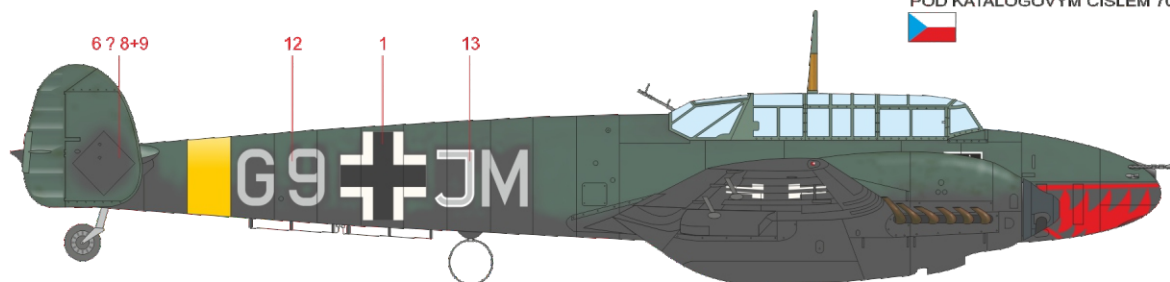
**FRONT EDGE OF THE FUSELAGE RACK  
FOLLOWS THE PANEL LINE**

# A 4./NJG 1, St. Trond, France, February 1942

NJG 1 was the oldest night fighter Luftwaffe unit and was founded by the legendary Oberst Wolfgang Falck. At the beginning of 1942, the unit's II. Gruppe was led by Major Walter Ehle, who kept the commanding position for over next three years. In 1942, the well-known night fighter Wilhelm Herget, for example, also served within the ranks of 4. Staffel NJG 1. This "G9+JM" is interesting not only for the shark mouth marking, but also for the temporary application of a "naval" RLM 72 green on the upper surfaces, as this plane took part in patrol flights for Operation Donnerkeil. A quick identification mark came in the form of a yellow fuselage band. During the operation, the Germans managed to navigate the battleships Scharnhorst and Gneisenau as well as the heavy cruiser Prinz Eugen through the English Channel from Brest (Bretagne, France) to northern Germany. The Luftwaffe, between February 11 and 13, 1942, ensured uninterrupted patrols over the formation. II./NJG 1 and II./NJG 3 were tasked with cover duty during twilight and overnight hours. On the second day of operations, elements of both night fighter units relocated to Lister airbase in Norway, from which the last segment of the fleet's cruise was covered. The unit's detachment stayed in Norway through to the end of February. All air to air victories during Operation Donnerkeil were achieved by day fighters of the Luftwaffe.



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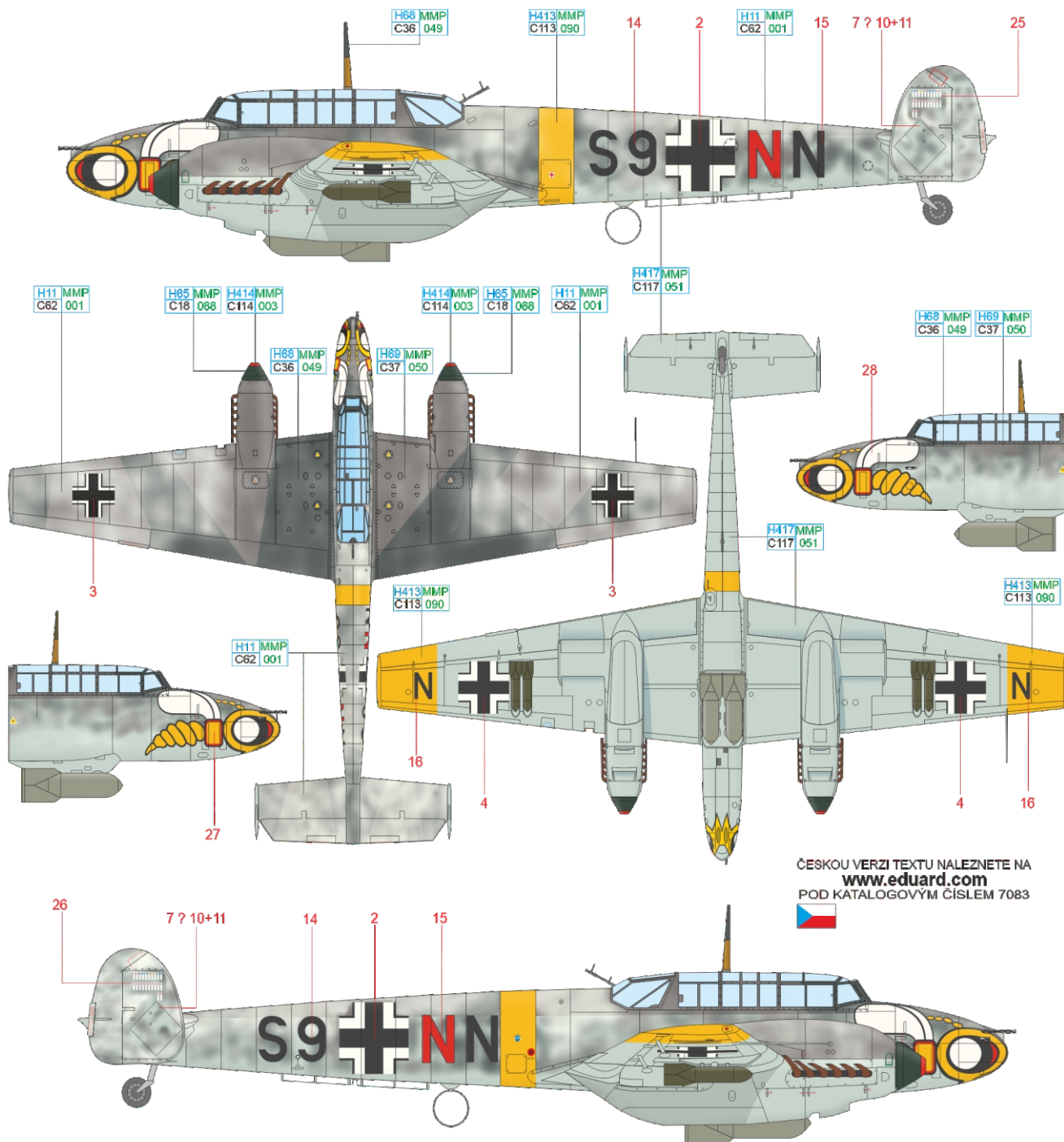
OPEN THE NOSE  
 INTAKES AFTER THE  
 DECAL APPLICATION

DARK GREEN	H320 MMP C320 112	BLACK	H12 MMP C33 047	RLM 70	H65 MMP C18 088	RLM 04	H413 MMP C113 090
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# B Lt. Herbert Kutscha, 5./ZG 1, Soviet Union, 1942

Herbert Kutscha (\*1917 †2003) served with II./JG 77 at the beginning of the war, but he was soon transferred to 5./ZG 1 equipped with Messerschmitts Bf 110. During the Battle of France, he shot down a number of aircraft, including a Bf 109 of the air force of neutral Switzerland. Later, he also gained much success on the Eastern Front as a ground attack pilot, partially due to II./ZG 1 transformation into II./SKG 210. Kutscha's II.Gruppe, under the command of Hptm. Rolf Kaldrack, was specialized in ground attack operations, especially in low level bombing. The Bf 110 was able to move faster over the enemy territory than other bombers. Here is where the term "fast bombardment wing" (SKG; Schnellkampfgeschwader) was coined. Kutscha was awarded the Knight's Cross after his 22nd victory. At that time there were 41 aircraft destroyed on the ground, 41 tanks, 15 locomotives, 11 anti-aircraft guns and 157 transport vehicles added to his tally. In June 1943 he took command of 15. Staffel JG 3 "Udet", utilizing single engine fighters. In the summer of 1944, he took control of II./JG 3 in Normandy and by the end of the year he changed the unit to lead II./JG 27. From February 1945 he commanded III./JG 1 on the Eastern Front. All in all, he flew over 900 sorties and achieved 47 kills, six of which were four engine heavy bombers and 22 of his kills he achieved behind controls of Bf 110. German Geschwader was much bigger unit than RAF or USAAF Squadron. In fact, it was corresponding to USAAF Wing, while Gruppe was equal to USAAF Group and Staffel was similar unit as the USAAF Squadron.

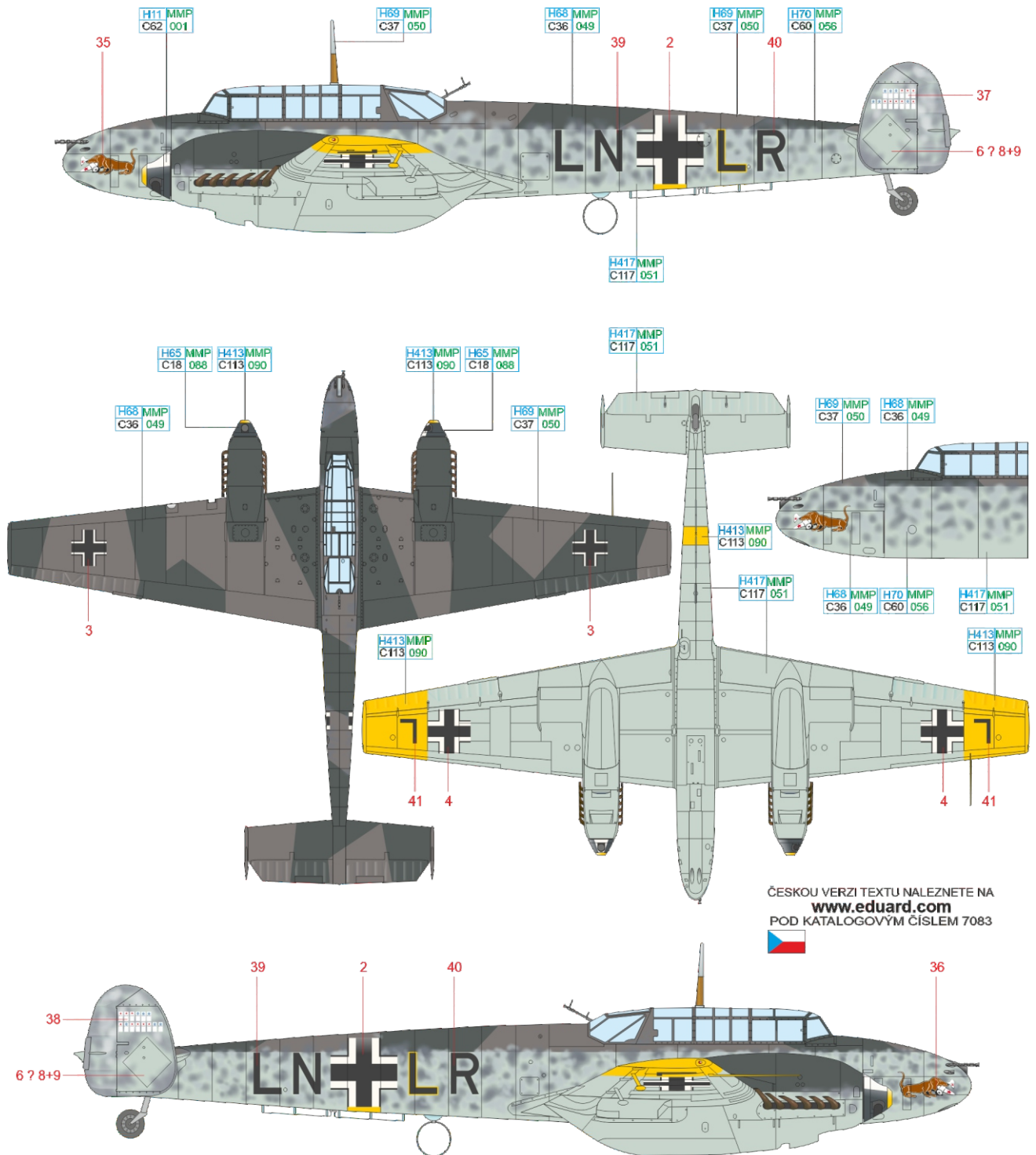


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# C Lt. Felix-Maria Brandis, 1.(Z)/JG 77, Malmi, Finland, 1942

One of the aircraft of 1.(Z)/JG 77 commander Lt. Felix-Maria Brandis while stationed on the Eastern Front. His credit count tallied 14 victories of which five victims were British (including a pair of Fairey Albacores) and nine Soviet aircraft. Lt. Brandis died on February 2, 1942, when flying Bf 110E-2 (WNR. 2546) LN+AR at Olang. He crashed on the return leg of a combat sortie in bad weather conditions. By that time, his unit had been re-designated 6.(Z)/JG 5 (January 25, 1942). The designation of the unit progressively changed from 1.(Z)/JG 77 to 6.(Z)/JG 5, 10.(Z)/JG 5 and 13.(Z)/JG 5. On the nose of the aircraft, there was the emblem of a dachshund with a Rata (Polikarpov I-16) in its mouth. It was a typical marking of this unit, as a number of these dogs were mascots of the "Dackelstaffel" through its existence, irrespective of the unit designation carried at any particular time. Some sources even say each crew had their own dog. The Wiener dogs even occasionally flew on combat missions with the crew. The unit opposed British aircraft as well as Soviet ones in northern Europe. This aircraft, flown by Lt. Harry Kripphal, fell a victim of anti-aircraft fire 30 km west of Murmansk on June 18, 1942.



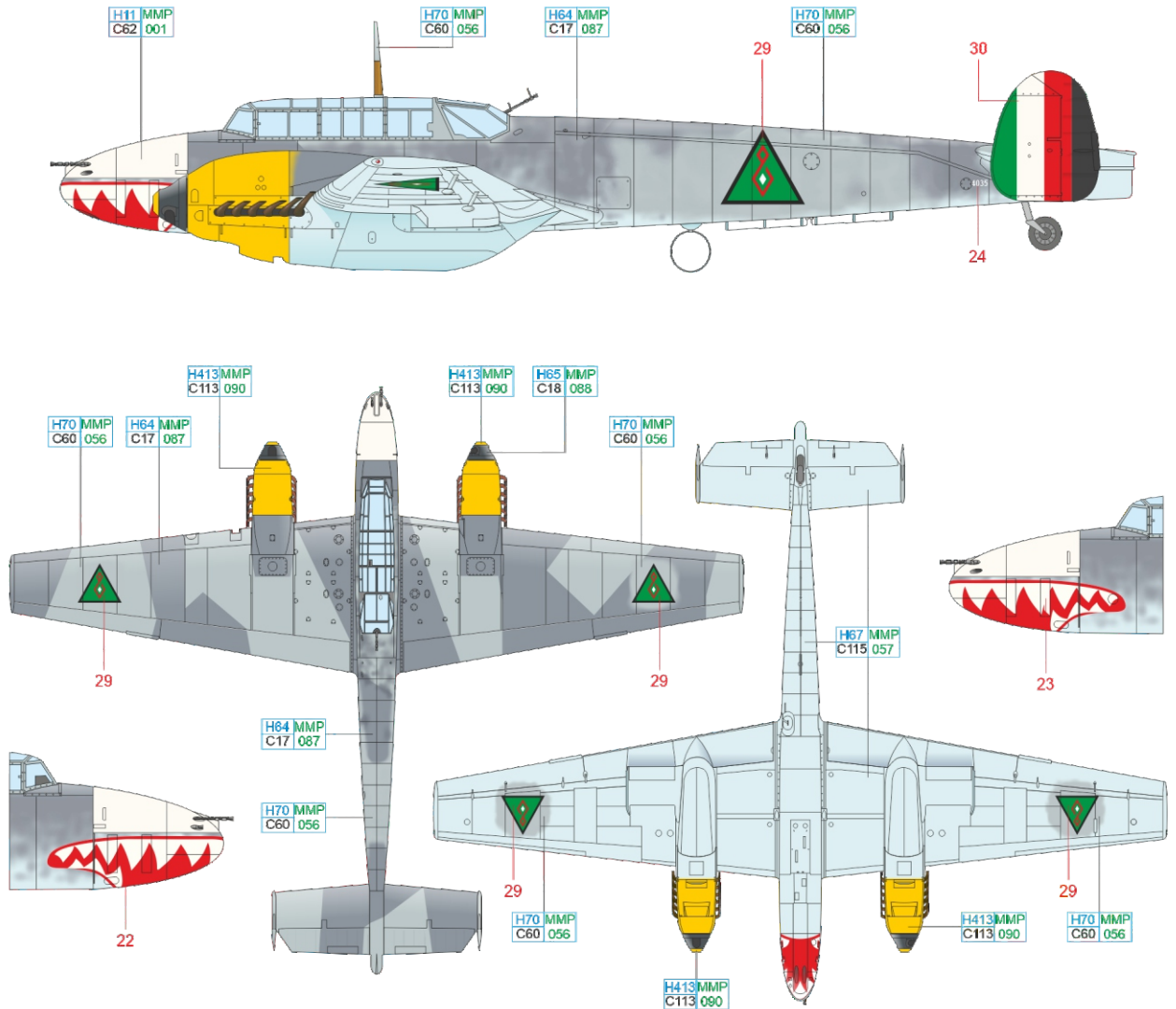
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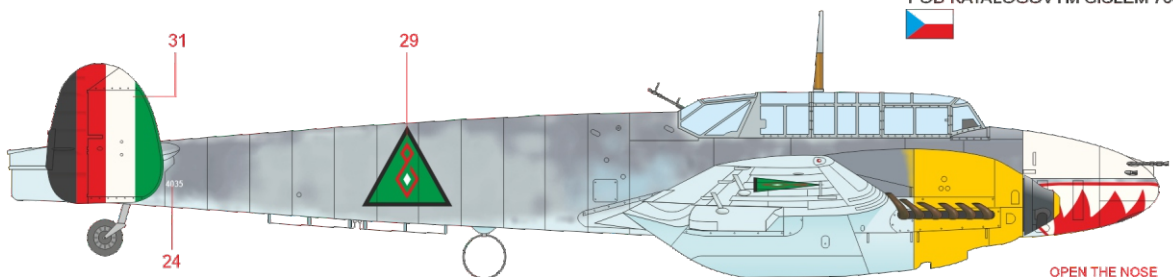
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RLM 76	H417 MMP C117 051	RLM 75	H69 MMP C37 050
RLM 74	H68 MMP C36 049	RLM 70	H65 MMP C18 088
WHITE	H11 MMP C62 001		

# D WNr. 4035, Sonderkommando Junck, Mosul Air Base, Iraq, May 1941

After the outbreak of the Anglo-Iraqi War, which lasted from April 18 to May 30, 1941, the Italians and Germans gave their military support to the Iraqis. The Luftwaffe opposed the RAF with the unit named Sonderkommando Junck, which had Messerschmitt Bf 110 fighters, Heinkel He 111 bombers, and Junkers Ju 52 transport planes in its inventory. The unit was commanded by Oberst Werner Junck, who, during the course of the First World War with Jasta 8, gained five aerial victories. Between the wars, he was a well-known sport pilot. The Messerschmitts Bf 110 carried Iraqi national insignia but were manned by German crews. In fact, the aircraft in question came from ZG 76 and ZG 26. The only unit's victory during this episode was achieved on May 20, 1941 by Lt. Martin Drewes (a future night fighter ace) of II./ZG 76, when he shot down a Gloster Gladiator flown by Sgt. Smith of A Squadron of Habbaniya Strike Force over Fallujah. Messerschmitt Bf 110E WNr. 4035 was found by the British after a forced landing. It was repaired in September 1941 and christened "Belle of Berlin". Later it was flown to Egypt to No. 267 Squadron. The aircraft was written off after a forced landing enroute to South Africa.



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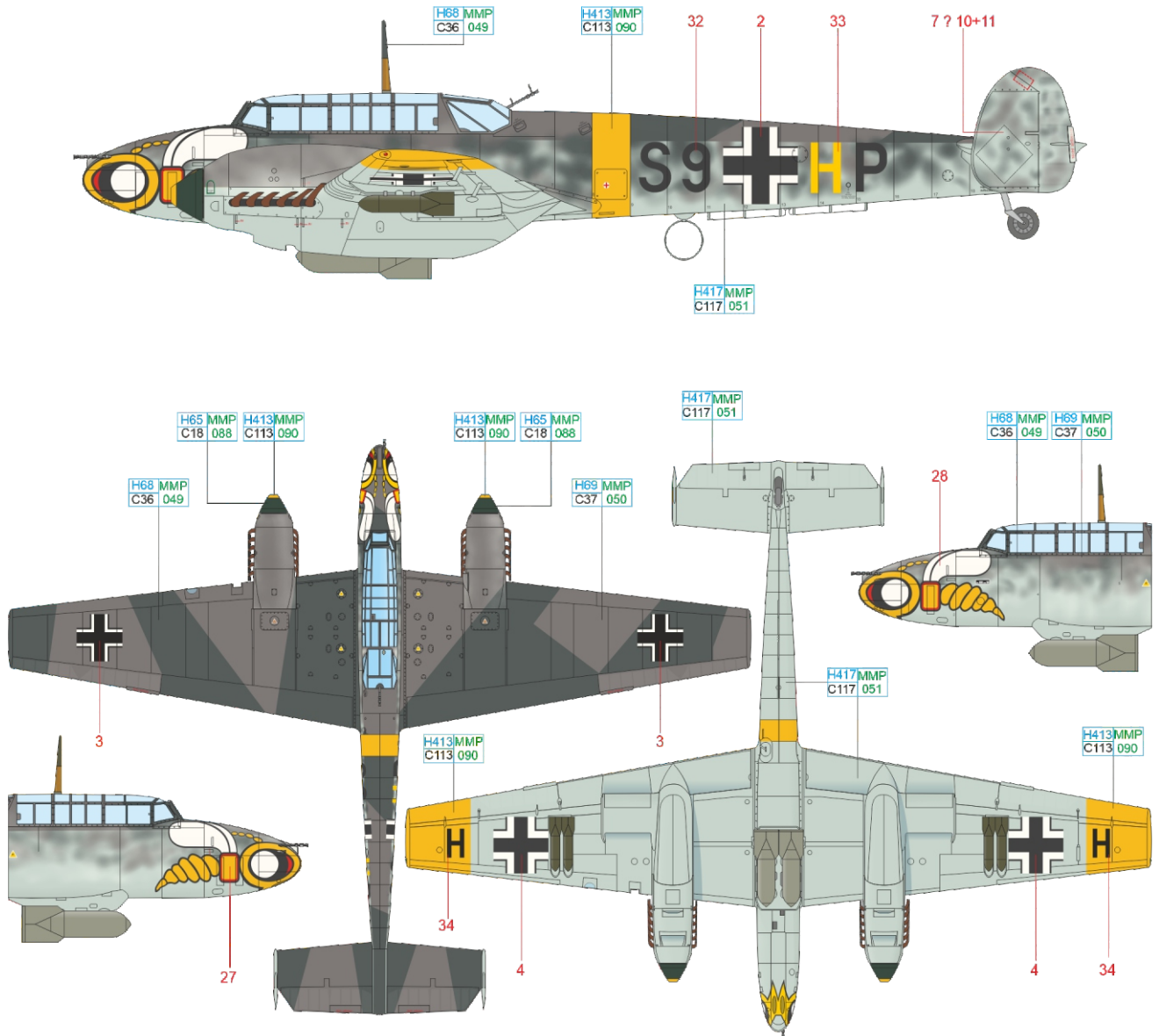
OPEN THE NOSE  
 INTAKES AFTER THE  
 DECAL APPLICATION

- RLM 65 H67 MMP C115 057
- RLM 02 H70 MMP C60 056
- RLM 71 H64 MMP C17 087
- RLM 70 H65 MMP C18 088
- RLM 04 H413 MMP C113 090
- WHITE H11 MMP C62 001

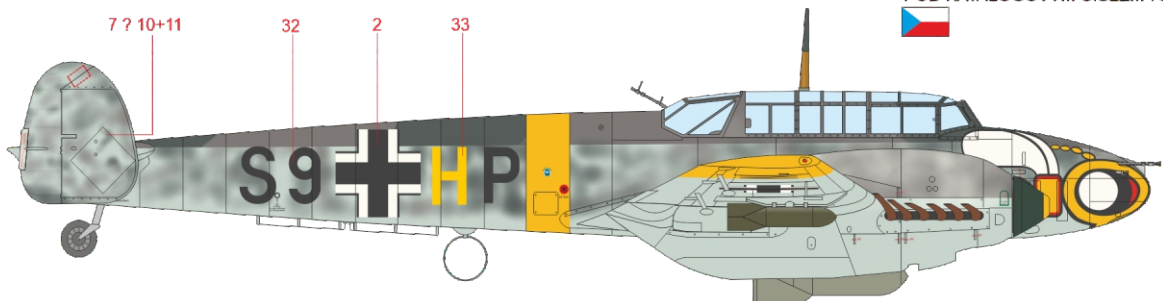


# E 6./ZG 1, Russia, Summer 1942

The wasp emblem (Wespe) was designed in the autumn of 1939 by Lt. Richard Malchfelder, a technical officer of one of the Zerstörergruppe (II./ZG 1). It was originally composed of three small wasps, and was utilized by the same Gruppe of heavy fighters that went through several designation changes (including II./SKG 210) and, finally, in early 1942, ended up as II./ZG 1. Soon, other Gruppe of Zerstörergeschwader 1 came to use the wasp emblem and their Geschwader carried the operational name of "Wespen". This aircraft sported the RLM 74/75/76 camouflage pattern.



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RLM 76	H417 MMP C117 051	RLM 75	H69 MMP C37 050	RLM 74	H68 MMP C36 049	RLM 70	H65 MMP C18 088	RLM 04	H413 MMP C113 090
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