



The Bf 110 soldiered throughout the WWII in the fighter, fighter-bomber or night fighter role. Although not so agile as single-engine fighters, it was a capable aircraft.

It was in 1934 when the Reichsluftfahrtministerium (Reich Ministry of Aviation) issued a request for a new twin-engine heavy fighter capable of successful dogfight with 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 (Combat Destroyer). The concept was intended to overrun the troubles with the first generation of monoplane fighters as they lacked range and power.

The RLM thus requested twin-engine, three-seat aircraft of all-metal design with internal bomb bay and three manufacturers responded: Focke-Wulf, Henschel and BFW (Bayerische Flugzeugwerke). The latter, which was to become Messerschmitt, 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.

The engine and armament plays

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 two DB 600A engines. Although the Bf 110 was not as maneuverable as desired, it was faster than requested and even faster than Bf 109B-1 single seat fighter and the order for four pre-production Bf 110A-0s was placed with first of them delivered in January 1937. 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 of just 268 mph (431 km/h). More to it, the armament was limited to four 7.92 mm MG 17 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 as the design team moved to DB 601B-1 engines, as they had become available in late 1938. With the Bf 110D 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 "dachshund's" 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 of 1,350 PS (993 kW). More power allowed armor upgrade and strengthening the airframe without performance loss. The E version was considered to

be the best among all the Bf 110s. 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. The most numerous of all G versions was the G-4 three-seat night fighter (2,293 built).

In combat

The Bf 110 served with considerable success in early campaigns of WWII until the Battle of Britain, where all its shortcomings became 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 letdown, 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 on Eastern Front. It also developed into formidable night fighter with the onboard 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 rear firing for self-defensive fire. Later variants had the MG FFs replaced with 15 mm MG 151s and the rear gunner's station got the twin-barrel 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 upward at an oblique angle for shooting down bombers while passing underneath. These were usually two 20 mm MG FF, but field installations of the MG 151/20 of the same caliber or 30 mm MK 108 cannons were also used.

This kit: Bf 110C

The DB 601B-1 engines became available in late 1938 and the design team started adaption of the Bf 110B to these more powerful units. The radiators under the engine nacelles were removed and flat underwing water/glycol radiators were used instead of them. They were placed just outboard of each nacelle in a similar way these radiators were used on Bf 109E. The airframe structure was strengthened to handle more power, also the canopy was slightly changed as well as the wing shape with angular wingtips, which slightly decreased wingspan. The maximum speed raised to 336 mph (541 km/h). The C was the first truly serial production version of Bf 110 with several sub-variants. The C2 got improved avionics, C3 was fitted with improved MG FF cannon and C4 got crew armor protection. The Bf 110C-4/B was Jagdbomber variant with underwing racks for two 550 lb (250 kg) bombs. With C6 variant the two MG FF 20 mm cannons were replaced by one MK 101 30 mm cannon and C7 was another Jabo version, now capable to carry two 1,100 lb (500 kg) bombs. The landing gear was reinforced to carry that weight. The Bf 110C-5 was a fighter reconnaissance variant with MG FF cannon replaced by camera.

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. SYMBOLS * INSTRUKTION SINNBILDEN * SYMBOLES * 記号の説明

OPTIONAL
VOLBABEND
OHNOUSAND
BROUSITOPEN HOLE
VYVRTAT OTVORSYMETRICAL ASSEMBLY
SYMETRICKÁ MONTÁŽREMOVE
ODŘÍZNOUTREVERSE SIDE
OTOČITAPPLY EDUARD MASK
AND PAINT
POUŽIT EDUARD MASK
NABARVITPLEASE, CHECK THE LATEST VERSION OF THE INSTRUCTION ON www.eduard.com

PARTS



DÍLY



TEILE

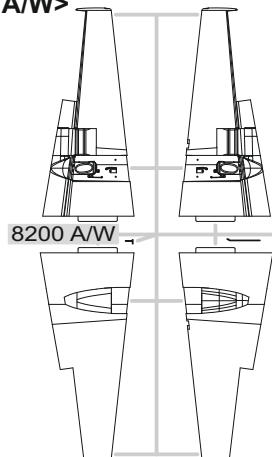


PIÈCES

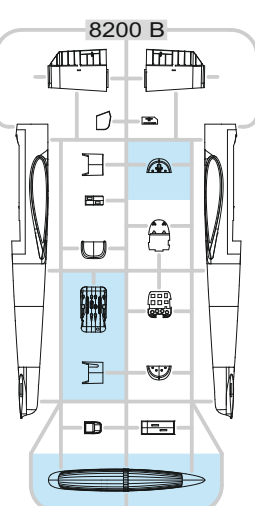


部品

A/W>

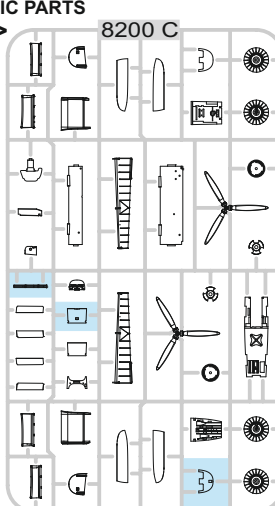


B>

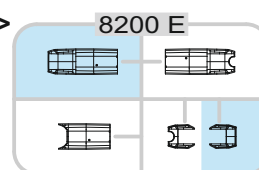


PLASTIC PARTS

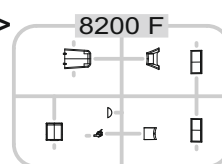
C>



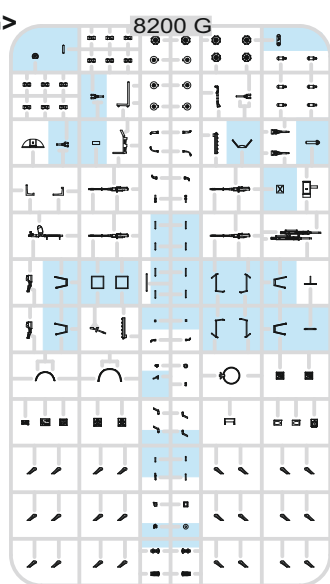
E>



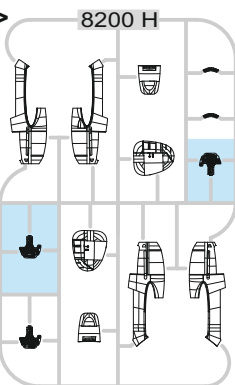
F>



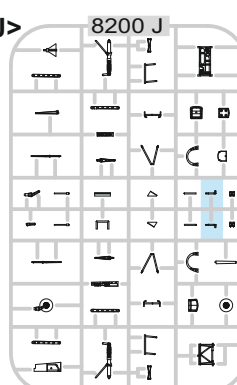
G>



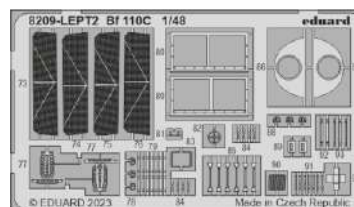
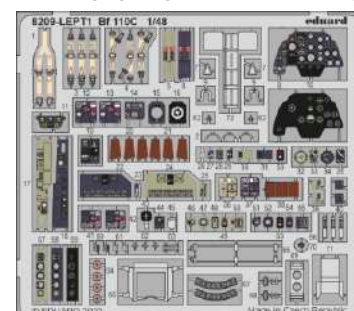
H>



J>



PE - PHOTO ETCHED DETAIL PARTS



-Parts not for use. -Teile werden nicht verwendet. -Pièces à ne pas utiliser. -Tyto díly nepoužívejte při stavbě. - 使用しない部品

COLOURS



BARVY



FARBEN



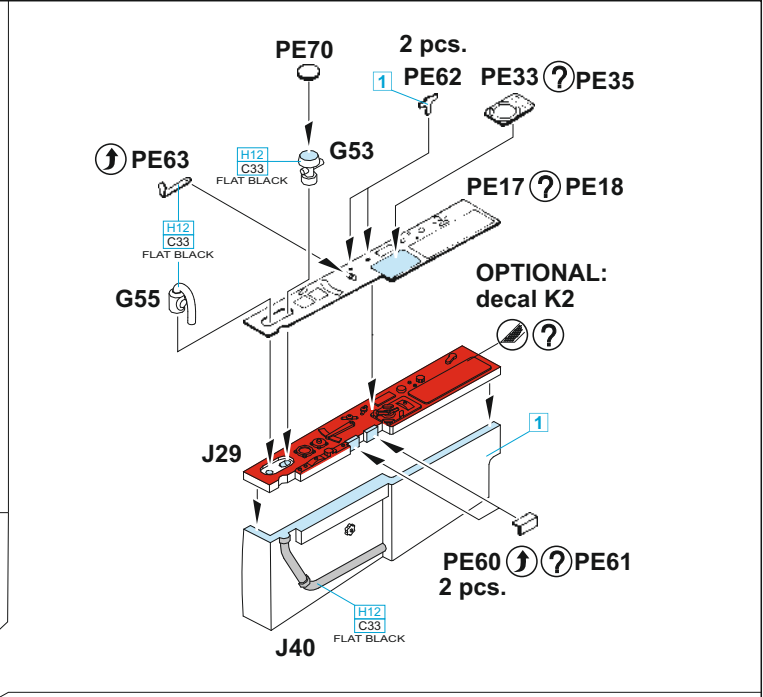
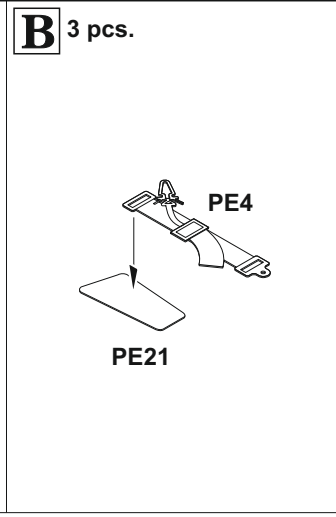
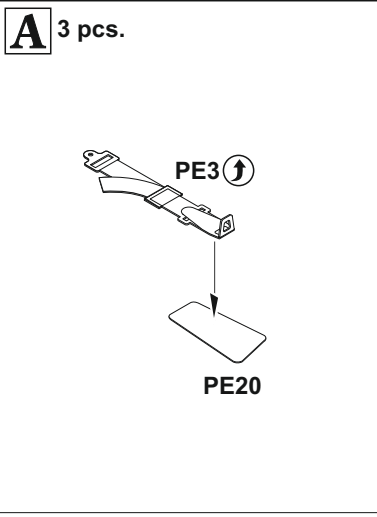
PEINTURE



色

GSI Creos (GUNZE)		
AQUEOUS	Mr.COLOR	
H2	C2	BLACK
H7	C7	BROWN
H11	C62	FLAT WHITE
H12	C33	FLAT BLACK
H37	C43	WOOD BROWN
H47	C41	RED BROWN
H64	C17	RLM71 DARK GREEN
H65	C18	RLM70 BLACK GREEN
H67	C115	RLM65 LIGHT BLUE
H70	C60	RLM02 GRAY
H77	C137	TIRE BLACK

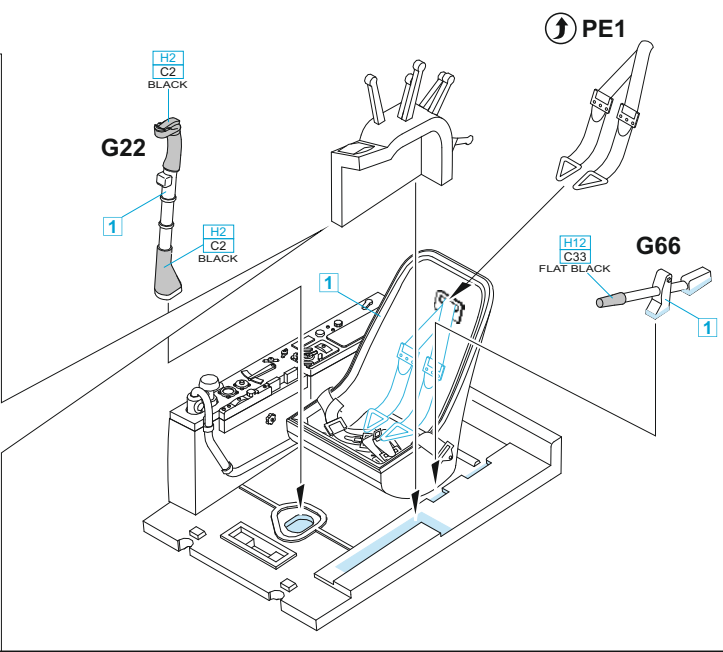
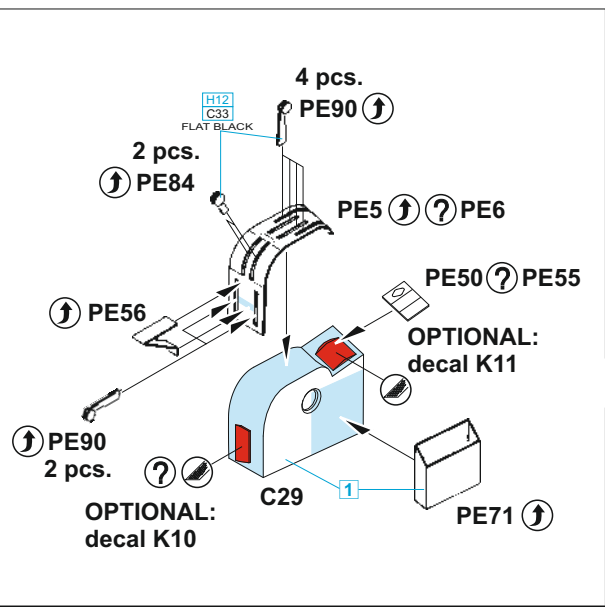
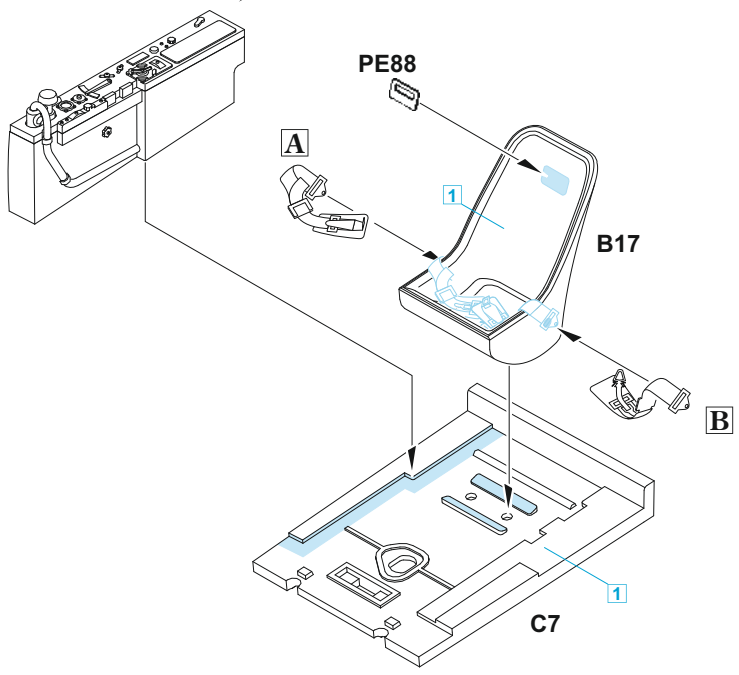
GSI Creos (GUNZE)		
AQUEOUS	Mr.COLOR	
H85	C45	SAIL COLOR
H413	C113	RLM04 YELLOW
H416	C116	RLM66 BLACK GRAY
Mr.METAL COLOR		
MC213		STAINLESS
MC214		DARK IRON
Mr.COLOR SUPER METALLIC		
SM201		SUPER FINE SILVER
Mr.COLOR GX		
GX05		SUSIE BLUE



1 =

H70	H416
C60	C116
RLM 02	RLM 66
GRAY	BLACK GRAY

cockpit color on early machines was RLM02, on late machines RLM 66. But there are exceptions. It depends on the manufacturers too. Instrument panels were in RLM 66 always.



2 pcs.

PE77



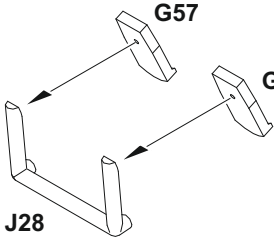
PE77



PE77



G57



J28

H416
C116
RLM 66
BLACK GRAY

PE93

PE29

PE44

PE11

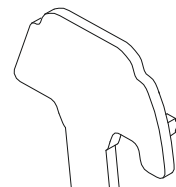
PE10

PE8

C27

H416
C116
RLM 66
BLACK GRAY

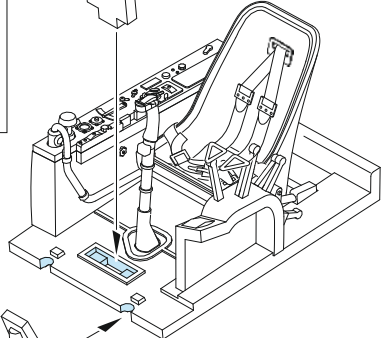
C27 ? H13



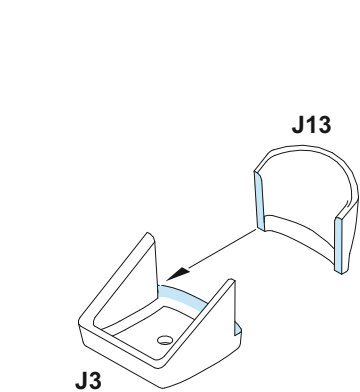
H13 H416
C116
RLM 66
BLACK GRAY

H12
C33
FLAT BLACK

OPTIONAL:
decal K1

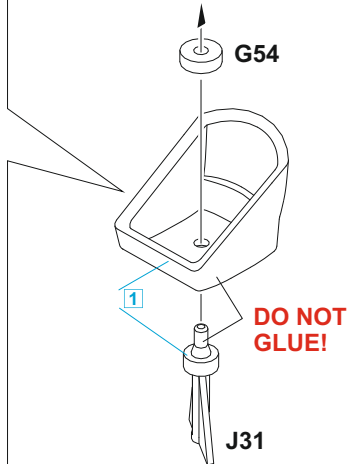


1



J3

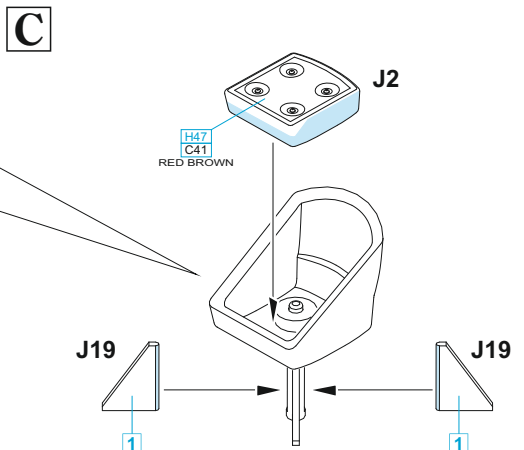
J13



G54

DO NOT
GLUE!

J31



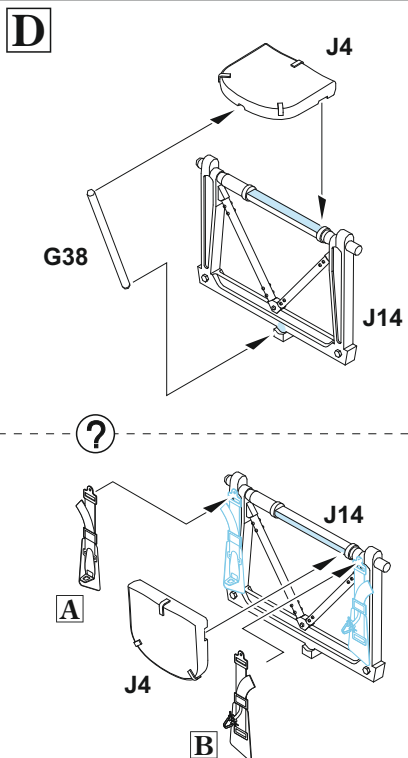
C

H47
C41
RED BROWN

J2

J19

J19



D

J4

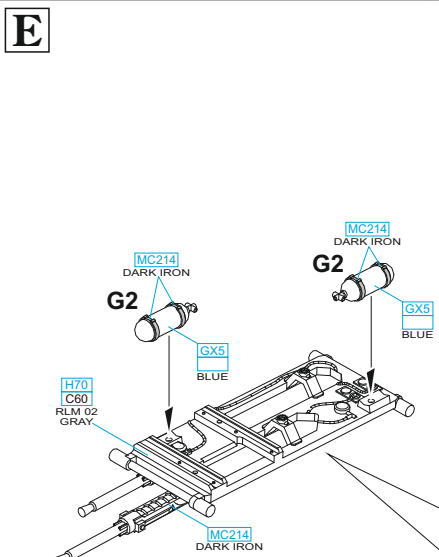
G38

J14



J14

J4



E

G2

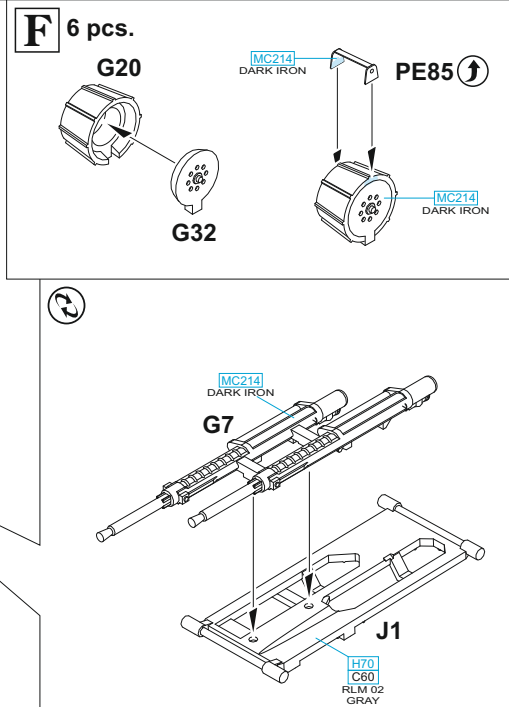
G2

GX5
BLUE

H70
C60
RLM 02
GRAY

MC214
DARK IRON

MC214
DARK IRON



F

6 pcs.

G20

MC214
DARK IRON

PE85

G32

MC214
DARK IRON

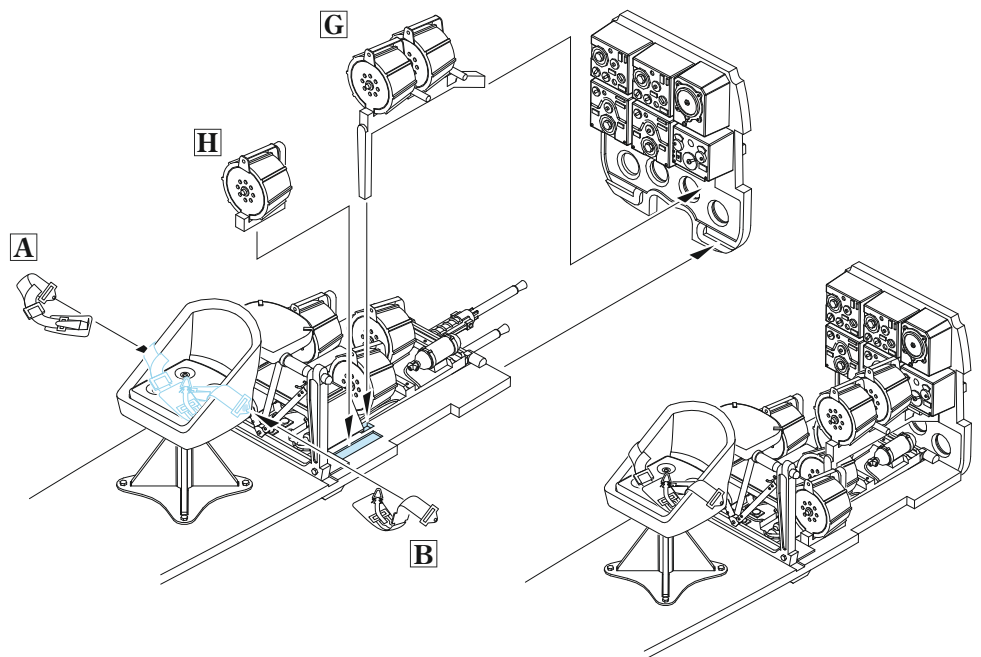
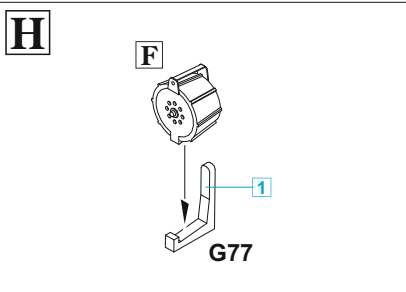
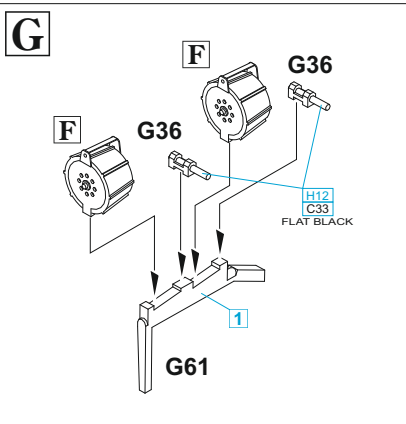
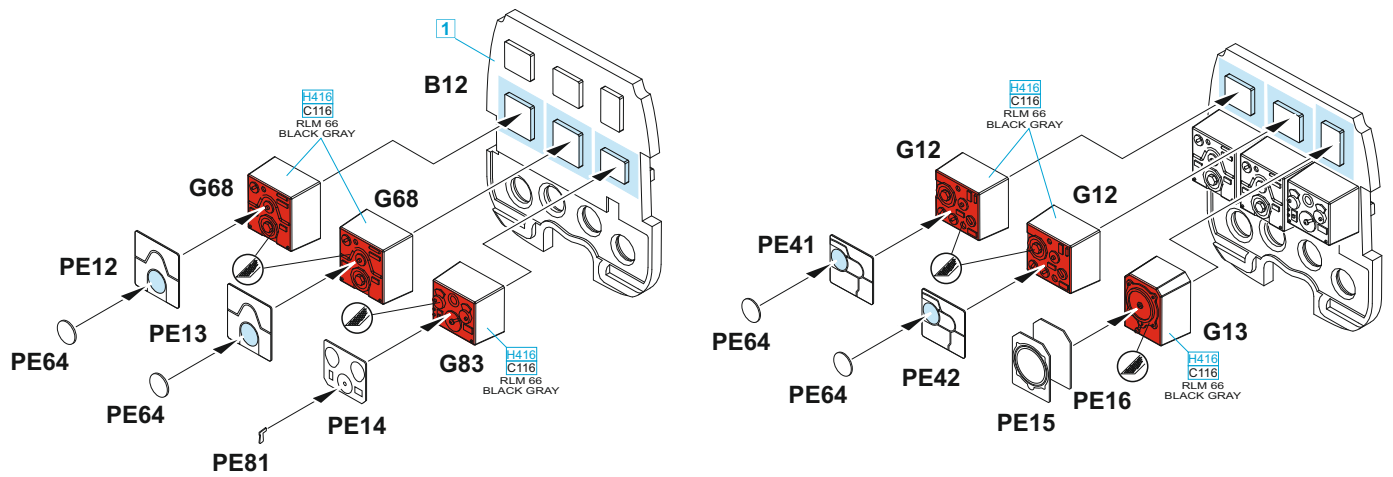
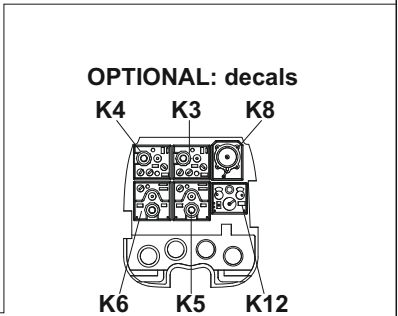
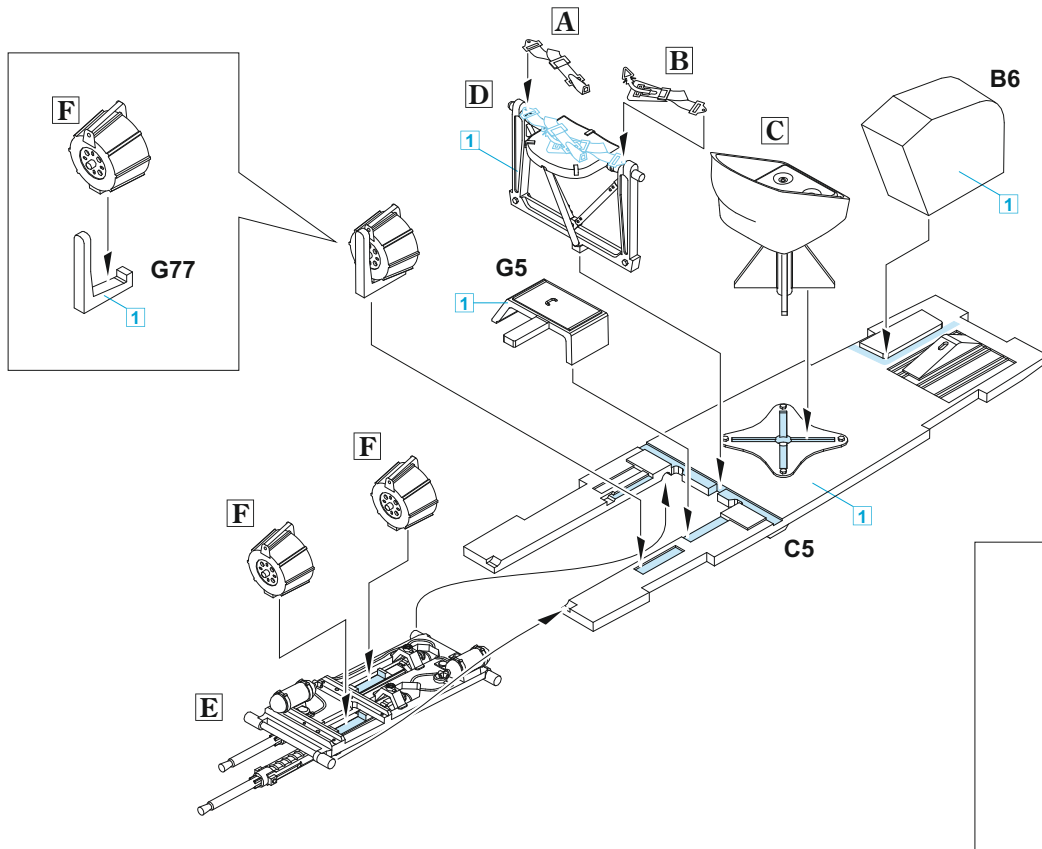


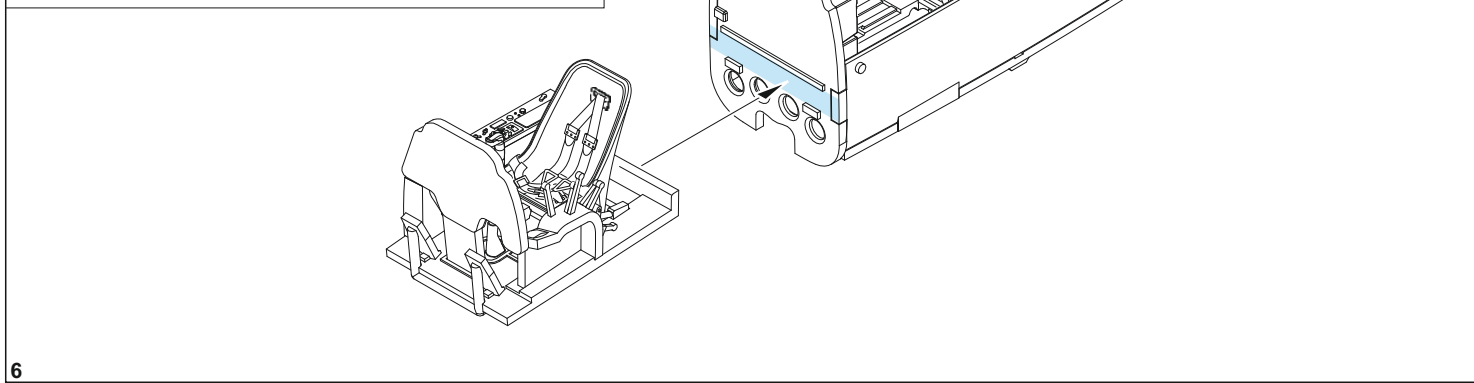
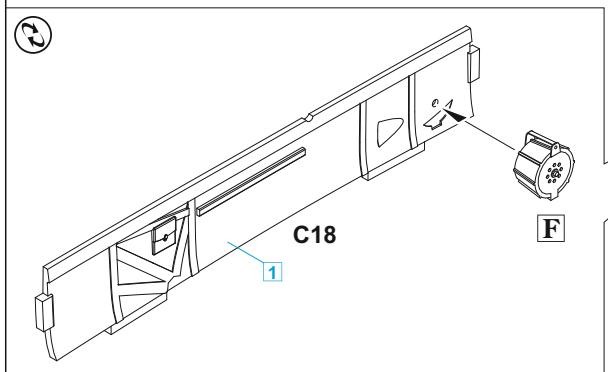
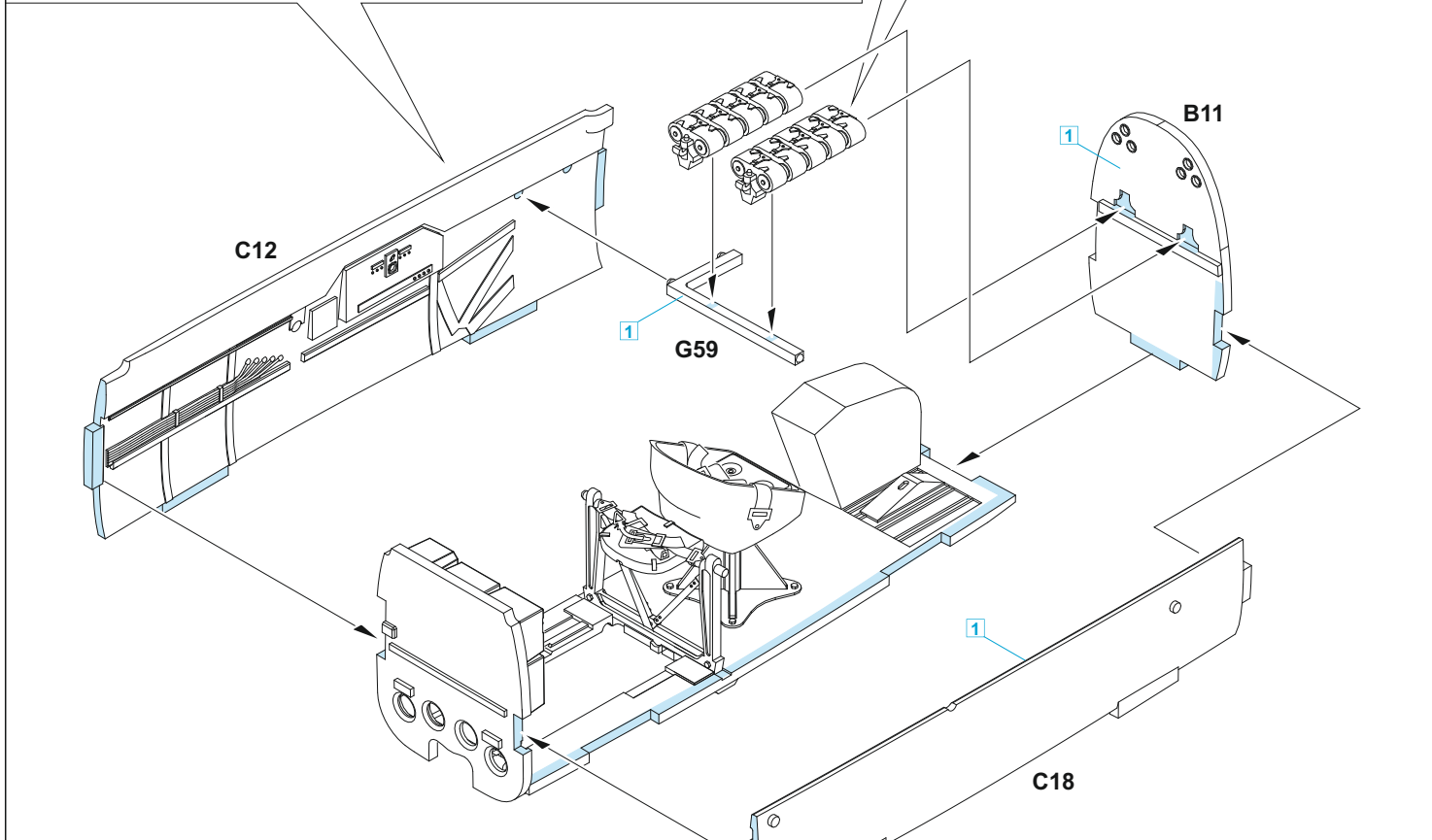
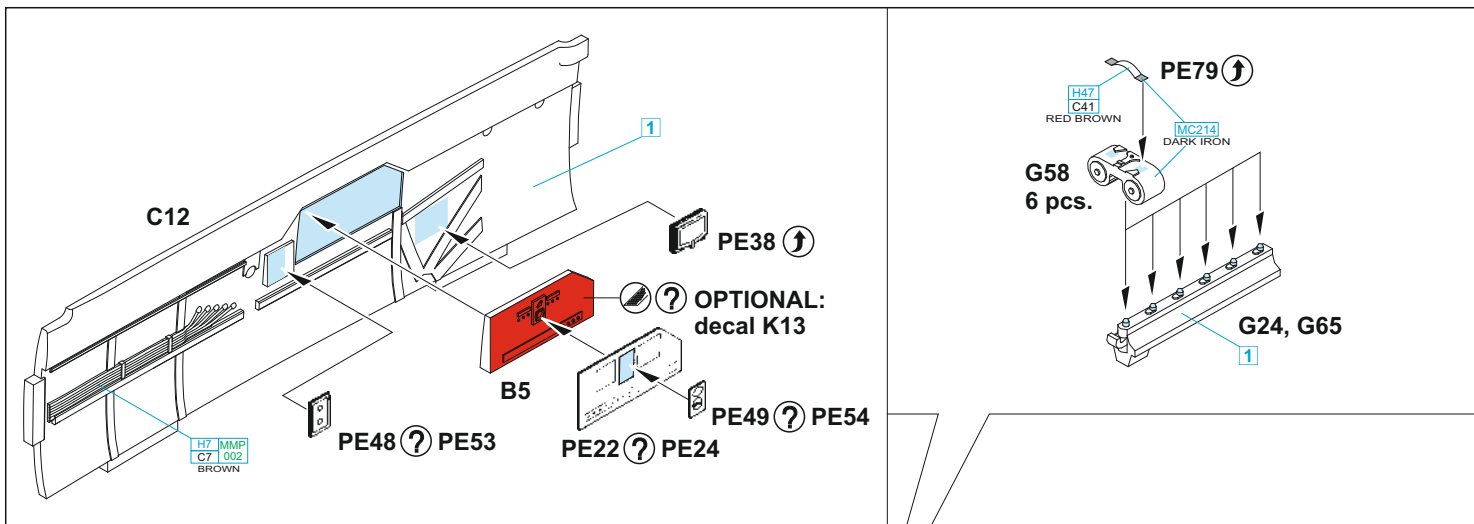
G7

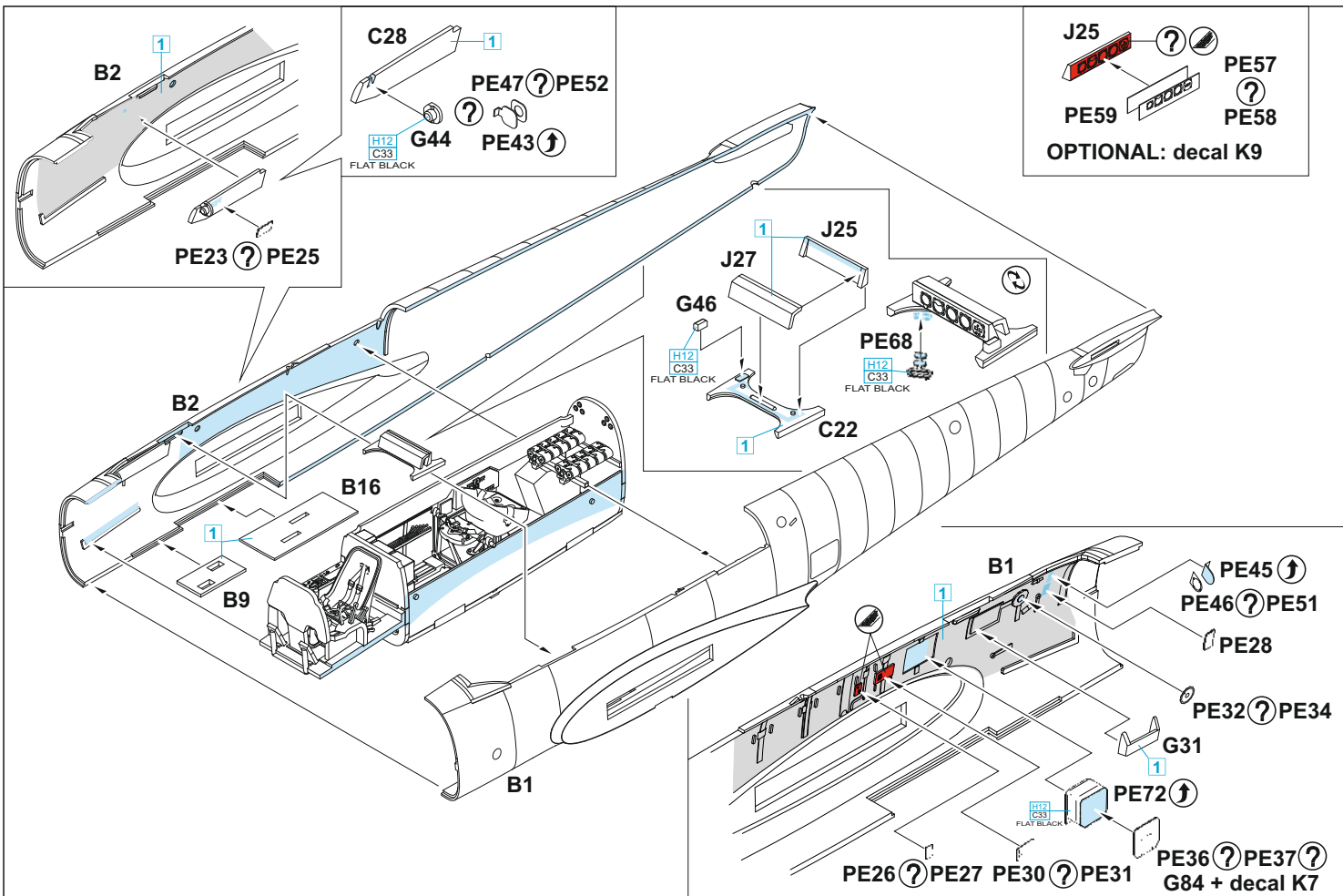
MC214
DARK IRON

J1

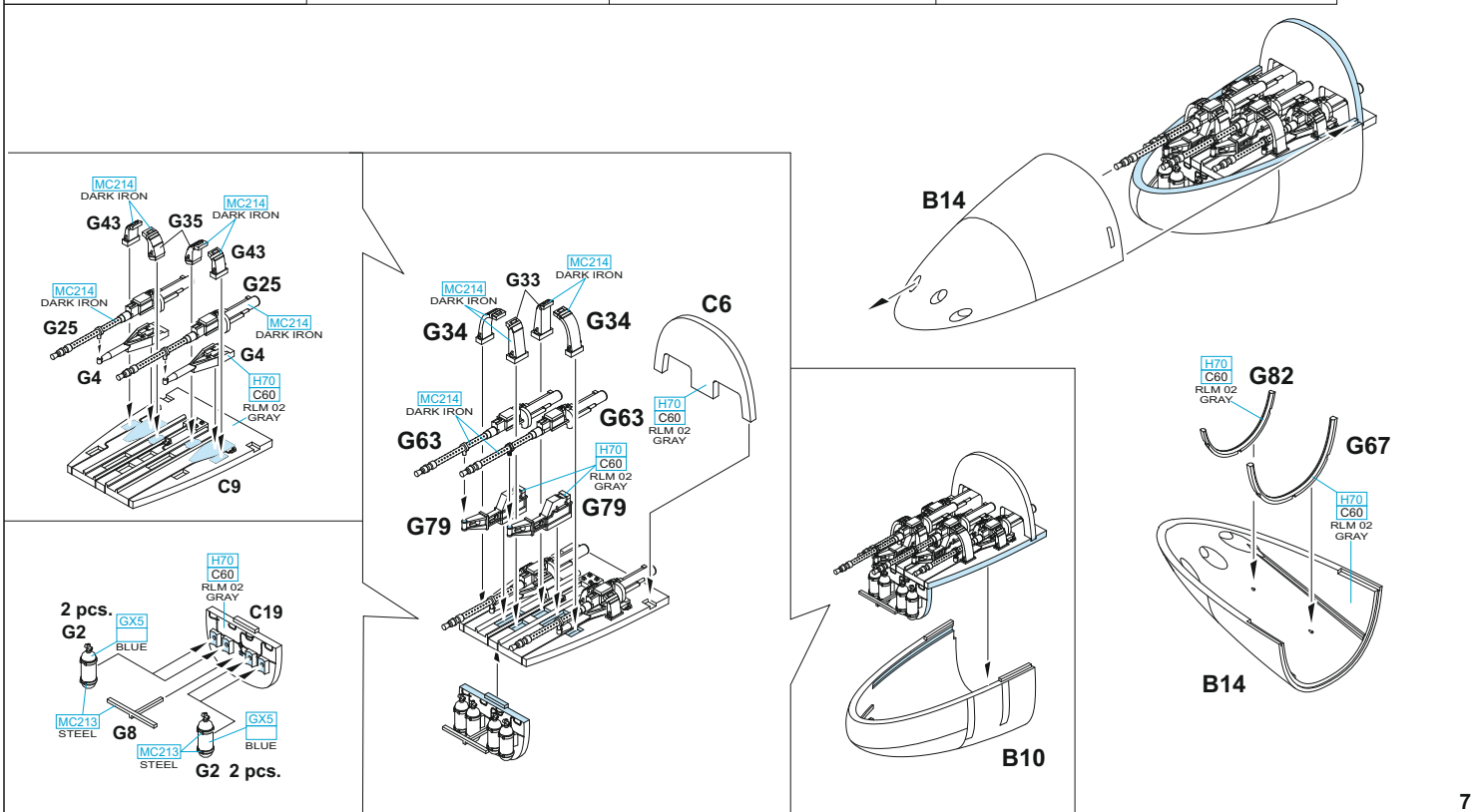
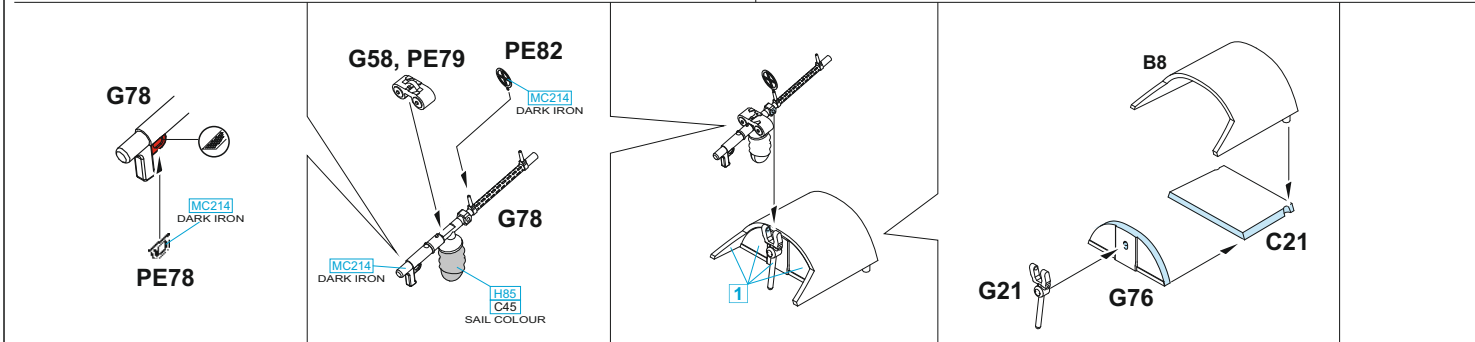
H70
C60
RLM 02
GRAY

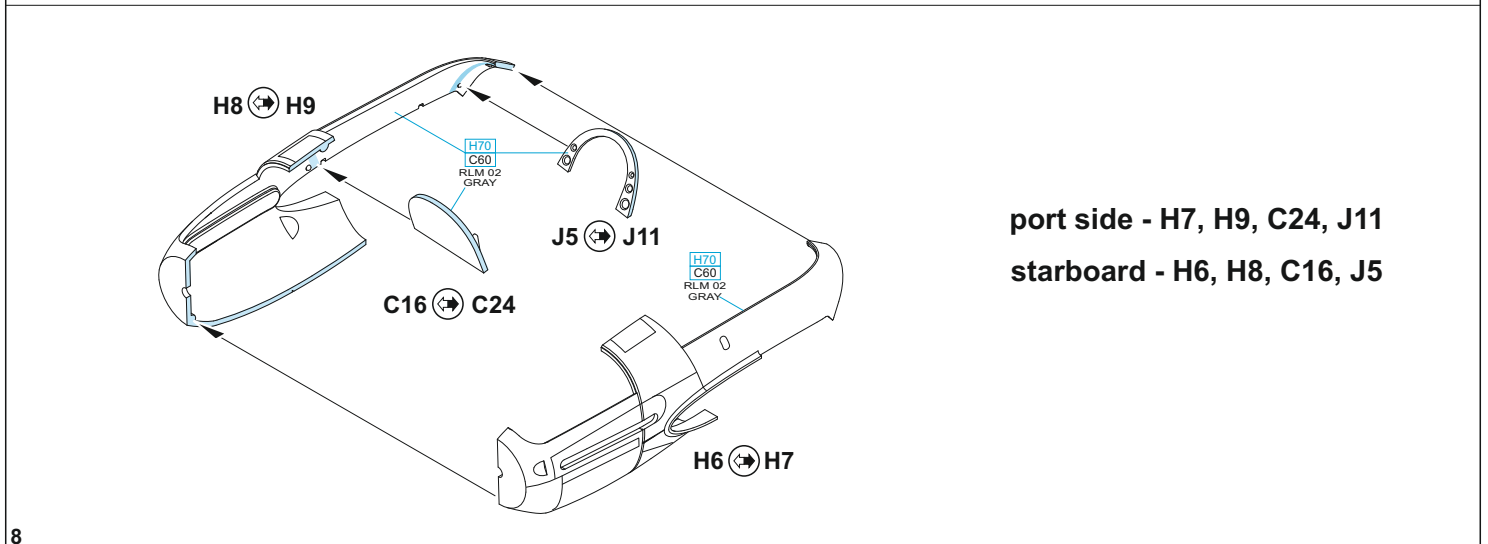
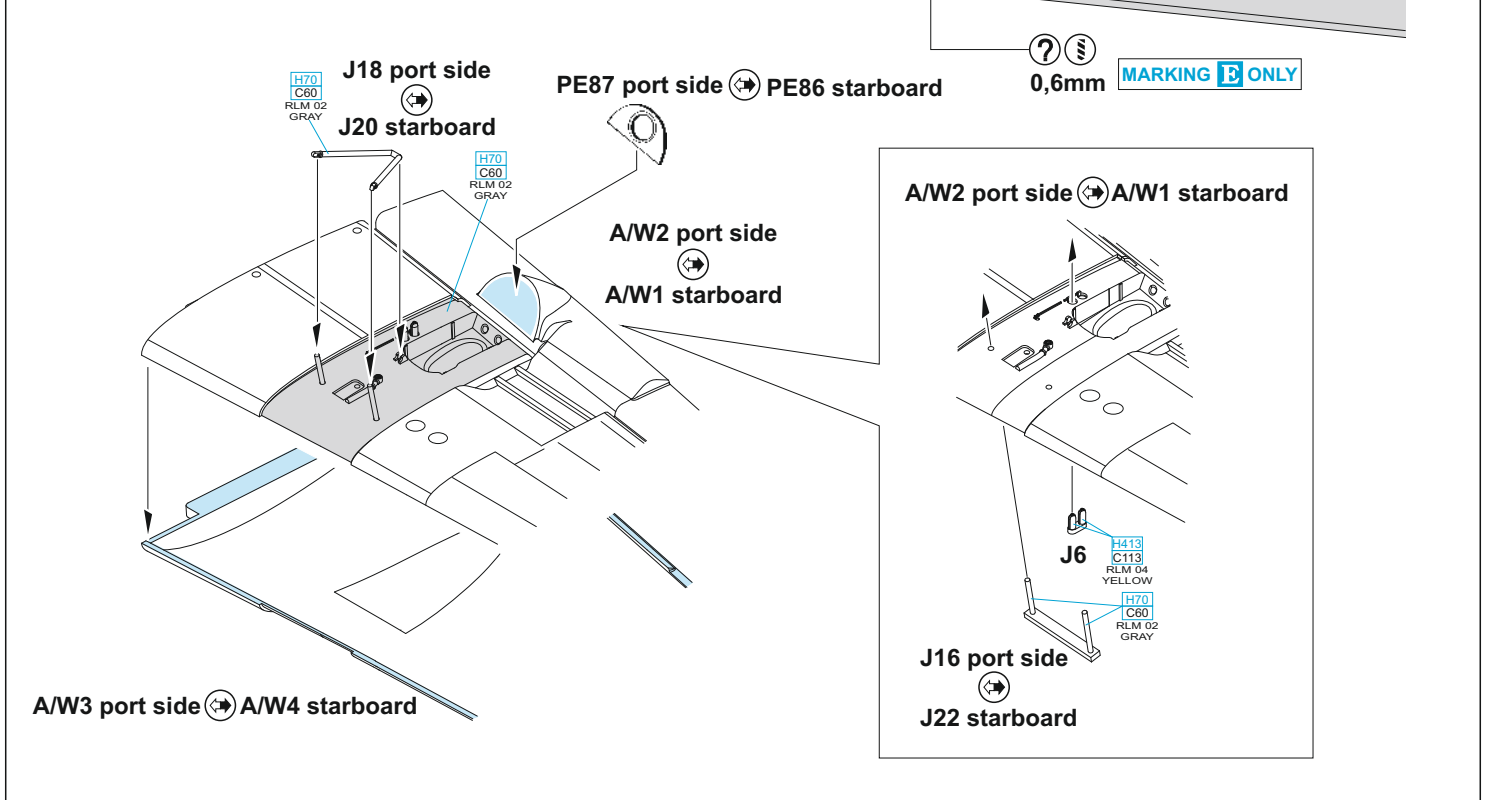
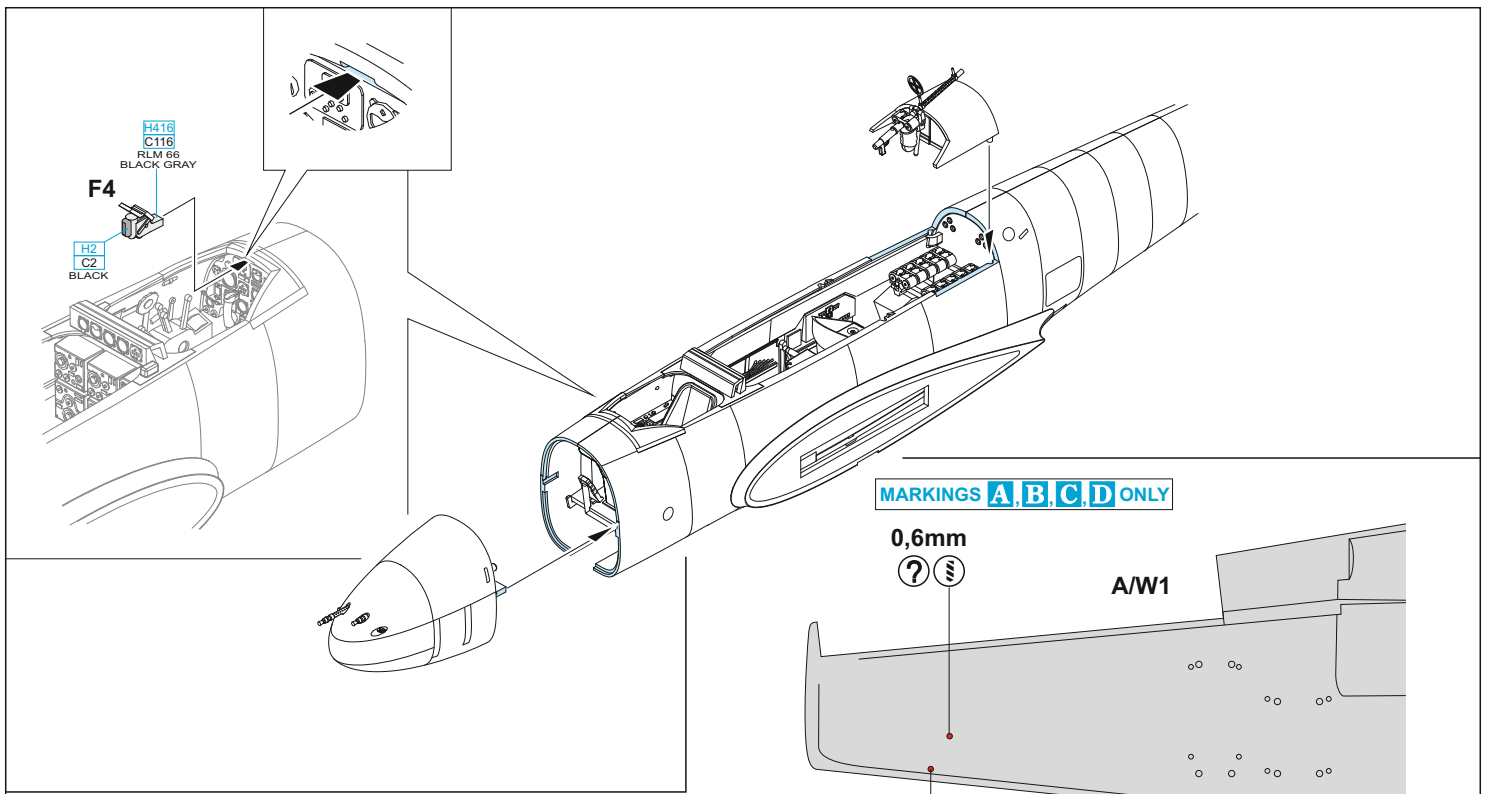




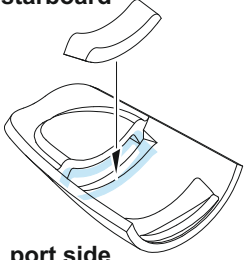


J25
 PE59
 OPTIONAL: decal K9
 PE57
 PE58

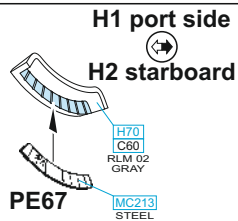




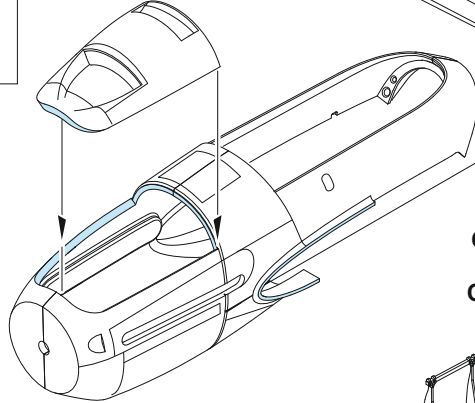
H1 port side
H2 starboard



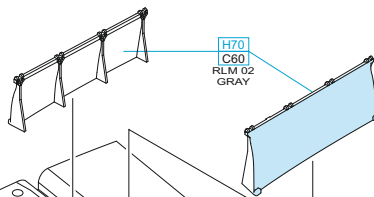
H11 port side
H4 starboard



H11 port side
H4 starboard

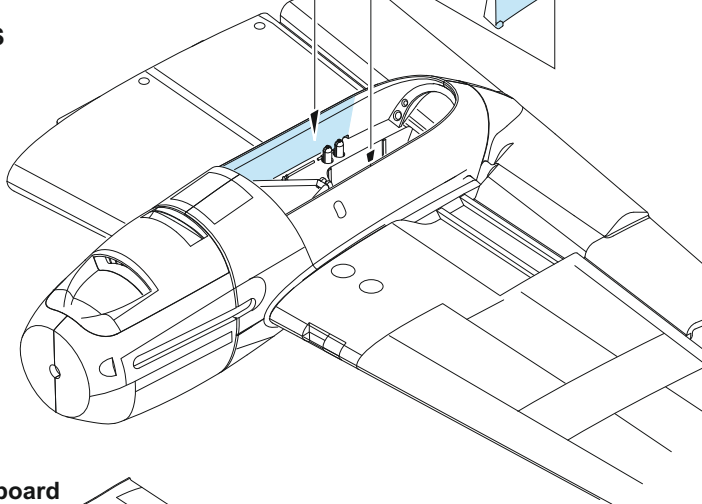


C25 port side
C36 starboard

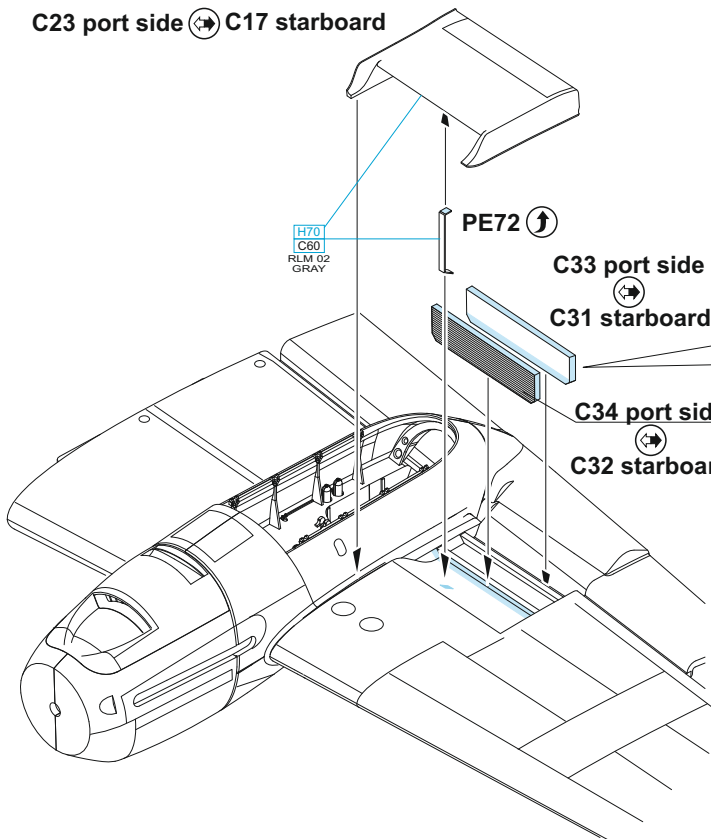


C26 port side
C35 starboard

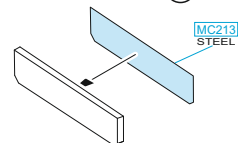
GLUE THE WHEEL WELL SIDES STRICTLY AFTER THE ENGINE NACELLES ARE GLUED ONTO THE WING!



C23 port side C17 starboard

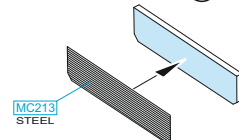


PE75 port side PE73 starboard

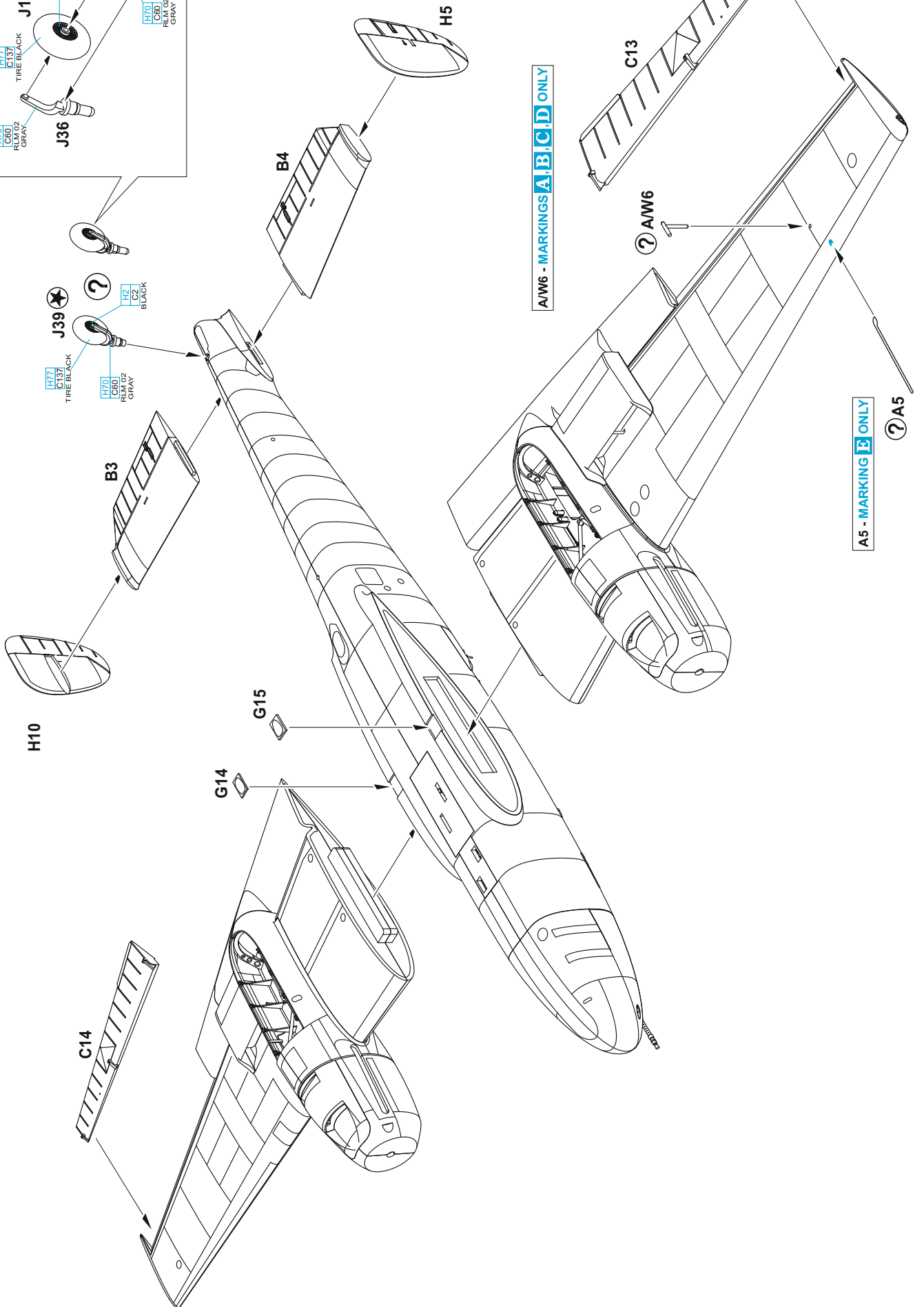
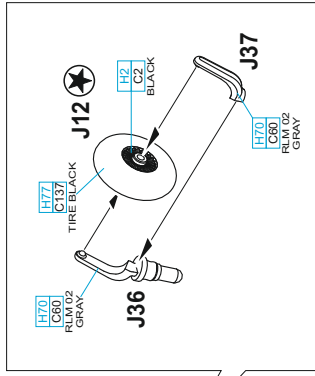


C33 port side C31 starboard

C34 port side C32 starboard

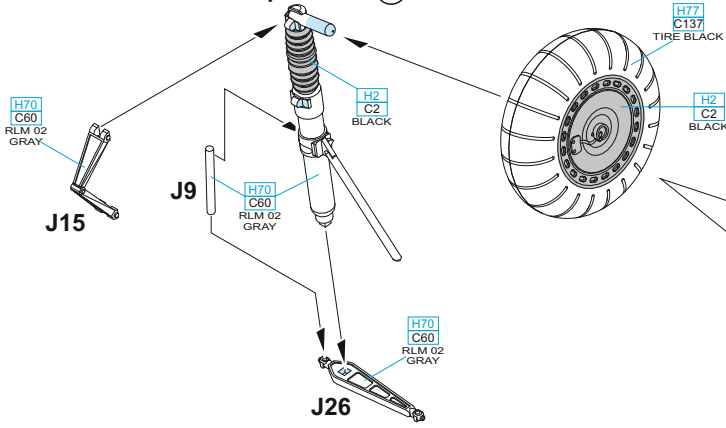


PE76 port side PE74 starboard

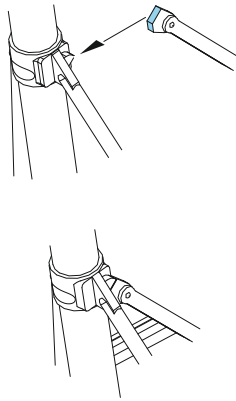
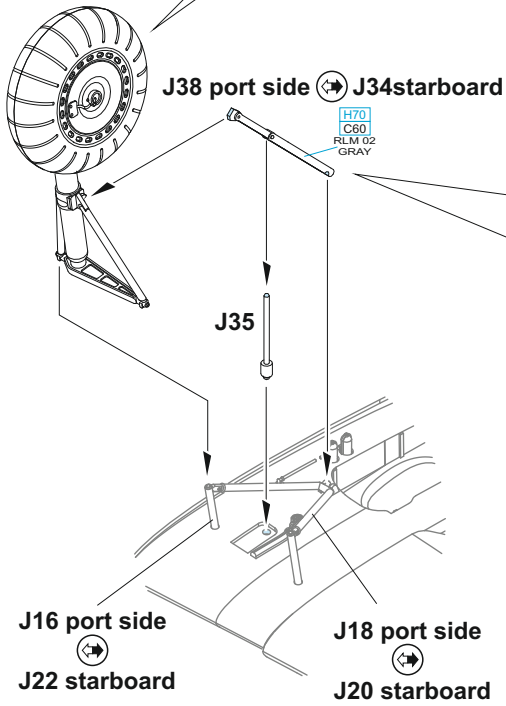
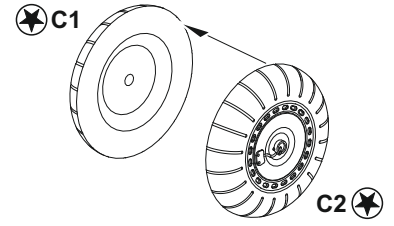


2 pcs.

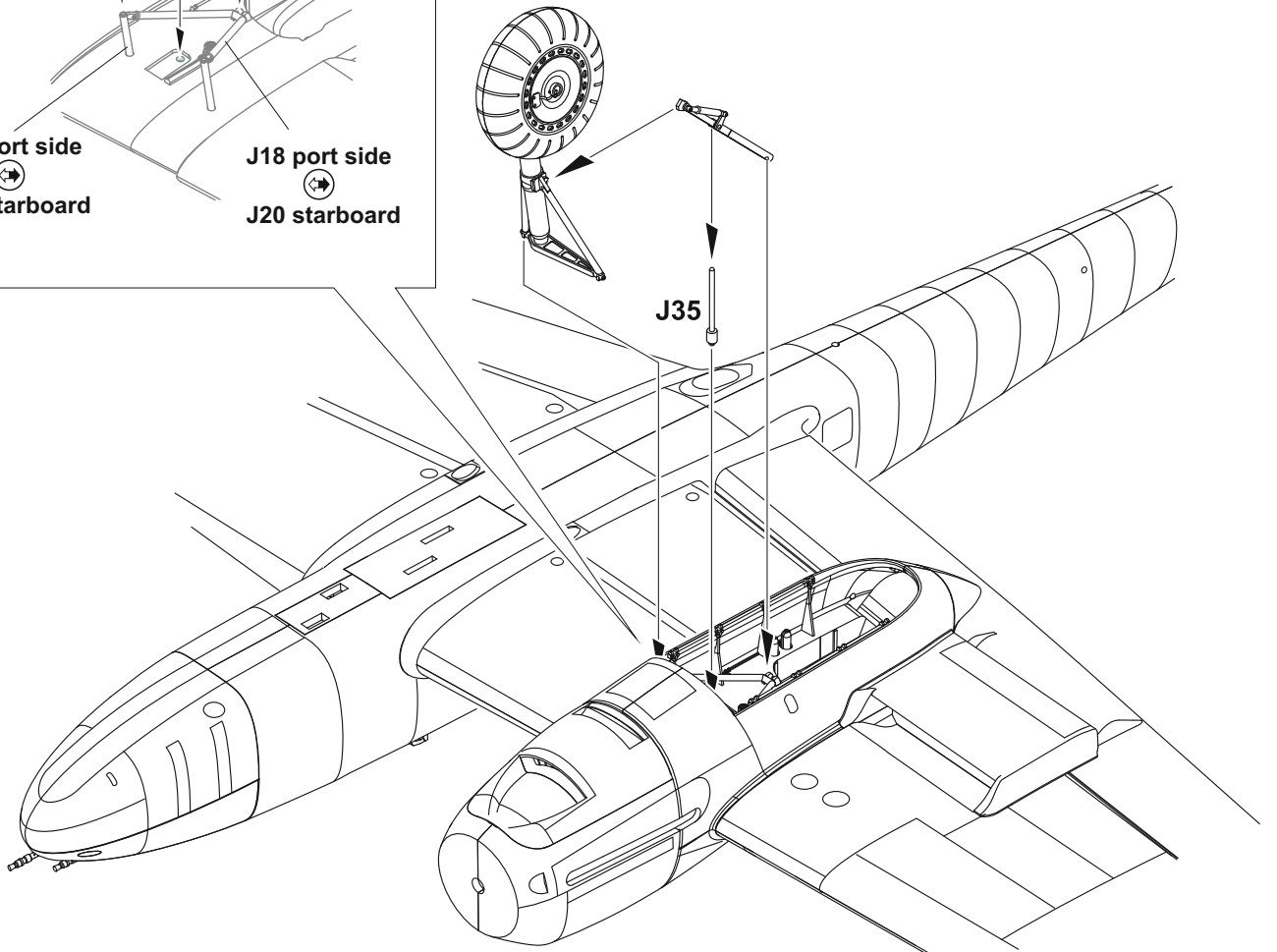
J30 port side ↔ J23 starboard

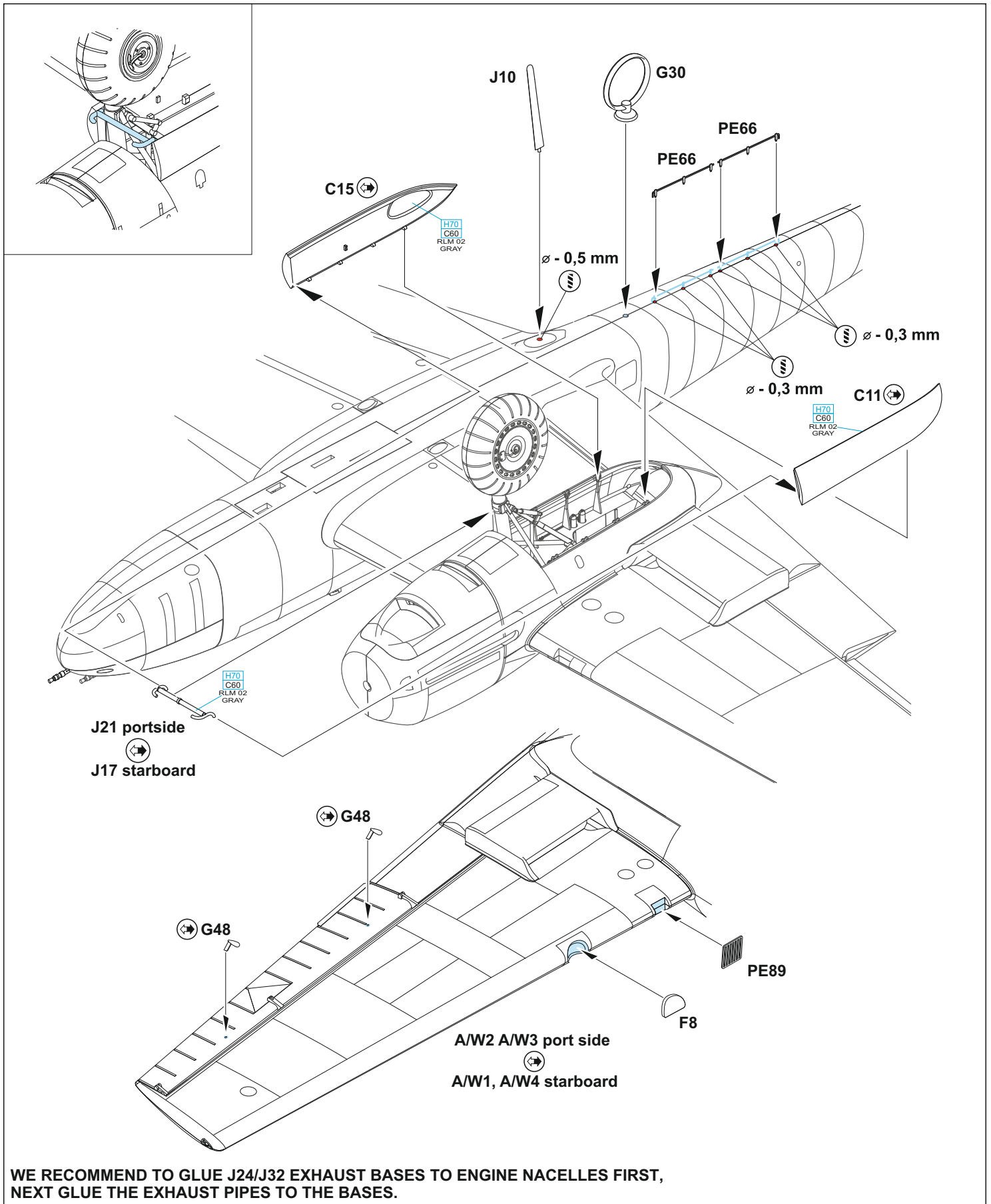


2 pcs.

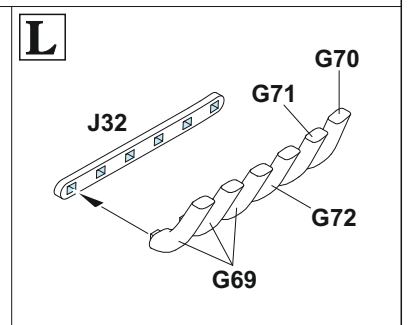
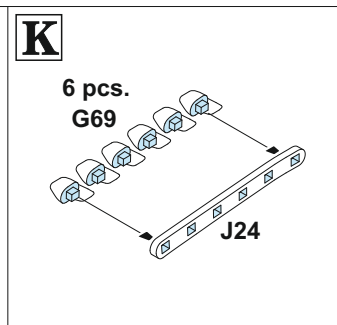
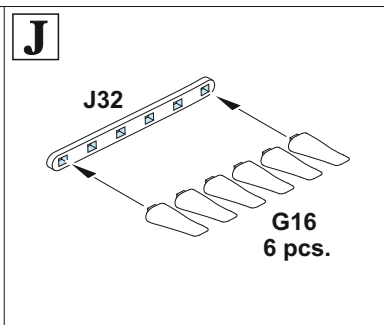
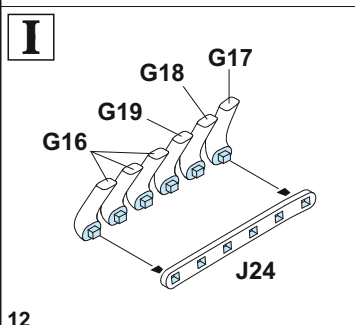


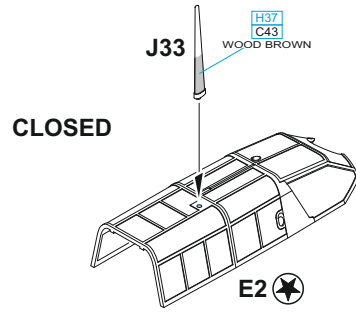
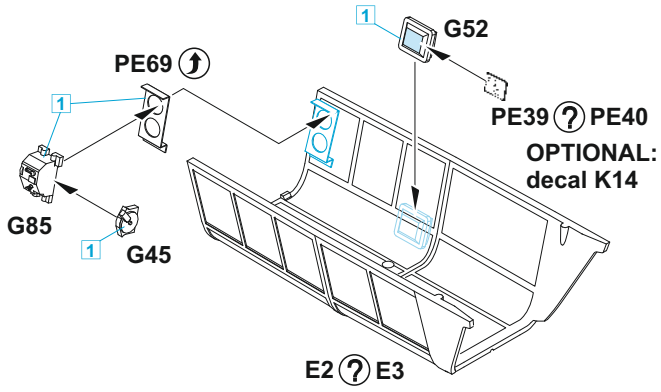
CORRECT POSITION OF WHEELS



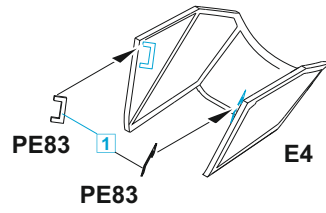
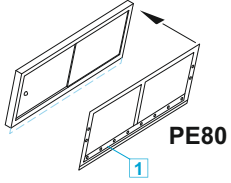


WE RECOMMEND TO GLUE J24/J32 EXHAUST BASES TO ENGINE NACELLES FIRST, NEXT GLUE THE EXHAUST PIPES TO THE BASES.

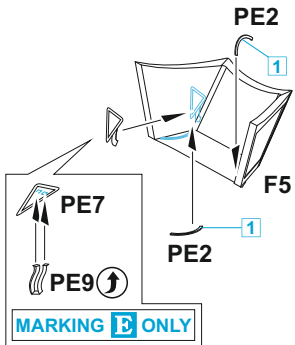
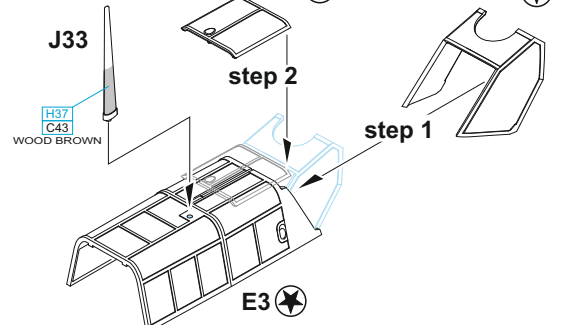




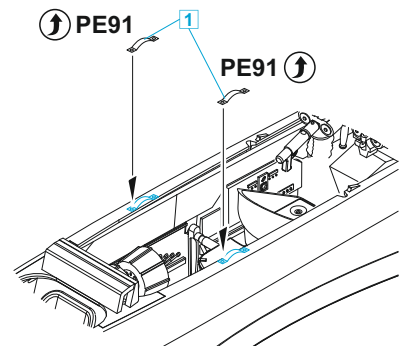
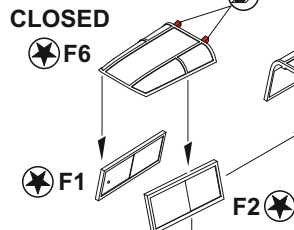
F2 port side ↔ F1 starboard



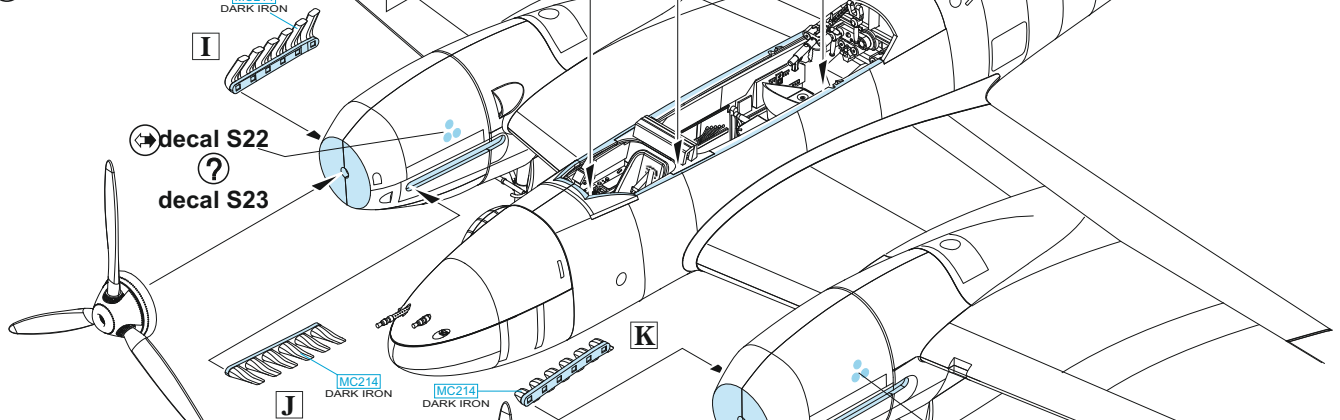
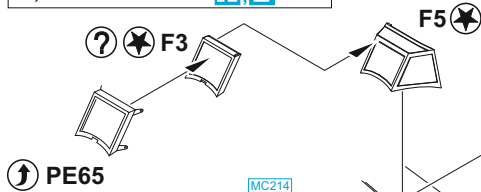
OPEN



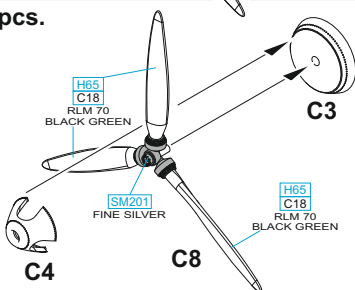
OPEN



F3, PE65 - MARKINGS A, E ONLY

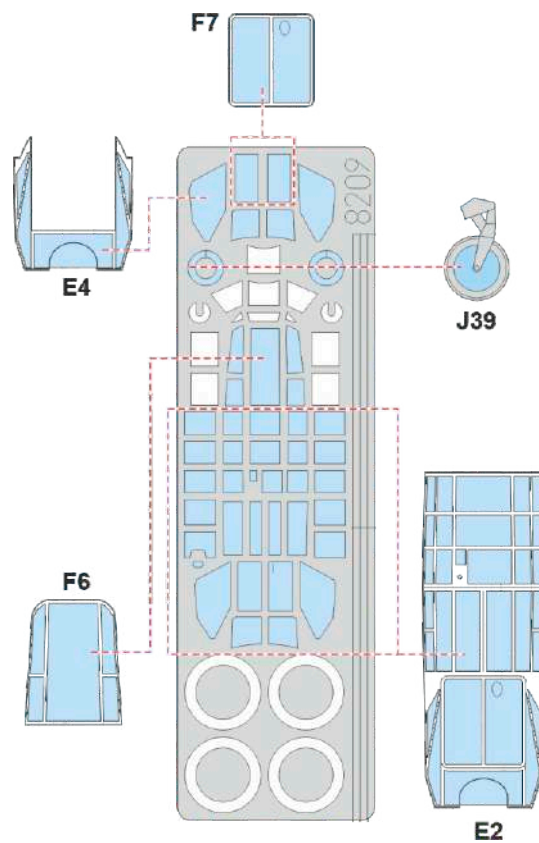
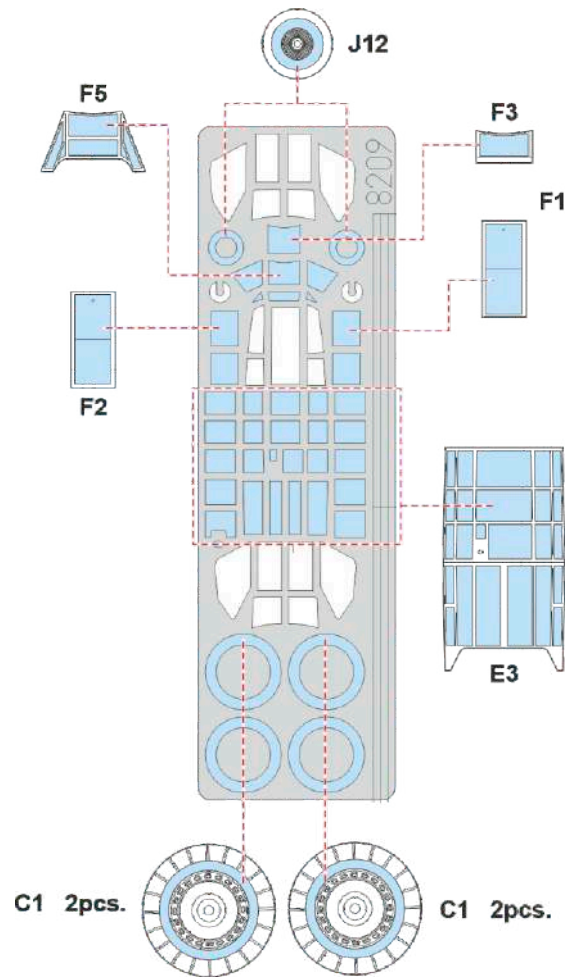


2 pcs.



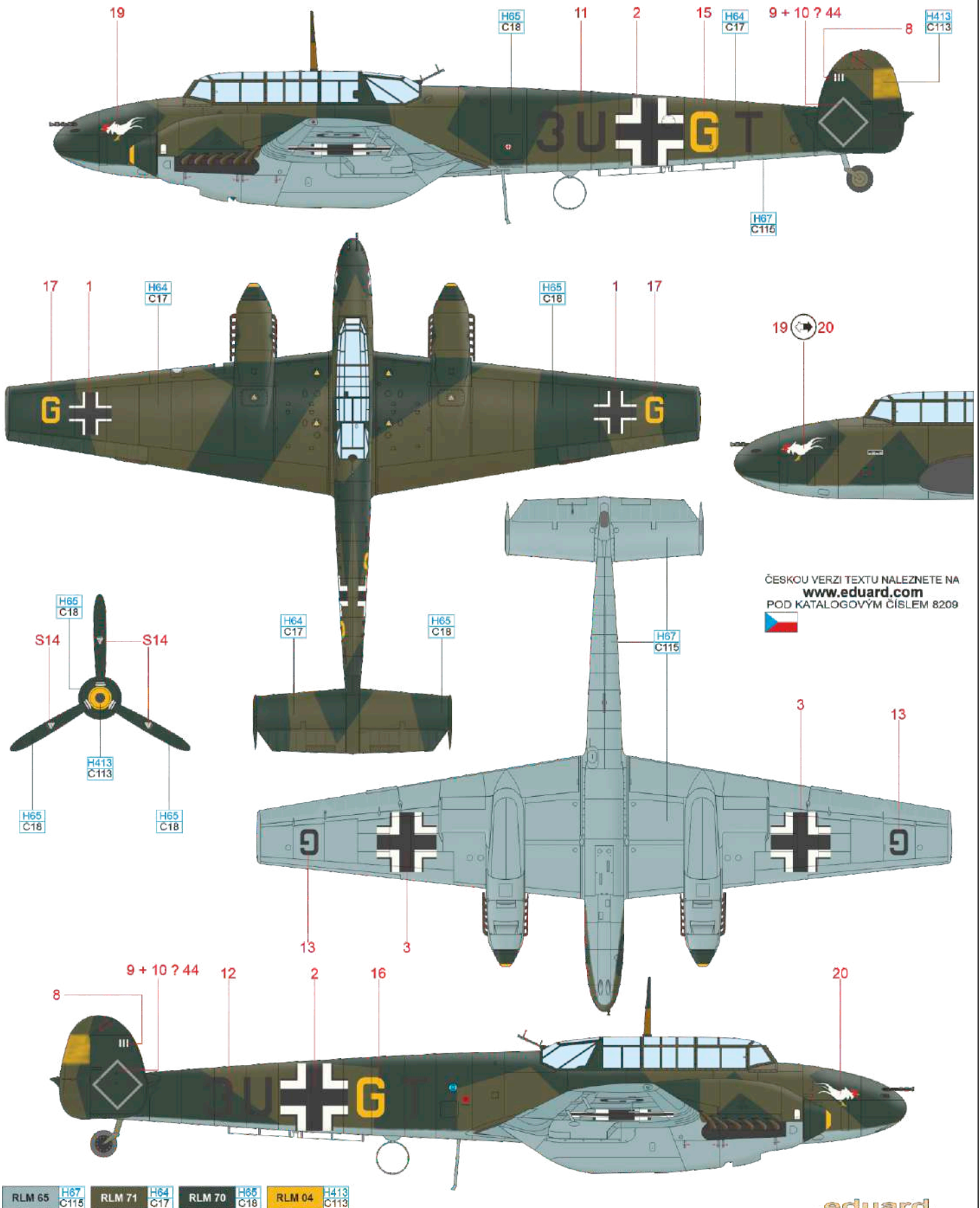
decal S22
decal S23





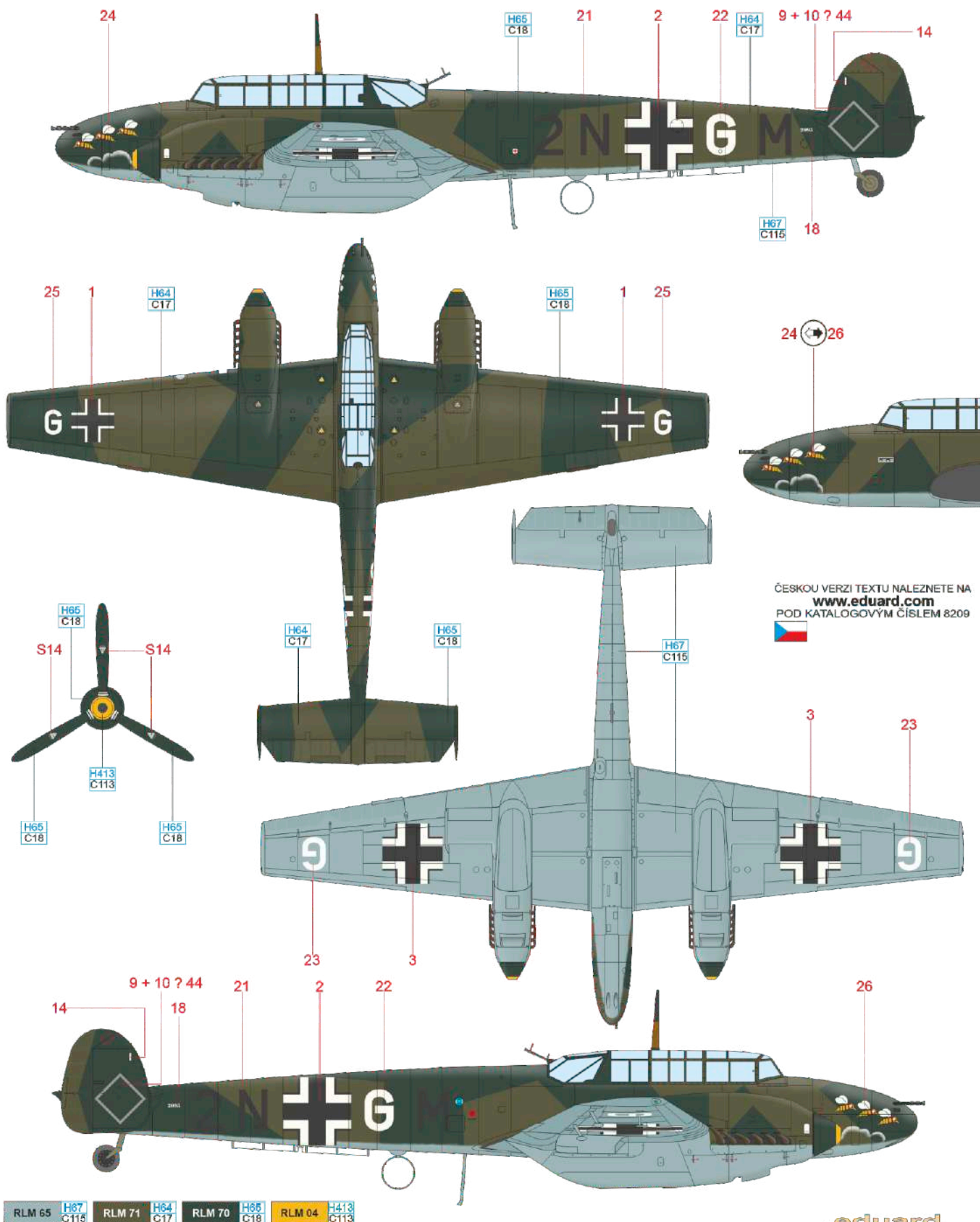
A Bf 110C-2, WNr. 3578, 9./ZG 26, Barly, France, August 1940

In the beginning of the war this Zerstörergruppe was equipped with Messerschmitts Bf 110D. III./ZG 26 converted to 110s in the beginning of 1940 under the command of Hptm. Johannes Schalk. Before the war, this aviator commander the Austrian Jagdgruppe 1 and he was also one of the first Bf 110 pilots decorated with Knight's Cross. On September 3, 1940, Ofw. Hott behind the controls of this One-Ten, participated with the whole III./ZG 26 in escorting Do 17 from II./KG 2 on their raid to the North Weald airfield. While defending the bombers, his aircraft was damaged and Ofw. Hott crash-landed it at Wissant, France. The damage was assessed as being at eighty percent. This aircraft was camouflaged in RLM 70, 71 and 65 colors. There is a 9./ZG 26 insignia painted on the both sides of the nose – a white cock at the fighting stance. The aircraft's individual letter, repeated on the wingtip, is painted in the Staffel color i.e. yellow. There are three white bars painted on the vertical tail surfaces marking the enemy aircraft shot down.



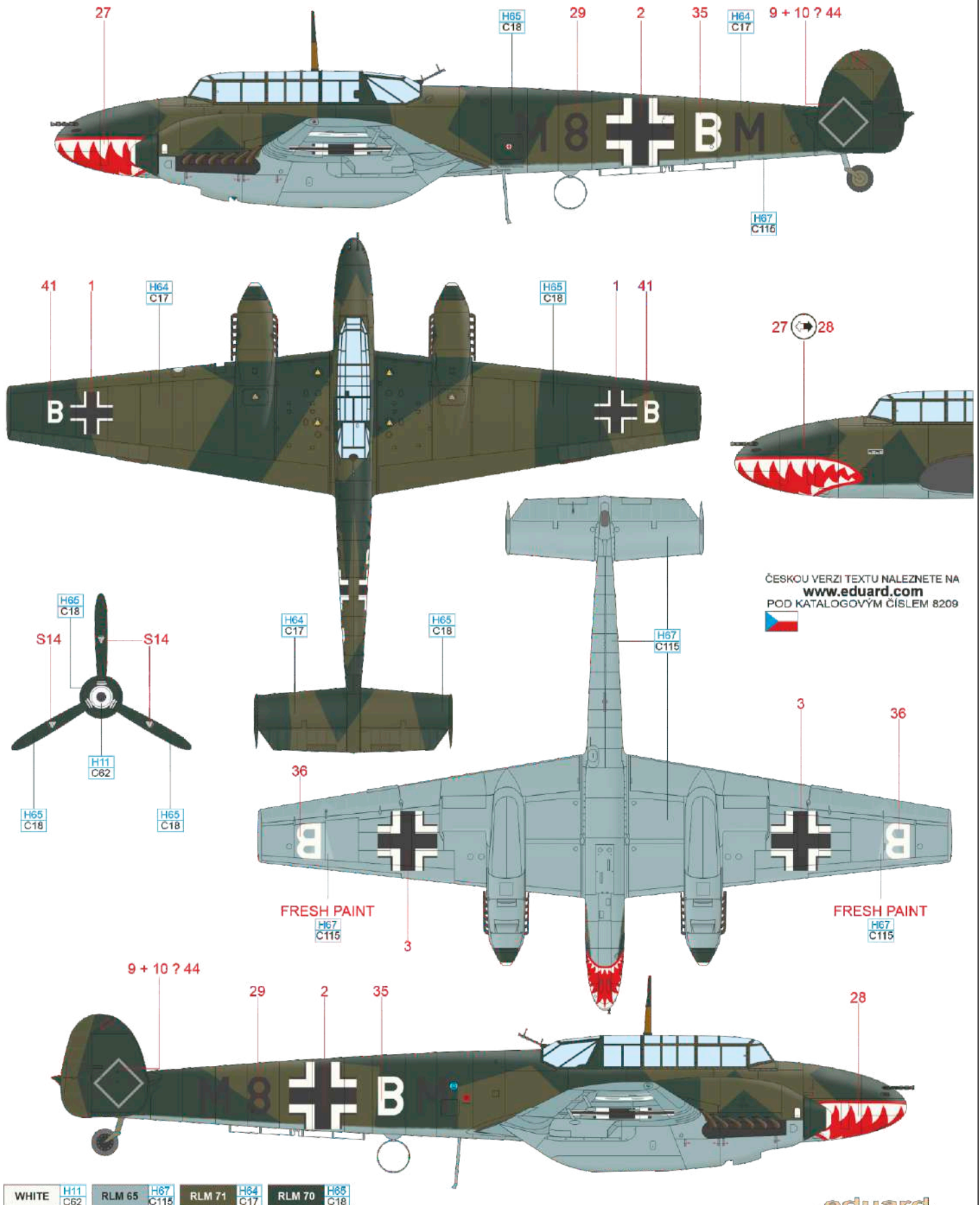
B Bf 110C-4, WNr. 2095, 4./ZG 1, Trier-Euren, Germany, June 1940

II./ZG 1 was established on May 15, 1939, based on I. Gruppe JG 54 and equipped with the single-seat Bf 109D and Bf 109E. The conversion to the Bf 110C two-seat heavy fighters took place in March 1940 in the Northern Germany. After the transfer to the western border, in the preparation for the attack on the Netherlands, Belgium and France, the unit was incorporated into the Luftflotte 2 under which command it flew combat missions until the surrender of France. Then the II./ZG 76 was renamed as III. Gruppe Zerstörergeschwader 76. The unit's insignia in the form of three wasps painted on the aircraft nose, was retained even after the unit's transfer.



C Bf 110C-2, WNr. 3257, Hptm. Heinz Wagner/Stfw. Adolf Schmidt, CO of 4./ZG 76, Abbeville, France, August 1940

II. Gruppe Zerstörergeschwader 76 was established on May 1, 1939, by renaming I./ZG 144. It was equipped with single-seat Messerschmitt Bf 109D which in February and March they traded for Bf 110. Flying One-Tens the unit took part in the attack on the Netherlands, Belgium and France and after France surrendered the unit was transferred to Abbeville airfield on the French coast from where it started to fly bomber escorts to the targets in the Great Britain. The last flight of the Messerschmitt Bf 110C-2 marked M8+BM and crewed by Hptm. Heinz Wagner and radio operator Stfw. Adolf Schmidt, was a bomber escort to the Luton airfield with the adjacent industrial area which took place on August 30, 1940. The plane was most probably shot down by British ace P/O William McKnight (flying as a wingman to S/Ldr Bader) at the altitude of 1,000 feet. It crashed on Enfield Sewage Farm, Wharf Road, Ponders End near the large reservoir and the crew was killed.



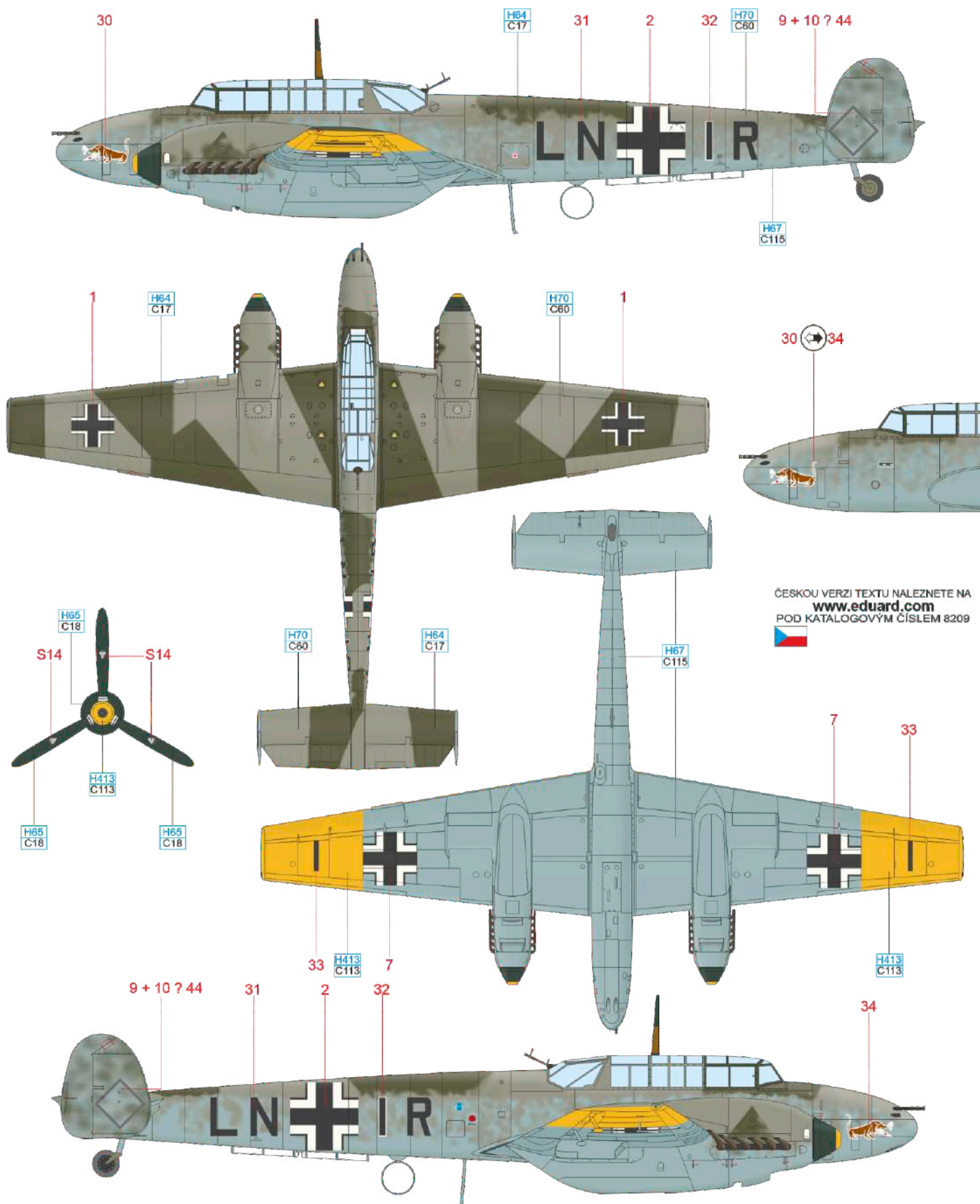
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WHITE H11 C62 RLM 65 H67 C115 RLM 71 H64 C17 RLM 70 H65 C18

D Bf 110C-2, WNr. 3026, Lt. K. Koch, 1.(Z)/JG 77, Kirkenes, Norway, October 1941

Zerstörerstaffel of the newly established I./JG 77, equipped with the aircraft and personnel from III./ZG 76, was formed in May 1941. The reason were the preparations for the attack against the Soviet Union. The unit was transferred to the Hoybuktnoen airfield near Kirkenes. The mission of the Bf 110 crews were the attacks against the railroad connecting the important port of Murmansk with the rest of the Soviet Union. The unit was equipped with Bf 110C, D and probably several Bf 110E aircraft. In January 1941 the unit was renamed to 6.(Z)/JG 5. The camouflage of this aircraft was probably sprayed with RLM 71 and 02 on the upper surfaces, side and lower surfaces were camouflaged in RLM 65. The factory markings were over sprayed with RLM 02 and the mottling was sprayed in the same color. The unit insignia, a dachshund biting the Soviet airplane, was painted on the aircraft's nose.

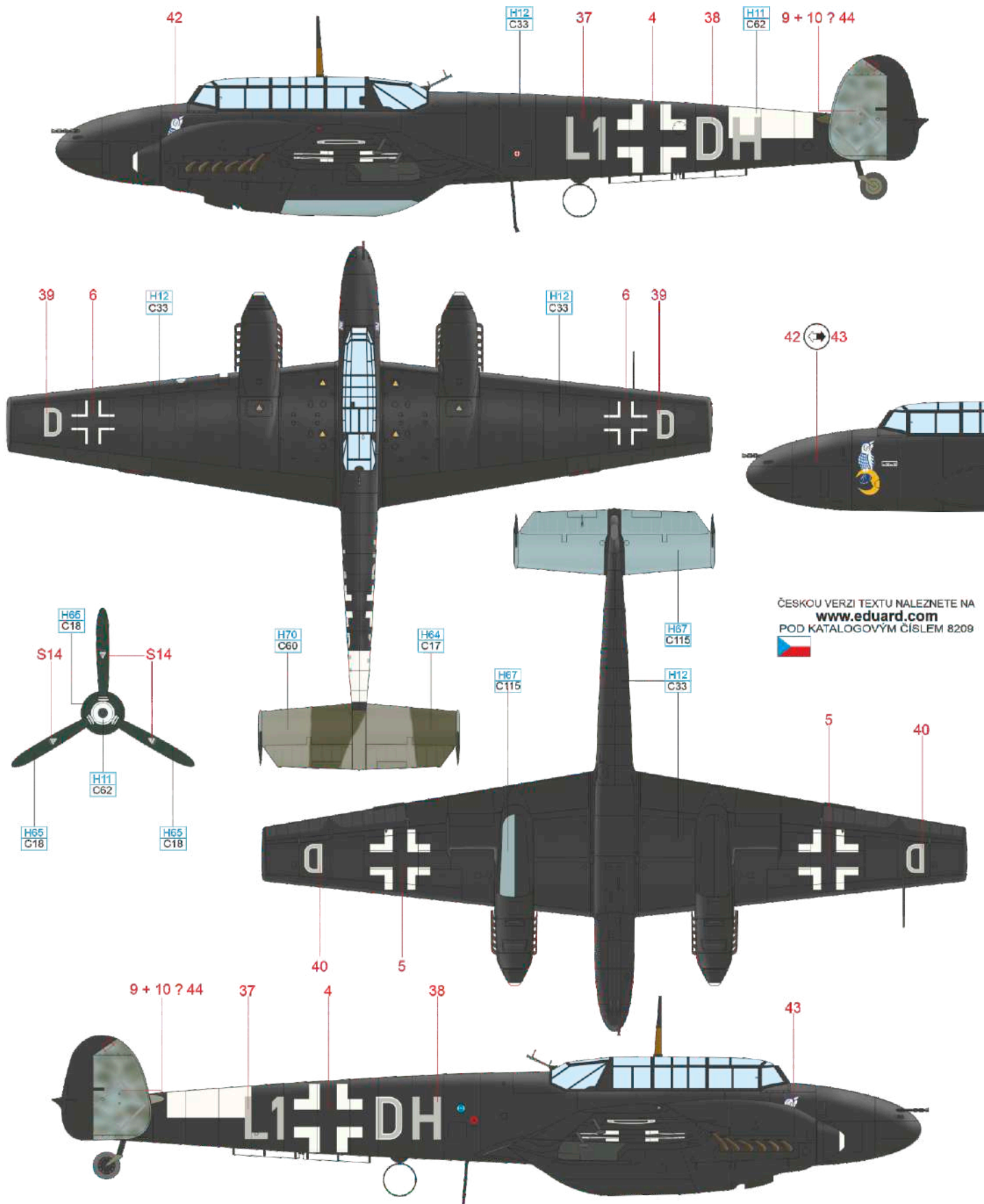


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- RLM 04
- H413 C113
- RLM 65
- H67 C115
- RLM 71
- H64 C17
- RLM 02
- H70 C60
- RLM 70
- H66 C18

E Bf 110C, 1./NJG 3, Benghazi, Libya, May 1941

I. Gruppe Nachtjagdgeschwader 1 was formed by renaming V./LG 1 and its mission was the night interception of the British middle and heavy bombers flying raids against the German cities and industrial centers. Between February and October 1941, the 1. Staffel was temporarily relocated to the south, first in Sicily and Greece followed by the North Africa, Benghazi and Derna airfields. The unit flew missions with its Messerschmitts Bf 110C and D against the British bombers attacking the German and Italian troops. During the unit's operations on the southern front the fighters were camouflaged in black color. The white band on the fuselage tail, marking the aircraft flying on the southern front, was painted only partially, on the fuselage spine. 1./NJG 3 insignia, an owl sitting on the Moon, was painted on both sides of the fuselage. During its service in the south, the featured airplane had its vertical tail surfaces and complete horizontal tail surfaces replaced due to the damage. The replacement parts retained their original camouflage.



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WHITE H11 C62 RLM 65 H67 C115 RLM 71 H64 C17 RLM 02 H70 C60 RLM 70 H66 C18 BLACK H12 C33

