



**No other aircraft is as intimately connected with the rise and fall of the German Luftwaffe in the course of the WWII as the Messerschmitt Bf 109. A very progressive design at the time of its invention, it had plenty of room for further development.**

The history of the Bf 109 begins with the requirement L.A. 1432/33 issued by Reich Ministry of Aviation (RLM) in late March 1933. It called for the development of a single-engined monoplane fighter. Proposals were submitted by Focke-Wulf, Arado, Heinkel, and Bayerische Flugzeugwerke. The design bureau of the latter company was led by its technical director Willy Messerschmitt, who was riding a wave of popularity based on the success of his liaison aircraft, the Bf 108. Messerschmitt's goal was to create an aircraft with the best possible performance for the specified weight and size. Over the following months, several prototypes were built that served first and foremost in development flights and further modifications. The aircraft was relatively small, and compared to the prevailing trends of the time, sported several quite revolutionary features such as low wing design, retractable landing gear, wing with a thin airfoil, wing slats, landing flaps, weapons firing through the propeller hub, and so on. Even the enclosed cockpit and [the method of] (not needed) the airframe structure design were not usual just four years prior to the beginning of the Second World War. At its conception, the Bf 109 was a very promising asset despite some powerplant troubles. These were solved by the introduction of the DB 601. This engine, together with its extrapolated development DB 605, is umbilically connected to the success of the Bf 109. These two-row, twelve-cylinder inverted V engines powered several tenths of thousands of Bf 109s in over 25 versions and variants.

#### From Spanish War to the Reich Defence

The first combat use of Bf 109 occurred during Spanish Civil War, where three developmental Bf 109s were deployed in December 1936. The main reason of revealing the modern fighter to the world was quite down-to-earth: To validate its abilities in modern aerial combat. Shortly thereafter, production aircraft in the form of the Bf 109B-1 began to reach 2.J/88, the Legion Condor. The desire of Germany to demonstrate its aerial prowess to potential foes was advanced further in international sport meets. The triumph attained in Zurich in the summer of 1937 was complemented several months later by grabbing the speed record of 379.63 mph (610.95 km/h). In very short order, the progressive developments represented by the C, D and E versions appeared. Despite this, the delivery of the aircraft to combat units did not sustain the rate desired by military brass. Even by August 1938 the Bf 109 accounted for less than half of the 643 front line fighters in service. The next months saw an increase in these rates. By the time of the invasion of Poland (which saw the participation of only a little more than 200 aircraft) the Luftwaffe possessed the best fighter produced in continental Europe. So the fighter wing of the Luftwaffe entered the Polish campaign, the Blitzkrieg against the West, and the Battle for France with both a qualitative and quantitative advantage. With one foot in the door that was the English Channel, the Luftwaffe embarked on the attacks on Britain in the summer months of 1940. Here, the first weakness of the Bf 109 emerged: The inability to carry drop tanks that would have enabled the type to effectively escort bombers to England. This was one of the factors responsible for the defeat of the Luftwaffe in the Battle of Britain. Experience gained in 1940 led to the development of the F (Friedrich) version prior to the spring

of 1941 followed by late production variants of Bf 109G (Gustav) and K (Kurfürst).

#### Emil emerges

The Bf 109E series represents a turning point in the development of the Bf 109. It saw the replacement of the Jumo 210 engine with the more powerful, more reliable and also larger and heavier unit, Daimler-Benz DB 601 driving the VDM (Vereinigte Deutsche Metallwerke) three-bladed propeller.

The more powerful engine needed a larger coolant radiator. Instead of a large "chin" on the nose, which would have significantly increased aerodynamic drag, cooling was moved to flat radiators on the bottom of the wing. This relocation also helped to balance the increased weight of the engine and propeller, but required the entire wing to be deeply redesigned.

To verify the design changes, V14 and V15 prototypes were built, differing in the armament. The former had a pair of 7.92 mm MG 17 machine guns supplemented by two 20 mm wing-mounted guns. The V15 prototype had only two machine guns.

Production of the first production version of the "Emil", the E-1 version, began in early 1939 and the extra 298 hp (223 kW) compared to previous Jumo 210 also provided a corresponding increase in flight performance despite the 400 lb (180 kg) weight increase.

The E-1 version was armed with four MG 17 machine guns, and further development concentrated mainly on armament. The E-2 received an MG FF cannon mounted in between the engine cylinder blocks, firing through the center of the propeller instead of two wing machine guns. Although this configuration eventually became standard on the later G and K versions, it was not successful with the E-2. Nevertheless, the "Motorkanone" was retained in the E-3 version, which also had two MG FF guns in the wing. However, due to vibrations caused by firing the "Motorkanone" was often removed by frontline units. The firing power of two machine guns and two cannons was still more than satisfactory.

#### The kit: Bf 109E-4

At the beginning of the Battle of Britain, the Bf 109E-4 began to replace the E-3 version. The first aircraft appeared in July 1940 and quickly replaced their predecessors. Many E-3s were also converted to E-4 standard. The differences between the two versions were relatively minor. The Bf 109E-4 in particular received improved MG FF/M wing guns with higher rate of fire and also with the ability to fire a new type of explosive ammunition. In addition, the armor protection behind the pilot's head was improved and the cockpit canopy was revised. To make the production easier, the canopy with rounded corners was replaced by a "boxy" type with straight windows attached to the welded frame. The new canopy also improved the pilot's view from the cockpit. Some Bf 109E-4s and later versions of "Emil" received the improved DB 601N high-altitude engine with 1,159 hp (864 kW). They were designated E-4/N. Similar to the E-1 version, a fighter-bomber (JaBo) version of E-4 was also produced, designated either E-4/B (with the DB 601A engine) or E-4/BN (with the DB 601N). It had provision for one 250 kg bomb or four 50 kg bombs. A total of 561 Bf 109E-4s were produced.



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. SYMBOL \* INSTRUKTION SINNBILDEN \* SYMBOLES \* 注意記号



OPTIONAL  
VOLBA



BEND  
OHNOU



SAND  
BROUSIT



OPEN HOLE  
VYVRTAT OTVOR



SYMETRICAL ASSEMBLY  
SYMETRICKÁ MONTÁŽ



REMOVE  
ODŘÍZNOUT



REVERSE SIDE  
OTOČIT



APPLY EDUARD MASK  
AND PAINT  
POUŽIT EDUARD MASK  
NABARVIT

## PARTS



## DÍLY



## TEILE

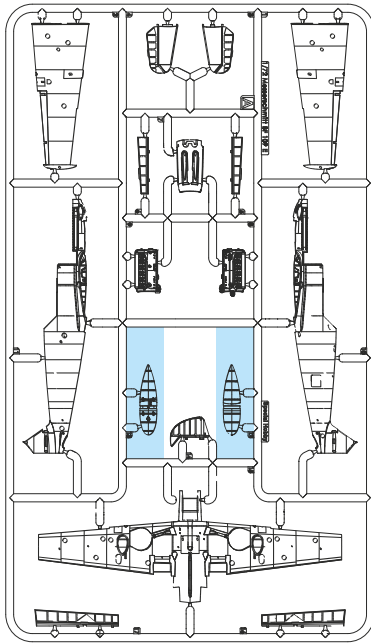


## PIÈCES

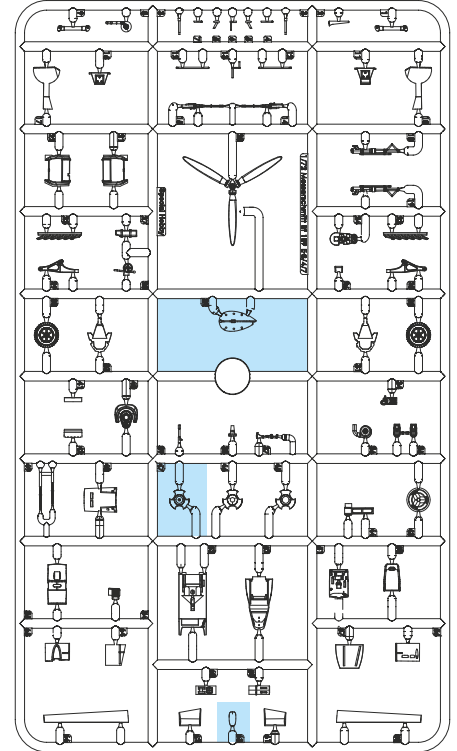


## PLASTIC PARTS

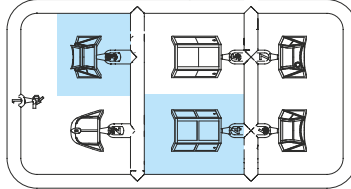
A&gt;



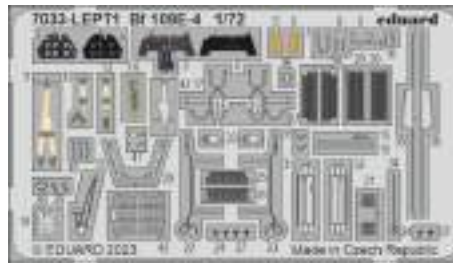
B&gt;



C&gt;

eduard  
MASK

## PE - PHOTO ETCHED DETAIL PARTS



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

## COLOURS



## BARVY



## FARBEN

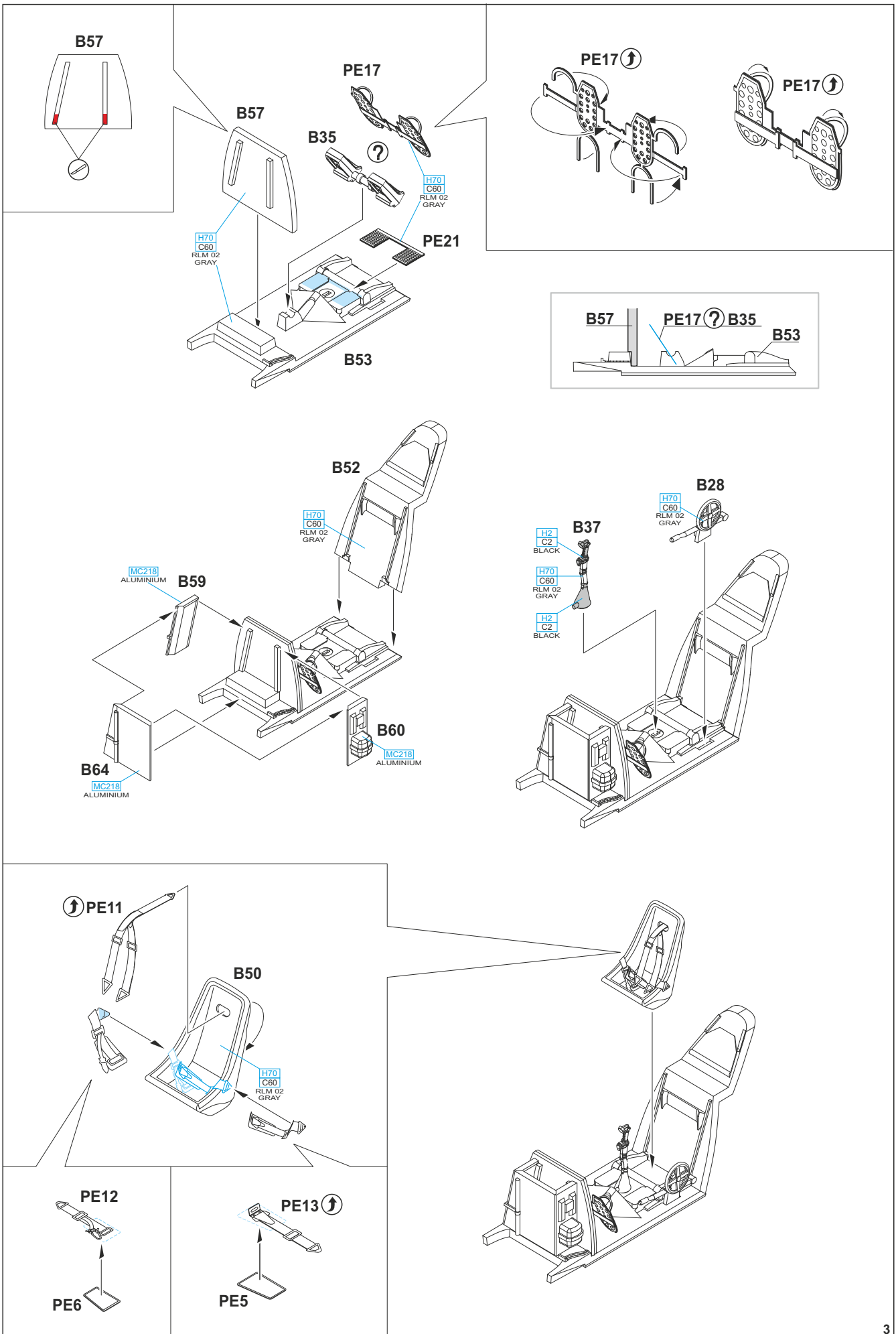


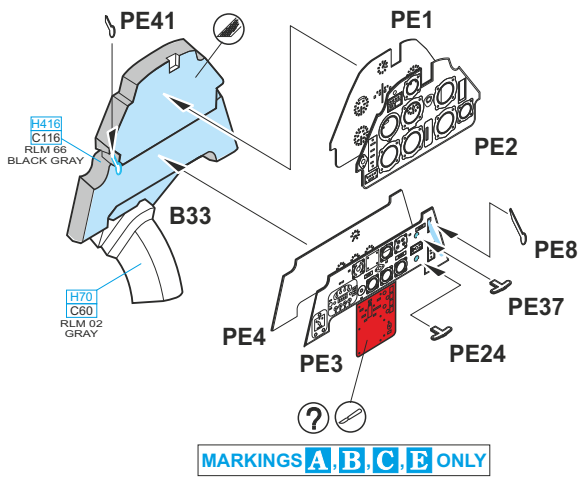
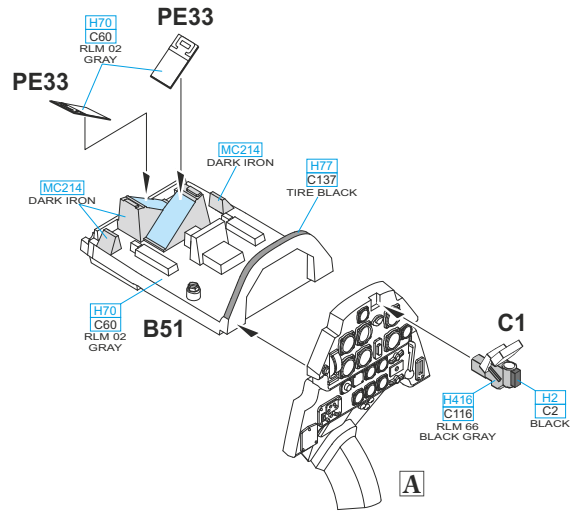
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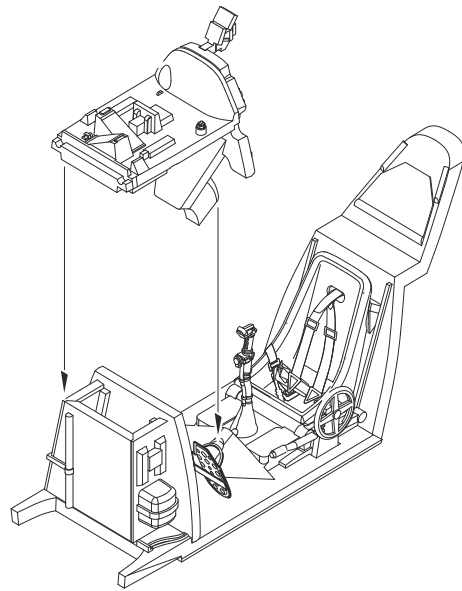
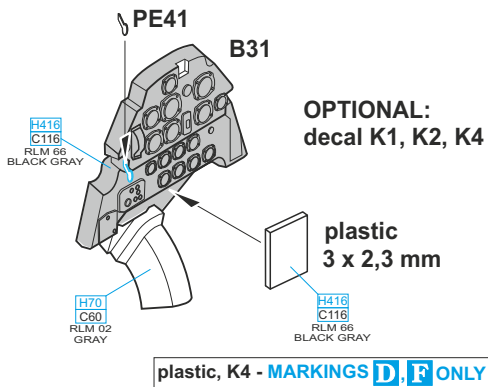
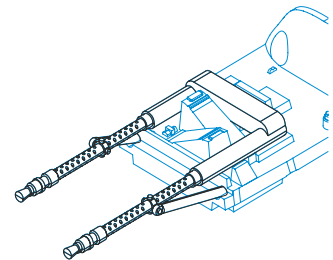
GSI Creos (GUNZE)		
AQUEOUS	Mr.COLOR	
H2	C2	BLACK
H11	C62	FLAT WHITE
H12	C33	FLAT BLACK
H47	C41	RED BROWN
H64	C17	RLM71 DARK GREEN
H65	C18	RLM70 BLACK GREEN
H66	C119	RLM79 SAND YELLOW
H67	C115	RLM65 LIGHT BLUE
H70	C60	RLM02 GRAY
H77	C137	TIRE BLACK
H90	C47	CLEAR RED
H94	C138	CLEAR GREEN

GSI Creos (GUNZE)		
AQUEOUS	Mr.COLOR	
H413	C113	RLM04 YELLOW
H414	C114	RLM23 RED
H416	C116	RLM66 BLACK GRAY
H418	C118	RLM78 LIGHT BLUE
H420	C120	RLM80 OLIVE GREEN
Mr.METAL COLOR		
MC213		STAINLESS
MC214		DARK IRON
MC218		ALUMINIUM
Mr.COLOR SUPER METALLIC		
SM201		SUPER FINE SILVER

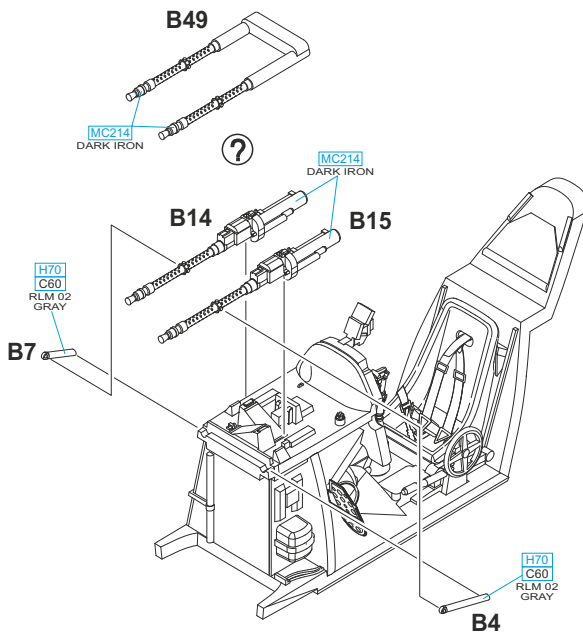
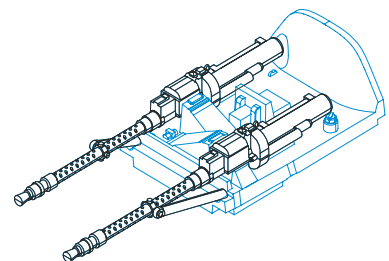


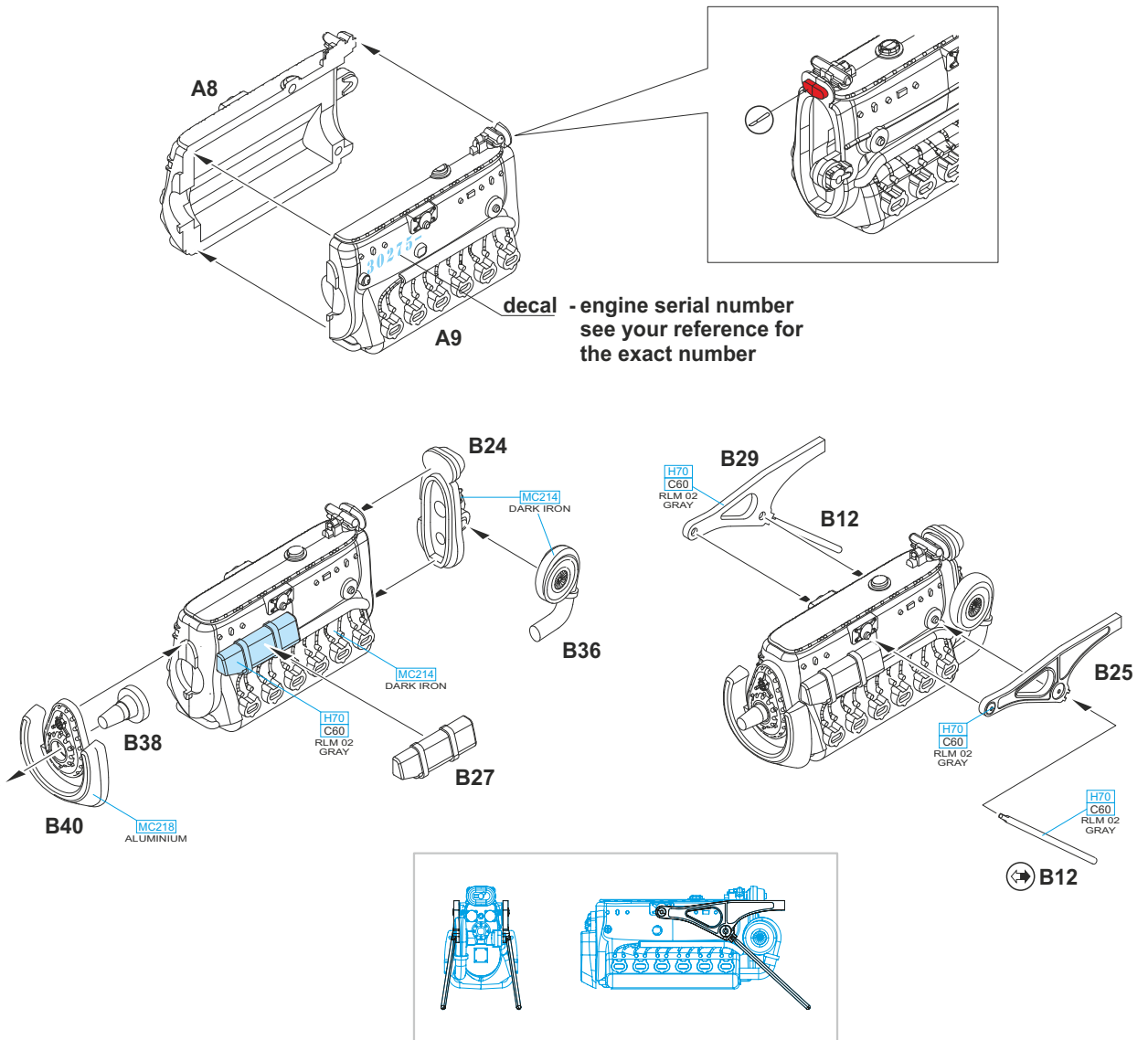
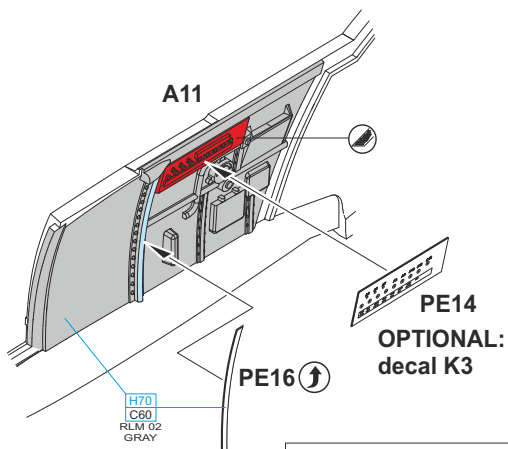
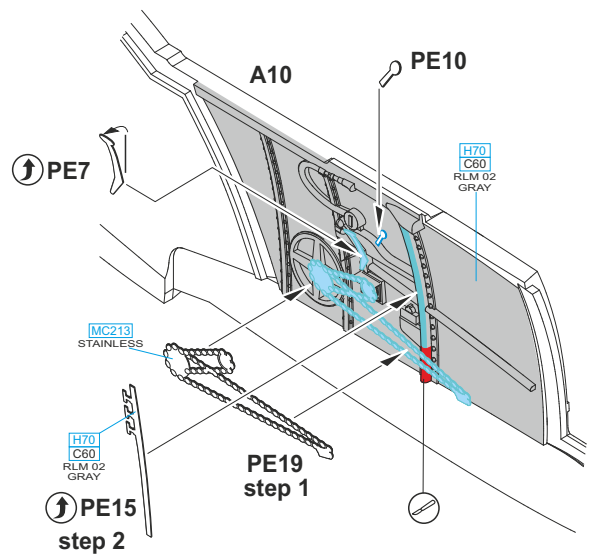
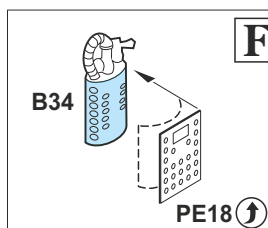
**A****B**

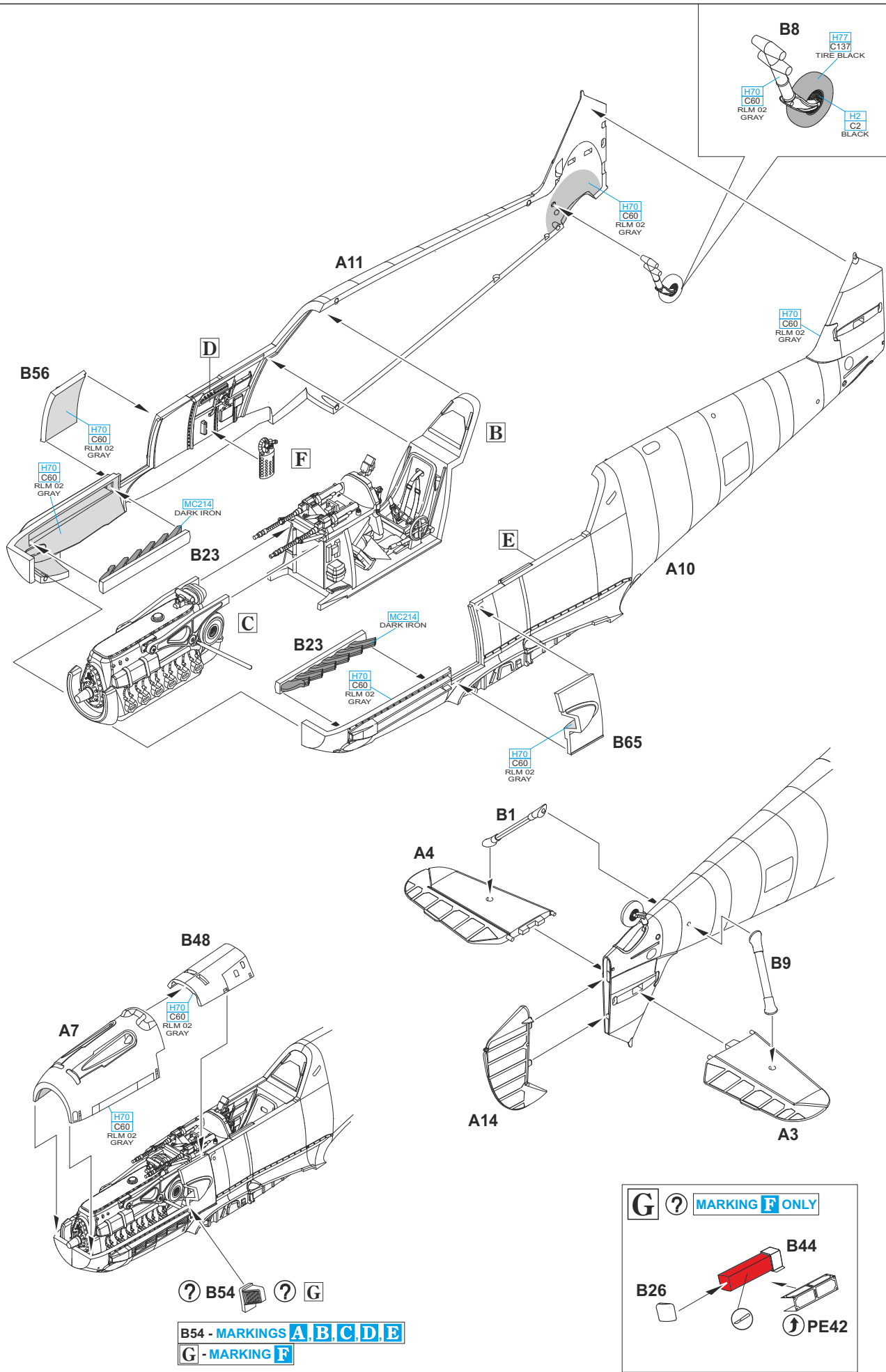
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**CLOSED COWLING**

?

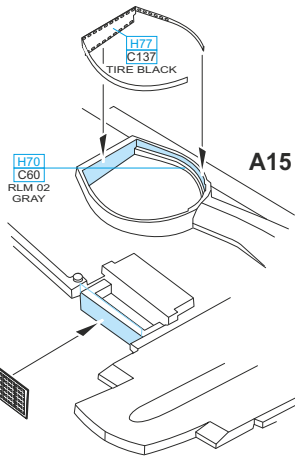
**OPEN COWLING**

**C****D****E****F**



**H**

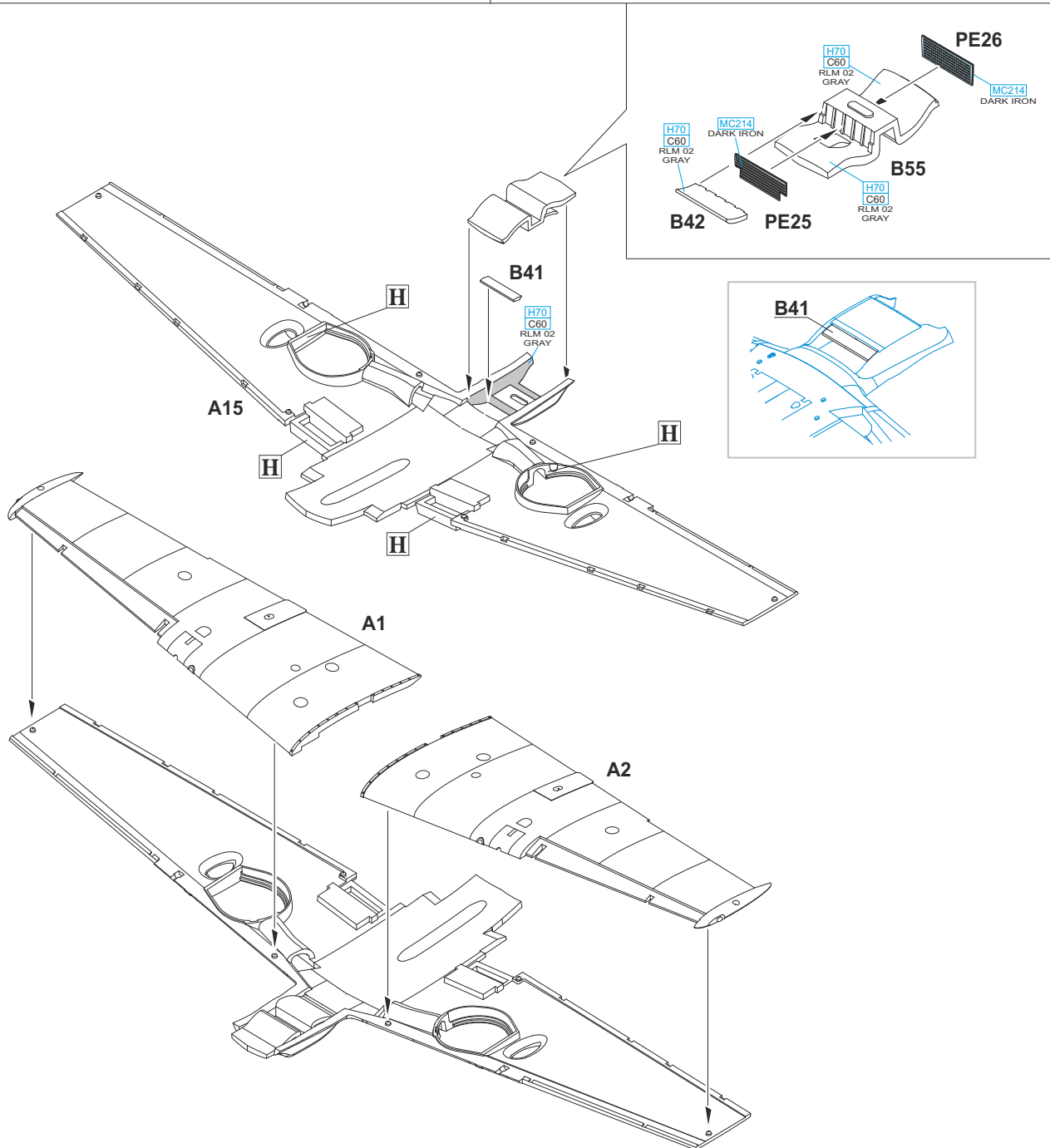
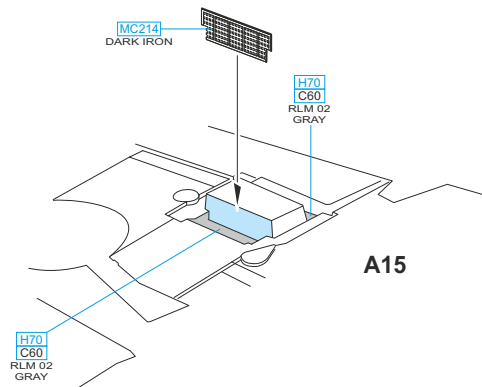
PE36 port side ↔ PE35 starboard

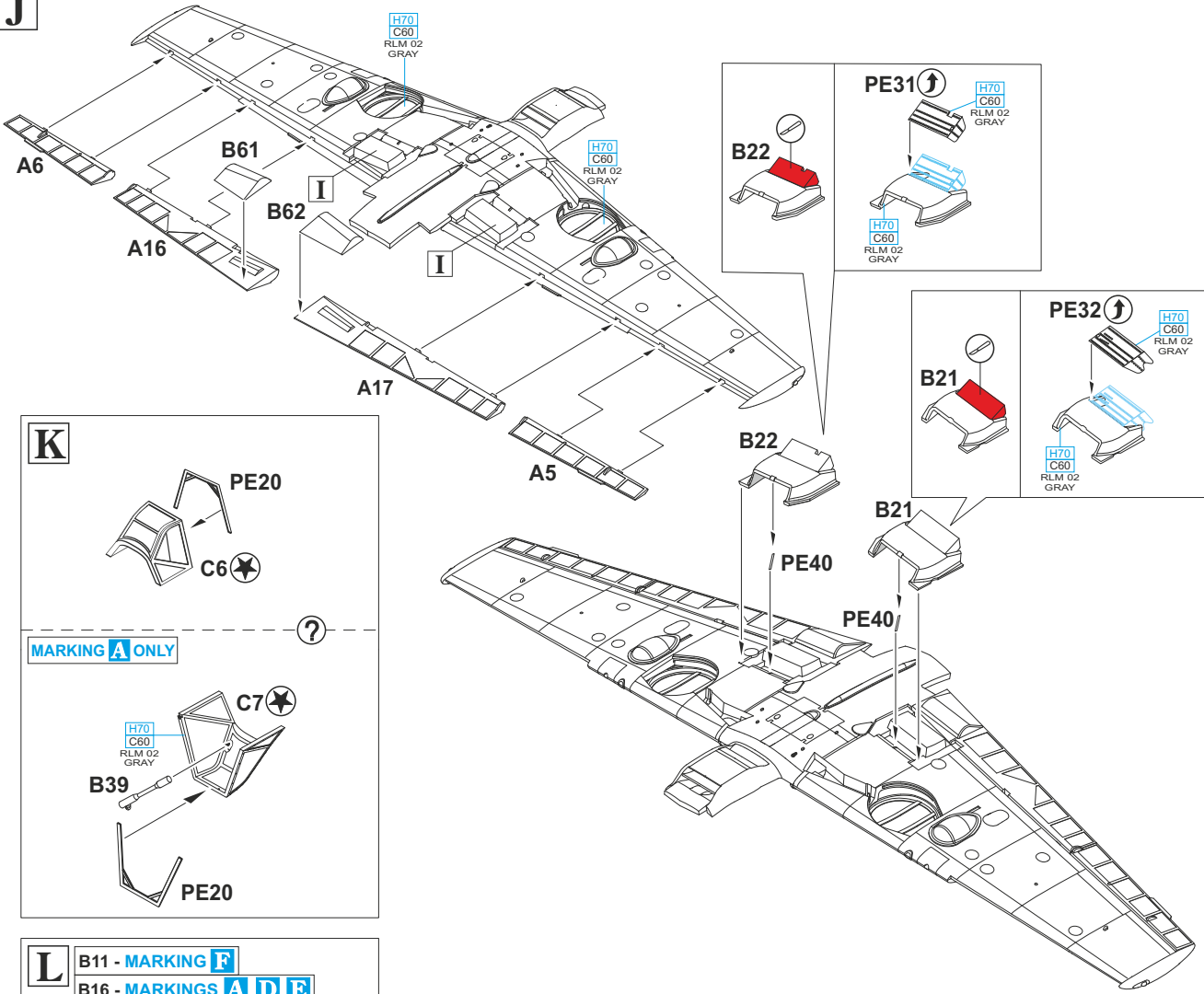
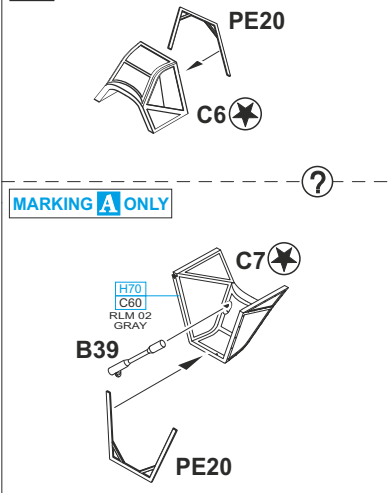
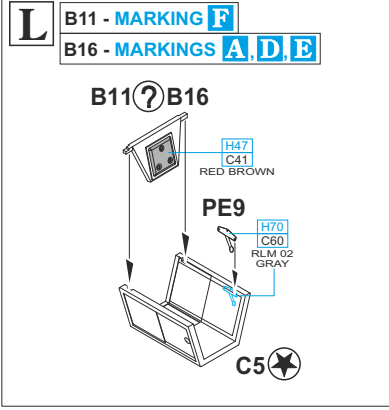
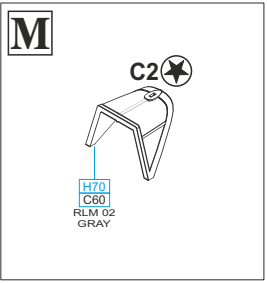


PE29 port side

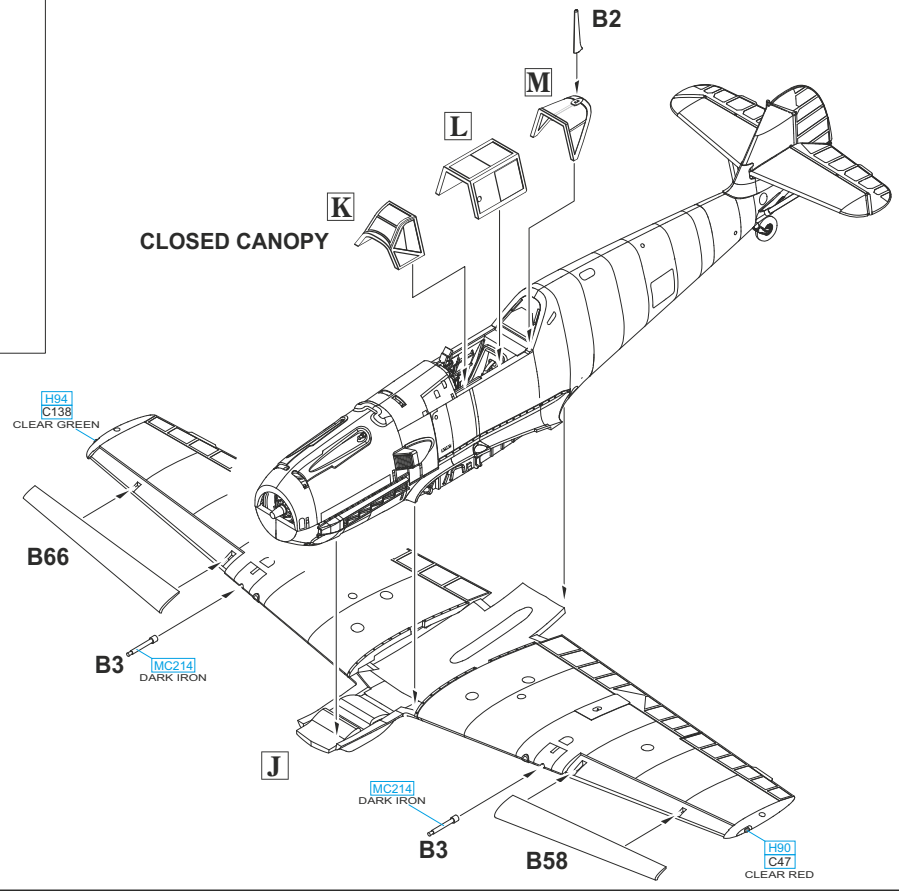
↔  
PE30 starboard**I**

PE27 port side ↔ PE28 starboard



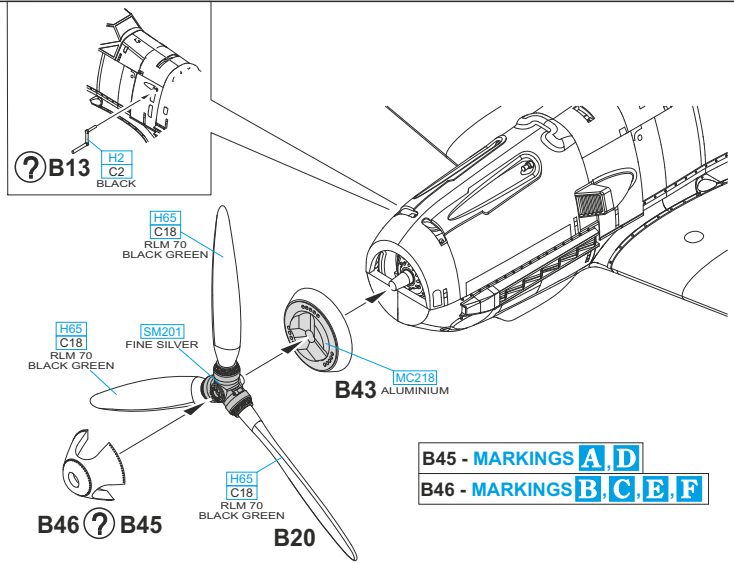
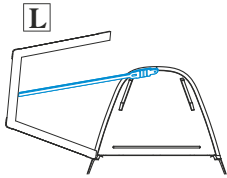
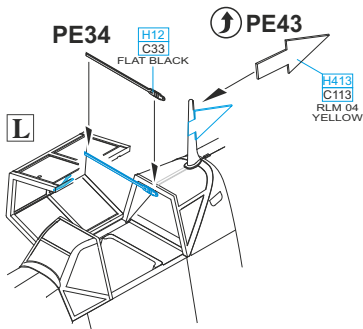
**J****K****L****M**

CLOSED CANOPY

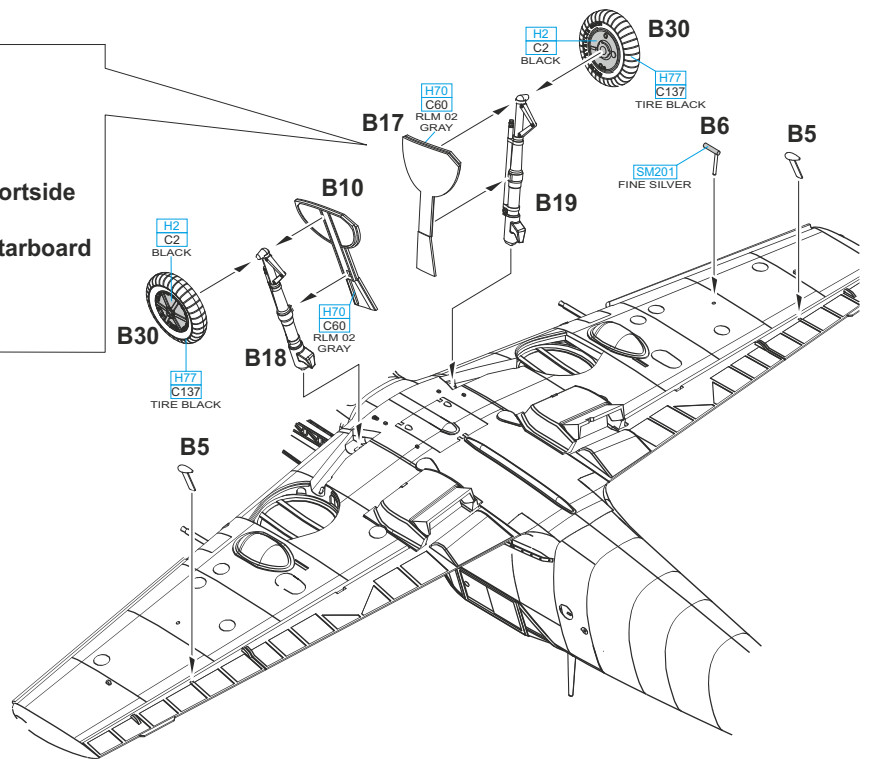
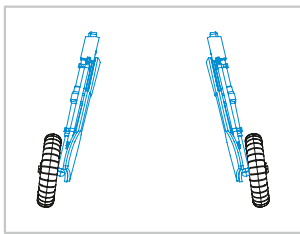
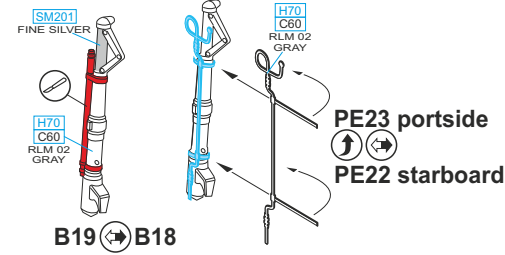




**OPEN CANOPY**

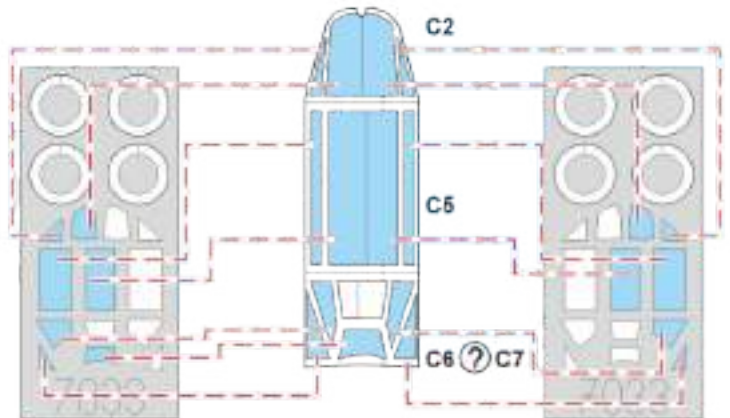
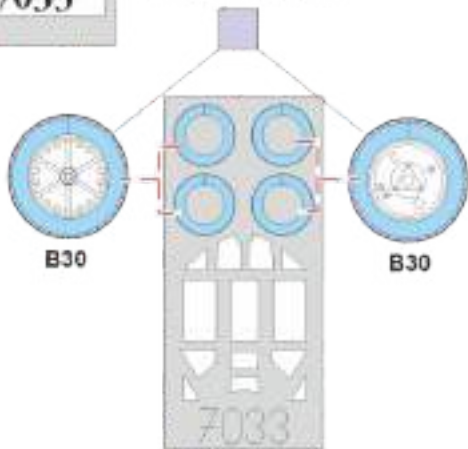


B45 - MARKINGS **A, D**  
B46 - MARKINGS **B, C, E, F**

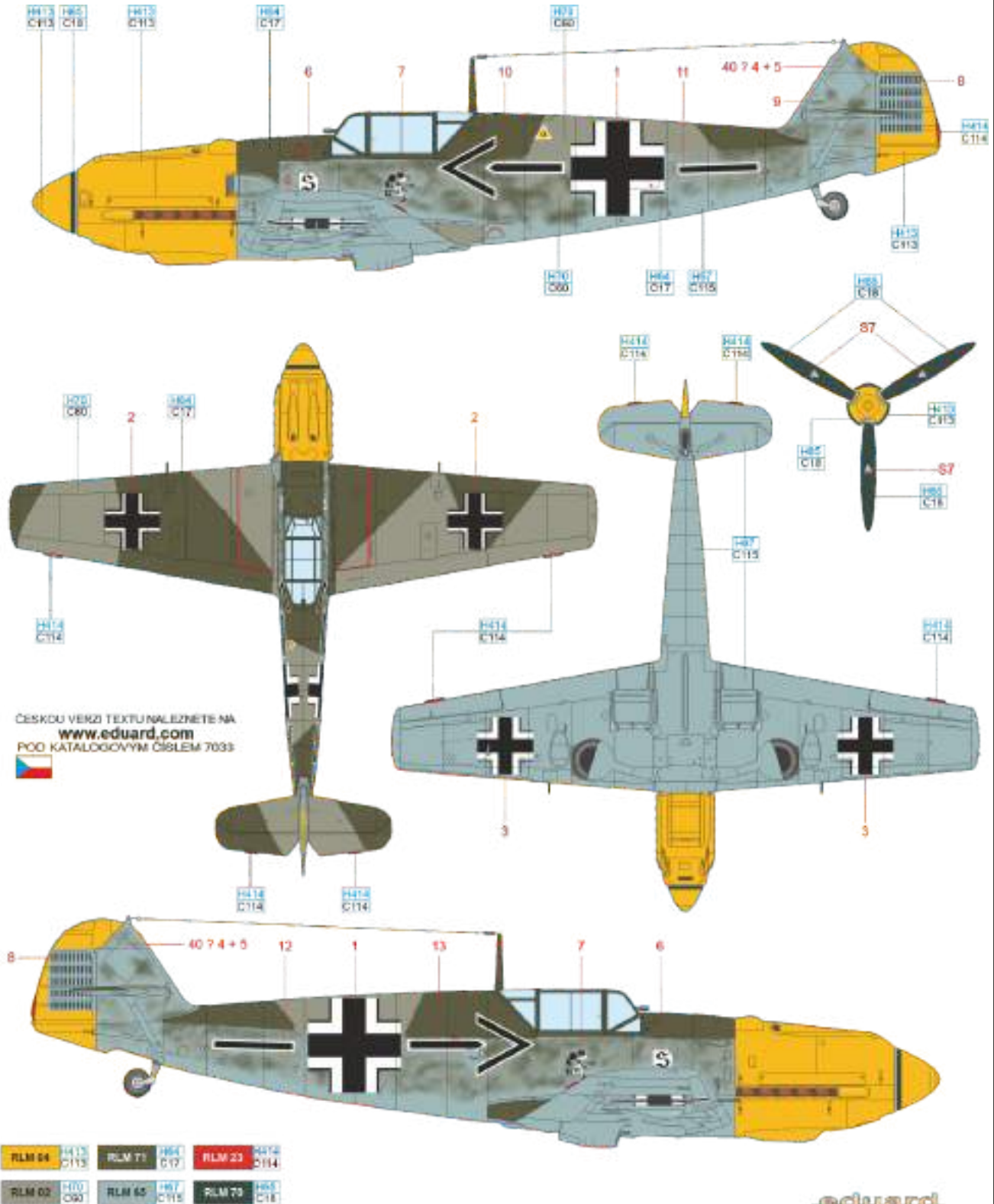


**RESISTANCE MASK**  
7033

**LIQUID MASK**

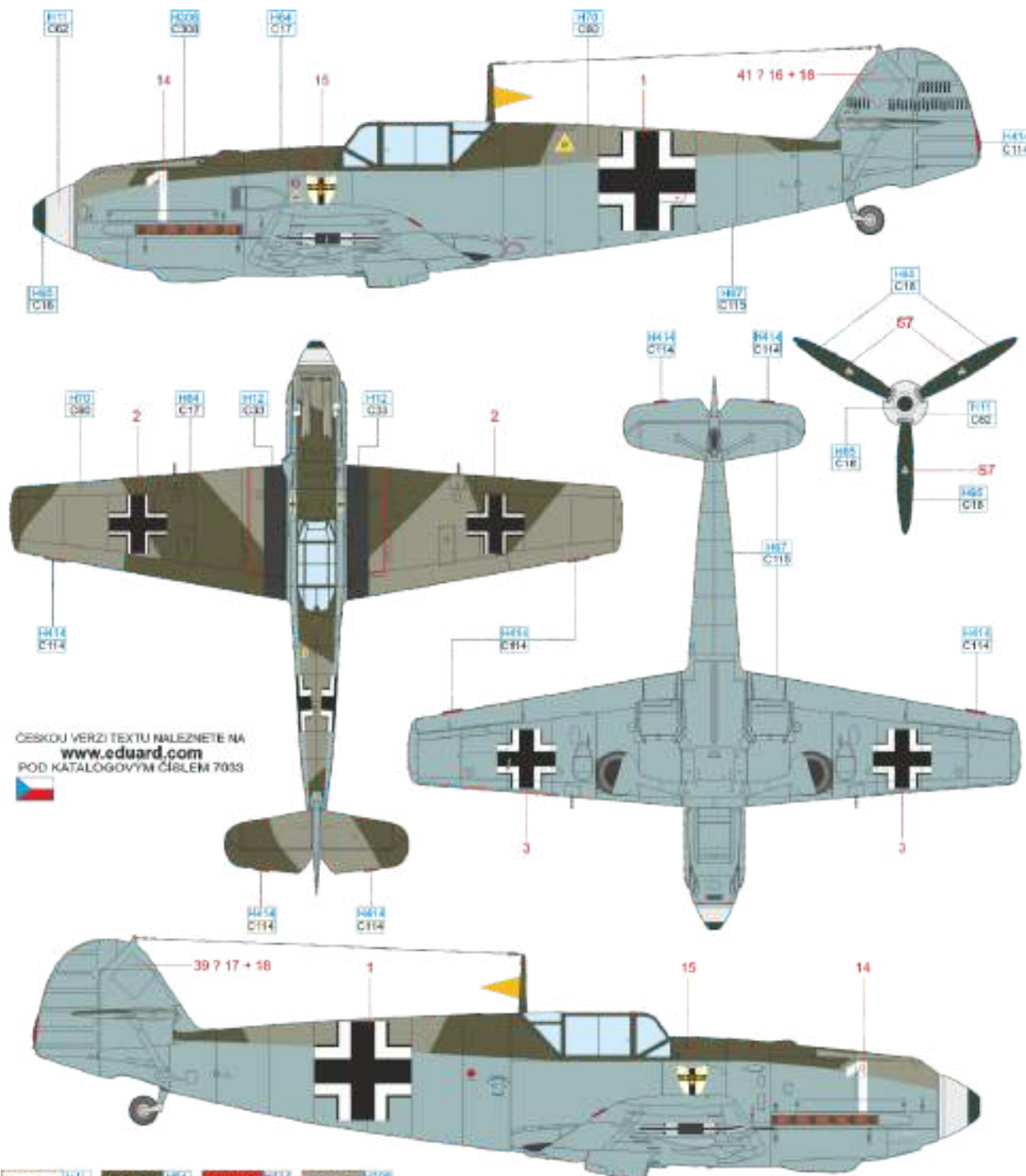


Adolf Galland, the ace and future General, flew the portrayed Emil during through fall of 1940 up to the beginning of 1941. He was CO of III. Gruppe at the time, later he took command of the entire JG 26. The tactical markings on the aircraft kept pace with these promotions. The standard camouflage of RLM 02/71/65 was darkened on the fuselage sides with RLM 02/71. The yellow cowling was complemented by the yellow rudder which also sported kill marks. The surface area of the original RLM 65 was not large enough for them, and so the yellow was oversprayed with fresh RLM 65 for the next row of kill marks. The most typical changes for WNr. 5819 at this time came with the personal emblem of Mickey Mouse and most of all the installation of the ZFR-4 telescope (installed together with the regular Revi). It didn't serve as an actual sight as it did for the identification of distant aircraft. After the death of Werner Mölders Galland replaced him as the German fighter force commander (General der Jagdflieger). Later he became famous for locking horns with Hermann Göring. He established JV 44 at the end of the war, the unit well known for its Me 262 jet fighters and colorful Fw 190Ds. Galland managed to shoot down 104 enemy airplanes and was awarded with Knight Cross with Oak Leaves, Swords, and Diamonds.



# B WNr. 1559, flown by Hptm. Wilhelm Balthasar, CO of 7./JG 27, Carquebut, France, July 1940

The future Knight Cross with Oak Leaves recipient Wilhelm Balthasar was born on February 2, 1914, in Fulda. In 1933 he joined Reichswehr, in 1935 he was transferred to Luftwaffe by his own request and underwent the pilot training. During the Spanish Civil War, he initially served with bomber and reconnaissance units, since September 1937 with fighter detachment of the Legion Condor. In March 1938 he returned to Germany. At the outbreak of World War II Oblt. Balthasar served as 1. Staffel JG 1 commander. This unit saw combat for the first time during the offensive against The Netherlands, Belgium and France. It was the time when Balthasar demonstrated his marksman skills as he shot down 23 enemies during the Western Europe campaign. As of June 5, 1./JG 1 was re-designated as 7./JG 27. On September 1, 1940, he was promoted to command III./JG 3 and in the air battles over the Southern England he achieved further seventeen kills. In the meantime, on February 16, 1941, he was appointed Commanding Officer of JG 2. Balthasar run out of his luck during the combat with the RAF fighters over Aire on July 3, 1941. In the dive, the wing of his Bf 109F-4 wing collapsed and Balthasar perished at the impact with the ground. Balthasar's aircraft, camouflaged in RLM 71/02/65 colors, carried the non-standard marking on the engine cowling. There is a unit marking painted under the windshield, kill markings are painted on the vertical tail surface and rudder.

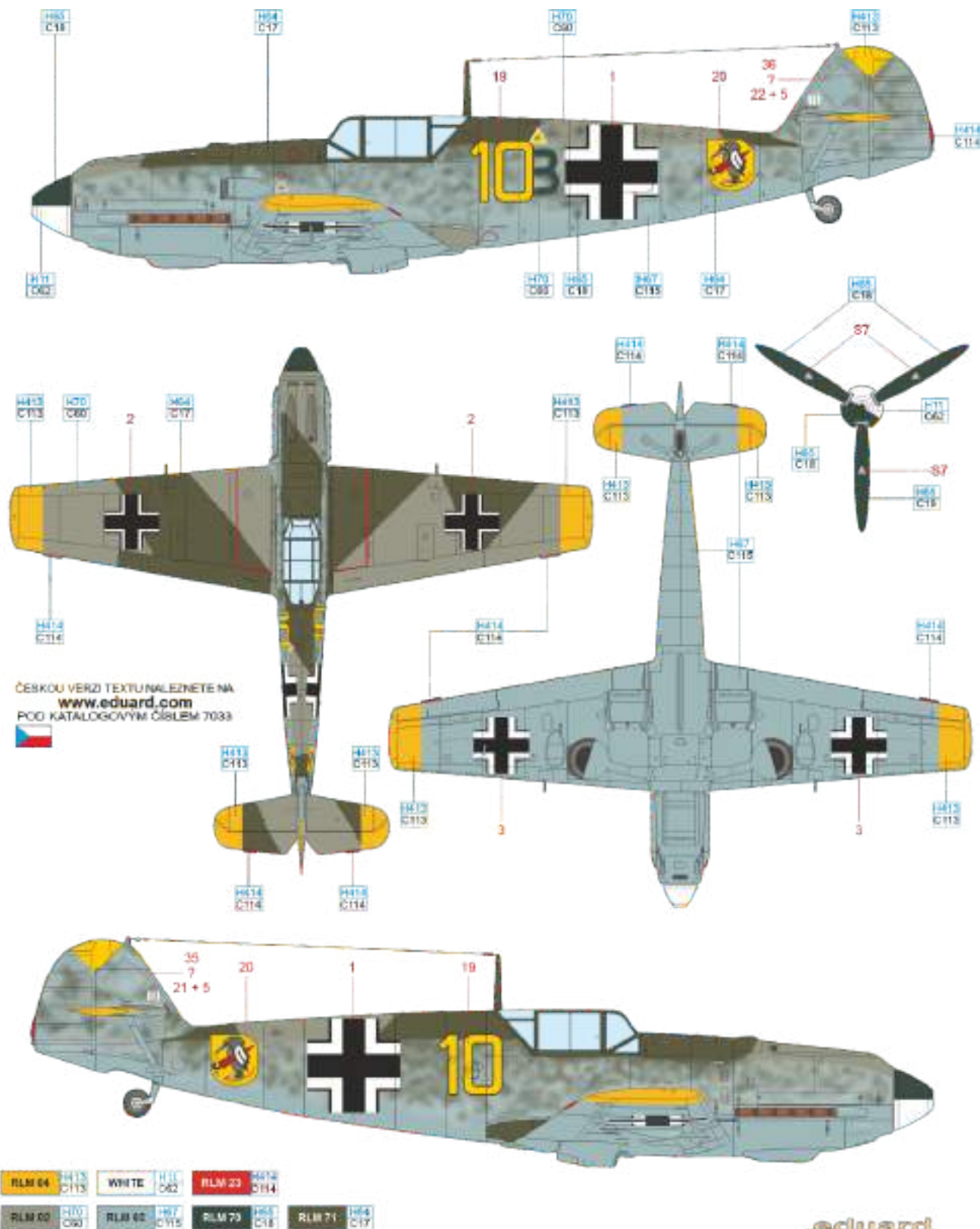


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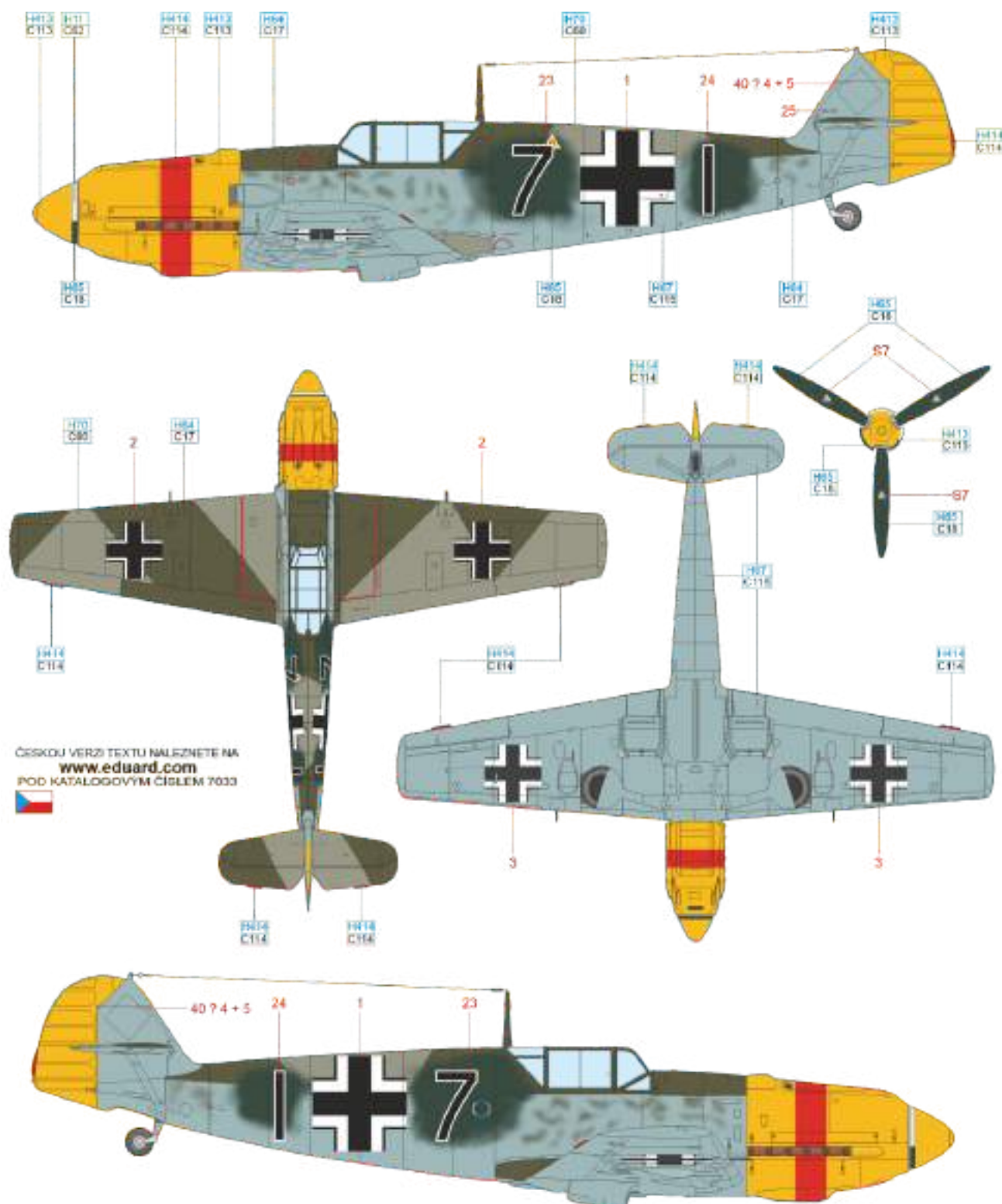
WHITE	H1 C02	RLM 71	H4 C17	RLM 23	H4 C14	GRAY	H06 C06
RLM 02	H02 C02	RLM 65	H15 C15	RLM 79	H03 C03	FLAT BLACK	H12 C33

Simple but effective camouflage adorned this aircraft that was shot down with Ofw. Fritz Beeck at the controls in the vicinity of East Langdon shortly after noon on August 28, 1940. It was during the second escort mission of the day that culminated in combat with RAF fighters in which the engine of Yellow 10 was hit. After an unavoidable forced landing, the aircraft, in relatively good shape, was made otherwise by civilian vandals and allied soldiers before it could be inspected by RAF experts. Light blue sides of the RLM 02/71/65 fuselage scheme were sprayed with the upper surface colors. Yellow identification colors, typical for mid-August 1940, were applied to the wing tips, horizontal tail surfaces, and top portion of the fin. Because the aircraft in question belonged to 6. Staffel, tactical numbering and the background II./JG 51 "Gott strafe England" emblem were yellow. Three victory marks on the left side were in white. It is not out of the question that these also appeared on the right side, but documentation is lacking.



# D WNr. 5901, flown by Oblt. Walter Fiel, CO of 8./JG 53, Le Touquet-Etaples, France, September 1940

After the Luftwaffe tactics changed during the Battle of Britain, when the bombing of London and Southern England was switched to night operation, the decision was made to use certain Staffeln in the fighter-bomber roles and to lure RAF fighters into combat. One of these units was 8. Staffel JG 53 commanded by Oblt. Fiel. On October 2, during his unit's attack, he was attacked by superiority of Spitfires. His aircraft was damaged and made to force-land nearby the little town of East Peckham in the Kent County. The pilot was taken a prisoner of war. The camouflage in RLM 71/02/65 colors was supplemented by the gaudy marking in the form of yellow engine cowling and rudder. The original aircraft's marking was probably oversprayed with RLM 70 color, the unit marking, originally located on the engine cowling, was overpainted in the red stripe wrapping around the whole engine cowling.

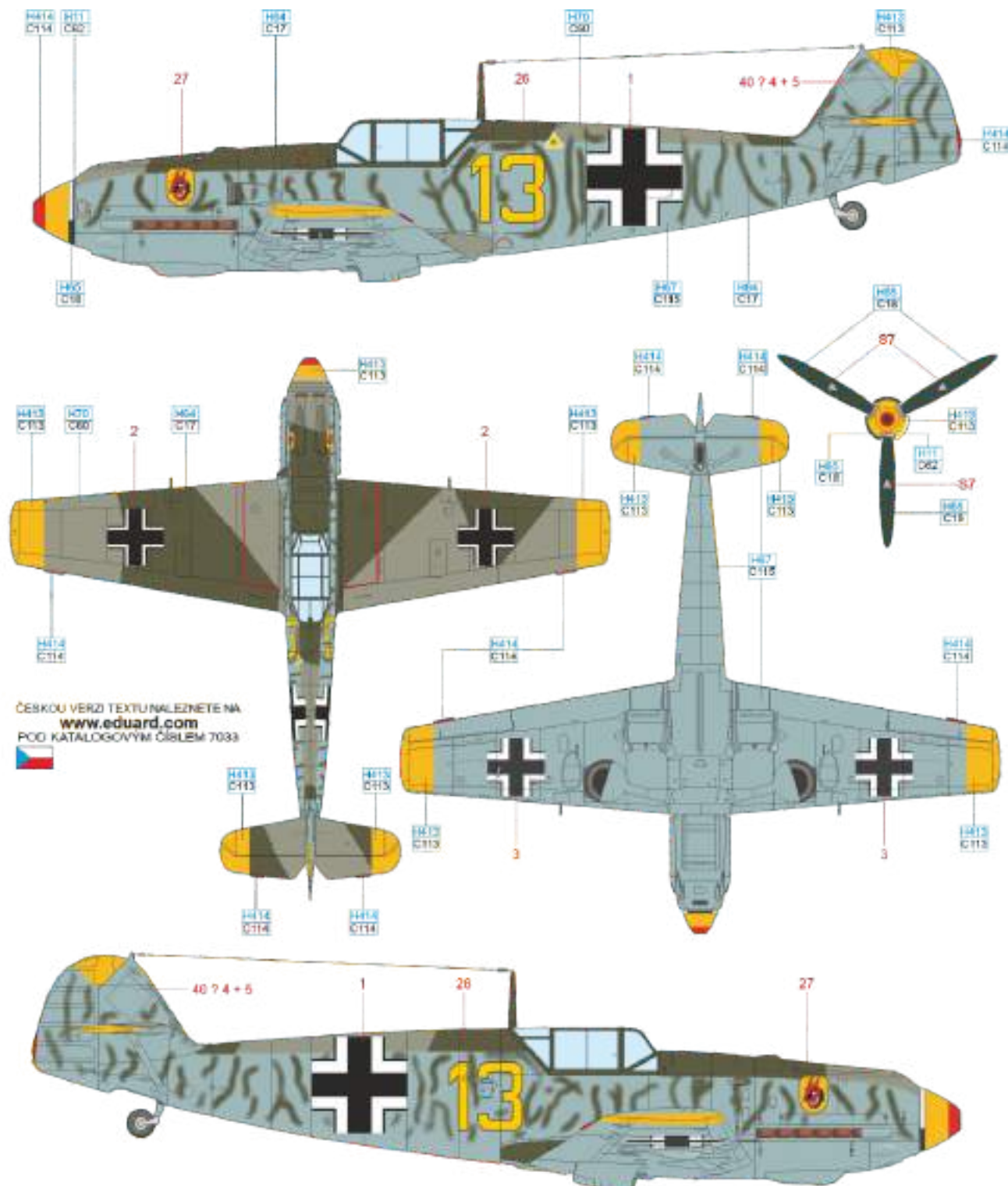


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RLM 04	H413 C113	WHITE	H411 C62	RLM 23	H414 C114
RLM 02	H20 C60	RLM 65	H47 C15	RLM 70	H46 C18
				RLM 71	H44 C17

# E Lt. Josef Eberle, 9./JG 54, The Netherlands, August 1940

A very interesting camouflage was created in the summer of 1940 by the ground staff of JG 54 on many of unit's aircraft in an attempt to darken the light blue fuselage sides of their Bf 109Es. To achieve such an effect, they sprayed vertical to diagonal stripes with RLM 71 paint. The standard scheme of RLM 02/71/65 was applied along with the quick identification elements. The period scheme was applied to Yellow 13 with which Lt. Josef Eberle managed to cross the Channel and belly land in France despite personal injury on August 12, 1940. The wingtips and fin of Eberle's aircraft were painted RLM 27 Yellow, which was lighter than the color of the spinner, tactical number and background of the III./JG 54 emblem. The white color cannot be ruled out on the wingtips and fin as well. The bottom wing RLM 65 color extended marginally to the upper surface. Some sources erroneously identify this aircraft as an E-3. Despite having tempted fate once over the Channel, Eberle was not as successful on October 9, 1940, when he lost his life in combat with RAF fighters.



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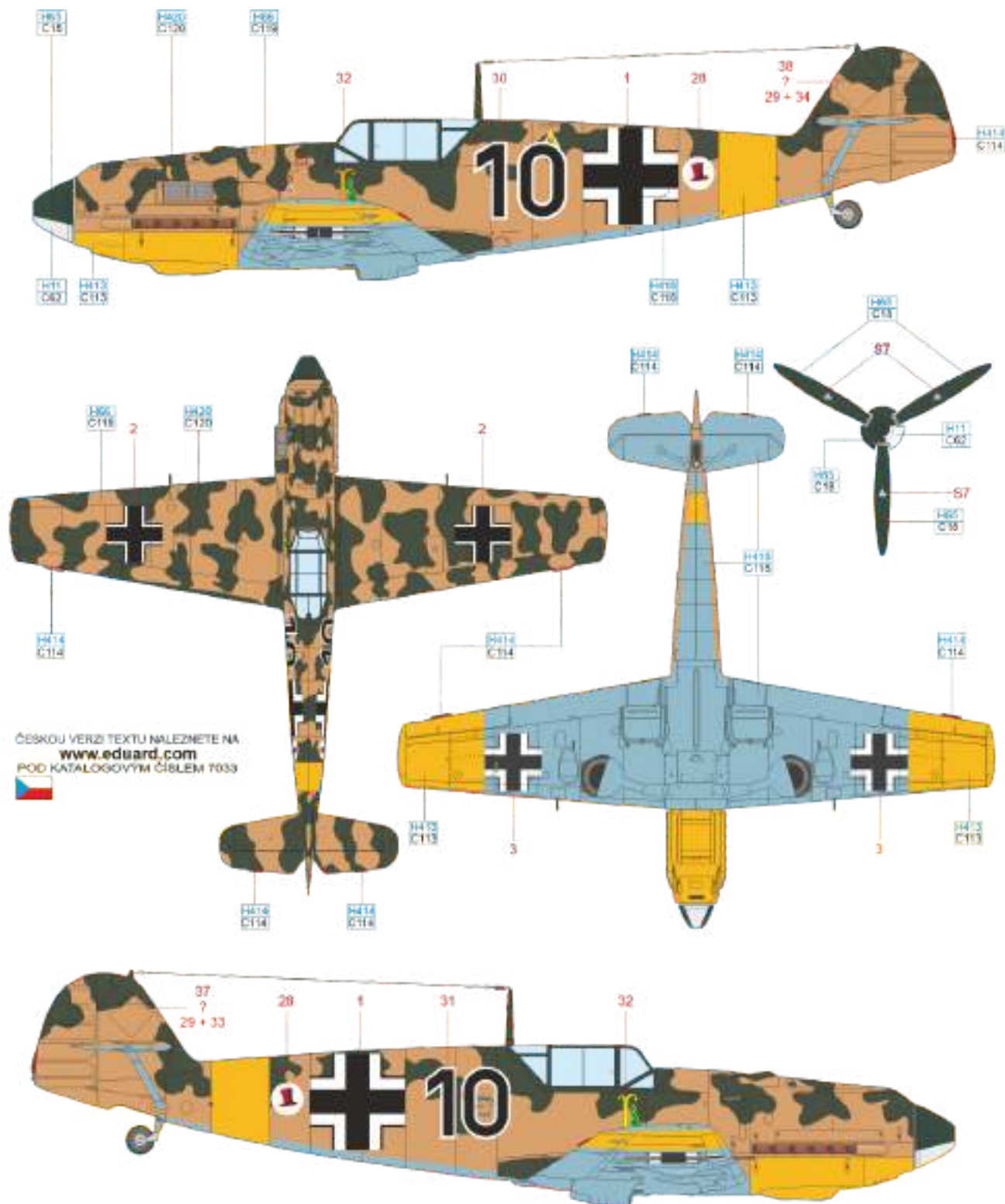
RLM 04 H413 WHITE H411 RLM 23 H414  
 C113 C113 O62 C114

RLM 02 H410 RLM 65 H417 RLM 79 H415 RLM 71 H414  
 C114 C115 C116 C117

eduard

# F WNr. 2060, Lt. Hans Guse, 2.(J)/LG 2, Tudora, Soviet Union (today's Republic of Moldova), July 1941

Like JG 77, Lehrgeschwader 2 was withdrawn from the combat operations after the end of the Greek campaign for rest and rearmament, which was to take place in Belgrade. This was followed in mid-July by a move to Romanian territory, where LG 2 equipped by Messerschmitts Bf 109E (some in the fighter-bomber configuration) was on alert to be deployed against the Soviet Union. It joined Operation Barbarossa in the early hours of July 22. The Black 10, which retained its camouflage from the battles over Greece and Crete and was equipped with a tropical filter, was shot down on July 10, 1941, by Soviet I-16s. The pilot is still listed as missing in action. The markings of the aircraft are complemented by the insignia of I.(J)/LG 2 under the windshield and 2.(J)/LG 2 on the side behind the fuselage cross.



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RLM 04	H13 C13	WHITE	H11 C62	RLM 23	H14 C14
RLM 78	H44 C14	RLM 75	H12 C13	RLM 70	H45 C15
				RLM 00	H46 C16

