

Avia S-199 ERLA canopy

eduard

1/72 Scale Plastic Model Kit

ProfiPACK
edition



item No. 70152

The Avia S-199 was 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 then state of Israel.

At 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 109G 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 DB 605 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 ERLA 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. Nevertheless, many of the S-199s retained their Erla Haube canopy although they were equipped with the heat exchanger instead of the oil cooler. Another change in design was the angle of the wheels. It 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 has 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 lepidel pracujte v dobře větrané místnosti. Lepidla ani barvy nepoužívejte v blízkosti otevřeného ohně. Model není určen malým dětem, mohlo by dojít k požití drobných dílů.

INSTRUCTION SIGNS * INSTR. SYMBOLS * INSTRUKTION SINNBILDEN * SYMBOLES * 記号の説明

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

PARTS



DÍLY



TEILE

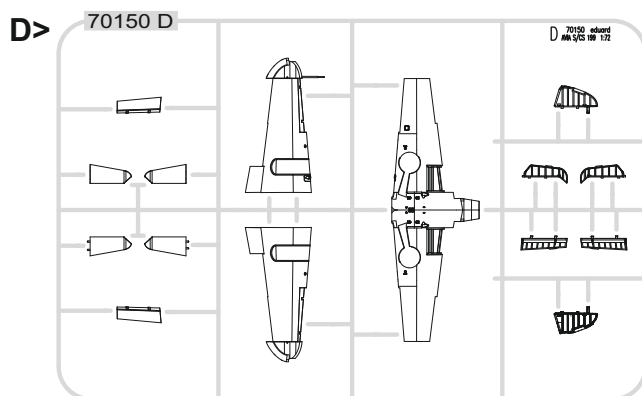
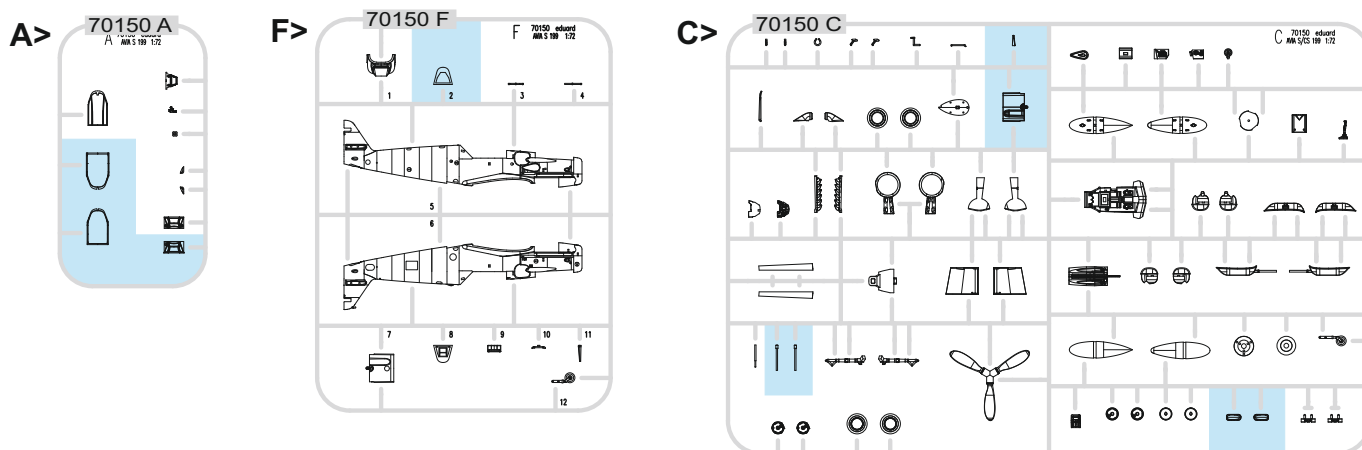


PIÈCES

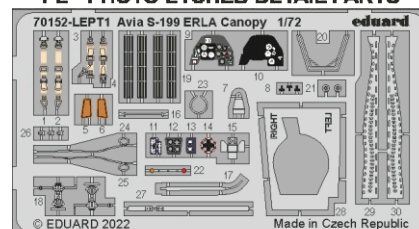


部品

PLASTIC PARTS



PE - PHOTO ETCHED DETAIL PARTS



-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



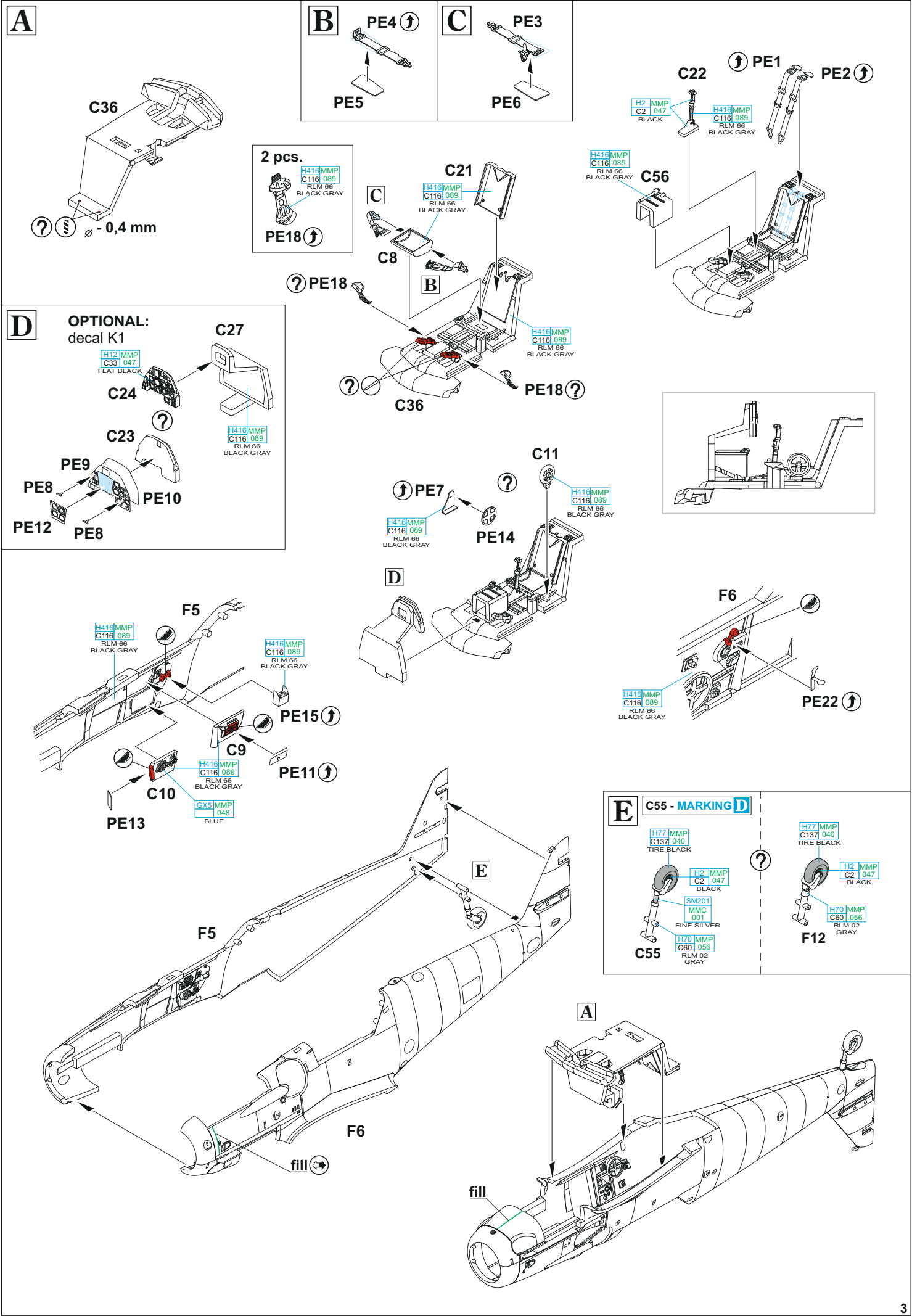
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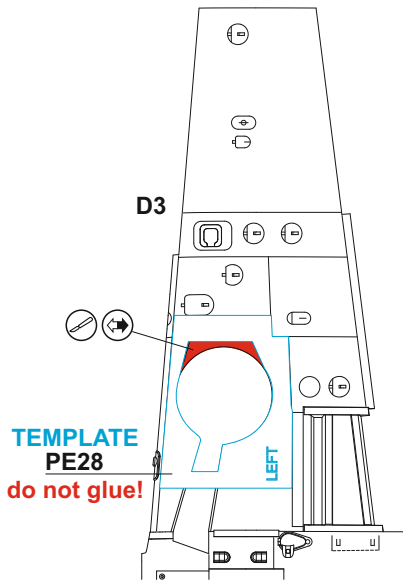
色

GSI Creos (GUNZE)		MISSION MODELS	
AQUEOUS	Mr.COLOR	PAINTS	
H1	C1	MMP-001	WHITE
H2	C2	MMP-047	BLACK
H3	C3	MMP-003	RED
H12	C33	MMP-047	FLAT BLACK
H25	C34		SKY BLUE
H70	C60	MMP-056	GRAY
H77	C137	MMP-040	TIRE BLACK
H85	C45		SAIL COLOR
H90	C47		CLEAR RED
H94	C138		CLEAR GREEN
H315	C315	MMP-069	GRAY

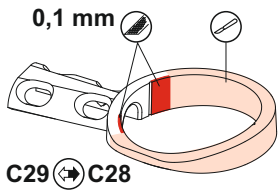
GSI Creos (GUNZE)		MISSION MODELS	
AQUEOUS	Mr.COLOR	PAINTS	
H336	C336		HEMP
H416	C116	MMP-089	BLACK GRAY
H421	C121	MMP-052	GREEN
H422	C122	MMP-053	LIGHT GREEN
Mr.METAL COLOR		METALLICS	
MC214		MMM-001	DARK IRON
Mr.COLOR SUPER METALLIC		METALLICS	
SM201		MMC-001	SUPER FINE SILVER
Mr.COLOR GX		METALLICS	
GX05			SUSIE BLUE



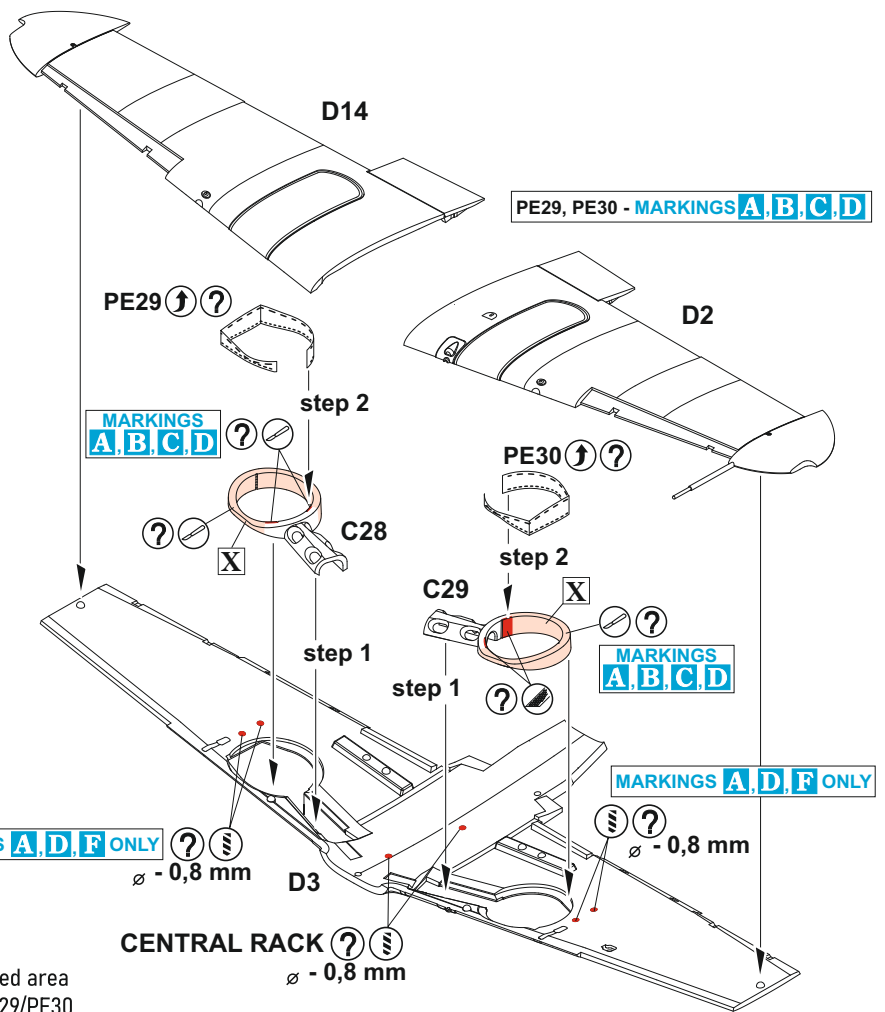
MARKINGS A, B, C, D



X MARKINGS A, B, C, D



1. Remove the orange area of part C28/C29
2. Sand down 0,1 mm off the surface of the red-highlighted area
3. Use the sanded area as a joint base for gluing part PE29/PE30
4. The vertical inside line is a border between the plastic and PE part



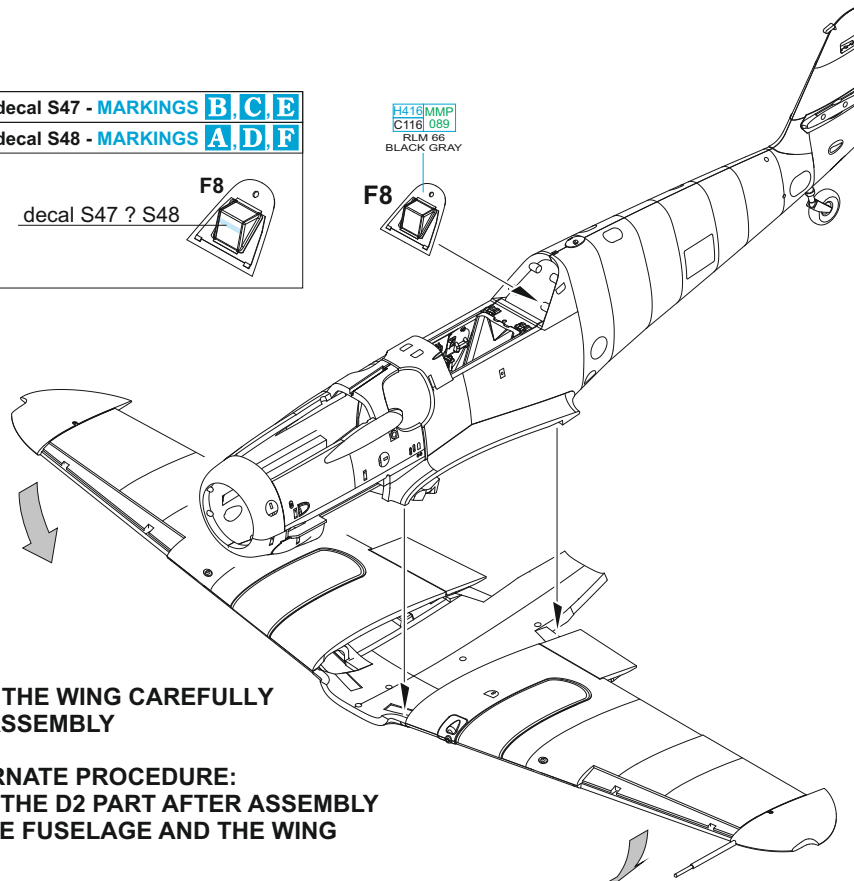
decal S47 - MARKINGS B, C, E
 decal S48 - MARKINGS A, D, F

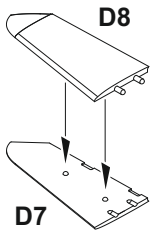
F8

decal S47 ? S48

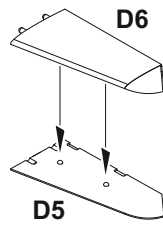
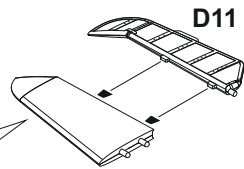
H416MMP
 C116 089
 RLM 66
 BLACK GRAY

F8

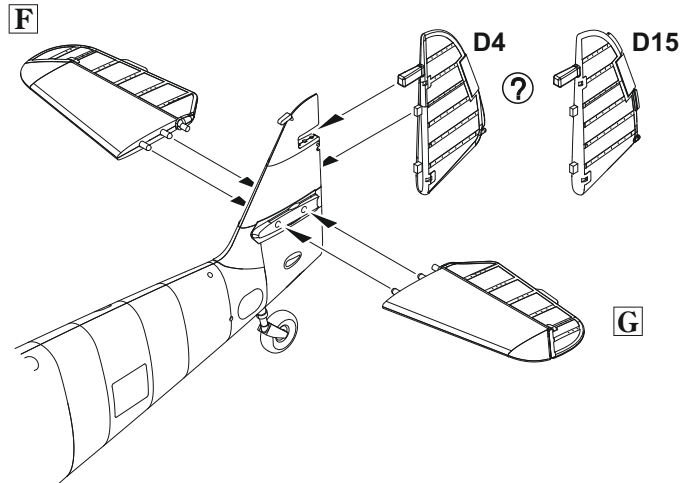
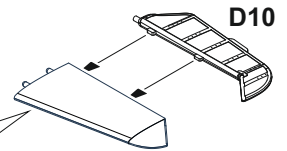




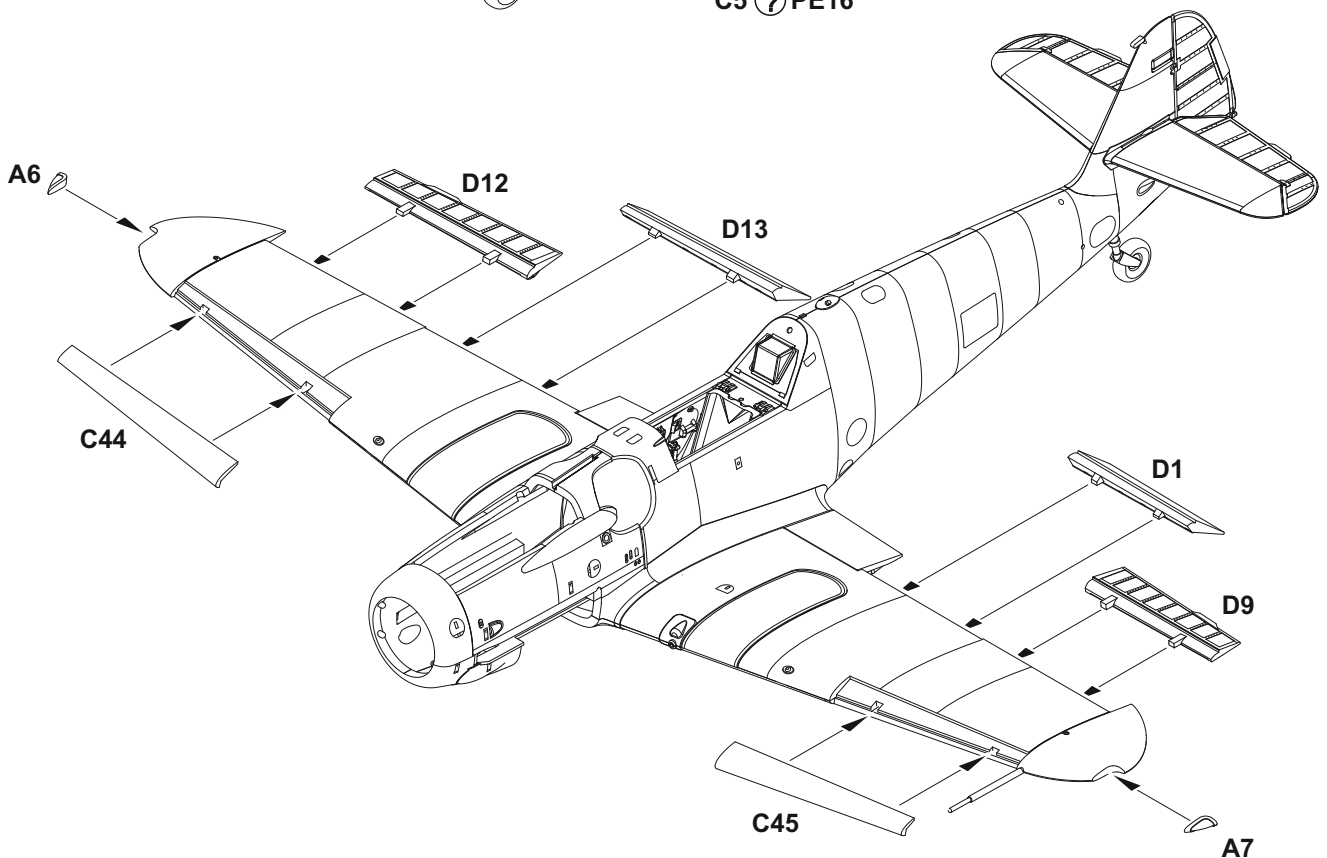
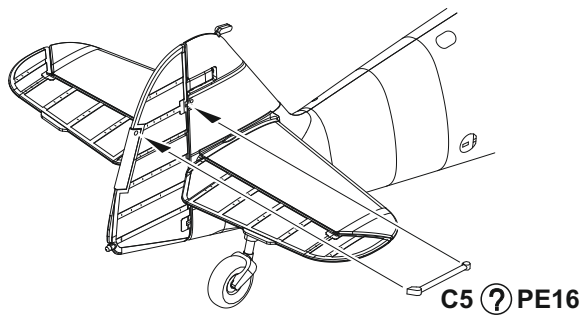
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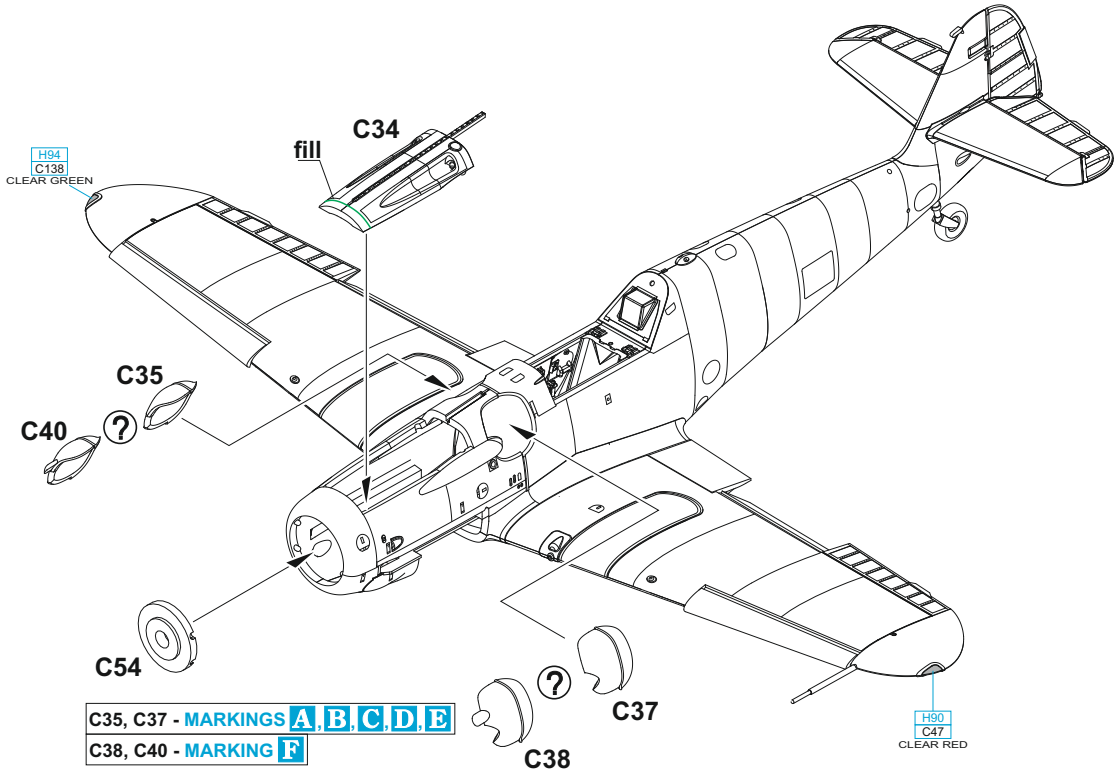


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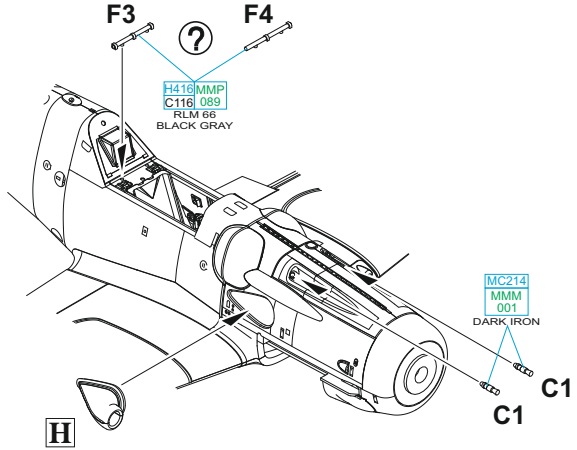


D4 - MARKINGS **C, E**
 D15 - MARKINGS **A, B, D, F**

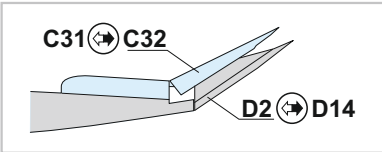
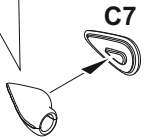




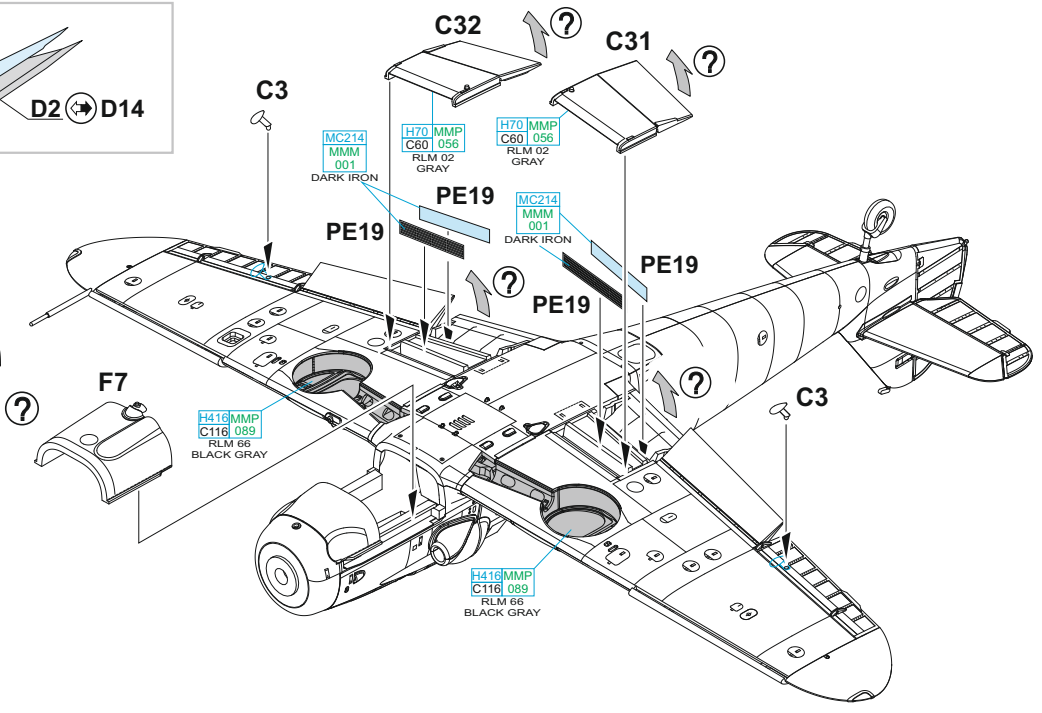
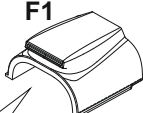
CLOSED CANOPY OPEN CANOPY



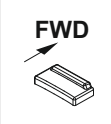
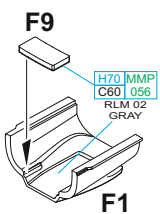
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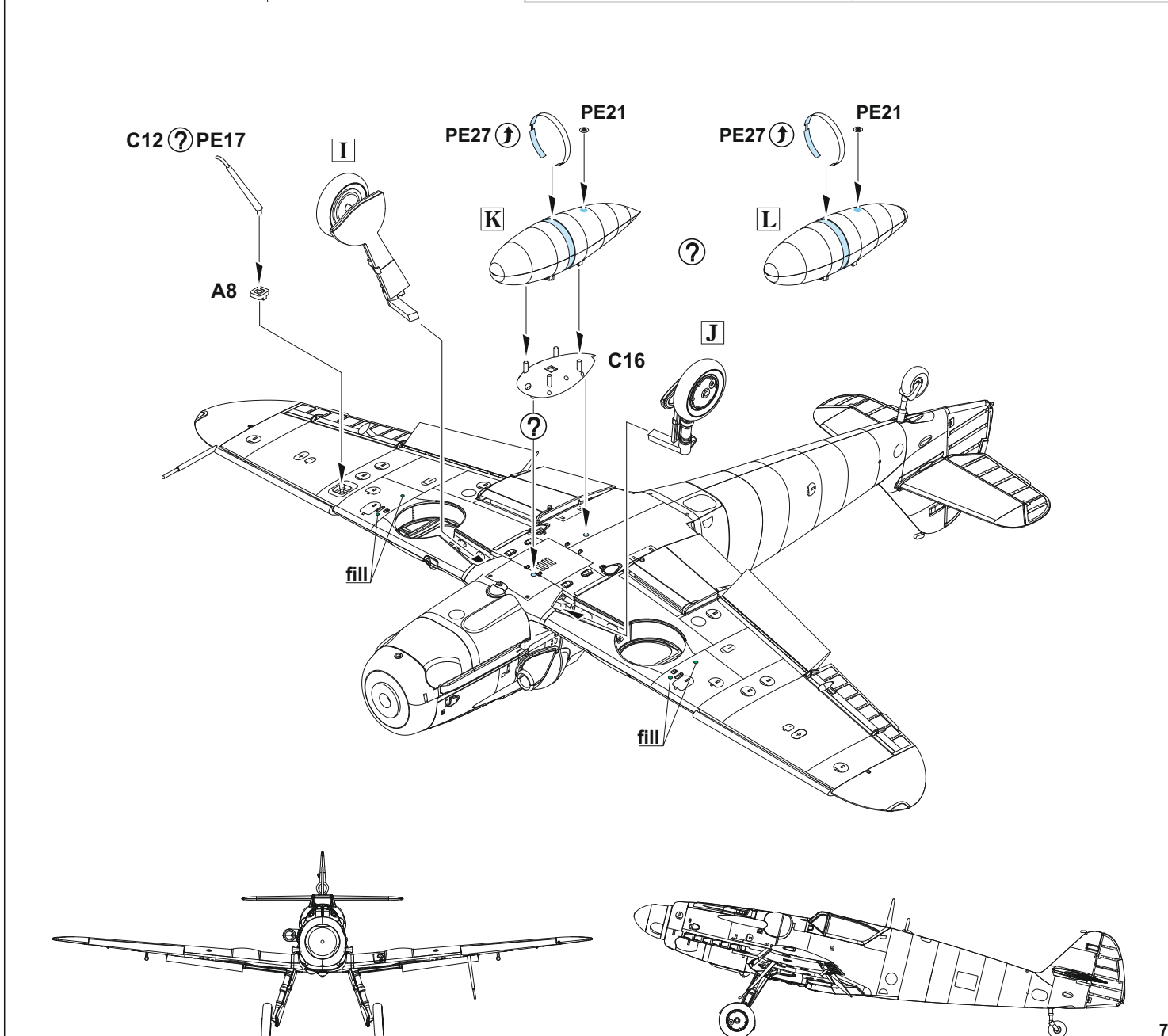
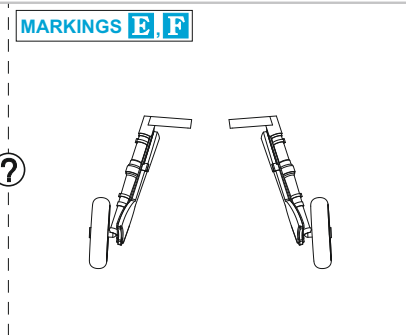
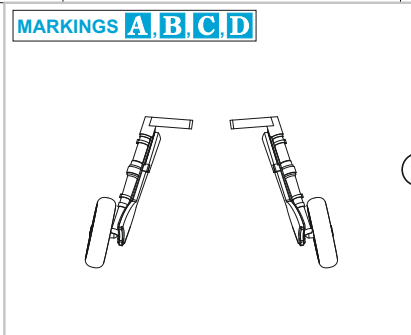
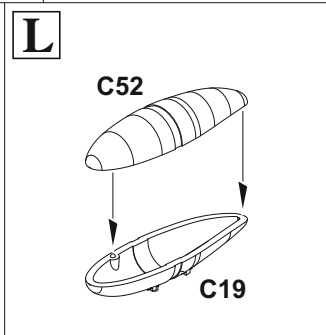
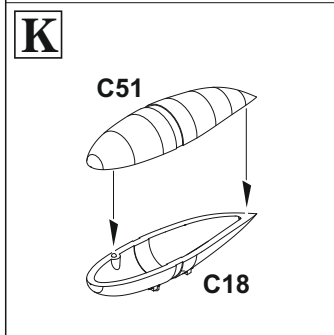
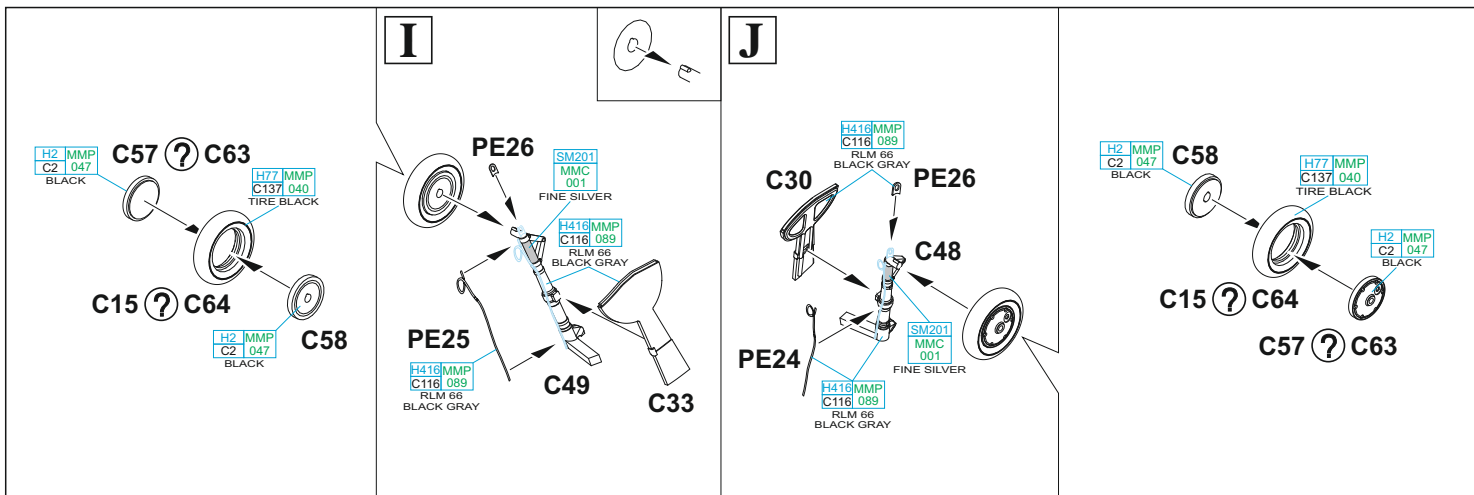


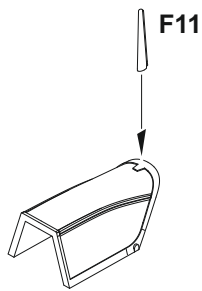
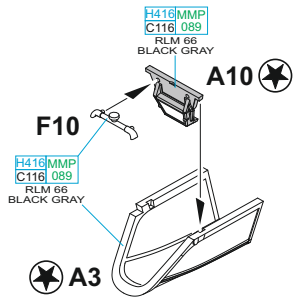
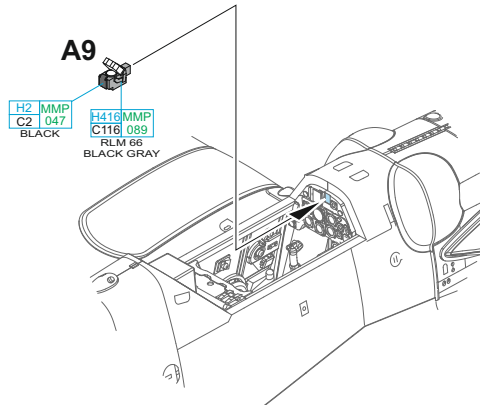
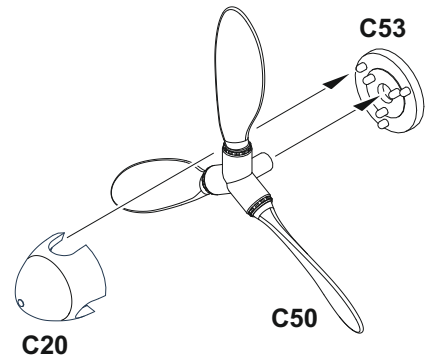
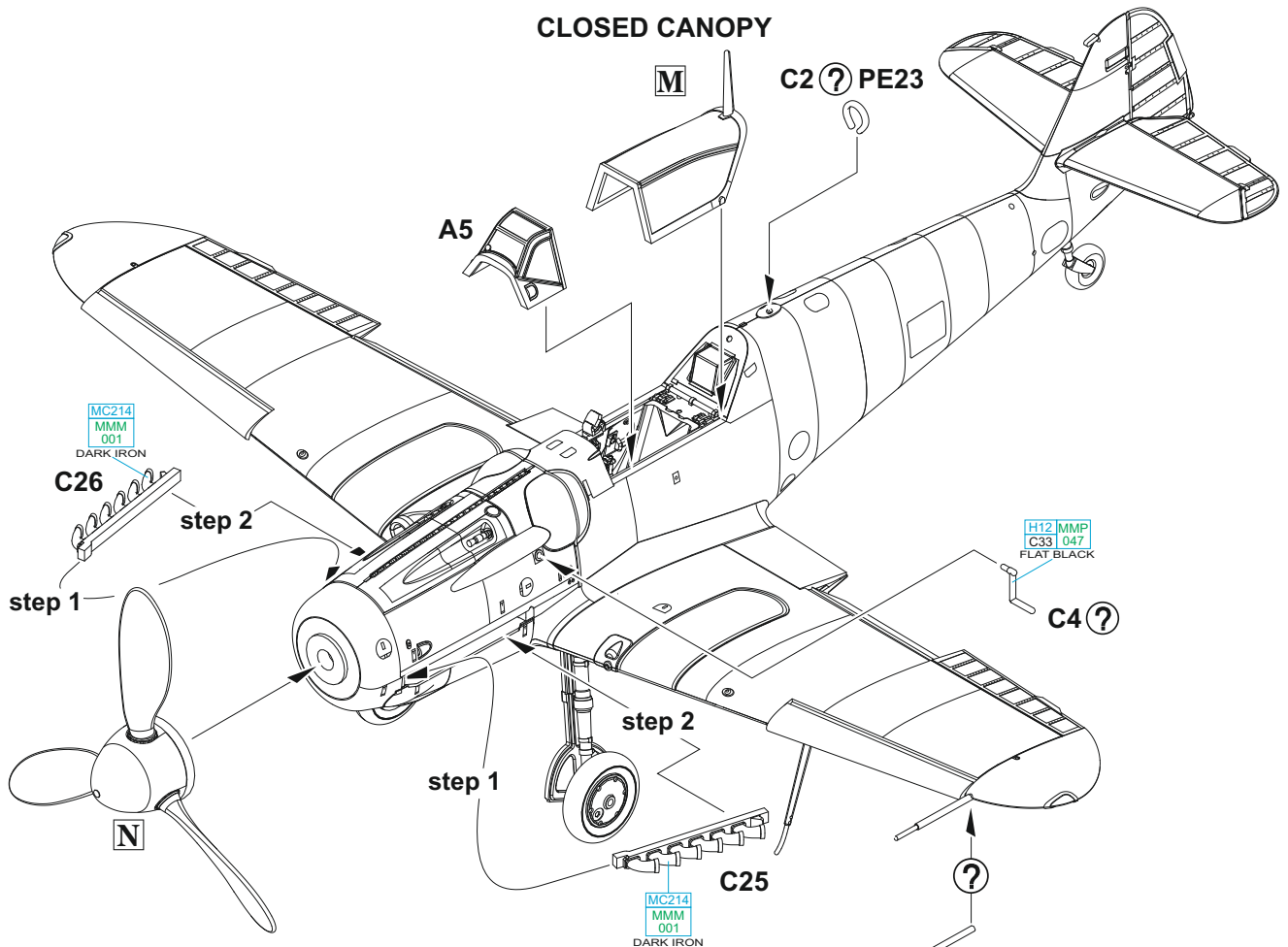
F1 - MARKINGS A, D
F7 - MARKINGS B, C, E, F



F9

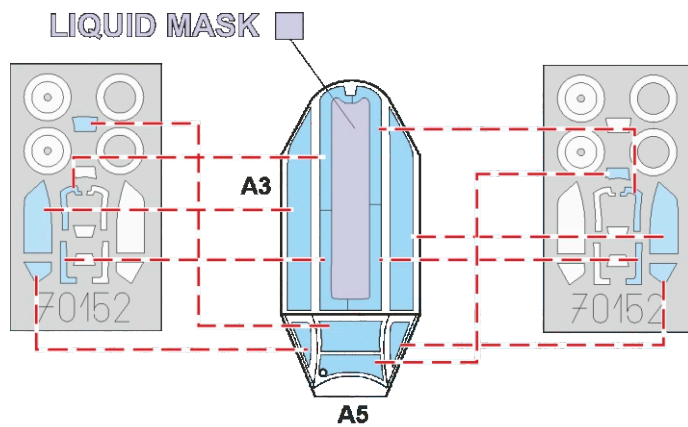
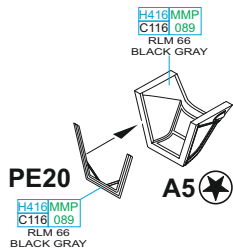




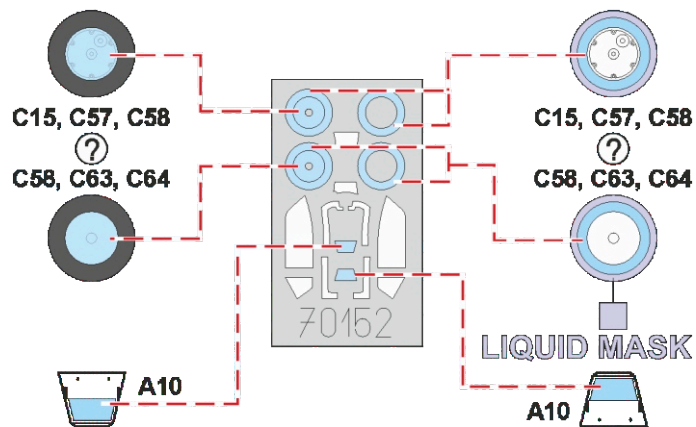
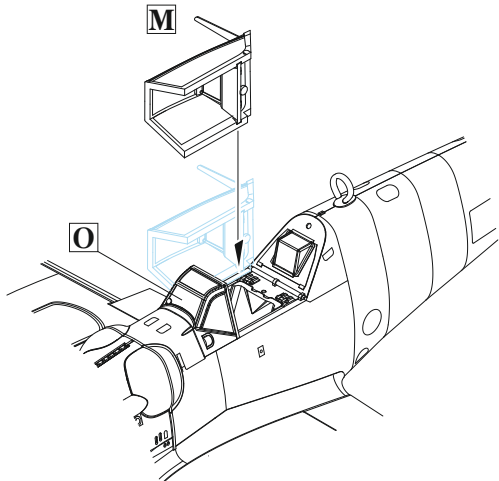
M**N****CLOSED CANOPY**

C46 USE C46 PART
IN CASE OF DAMAGE
OF ORIGINAL PITOT TUBE

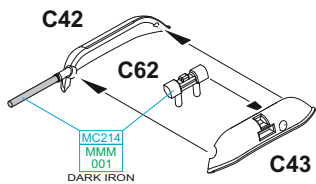
O OPEN CANOPY ONLY



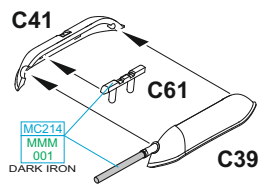
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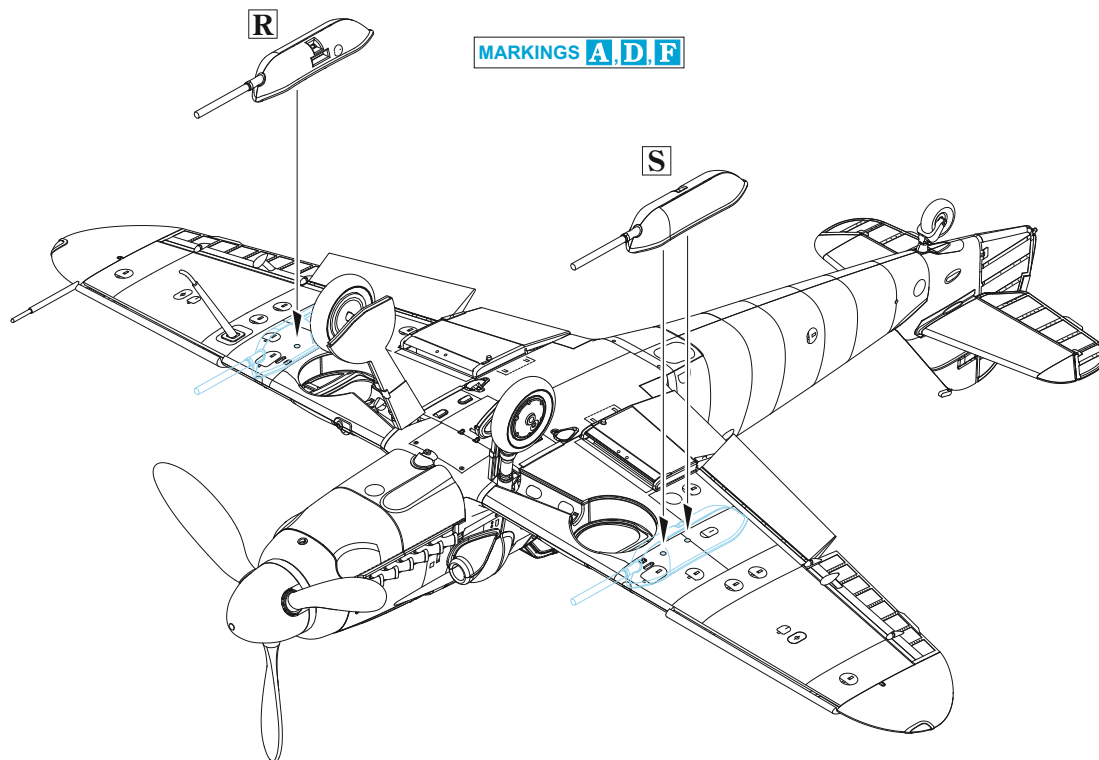
R



S

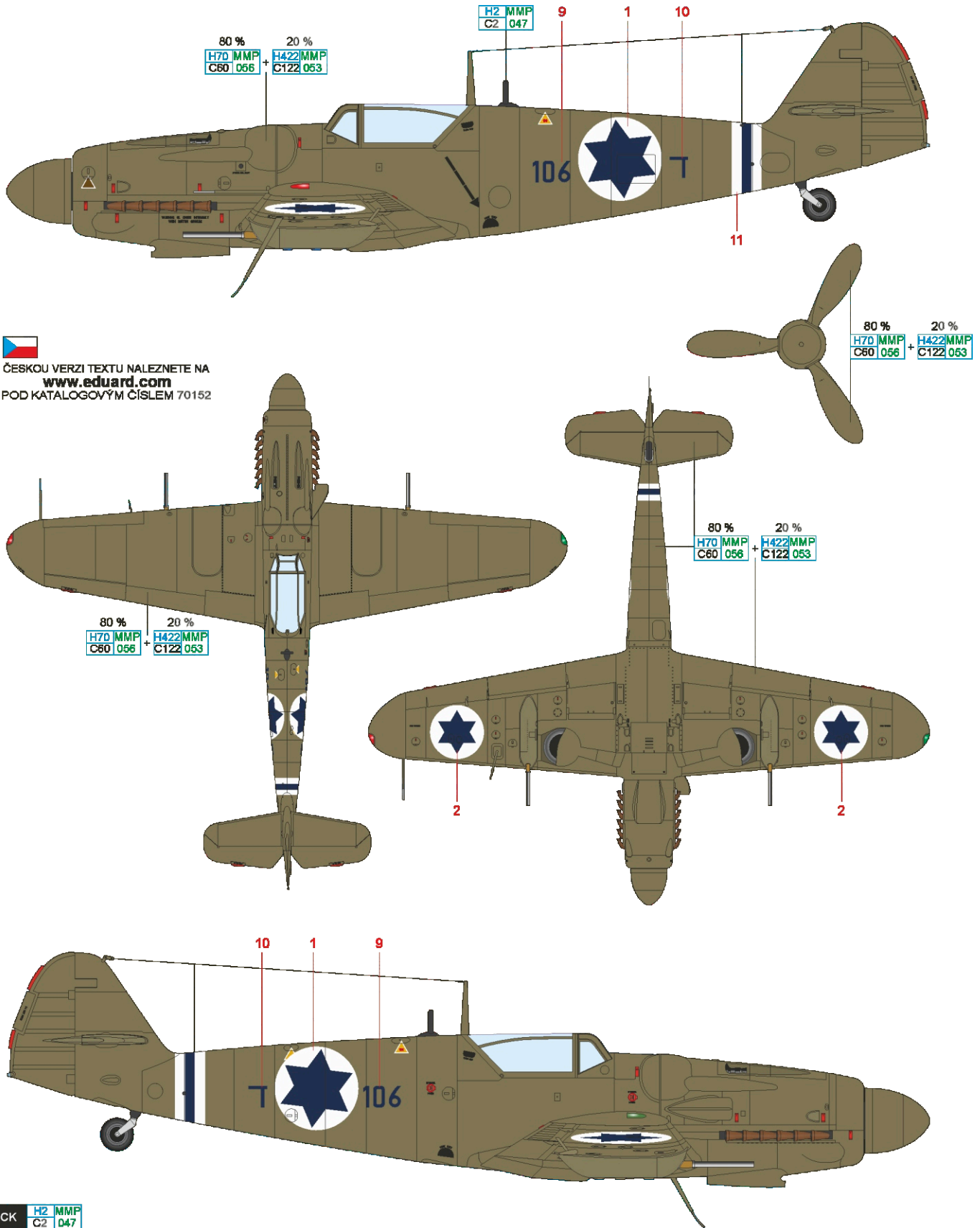


MARKINGS **A, D, F**



A Modi Alon, 101 Squadron (Tayeset), Cheyl ha-avir, Aqir, Israel, June 1948

The aircraft with the fuselage code D-106 was delivered to Israel on May 30, 1948, during Operation Balak's Flight No. 16. As all the S-199s of the first batch it was equipped with an oil cooler under the nose. On June 1, it joined the fighting and just two days later Modi Alon achieved the first two air-to-air kills for the S-199 fighter and, by extension, the newly established Israeli Air Force. Alon's victims were two Egyptian C-47s makeshift bombers of the Royal Egyptian Air Force's No. 3 Squadron. On the fateful day of the kills, "Messer" coded D-106 was the only airworthy fighter available to Israel, as the other three S-199s delivered up to that time were either destroyed, damaged, or in various stages of assembly. The following day, No. 101 squadron pilot Dov Ben Zvi damaged D-106 on takeoff, leaving the squadron without any airworthy fighter. To counter REAF air raids, No. 101 squadron relocated to an improvised dirt airstrip set up in the town of Herzliya. Repaired "Mule" D-106 was made airworthy again, but not for long. On takeoff, while flown from the Herzliya airstrip, one of the wheels hit a patch of mud, causing the airplane to flip over. Gideon Lichtman survived the crash, but D-106 was scrapped.

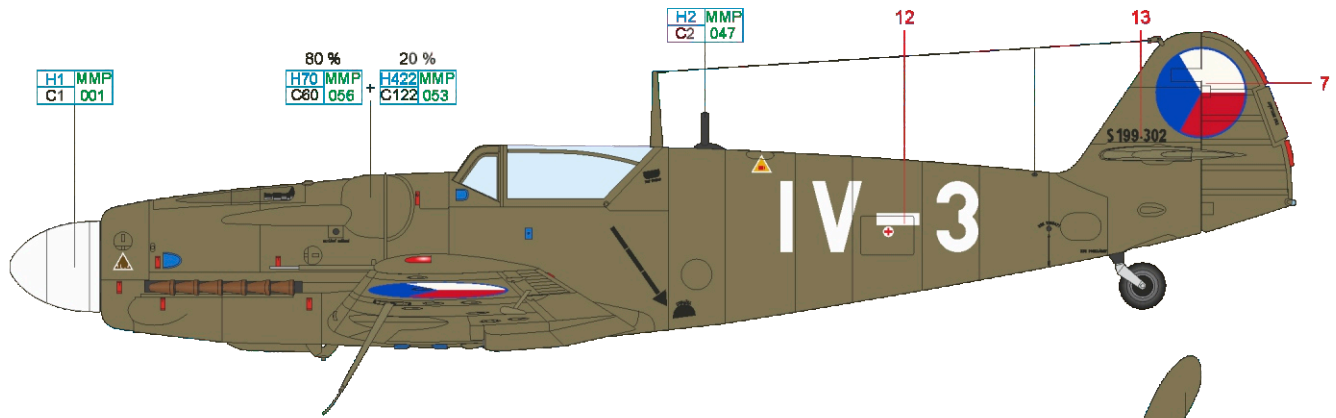


ČESKOU VERZI TEXTU NALEZNETE NA
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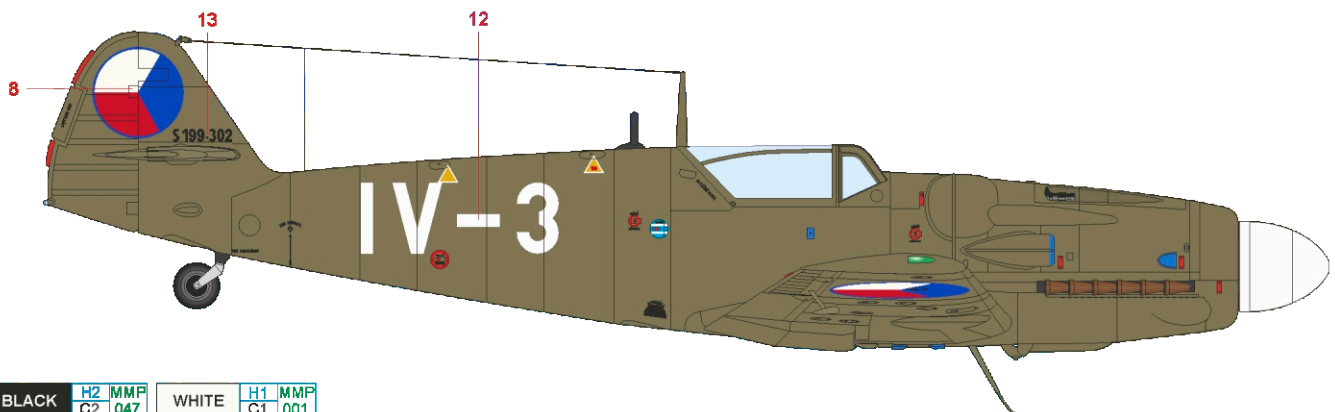
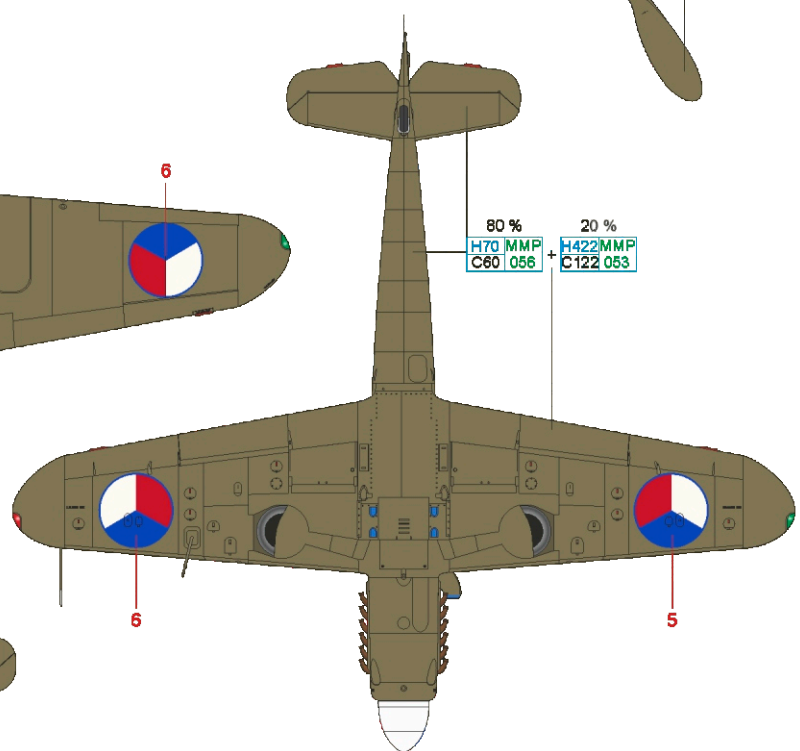
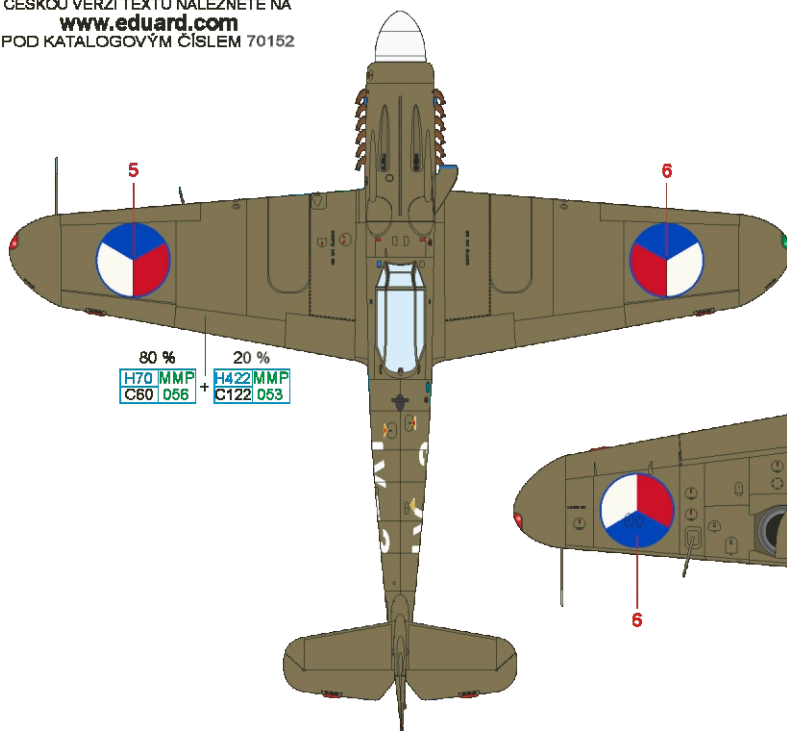
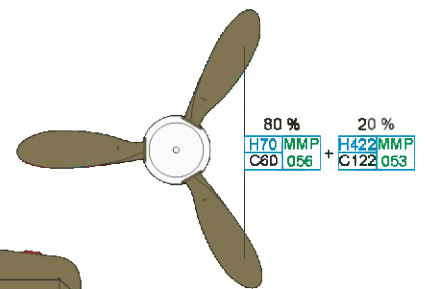
BLACK	H2 MMP C2 047	LIGHT GREEN	H422 MMP C122 053
GRAY	H70 MMP C60 056		

B S-199.302, rtm. Josef Filus, Squadron 1, Fighter Air Regiment 7, Brno-Černovice, Czechoslovakia, August 1949

This "Mule" was manufactured in the Aero factory and was assigned to the Fighter Air Regiment 7 on August 4, 1948. There it served with first squadron and got the code IV-3. On August 1, 1949, this "Mule" was damaged in the landing accident. Pilot, rtm. (Master Sergeant) Josef Filus was lightly wounded and the airframe was sent for repairs to the factory. After the repair the aircraft was assigned to the Air Military Academy in Hradec Králové and was damaged again - this time during take-off accident at the Malacky airfield on March 31, 1951. Another damage happened on November 20, 1950, and it was still not the last one. During the take-off at the Zvolen airbase, where it served with the Training Air Regiment 5, the trainee svob. (Private 1st Class) Antonín Kepr crashed it for the fourth time. It is interesting the S-199 of this production number is stated as one of the Mules sent to Israel, but numerous records about its service in Czechoslovak Air Force are contrary to it.



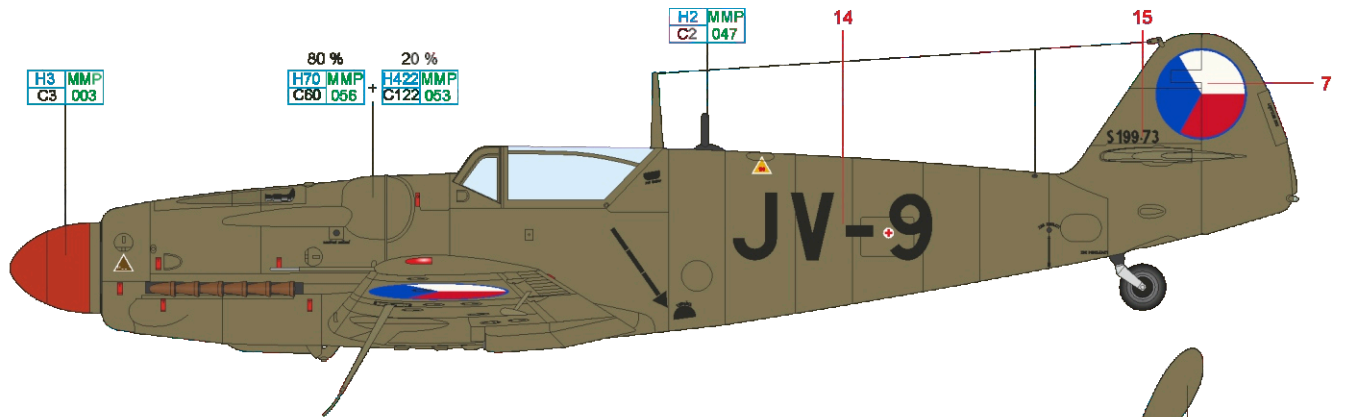
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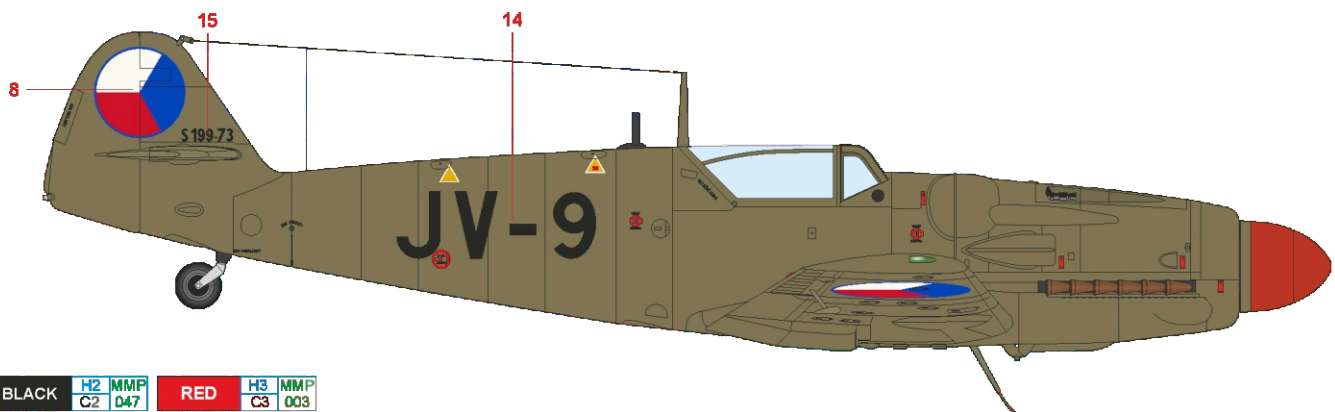
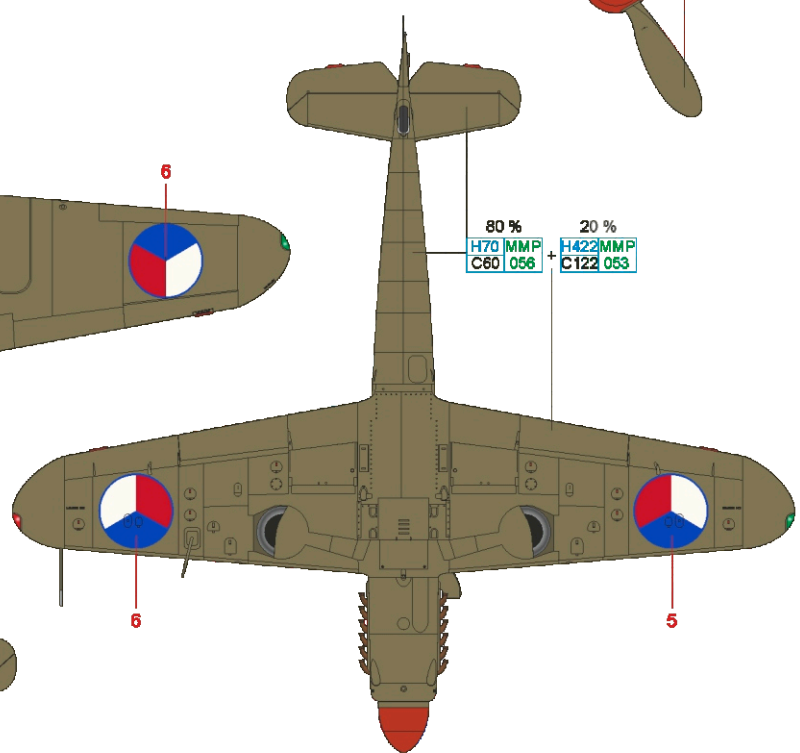
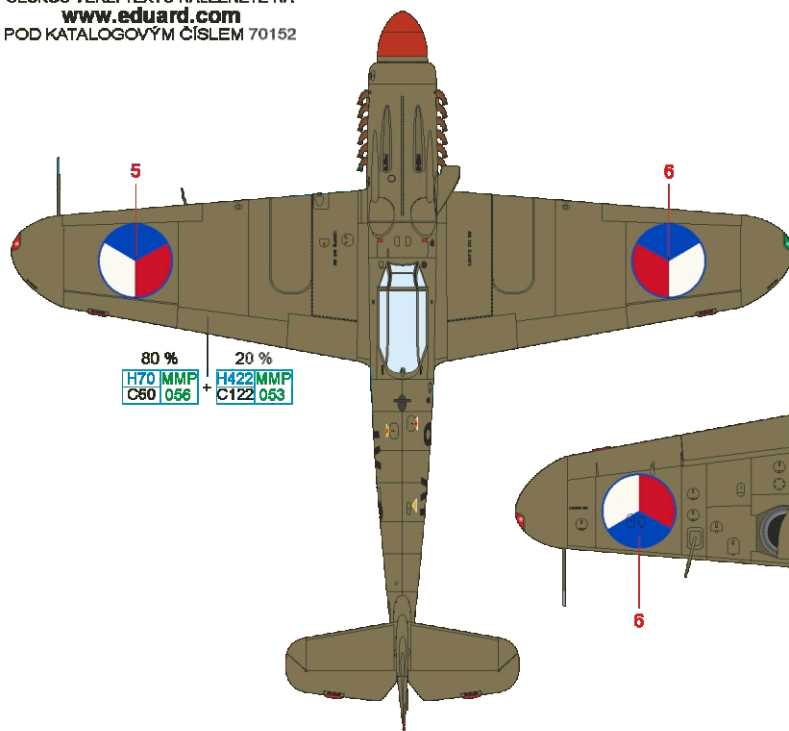
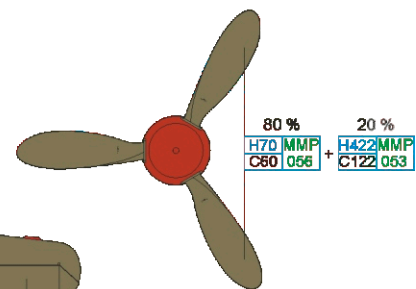
BLACK	H2 MMP C2 047	WHITE	H1 MMP C1 001
GRAY	H70 MMP C60 056	LIGHT GREEN	H422 MMP C122 053

C Fighter Training Center, Planá u Českých Budějovic, Czechoslovakia, May 1948

The Fighter Training Center was set up on February 1, 1947, in order to provide new pilots with fighter training after they gained their basic and advanced piloting skills in the Aviation Training School. It was located at the Planá, the airfield near to České Budějovice. The personnel and aircraft of the Fighter Air Regiment 5 formed new Fighter Training Center with Aviation Regiment 4 and Training Squadron No. 2 also contributing. After the proper training of instructors, the first batch of student-pilots started their training on September 1, 1947. Very important course started in May 1948. As a part of the DI operation (DI stands in Czech for Restricted, Israel) several Israeli pilots, mostly foreign volunteers, undergone conversion training on the S-199 to fly them for Israeli Air Force. They used several different aircraft, and the one coded JV-9 was one of them. The serial number of this aircraft is not known, there are several numbers which would fit in time and location and are not assigned to any known code. We have chosen number 73 from them as one of probable. The marking was standard, and the aircraft probably lacked the blue highlighting of all the air inlets.



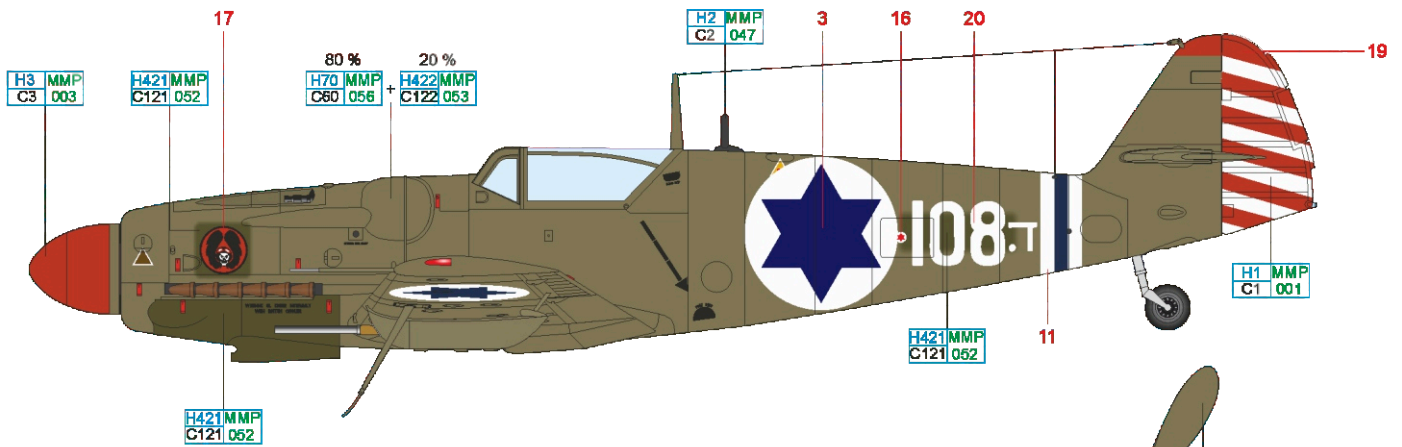
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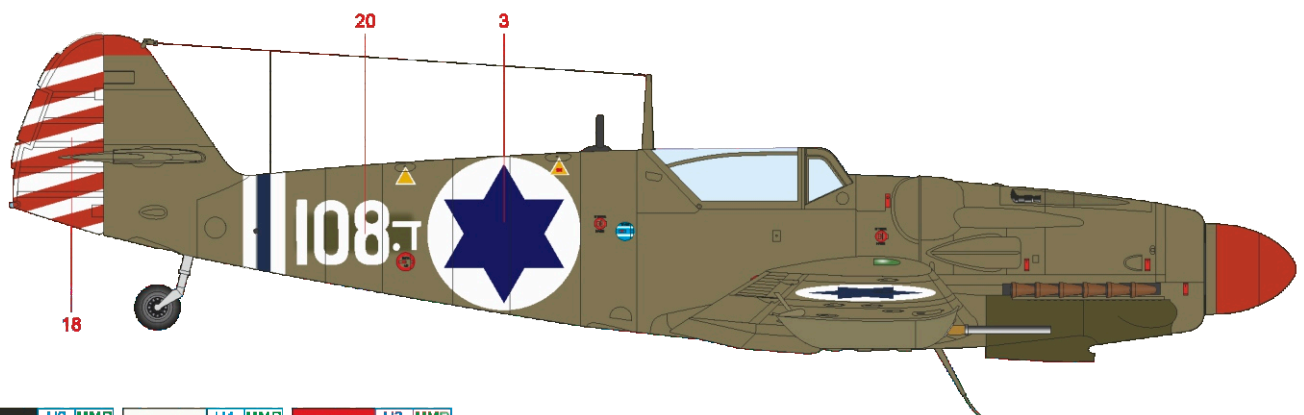
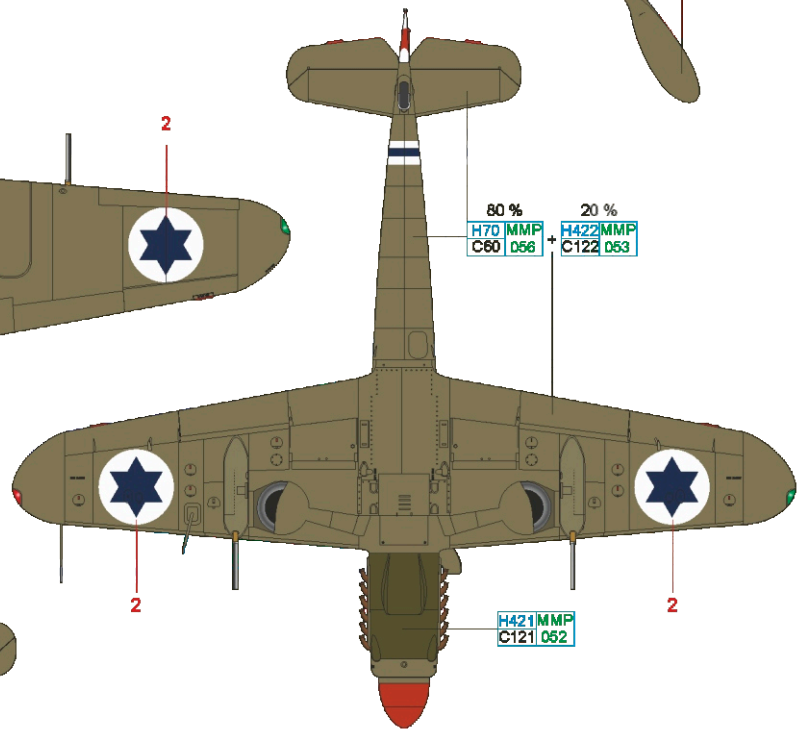
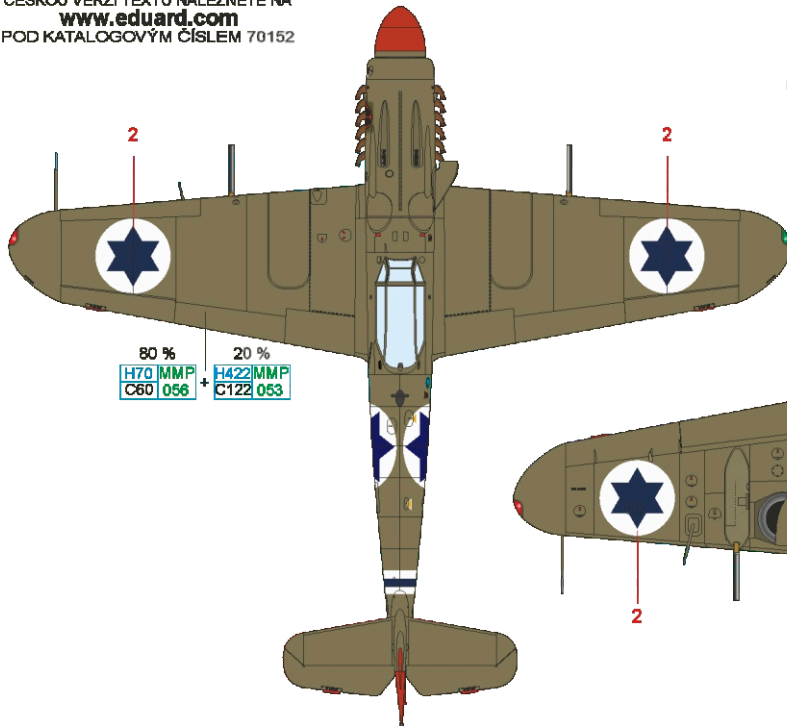
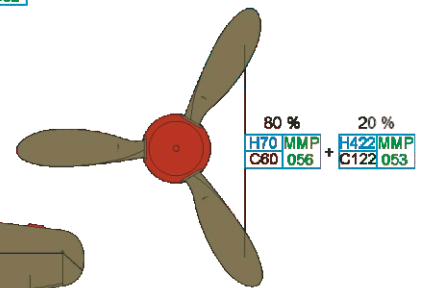
BLACK	H2 MMP C2 047	RED	H3 MMP C3 003
GRAY	H70 MMP C60 056	LIGHT GREEN	H422 MMP C122 053

D 101 Squadron (Tayeset), Cheyl ha-avir, Qastina, Israel, September 1948

Messer D-108 was one of the first batch of ten Messers brought by Israel and arrived on board of Balak No. 19 flight on May 31, 1948. It was taken to the action for the very first time on June 5 and was one of the S-199s which survived the war. It was scrapped after October 15, 1950. During its wartime career, it suffered damage during the landing accident on August 21, 1948, with Mitchell Flint behind the controls. Originally the D-123 sported smaller insignia and the early-style serial. These were repainted at Qastina and the aircraft sported also some visible repairs with darker green color. Whole the lower nose panel of the cooling system was repainted with this color, only area around the stencil stayed in the original color. The exact hue of the repair green is not known, but it was surely not the fresher paint of the original one, as Israel was not provided with original colors by Czechoslovakia.

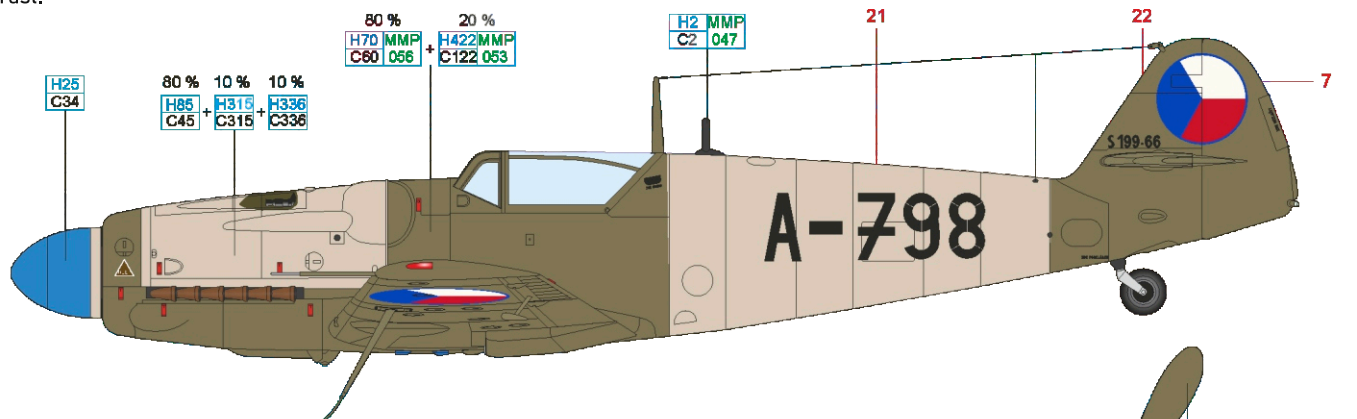


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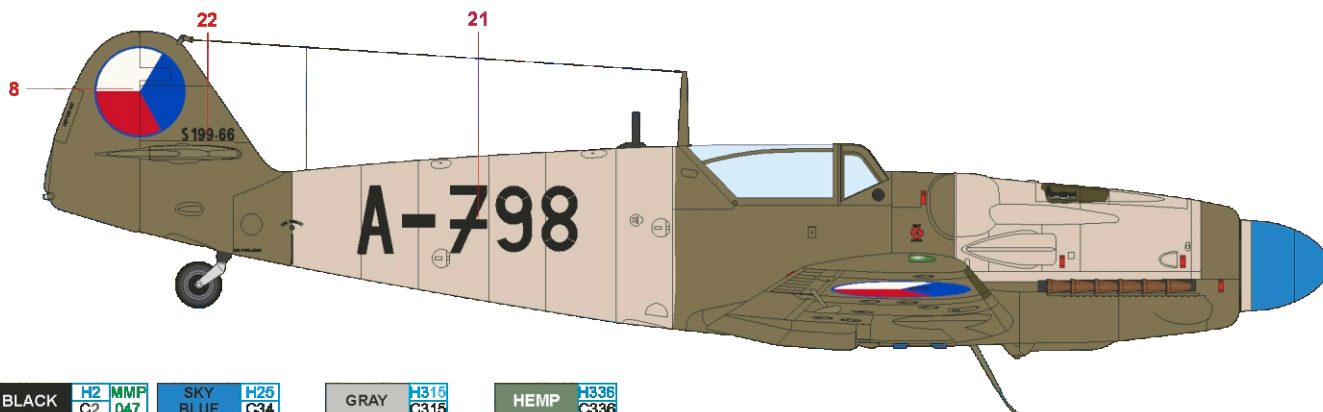
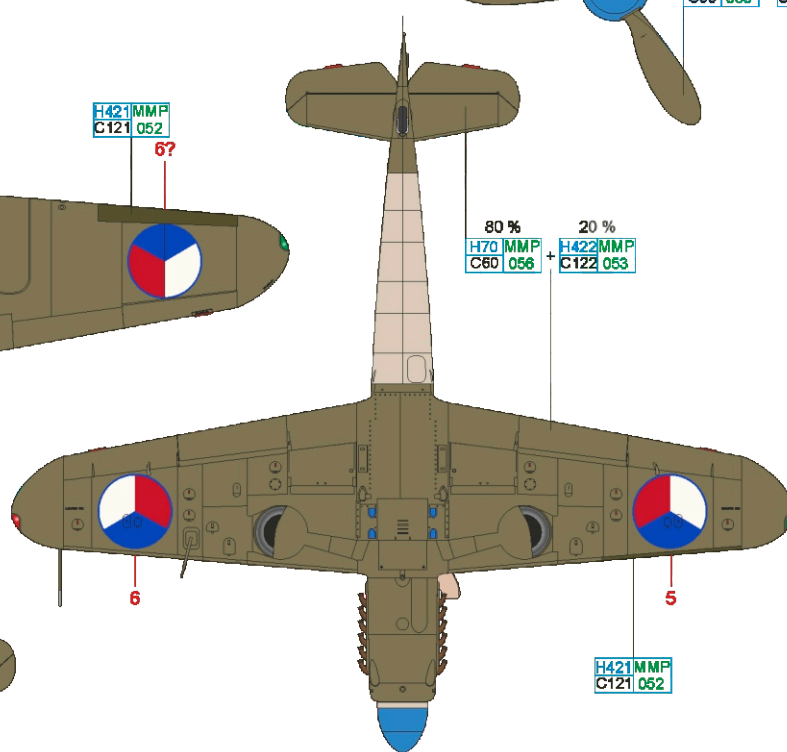
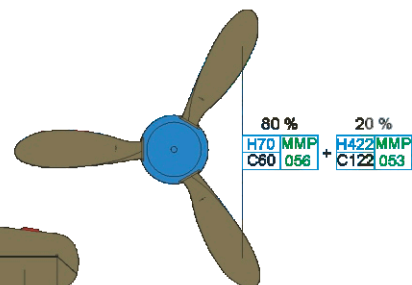
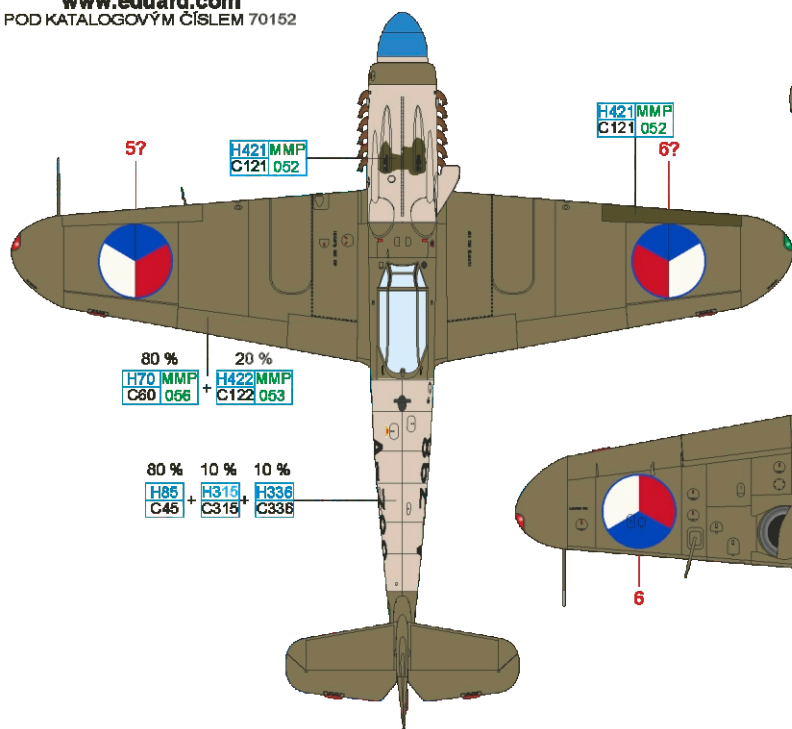


BLACK	H2 MMP C2 047	WHITE	H1 MMP C1 001	RED	H3 MMP C3 003
GRAY	H70 MMP C60 056	LIGHT GREEN	H422 MMP C122 053	GREEN	H421 MMP C121 052

This aircraft was assigned to the Air Regiment 7 on August 4, 1948. On May 10, 1950, it was sent to the LVA (Air Military Academy), where it was damaged during take-off from the Pardubice airfield. A good quality photo of crashed aircraft exists and shows very interesting coloring, as the rear fuselage and engine cowls are clearly different shade of lighter color compared to the original green. There might be several theories about this aircraft's colors. We believe there were probably some minor repairs needed on the rear fuselage (or just overpainting of original user's code?) and as the LVA ran out of standard green color the tan color intended for C-104s was used. As there was also a need to change the engine cowl at some point, the one from dark green aircraft was used and overpainted in the same color as the rear fuselage to keep the aircraft in some color "order". But the new coat chipped around the machine gun barrels and the darker green surfaced there. Also, the right slat is clearly of darker green color. The question mark hangs over the national insignia on upper wing surfaces. On the photo it seems like they were not painted there, but it might well be due to the over exposition of the surface under the direct sun only. Their absence would not make any sense... Interesting is also obvious absence of most of the stencils. The front of the fuselage and wings are quite worn out, while both green and rear tan part of fuselage looks like new. The engine cowl sports some chipping and repairs in contrast.



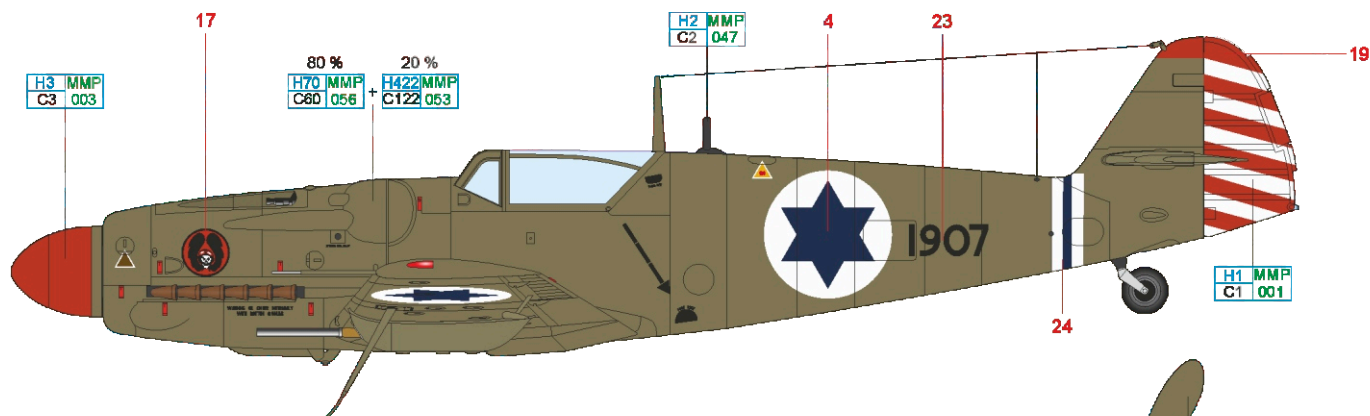
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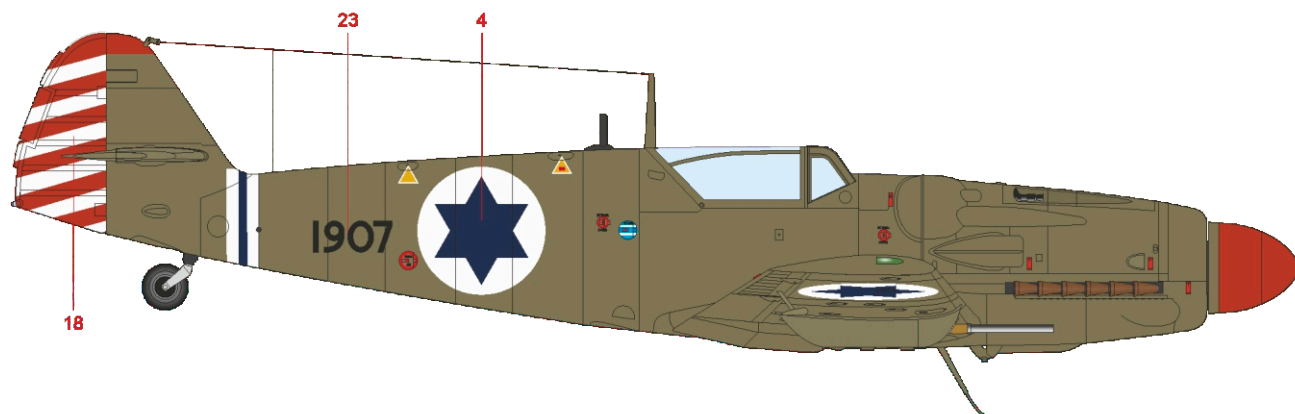
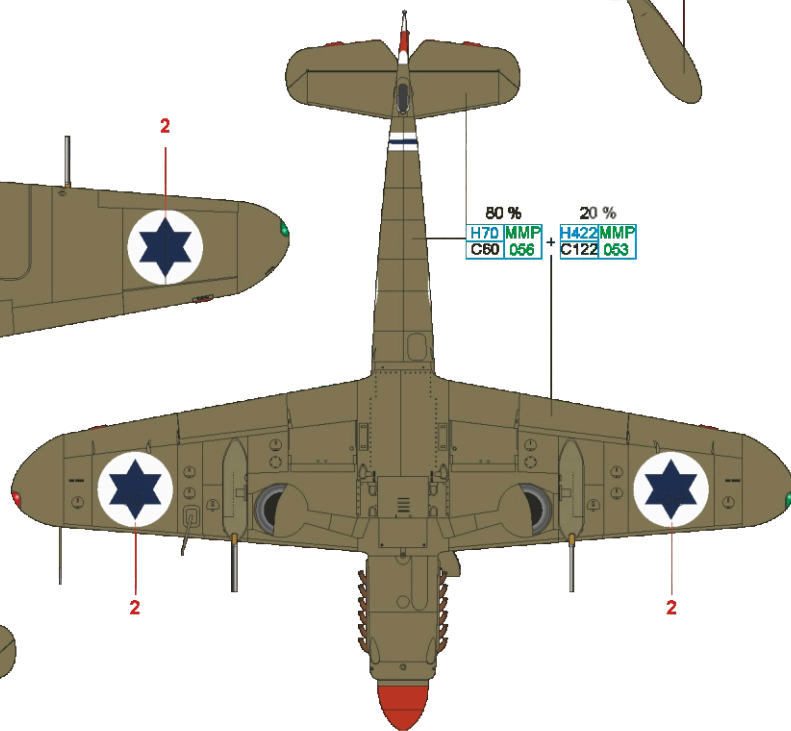
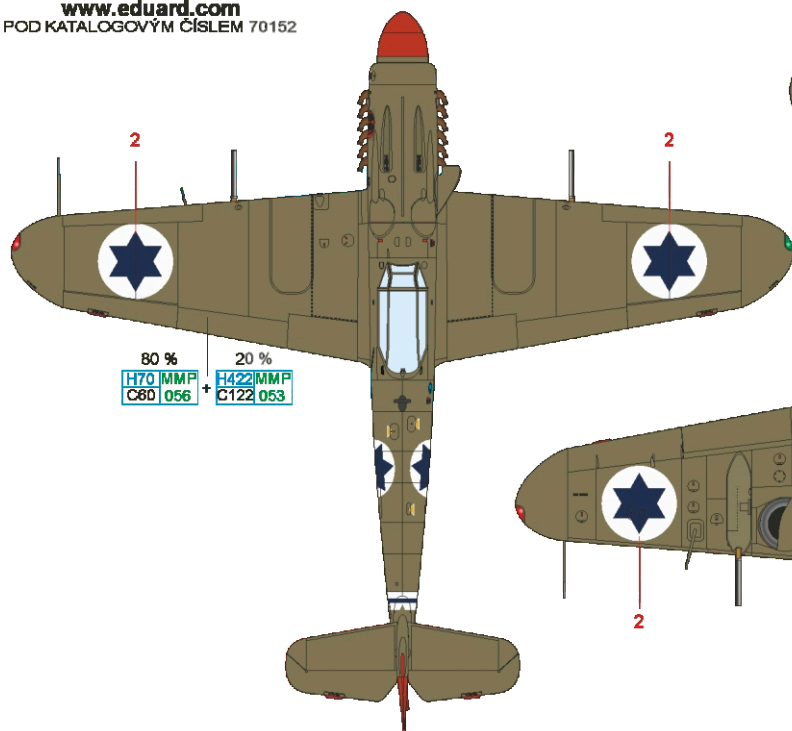
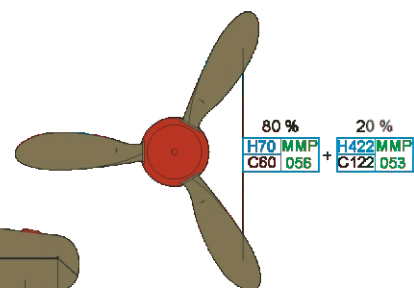
BLACK	H2 MMP C2 047	SKY BLUE	H25 C34	GRAY	H315 C315	HEMP	H336 C336
GRAY	H70 MMP C60 056	LIGHT GREEN	H422 MMP C122 053	GREEN	H421 MMP C121 052	SAIL COLOR	H85 C45

F 101 Squadron (Tayeset), Cheyl ha-avir, Israel, December 1948

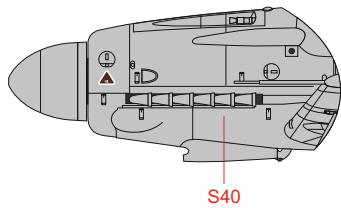
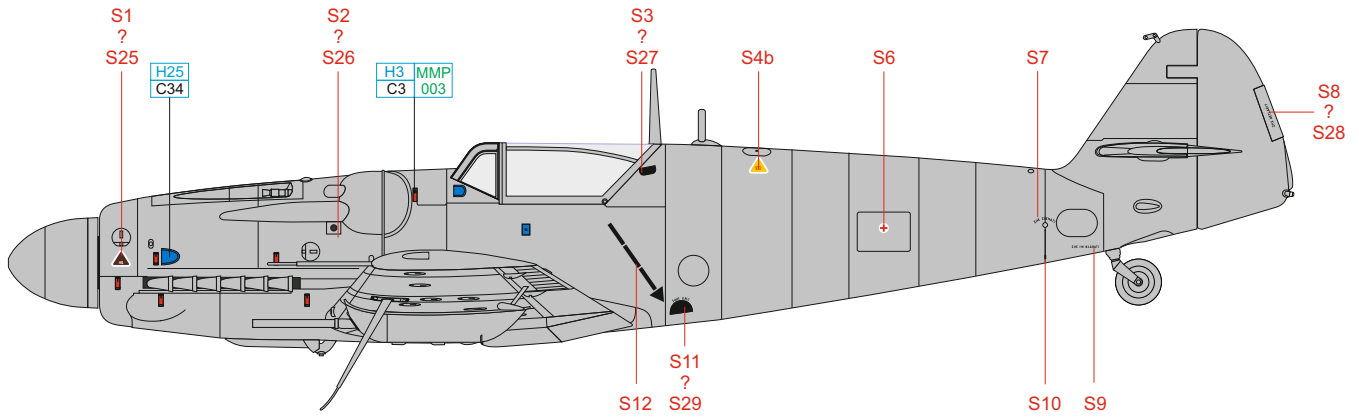
Last of the Messers to arrive to Israel was very short-lived. The aircraft should have been coded D-124 under original code system but as it arrived late, it probably never got it and was designated directly as 1907 according to the new system. The flight Balak No. 65, which had this plane on board, was scheduled to arrive to Israel on July 18, but was forced to land in Italy at the Rome airport and the C-47 was impounded there until November 26. After being assembled Syd Cohen ferried the 1907 from Aquir to Gastina on December 5. First sortie of this Messer was planned for December 15, but Wayne Peake flipped it during takeoff. The rear fuselage nearly ripped in two pieces and the aircraft was written off.



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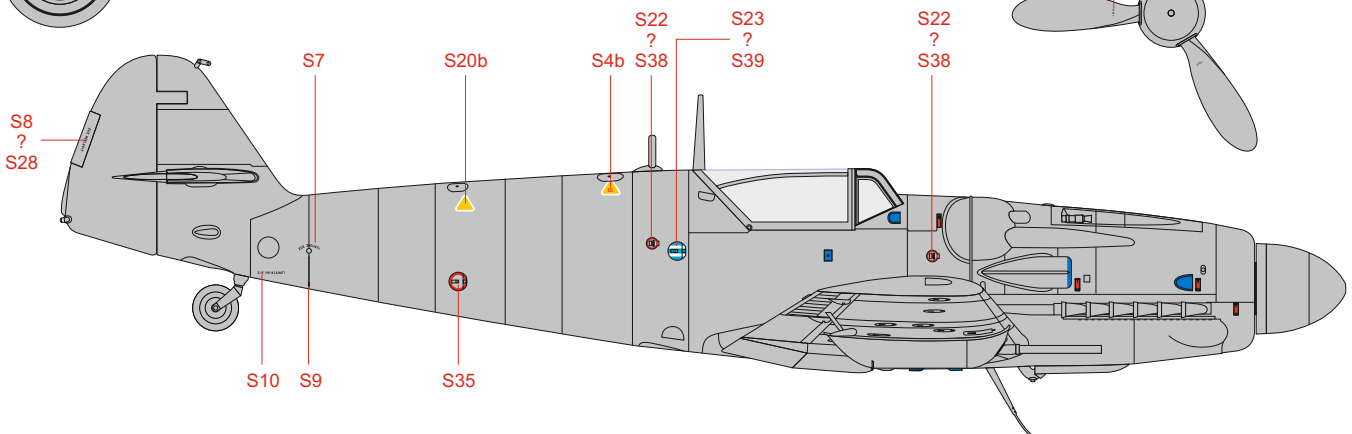
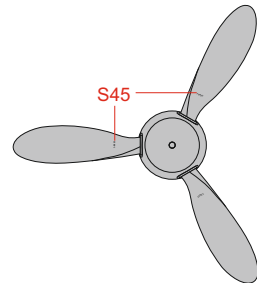
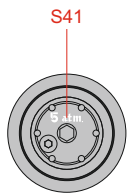
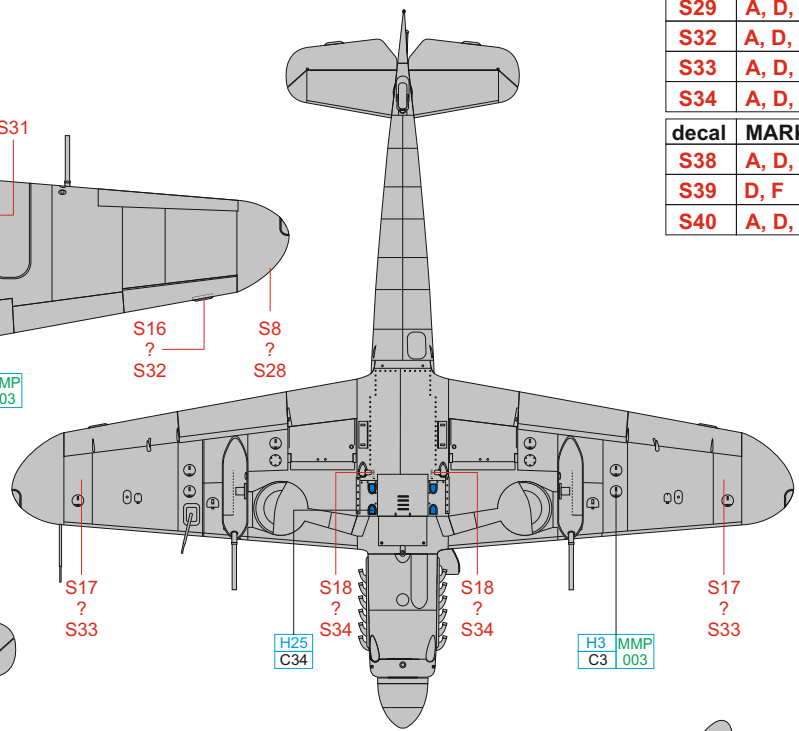
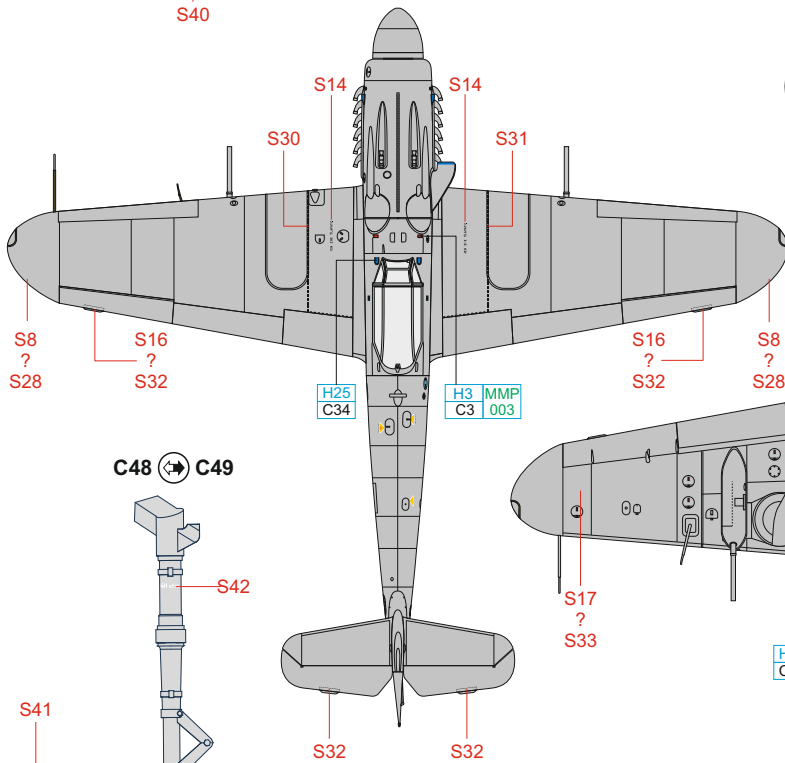
BLACK	H2 MMP C2 047	WHITE	H1 MMP C1 001
GRAY	H70 MMP C60 056	LIGHT GREEN	H422 MMP C122 053
		RED	H3 MMP C3 003



decal	MARKING	decal	MARKING	decal	MARKING	decal	MARKING	decal	MARKING
S1b	B, C, E	S6	B, C	S11	B, C	S17	B, C, E	S25b	A, D, F
S2	B, C, E	S7	B, C	S12	A, B, C, D, F	S18	B, C, E	S26	A, D, F
S3	B, C, E	S8	B, C, E	S14	B, C, E	S22	B, C	S27	A, D, F
S4b	A, B, C, D, F	S10	B, C	S16	B, C, E	S23	B	S28	A

decal	MARKING
S29	A, D, F
S32	A, D, F
S33	A, D, F
S34	A, D, F

decal	MARKING
S38	A, D, F
S39	D, F
S40	A, D, F



RED
H3 MMP C3 003
SKY BLUE
H25 C34
full blue details - MARKING B
bottom blue details only - MARKING B