

Avia CS-199

eduard

1/72 Scale Plastic Model Kit

ProfiPACK
edition

The Avia CS-199 trainer played a significant role in the post-war renewal of the Czechoslovak Air Force. This two-seat version, however, took over most of the vices that earned its single-seat S-199 sibling the nickname Mule.

With the end of the World War II, countries occupied or taken over by Nazi Germany regained their freedom. At the same time, they faced the urgent need to rebuild their armed forces including the aviation.

Although post-war Czechoslovakia acquired aircraft members of the foreign resistance returned home with, both from Eastern and Western front, there were not enough of them. Moreover, the war-impooverished country lacked sufficient funds to purchase the large number of modern fighter aircraft it needed. The estimated cost of one billion Czechoslovak crowns was amount equal to the entire financial reserve of the country at that time. Nevertheless, it was necessary to build air regiments and to train new pilots. The intended solution was to use the airframes of German Messerschmitts Bf 109 G and K versions and DB 605 engines, of which Czechoslovakia had quite a large number in various state of condition. Other airframes were purchased from Bulgaria. A total of 21 Avia S-99s were assembled, which in fact were the German Bf 109G-10s apart of some minor technical details. These aircraft undergone army trials, but all but one of them served with the Police air units. Further production of the S-99 was ruined on July 31, 1945, by a massive explosion at the former sugar factory Krásné Březno, where military equipment, ammunition and almost all the DB 605 engines were stored. As there was also a significant number of Jumo 211 and 211F engines available (up to 4,270 units) in Czechoslovakia, the decision was made to use them instead of now unavailable DB 605 and merge them with the Bf 109G/K airframes. This was a stop-gap solution only, as the Jumo 211 engine was not ideal for powering fighter aircraft. Even less suitable was the Jumo VS-11 propeller designed for them. It had wooden propeller blades that were heavy, plus they were quite wide, which suited bombers, but not fighter aircraft. They generated massive torque, which was the problem especially during take-offs. The aircraft had high tendency to change the direction, which had to be negotiated by strong pilot's controls input. This led to many dangerous situations and crashes. Because of its handling, the S-199 earned the nickname Mezek, which in the Czech language means Mule and also corresponds with the original name of the aircraft (Messerschmitt).

Lacking heavily

The new fighter aircraft was offering flight performances that were far from the top of the contemporary machinery at the time of its creation. It lagged behind the best piston-engined aircraft in top speed by about 110 to 124 mph (180 to 200 km/h). This was down to the engine, which, even in comparison with the least powerful version of the original DB 605, lacked some 107 hp (80 kW), but when compared to the DB 605AM version it had up to 426 hp (317 kW) power deficit, and compared to the top piston machines of its time the deficit was up to 1140 hp (850 kW)! No wonder that S-199 could not compete with modern fighters in terms of flight performance. However, it was fully aerobatic aircraft, so the air combat training and also gunnery training were possible. The armament consisted of either two or four MG 131 machine guns of 13-mm caliber (two each in the fuselage and wing), or a pair of MG 131 fuselage



item No. 70153

guns and two MG 151/20 cannons in the under the wing housings. Bombing training could also be carried thanks to the 4 × ETC 50 bomb racks, which were made available for S-199s.

A total of 510 single-seat and 47 two-seat converted Messerschmitts were ordered at the end of 1947. However, the exact number actually produced is unclear and is estimated at between 450 and 500 of S-199s, while 82 of CS-199s were to be produced. Gradual modifications were made during production. The single-seat aircraft of the first production runs at the Avia and Aero factories, where the S-199 was also built, still kept standard oil radiator under the nose, but this was replaced by a heat exchanger on later machines. There was also replacement of the original side-opening "Erla" canopy with a new convex sliding one and several other changes.

Two-seater Bf 109

To enforce and improve the training of fighter pilots, the Luftwaffe introduced the Bf 109G-12 two-seat fighter trainer. These aircraft were produced as a conversion and overhaul of war weary frontline aircraft and were used by training units for advanced fighter training. Space for rear cockpit was created by reduction of the volume of the fuselage fuel tank from 300 litres to 240 litres. To keep appropriate endurance, an external fuel tank under the fuselage became standard on two-seat Messerschmitts. The same pays for Czechoslovak-build Avia CS-99s, of which a total of 32 were assembled, being de facto Messerschmitt Bf 109G-12s. After the explosion, which destroyed available DB 605 engines at Krásné Březno facility, Jumo 211 engines were used to produce the trainer version as well, resulting in the CS-199 aircraft. The first few examples, mostly converted from the CS-99 (at least 24 machines were built in this way), retained the original hinged square-shaped cockpit canopy of the Bf 109G-12, but this was soon replaced by a new, more rounded sliding canopy.

A mule for two

In 1978-1951, according to available data, 82 CS-199 trainers were built. Their empty weight was 30 kg higher than the single-seat S-199, and their top speed was quoted as 10 km/h lower. As with the S-199, the pilot of the CS-199 had to cope with the high torque of the heavy propeller during take-off, which on the one hand was a disadvantage, because this feature placed high demands on the pilot trainees, on the other hand, it prepared them well for the single-seat S-199 under the supervision of an instructor. Even so, the Avia S-199 as well as the CS-199 trainer suffered high number of crashes due to the pilot errors. In addition to the difficult take-off, another thing worth of mention was the low quality of the booty components used. In particular, the engines suffered from a high failure rate, leading to a number of emergency landings. All the CS-199 were given the overall overspray with the aluminum color (mix of a clear varnish and aluminium powder), the uniform look varied in the application of the yellow stripes and bands, denoting the training unit aircraft.

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
VOLBA
- 
 BEND
OHNOUT
- 
 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 *

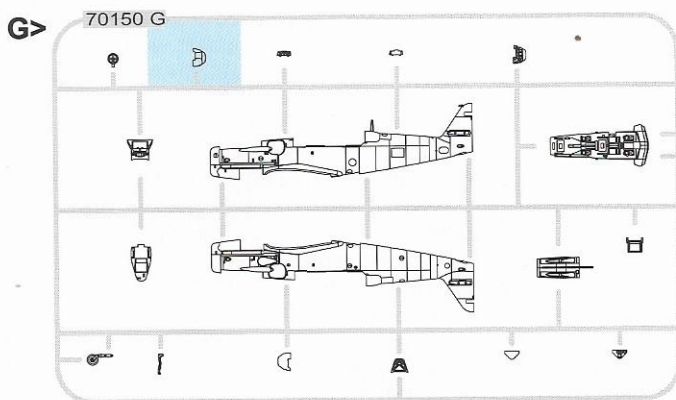
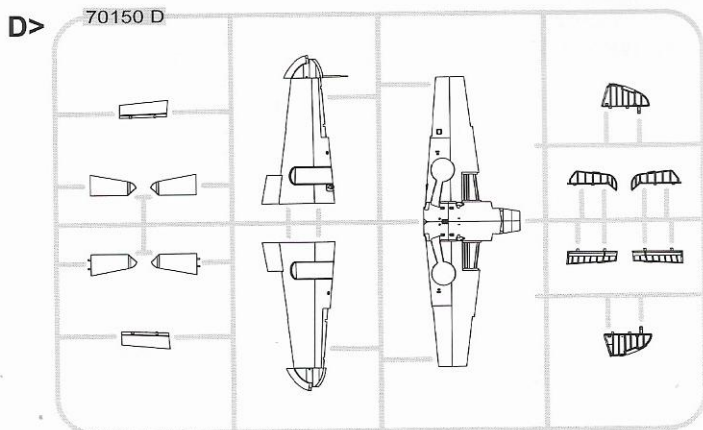
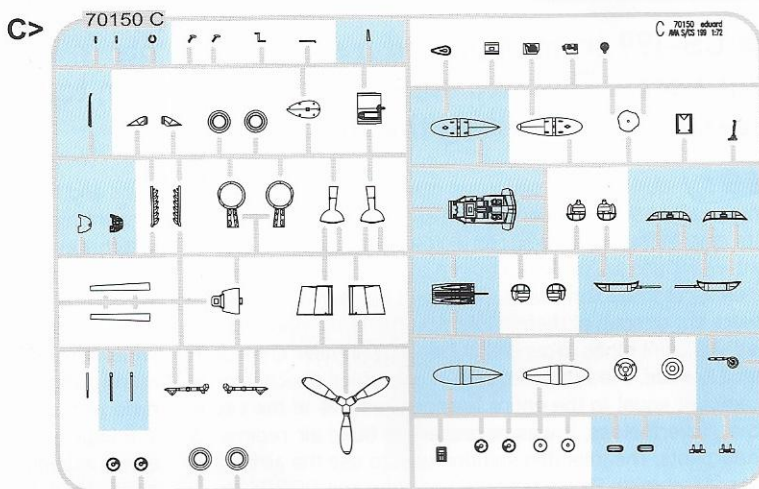
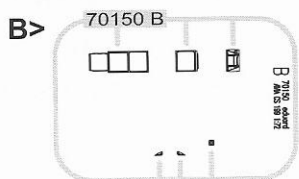
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TEILE *

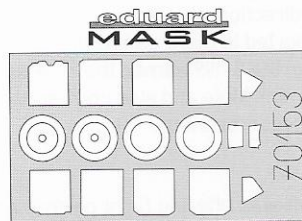
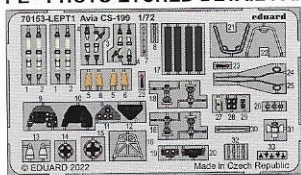
PIÈCES *

部品

PLASTIC PARTS



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 *

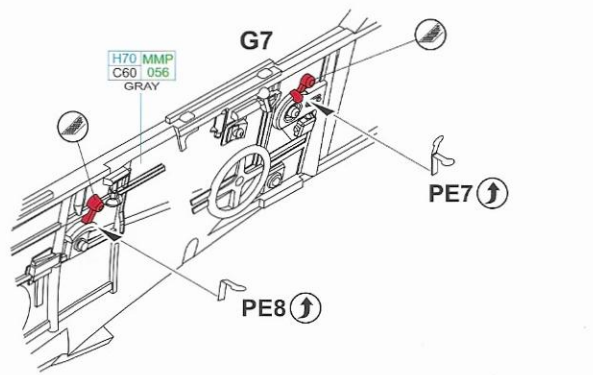
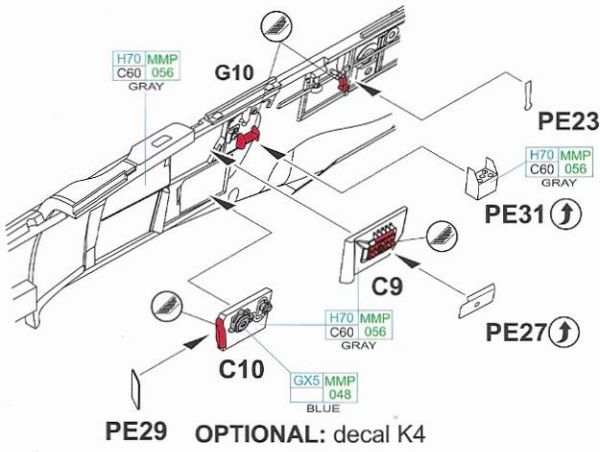
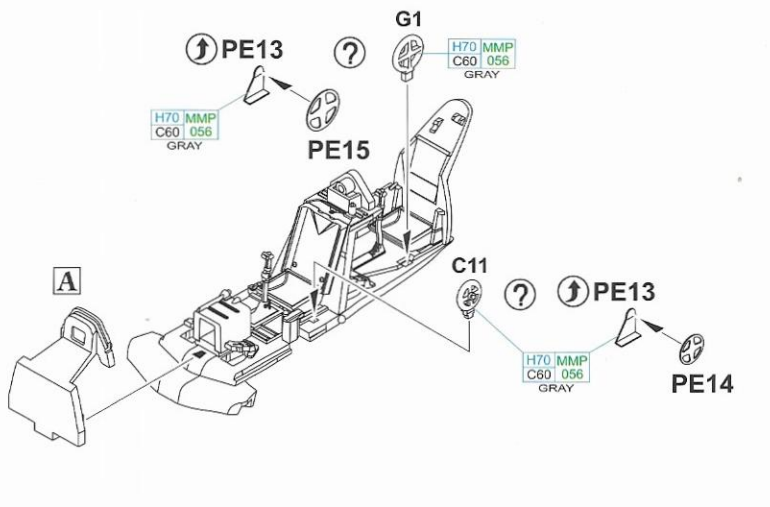
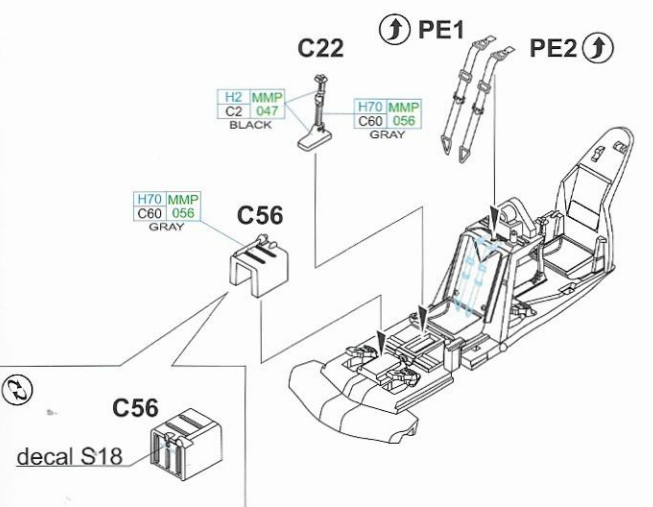
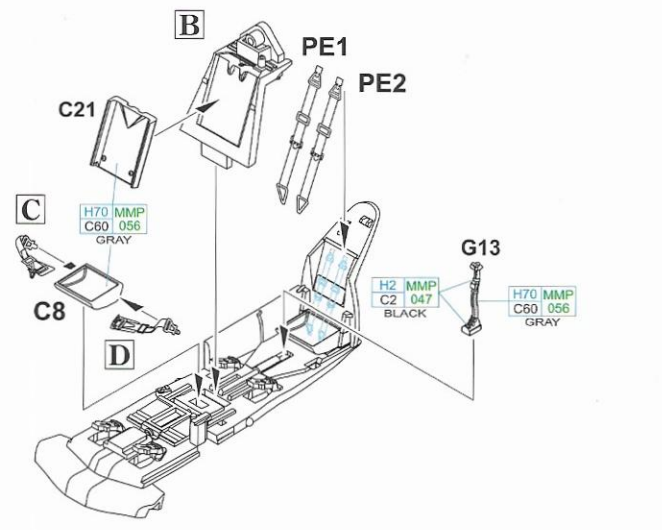
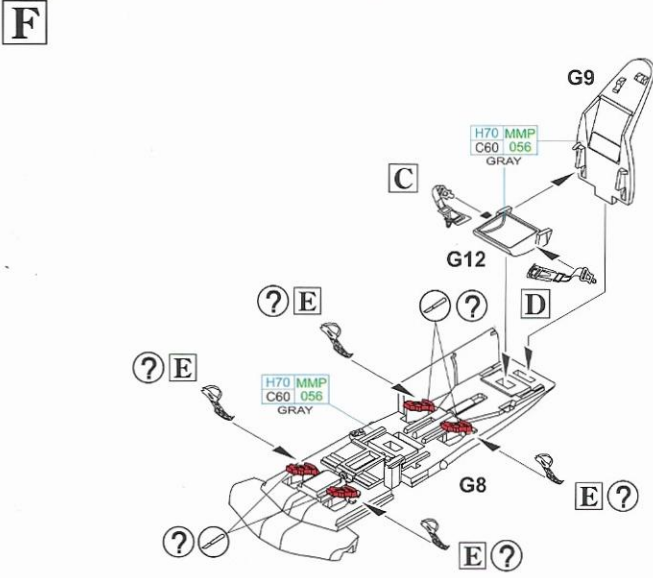
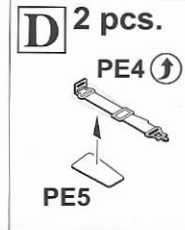
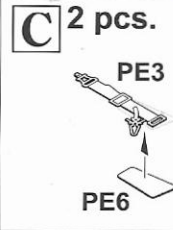
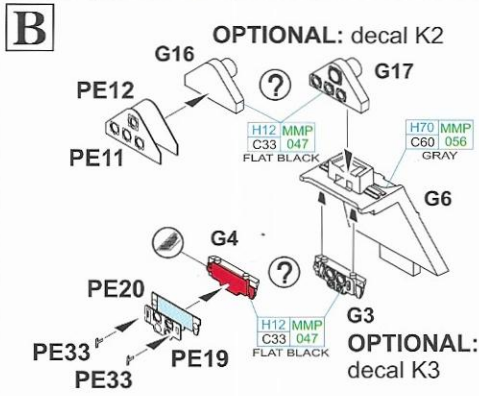
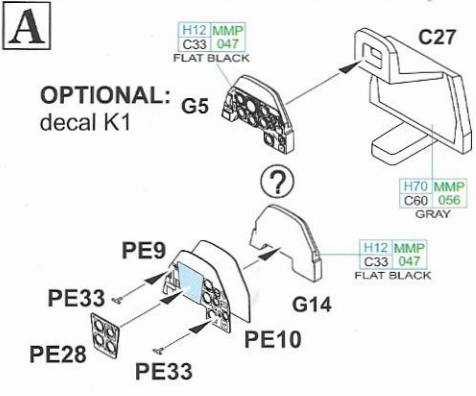
FARBEN *

PEINTURE *

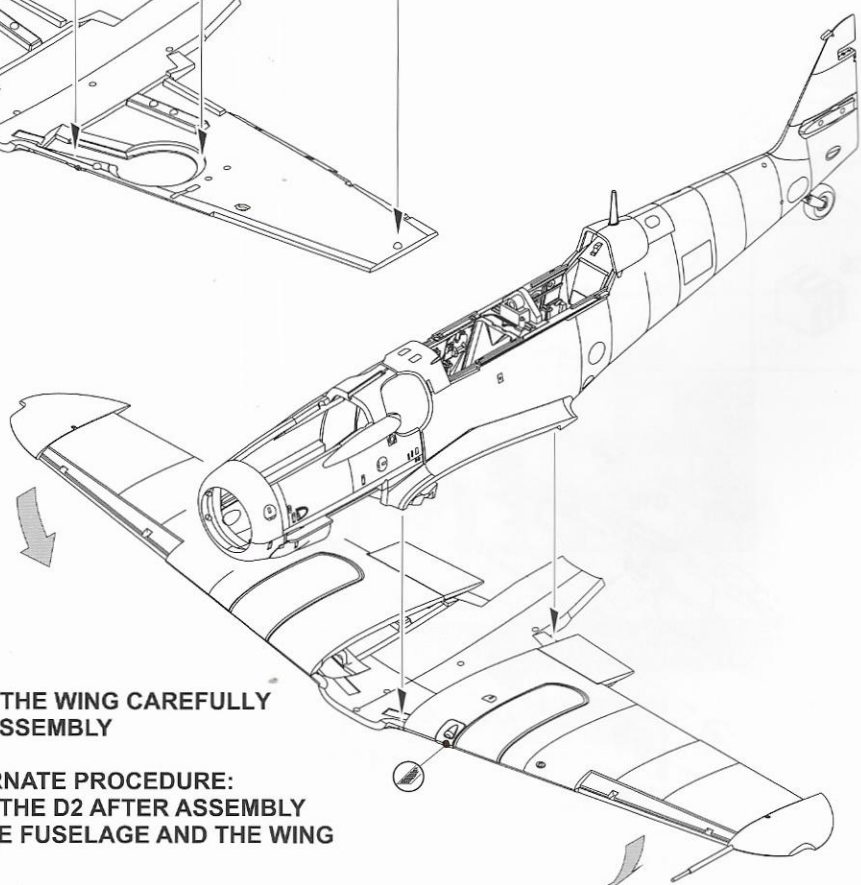
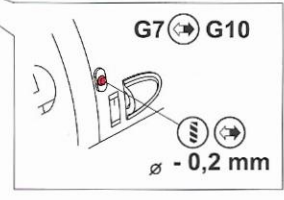
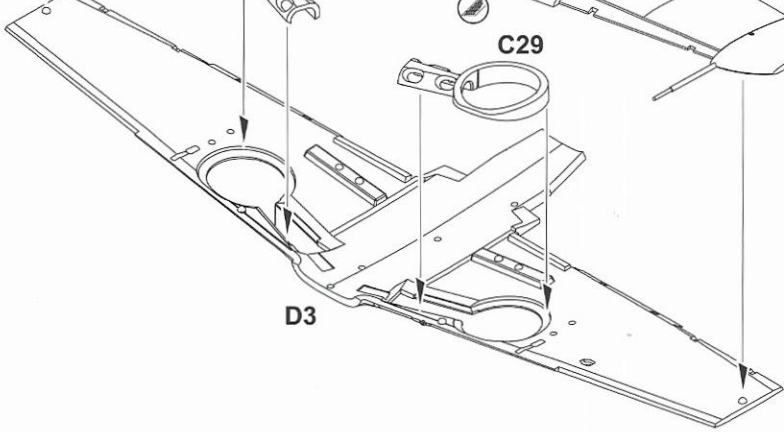
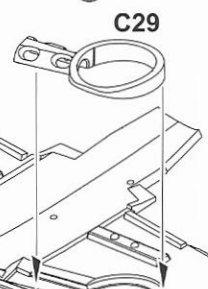
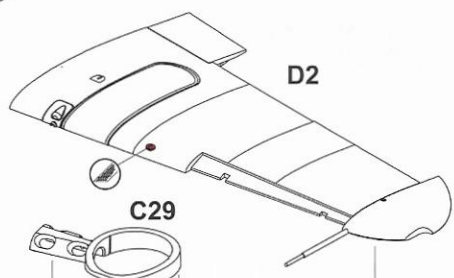
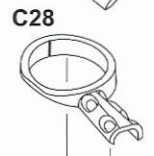
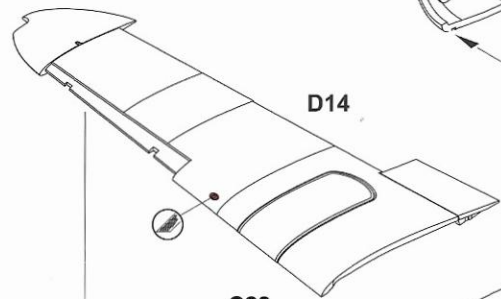
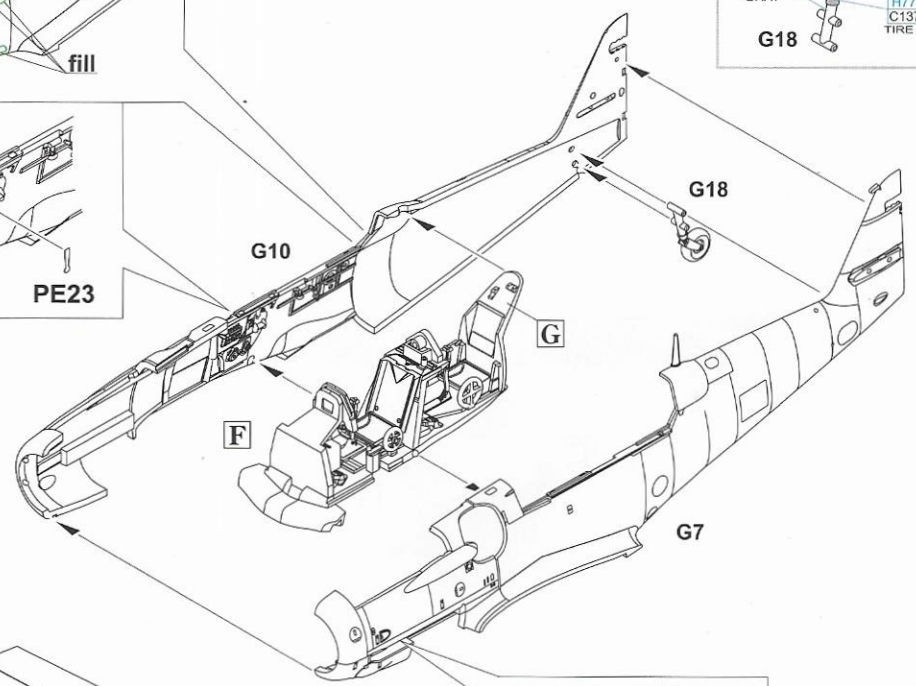
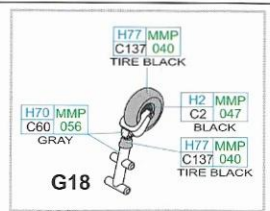
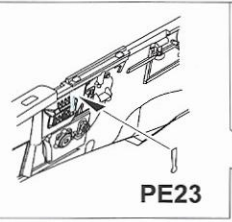
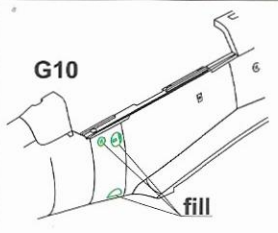
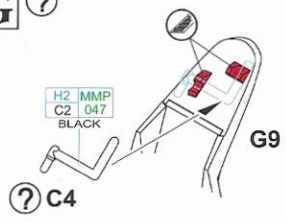
色

GSI Creos (GUNZE)		MISSION MODELS	
AQUEOUS	Mr.COLOR	PAINTS	
H2	C2	[MMP-047]	BLACK
H3	C3	[MMP-003]	RED
H12	C33	[MMP-047]	FLAT BLACK
H25	C34		SKY BLUE
H65	C18	[MMP-088]	BLACK GREEN
H70	C60	[MMP-056]	GRAY
H77	C137	[MMP-040]	TIRE BLACK
H90	C47		CLEAR RED

GSI Creos (GUNZE)		MISSION MODELS	
AQUEOUS	Mr.COLOR	PAINTS	
H94	C138		CLEAR GREEN
H413	C113	[MMP-090]	YELLOW
Mr.METAL COLOR		METALLICS	
[MC214]		[MMM-001]	DARK IRON
Mr.COLOR SUPER METALLIC		METALLICS	
[SM201]		[MMC-001]	SUPER FINE SILVER
Mr.COLOR GX		METALLICS	
[GX05]			SUSIE BLUE

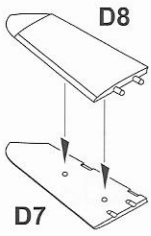


G ?

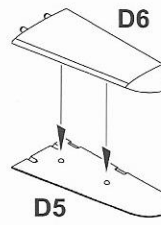
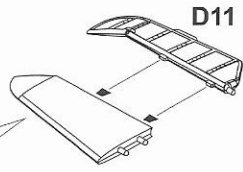


BEND THE WING CAREFULLY FOR ASSEMBLY

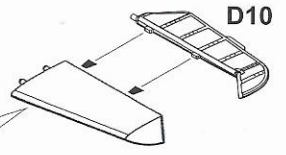
**ALTERNATE PROCEDURE:
GLUE THE D2 AFTER ASSEMBLY
OF THE FUSELAGE AND THE WING**



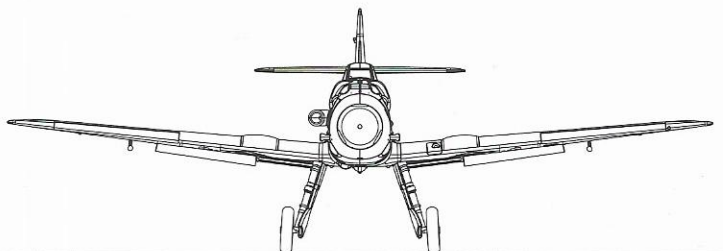
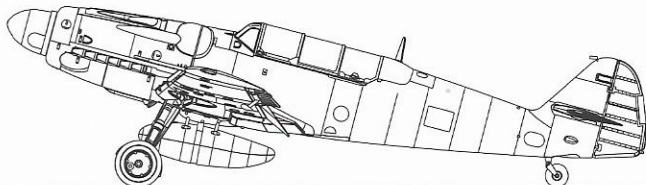
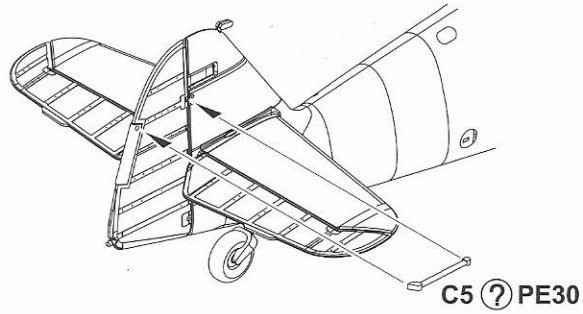
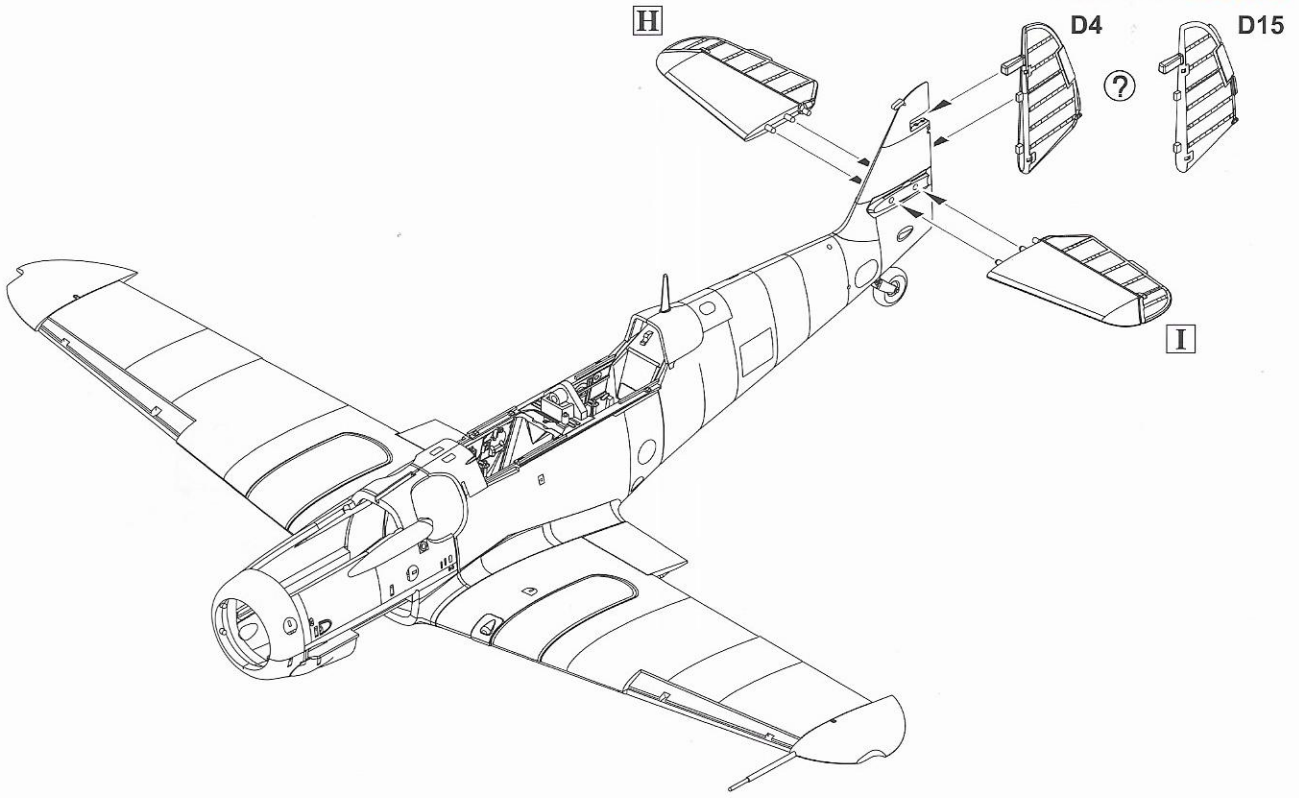
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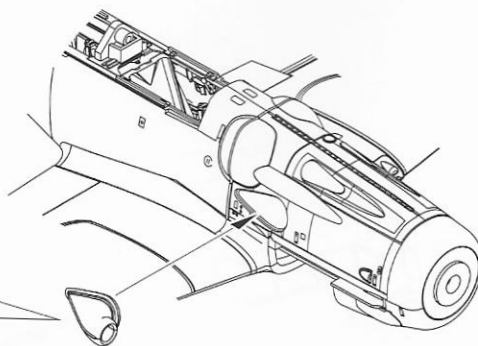
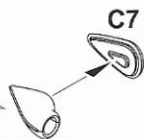
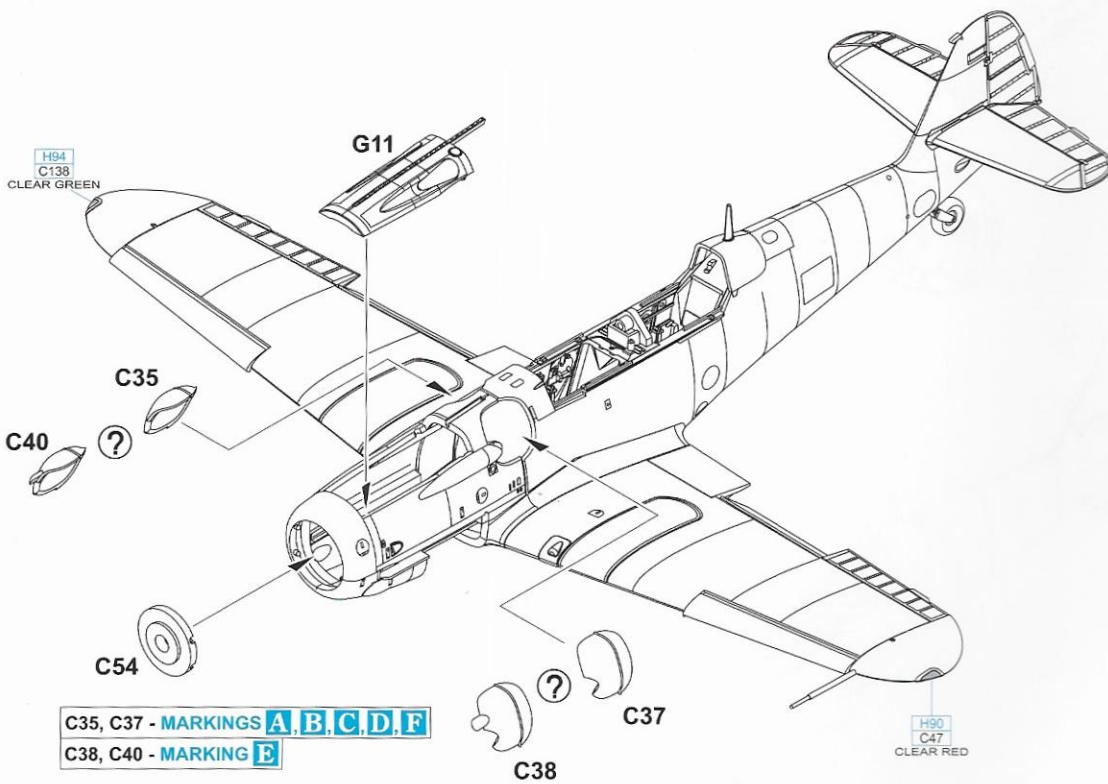
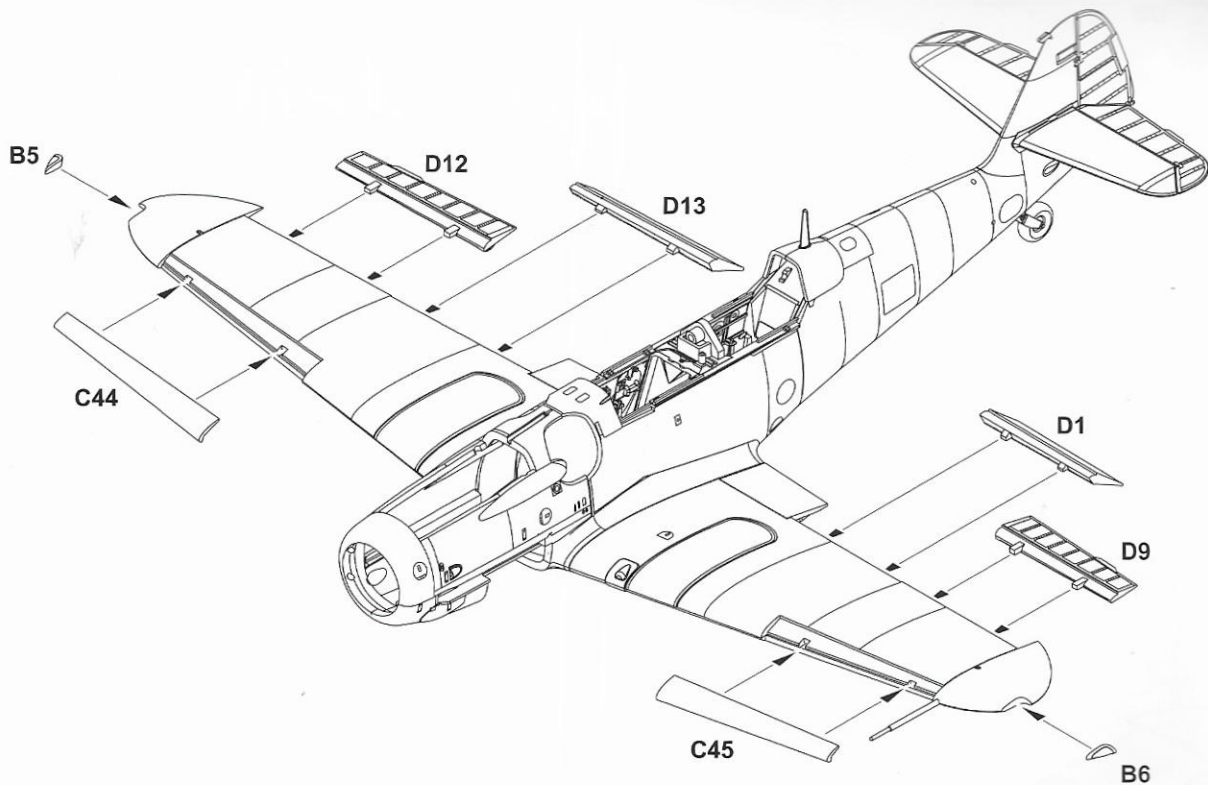


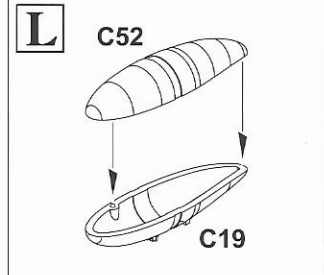
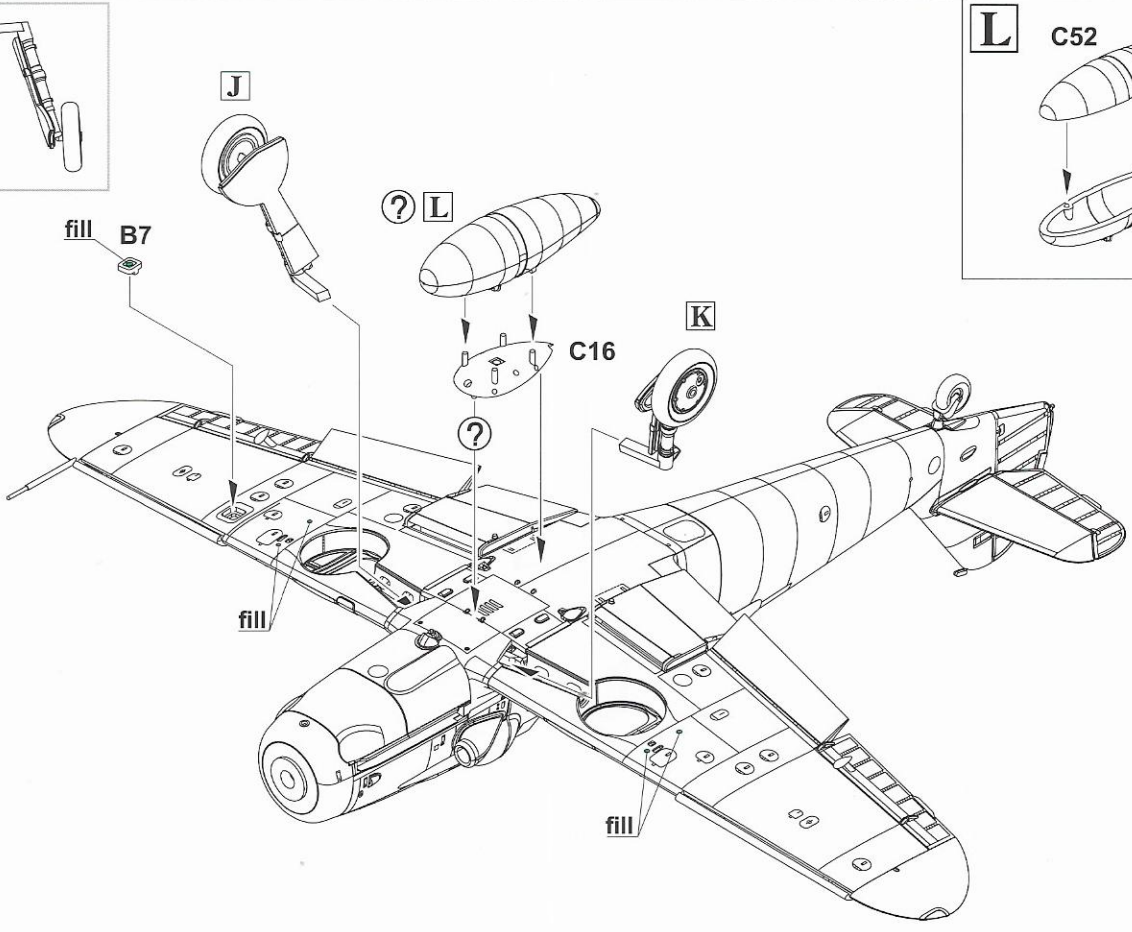
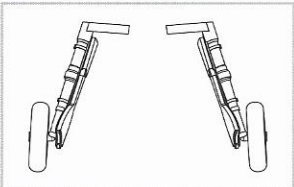
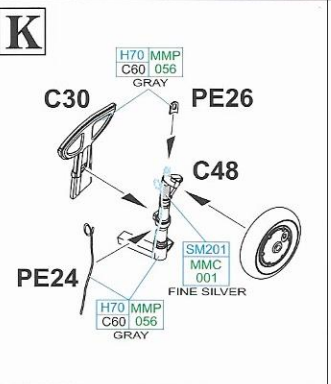
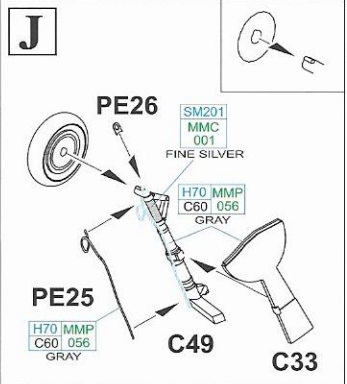
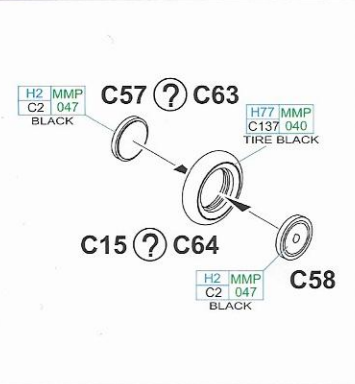
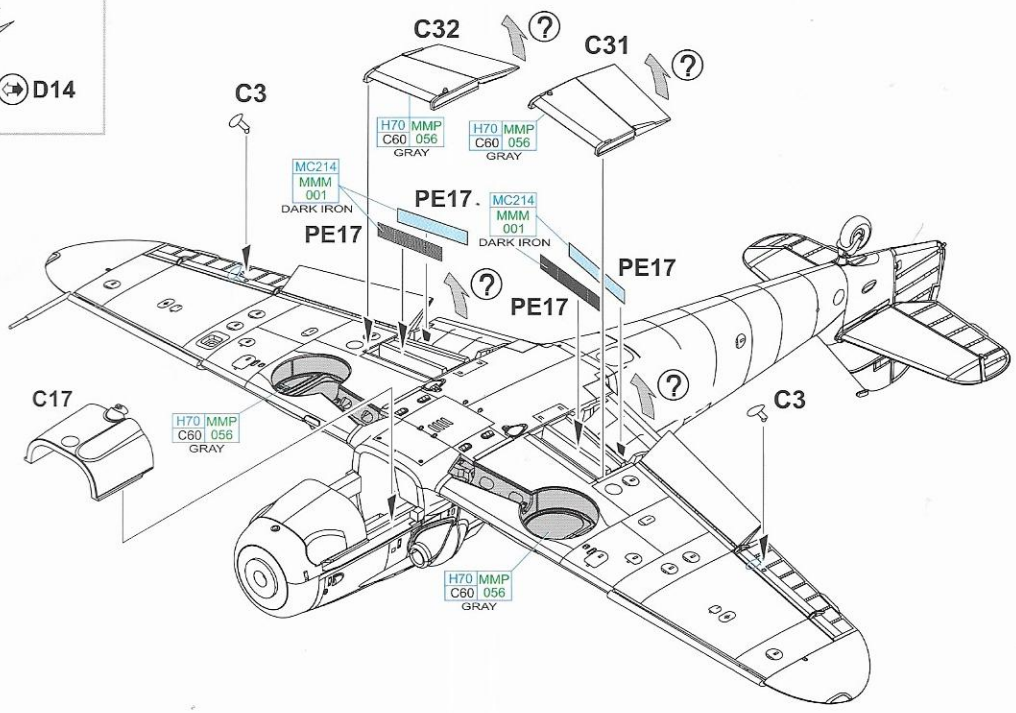
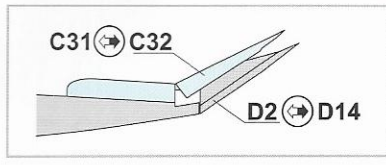
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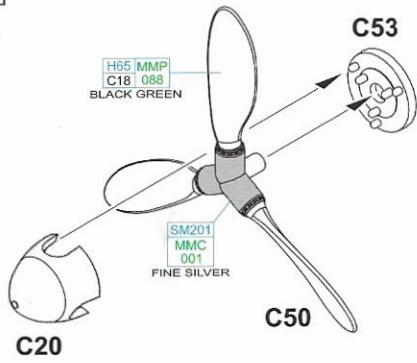
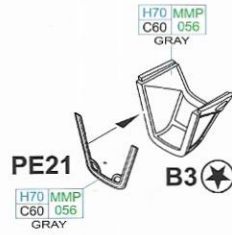
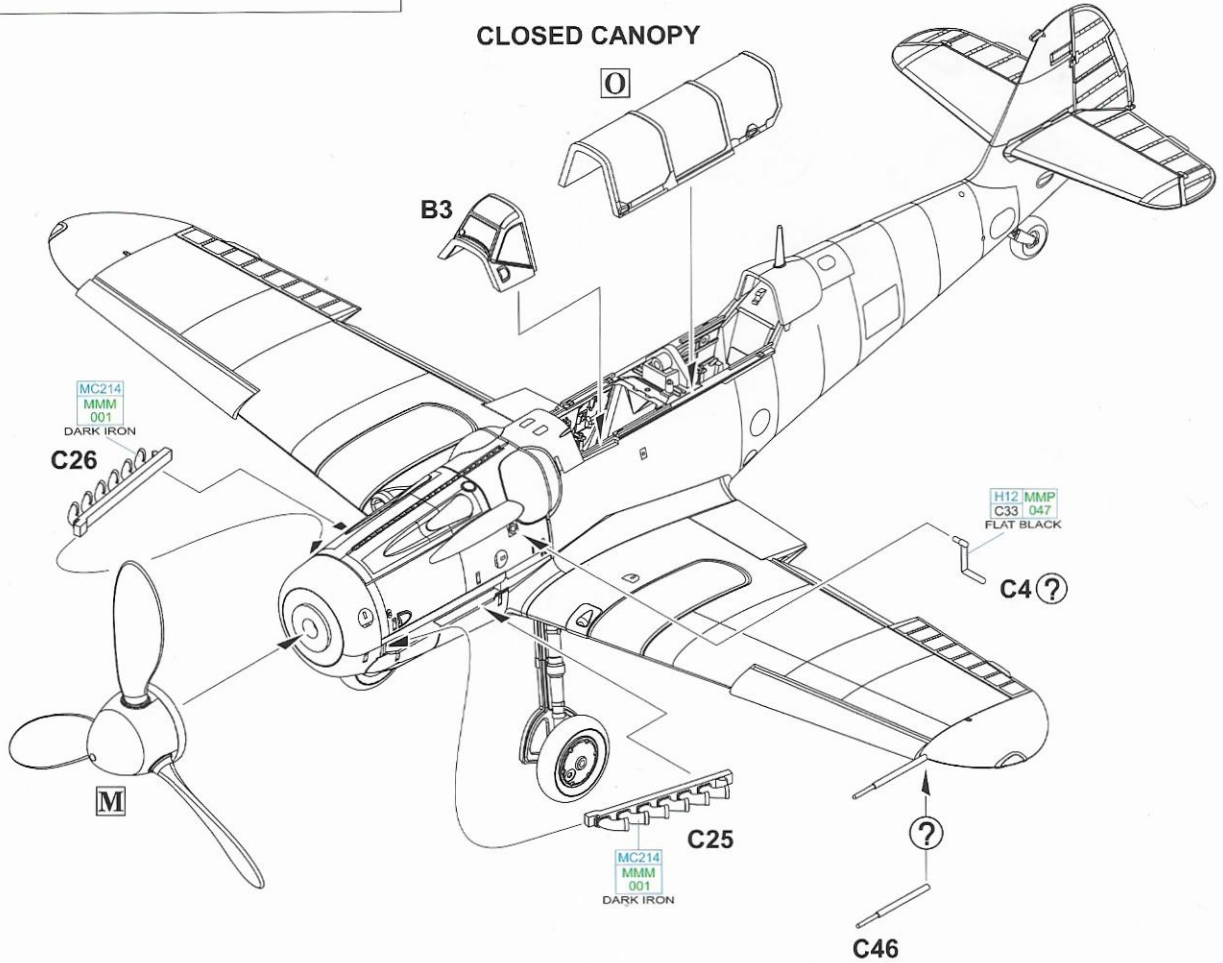
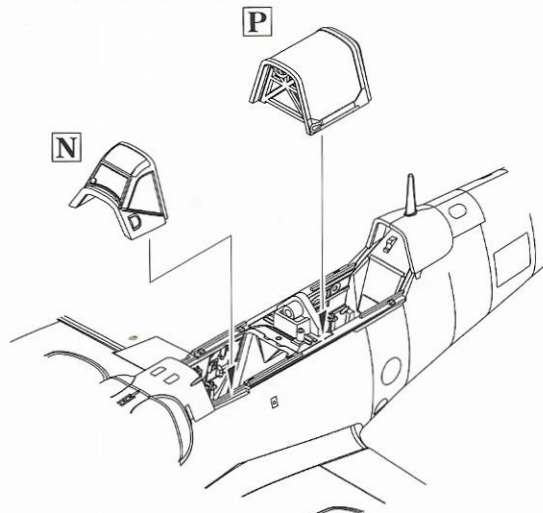
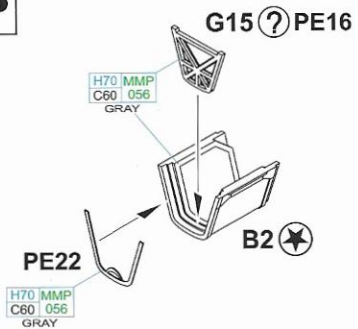


D4 - MARKINGS **B, D, F**
D15 - MARKINGS **A, C, E**

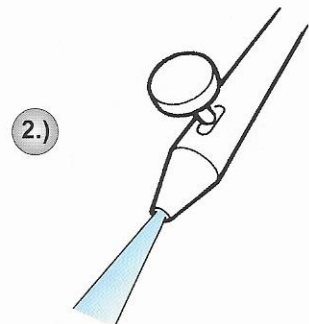
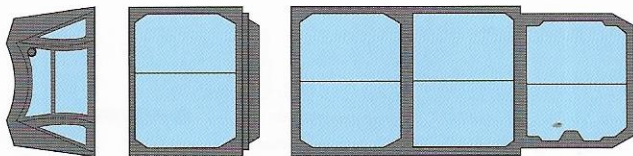
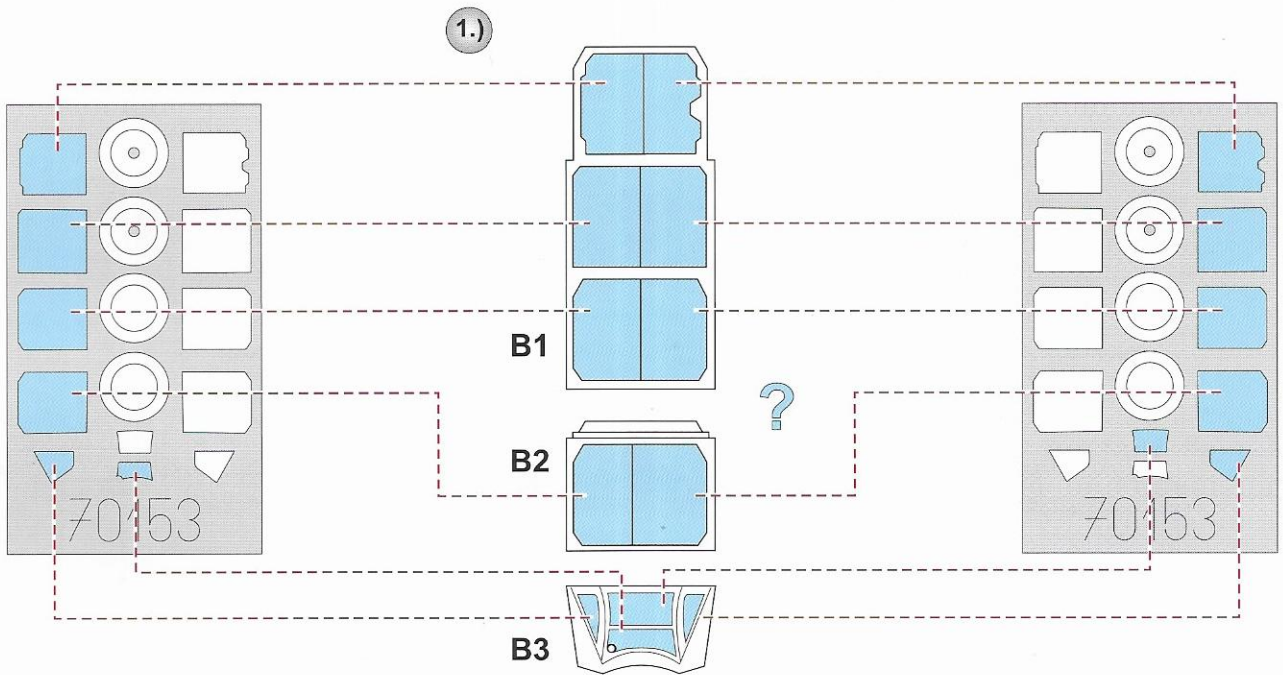
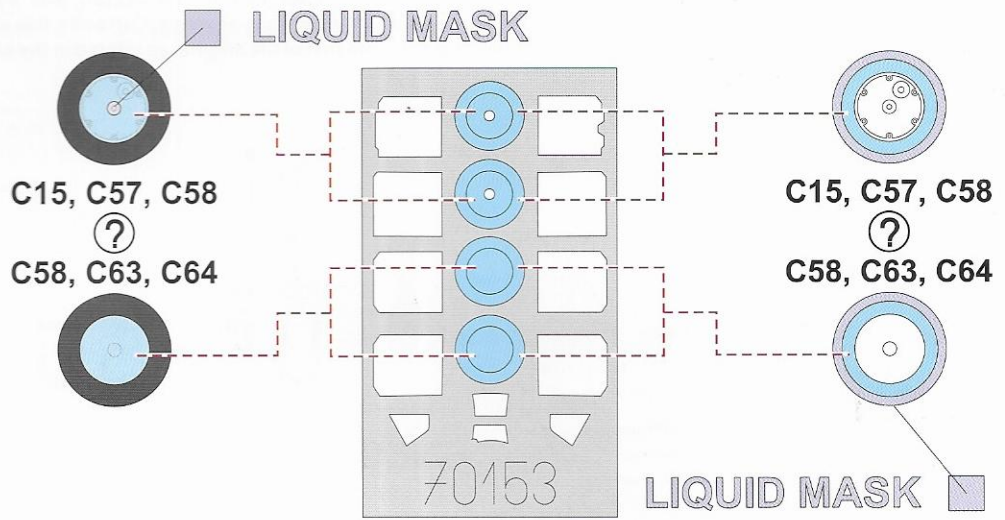
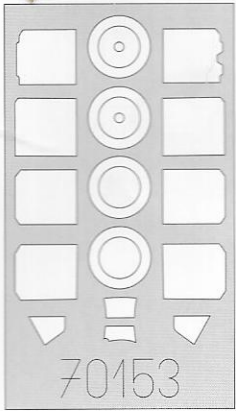






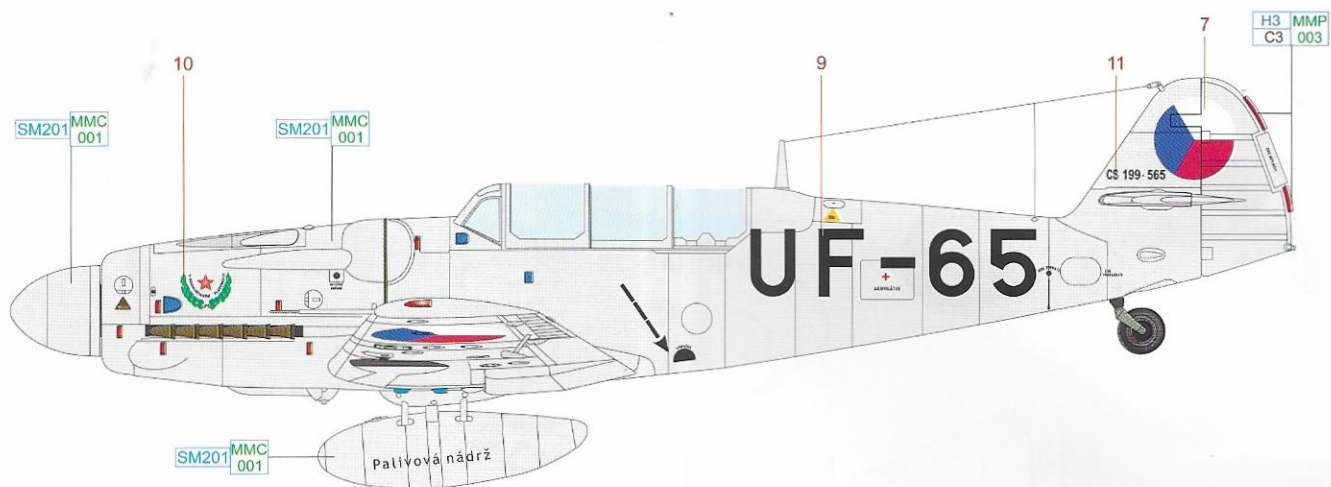
M**N** OPEN CANOPY ONLY**O****CLOSED CANOPY****OPEN CANOPY****P**

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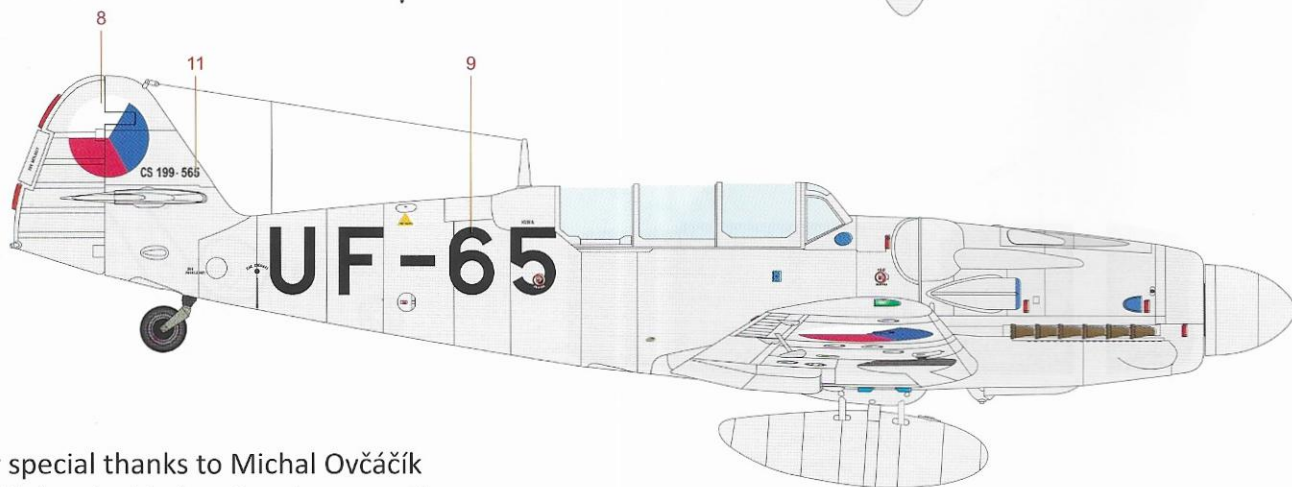
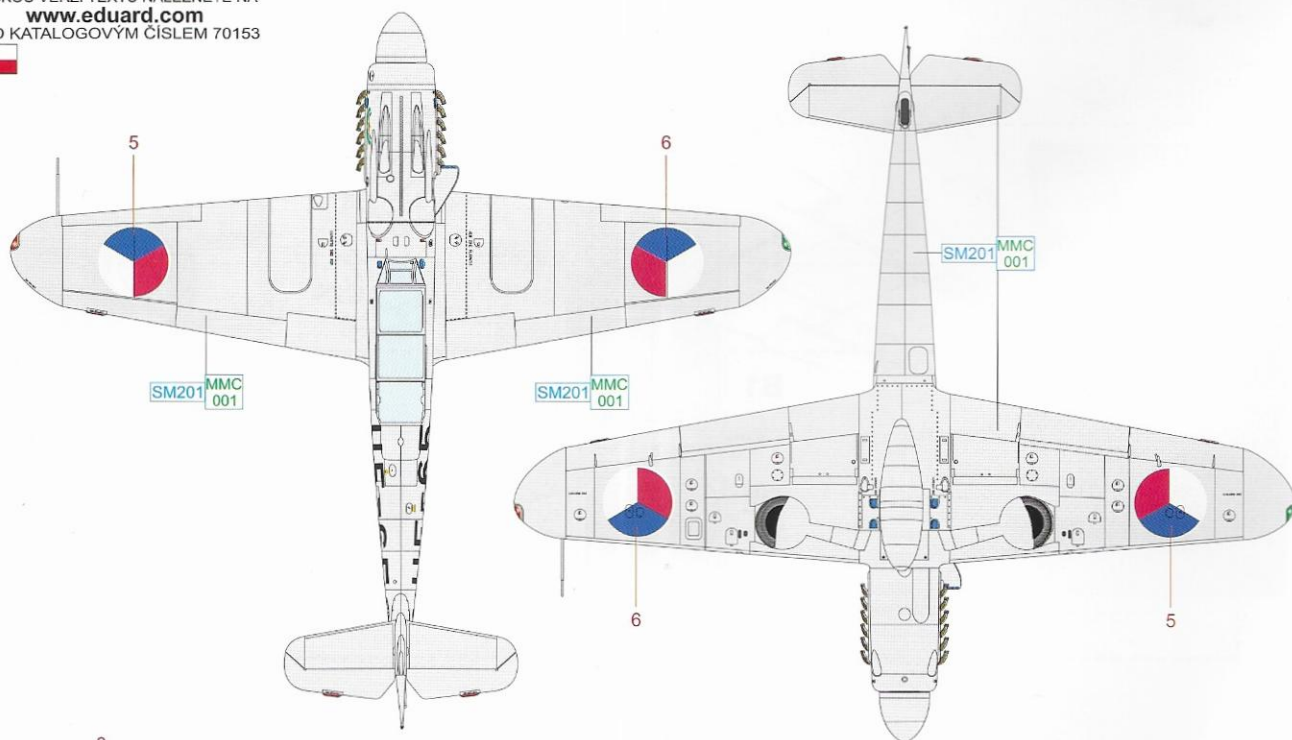


A CS-199.565, trainee Miloš Krč and ppor. Jaroslav Havránek, 4 Air Training Regiment, Prostějov, 1951

Avia CS-199.565 served in 1951 with the 4 lšp (Air Training Regiment) Prostějov. On July 31, 1951, the crew made up of trainee Miloš Krč and instructor ppor. Jaroslav Havránek were forced into an emergency landing at Tovačov due to engine failure. The aircraft was subsequently repaired and served on as a trainer. At the time of the incident, the aircraft carried no yellow bands on the fuselage or wings. Currently, this aircraft is on display at the aviation museum in Kbely, outside of Prague, but its appearance at the museum differs from that of the original as offered in the kit.



ČESKOU VERZI TEXTU NALEZNETE NA
www.eduard.com
 POD KATALOGOVÝM ČÍSLEM 70153

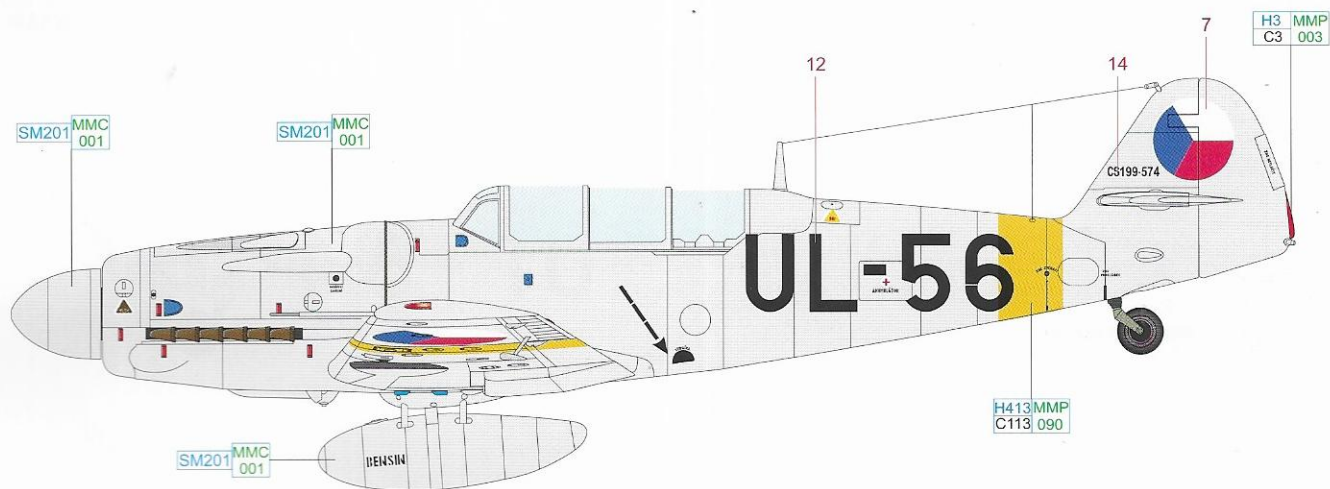


Our special thanks to Michal Ovčáčík for his invaluable input and cooperation.

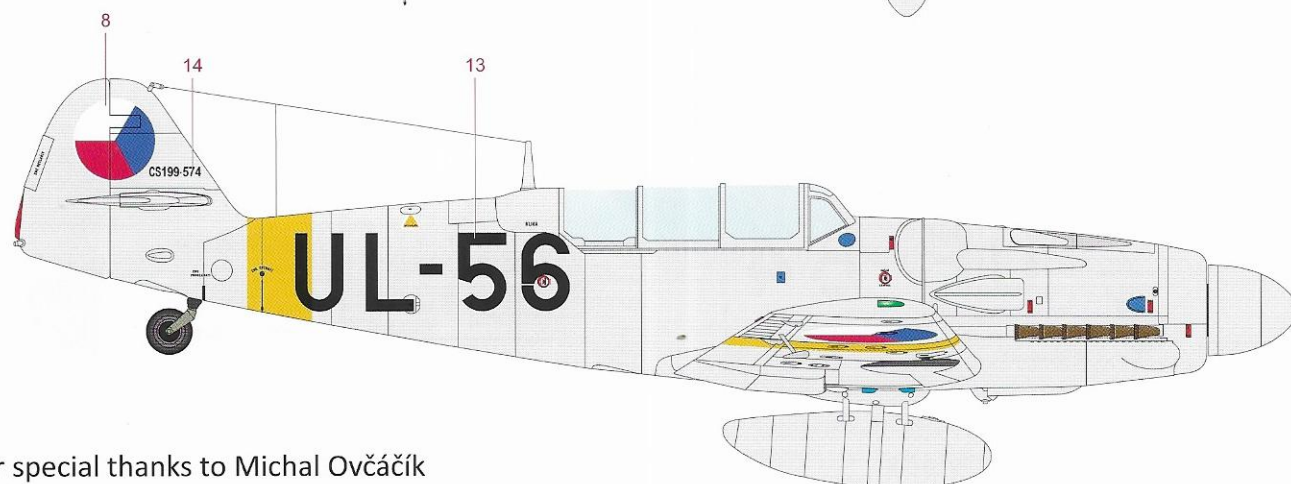
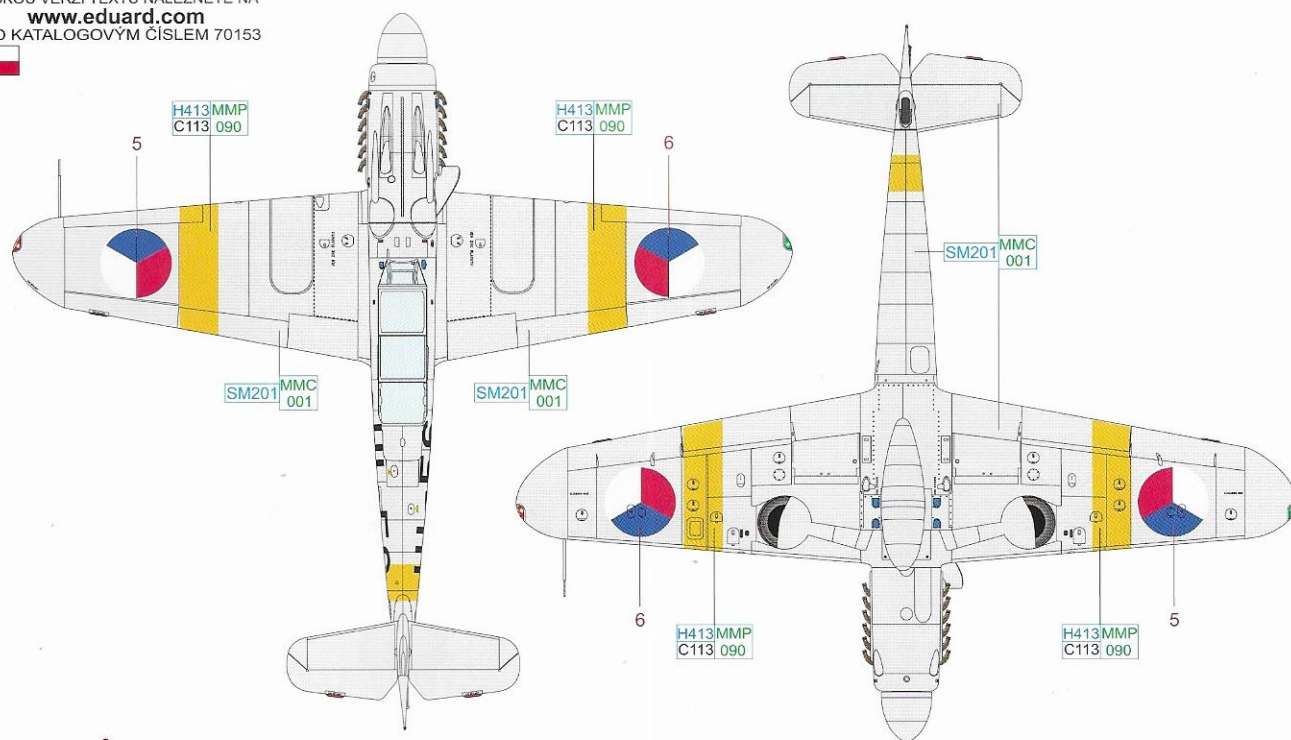
SUPER FINE SILVER SM201 MMC 001 RED H3 MMP C3 003

B CS-199.574, svob. Karel Tománek and por. František Hamršmíd, 5 Air Training Regiment, Zvolen, 1952

Avia CS-199.574 served with the 5 lřp (Air Training Regiment) in 1952, based at Zvolen. On September 12, 1952, svob. Karel Tománek and por. František Hamršmíd were landing at Zvolen, and a brake failure prevented them from maintaining a straight course down the length of the runway, resulting in a collapsed right landing gear. Avia CS-199.574 carried the yellow fuselage and wing bands, which were used on training aircraft.



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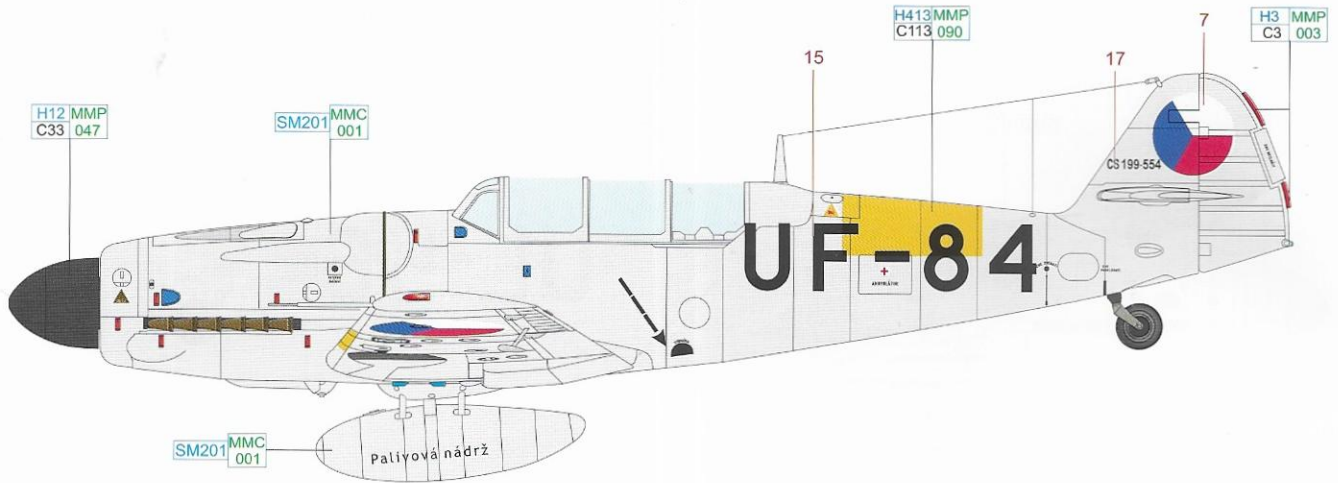


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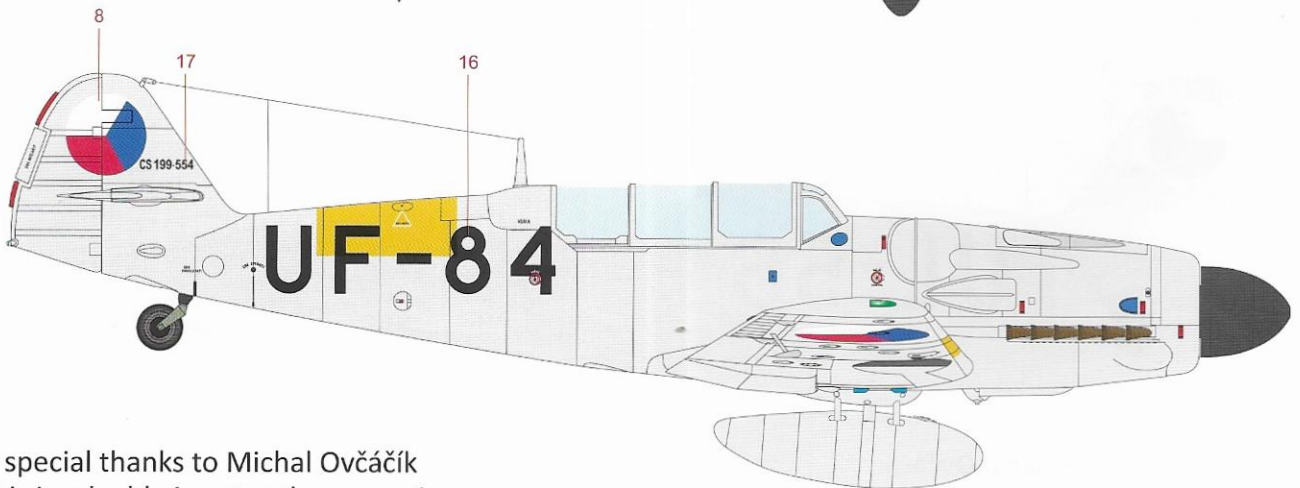
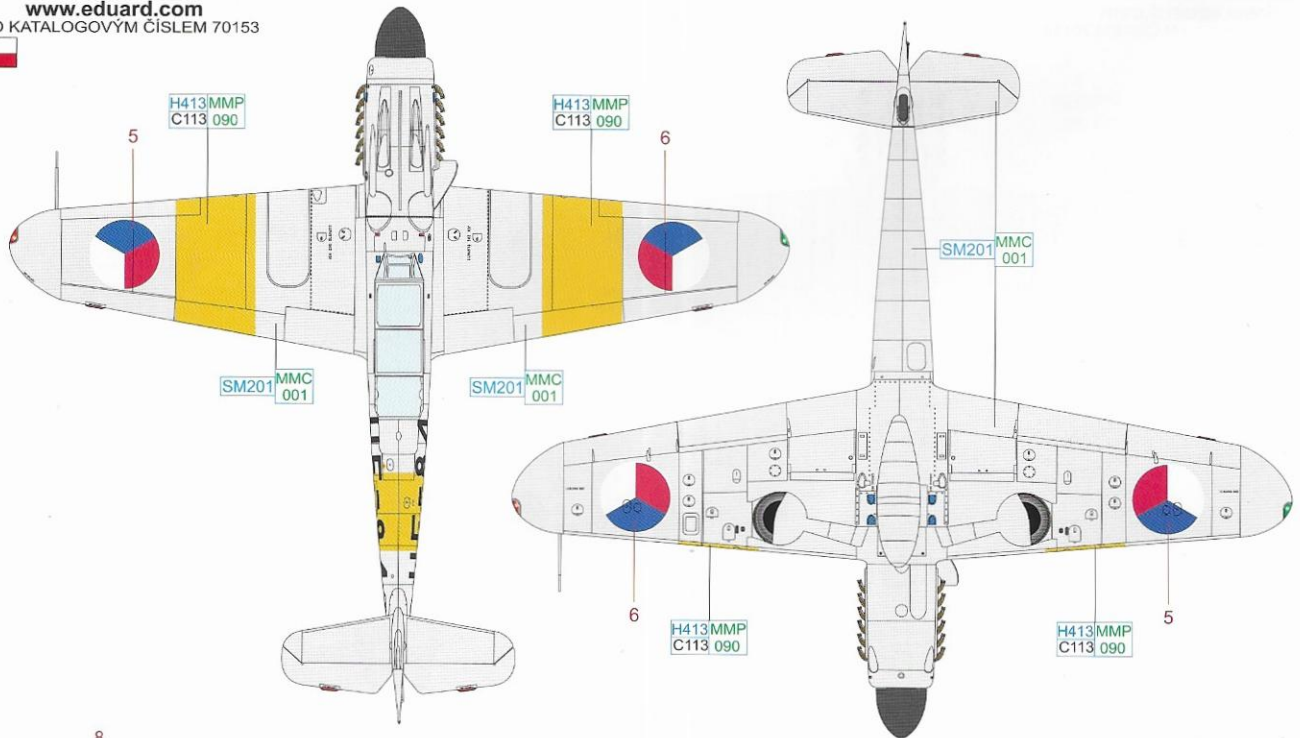
SUPER FINE SILVER SM201 MMC 001 YELLOW H413 MMP C113 090 RED H3 MMP C3 003

C CS-199.554, svob. Jindřich Flégr and por. Jiří Bůžek, 4 Air Training Regiment, Prostějov, 1952

This CS-199 served with the 4 lšp (Air Training Regiment) in Prostějov in 1952. On September 2 of that year, the crew consisting of svob. Jindřich Flégr and por. Jiří Bůžek set down in a field near Čechovice. The reason for the mishap was engine failure. Further details on the fate of this aircraft remain unknown. This aircraft also carried the typical trainer bands in yellow.



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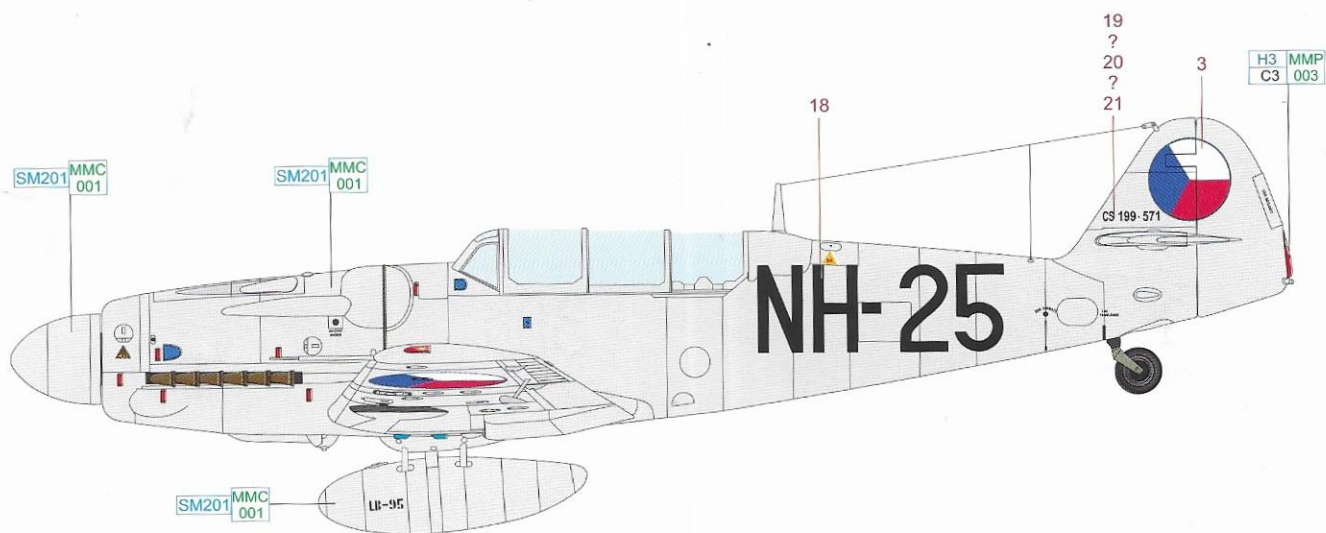


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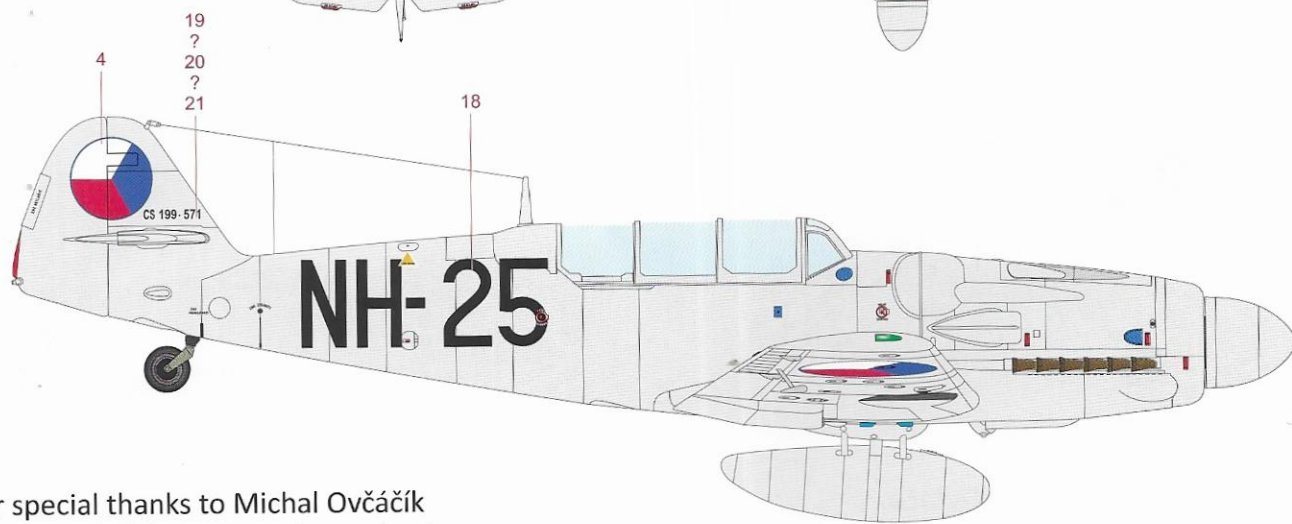
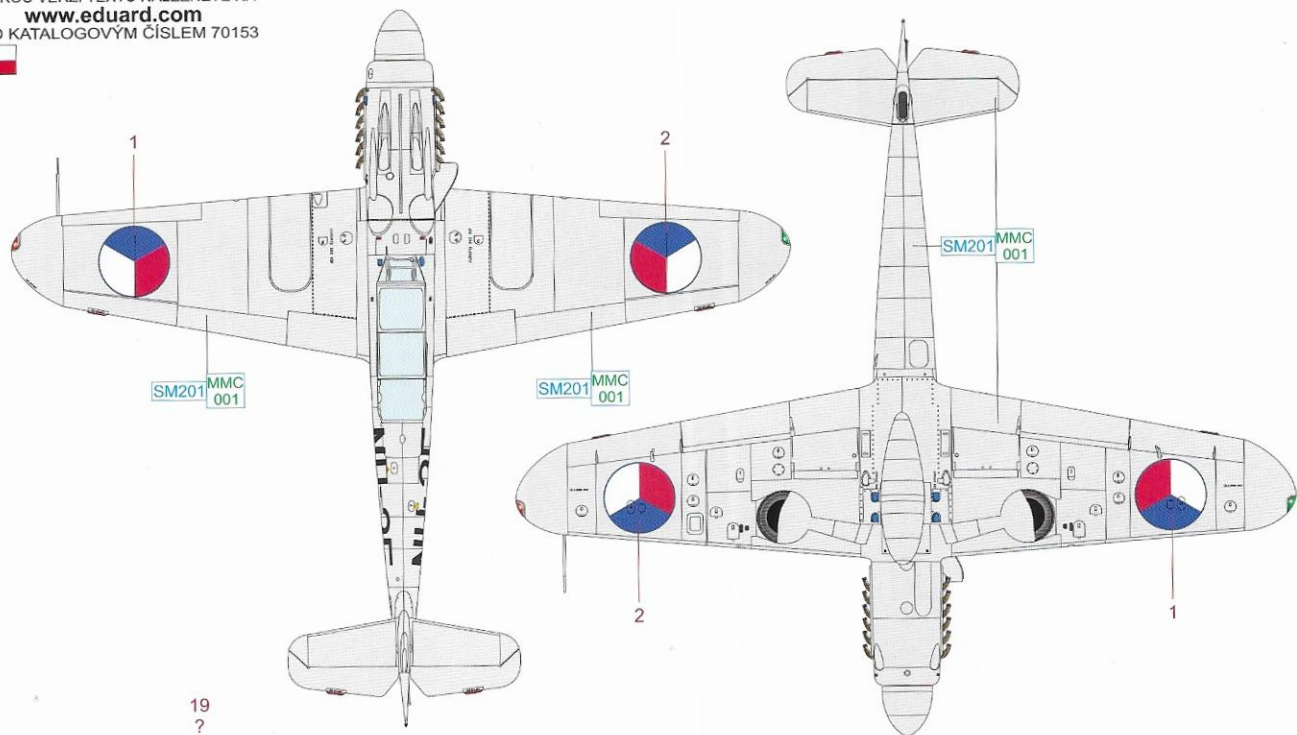
SUPER FINE SILVER SM201 MMC 001 YELLOW H413 MMP C113 090 RED H3 MMP C3 003 BLACK H12 MMP C33 047

D CS-199.571, Flight 1, 4 Air Regiment, Plzeň-Bory, 1952

Photographs of this aircraft do not reveal its serial number, but regimental logs record CS-199s serialled 571, 573 and 542. The decal sheet offers all of these numbers, and it is currently up to each modeler to decide which to use. The 4 lp (Air Regiment) was not a training entity, and as such, the aircraft did not carry the yellow bands on the fuselage or on the wings.



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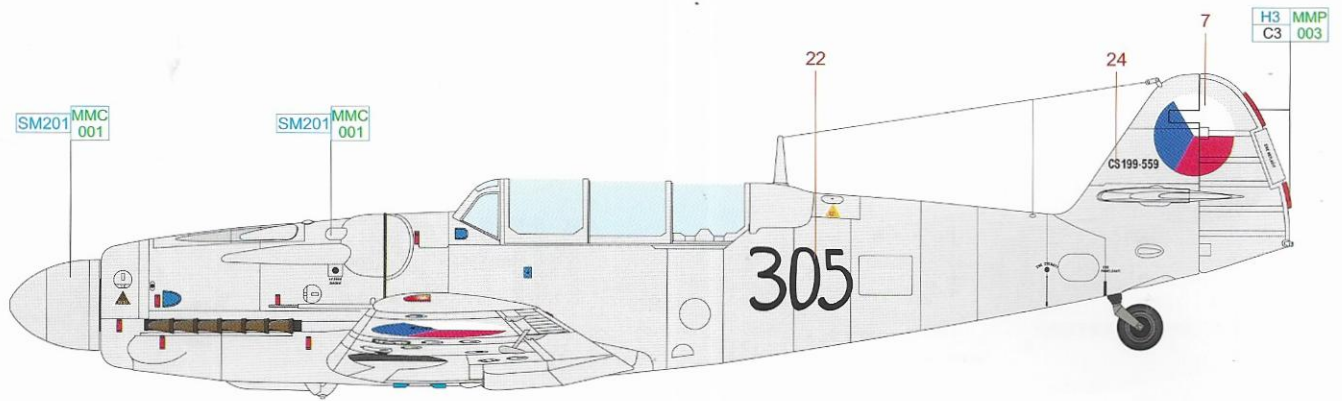


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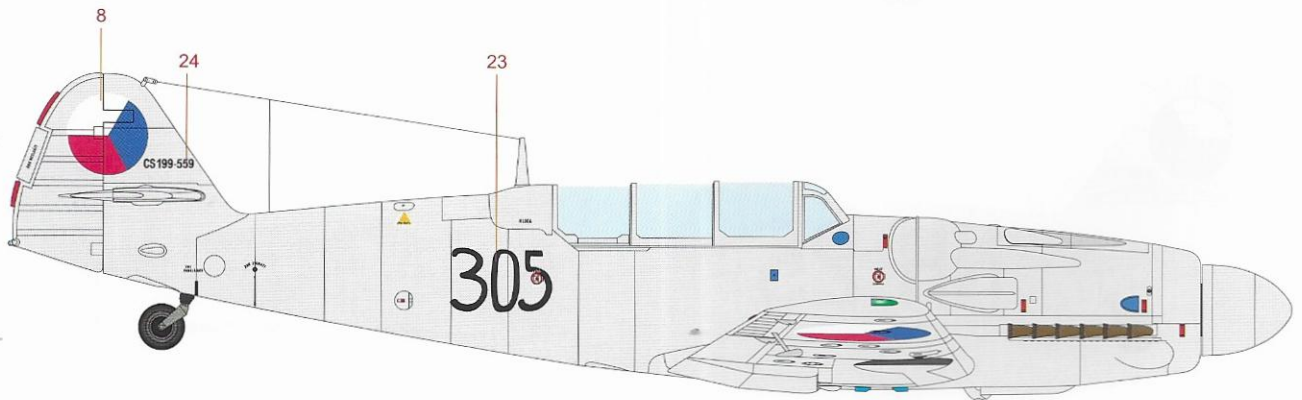
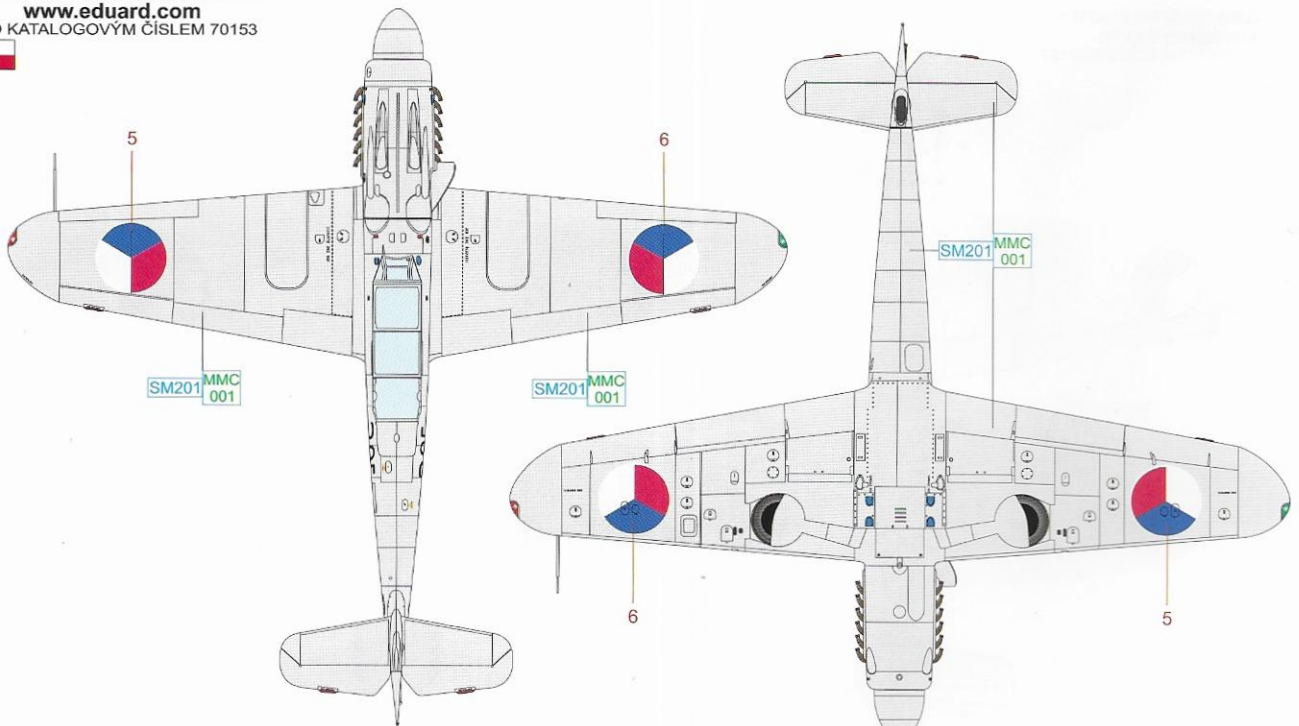
SUPER FINE SILVER SM201 MMC 001 RED H3 C3 MMP 003

E CS-199.559, por. Drahoslav Bartes and rt. Zdeněk Durčák, Kunovice, September 1951

On September 14, 1951, the crew consisting of por. Drahoslav Bartes and rt. Zdeněk Durčák accepted Avia CS-199.559 at the Central Aviation Storage facility in Kunovice. An engine failure was suffered shortly after takeoff, resulting in an emergency landing. The aircraft was stricken from service. Since the aircraft had not entered service, the fuselage only carried the temporary black code '305'.



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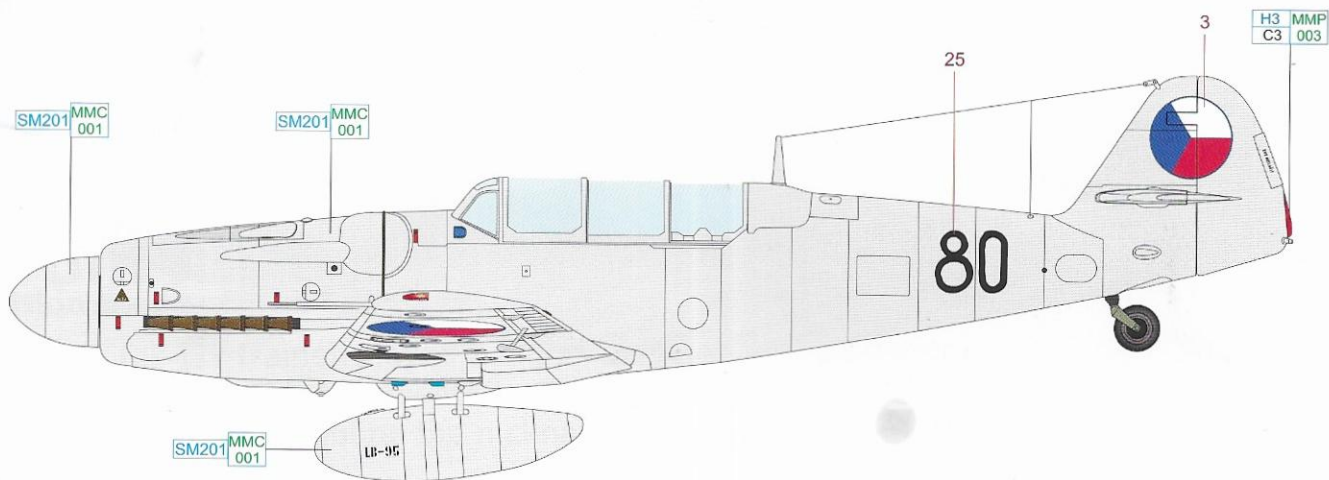


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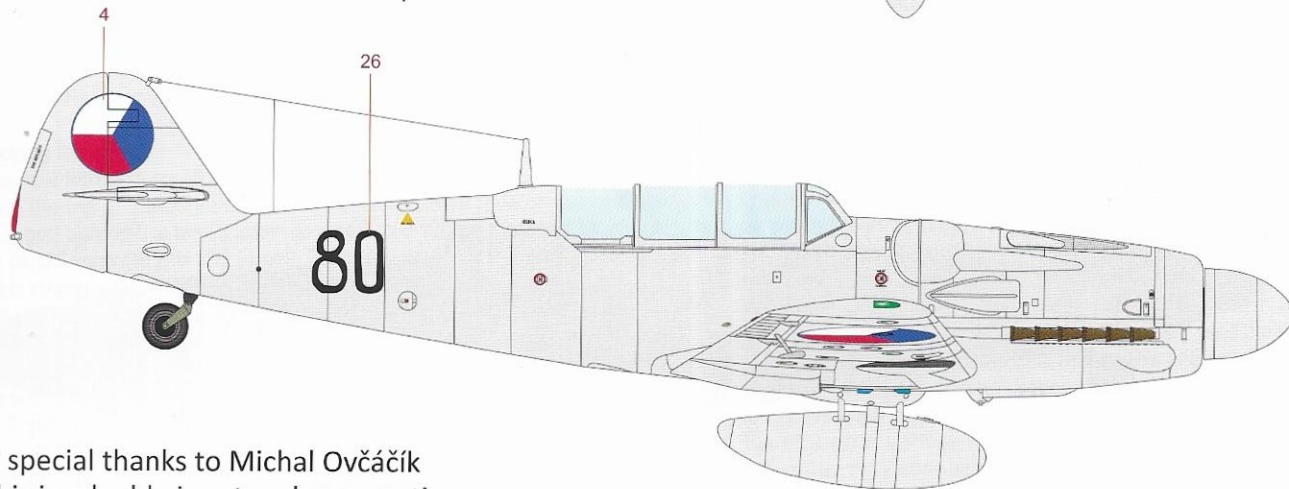
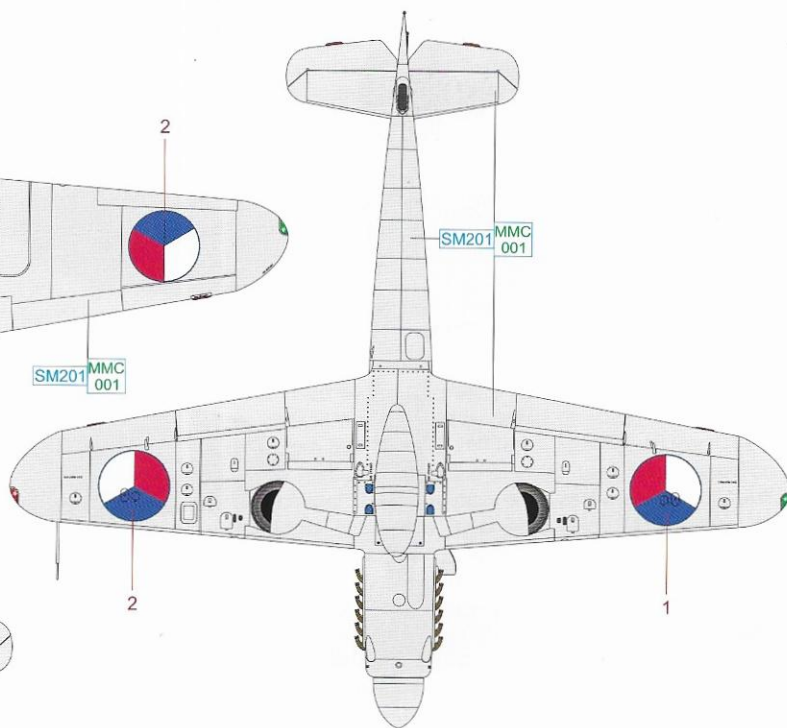
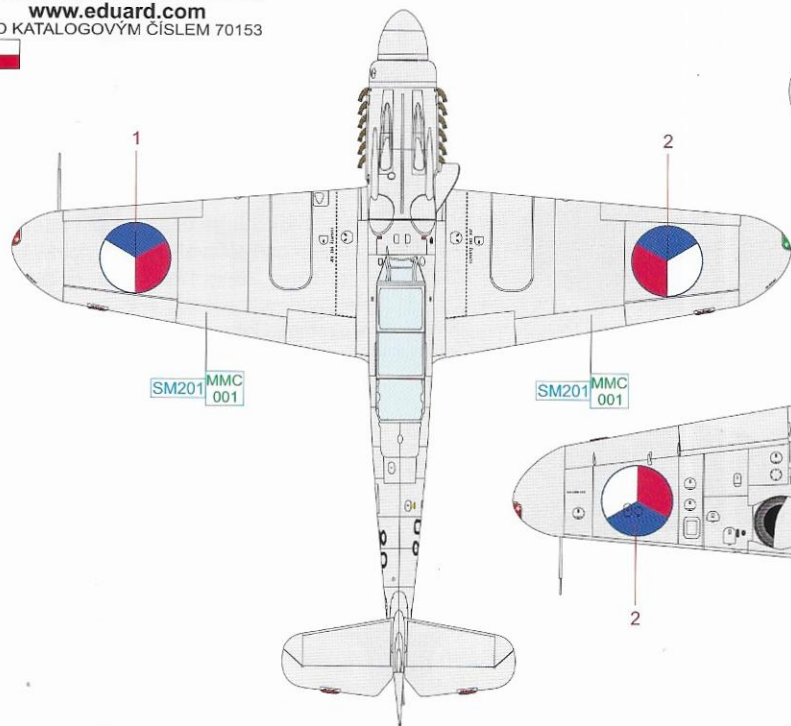
SUPER FINE SILVER SM201 MMC 001 RED H3 C3 MMP C3 003

F CS-199.548, kpt. Miloslav Šmíd and civil employee Vladimír Slušný, Aerospace Research Centre, Praha-Letňany, February 1953

On February 5, 1953, the crew made up of kpt. Miloslav Šmíd (Deputy Inspector for the Military Administration for Repairs, Kbely - ZVSL0K) and civilian employee Vladimír Slušný, left the landing strip after touching down at Letňany, and the left landing gear broke through the crusted surface of a service trench, causing damage to the propeller. The aircraft was subsequently repaired. At the time, Avia CS-199.548 was with the Aerospace Research Centre, and carried the black number 80 on the fuselage.



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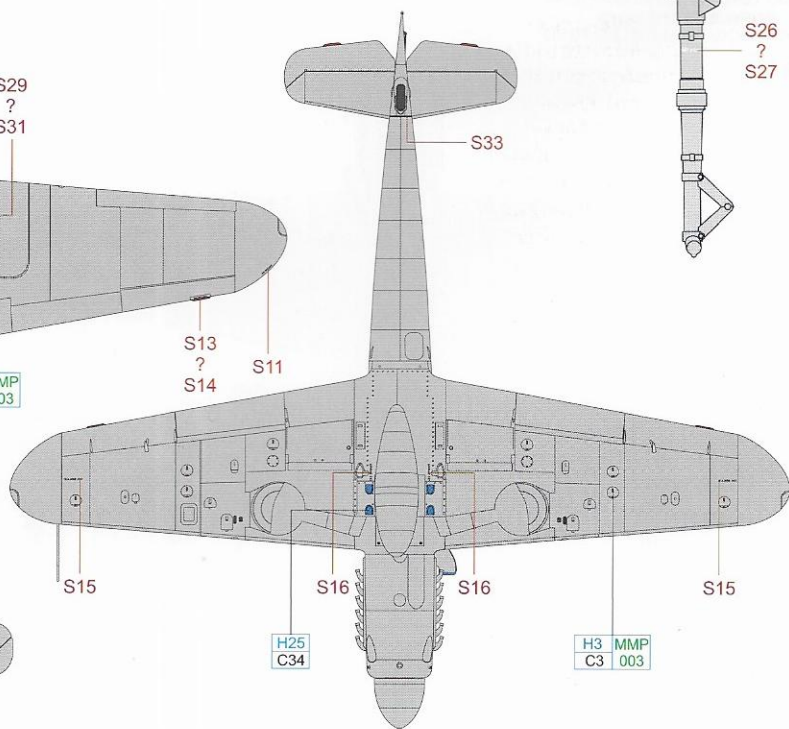
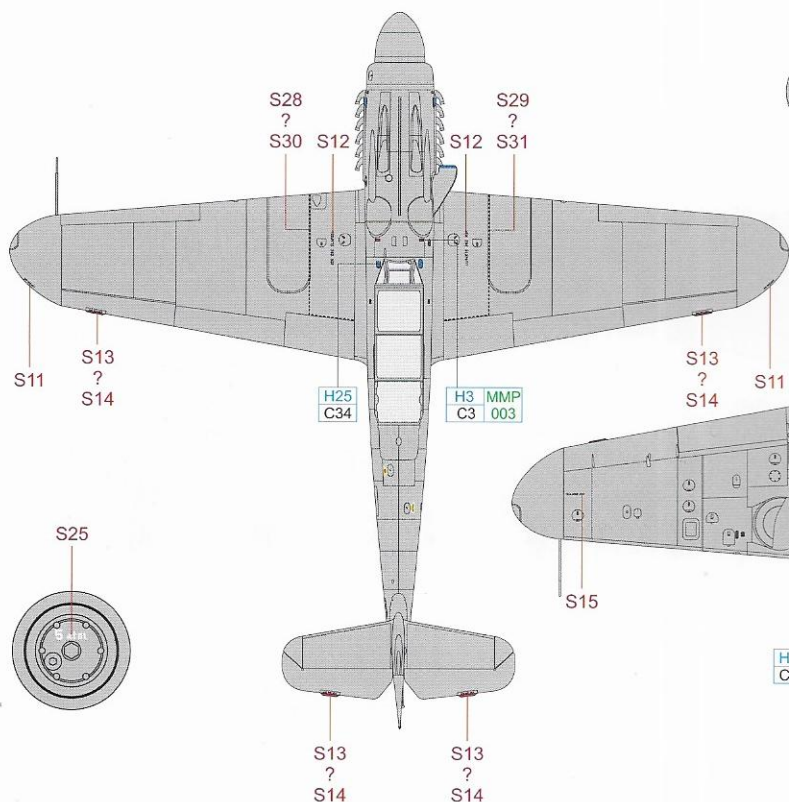
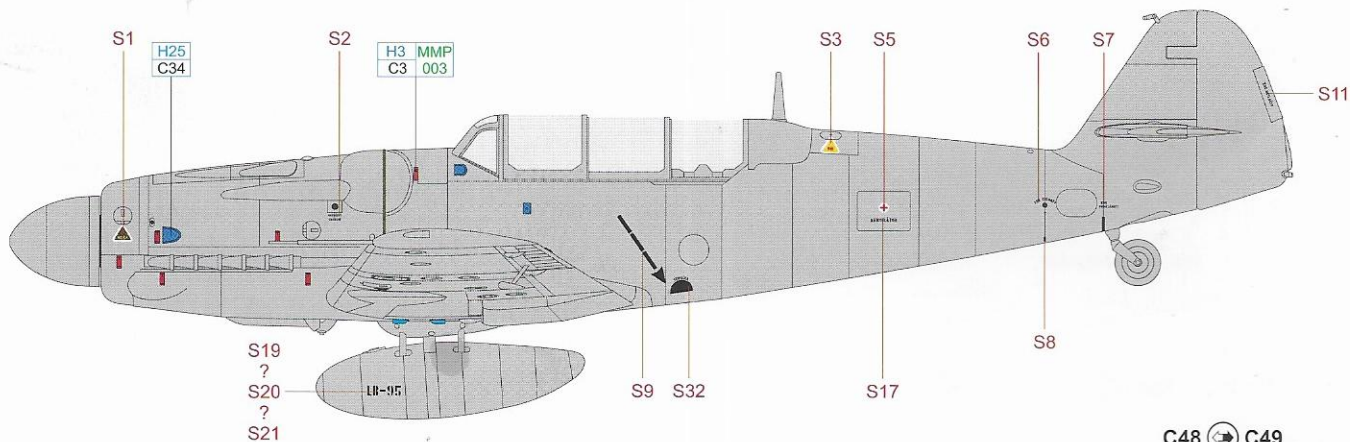
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SUPER FINE SILVER SM201 MMC 001 RED H3 MMP C3 003

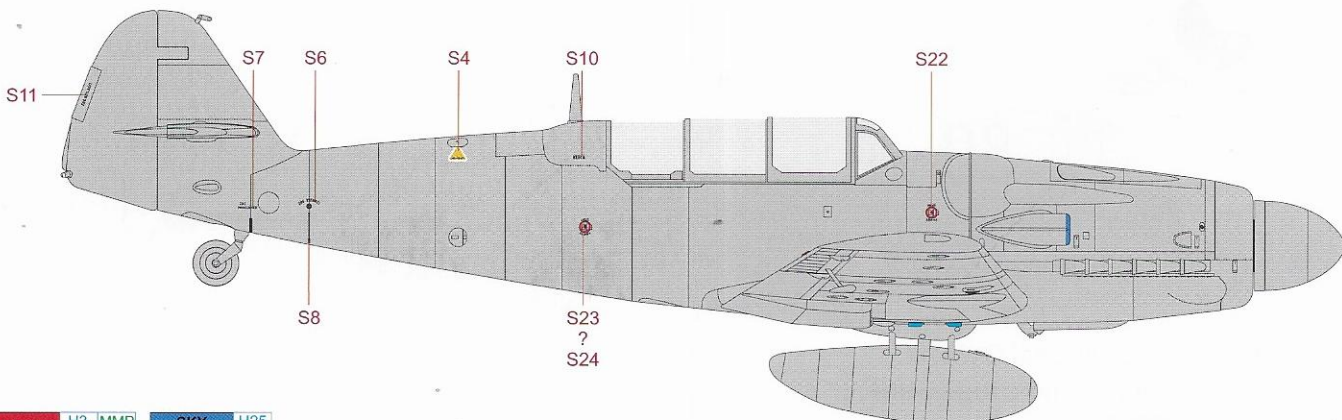
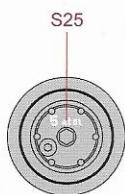
decal	MARKING
S1a	A, B
S1b	C, D, E, F
S3a	A, B
S3b	C, D, E

decal	MARKING
S4a	A, B
S4b	C, D, E, F
S28	A, E, F
S29	A, E, F

decal	MARKING
S30	B, C, D
S31	B, C, D
S33	B, C, D, E



C48 → C49



RED H3 MMP SKY H25
C3 003 BLUE C34

1 1 2 2 3 4 9 **UF-65**
 9 **UF-65**
 5 5 6 6 7 8 10

UL-56 12 **UF-84** 15 **NH-25** 18
UL-56 13 **UF-84** 16 **NH-25** 18
 14 CS199-574 14 CS199-574 25 26 24 CS199-559 CS199-559 24 27 CS199-548 CS199-548 27 K1 K2 K3 K4

CS 199-565 CS 199-565
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 CS 199-573 CS 199-573
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S1a S1b S2 S3a S3b S4a S4b S5 S6 S6 S33 S13 S13 S14 S14 S15 S16 S17 S18 S19 Palivová nádrž S20 LH-315 S21 HEMSIM S22 S23 S24 S27 S28 S29 S30 S31

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S1 S2 S3 S4 S5 S6 S7 S8 S9 S10 S11 S12 S13 S14 S15 S16 S17 S18 S19 S20 S21 S22 S23 S24 S25 S26 S27 S28 S29 S30 S31

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S1a S1b S2 S3 S4a S4a S4b S4b S5a S5a S6 S9 S10 S11 S12 S7 S8 S8 S16 S16 S17 S18 S19 S8 S8 S22 S23 S24 S25a S25b S26 S27 S28 S28 S30 S31 S20a S20b S29 S32 S32 S41 S33 S34 S35 S38 S39 S40 S42 S47 S48 S44 S44 S45 S45

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