

# Avia S-199 bubble canopy

**eduard**

1/72 Scale Plastic Model Kit

**ProfiPACK**  
edition



item No. 70151

The Avia S-199 became an aircraft that, despite its rather poor performance and flying characteristics, played an important role both in the rebirth of the post-war Czechoslovak Air Force as well as in the defense of the new state of Israel.

With the end of the World War II, countries occupied by Nazi Germany regained their freedom. At the same time, they faced the urgent need to rebuild their armed forces. For a decimated industry and economy, this was no easy task in many countries.

Although post-war Czechoslovakia acquired aircraft the 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 Czech crowns was amount equal to the entire financial reserve in gold 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, although all but one of them served with the Police Air Units.

But the DB 605 engines were troublesome, as they were of poor quality late war production, not to mention the fact the stocks included several different versions of this engine varying in many aspects including the type of the fuel. Further production of the S-99 was also compromised by a massive explosion at the former sugar factory Krásné Březno on July 31, 1945. The facility served as military storage site at the time and most of the DB 605 engines were destroyed there by the explosion. Although there was still stock of the engines allowing production, the decision was to give it up.

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 DB 605. This was a stop-gap solution only, as the Jumo 211 engine was not ideal for fighter aircraft. Even less suitable was the Jumo VS-11 propeller. It had wooden 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 run out off the course, which had to be negotiated by 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.

In spite of all the problems the S-199s gradually equipped all the fighter units of the Czechoslovak Air Force between 1948 to 1950. Thanks to them, the training of new fighter pilots was possible.

## Lacking desperately

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. Bombing training could also be carried thanks to the 4 × ETC 50 bomb racks. A total of 510 single-seat and 47 two-seat CS-199 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.

## This kit: Avia S-199 bubble canopy

The first S-199s produced differed little from the Bf 109G/K design save for the engine and the changes to the cowl. These included narrow longitudinal extensions to the original oval bulges above the machine guns due to the bulkier engine mount and the air intake to the carburetor moved from port to starboard side. The front of the fuselage was also modified to better match the smaller diameter spinner. However, it was not long before changes began to take place. The most visible were replacement of the standard oil cooler by heat exchanger under the cockpit floor and change of the canopy from the original side-opening "Erla Haube" to semi-bubble rear sliding one. The latter improved the view from the cockpit and increased the space in the pilot's head area as well. This design was, by the way, a takeover of the German development. Also, the angle of the wheels was changed in relation to the main landing gear legs. Originally, the wheels were almost parallel with the landing gear legs in front view. This position was disadvantageous for taxiing on concrete surfaces, so the position was changed to nearly vertical position.

The armament also changed. Initially, it consisted of only two MG 131 machine guns of 13 mm caliber above the engine, later some aircraft received another pair of these, mounted in the wing. Finally, MG 151/20 20 mm caliber cannons mounted in cases were installed under the wing instead of the wing machine guns.

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 lepidla 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  
OHNOUTSAND  
BROUSITOPEN HOLE  
VYVRTAT OTVORSYMETRICAL ASSEMBLY  
SYMETRICKÁ MONTÁŽREMOVE  
ODŘÍZNOUTREVERSE SIDE  
OTOČITAPPLY EDUARD MASK  
AND PAINT  
POUŽIT EDUARD MASK  
NABARVIT

PARTS



DÍLY



TEILE

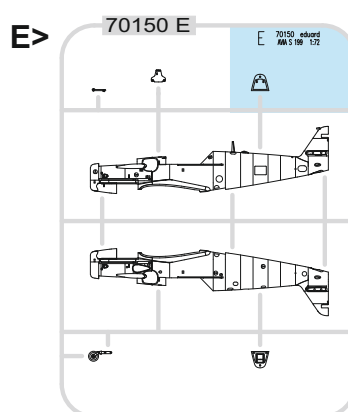
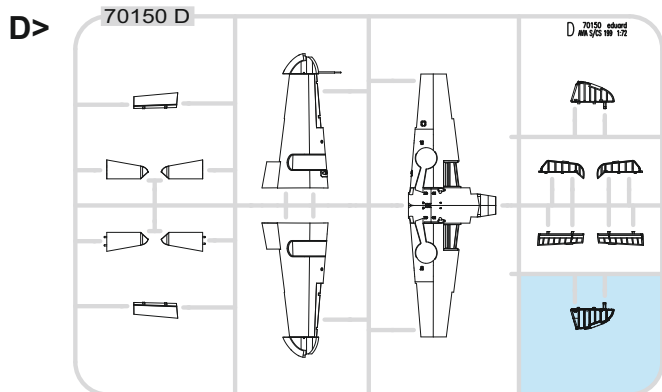
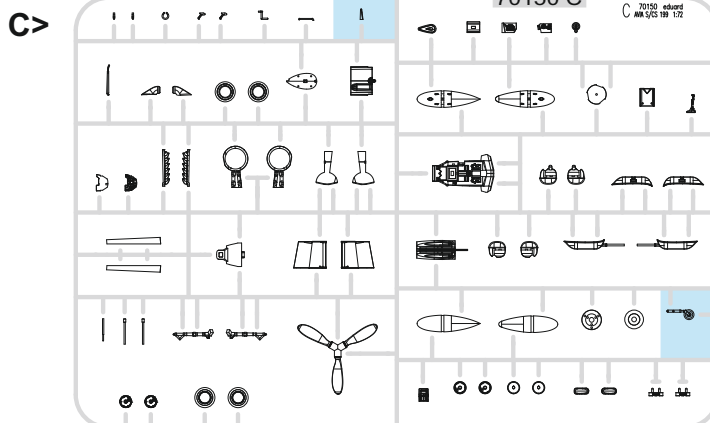
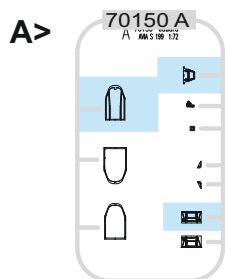


PIÈCES

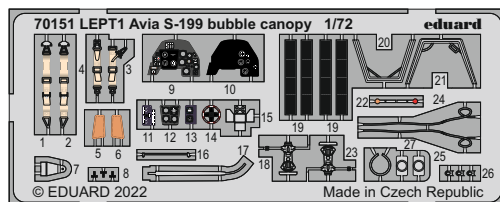
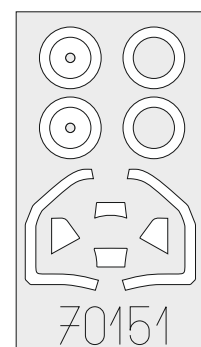


部品

## PLASTIC PARTS



## PE - PHOTO ETCHED DETAIL PARTS

eduard  
MASK

-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



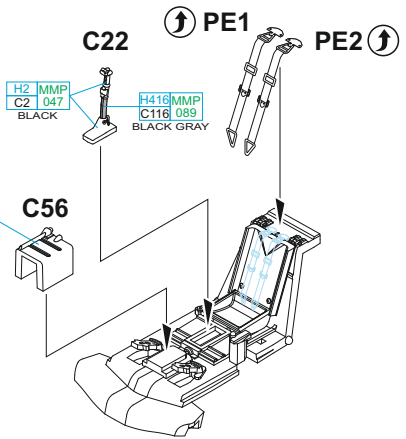
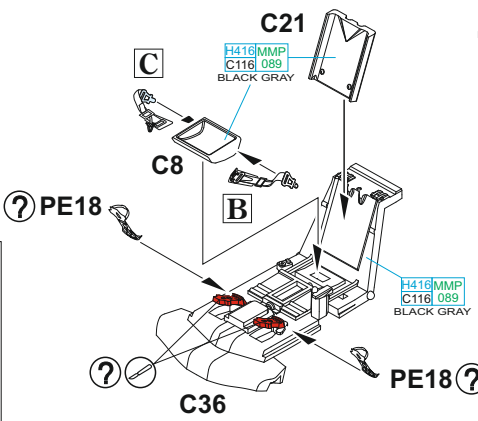
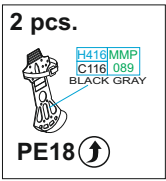
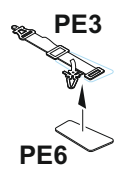
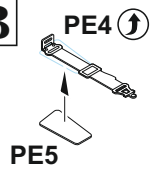
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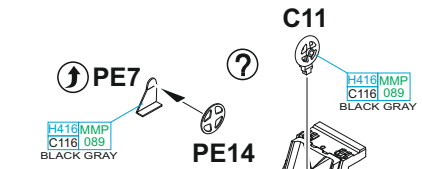
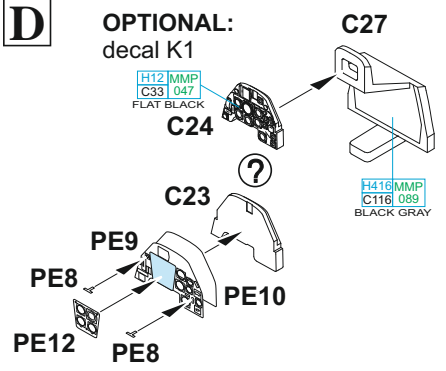
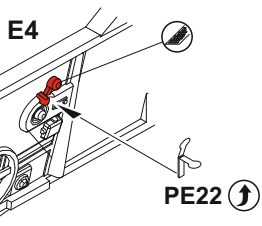
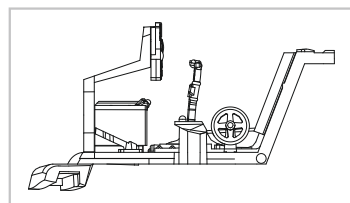
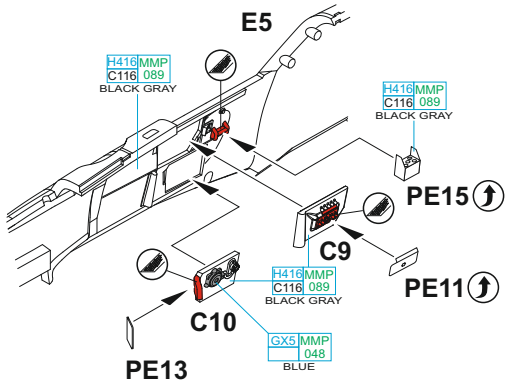
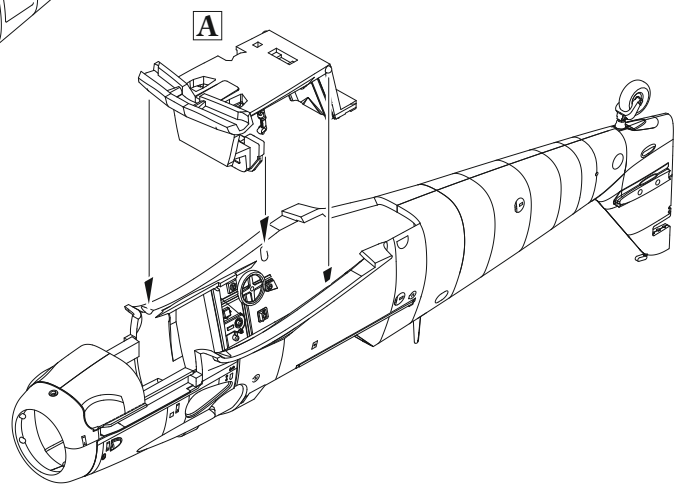
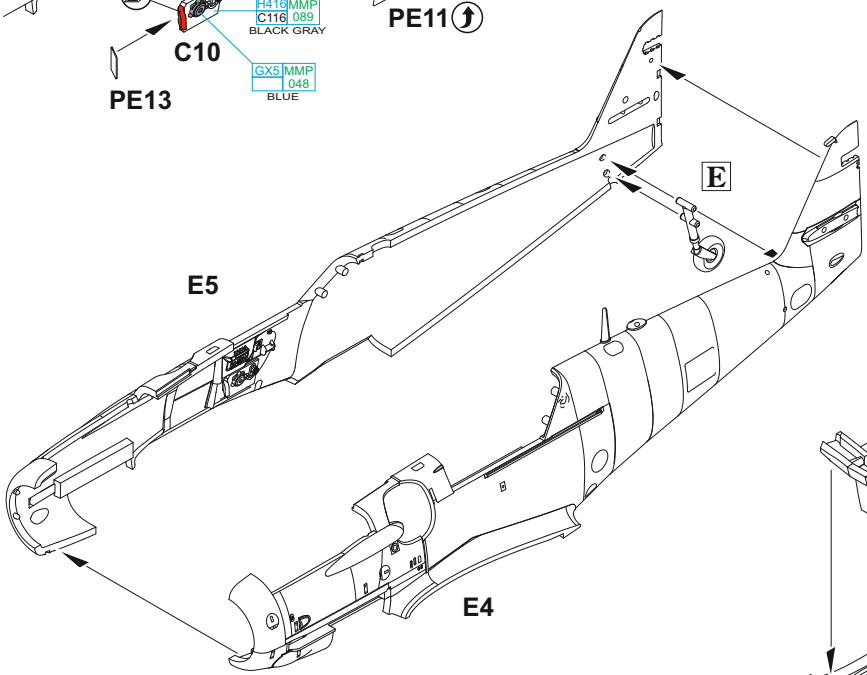
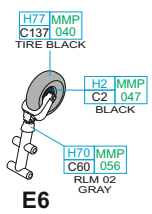
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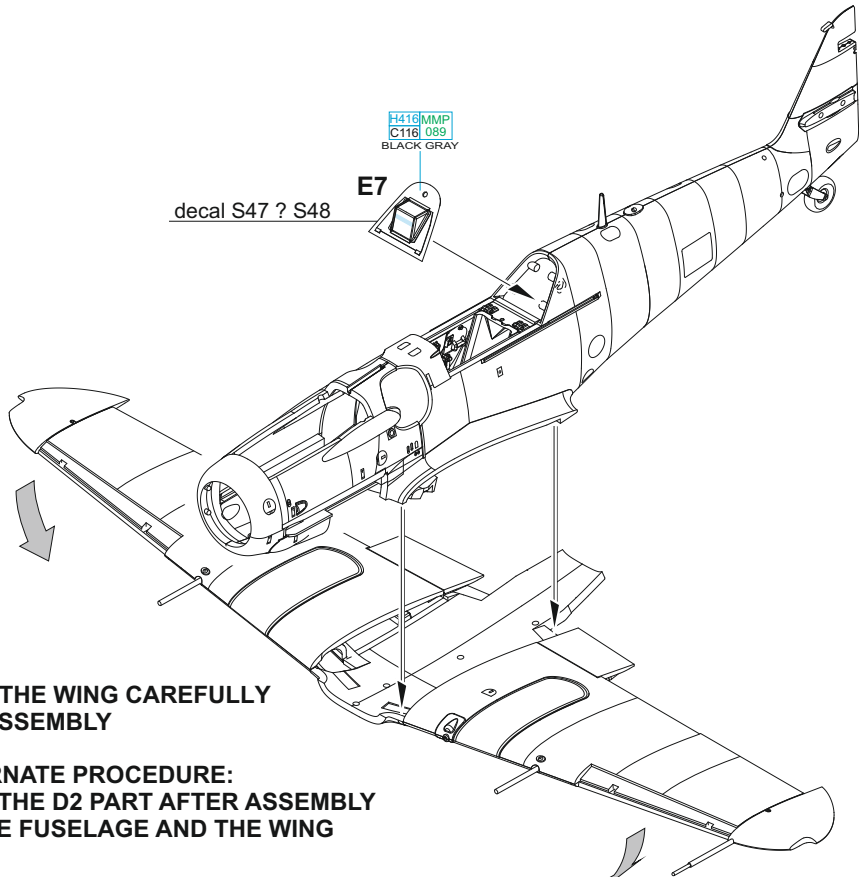
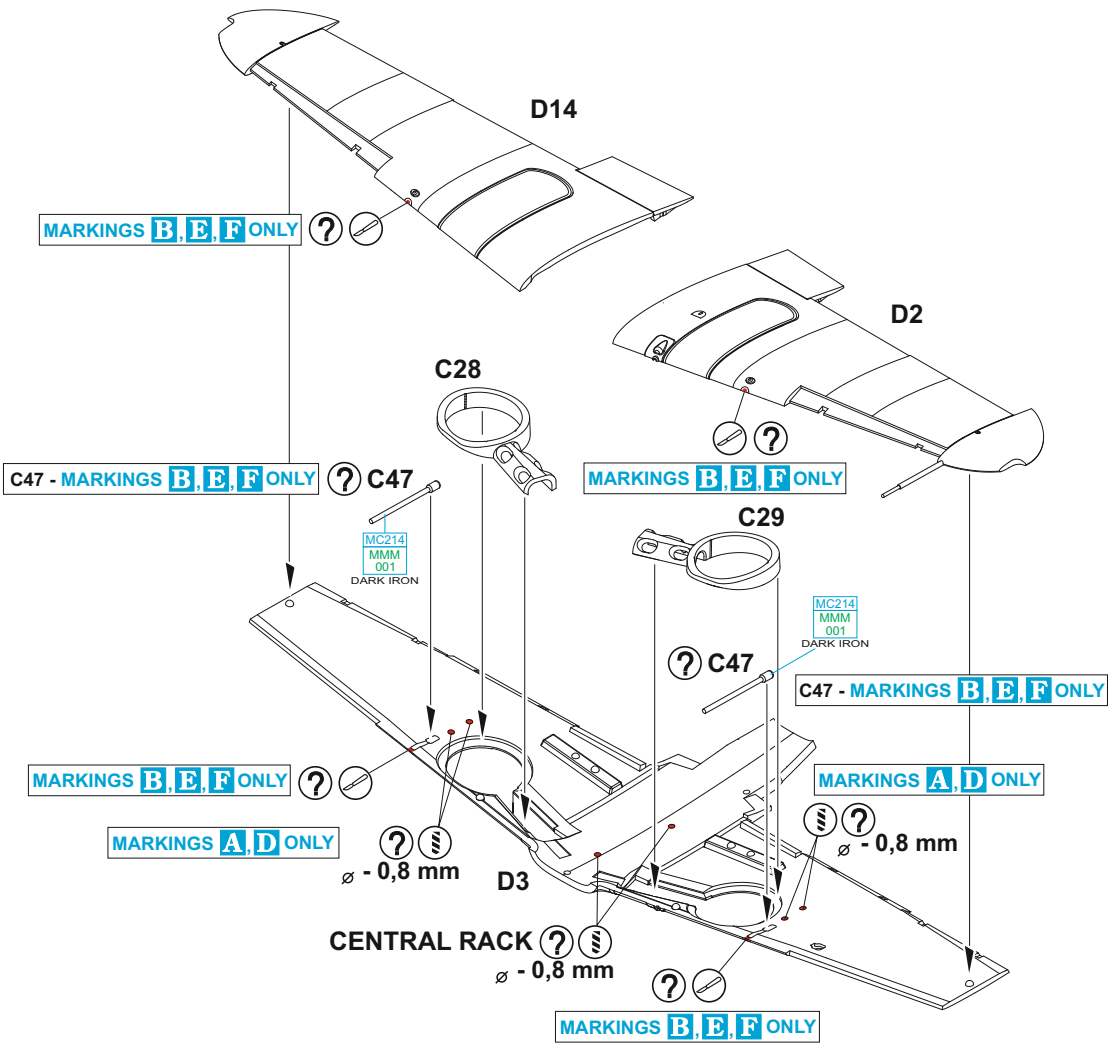
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AQUEOUS	Mr.COLOR	PAINTS	
H1	C1	MMP-001	WHITE
H2	C2	MMP-047	BLACK
H3	C3	MMP-003	RED
H8	C8		SILVER
H12	C33	MMP-047	FLAT BLACK
H25	C34		SKY BLUE
H43	C100		WINE REDT
H69	C37	MMP-050	GRAY
H70	C60	MMP-056	GRAY
H77	C137	MMP-040	TIRE BLACK
H90	C47		CLEAR RED

GSI Creos (GUNZE)		MISSION MODELS	
AQUEOUS	Mr.COLOR	PAINTS	
H94	C138		CLEAR GREEN
H324	C324	MMP-116	LIGHT GRAY
H416	C116	MMP-089	BLACK GRAY
H421	C121	MMP-052	GREEN
H422	C122	MMP-053	LIGHT GREEN
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

**A****B****C****D**

OPTIONAL:  
decal K1

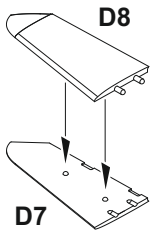
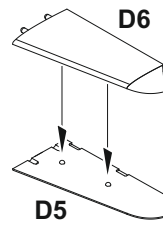
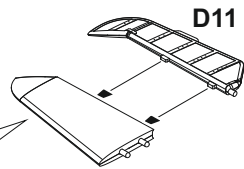
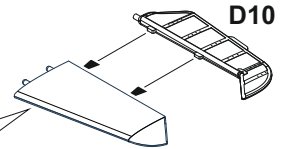
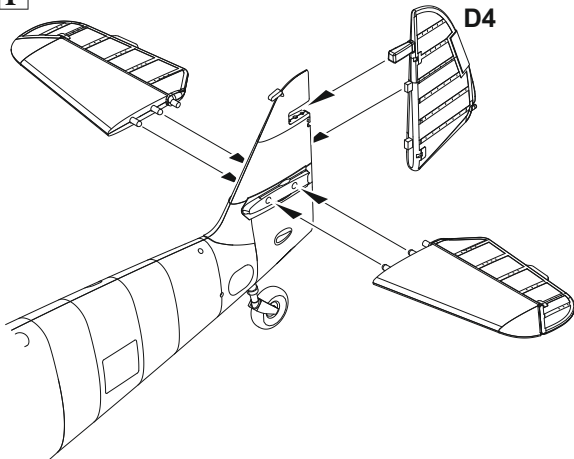
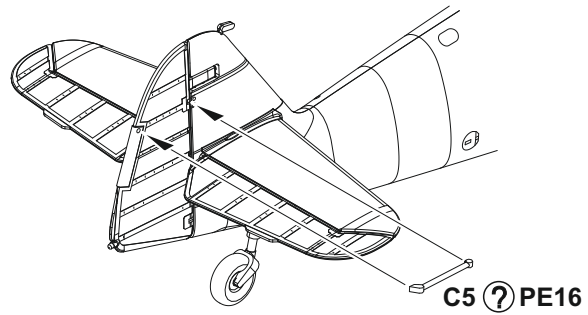
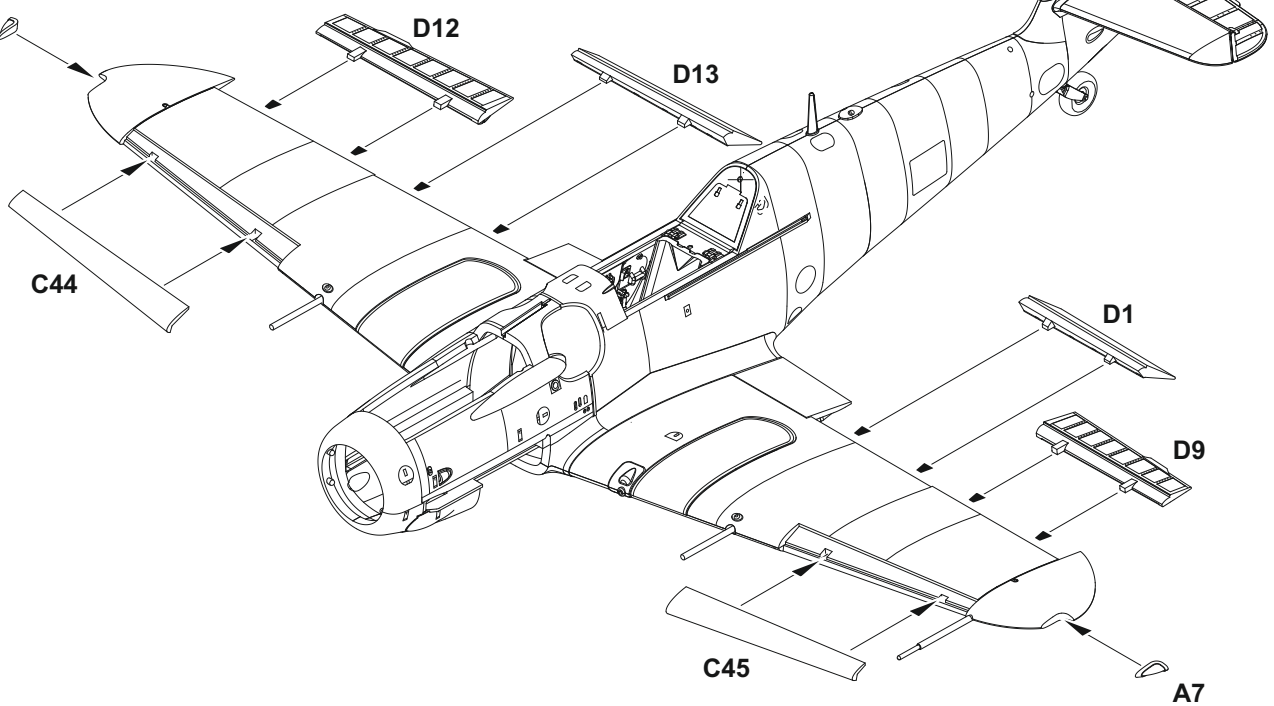
**D****E**

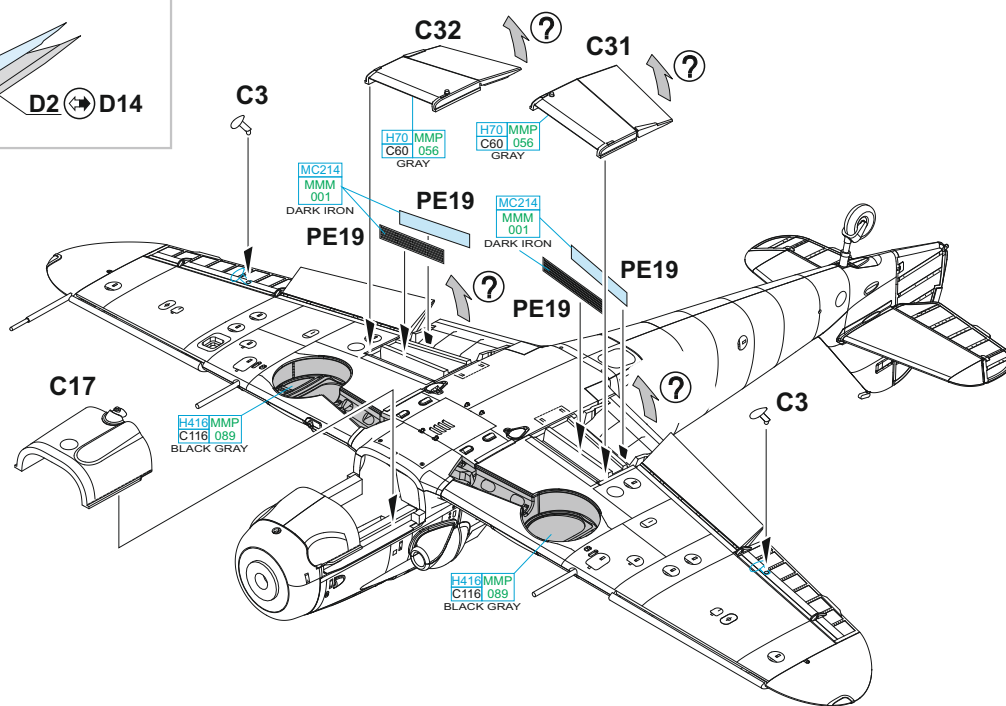
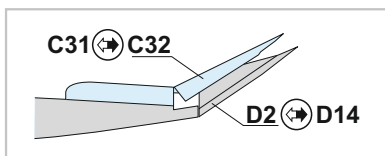
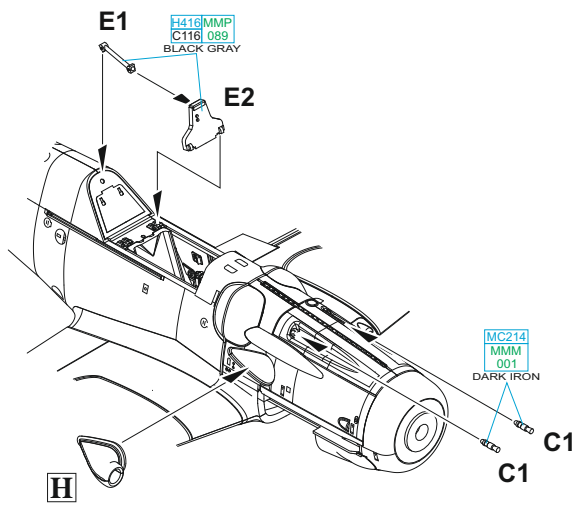
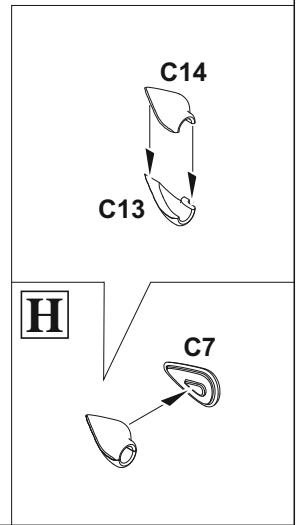
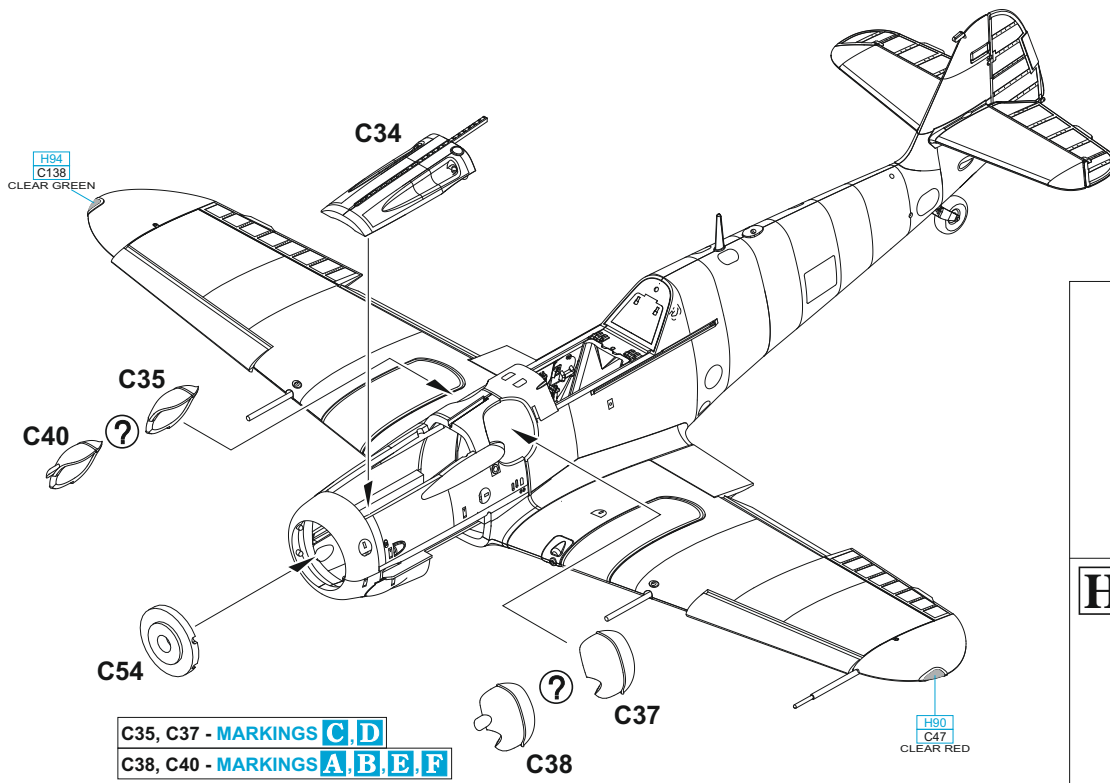


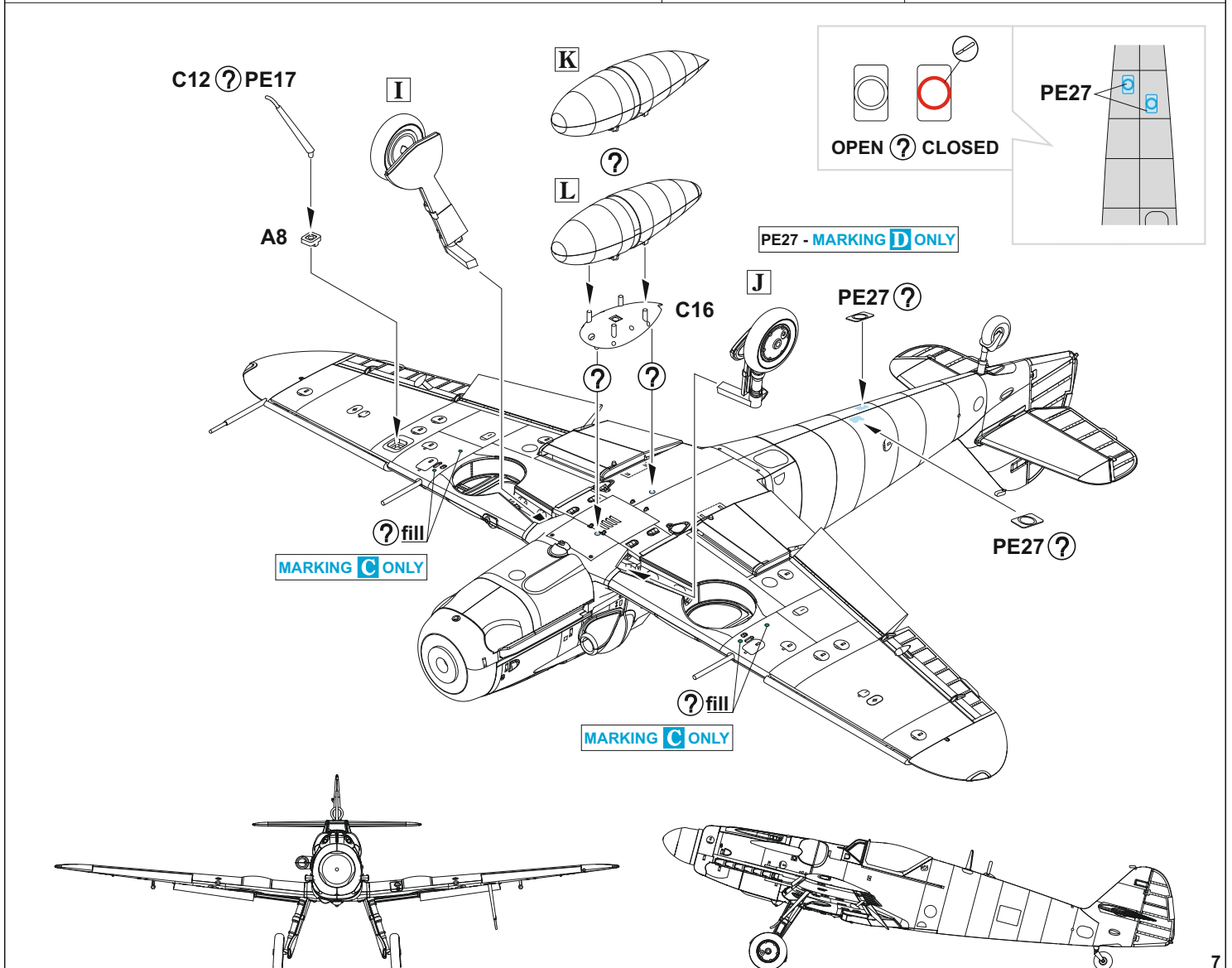
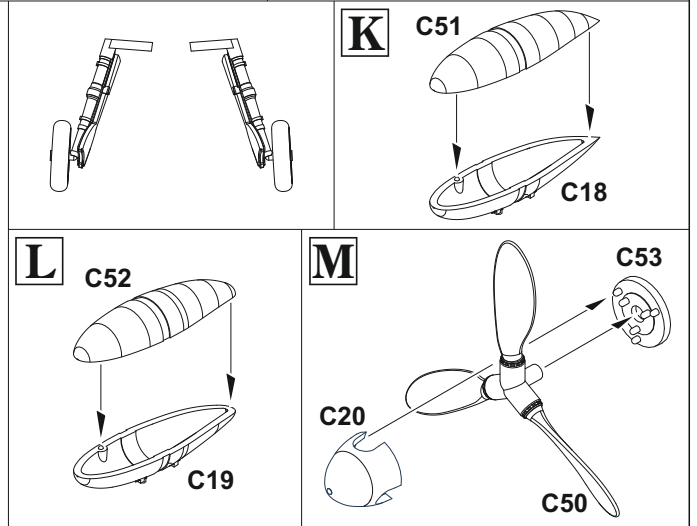
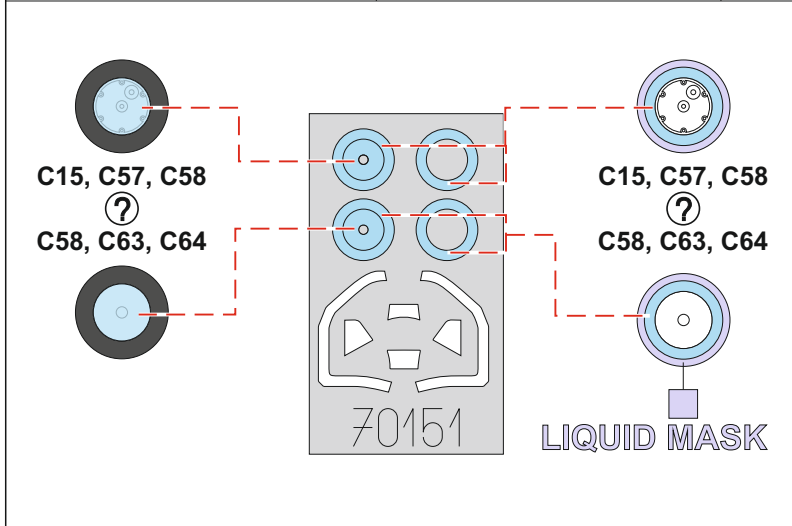
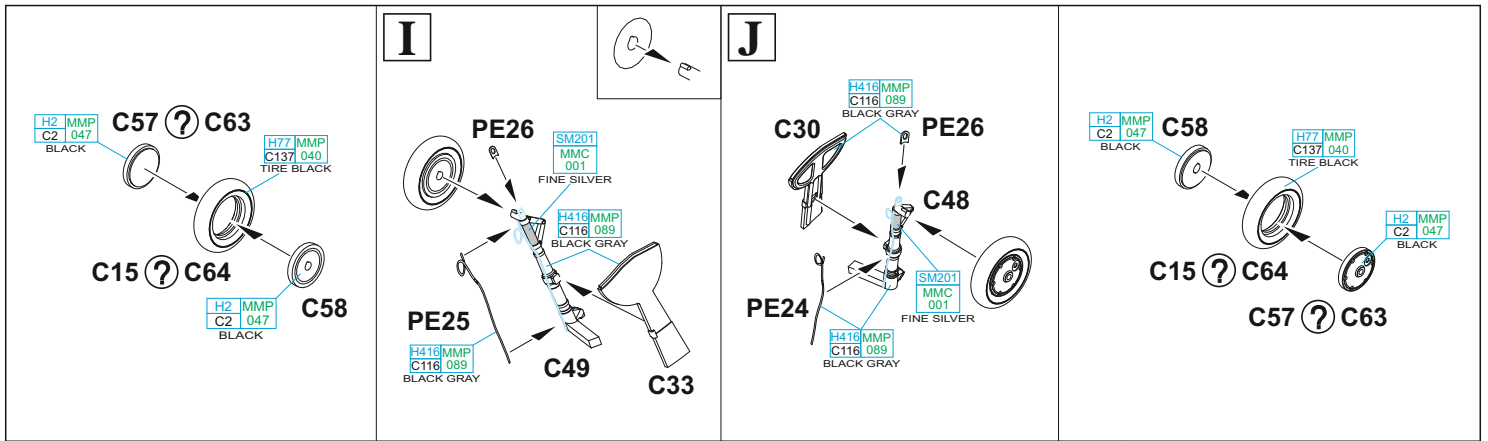
**BEND THE WING CAREFULLY  
FOR ASSEMBLY**

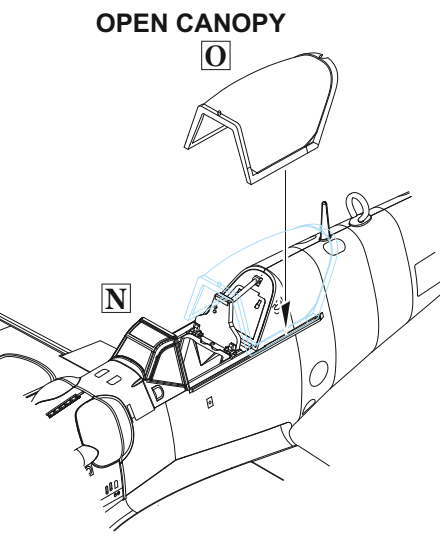
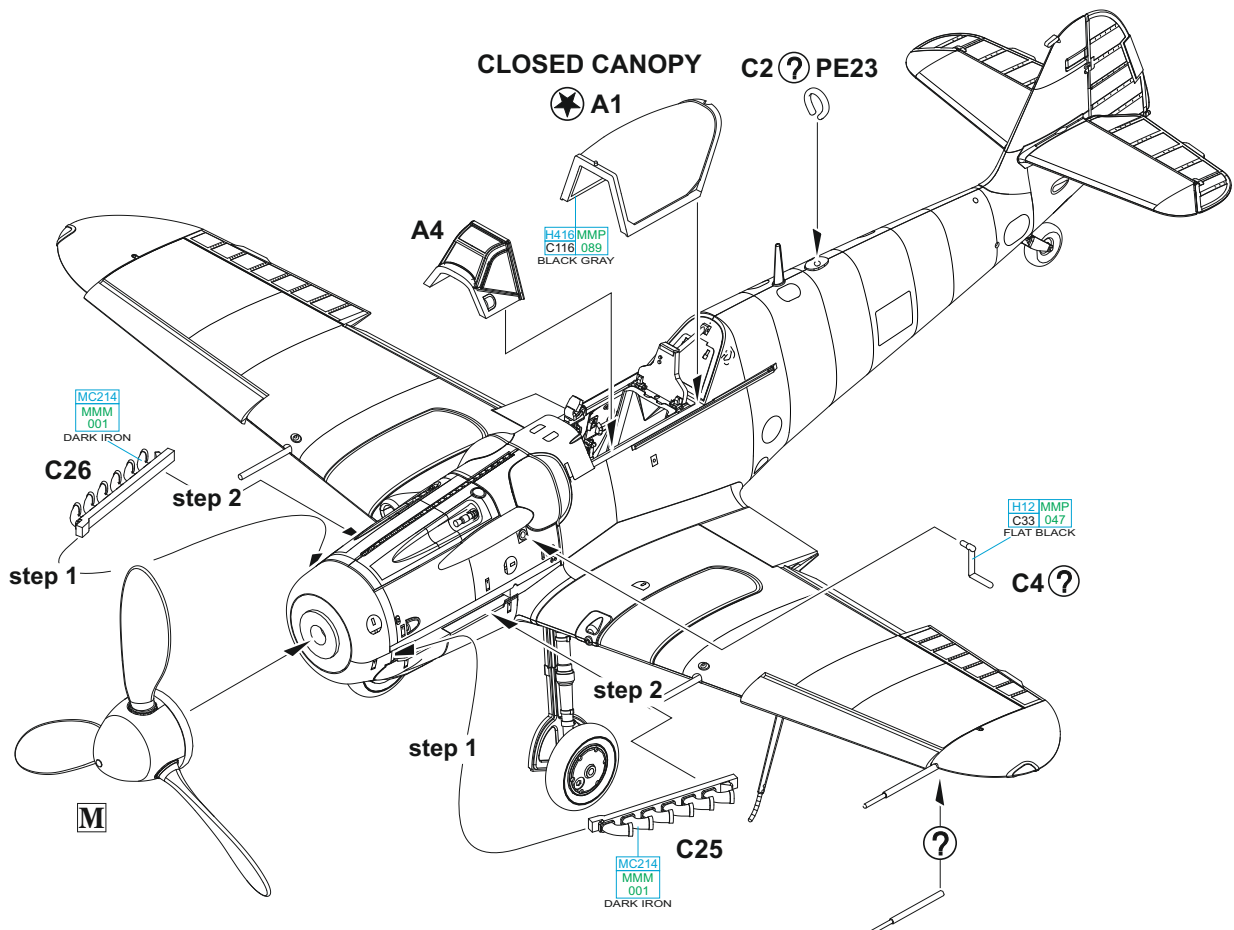
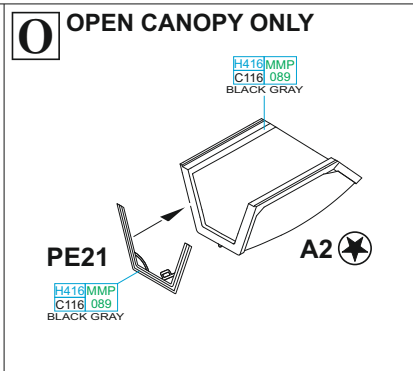
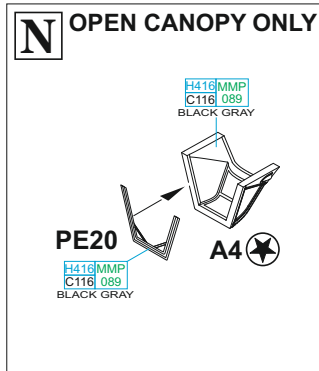
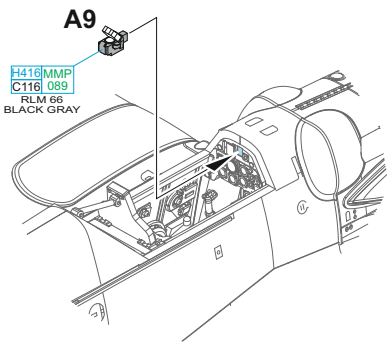
**ALTERNATE PROCEDURE:  
GLUE THE D2 PART AFTER ASSEMBLY  
OF THE FUSELAGE AND THE WING**



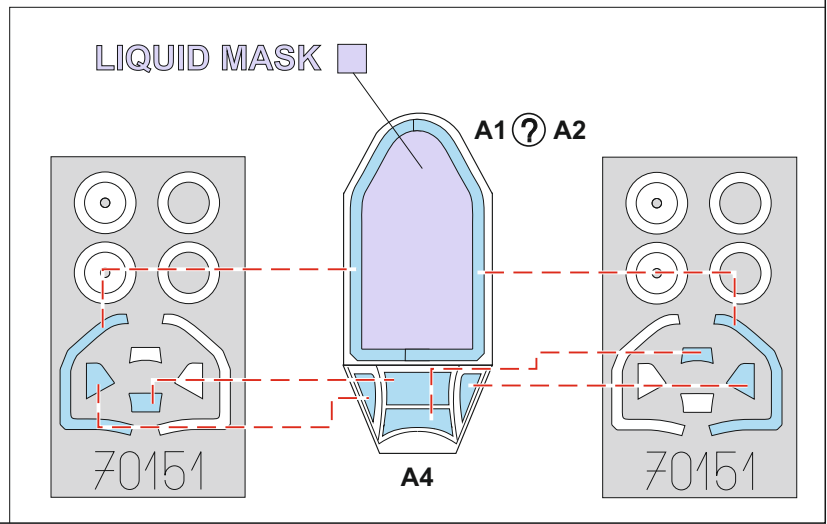
**F****G****F****G****C5 ? PE16****A6****C44****D12****D13****D1****D9****C45****A7**

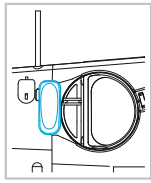






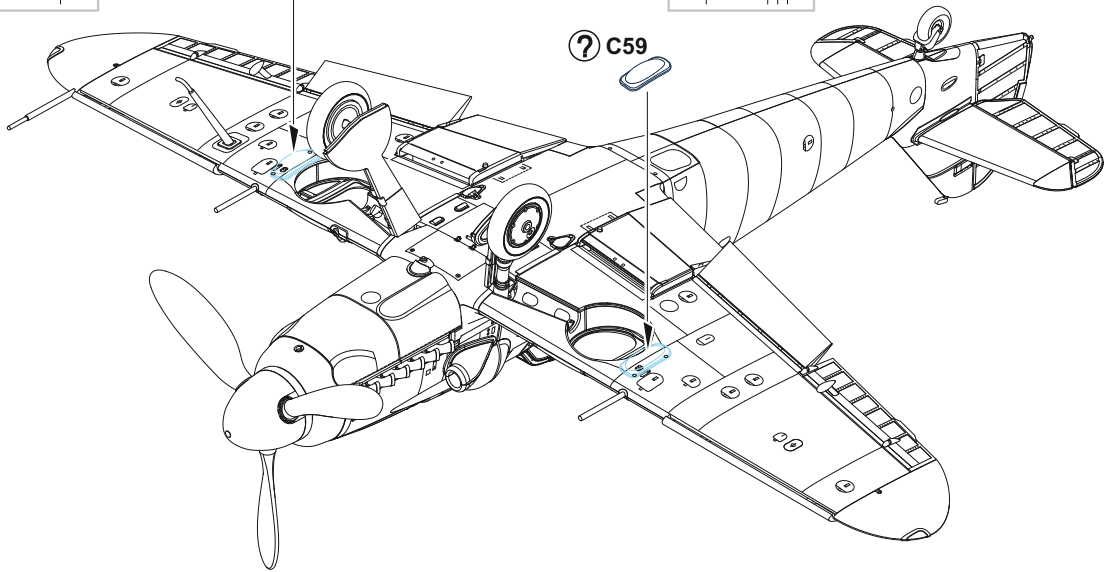
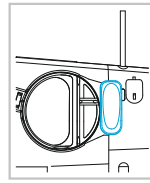
**C46** THE C46 PART IS INTENDED AS A REPLACEMENT IN THE CASE OF DAMAGE OF THE PITOT TUBE ON THE PLASTIC PART D2 DURING THE ASSEMBLY



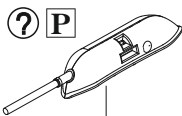
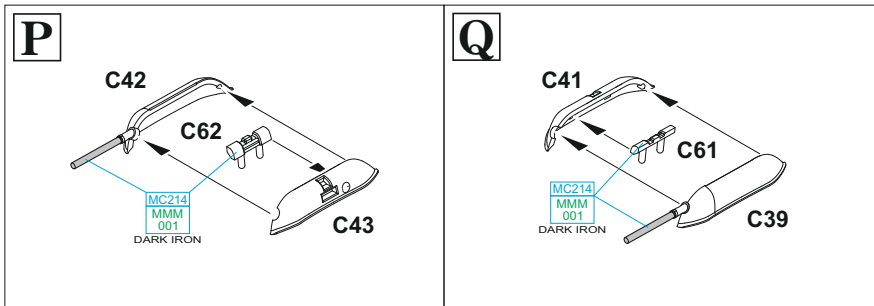


? C60

MARKINGS **B, E, F** ONLY

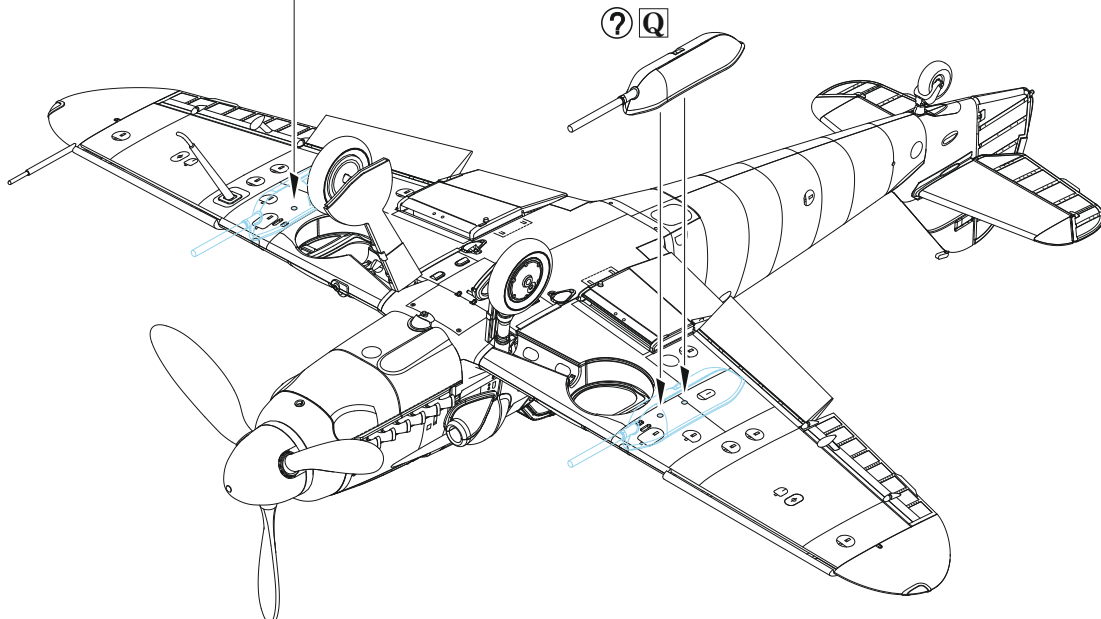


? C59



MARKINGS **A, D** ONLY

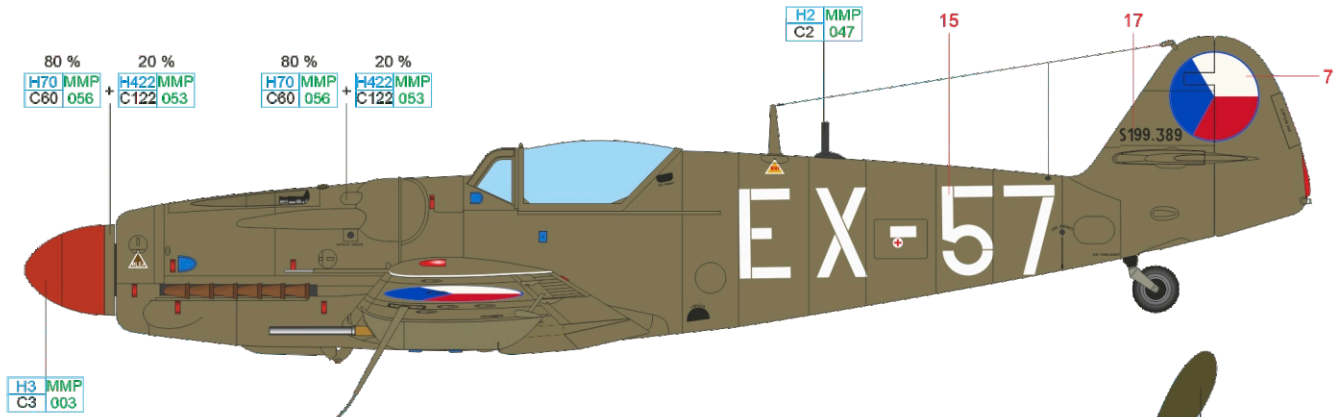
? **Q**



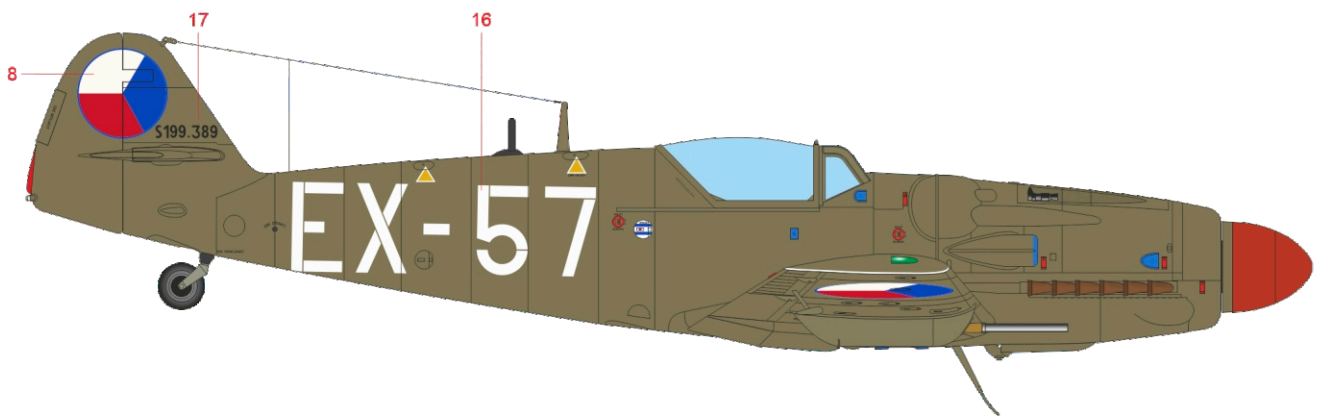
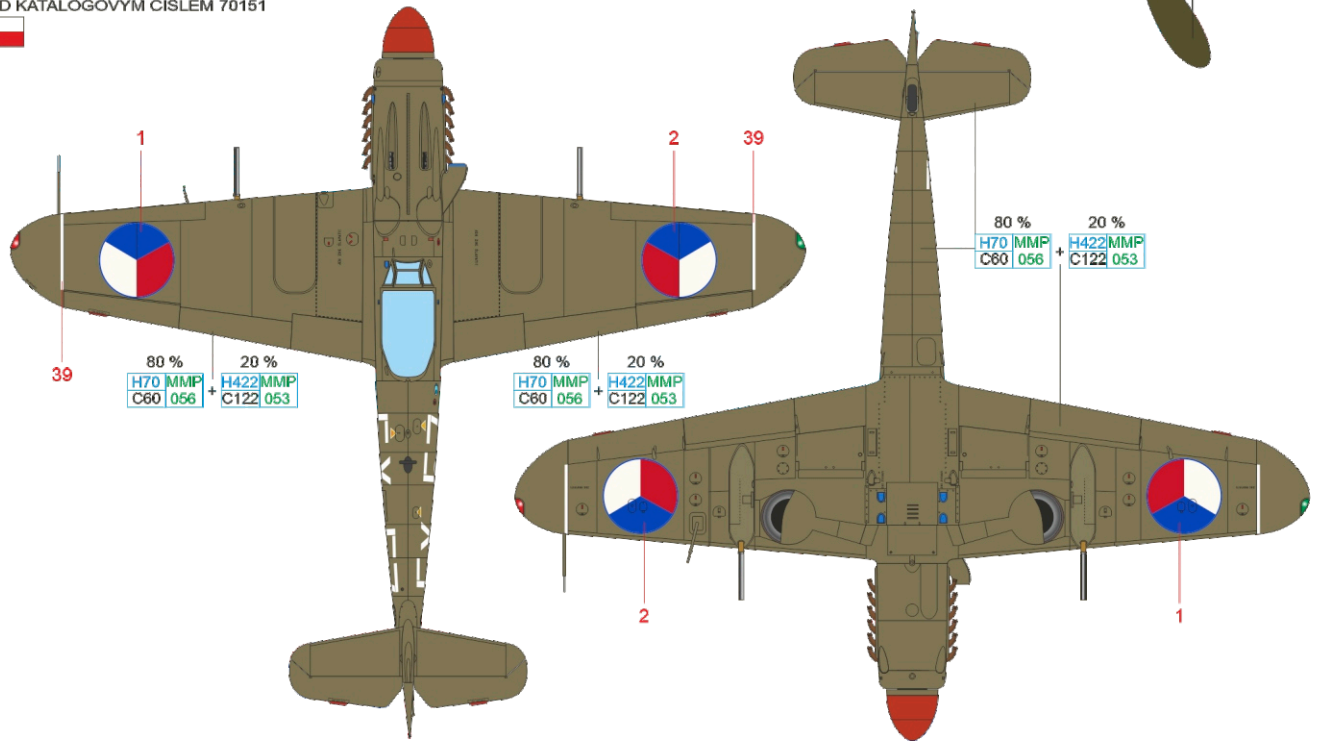


# A S-199.389, por. Jaroslav Plecítý, 3<sup>rd</sup> Squadron, 18 Fighter Air Regiment, Pilsen-Bory, August 1952

The aircraft was assigned to the Air Regiment No. 8 located in Brno on March 28, 1949. There, rtn. (sergeant) František Bauer collided with another aircraft (S-199.97) during taxiing, but the aircraft suffered no damage. But the aircraft did not avoid damage finally, as it was crashed on September 15, 1949, by rtn. Josef Jiroušek. The causation of the crash remains unclear. The airframe was repaired, and the engine overhauled. After that, the aircraft was assigned to the 18 Fighter Air Regiment, where it was assigned to the 3<sup>rd</sup> Squadron and received the fuselage code EX-57. On August 14, 1952, it was damaged on landing. After the crash, it was painted a darker green color as part of the repairs, but the fuselage code remained the same.



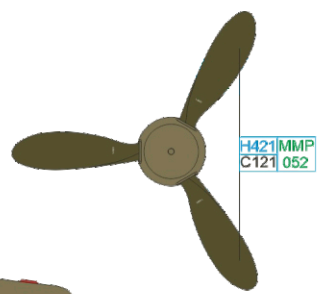
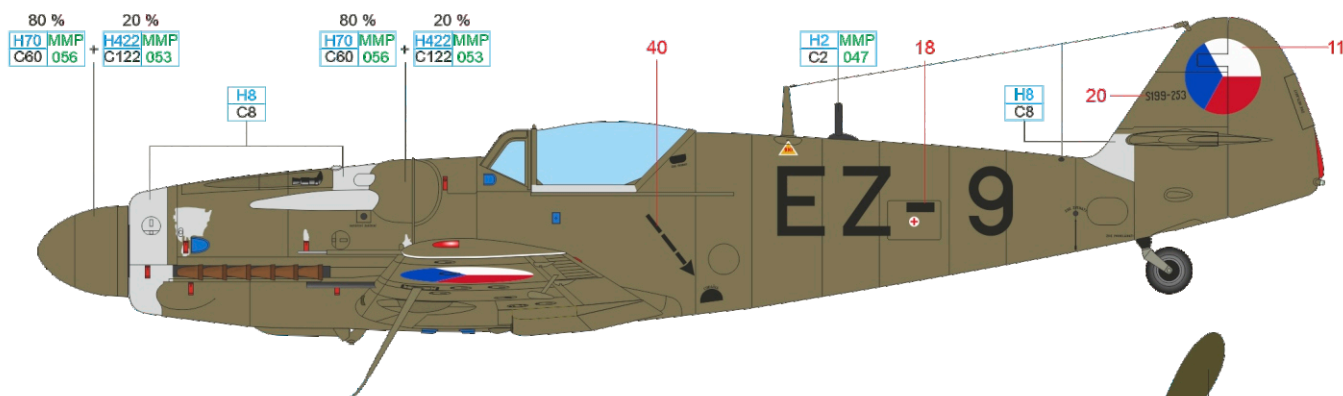
ČESKOU VERZI TEXTU NALEZNETE NA  
[www.eduard.com](http://www.eduard.com)  
 POD KATALOGOVÝM ČÍSLEM 70151



GRAY	H70 MMP C60 056	LIGHT GREEN	H422 MMP C122 053	GREEN	H421 MMP C121 052	BLACK	H2 MMP C2 047	RED	H3 MMP C3 003
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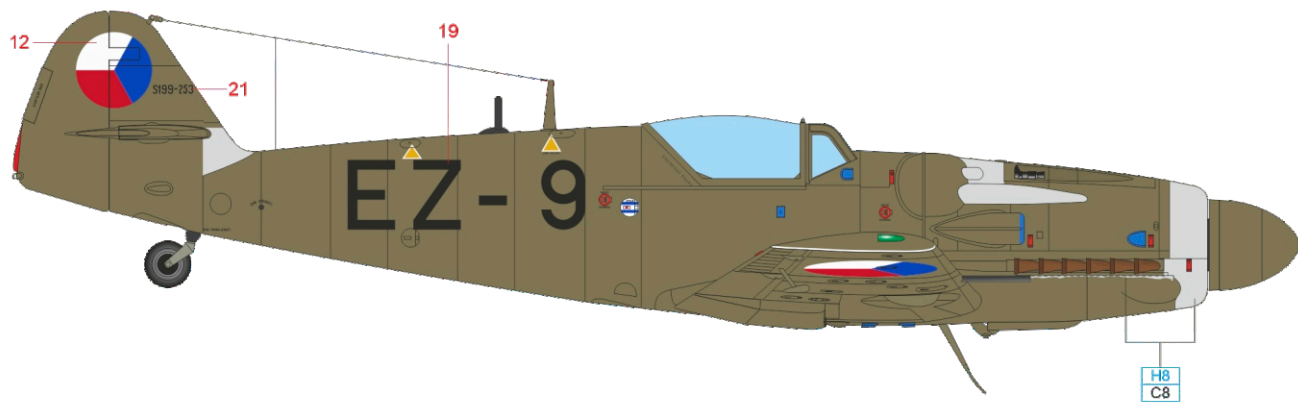
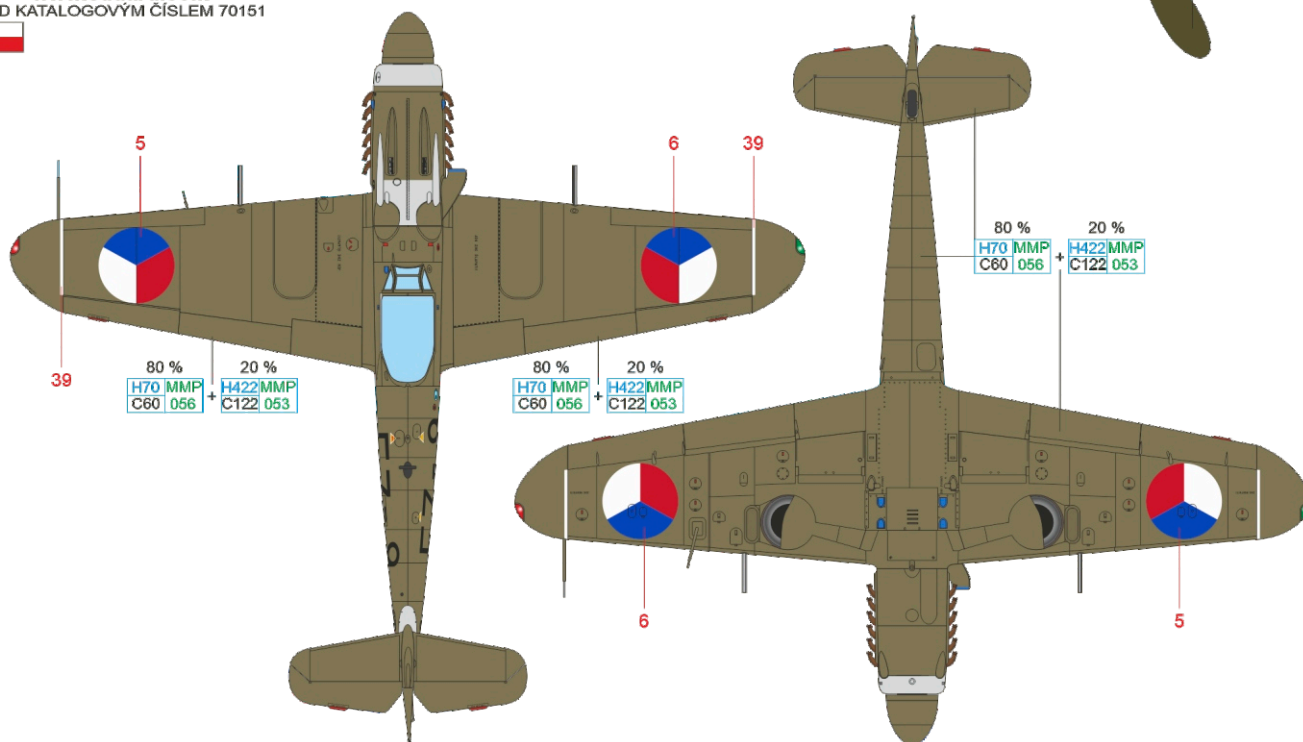
# B S-199.253, rtn. Jiljí Horák, Air Regiment No. 5, Plzeň-Bory, February 1950

This aircraft was flown by rtn. (sergeant) Jiljí Horák when it was forced to an emergency landing near Červený Hrádek town on February 25, 1950. At the time of the incident, the aircraft bore numerous signs of wear and tear and repairs, the most visible of which were the replacements of some metal parts of the fuselage left in bare-metal. There were also several areas of peeling paint on the aircraft. After the emergency landing, the airframe went in for repairs and the engine for inspection. However, in Kunovice factory, where the repair was carried out, the aircraft suffered another unspecified crash and had to be repaired again. It was then handed over to the next user, the 4 Air Training Regiment.



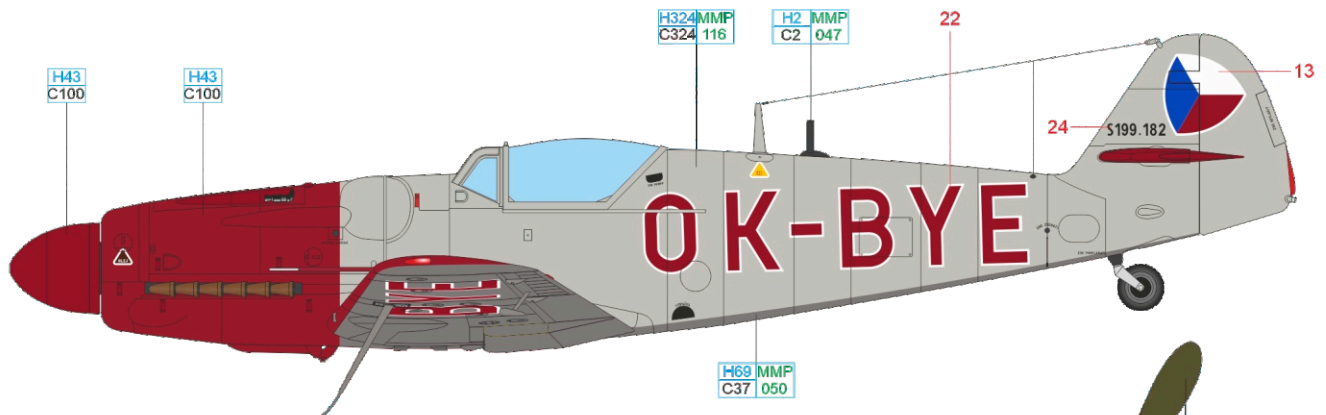
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POD KATALOGOVÝM ČÍSLEM 70151

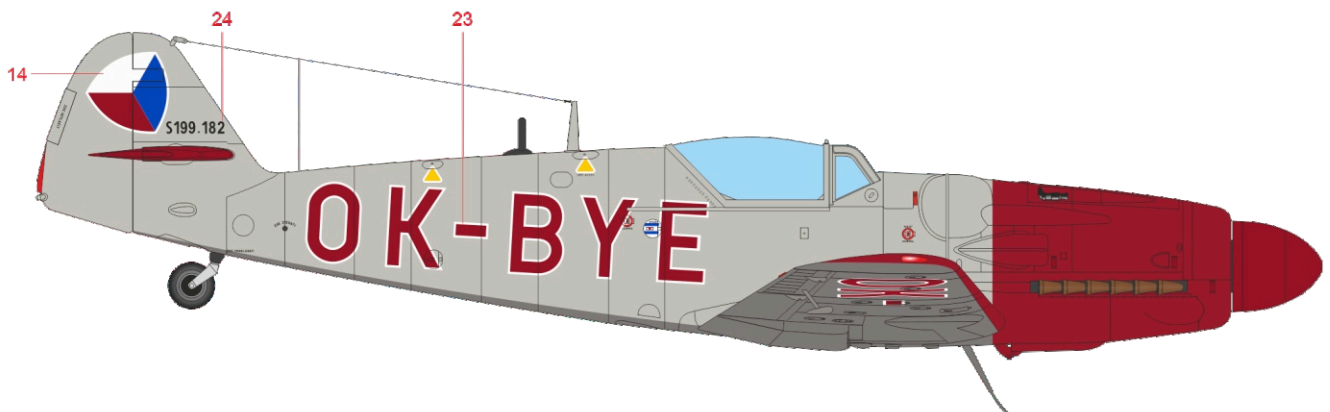
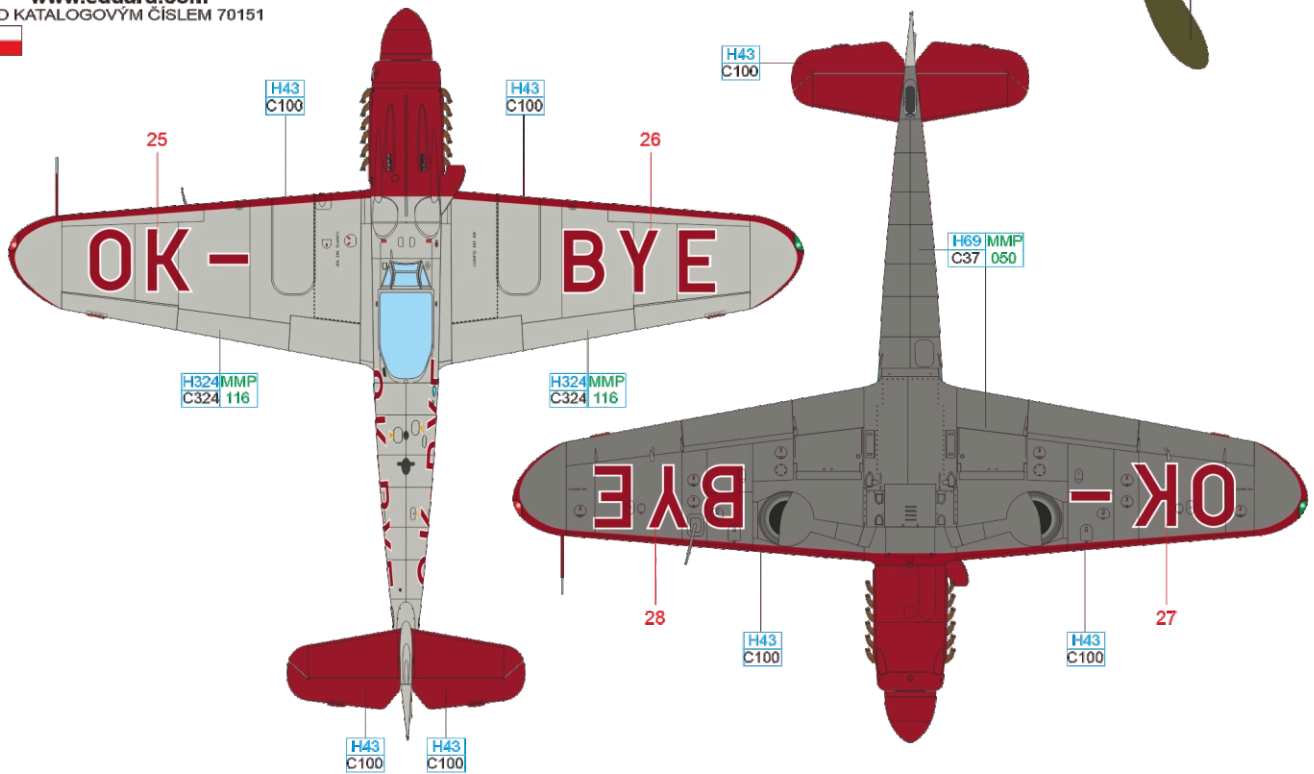


GRAY	H70 MMP C60 056	LIGHT GREEN	H422 MMP C122 053	GREEN	H421 MMP C121 052	BLACK	H2 MMP C2 047	SILVER	H8 C8
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The Police Air Patrol unit operated this aircraft at Praha-Ruzyně airport, where it was damaged during taxiing on December 6, 1949. The pilot, vrch. stržm. (Chief Constable) Josef Sobota, collided with a fuel truck during taxiing. After December 23, 1950, probably in March 1951, the aircraft was handed over to the Air Force. By the time it had just 78 flight hours recorded during service with the Police Air Patrol. It was marked in typical coloring of this aviation component of Czechoslovak Police, i.e., two-tone grey paint scheme, complemented by a scarlet nose, wing leading edge and with scarlet horizontal tail surfaces.



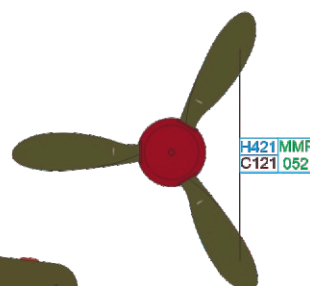
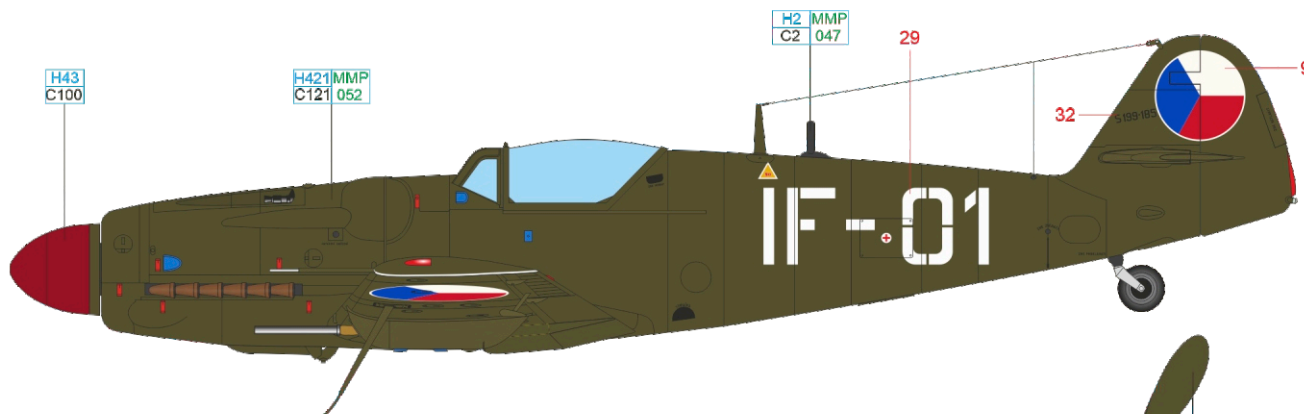
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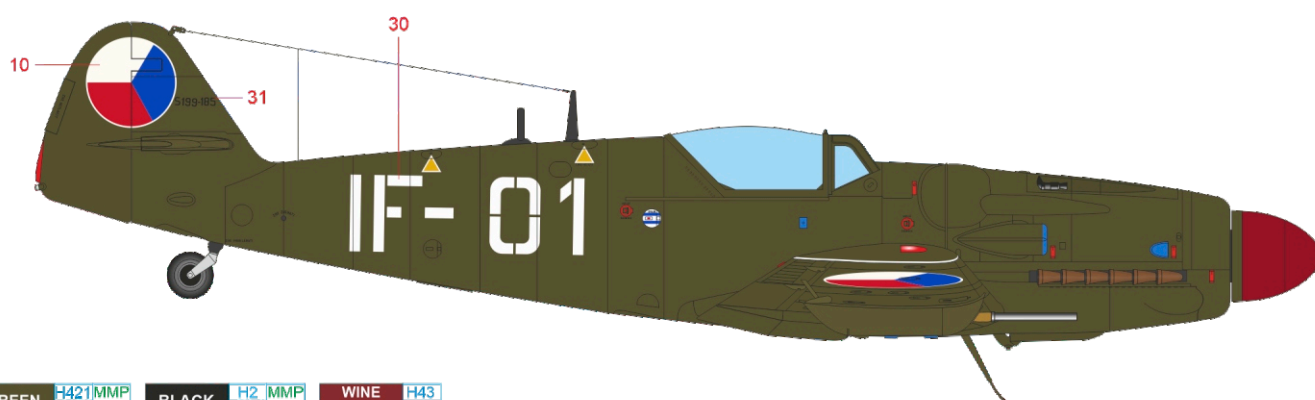
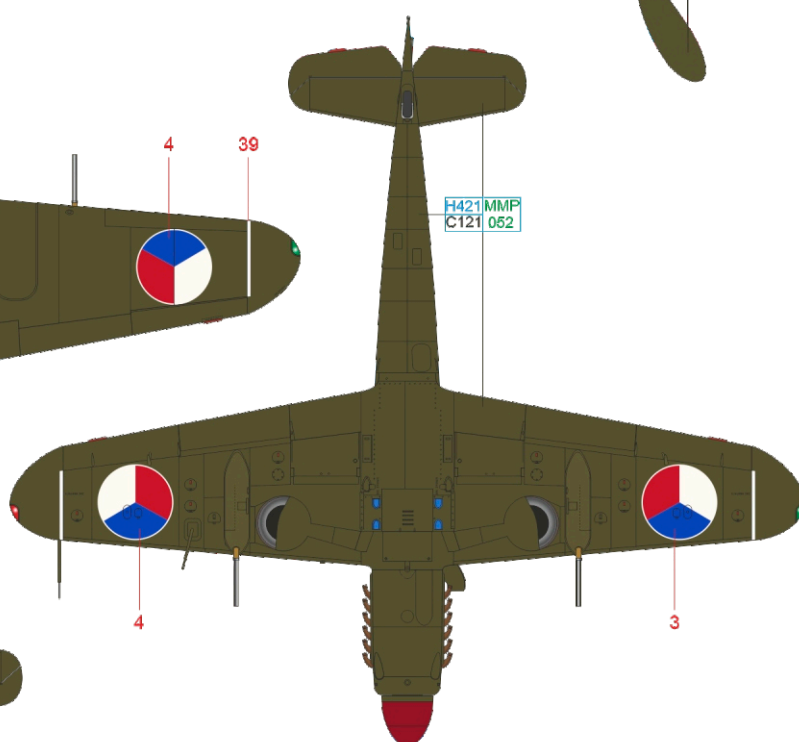
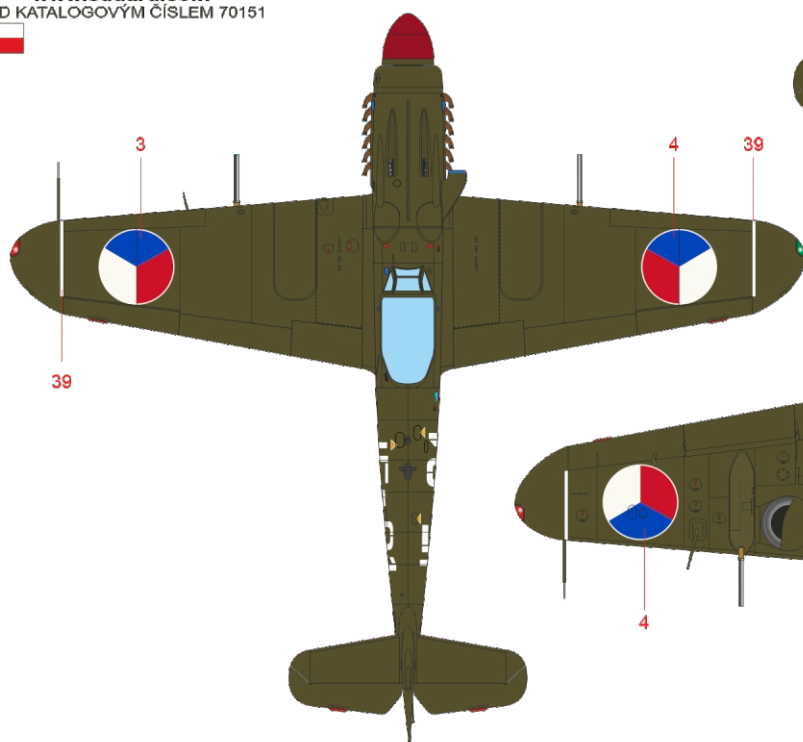
DARK GRAY	H69 MMP C37 050	LIGHT GRAY	H324 MMP C324 116	GREEN	H421 MMP C121 052	BLACK	H2 MMP C2 047	RED	H43 C100
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# D S-199.183, 1 Air Training Regiment, Olomouc, 1953

This aircraft was taken over by the military administration on May 2, 1949, after being factory test-flown on December 9, 1948. It was subsequently handed over to the Police Air Patrol, where it served with the OK-BYH matriculation. It stayed with this aviation component until December 23, 1950, when it was returned to the Air Force for a transfer price of 364,000 CZK. During nineteen-months long service with Police Air Patrol, the aircraft had only 47 flight hours logged. Subsequently, the aircraft served with the Air Force and was one of the few equipped with AFP 32.5/7×9 or AFP 12.5/7×9 cameras in the rear fuselage. These were protected on the ground and during the flight, when not in use, by sliding covers. The aircraft served for an unspecified period with the 1 Air Training Regiment in Olomouc, but training of the pilots was not conducted there on S-199s. The aircraft served there as a teaching aid only, although it was airworthy. During February–April 1954 period it was still in service with the 6 Fighter Air Regiment, based at Mladá airfield. The red spinner was probably a remnant of the aircraft's service with the Police Air Patrol, so it was painted in scarlet color.



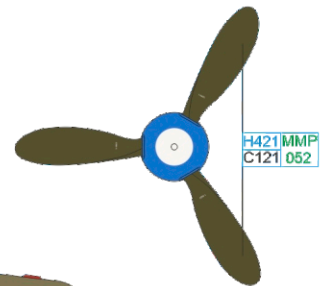
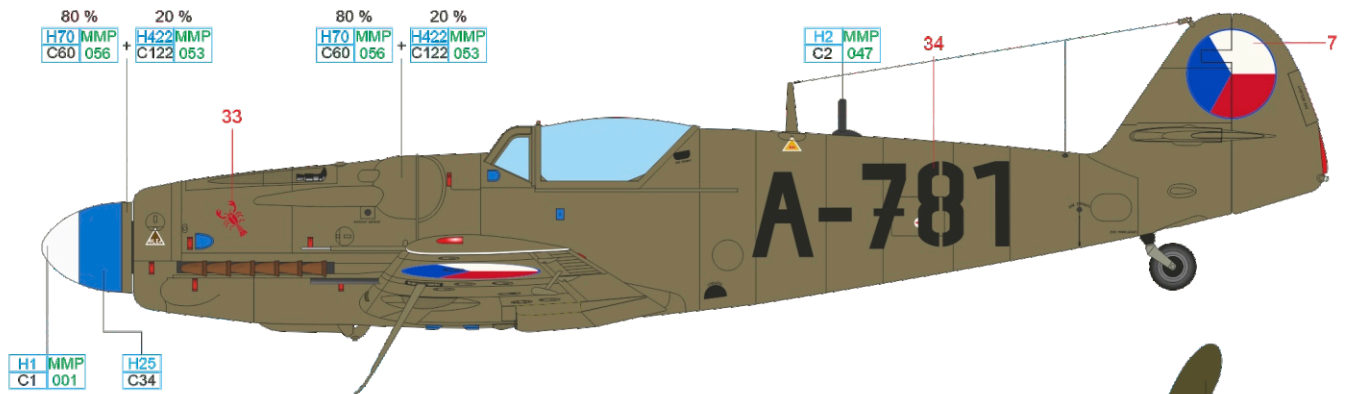
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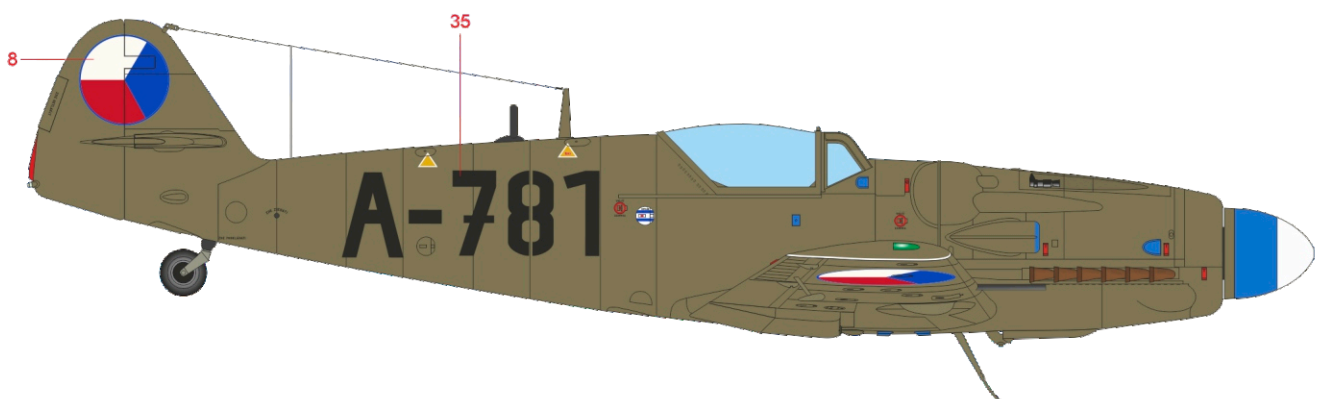
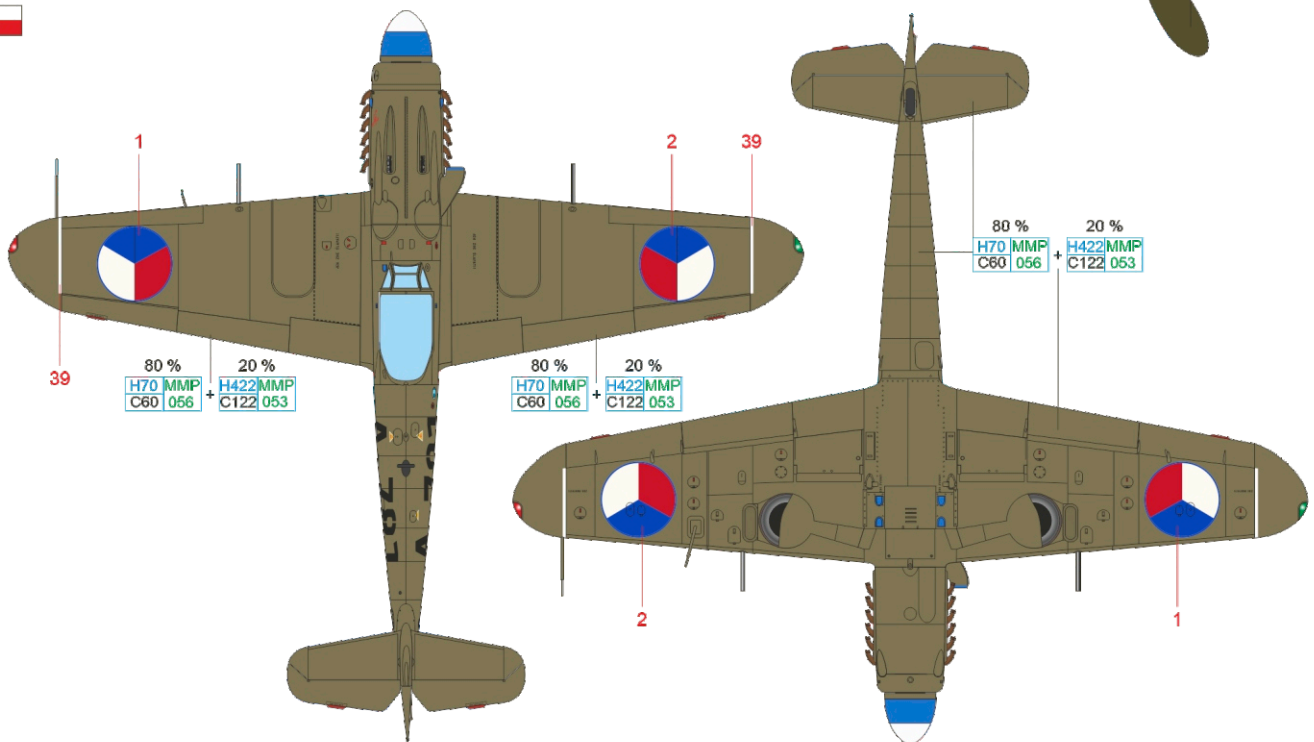
GREEN H421 MMP C121 052    BLACK H2 MMP C2 047    WINE RED H43 C100



Not much is known about the history of this "Mule", but its service at the Air Military Academy in Hradec Králové, where it made an emergency landing on March 16, 1950, is certain. The pilot was a pilot-student, ac. (trainee) Milan Pohlodek. The airframe was cancelled after the accident, engine No. 105 went for inspection. The damage cost was estimated at nearly two million of Czech crowns. An interesting feature of the aircraft is the drawing of a crayfish on the bonnet of the engine, most probably painted in red. It is not clear who the author was and on what occasion it appeared on the aircraft. From the photographs of the crashed aircraft, it seems that the spinner was painted in white and blue, as these were usual spinner colors of the Academy.



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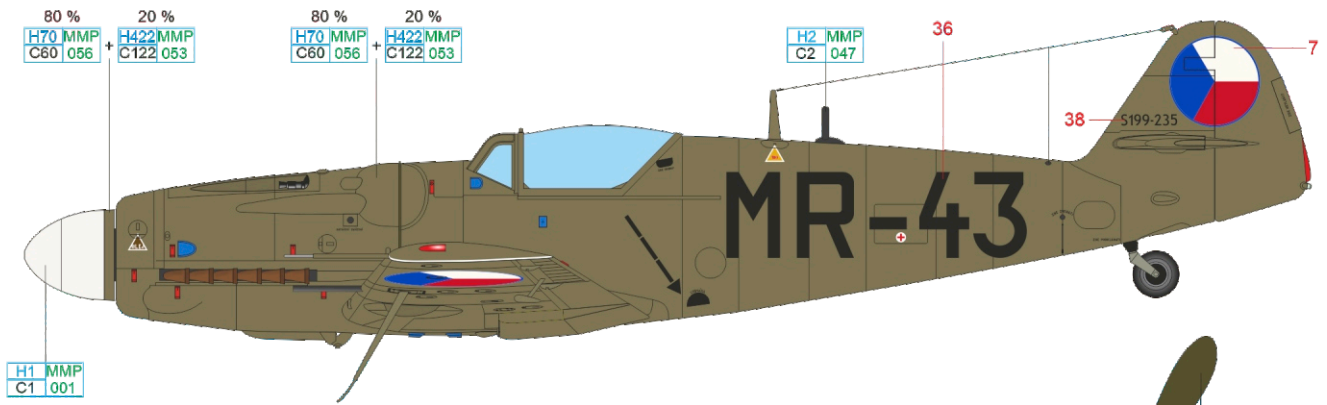


GRAY	H70 MMP C60 056	LIGHT GREEN	H422 MMP C122 053	GREEN	H421 MMP C121 052	BLACK	H2 MMP C2 047	WHITE	H1 MMP C1 001	SKY BLUE	H25 C34
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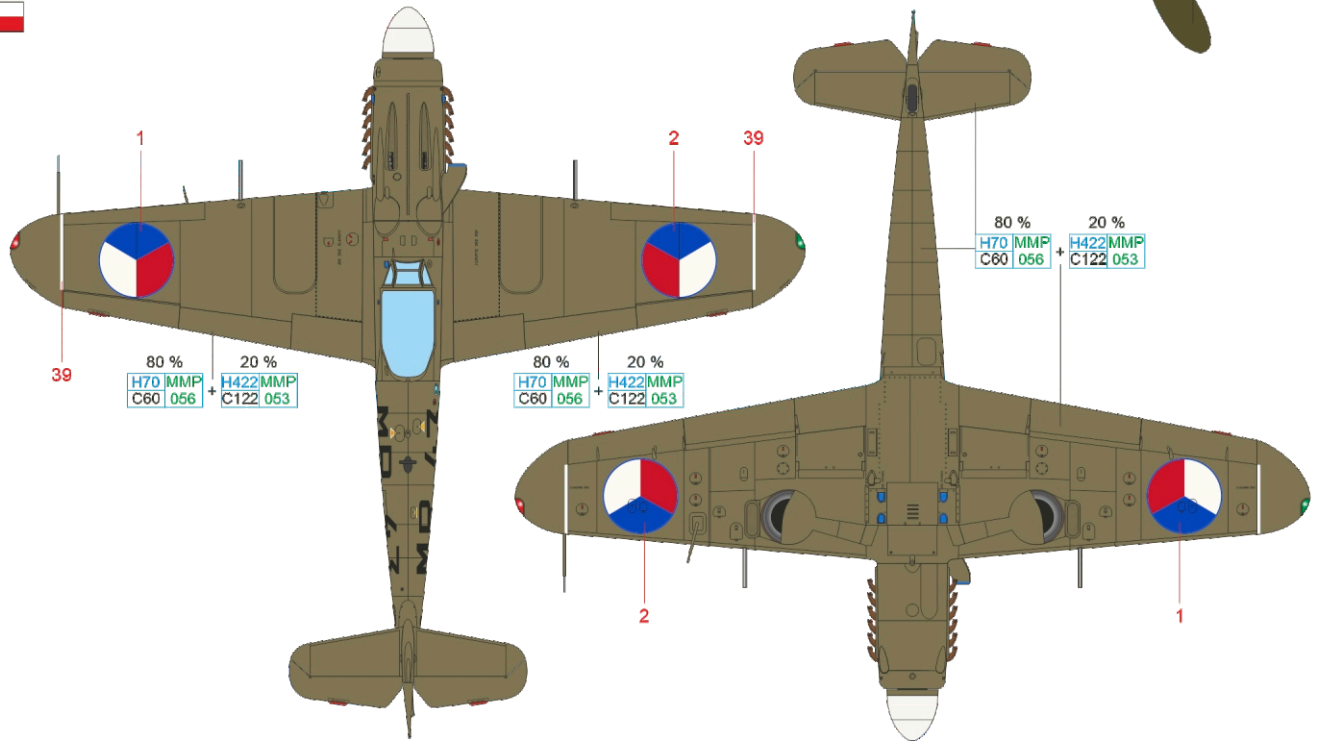


# F S-199.235, por. Jan Šurák, 2<sup>nd</sup> Squadron, 8 Fighter Air Regiment, Klecany, May, 1951

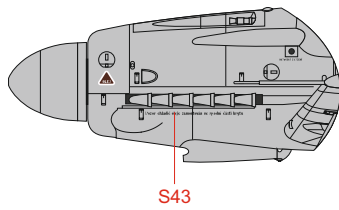
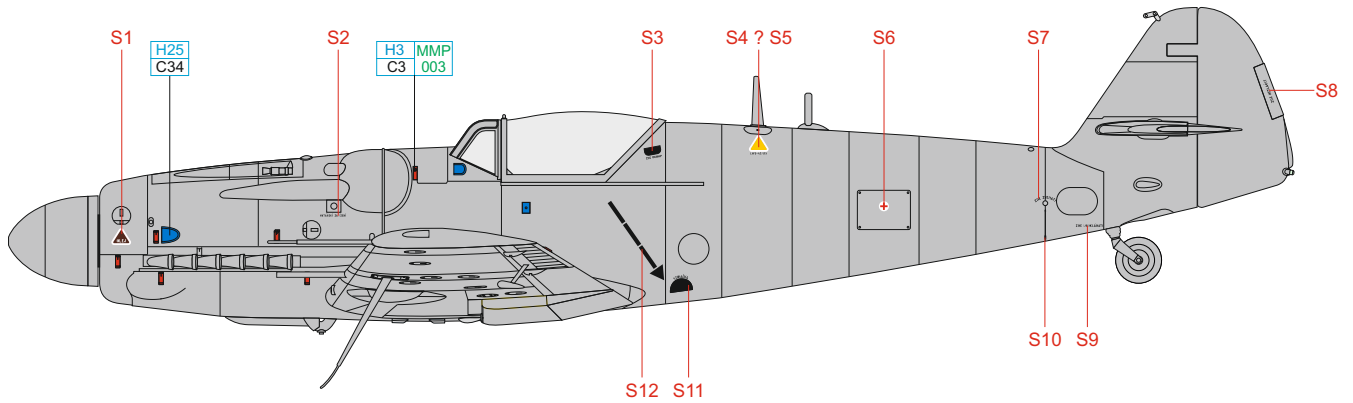
Aircraft No. 235 was assigned to Air Regiment No. 7 on May 17, 1949, where it was given the fuselage code IV-4. In August of the same year, the aircraft underwent radiator repair and in January 1950 undercarriage repair followed. Subsequently, the aircraft was transferred to the 8 Air Fighter Regiment where it was assigned to the 2<sup>nd</sup> Squadron and redesignated MR-43. On May 17, 1951, it was destroyed in a crash caused by engine jam due to insufficient oil level. The pilot, por. (Lieutenant) Šurák, bailed out and saved himself on a parachute. He suffered just minor arm injury. The aircraft crashed near Černíkovice village in the Benešov district. The lack of oil was caused by the fact that the aircraft's technicians were called to guard and so forgot to refill the oil tank.



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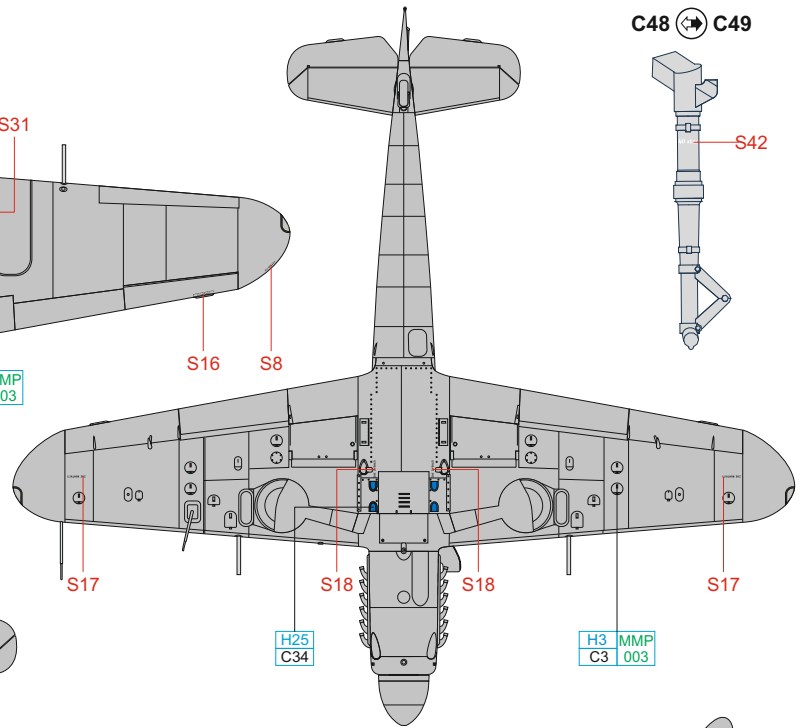
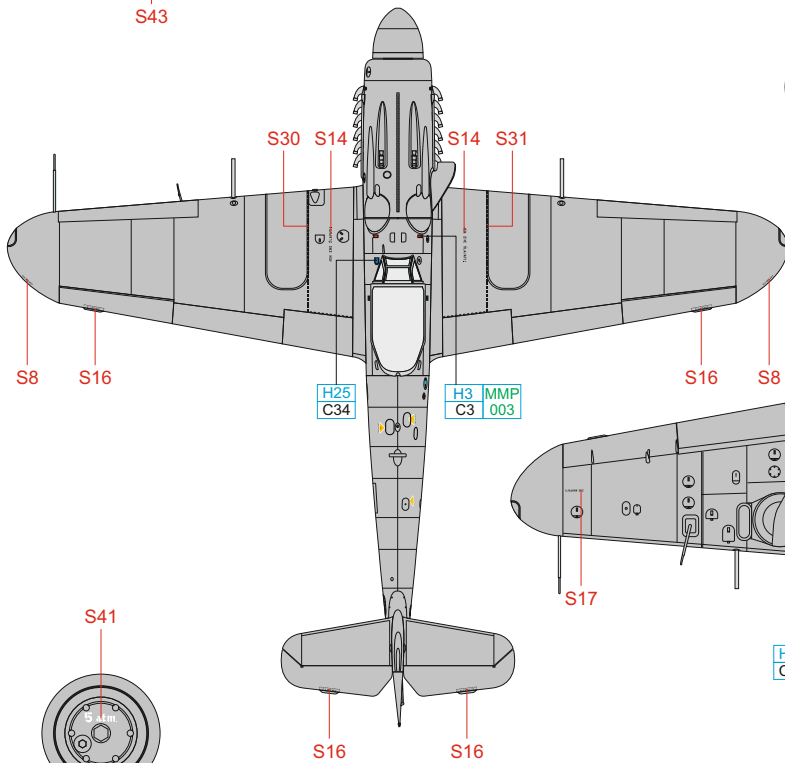
GRAY	H70 MMP C60 056	LIGHT GREEN	H422 MMP C122 053	GREEN	H421 MMP C121 052	BLACK	H2 MMP C2 047	WHITE	H1 MMP C1 001
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decal	MARKING
S1a	C
S1b	A,B,D,E,F
S4a	C
S4b	A,B,D,E,F

decal	MARKING
S5a	C
S20a	C
S20b	A,B,D,E,F

decal	MARKING
S23c	F
S23b	A,B,D,E
S44	A,B,C,D,E,F
S56	A,B,D,F



C48 ↔ C49

