

Bf 110F

eduard

1/72 Scale Plastic Model Kit

ProfiPACK
edition



item No. 7084

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 reworked the engine nacelles to adapt DB 601B-1 engines, when they had become 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) conformational 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 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 first night fighter, the 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.

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. The Bf 110 G-2/R1 could employ the 37 mm (1.46 in) BK 3,7 Bordkanone mounted in a conformational ventral gun pod under the fuselage.

This kit: Bf 110F

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 use of the DB 601P after they had become available. The E version had upgraded armor and reinforced fuselage in order to counteract the added weight. And it was the added weight what proved troublesome. The answer was the Bf 110F version with even more strengthened airframe and more powerful 993 kW engines DB 601F. The F-1 version was a fighter-bomber, while F-2 was long range heavy fighter often used against Allied heavy bombers. In Bf 110F-3 units got long-range reconnaissance aircraft and F-4 was developed as night fighter.

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 započatím 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
OHNOUTOPEN HOLE
VYVRTAT OTVORSYMETRICAL ASSEMBLY
SYMETRICKÁ MONTÁŽNOTCH
ZÁŘEZREMOVE
ODŘÍZNOUTAPPLY EDUARD MASK
AND PAINT
POUŽÍT EDUARDS MASK
NABARVIT

PARTS



DÍLY



TEILE



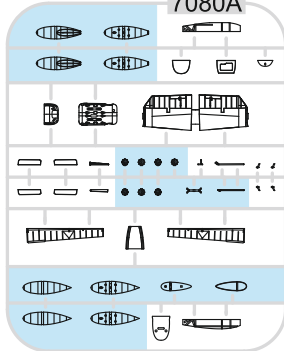
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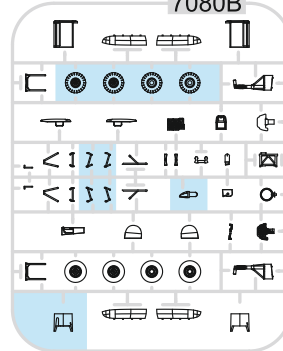
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PLASTIC PARTS

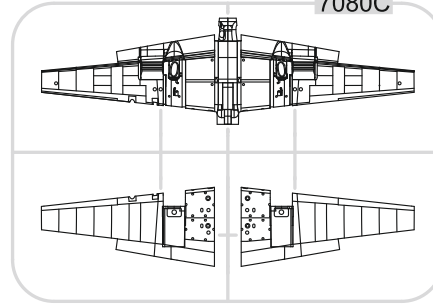
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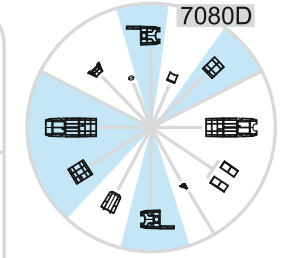
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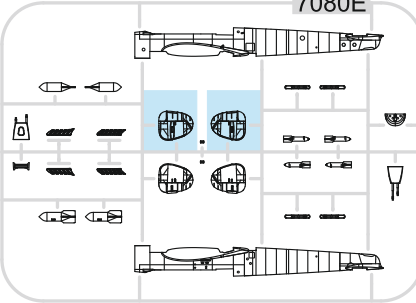
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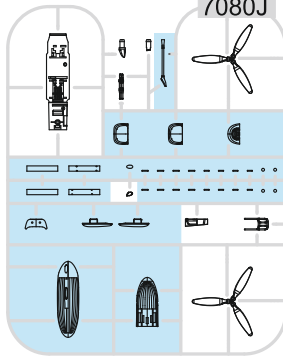
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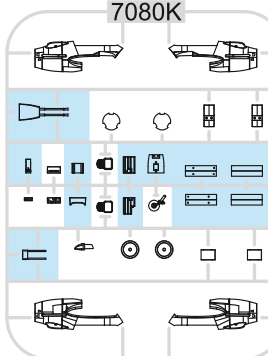
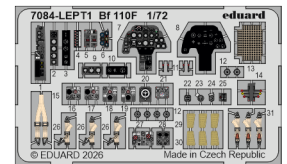
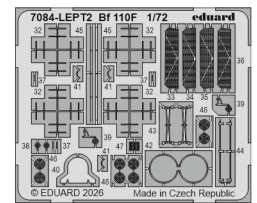
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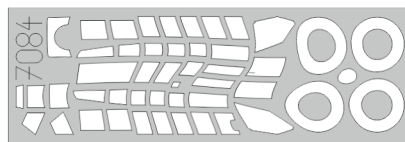
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K>

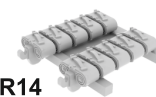
PE - PHOTO ETCHED
DETAIL PARTS

L>

eduard
MASK

RP - RESIN PARTS

R14



R22



R20



R21



-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



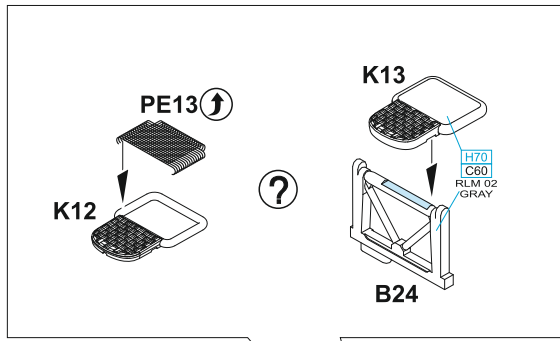
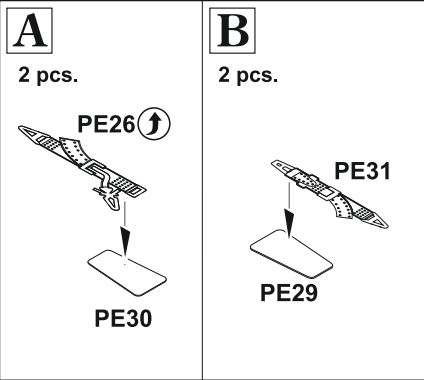
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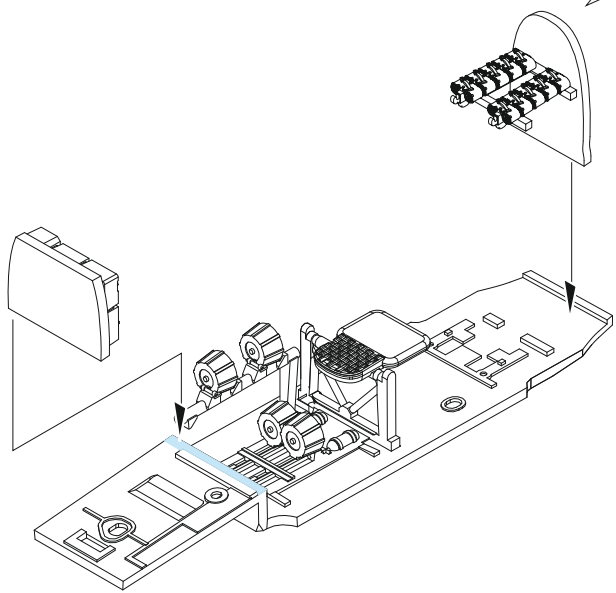
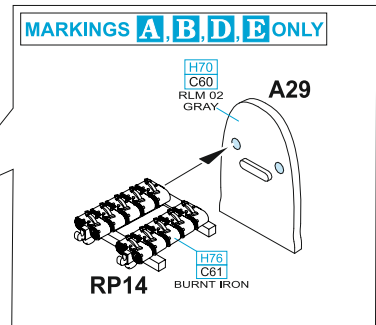
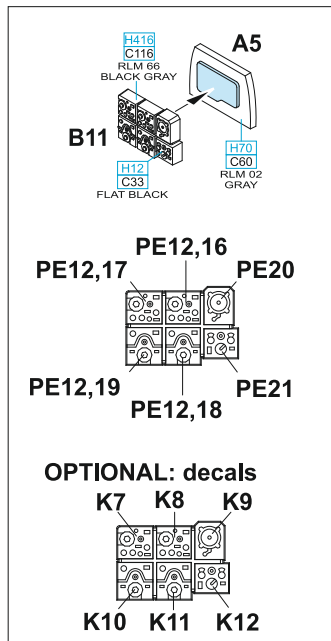
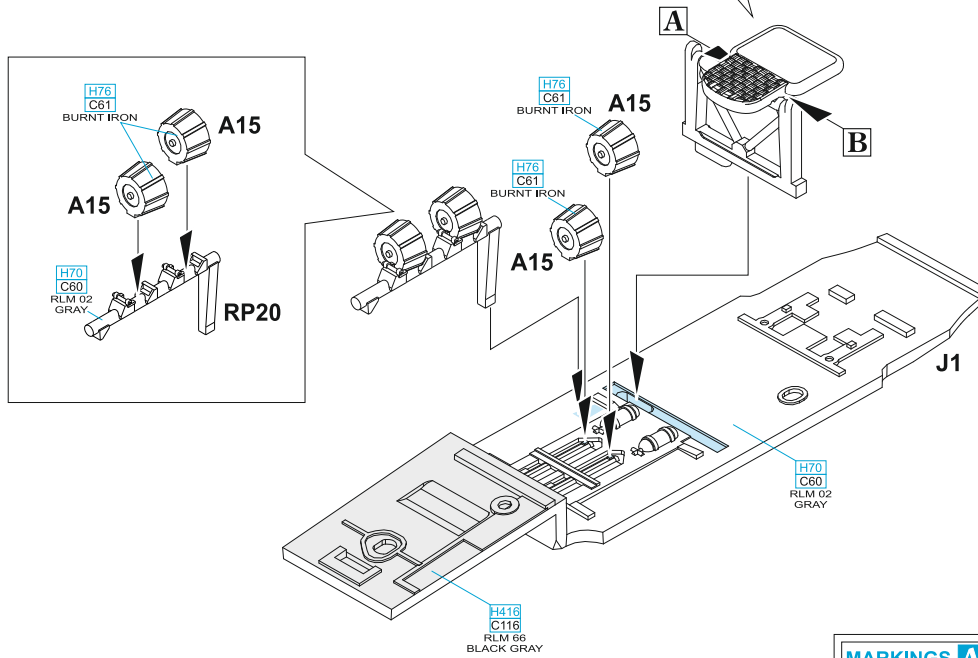
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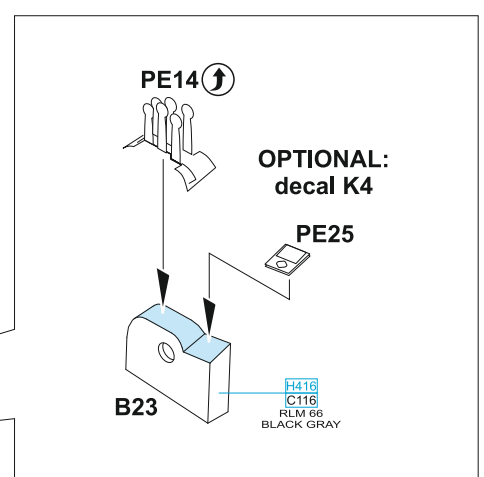
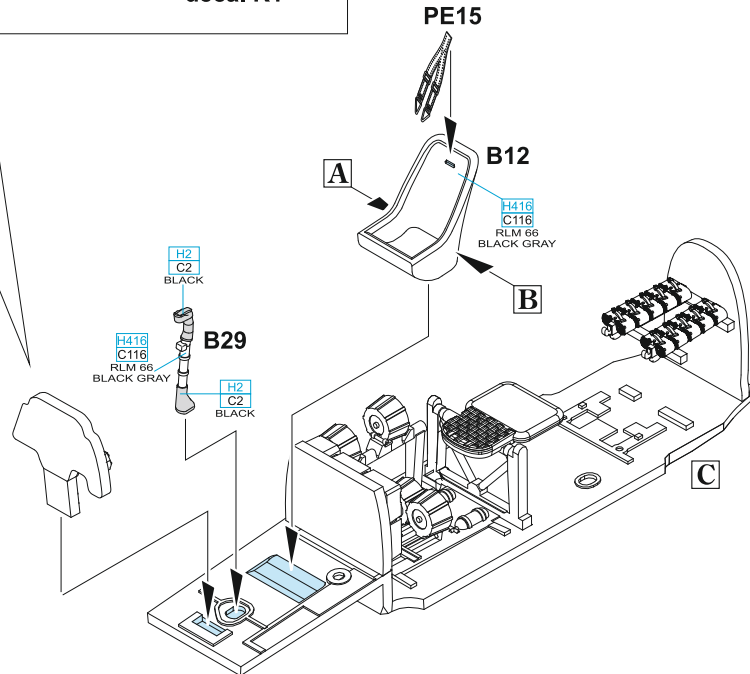
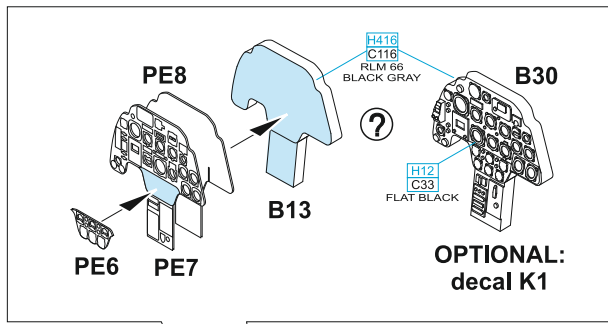
GSI Creos (GUNZE)		
AQUEOUS	Mr.COLOR	
H2	C2	BLACK
H6	C6	GREEN
H11	C62	FLAT WHITE
H12	C33	FLAT BLACK
H37	C43	WOOD BROWN
H65	C18	RLM70 BLACK GREEN
H68	C36	RLM74 DARK GRAY
H69	C37	RLM75 GRAY
H70	C60	GRAY
H76	C61	BURNT IRON

GSI Creos (GUNZE)		
AQUEOUS	Mr.COLOR	
H77	C137	TIRE BLACK
H80	C54	KHAKI GREEN
H413	C113	RLM04 YELLOW
H414	C114	RLM23 RED
H416	C116	RLM66 BLACK GRAY
H417	C117	RLM76 LIGHT BLUE
Mr.COLOR SUPER METALLIC		
SM201		SUPER FINE SILVER
SM212		ALUMINIUM

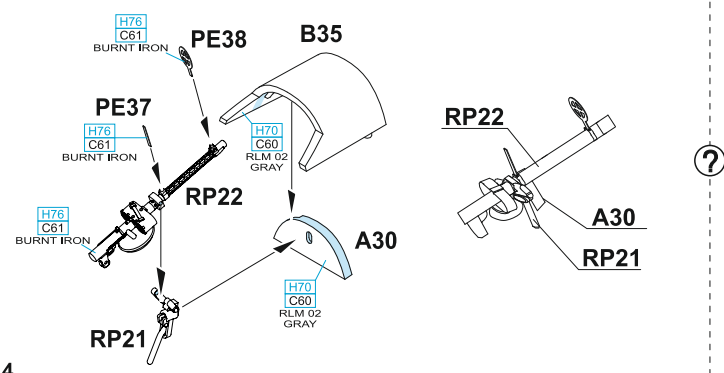


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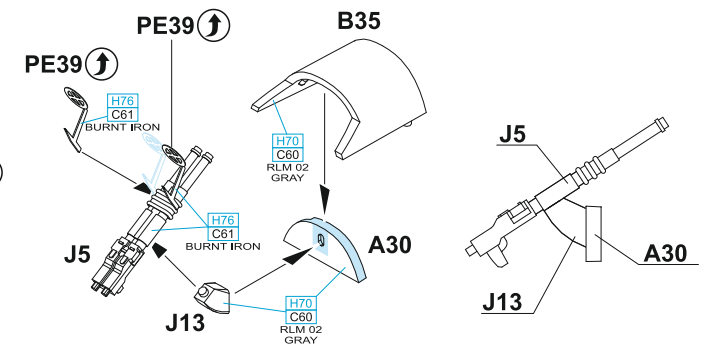




D MARKINGS **A, B, D, E**



MARKING C



BOMB RACKS

BOMB RACKS

∅ - 0,6 mm

∅ - 0,6 mm

∅ - 0,5 mm

C1

C3

C2

B10

A23

C1

A21

B9

K1

B28

K20

K5

K25

H76
C61
BURNT IRON

K24

B27

K20

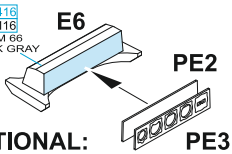
K5

K2

H76
C61
BURNT IRON

E MARKINGS A, B, C

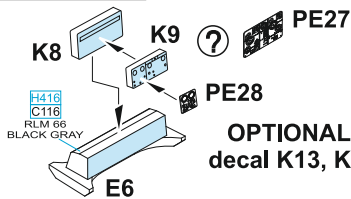
H416
C116
RLM 66
BLACK GRAY



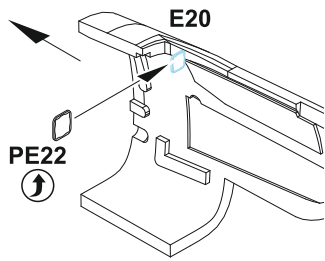
OPTIONAL:
decal K2

MARKINGS D, E

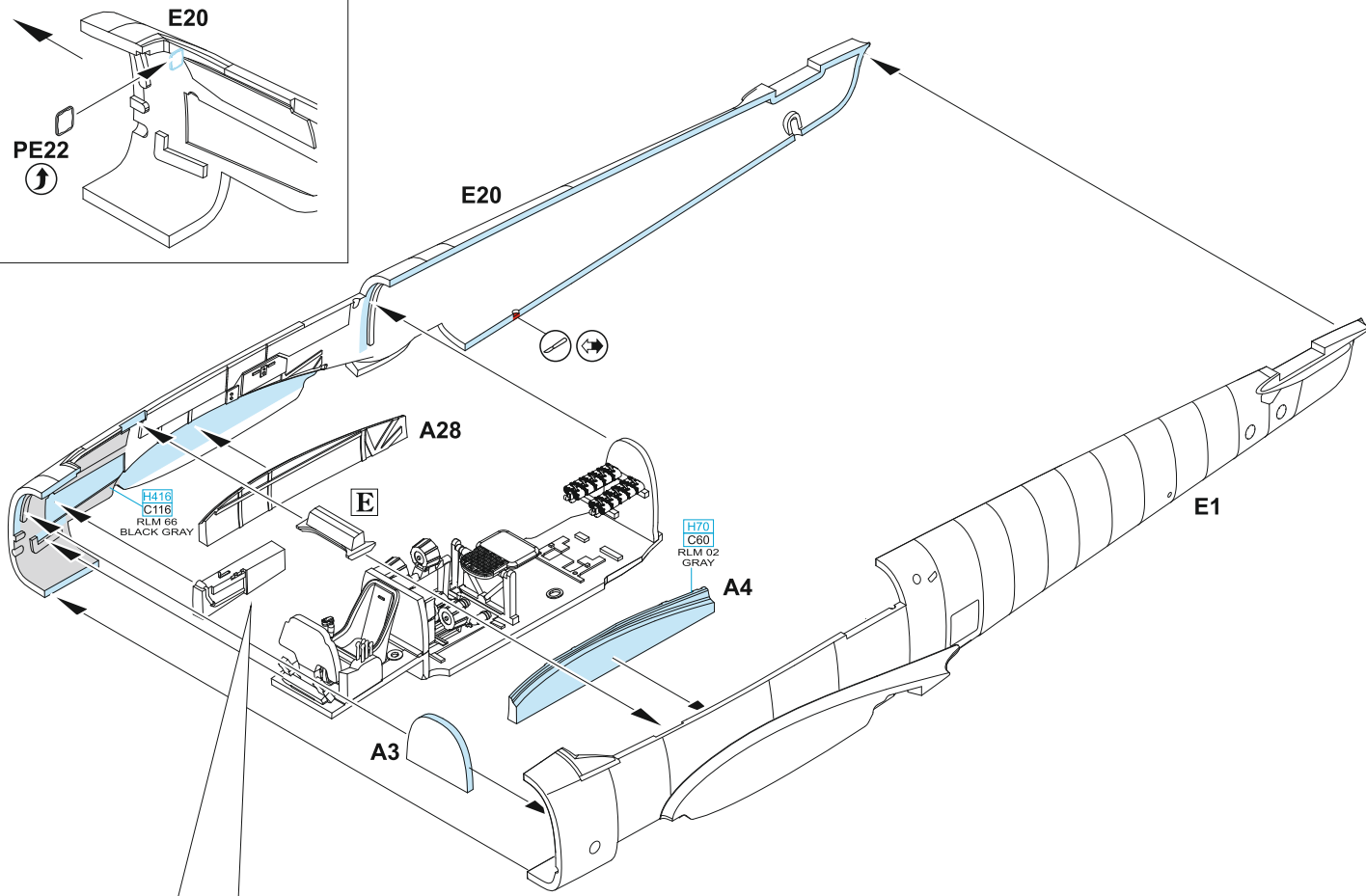
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C116
RLM 66
BLACK GRAY



OPTIONAL:
decal K13, K14



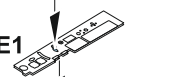
PE22



PE11

OPTIONAL:
decal K3

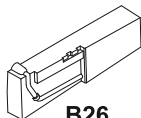
PE1



J20

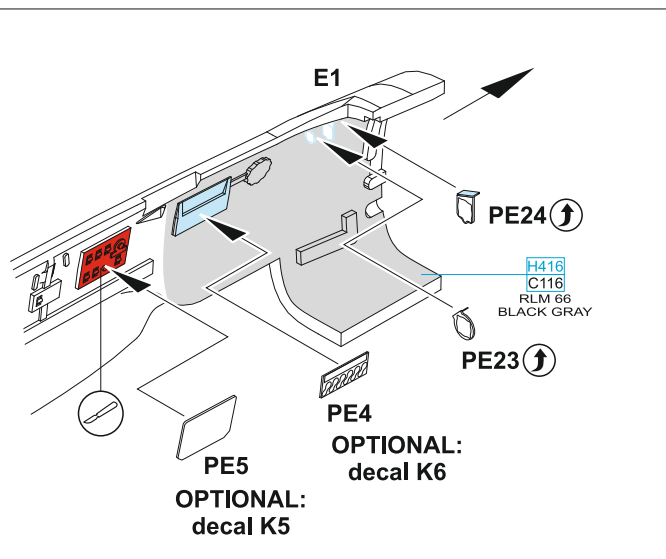
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BLACK GRAY

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B26

B26 - MARKINGS A, B, C
J20 - MARKINGS D, E



E1

PE24

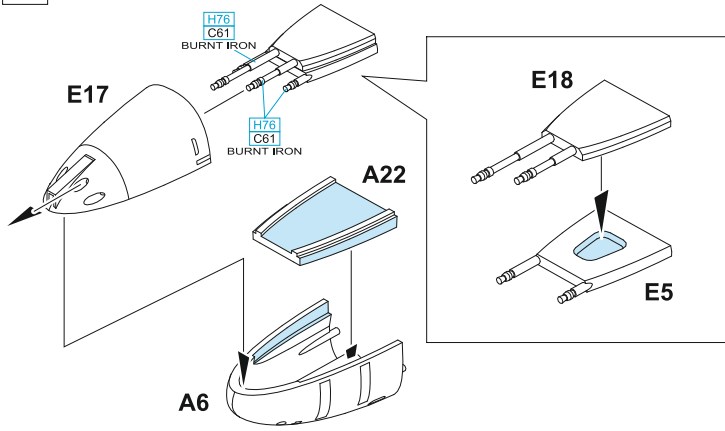
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PE23

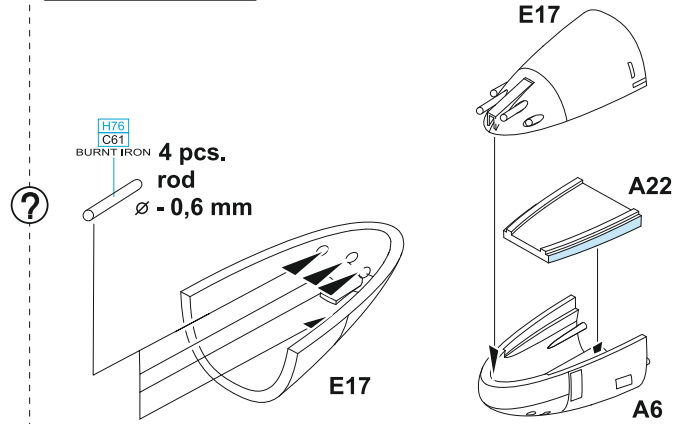
PE4
OPTIONAL:
decal K6

PE5
OPTIONAL:
decal K5

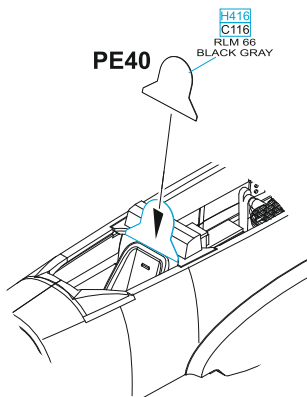
F MARKINGS **A, C**



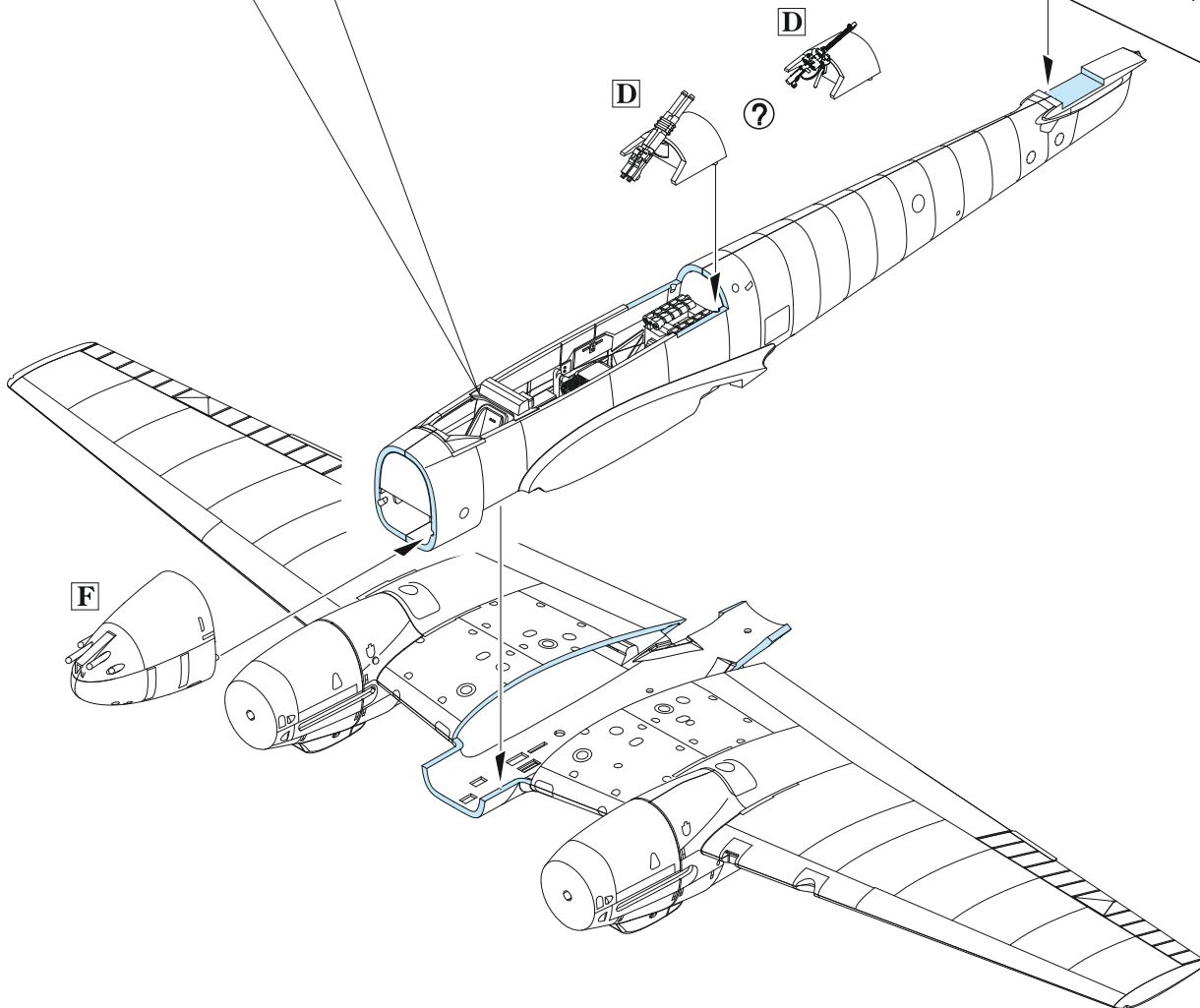
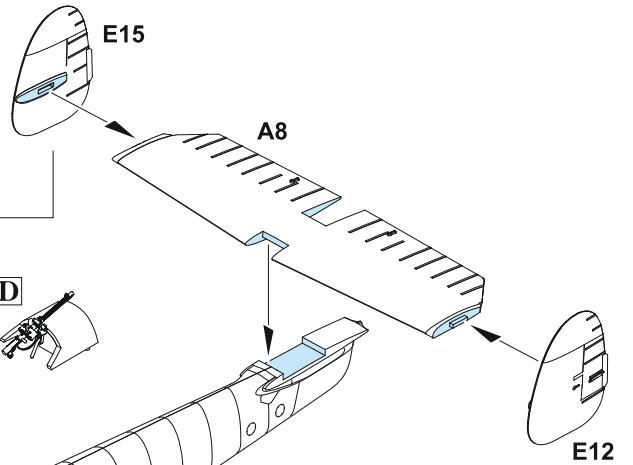
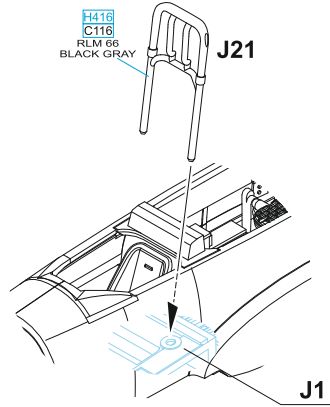
MARKINGS **B, D, E**

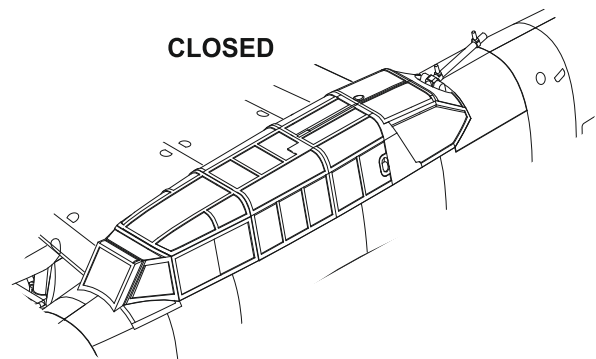
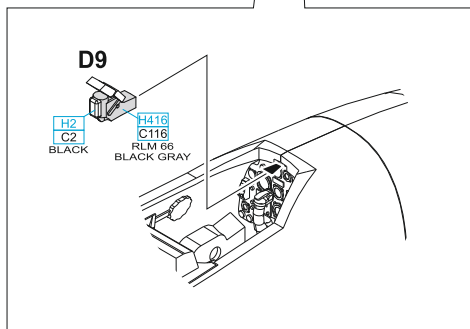
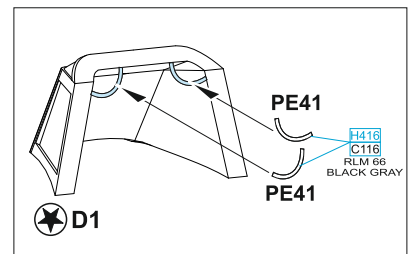
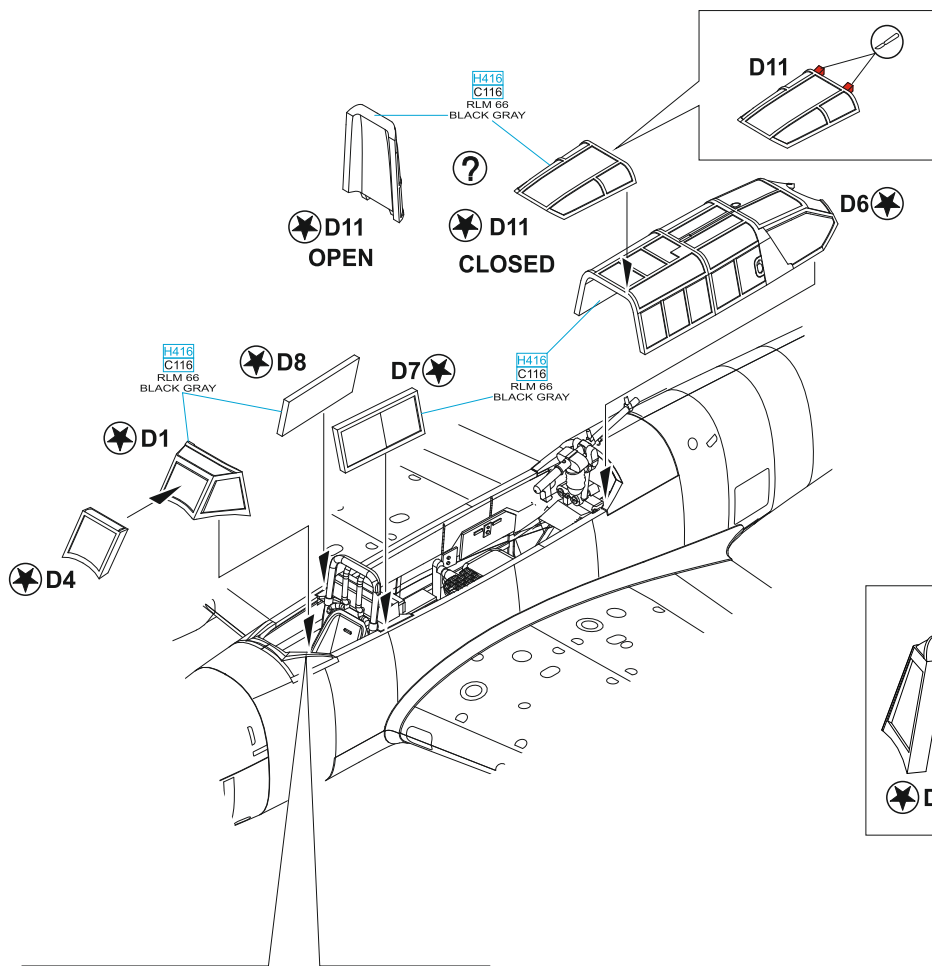


MARKINGS **A, B, C**

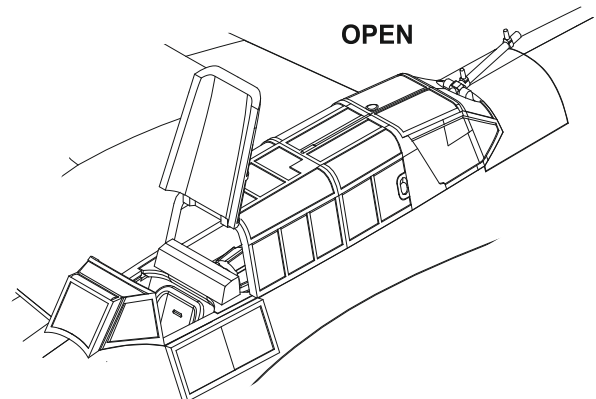
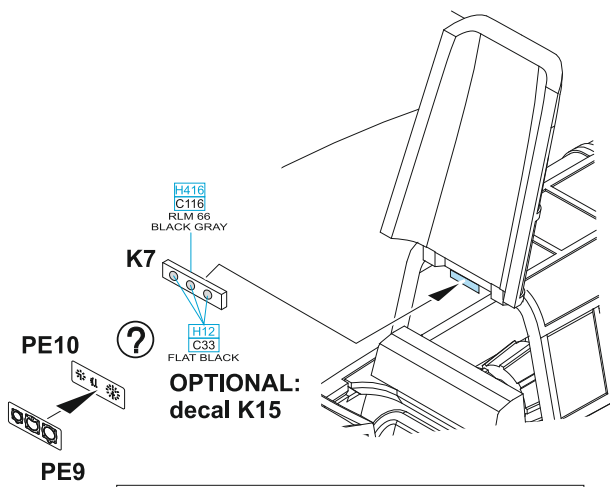


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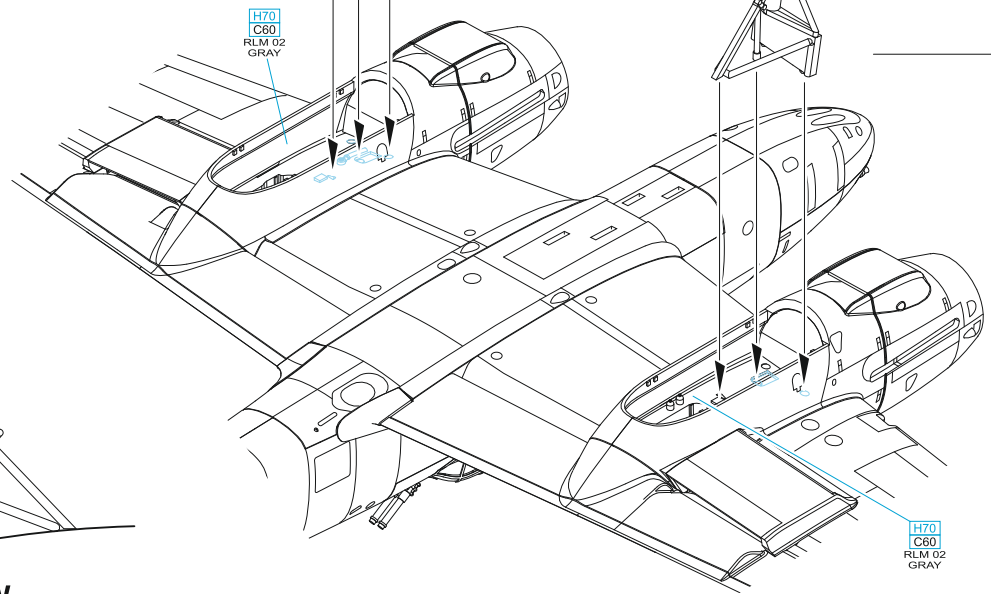
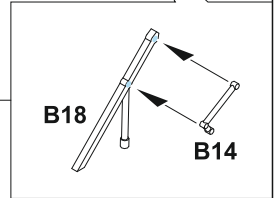
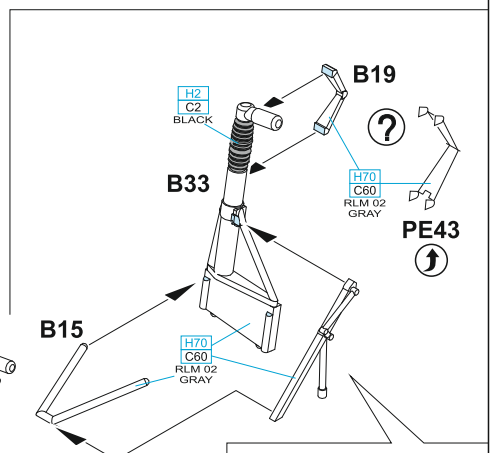
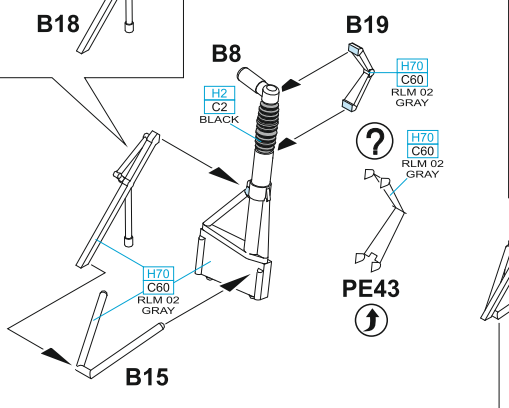
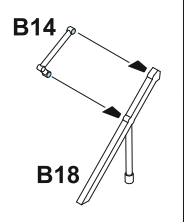
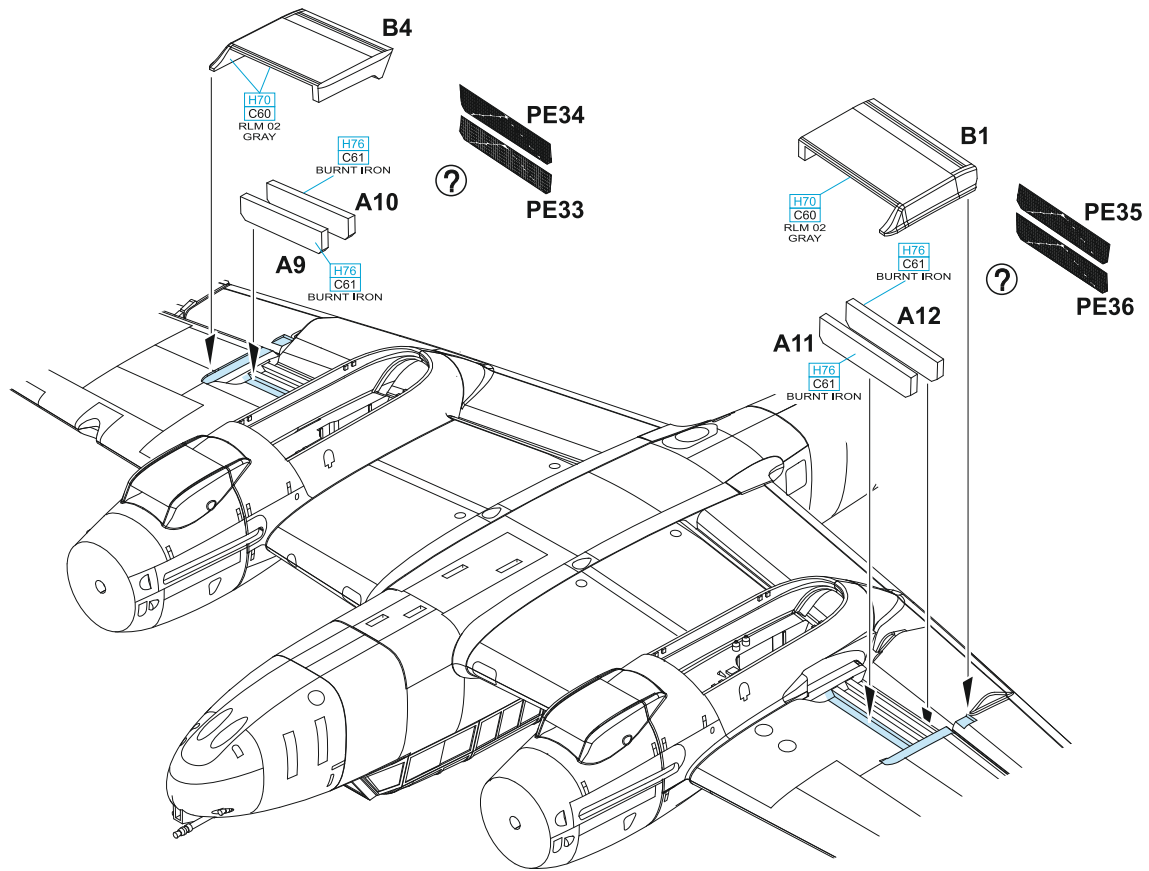




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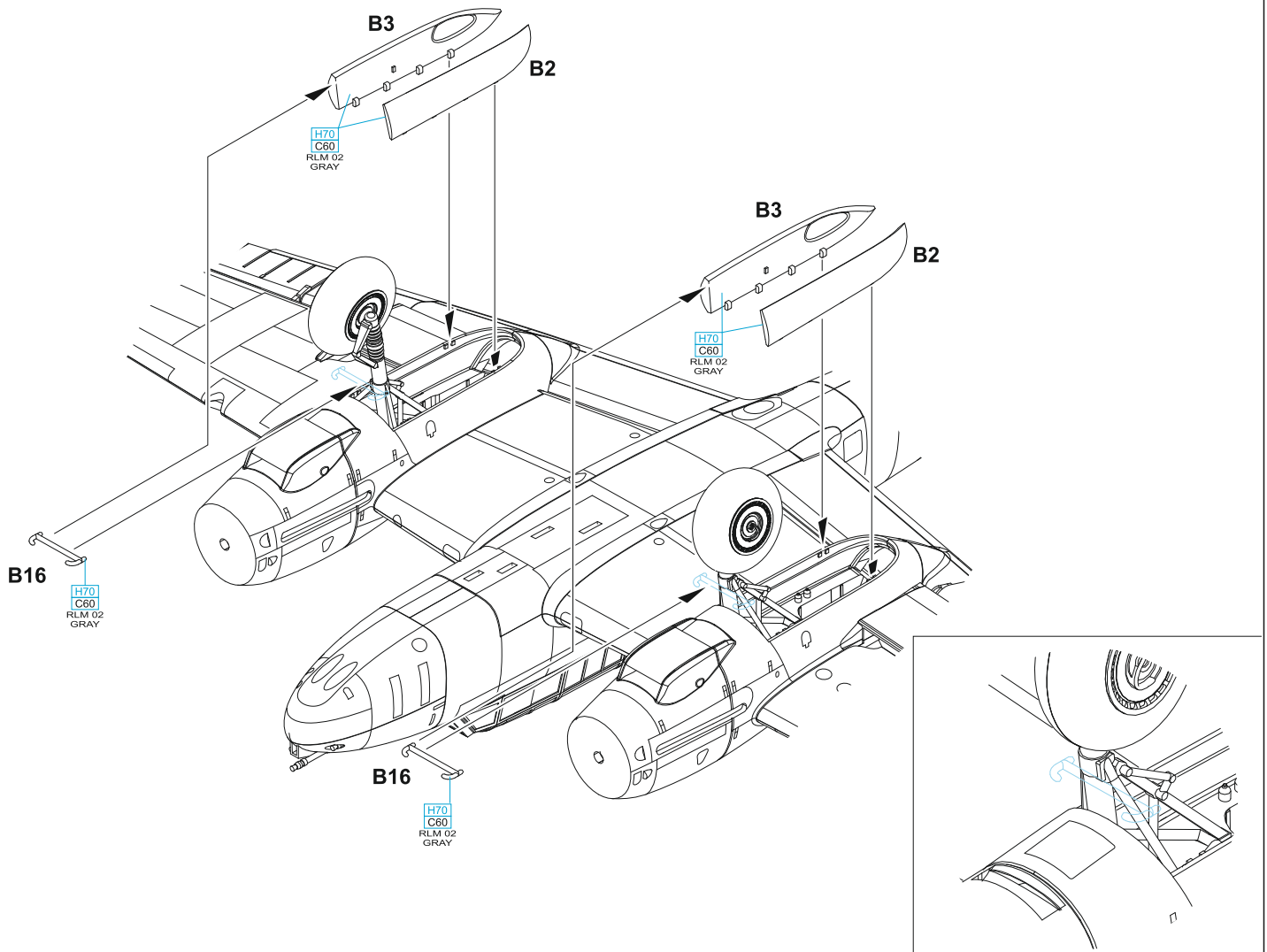
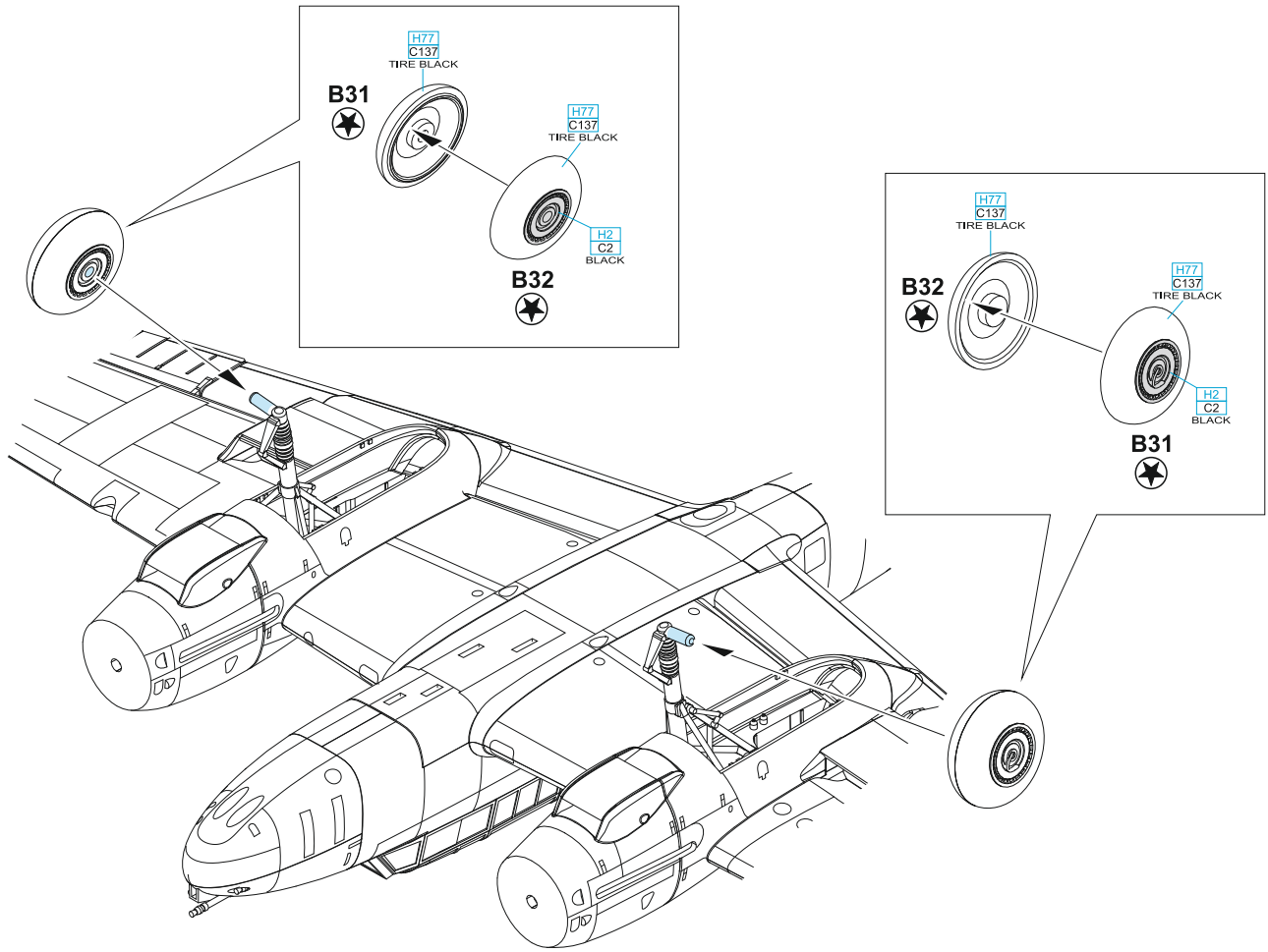


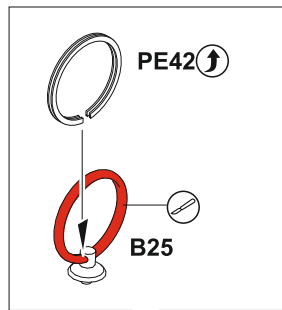
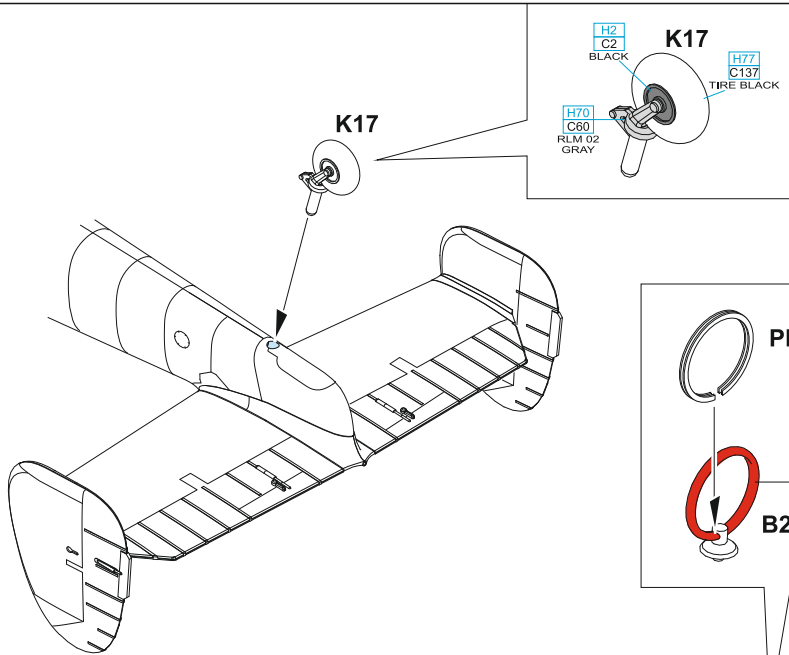
K7, PE9, PE10, decal K15 - MARKINGS **D**, **E** ONLY



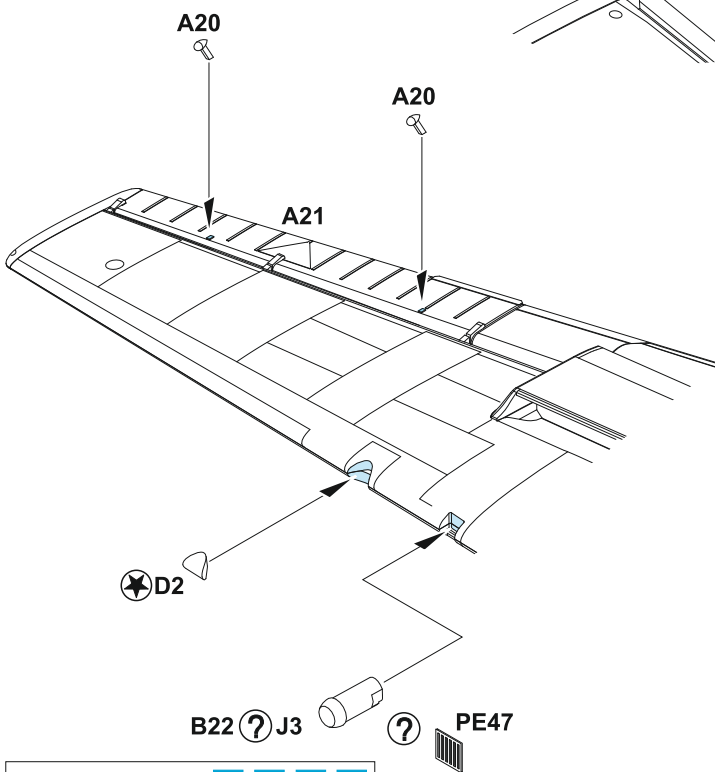
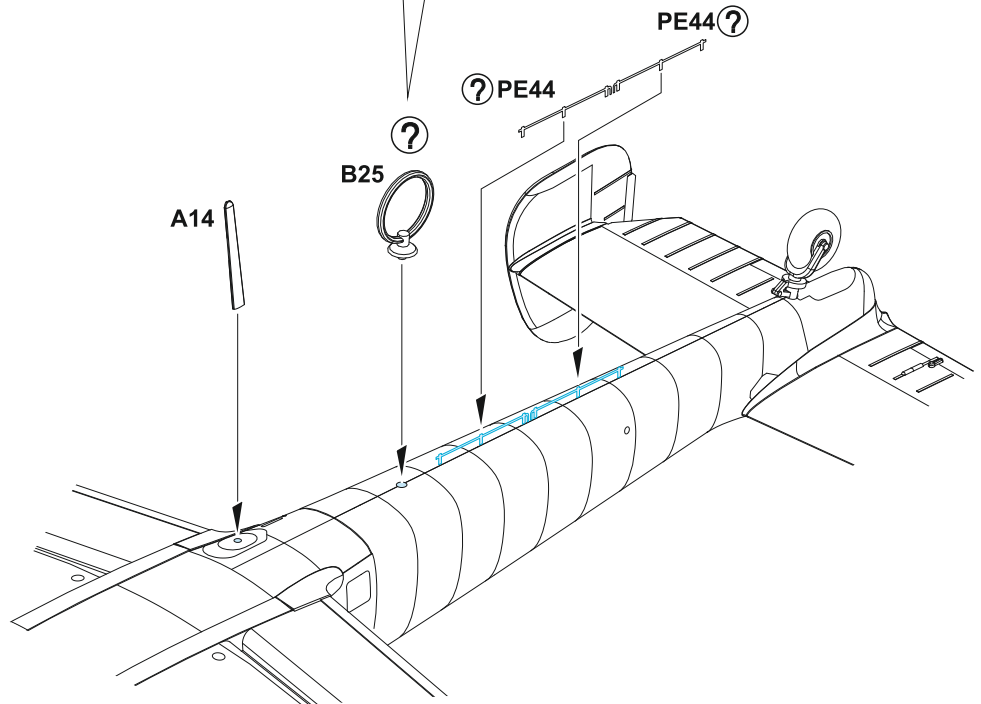
SIDE VIEW

REAR VIEW

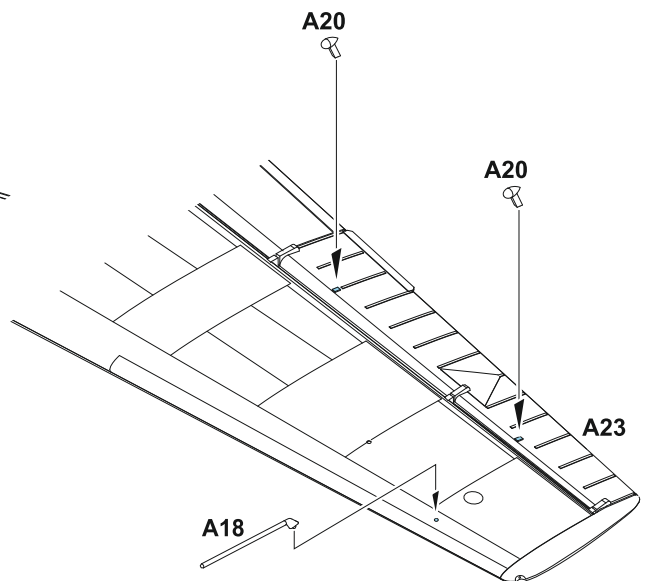


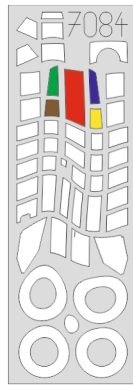
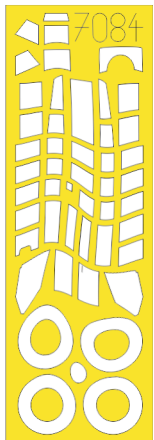


PE44 - MARKINGS A, B, D, E ONLY

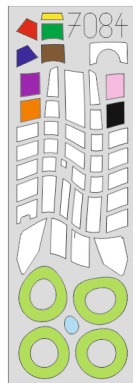
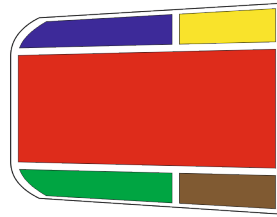


PE47 - MARKINGS A, C, D, E
B22 ? J3 - MARKING B





D11



D1

D2

D4

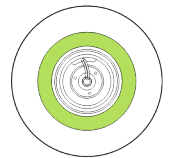
D7

D8

B31

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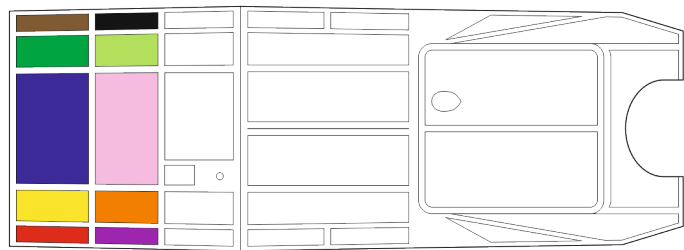
B32



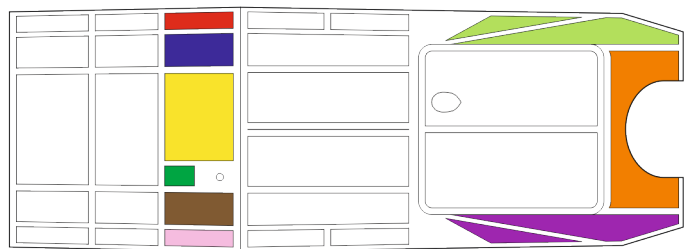
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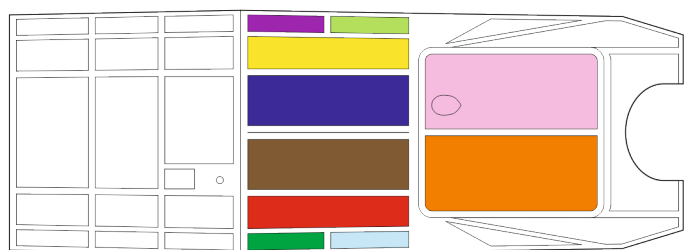
D6



D6

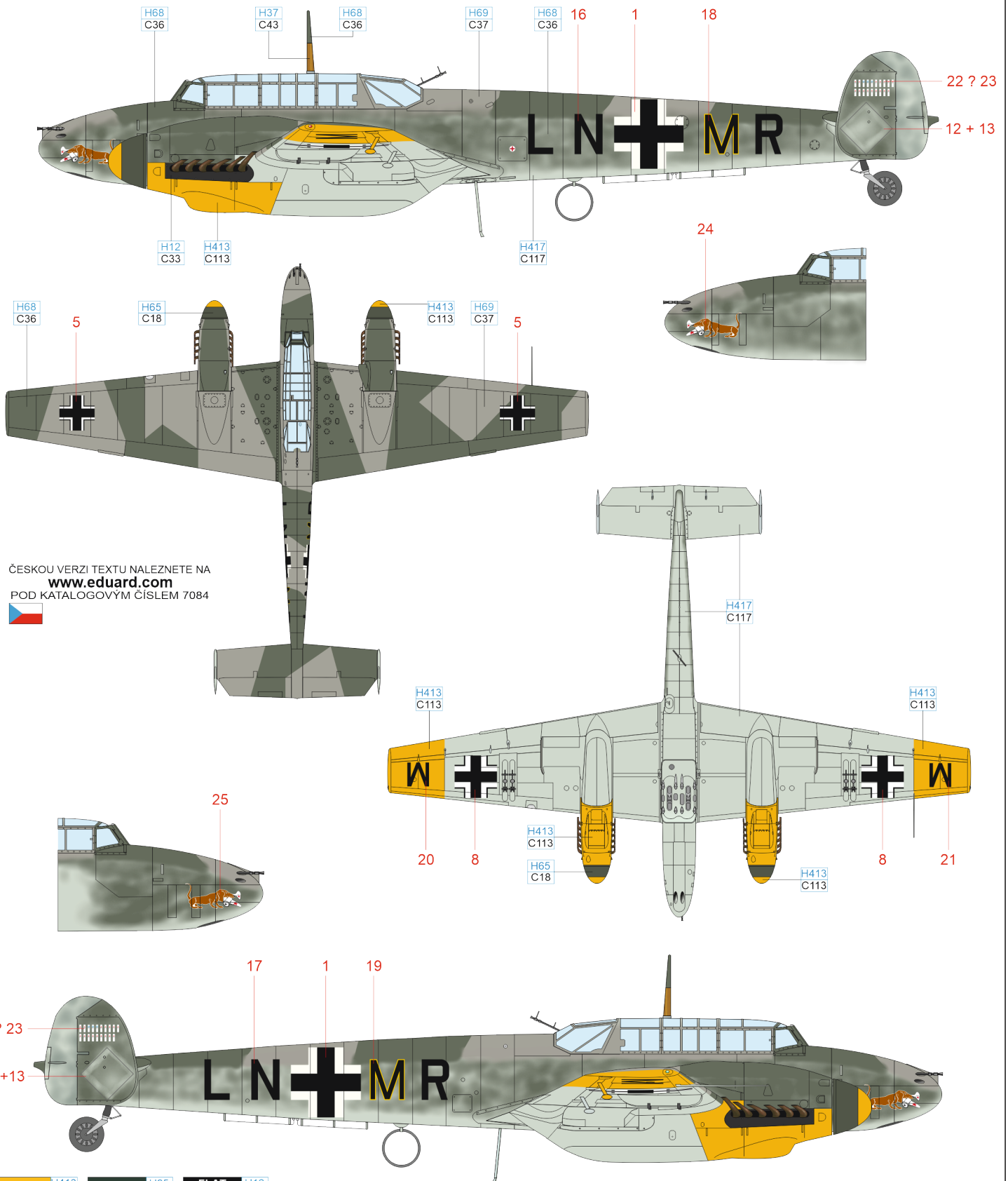


D6



A Bf 110F-2, W.Nr. 2547, Ofw. Theo Weissenberger, 6.(Z)/JG 5, Petsamo, Finland, June 1942

Prior to becoming a German fighter ace with 208 kills to his credit and holder of the Knight's Cross with Oak Leaves, Theodor Weissenberger was, at an early age, already involved in flying on gliders. He joined the Luftwaffe in 1936. After completing fighter training, he became an instructor and in 1941 he was assigned to 1.(Z)/JG 77 (on March 16, this unit was redesignated 10.(Z)/JG 5). In September 1942, Weissenberger was transferred to 6./JG 5, where he flew single engined Bf 109s. On October 24, 1944, he took over command of the newly formed 1./JG 7, equipped with the Me 262. On January 1, 1945, he took over the entire JG 7 and remained in this function up to the end of the war. He was killed on June 11, 1950, during an automobile race in Nürnbergring. Weissenberger's Bf 110F was sprayed RLM 74/75/76, the standard camouflage used for fighter aircraft. The sides of the fuselage received a heavy and irregular overspray of RLM 74 and 75. The aircraft carries his kill marks on the tail surfaces and on the nose is the JG 5 Zerstörer unit's emblem, a dachshund with an I-16 in its mouth.



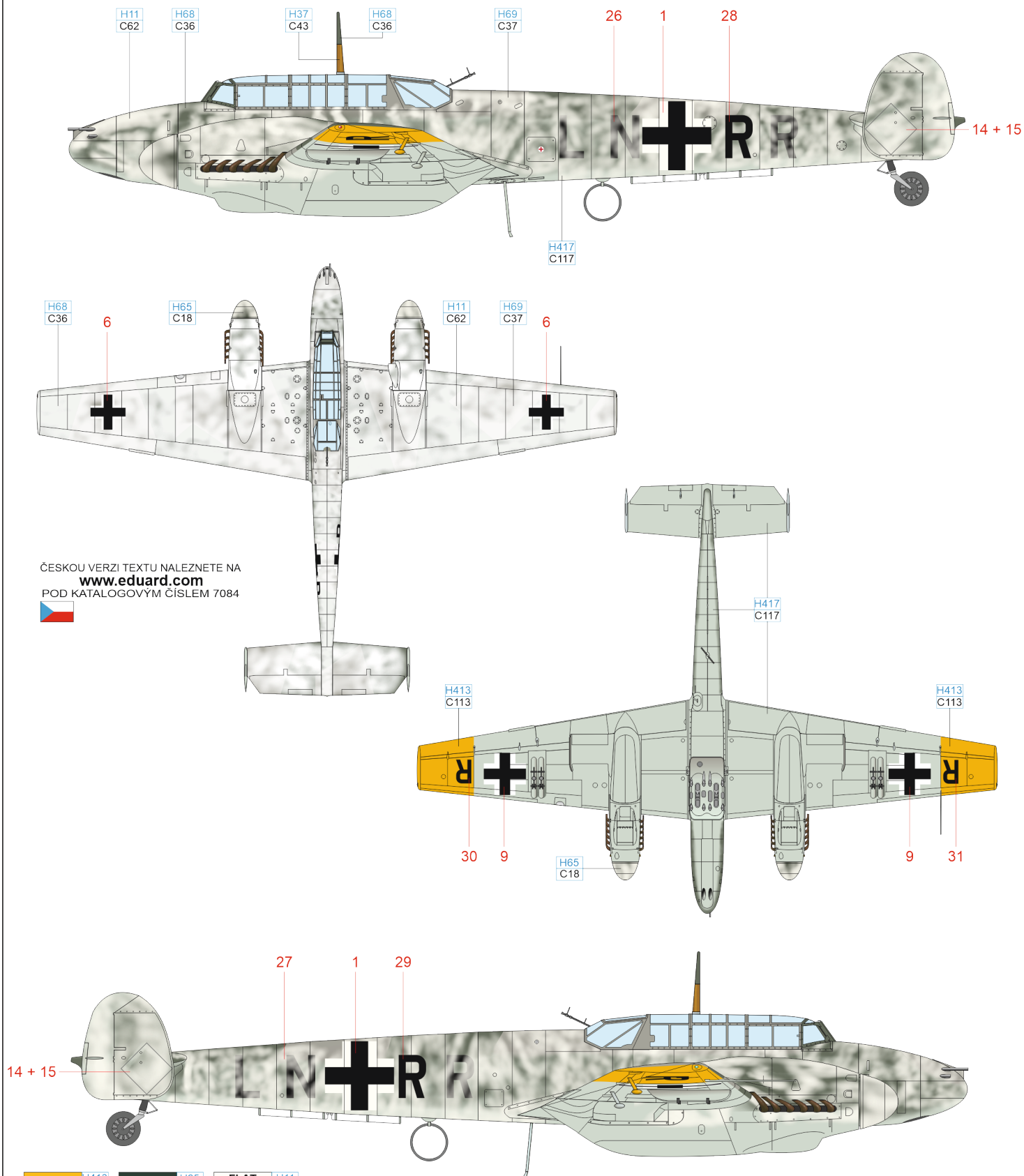
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RLM 04	H413 C113	RLM 70	H65 C18	FLAT BLACK	H12 C33
RLM 74	H68 C36	RLM 75	H69 C37	RLM 76	H417 C117
			WOOD BROWN	H37 C43	

B Bf 110F-2, W.Nr. 5080, Lt. Walter Forst, 13.(Z)/JG 5, Kirkenes, Norway, Winter 1942/1943

In preparation for the invasion of the Soviet Union, 1.(Z)/JG 77, a unit equipped with Bf 110 heavy fighters, was moved to northern Norway. Their main task was to attack the strategically important railway line to the port of Murmansk. In the spring of 1942 it was moved under the command of JG 5 and at first redesignated 6.(Z)/JG 5 in June 1942, then as 13.(Z)/JG 5. During the winter period, the upper surfaces of both warring sides' aircraft were sprayed over with a white washable paint for obviously better concealment. This applied also to this Bf 110F-2 which code letters were also partially painted over by the ground crew (except for the individual aircraft letter). The yellow wingtips indicated service on the Eastern Front.



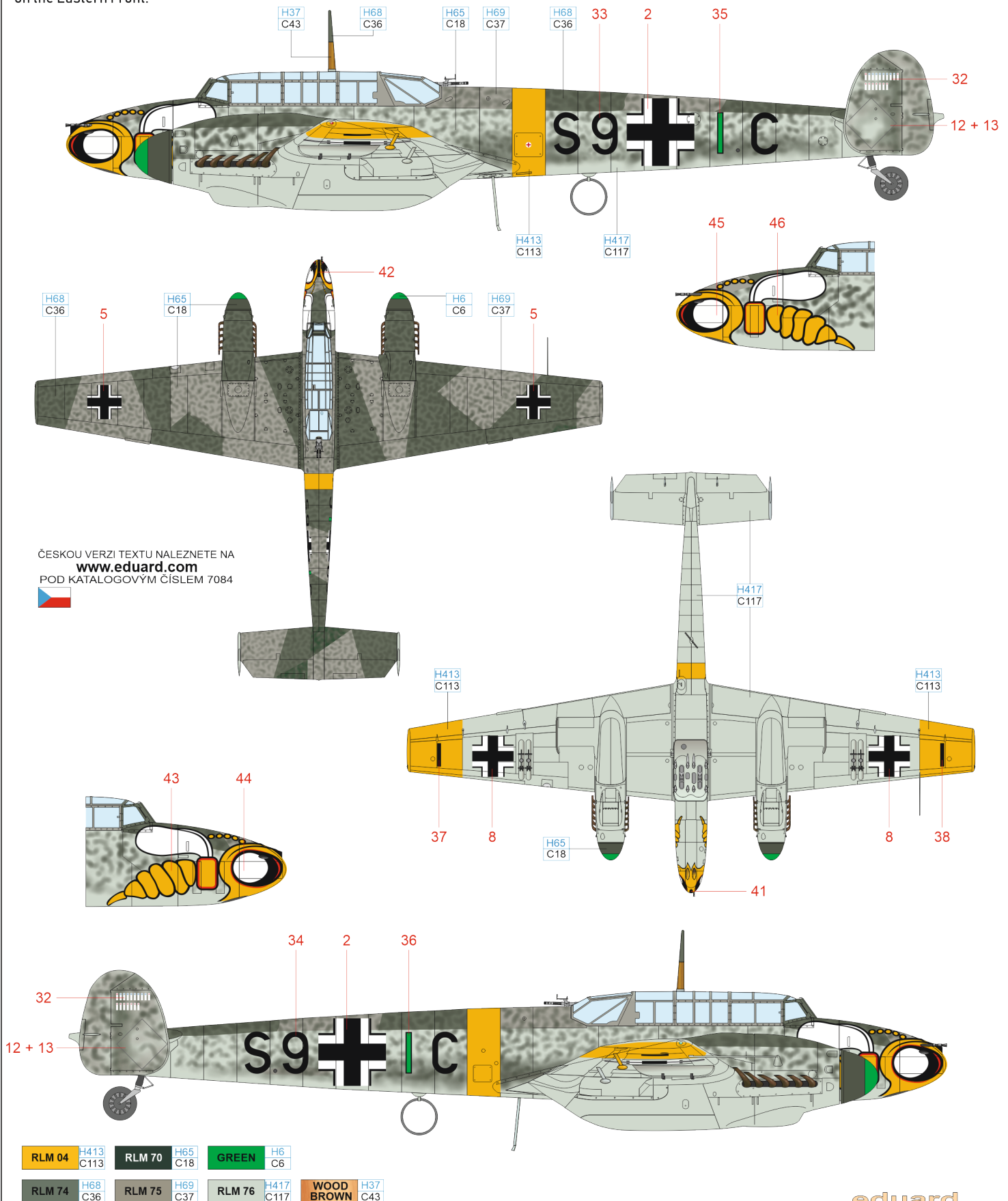
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RLM 04	H413 C113	RLM 70	H65 C18	FLAT WHITE	H11 C62
RLM 74	H68 C36	RLM 75	H69 C37	RLM 76	H417 C117
				WOOD BROWN	H37 C43

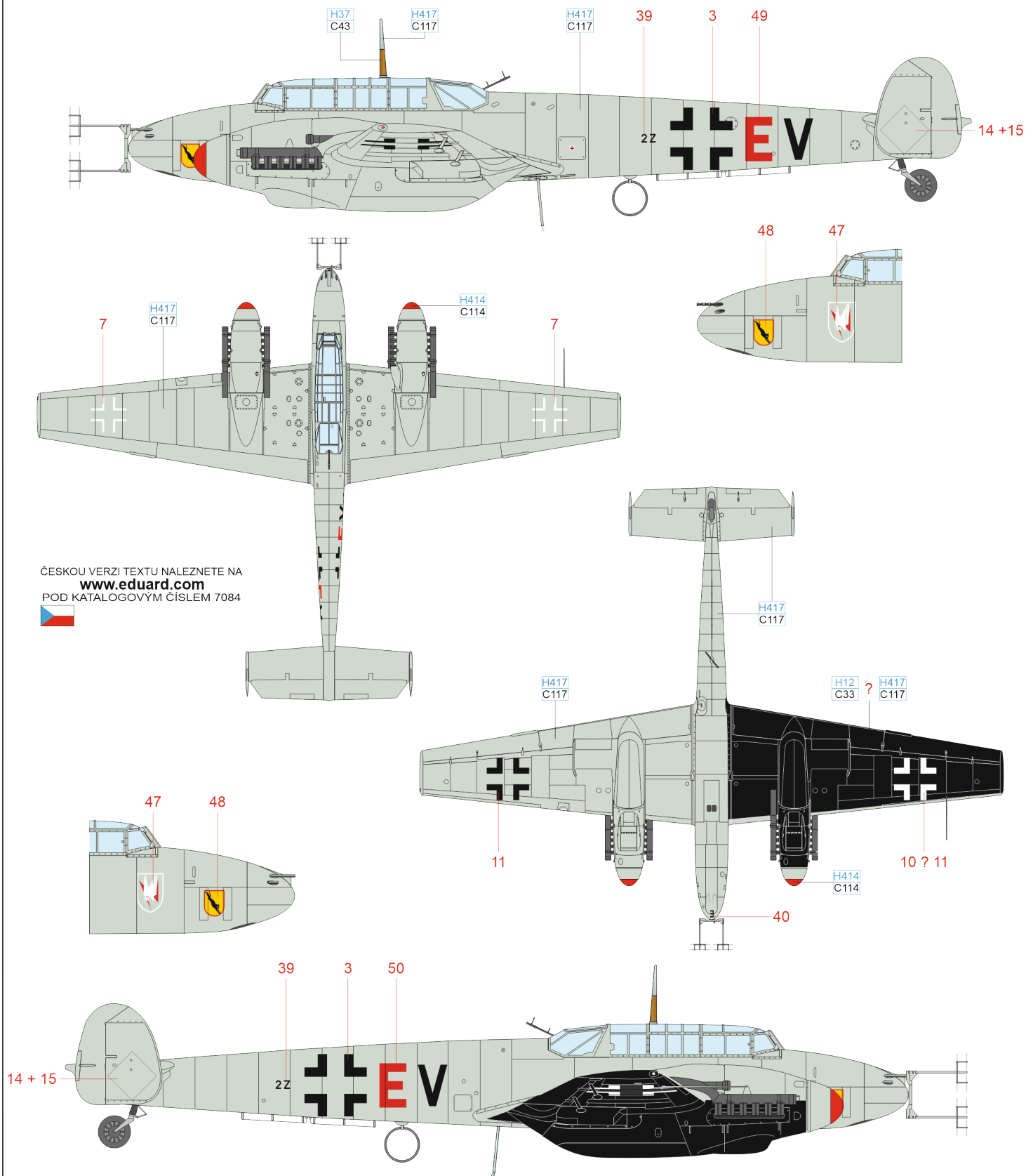
C Bf 110F-2, Oblt. Günther Tonne, CO of II./ZG 1, Belgorod, the Soviet Union, June 1942

Günther Tonne was born on May 21, 1916, in Frankfurt and in 1935 he joined the German Navy (Kriegsmarine). In 1937, he stepped into the ranks of the Luftwaffe. After undergoing training on Bf 110 heavy fighters, he was assigned to ZG 1. In 1940, he shot down seven British aircraft in combat over the English islands and added a British Blenheim to his score in April 1941, while serving as CO of 6./SKG 210. On January 4, 1942, this unit was redesignated as 6./ZG 1 and from February 4, 1942, Tonne commanded the entire II./ZG 1. In December 1942 he took over command of the newly formed SKG 10 armed with Fw 190 fighter-bombers. Engine failure on take off cost him his life while flying an Fw 190A-5 out of Reggio di Calabria on July 15, 1943. In combat during the Second World War he shot down some twenty enemy aircraft and for his success he was awarded the Knight's Cross on October 5, 1941, to which were posthumously added Oak Leaves on October 24, 1944. While serving with II./ZG 1 in 1942 over the Russian plains, Oblt. Tonne flew several Bf 110F-2s. Zerstörergeschwader 1 was named Wespe (Wasp) and the noses of their aircraft carried artwork depicting these aggressive insects. The standard camouflage scheme was sprayed over with squiggles of RLM 70 or 71 on the upper and side surfaces while the yellow surfaces denoted service on the Eastern Front.



D Bf 110F-4, Oblt. Martin Bauer, CO of 11./NJG 6, Zilistea, Romania, June 1944

After the completion of pilot training in March 1941, Martin Bauer continued with blind flying instruction and was subsequently assigned to Nachtjagdgeschwader 1. At the beginning of June he was transferred to NJG 6, with which he would serve out the war. His final tally of aerial victories is not precisely known, and historians place it at between seven and nine. At the beginning, the night fighter Bf 110s of NJG 6 carried a monotone RLM 76 scheme on all surfaces, the black starboard wing bottom appeared later.



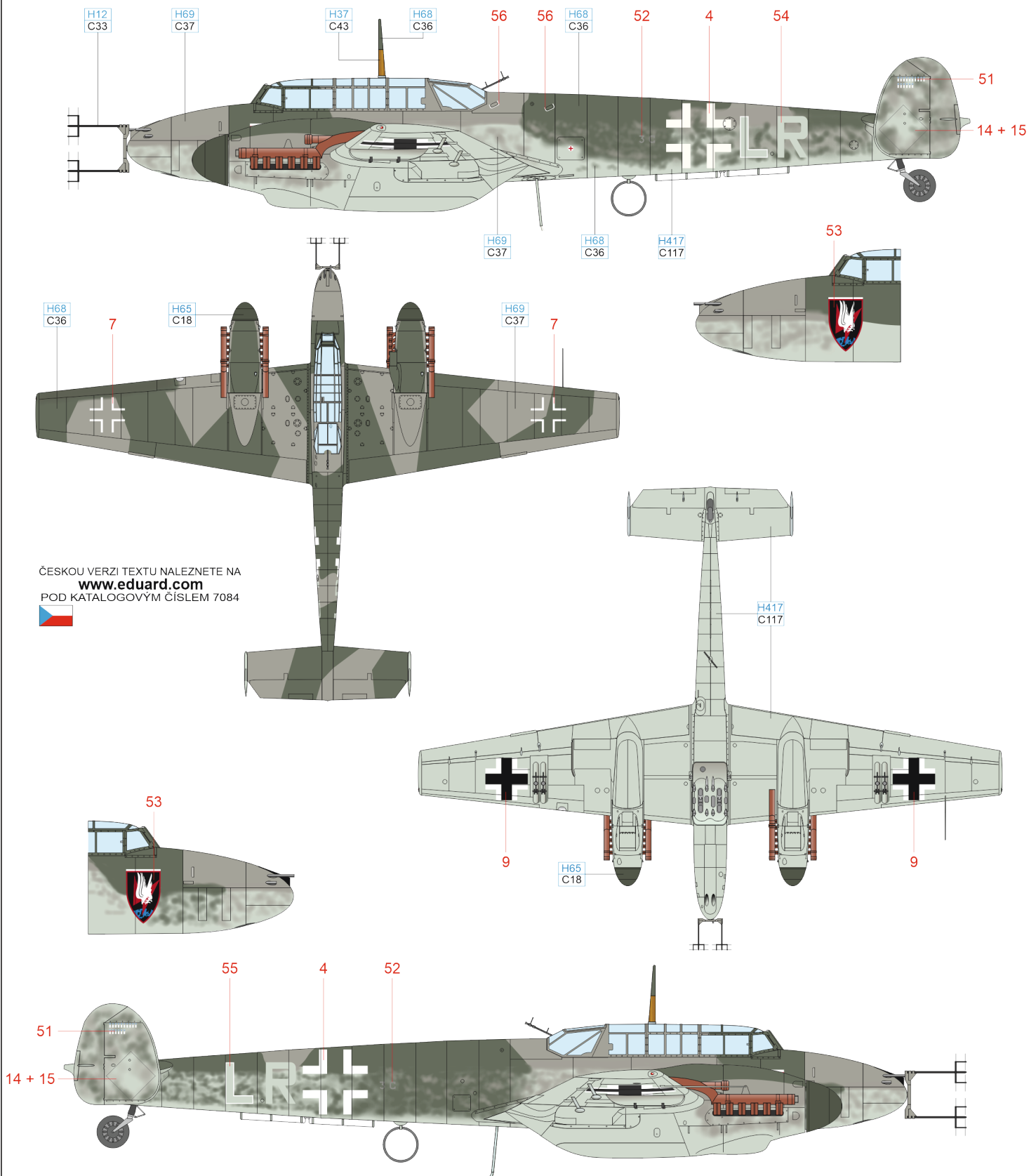
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RLM 23	H414 C114	FLAT BLACK	H12 C33
RLM 76	H417 C117	WOOD BROWN	H37 C43

E Bf 110F-4, Ofw. Reinhard Kollak, 7./NJG 4, Juvincourt, France, June 1943

Reinhard Kollak entered the ranks of the Reichswehr in 1932 and after the formation of the Luftwaffe he transferred to this service, in 1935 he began his training as a fighter pilot, after which he joined ZG 1. After completing blind flying training, he was assigned to the newly formed NJG 1 in October 1940. While serving with this unit, he shot down his first aircraft, a British Whitley, on June 17, 1941. On May 1942, 1./NJG 1 was redesignated 7./NJG 4. His score steadily grew, and on August 29, 1943, he was awarded the Knight's Cross for his 29 kills. His final score at the end of the war was 49. He joined the newly formed Luftwaffe and served until his retirement. He passed away on February 6, 1980. Kollak's aircraft carried the standard Luftwaffe Bf 110 day fighter camouflage scheme. The RLM 76 on the sides of the fuselage were oversprayed with irregular patterns of RLM 74 and 75 for better concealment. The NJG 4 unit insignia was painted under the windscreen and kill marks were painted on the tail surfaces. It is possible that these also bore the national insignia of the aircraft he shot down.



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RLM 70	H65 C18	FLAT BLACK	H12 C33	WOOD BROWN	H37 C43
RLM 74	H68 C36	RLM 75	H69 C37	RLM 76	H417 C117

