

MiG-21F-13

eduard

1/48 Scale Plastic Model Kit

ProfiPACK
edition



item No. 82191

The MiG-21 was the most-produced supersonic fighter in the world serving with more than fifty Air Forces over four continents. The MiG-21F-13 was the first version armed with guided missiles R-3.

The MiG-21 was one of a long list of Mikoyan-Gurevich bureau designs to be integrated into the armed forces of the Soviet Union, the Warsaw Pact, and allied client states. Its predecessors included such notable types as the MiG-15, MiG-17, and the supersonic MiG-19. The roots of MiG-21 project reach back to the first half of the fifties. In 1954, when the preliminary design study Ye-1 came to its end and was quickly replaced by the reworked Ye-2 prototype. Both had a swept wing. The first MiG design to feature the delta wing was the Ye-4 prototype, which took to the air for the first time on June 16, 1955. It was also demonstrated a year later at the Tushino airfield.

The new aircraft with the MiG-21 designation was the first successful Soviet design integrating fighter and interceptor characteristics. It was also quite light Mach 2 aircraft, although the long-lasting development was adding weight gradually. The design featured sleek fuselage with the front air intake and shock cone.

The way to the interceptor

The first of the new line to enter production was the MiG-21F, which together with the MiG-21P and MiG-21F-13 represented the first generation of this line. These versions were in production through the end of the fifties and the beginning of the sixties. Simultaneously the interceptor variant design equipped with the Air-to-Air guided missiles was issued on July 24, 1958, i.e. even before the development of the first Mach 2 fighter reached the stage of serial production. The interceptor variant was to be capable to conduct the missions in all-weather/day and night conditions, which steered the development to the installation of the radar type RP-9-21 in case of aircraft from the first six production series, or RP-21, in case of aircraft from all subsequent series (starting with the 3rd aircraft from the 7th production series). The radar was installed inside the new control cone of the air inlet. All the subsequent changes necessitated increase of the length of the front fuselage in the area in front of the cockpit and, also the diameter of the front circular air trap rose from 690 mm to 870 mm. The additional avionics were placed in the space behind the cockpit, which required reduction of the volume of the front fuselage fuel tank from 235 l to only 60 l starting from the aircraft with serial No. 76210501. To countereffect this fuel volume decrease, tank No. 7 was installed in the widened ridge superstructure extending from the canopy backwards. Also the volume of the front pair of wing integral tanks was increased. The total fuel volume was 2,680 l (210 l more compared to the F-13 variant). The 30mm cannon of the F-13 variant was deleted, as the PFM and PFM variants were relying on the missiles only. There were also many more of smaller changes in comparison to the F-13 variant.

Subsequent versions included the FL, PFM and R with production of these peaking at the end of the 60s. The production of 3rd generation started in 1968 and included the most advanced versions of MiG-21 like the M, SM, MF, SMT or Bis, among others. Production of the MiG-21 ended in 1985. The new aircraft came off Soviet production lines in Moscow, Gorky and Tbilisi, the MiG-21F-13 was also built under license in Czechoslovakia and the MiG-21FL, M and bis in India by Hindustan Aeronautics Ltd. The Soviet Union produced 10,645 examples of all versions, 194 were built in

Czechoslovakia and 657 in India. That counts 11,496 aircraft produced. Over the course of the Cold War, the opponents of the MiG-21 included the likes of the Northrop F-5 Freedom Fighter or the Dassault Mirage III. NATO assigned it the reporting name "Fishbed", while the Soviet pilots called it "Balalaika" due to the shape resembling it with the popular Russian musical instrument.

Aces from all over the world

Outside of the Soviet Union, the type flew with a long list of nations on four continents (Europe, Asia, Africa, and South America) and participated in many conflicts and wars. The most remarkable combat use includes the Vietnam war, the Indo-Pakistan wars, the Cuban participation in Angola and in the Arab world's attempts to eliminate Israel. It is no wonder there were many pilots achieving their ace status flying one or more variants of MiG-21.

Thanks to the high volume of use and intensive combat actions, the Vietnamese pilots are topping the list of aces of MiG-21. The top of the ladder is occupied by Nguyen Ven Coc with nine kills, followed by three eight-victory aces: Mai Van Cuong, Nguyen Hong Nhi and Pham Thanh Ngan. All of them served with 921st Air Regiment and were flying their combat missions with the MiG-21PF or PFM variants. Syrian pilots Bassam Hamshun and Majid Zugbi both achieved seven kills flying MiG-21MF, while Adeen Al-Jarf had the same score with MiG-21FL and Egyptian pilots Ali Vajaj, Sami Marei and Sami Marei scored five times.

The kit: MiG-21F-13

The MiG-21F was an interceptor version of the MiG-21 designed for all-weather operations, carrying a new guided missile, a copy of the American AIM-9B Sidewinder. The prototype originally designed to carry these missiles was designated the Ye-7 and given the service designation MiG-21P. Its weapon system consisted of a CD-30 (Spin Scan) fire control radar and two R-3 (AA-2 Atoll) missiles, whose factory testing program was completed on December 12, 1959. However, as the development of the MiG-21P (Ye-7) interceptor was still in the early stages of flight testing, it was decided to incorporate this missile into the weapon system of the front-line MiG-21F (Fishbed C). The first "missile-carrying" MiG-21Fs (Fishbed C), known under the prototype designation Ye-6T, service designation MiG-21F-13 (Fishbed C/E), and production code iz.74, left the gates of Plant No. 21 in Gorky in July 1960. Since the primary weapon of the MiG-21F-13 (Fishbed C/E) was a pair of R-3 air-to-air missiles, the aircraft was lightened by removing the left 30mm cannon and reducing the ammunition supply for the right cannon from 60 rounds to 30. Between 1960 and 1962, a total of 513 MiG-21F-13s left the gates of Plant No. 21 in Gorky, 132 in 1960, 226 in 1961, and 155 in 1962.

Finland became the first operator of the MiG-21F-13 among countries that were not members of the Warsaw Pact in 1963. Another 194 of these aircraft were produced between 1962 and 1972 at the Aero Vodochody plant in Czechoslovakia. The first four were assembled from original Soviet-made components. In 1967, the MiG-21F-13 also became part of the production program of Chinese plant No. 112 in Shenyang.

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
ODRÍZNOUTREVERSE SIDE
OTOČITAPPLY EDUARD MASK
AND PAINT
POUŽIT EDUARD MASK
NABARVITPLEASE CHECK THE LATEST VERSION OF THE INSTRUCTIONS ON www.eduard.com

PARTS



DÍLY



TEILE

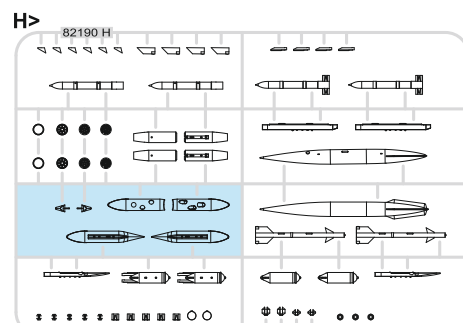
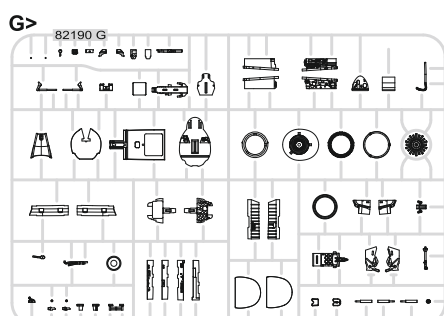
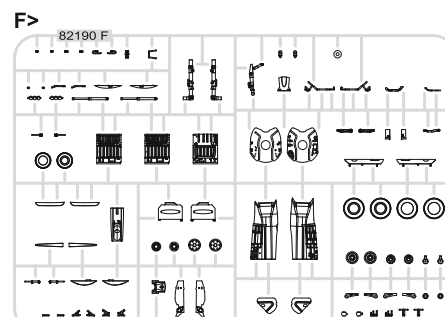
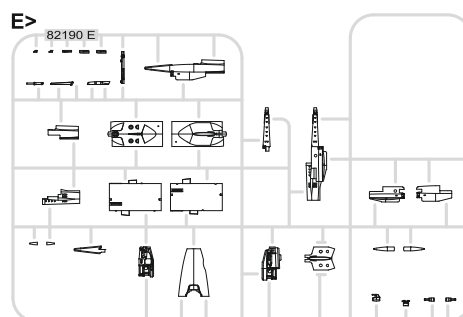
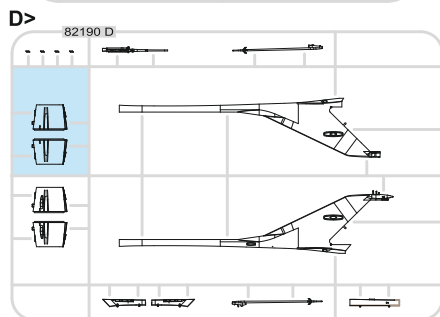
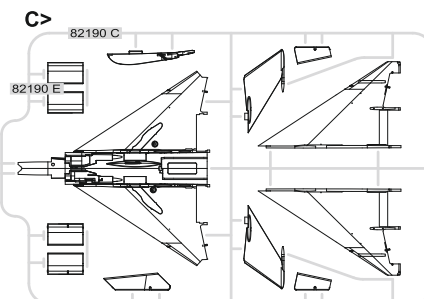
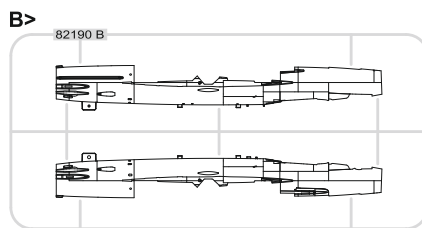
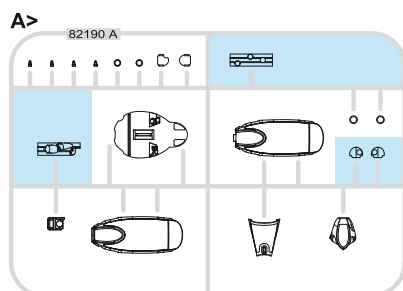
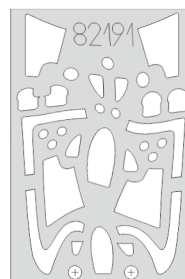
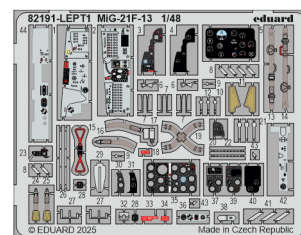


PIÈCES



部品

PLASTIC PARTS

eduard
MASKPE - 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

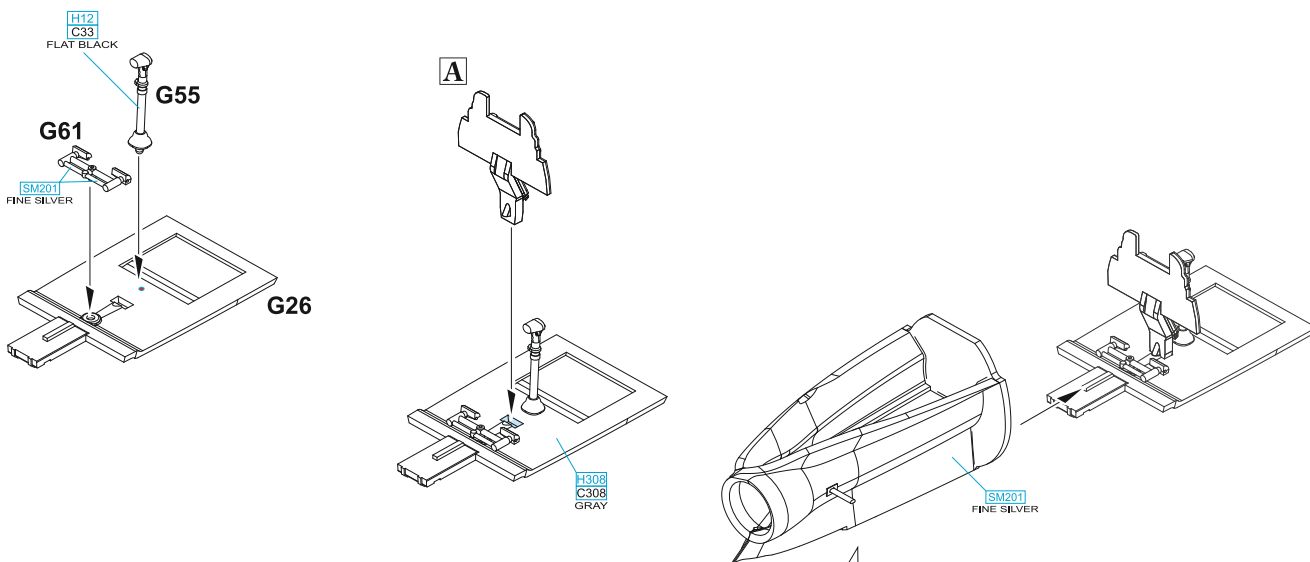
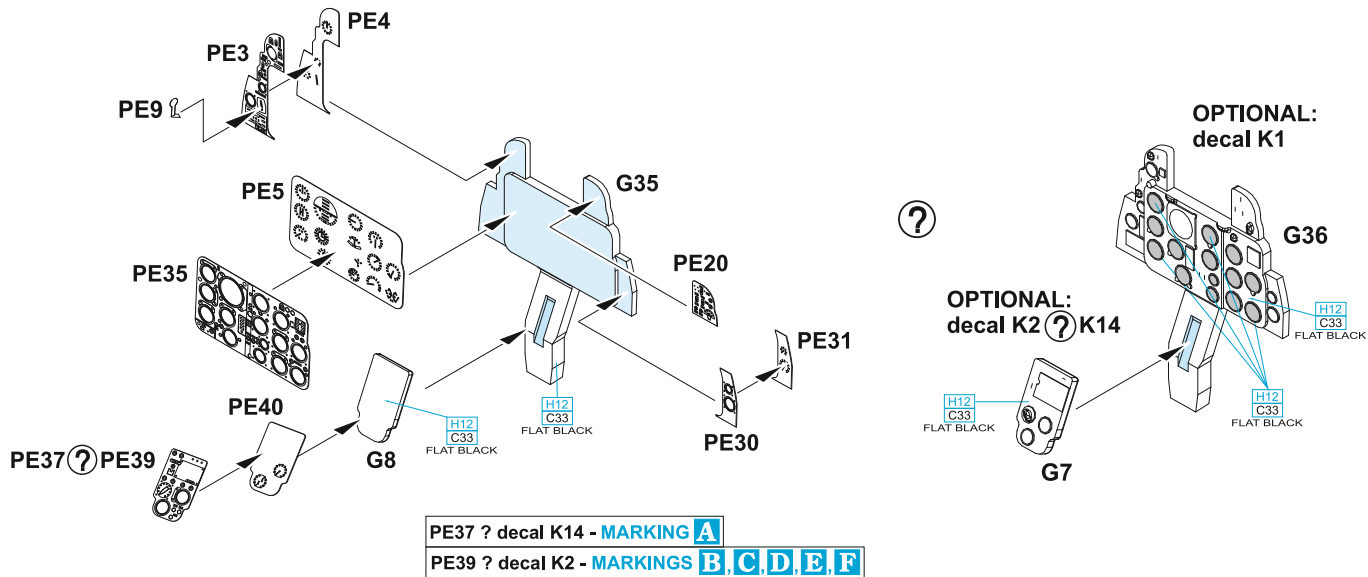


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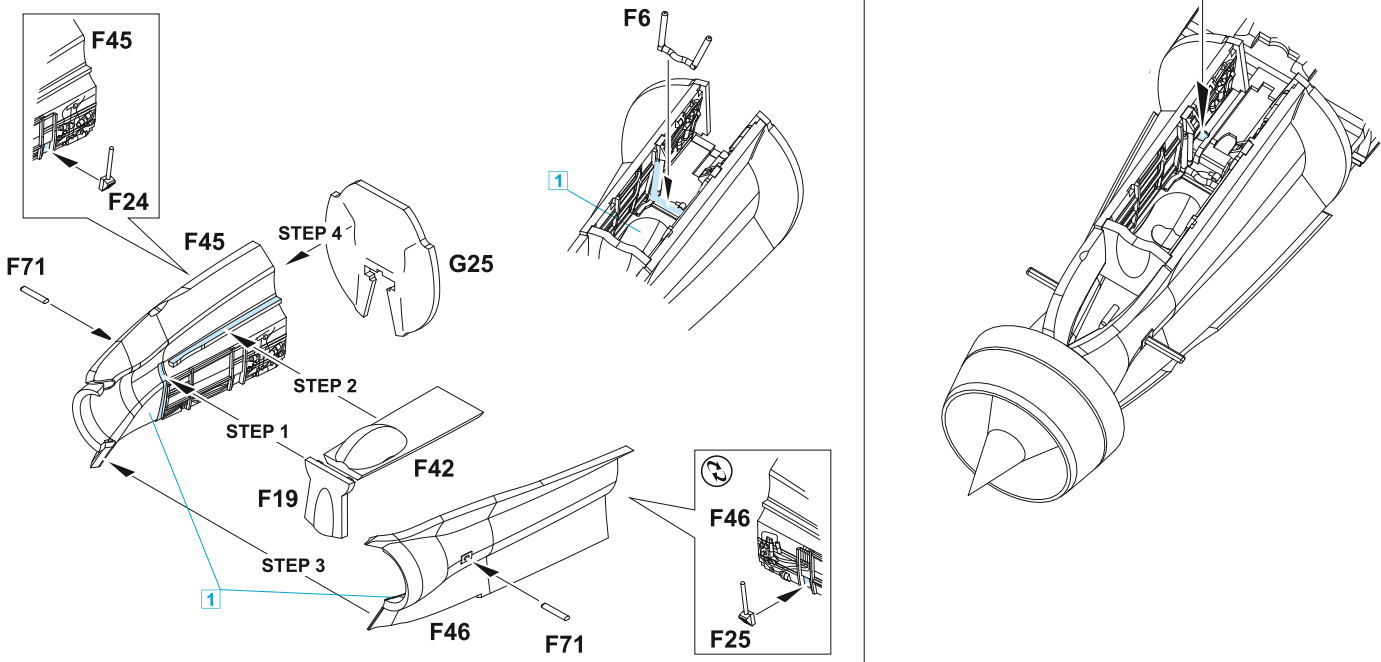
GSI Creos (GUNZE)		
AQUEOUS	Mr.COLOR	
H1	C1	WHITE
H4	C4	YELLOW
H5	C5	BLUE
H8	C8	SILVER
H11	C62	FLAT WHITE
H12	C33	FLAT BLACK
H13	C3	FLAT RED
H16	C64	YELLOW GREEN
H26	C66	BRIGHT GREEN
H27	C44	TAN
H51	C11	LIGHT GULL GRAY
H58	C351	INTERIOR GREEN
H68	C36	RLM74 DARK GRAY
H70	C60	GRAY
H76	C61	BURNT IRON
H77	C137	TIRE BLACK
H81	C55	KHAKI
H84	C42	MAHOAGANY
H87	C75	METALLIC RED

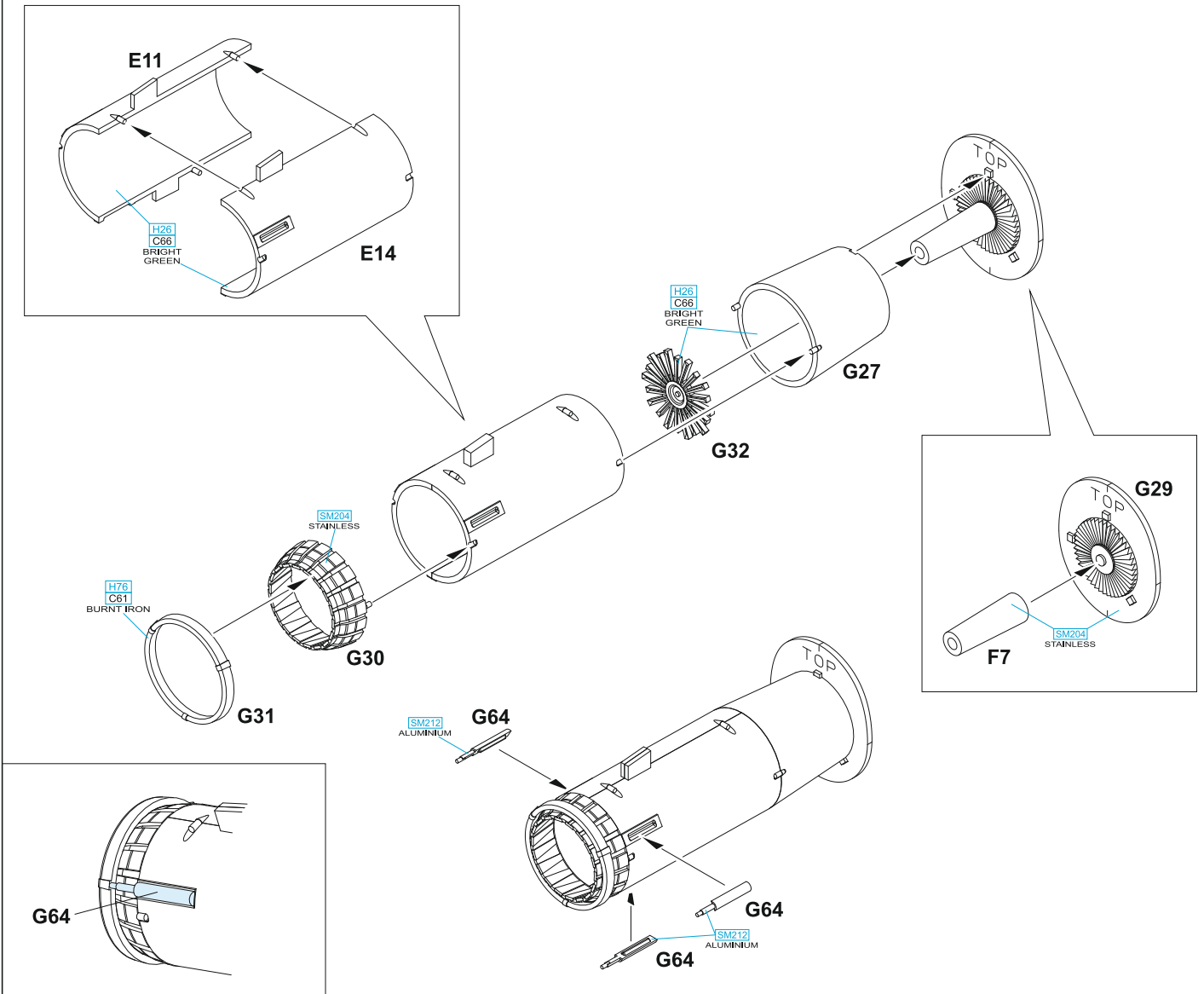
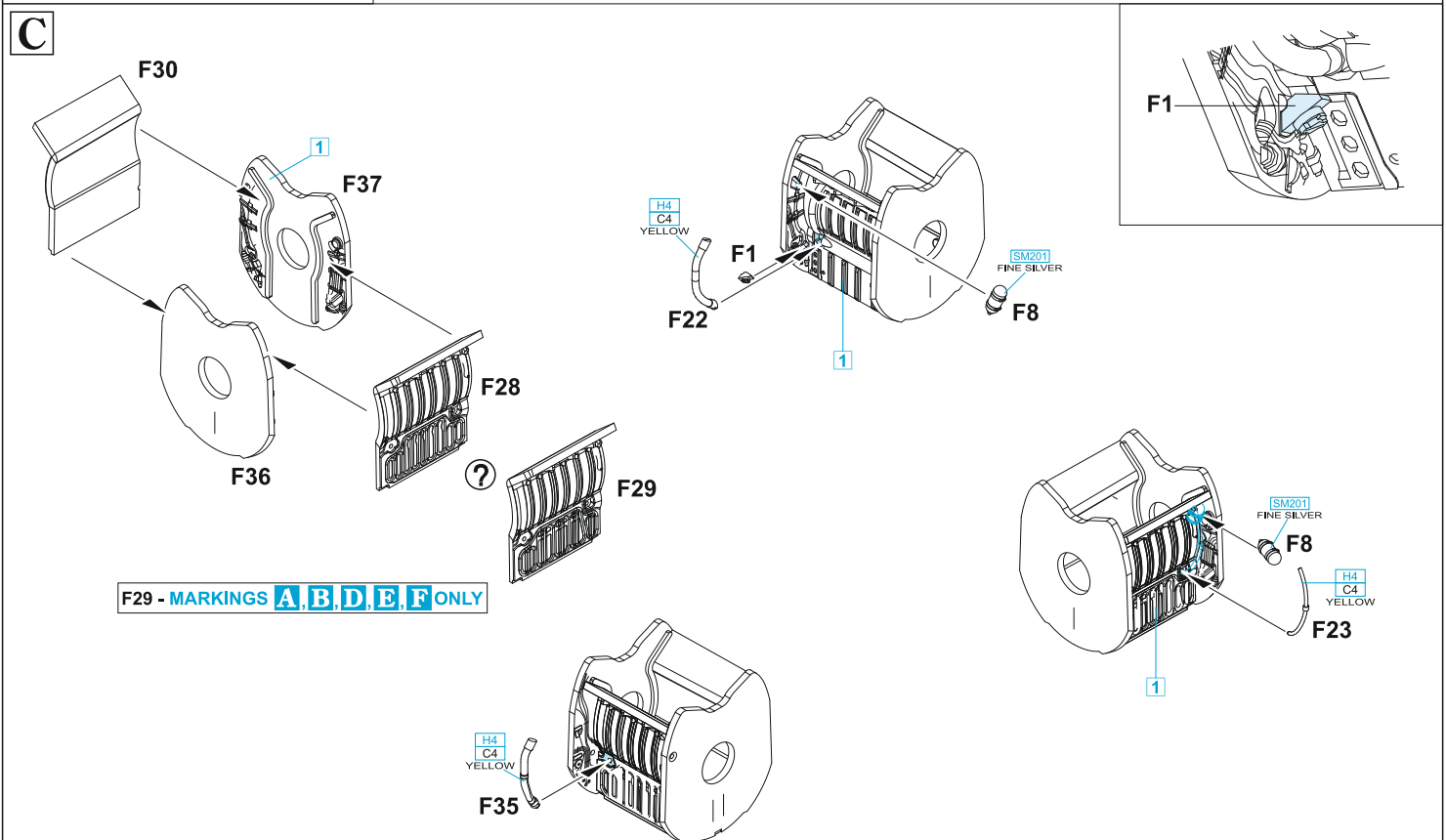
GSI Creos (GUNZE)		
AQUEOUS	Mr.COLOR	
H90	C47	CLEAR RED
H94	C138	CLEAR GREEN
H302	C302	GREEN
H304	C304	OLIVE DRAB
H305	C305	GRAY
H308	C308	GRAY
H319	C319	LIGHT GREEN
H323	C323	LIGHT BLUE
H332	C332	LIGHT GRAY
H337	C337	GRAYISH BLUE
H340	C340	FIELD GREEN
	C131	RED BROWN
	C391	INTERIOR GREEN
	C392	INTERIOR BLUE
Mr.COLOR SUPER METALLIC		
	SM201	SUPER FINE SILVER 2
	SM204	SUPER STAINLESS
	SM206	SUPER CHROME SILVER
	SM212	ALUMINIUM

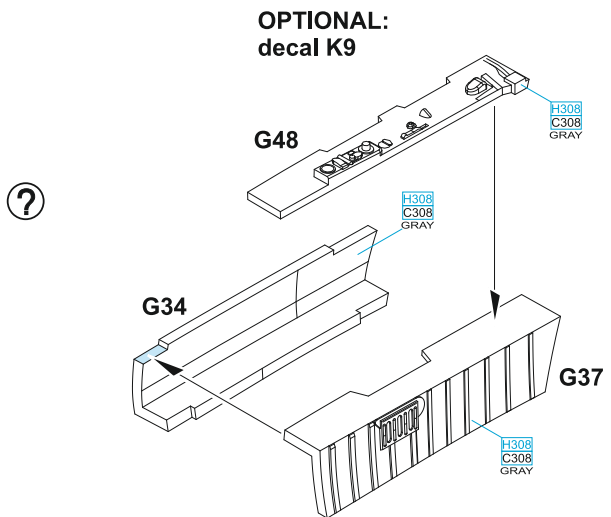
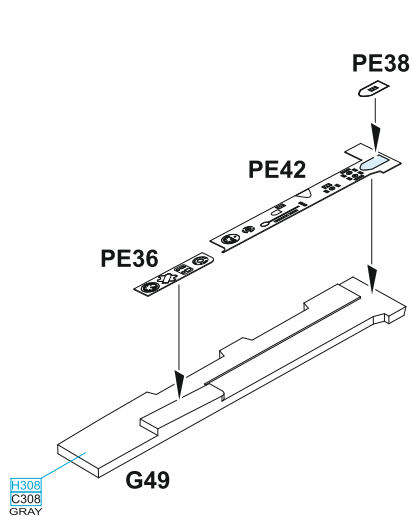
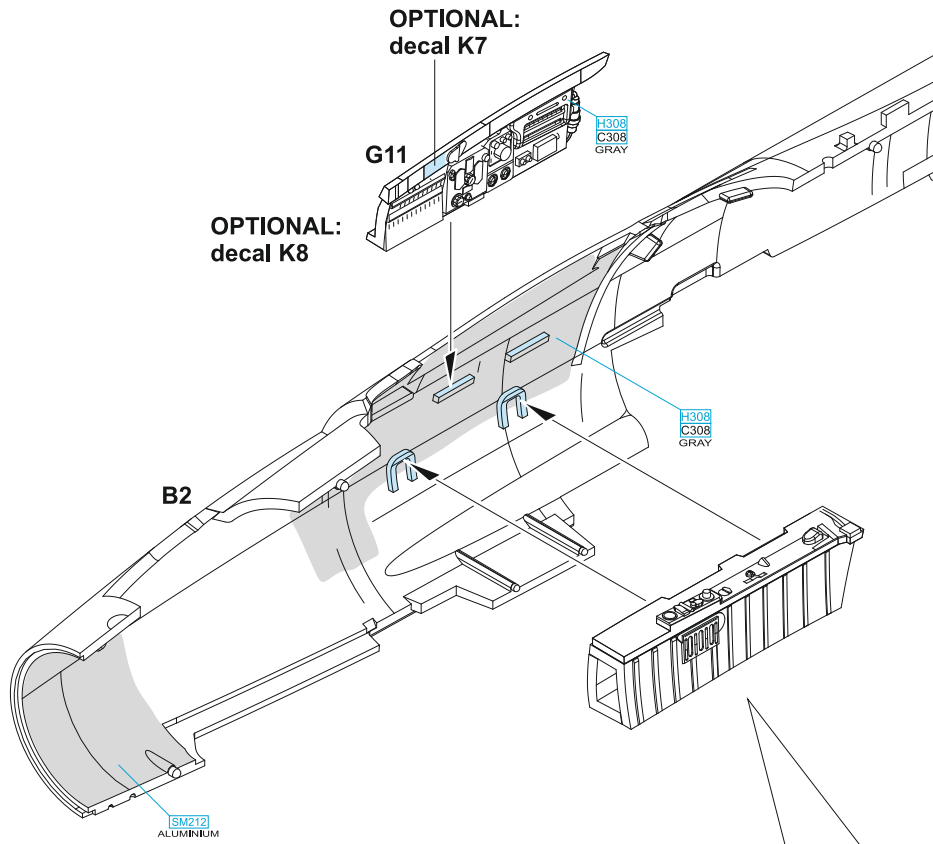
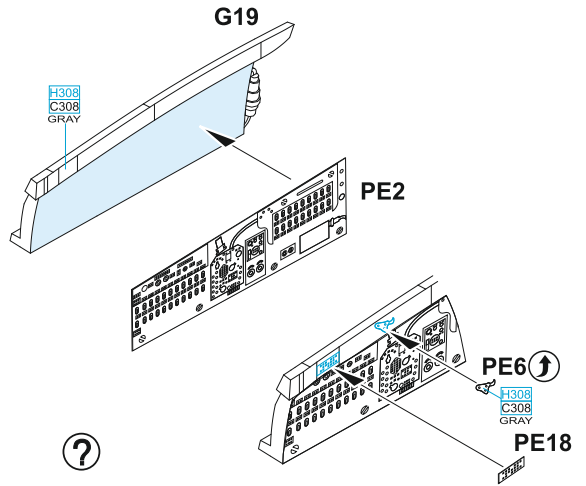
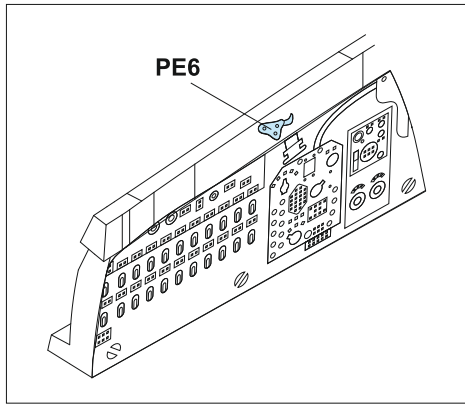
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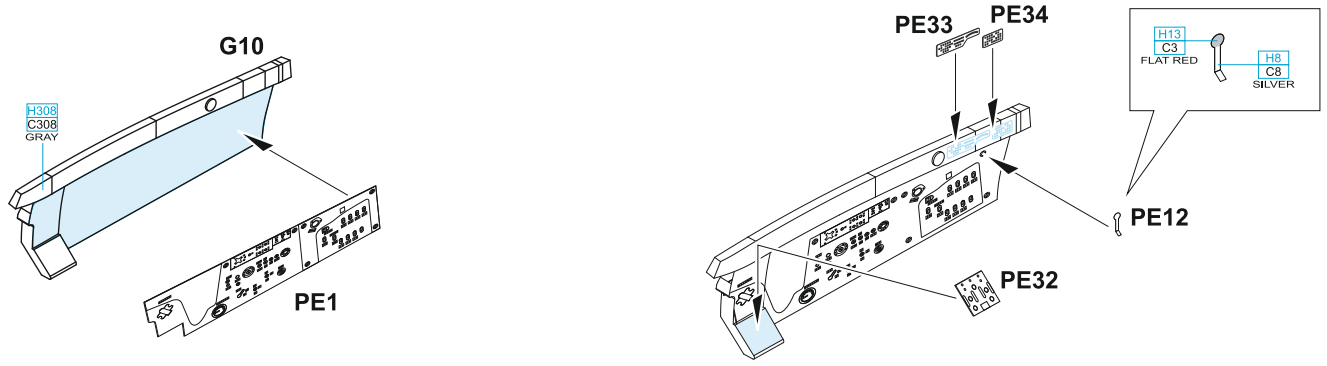


1 = $10\% \begin{matrix} \text{H70} \\ \text{C60} \\ \text{RLM 02} \\ \text{GRAY} \end{matrix} + 90\% \begin{matrix} \text{H4} \\ \text{C4} \\ \text{YELLOW} \end{matrix}$ - MARKINGS **A, E**
 $10\% \begin{matrix} \text{H4} \\ \text{C4} \\ \text{YELLOW} \end{matrix} + 90\% \begin{matrix} \text{H8} \\ \text{C8} \\ \text{SILVER} \end{matrix}$ - MARKINGS **B, C, D, F**

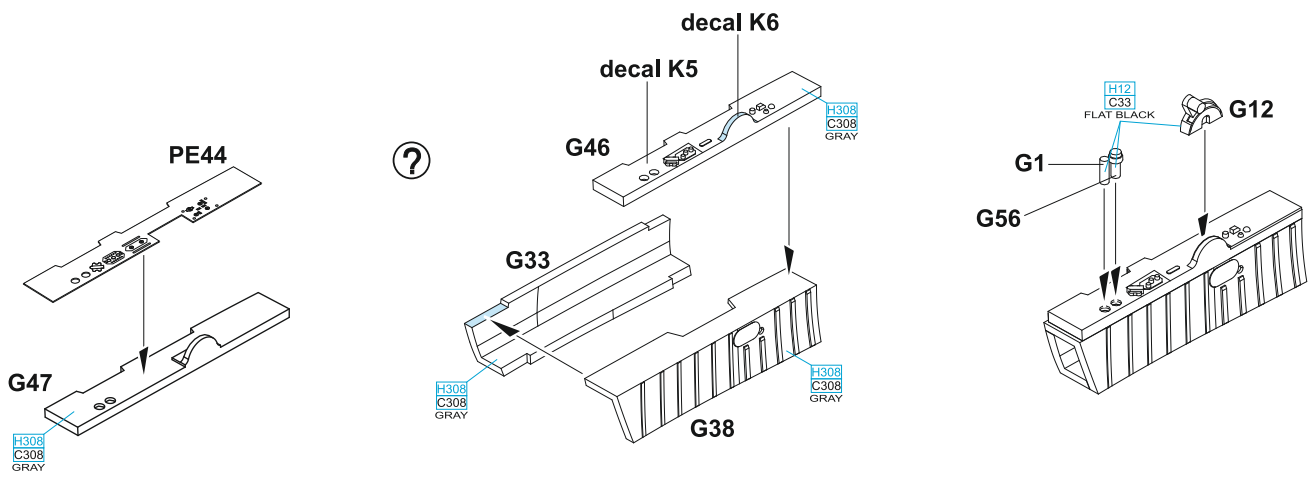
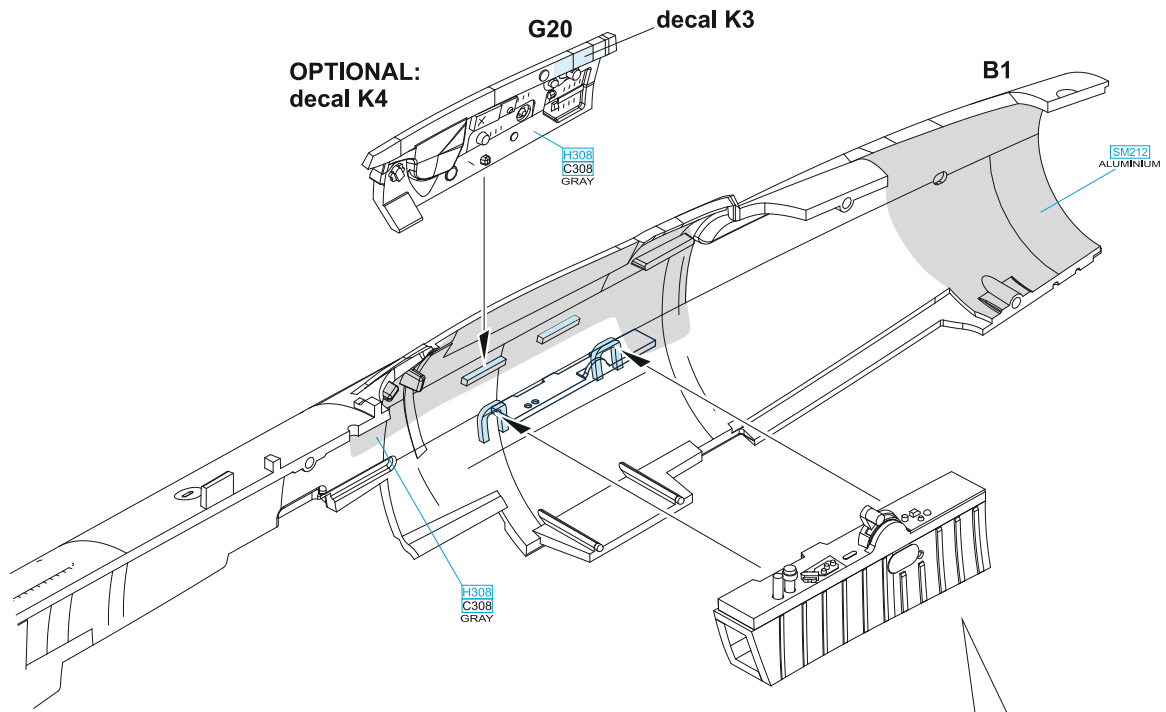


B**C**





?



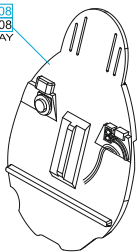
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D

A11 - MARKINGS **A, B, D, E, F**

G28 - MARKING **C**

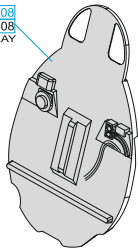
H308
C308
GRAY



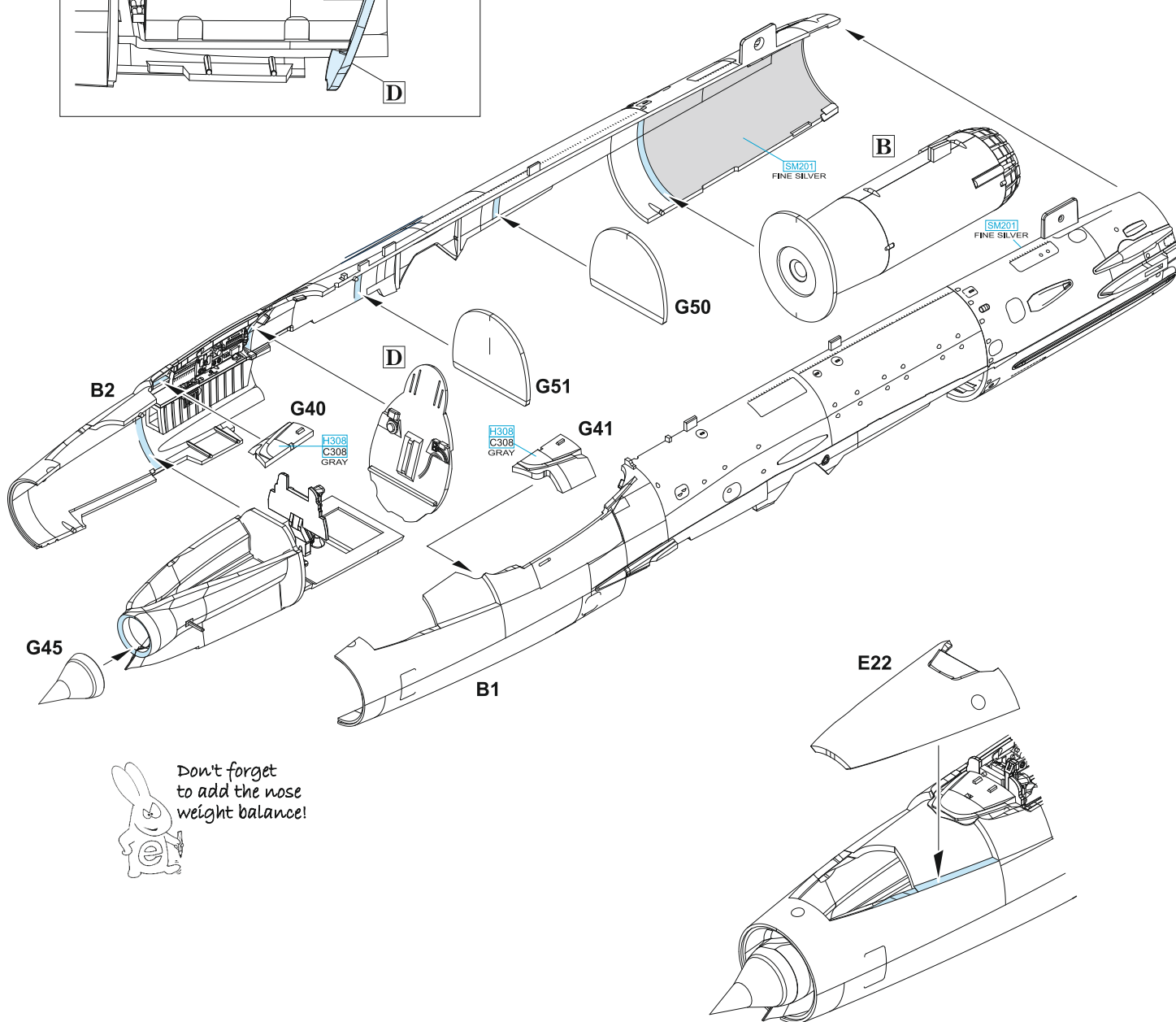
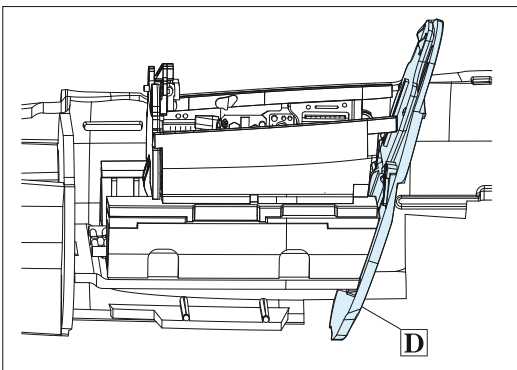
G28



H308
C308
GRAY

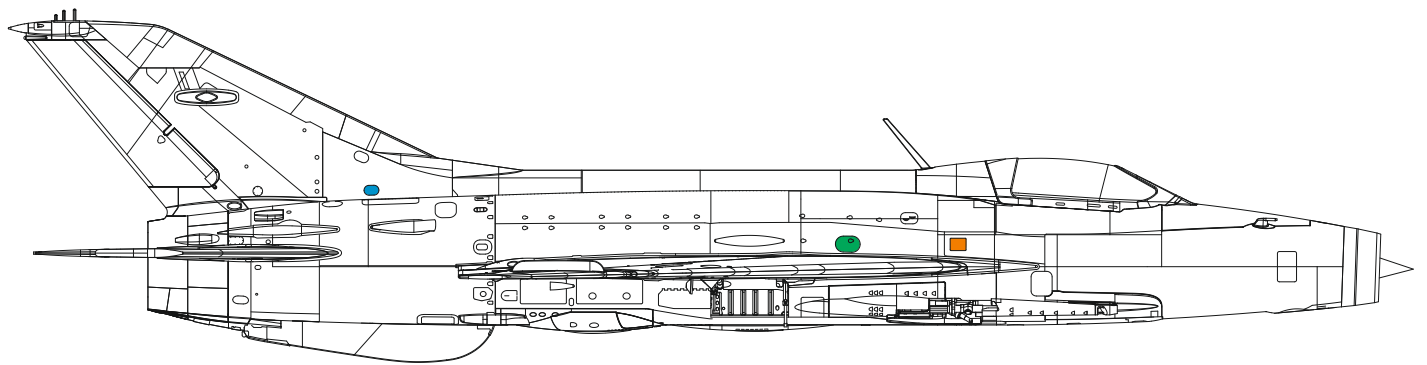
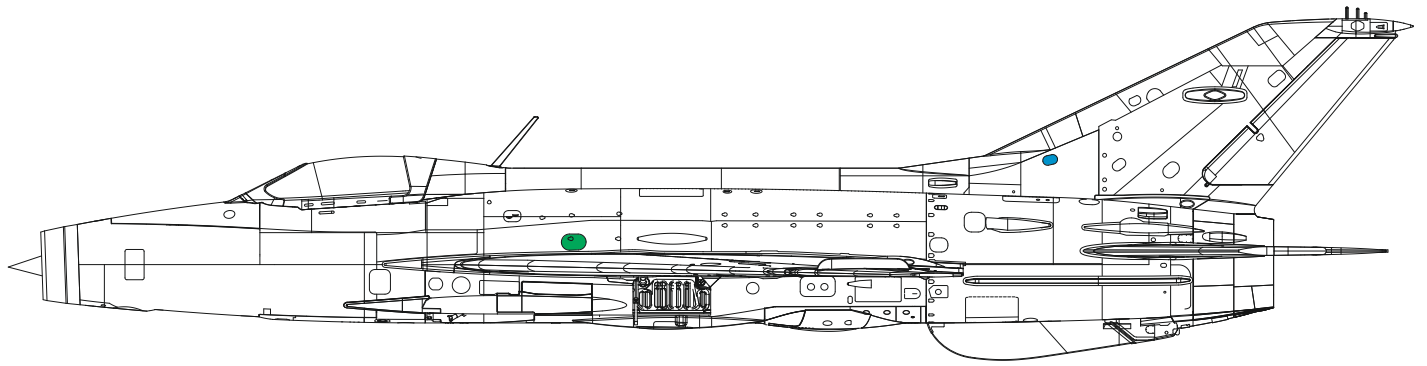


A11



Don't forget
to add the nose
weight balance!

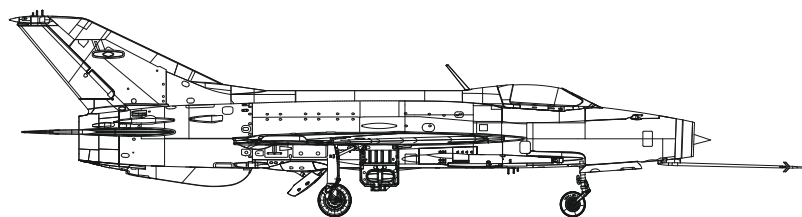
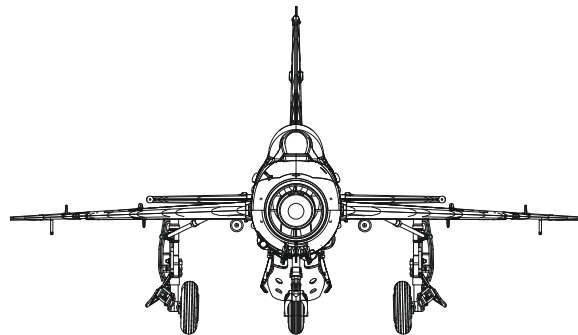


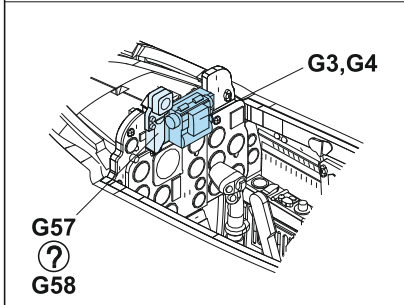
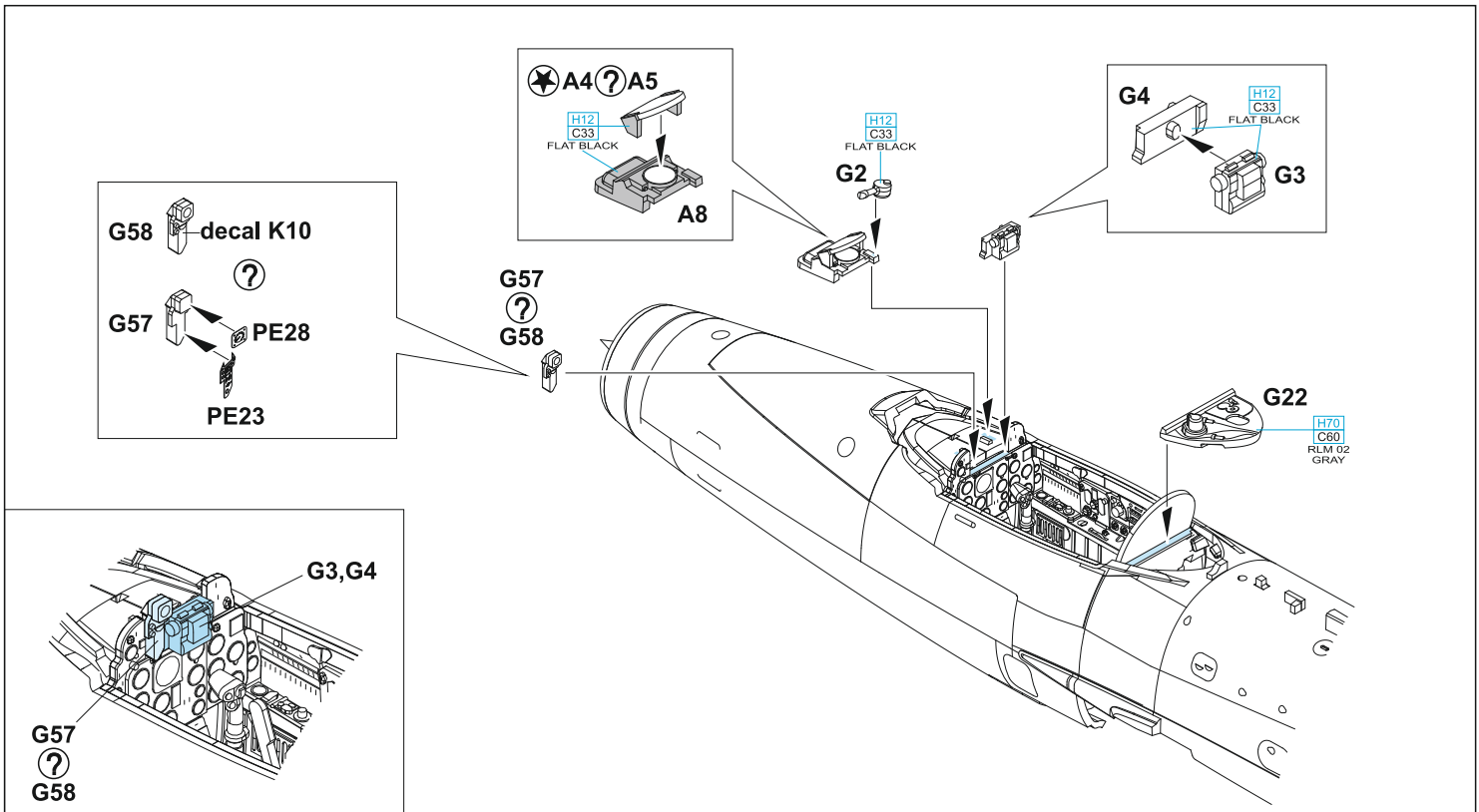


 fill for **MARKINGS A,B,D**

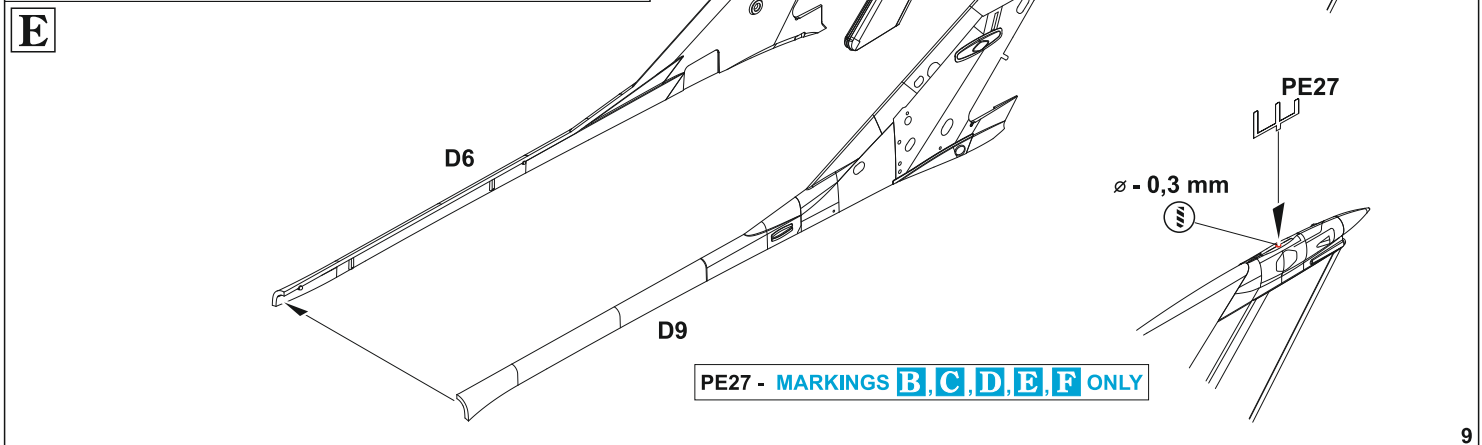
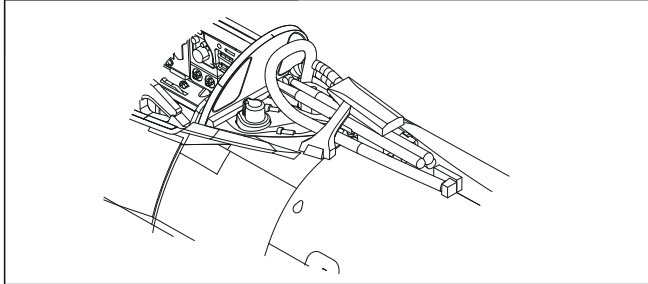
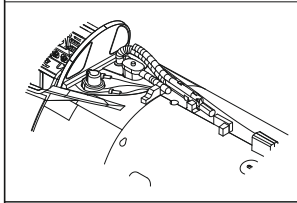
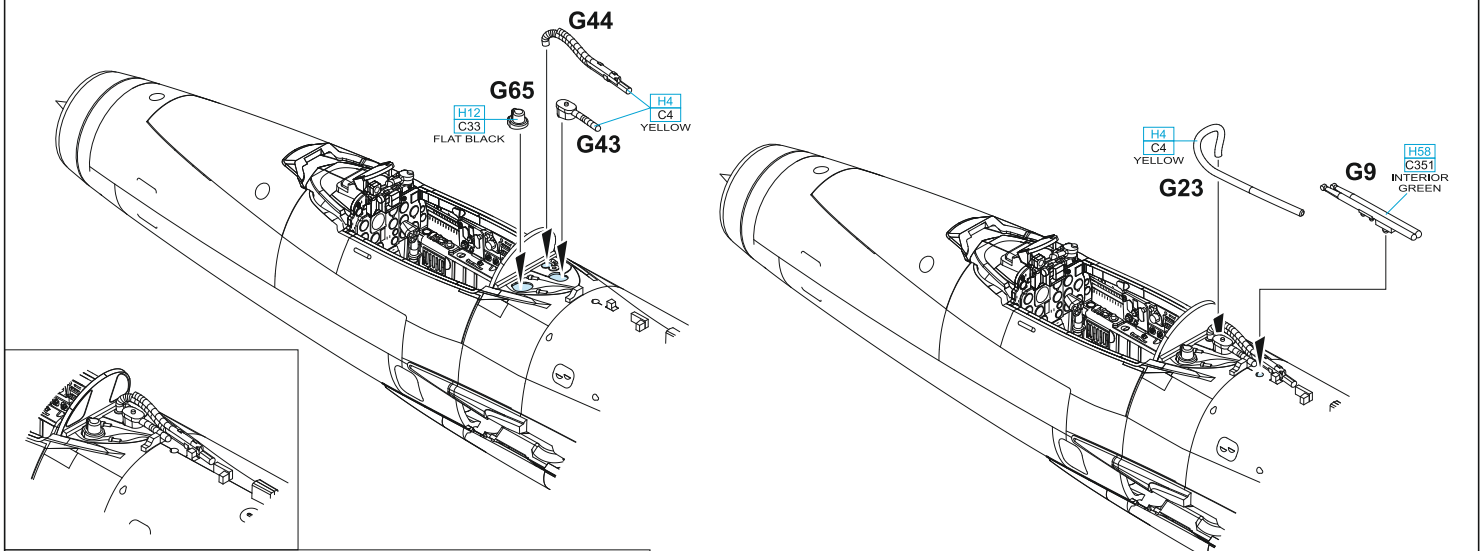
 fill for **MARKING A**

 fill for **MARKINGS A,B,C,D,E,F**

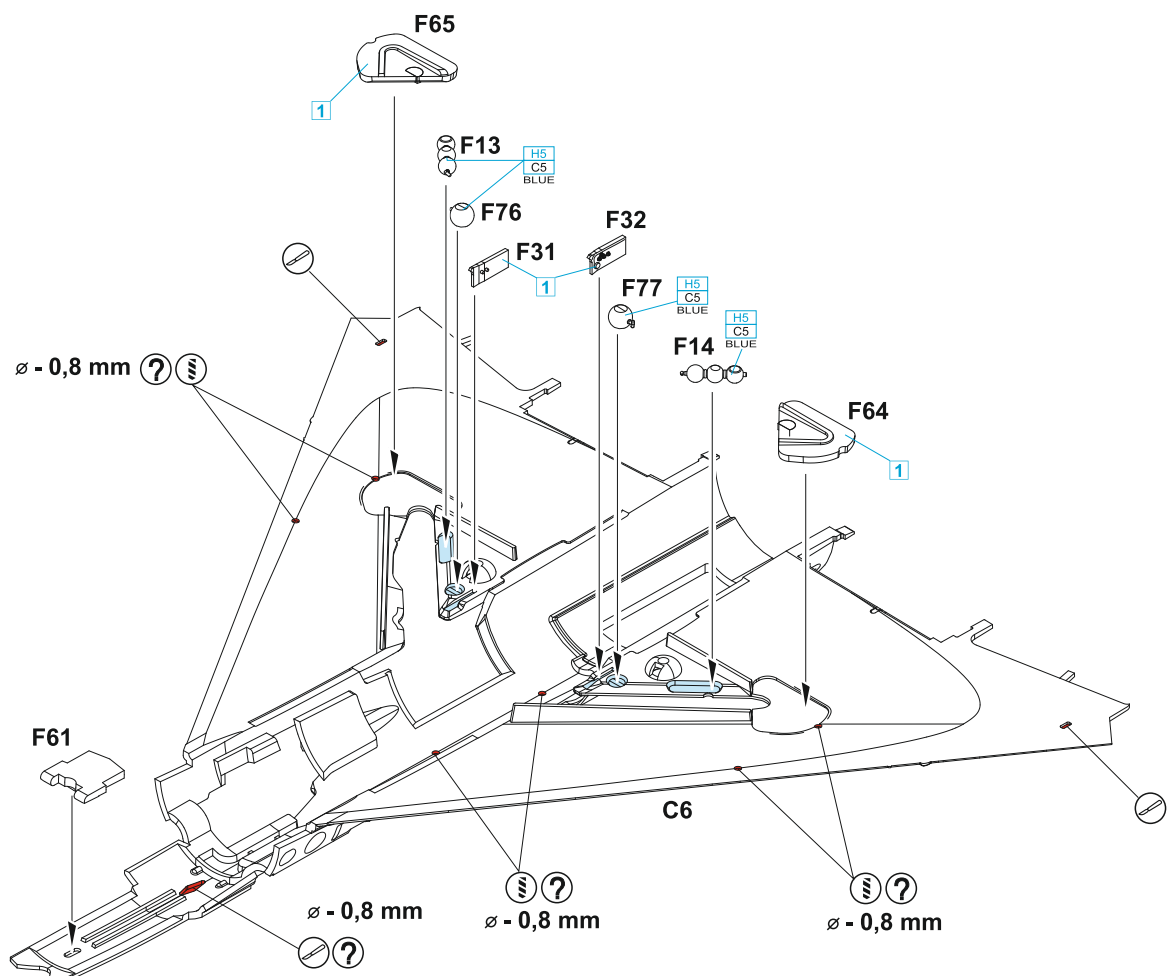
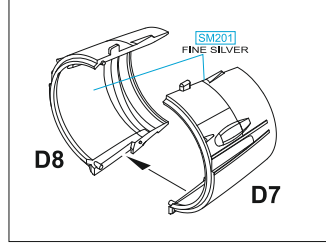
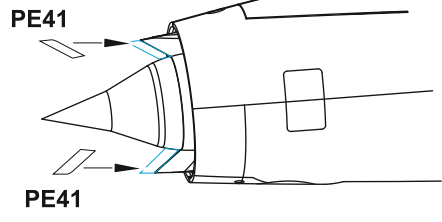
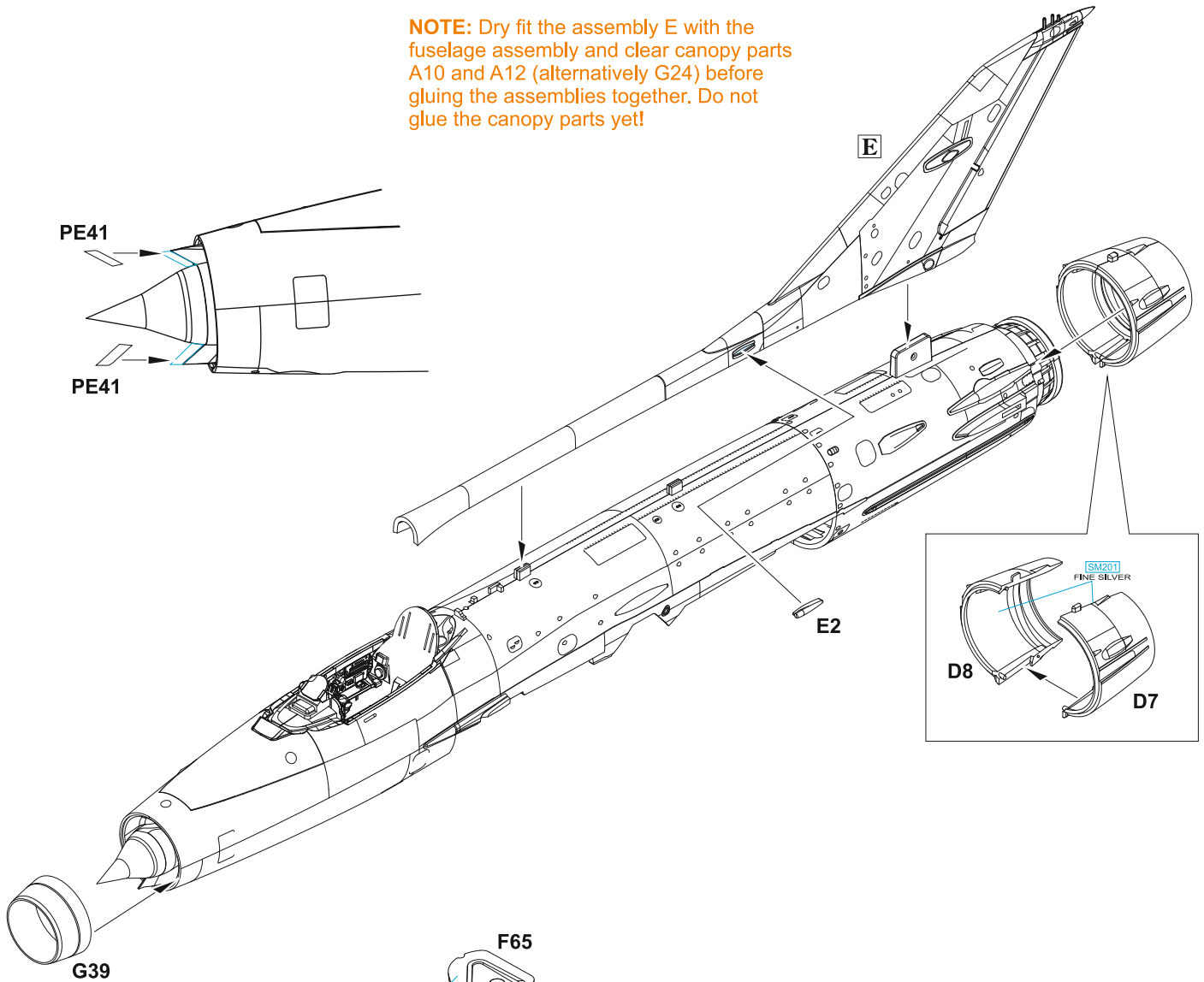




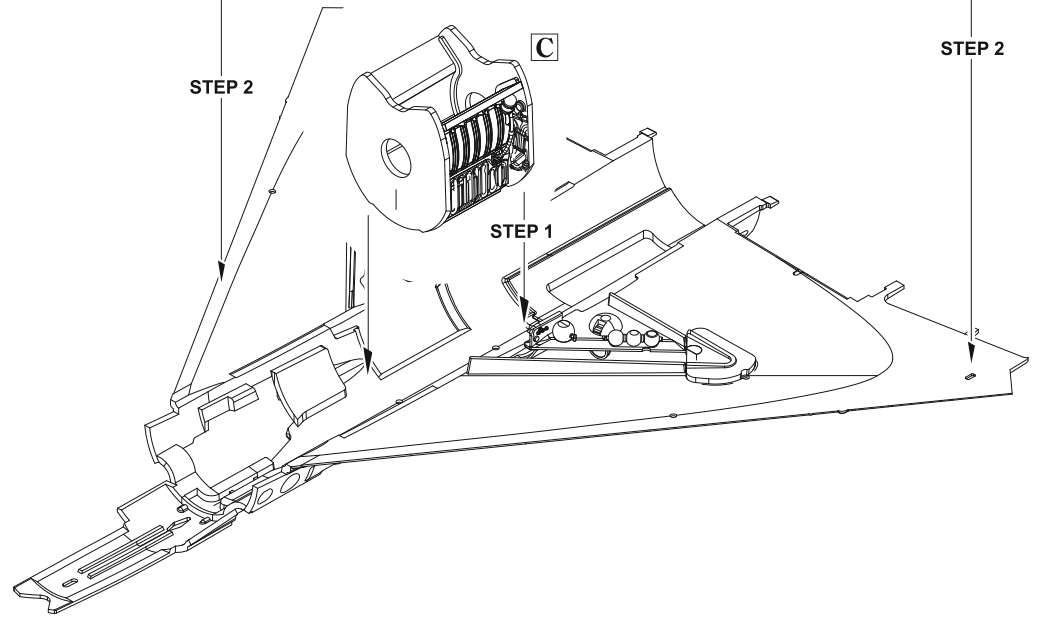
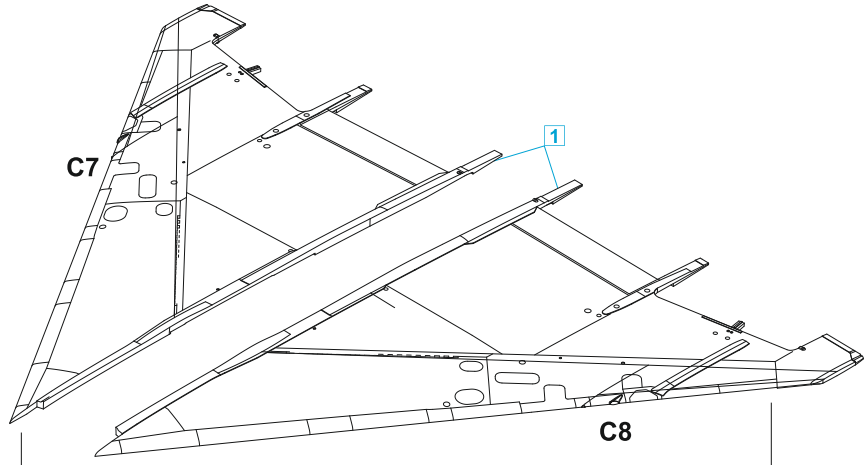
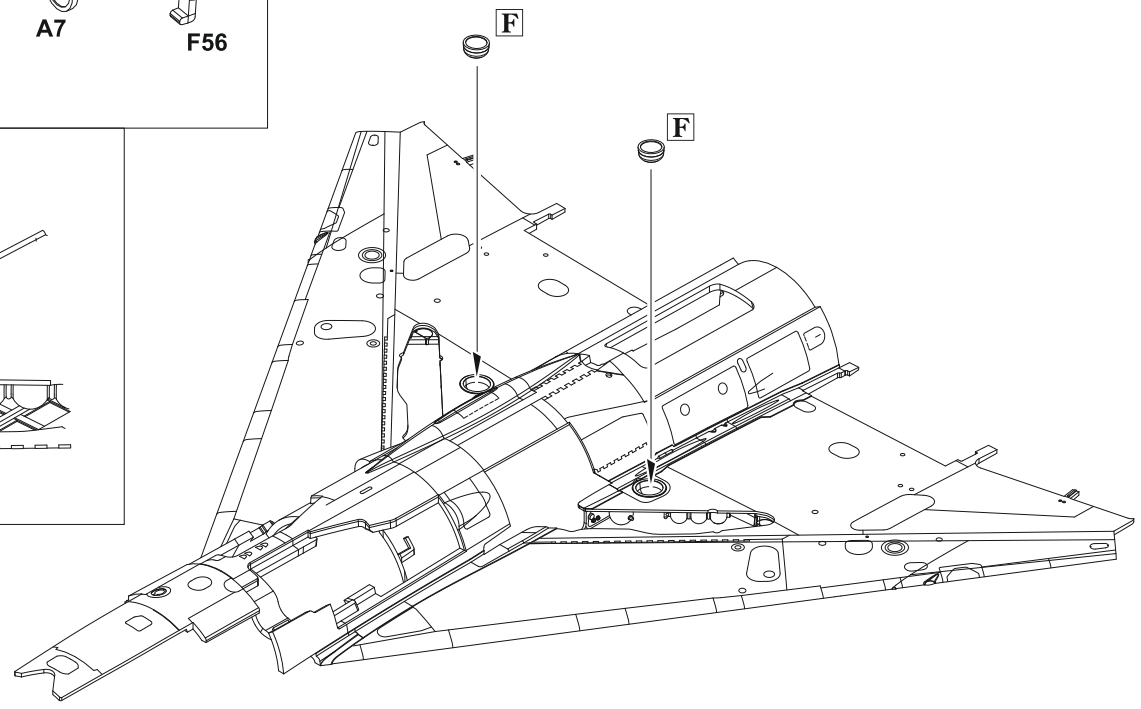
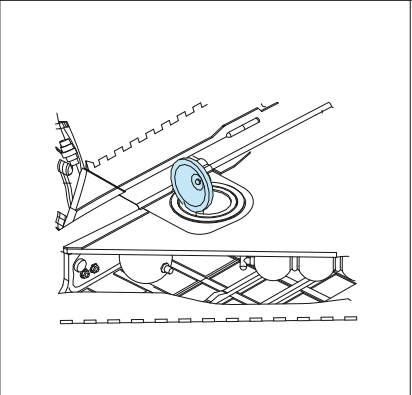
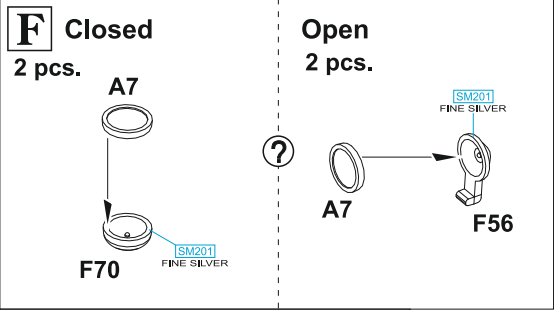
MARKINGS **A, B, D, E, F** ONLY

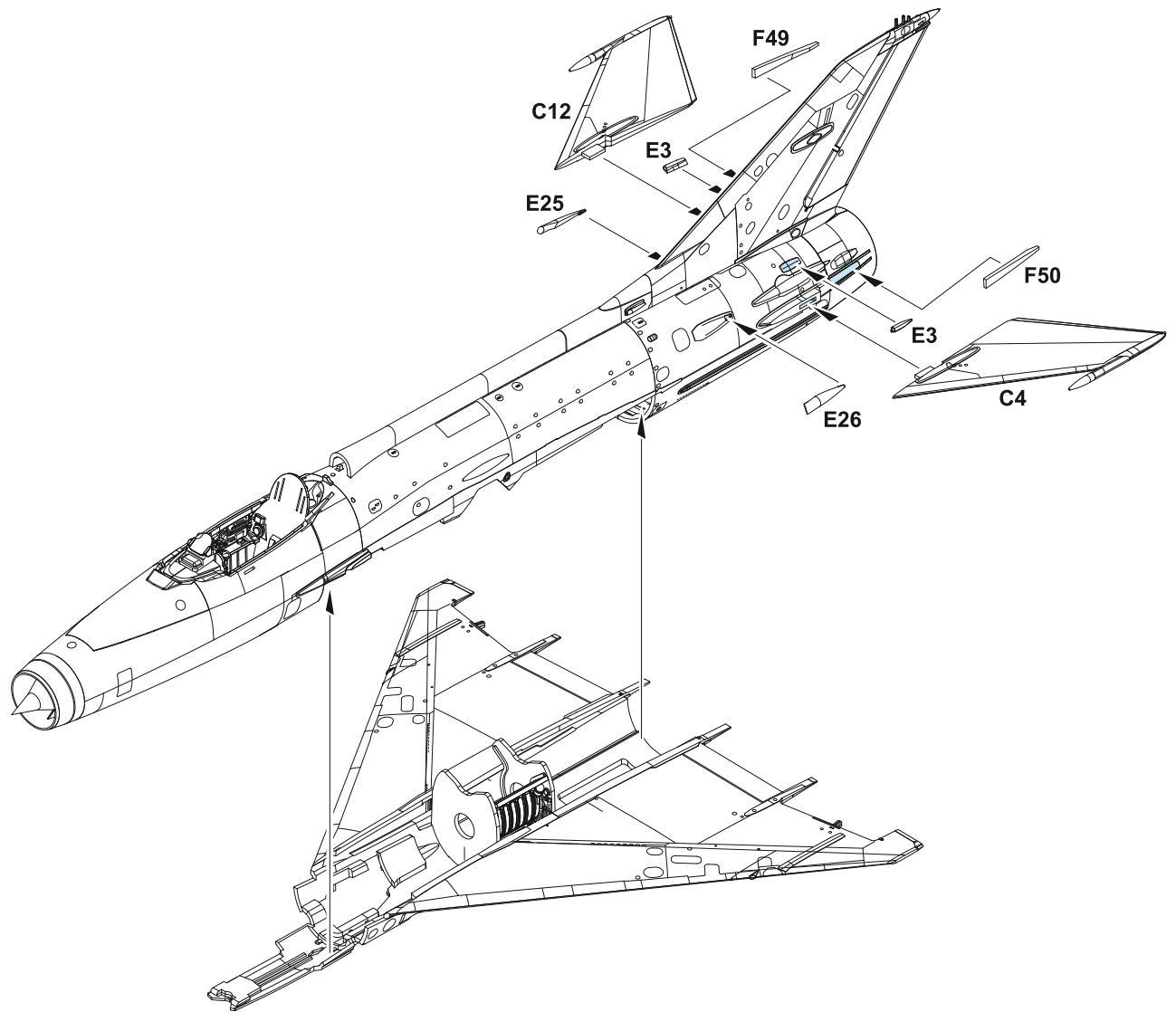


NOTE: Dry fit the assembly E with the fuselage assembly and clear canopy parts A10 and A12 (alternatively G24) before gluing the assemblies together. Do not glue the canopy parts yet!

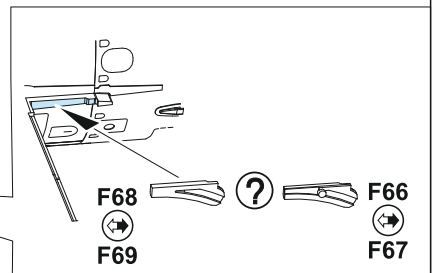
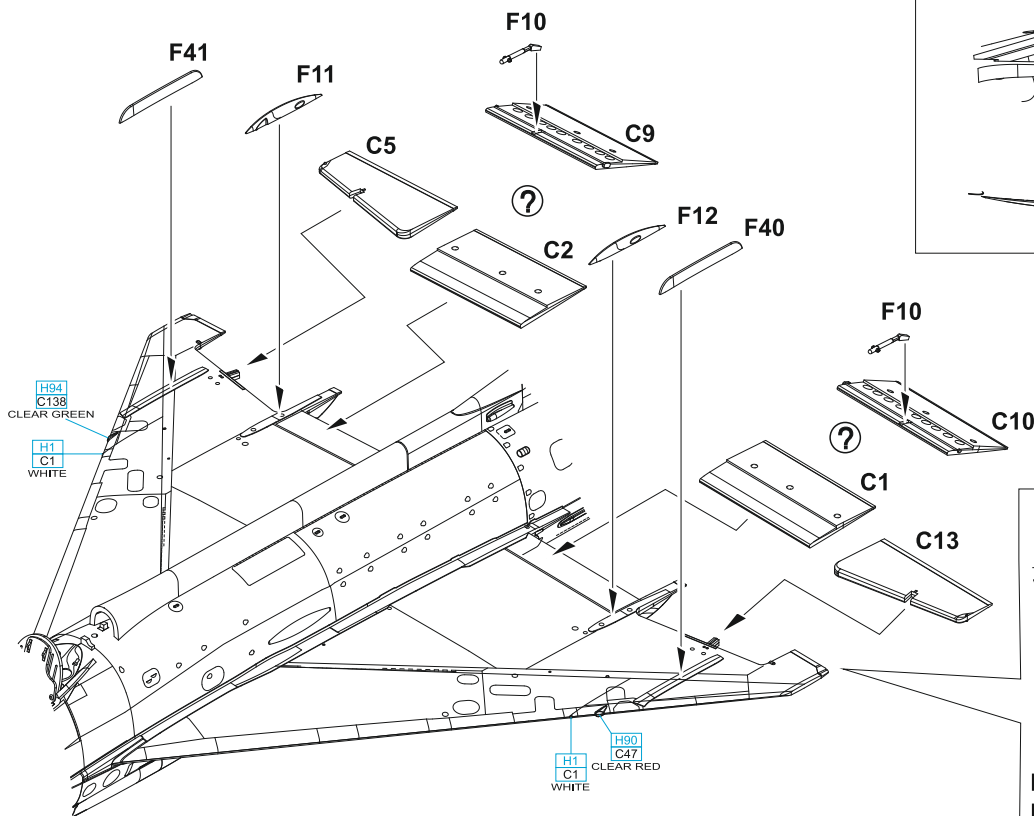
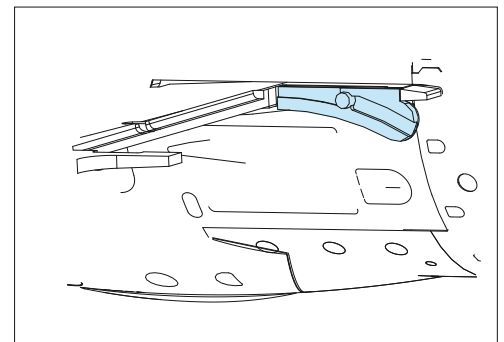


NOTE: Cut the hole in the C6 part only if using the part F78 (see page 16)





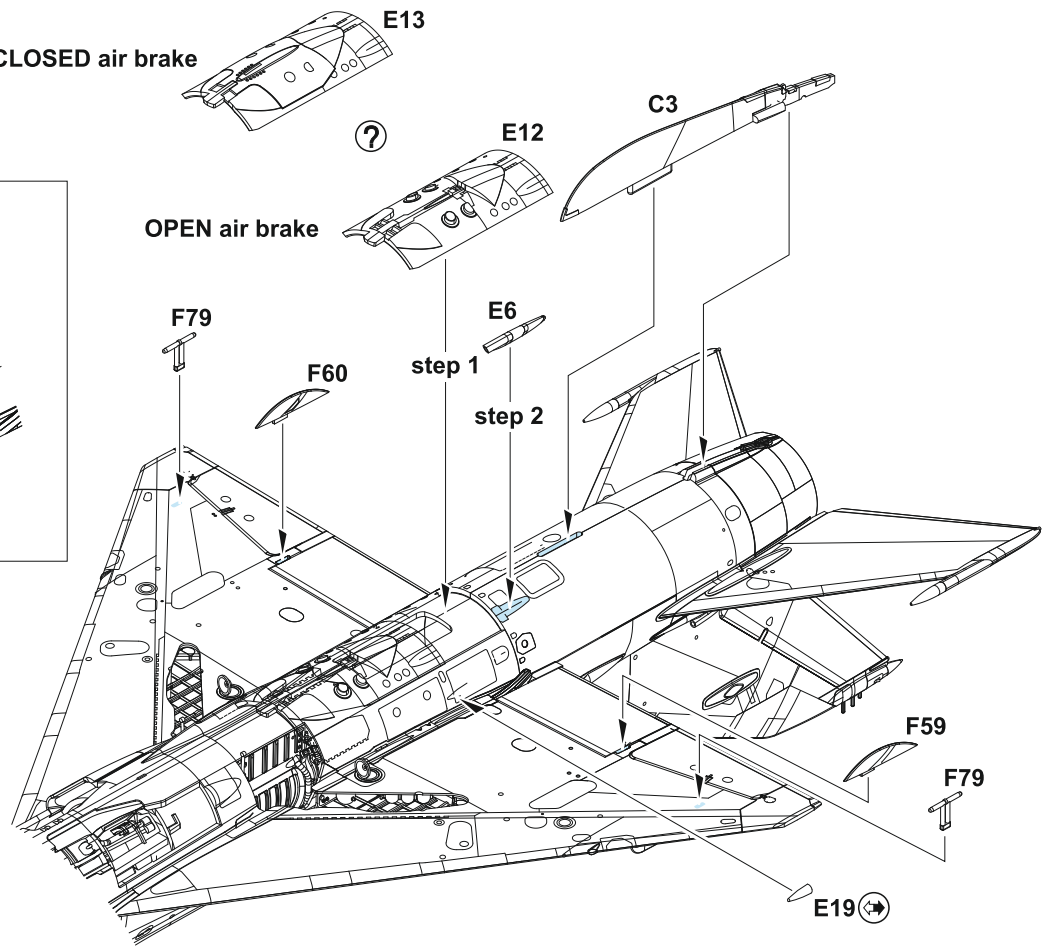
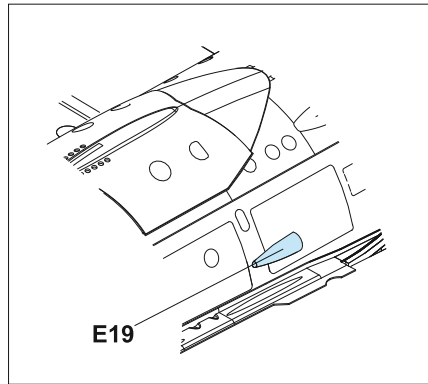
C1, C2 - FLAPS UP
 C9, C10 - FLAPS DOWN



F68,F69 - FLAPS UP
 F66,F67 - FLAPS DOWN
 F66,F68 - starboard
 F67,F69 -port side

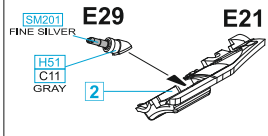
CLOSED air brake E13

OPEN air brake

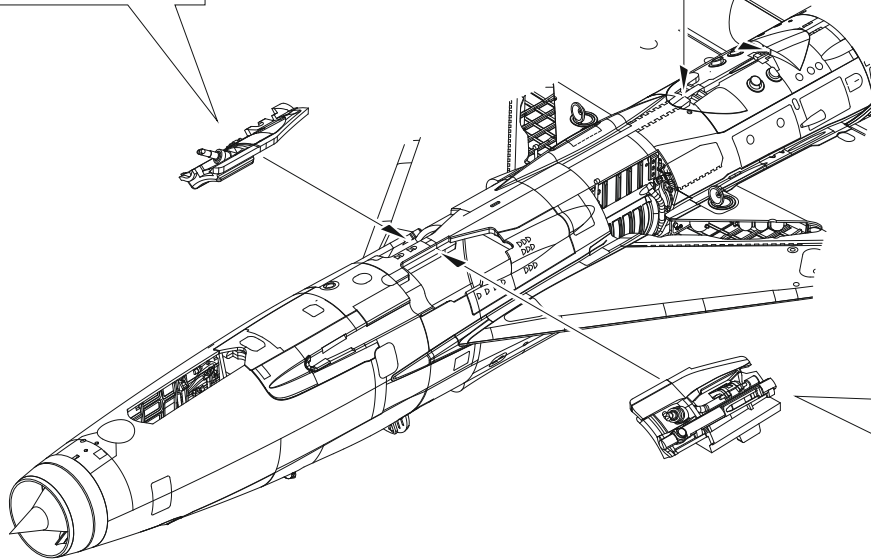
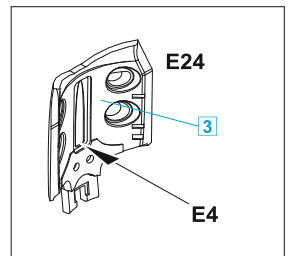
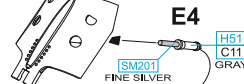


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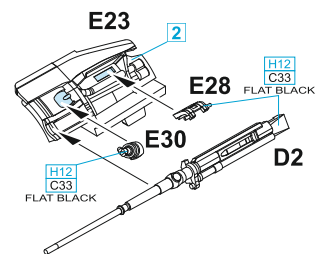
ONLY FOR OPEN AIR BRAKE



OPEN AIR BRAKE E24



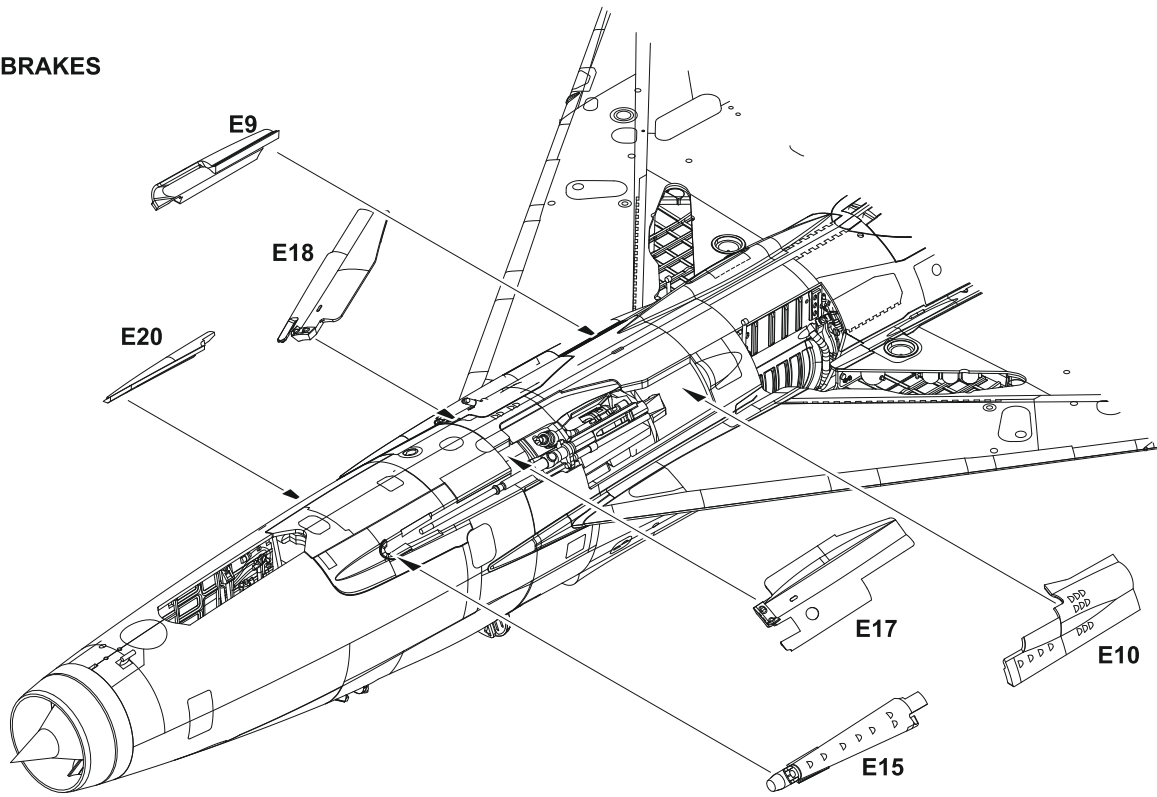
ONLY FOR OPEN AIR BRAKE



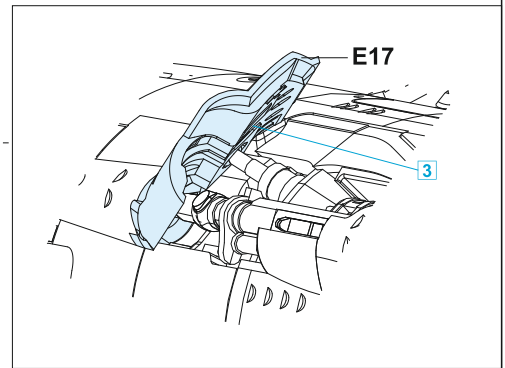
2 =
 H76 - MARKINGS **A, E**
 C60 RLM 02 GRAY
 SM201 - MARKINGS **B, C, D, F**
 FINE SILVER

3 =
 H4 C4 - MARKINGS **A, E**
 YELLOW
 10 % H4 C4 YELLOW + 90 % H8 C8 - MARKINGS **B, C, D, F**
 SILVER

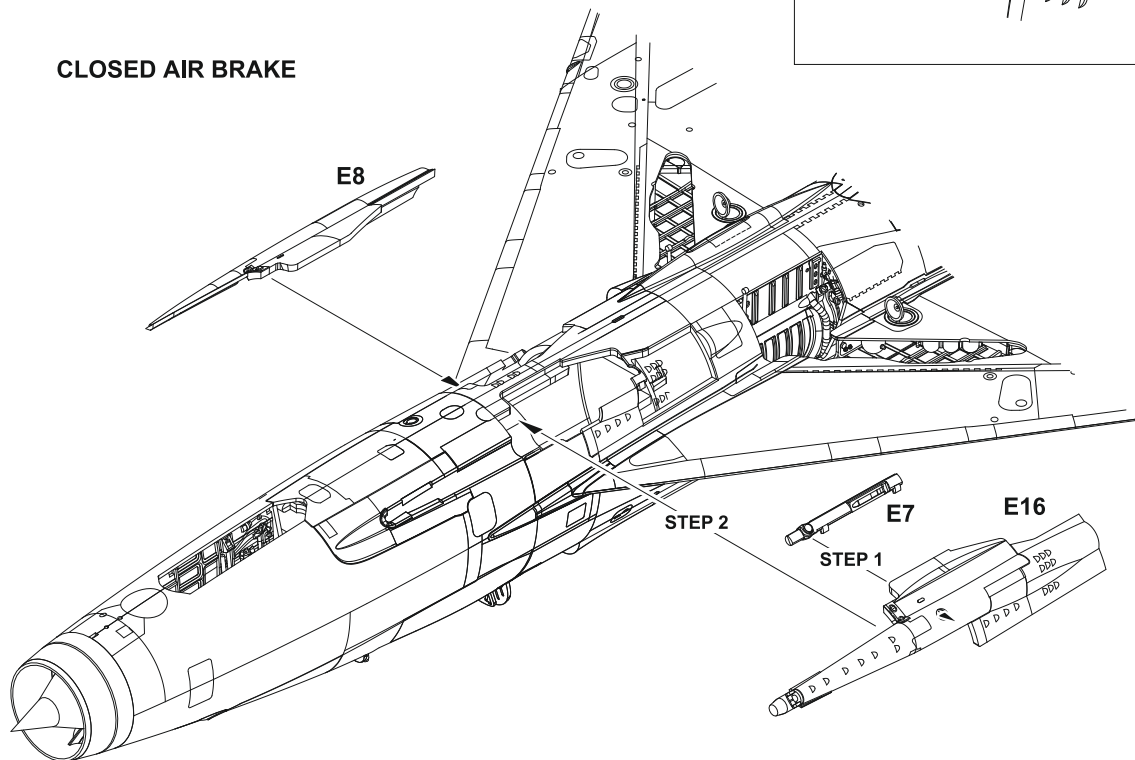
OPEN AIR BRAKES

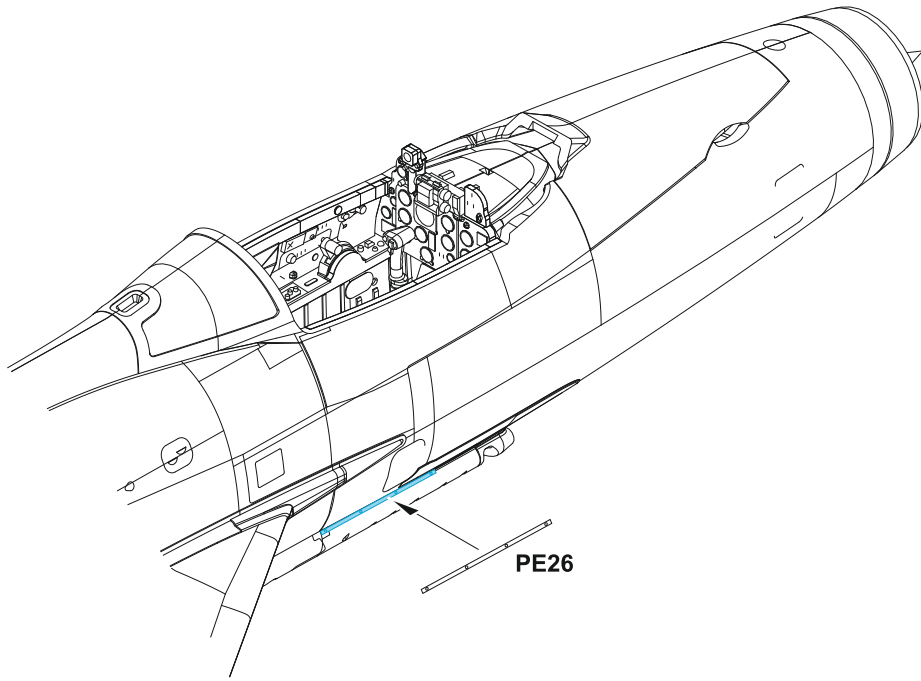


?

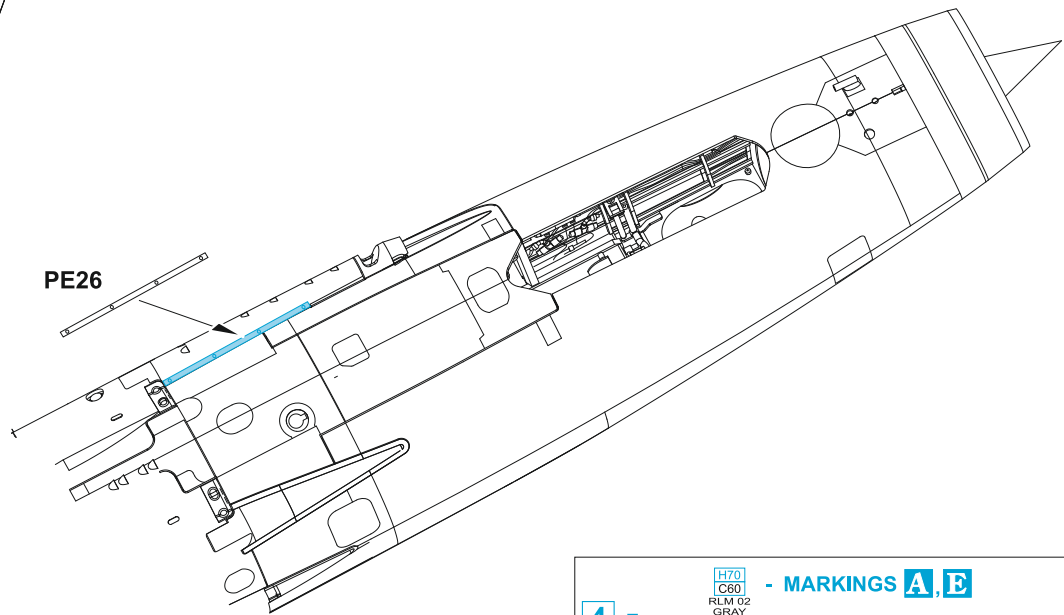


CLOSED AIR BRAKE





PE26



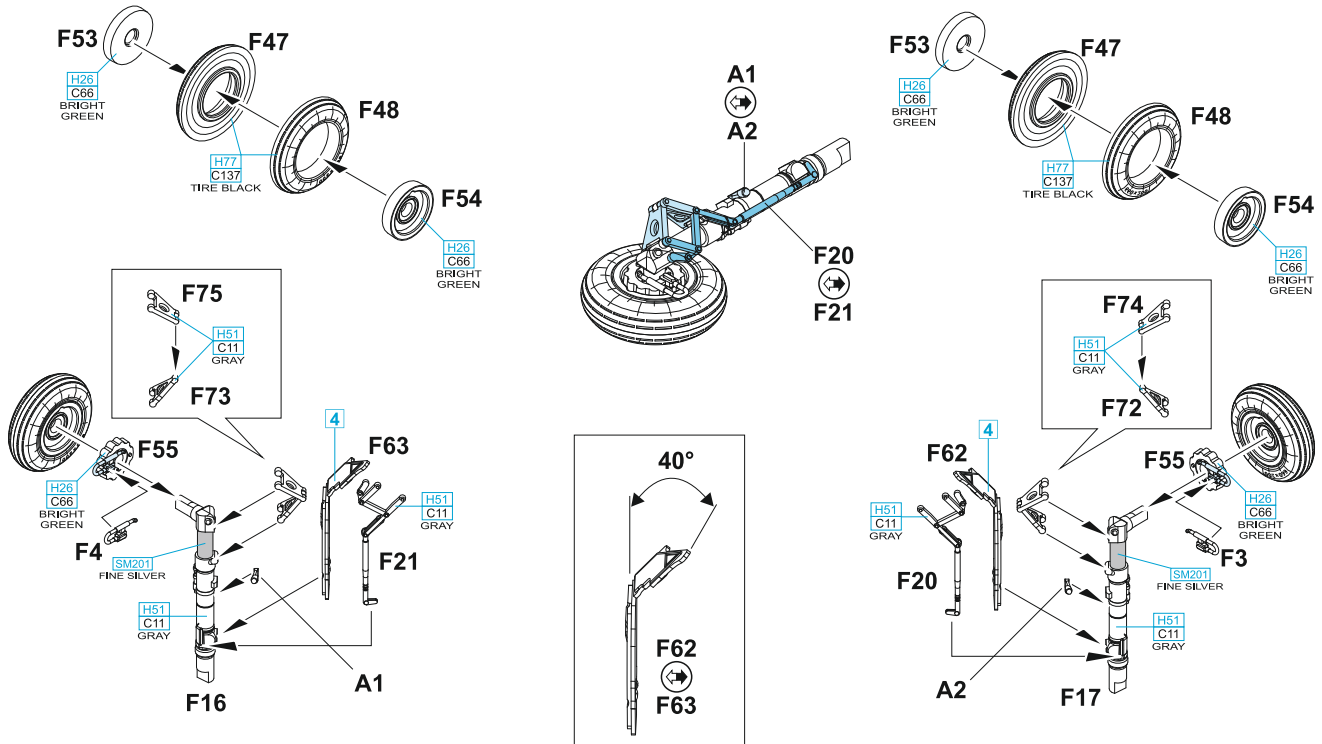
PE26

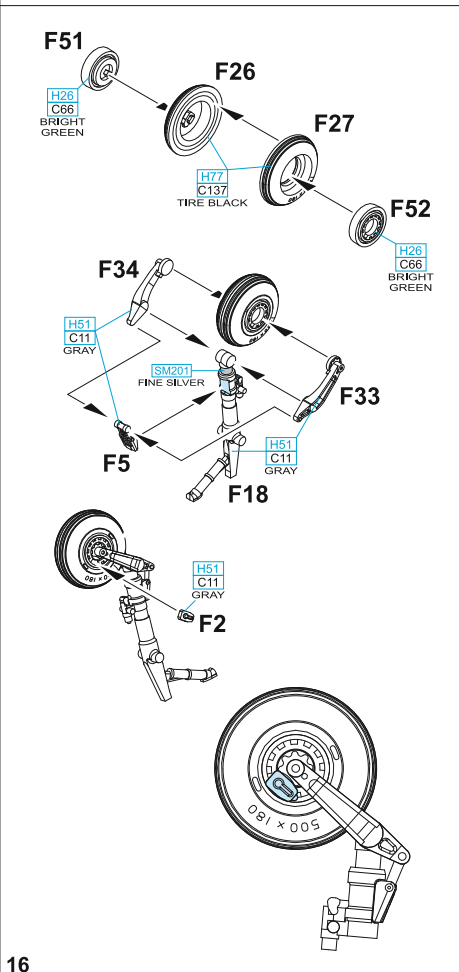
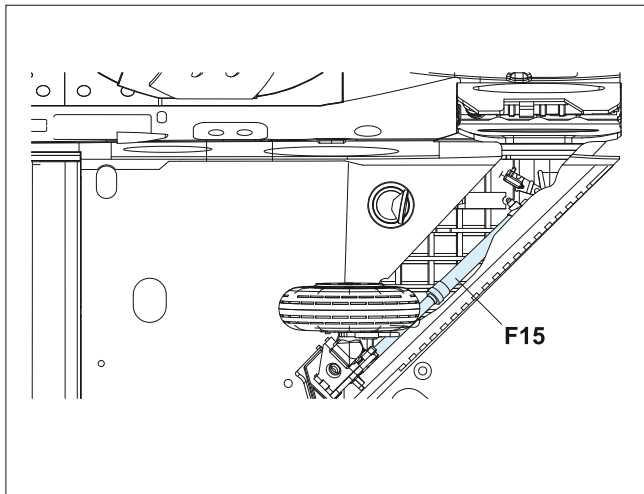
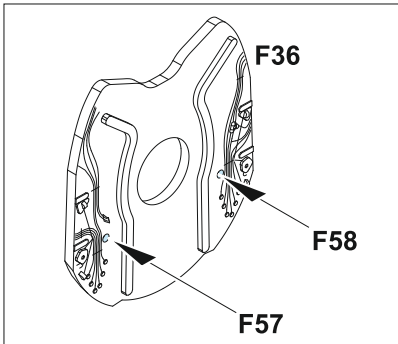
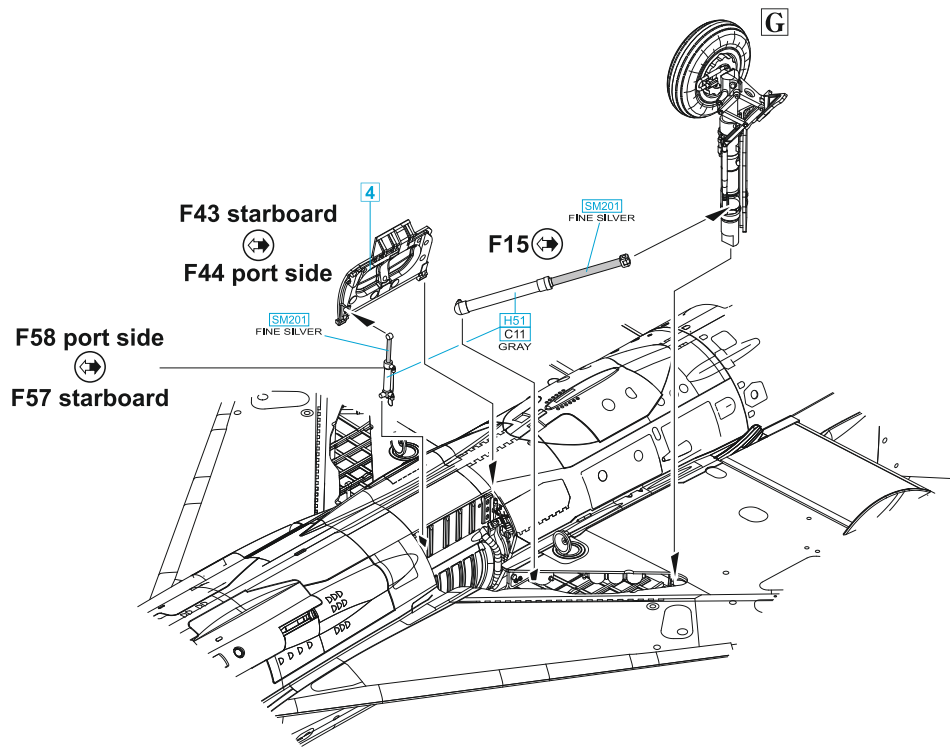
4 = $10\% \begin{matrix} \text{H79} \\ \text{C69} \\ \text{RLM 02} \\ \text{GRAY} \end{matrix} + 90\% \begin{matrix} \text{H4} \\ \text{C4} \\ \text{YELLOW} \end{matrix} - \text{MARKINGS A, E}$ $\begin{matrix} \text{H8} \\ \text{C8} \\ \text{SILVER} \end{matrix} - \text{MARKINGS B, C, D, F}$

G

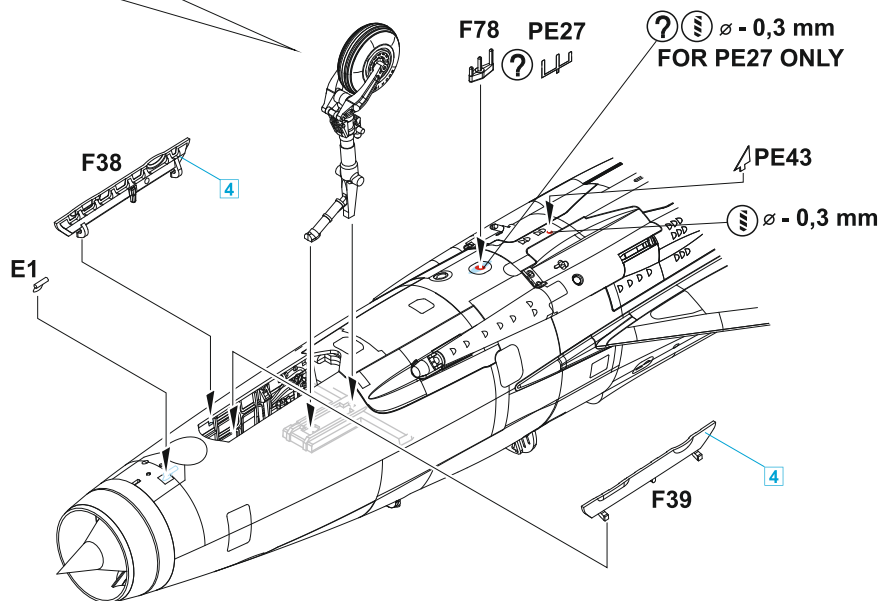
starboard

port side



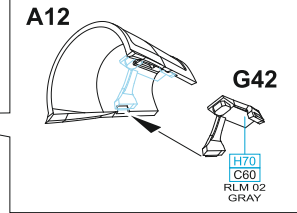
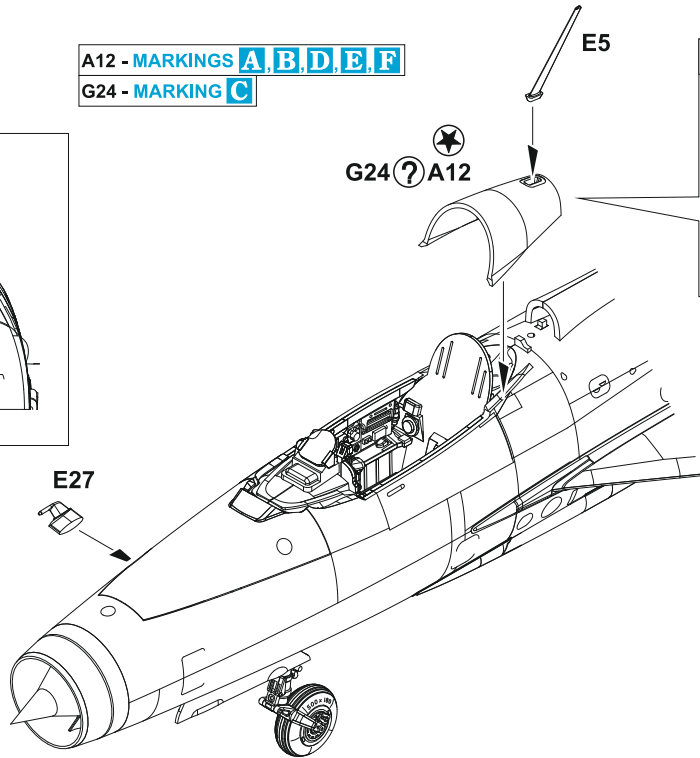
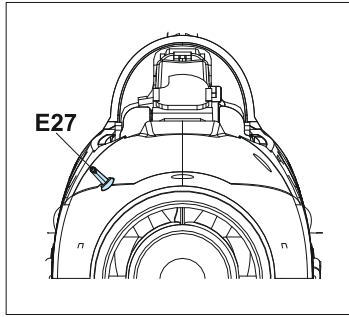


PE43 - MARKING **A**
 PE24, F78 - MARKINGS **B, C, D, E, F**

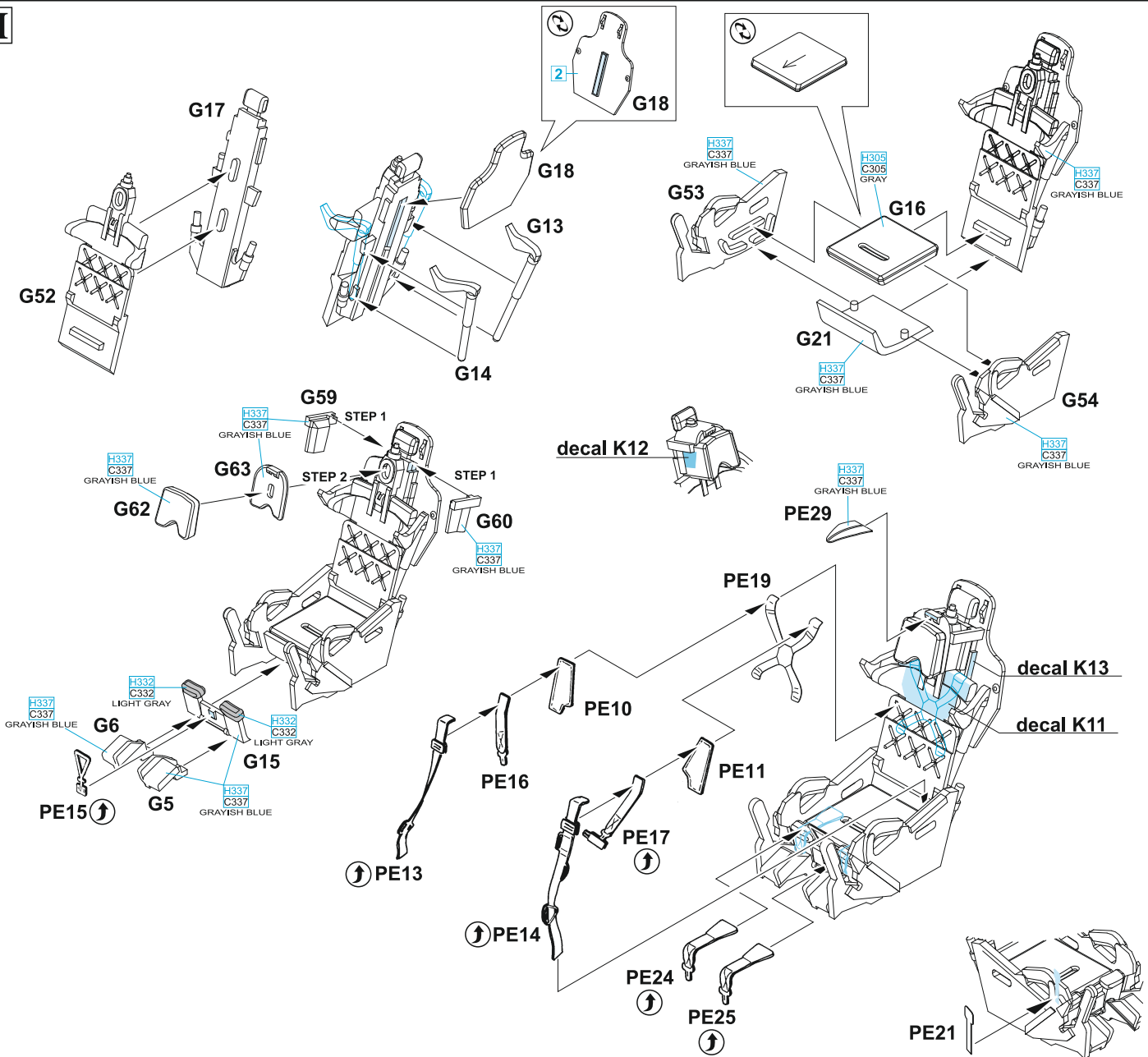


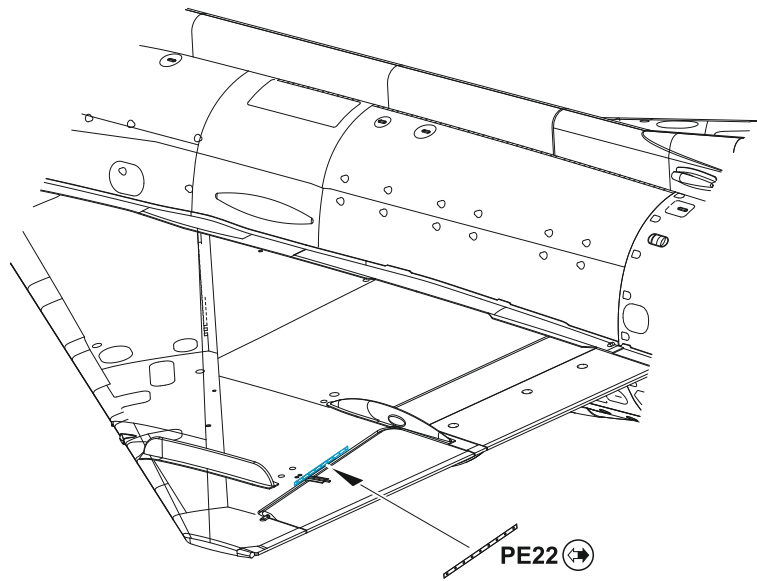
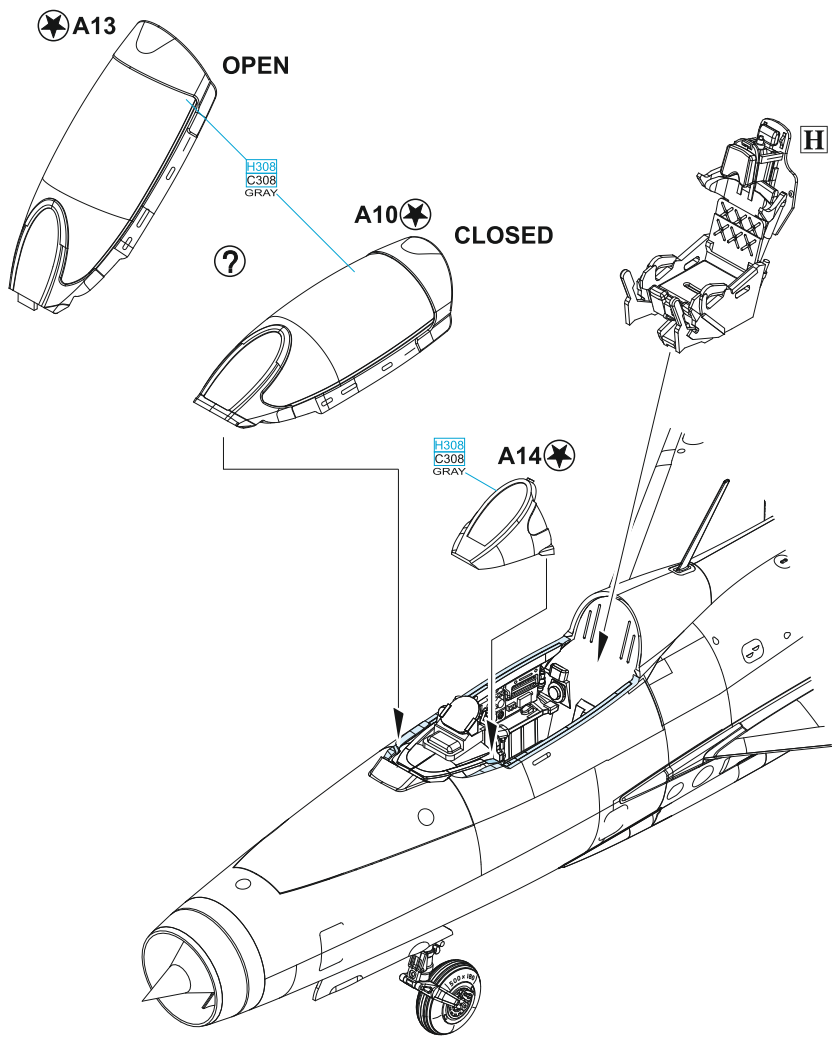
A12 - MARKINGS **A, B, D, E, F**
 G24 - MARKING **C**

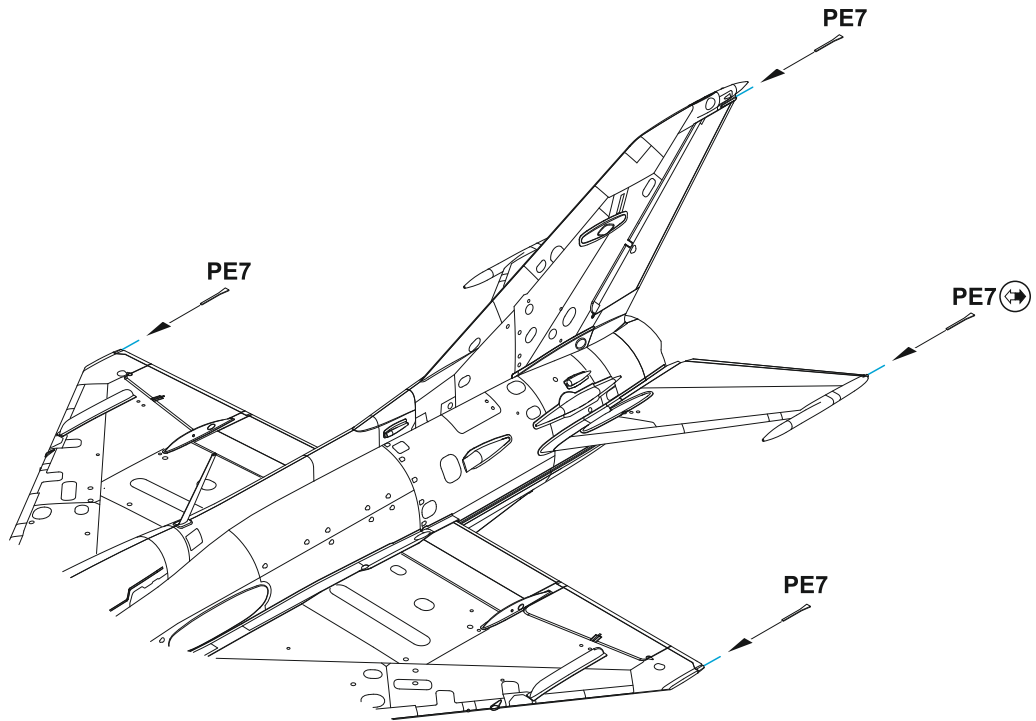
MARKINGS **A, B, D, E, F** ONLY



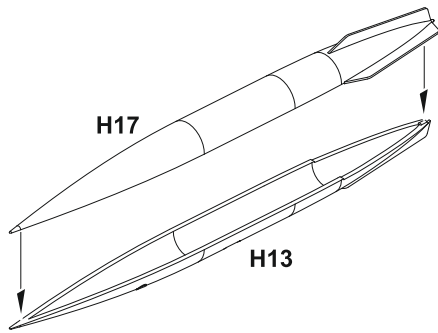
H



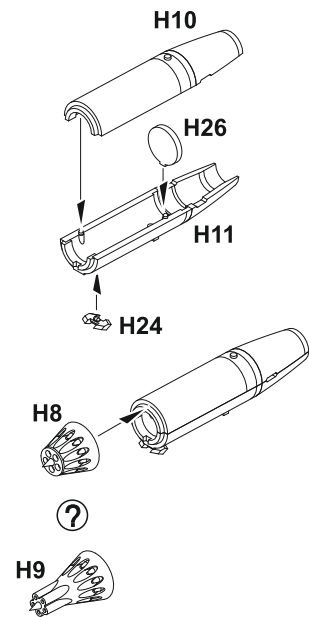




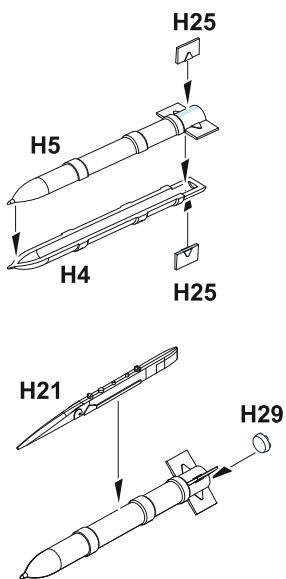
I EXTERNAL FUEL TANK 490I



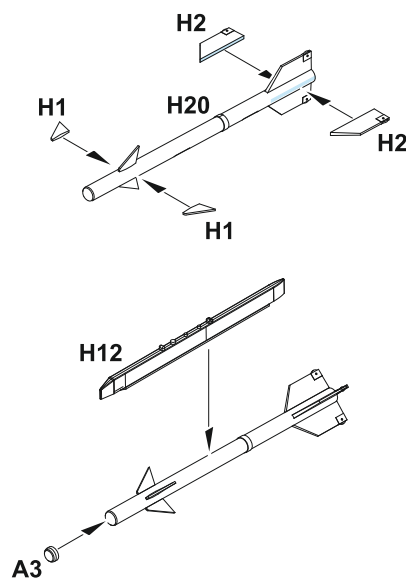
J UB-16
2 pcs.



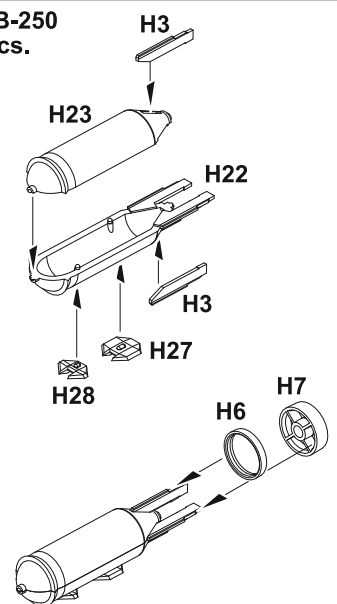
K S-24
2 pcs.

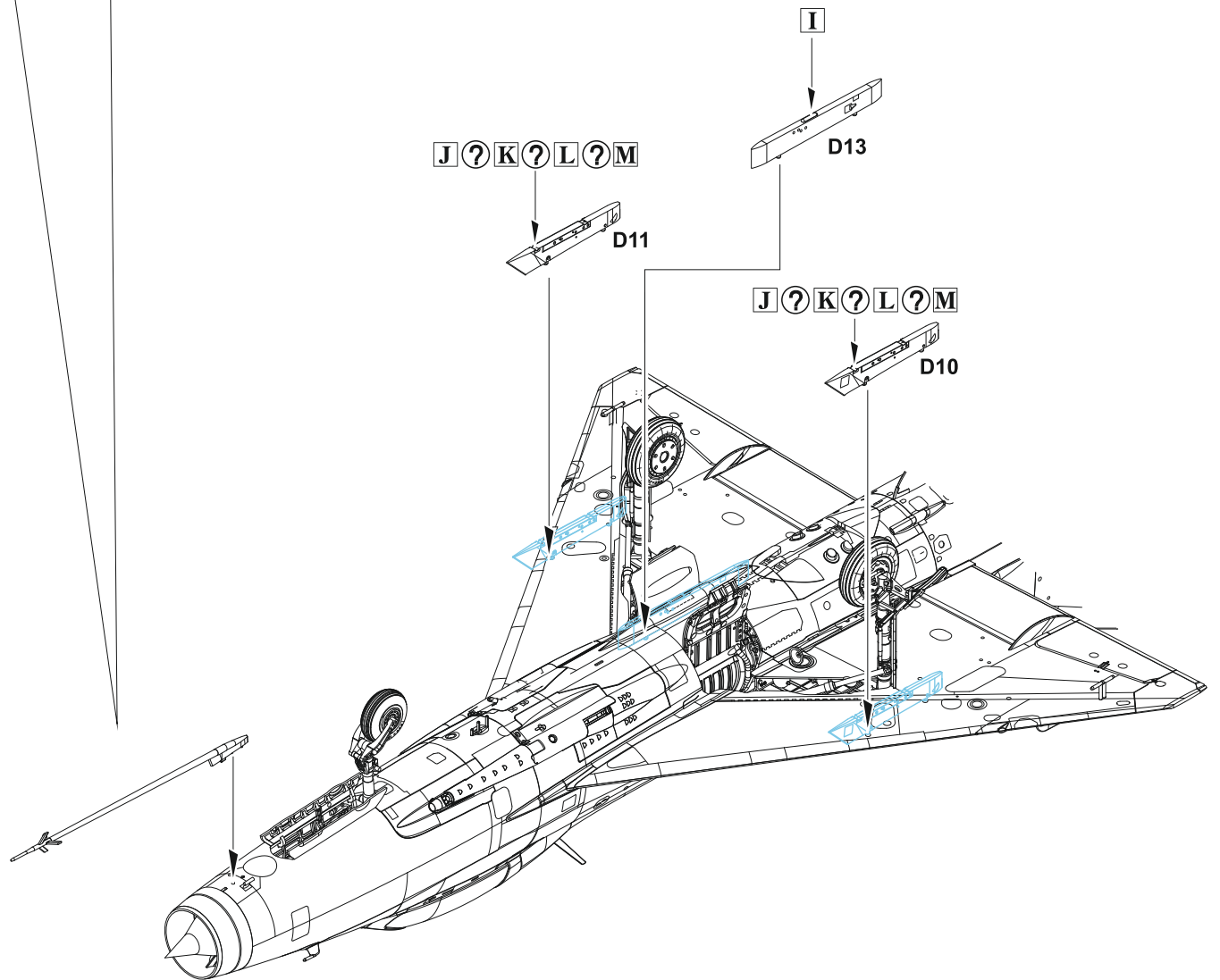
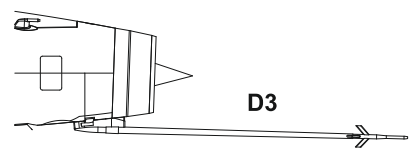
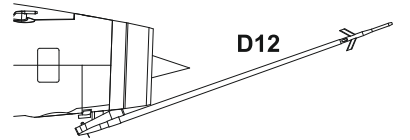
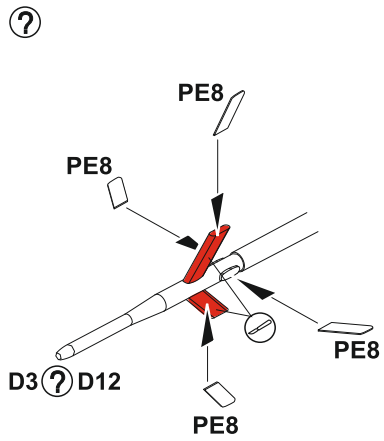
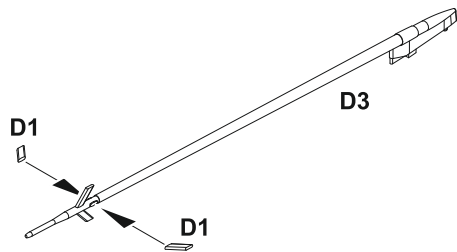
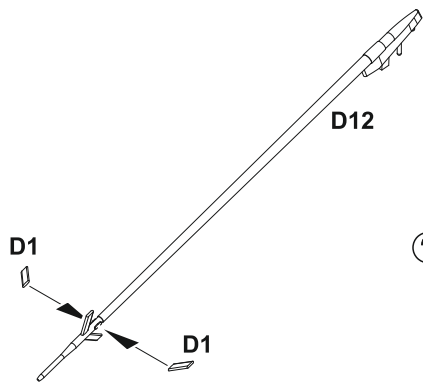


L R-3S
2 pcs.



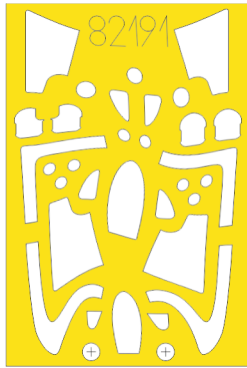
M FAB-250
2 pcs.





eduard
MASK

82191



A4



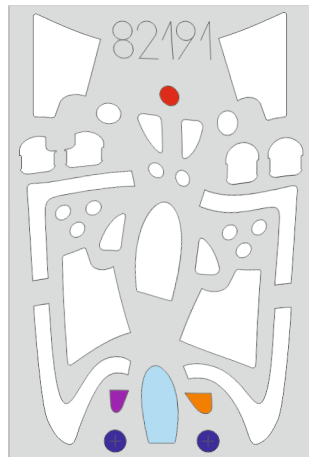
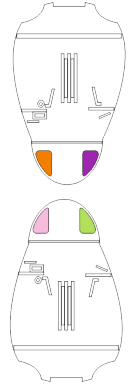
A5



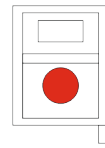
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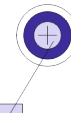
A11



A8



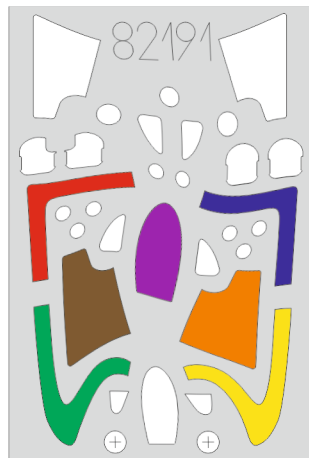
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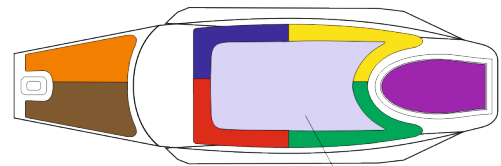
A14



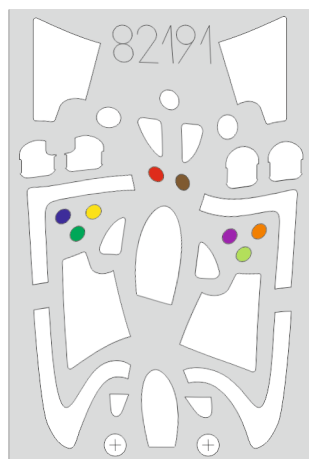
LIQUID MASK



A10 ? A13



LIQUID MASK



A15



A16



A6

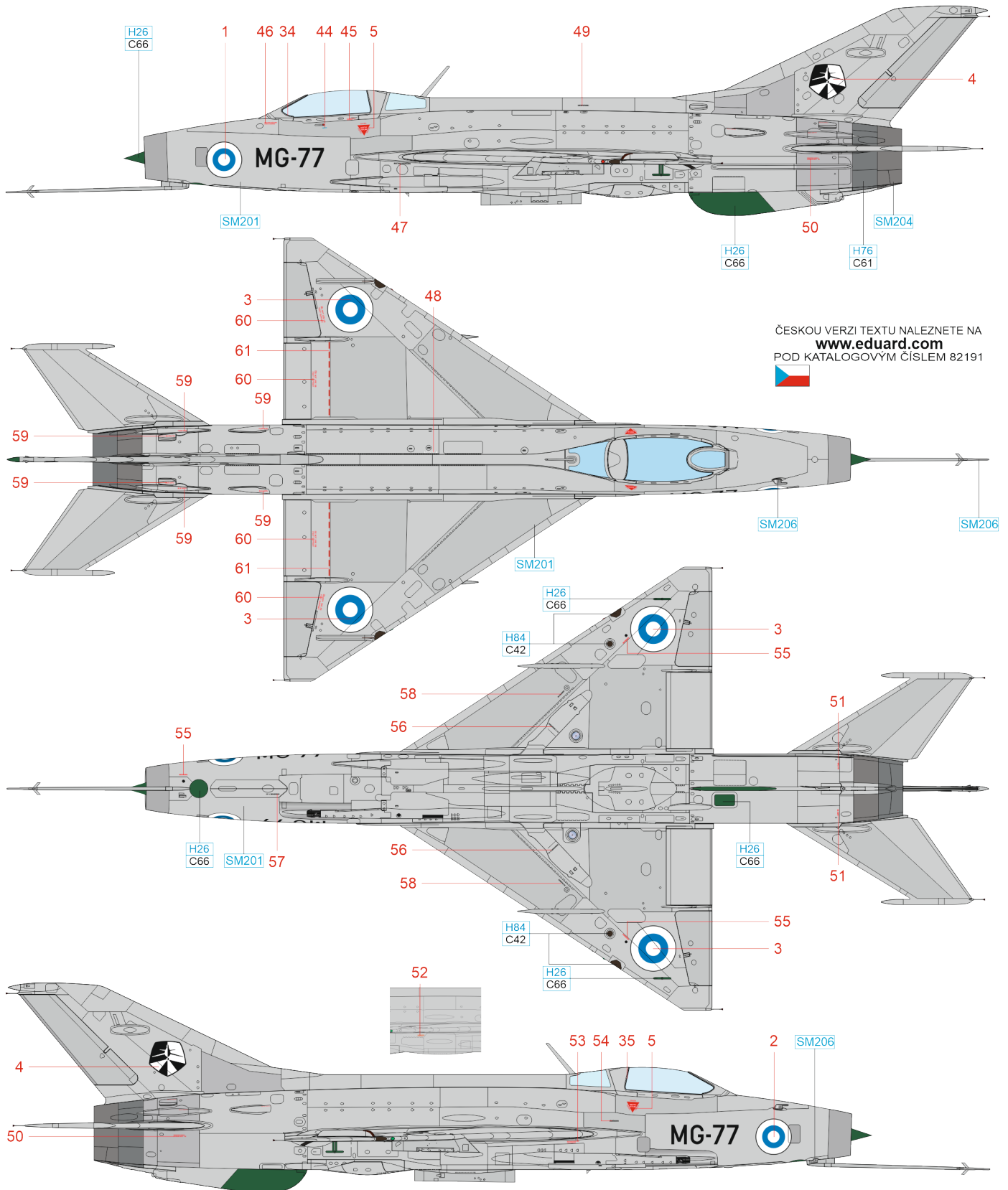


A9



A s/n 741204, HävLLv 31, Kuopio-Rissala AB, Finnish AF, Finland, August 1985

Finland replaced its de Havilland Vampire and Folland Gnat aircraft with MiG-21s in the early 1960s, becoming the first non-communist European country to use this type. The first ten MiG-21F-13s were delivered to Suomen Ilmavoimat (the Finnish Air Force) in April 1963, with another 11 following in November of the same year. Between 1971 and 1973, nine MiG-21F-13s were converted into reconnaissance versions. HävLLv 31 in Kuopio-Rissala began gradually replacing its F-13s with new MiG-21bis at the end of 1978. The last flight of the Finnish F-13 version took place in January 1986. The aircraft with the fuselage number MG-77 was delivered in November 1963. It made its last flight on August 16, 1985. After being decommissioned, it served as a dummy with the number MG-127 in Pirkkala and was later transferred to the Aviation Museum in Vantaa.



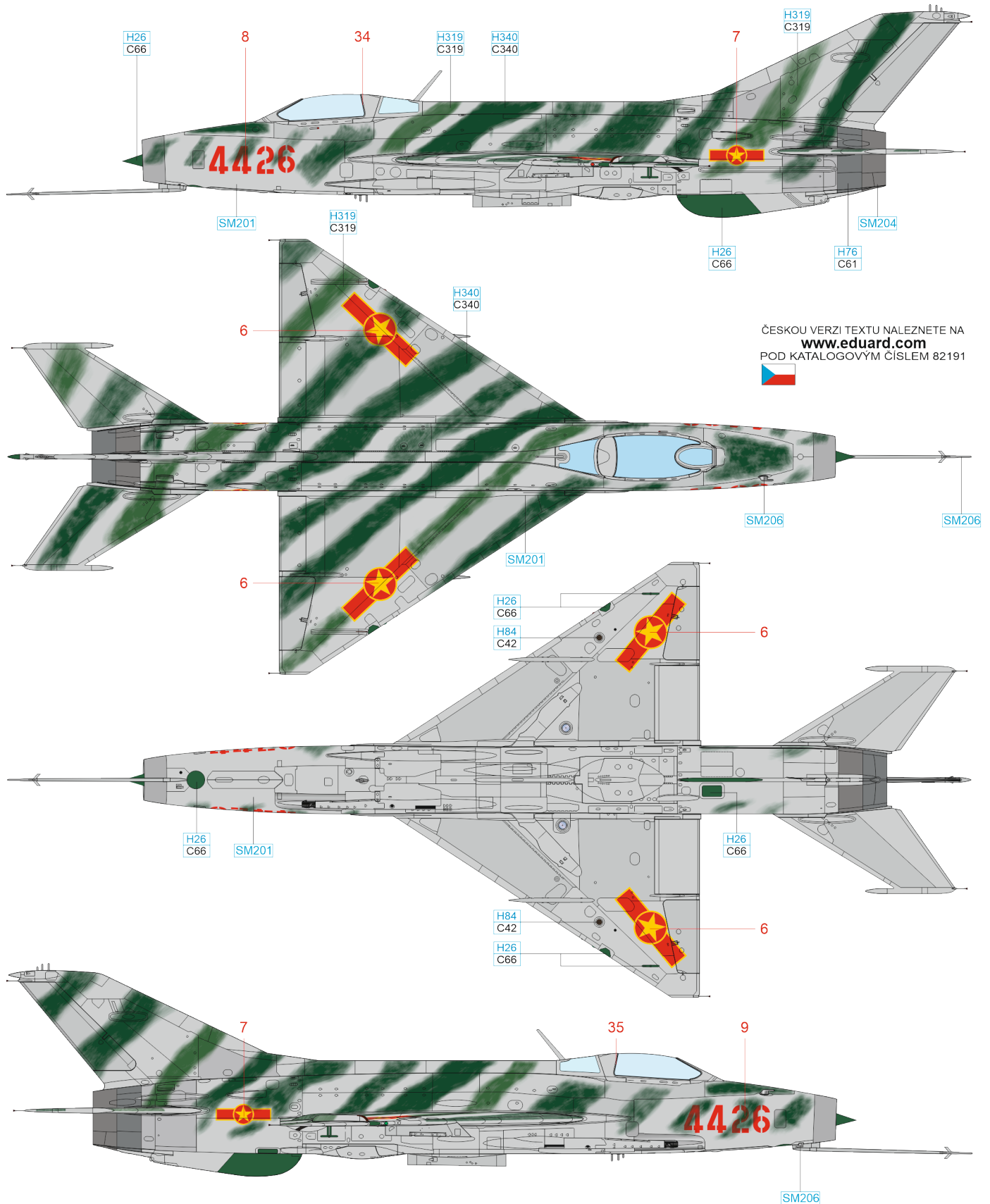
Thank you very much Antti Lappalainen for very good references from FINNISH AIR FORCE MUSEUM.

BRIGHT GREEN H26 C66 MAHOGANY H84 C42 BURNT IRON H76 C61 SUPER FINE SILVER 2 SM201 SUPER STAINLESS 2 SM204 SUPER CHROME SILVER 2 SM206

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B s/n 74211503, Nguyen Nhat Chieu, 921st FR, Sao Do, Democratic Republic of Vietnam, October 1967

The Vietnamese People's Liberation Army Air Force acquired its first MiG-21F-13s in 1966. The first dogfight in which North Vietnamese MiG-21s clashed with American aircraft took place in February 1966. In March of the same year, two American Ryan Firebee unmanned aircraft were destroyed, but the first aerial victory for Vietnamese pilots was not achieved until June 9, 1966, when two F-4 Phantoms II were shot down by several MiG-21s. On October 29, 1967, pilot Nguyen Nhat Chieu used a green-camouflaged MiG-21F-13 with tactical number 4426 in a dogfight in which he shot down an American F-4 Phantom II over the Nam Dinh-Ninh Binh area. It was Chieu's sixth aerial victory, although according to USAF records, no Phantoms II were lost on that day. During the Vietnam War, 67 American fighter aircraft were shot down by MiG-21s, while the US Air Force shot down 86 MiG-21s. Thirteen MiG-21 pilots achieved fighter ace status between 1967 and 1972.

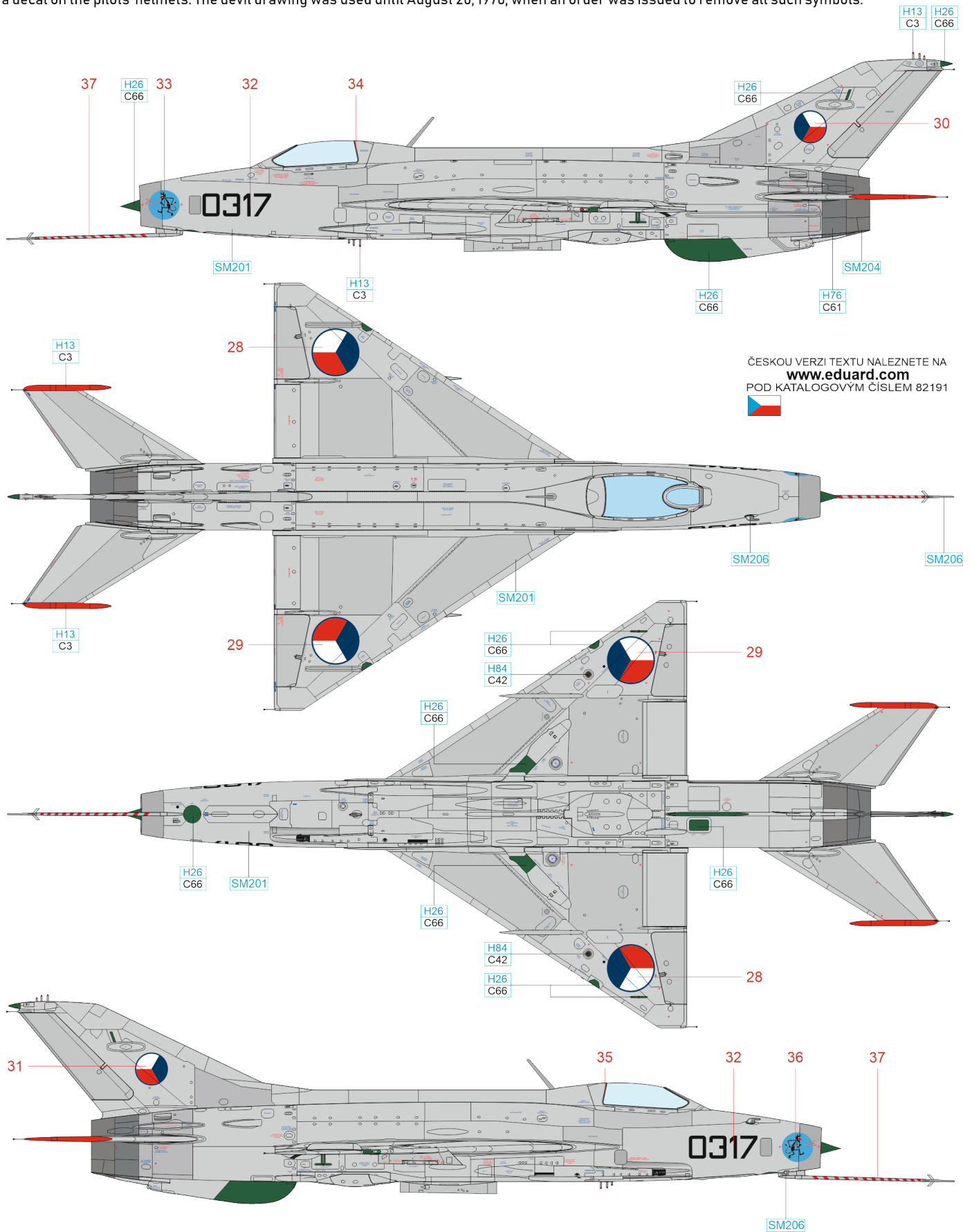


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- BRIGHT GREEN H26 C66
- GREEN H340 C340
- GREEN H319 C319
- MAHOGANY H84 C42
- BURNT IRON H76 C61
- SUPER FINE SILVER 2 SM201
- SUPER STAINLESS 2 SM204
- SUPER CHROME SILVER 2 SM206

C s/n 660416, 1. slp, České Budějovice AB, Czechoslovakia, 1968-1970

The easing of the political atmosphere in the spring of 1968 was also reflected in the coloring of some Czechoslovak MiG-21Fs. Members of the 1 Fighter Wing in České Budějovice were the first to design their own insignias. While the insignias for the MiG-21PF and PFM fighter squadrons for operations in difficult weather conditions and at night featured typical nocturnal animals like a bat and an owl, the first training squadron chose the symbol of a devil with a pitchfork against a clear blue sky. The author of the design was Miloslav Martenek, later known for his cartoons and illustrations. The inspiration for the drawing was the strict squadron commander, Major Jan Jansa. It was said that serving under him was hell. His red nose was also an inspiration for the devil drawing. All the designs were approved on May 17, 1968, and then spray-painted onto the aircraft. The same symbol also appeared in a smaller form as a decal on the pilots' helmets. The devil drawing was used until August 20, 1970, when an order was issued to remove all such symbols.

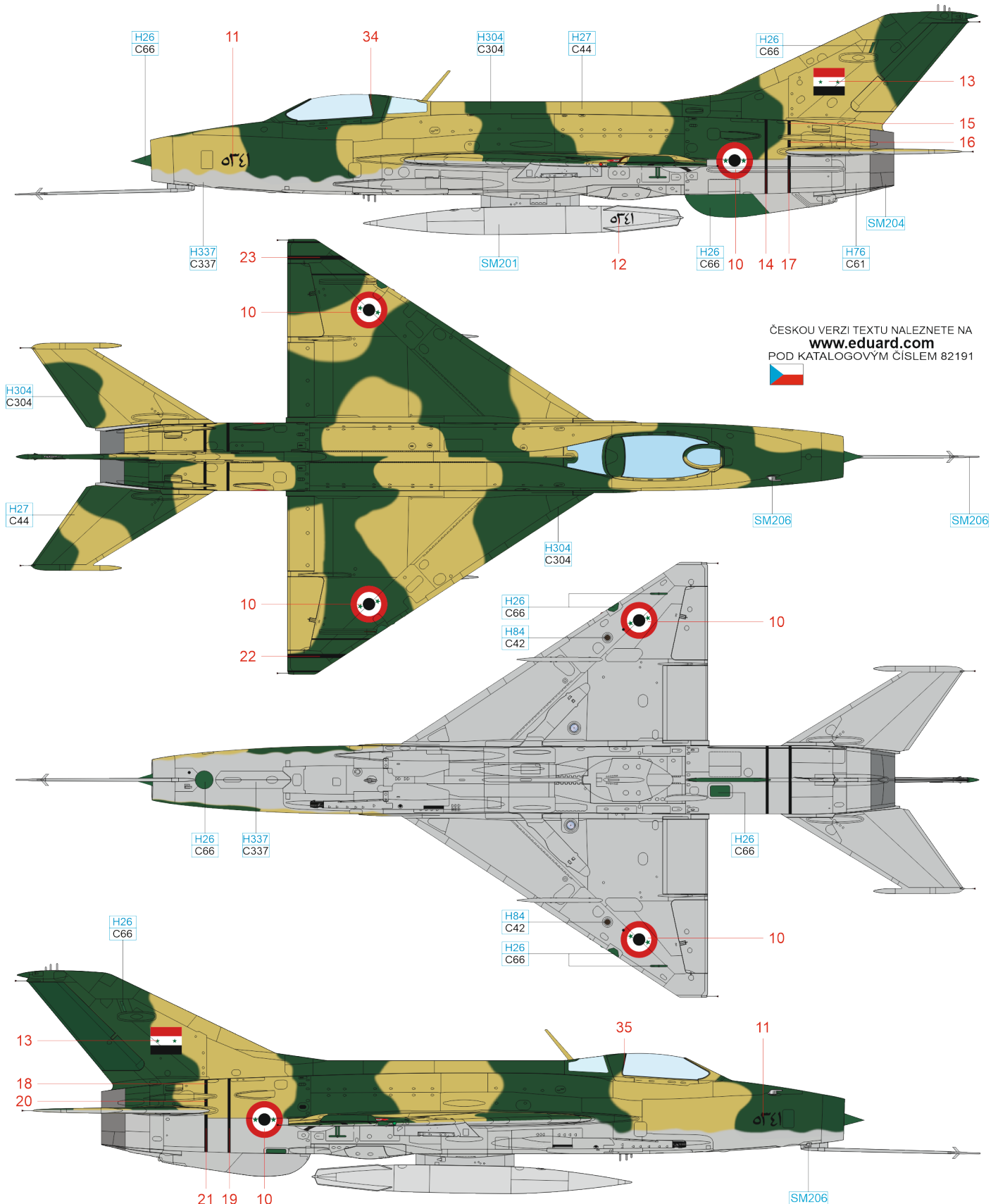


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 POD KATALOGOVÝM ČÍSLEM 82191

- BRIGHT GREEN H26 C66
- RED H13 C3
- MAHOGANY H84 C42
- BURNT IRON H76 C61
- SUPER FINE SILVER 2 SM201
- SUPER STAINLESS 2 SM204
- SUPER CHROME SILVER 2 SM206

D Cairo-West AB, United Arab Republic, 1967

The MiG-21F-13 with fuselage number 5341 came from one of the first series of MiG-21F-13s delivered to Egypt before the Six-Day War and was one of 22 aircraft of this type that survived the Arab-Israeli War in June 1967. After the war, it was camouflaged using automotive paint. This was applied around the black identification stripes located on the rear of the fuselage and at the wing tips. The auxiliary fuel tank was usually left unpainted but bore the aircraft's black serial number (5341) on its side.

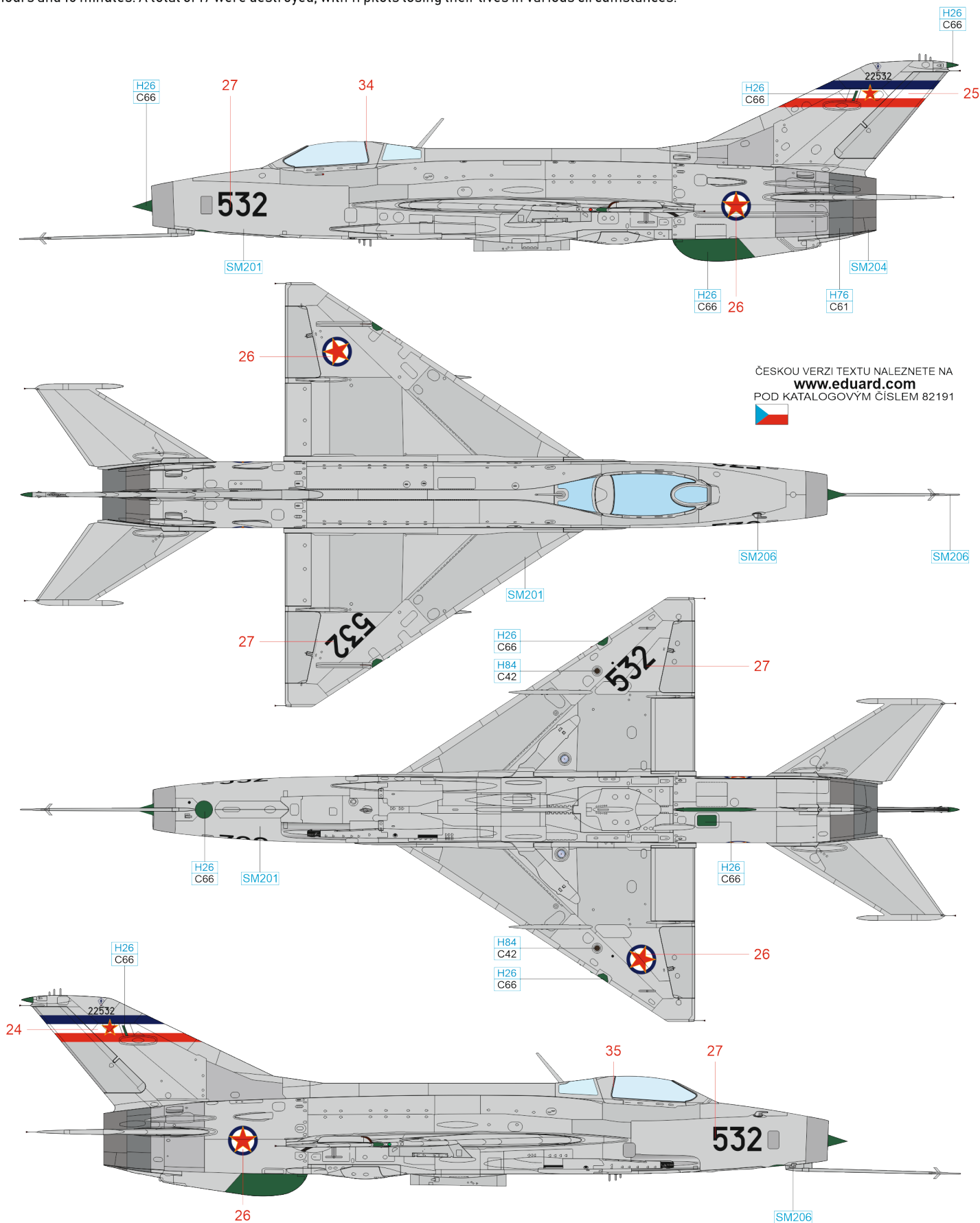


ČESKOU VERZI TEXTU NALEZNETE NA
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GRAY	H337 C337	GREEN	H304 C304	TAN	H27 C44
BRIGHT GREEN	H26 C66	MAHOGANY	H84 C42	BURNT IRON	H76 C61
		SUPER FINE SILVER 2	SM201	SUPER STAINLESS 2	SM204
		SUPER CHROME SILVER 2	SM206		

E s/n 22504, 204. LAP, Batajnica AB, Yugoslav Air Force, Yugoslavia, 1962

The MiG-21F-13 JRViPVO (Ratno Vazduhoplovstvo i Protivvazdušna Odbrana) aircraft bore registration numbers 22501 to 22541. The first five of them were delivered in September 1962. By the end of 1964, the rearmament of the 204 Fighter Regiment, consisting of three fighter squadrons, each with 12 aircraft, was completed. In August 1968, the Yugoslav Air Force had 38 MiG-21F-13 aircraft at its disposal. The last flights were made in March 1980. The aircraft were subsequently maintained until May 11, 1981, when it was decided to decommission them. During their service, the MiG-21F-13 aircraft flew 23,559 hours and 15 minutes. A total of 17 were destroyed, with 11 pilots losing their lives in various circumstances.

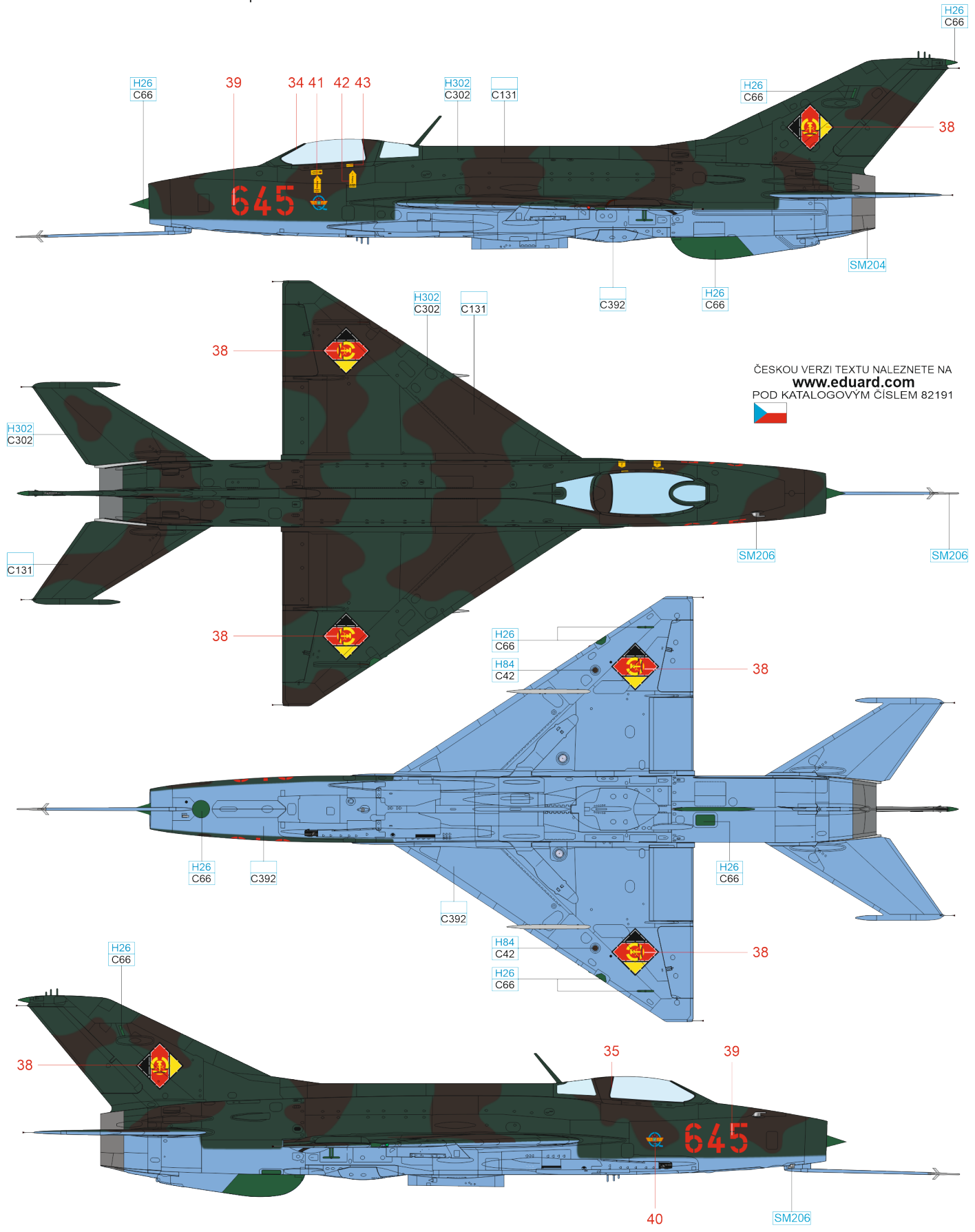


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- BRIGHT GREEN H26 C66
- MAHOGANY H84 C42
- BURNT IRON H76 C61
- SUPER FINE SILVER 2 SM201
- SUPER STAINLESS 2 SM204
- SUPER CHROME SILVER 2 SM206

F s/n 741924, AFS-31, East Germany Air Force, Preschen AB, German Democratic Republic, 1978-1980

The MiG-21F-13 entered service with the East Germany Air Force on May 4, 1962, when the first one landed at Neuhardenberg Air Base. A total of 76 aircraft of this type were delivered. The MiG-21F-13 stayed in active service with the NVA only until 1974, when it began to be replaced by the more modern MiG-21PFM and MiG-21SPS. The aircraft with the red fuselage number 645 was part of Jagdgeschwader 3 (JG 3) and later JG 15. When it ended its service with JG 15 in 1978, it served with AFS-31 and TAFS-47 as a tactical reconnaissance aircraft. The newly restored red 645 is currently on display at the Luftwaffenmuseum at Berlin-Gatow Airport.



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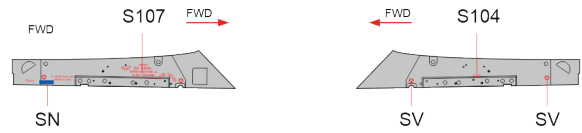
INTERIOR BLUE	C392	GREEN	H302 C302
BRIGHT GREEN	H26 C66	DARK BROWN	C131
		MAHOGANY	H84 C42
		SUPER STAINLESS 2	SM204
		SUPER CHROME SILVER 2	SM206

MiG-21F-13

LEFT WING PYLON



RIGHT WING PYLON



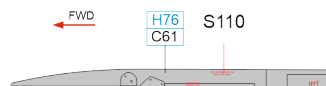
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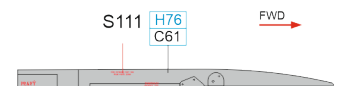
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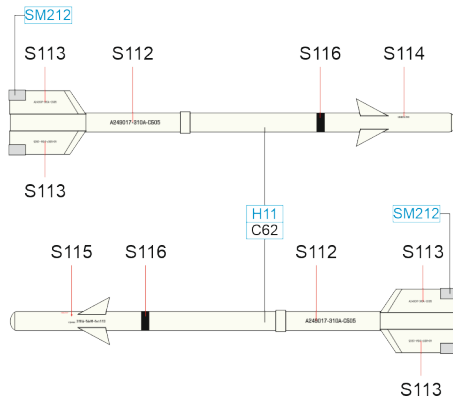
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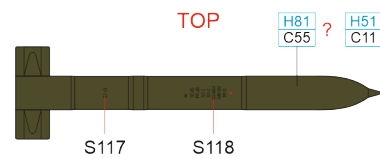
APU-7



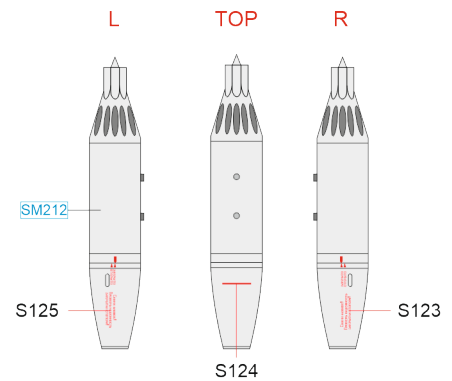
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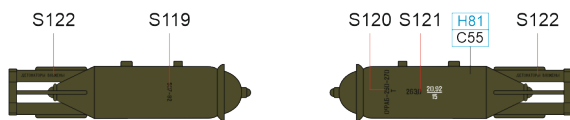
S-24



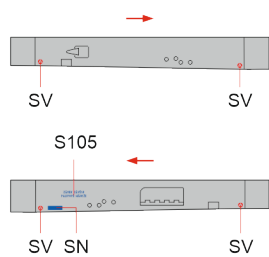
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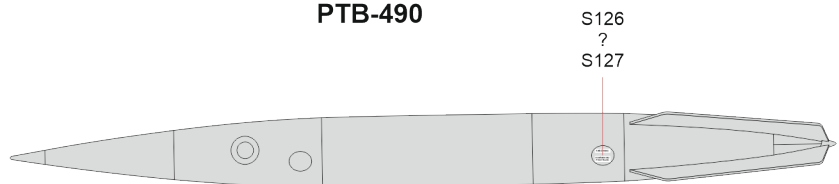
FAB-250

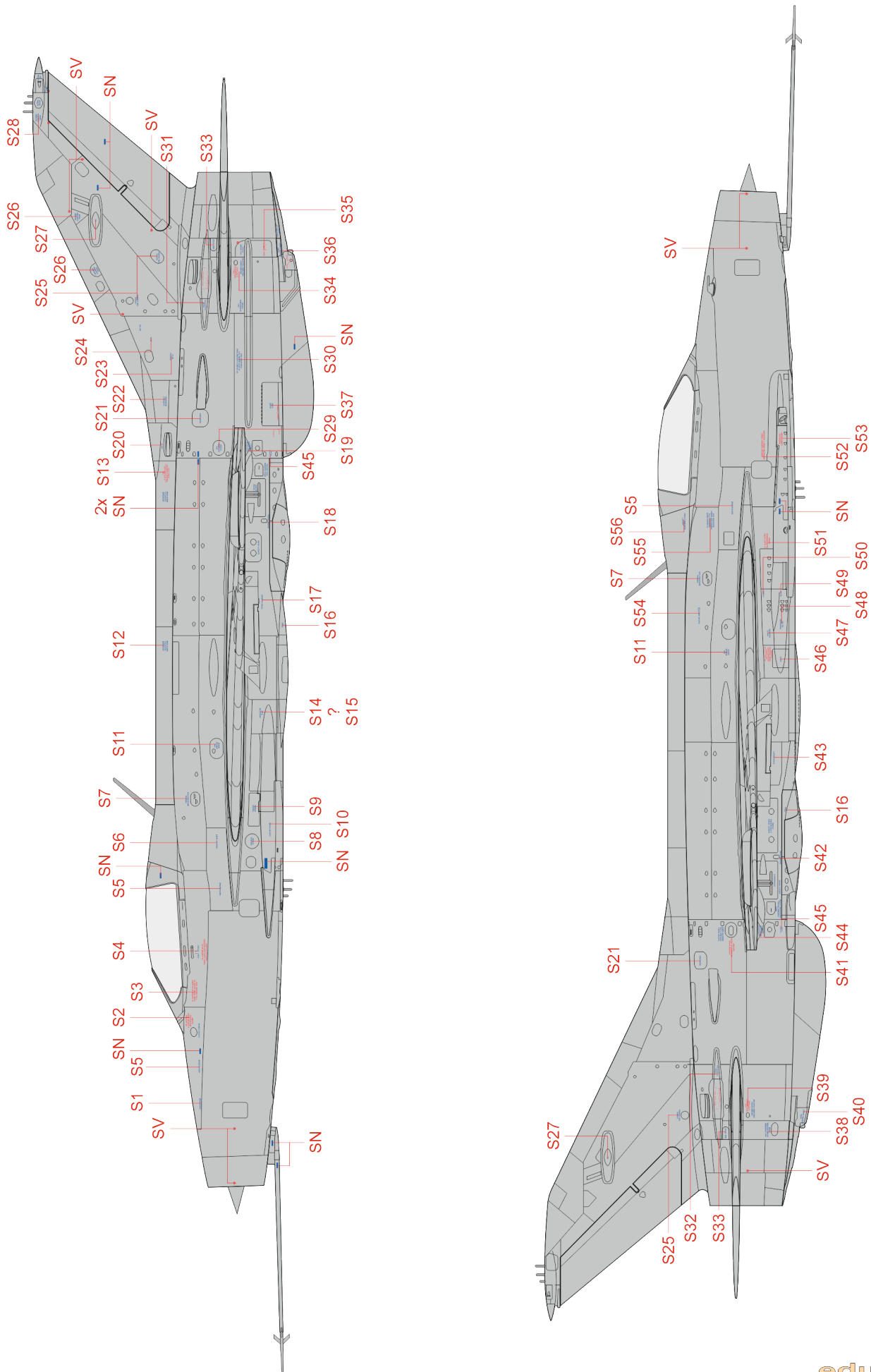


CENTERLINE PYLON

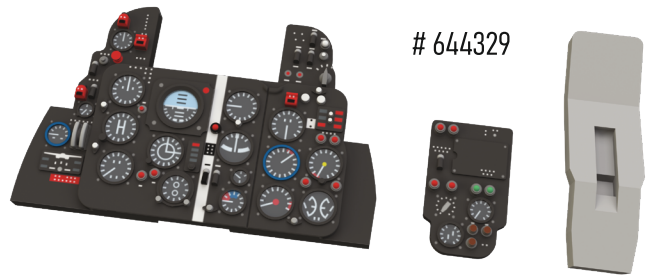


CENTERLINE PYLON PTB-490

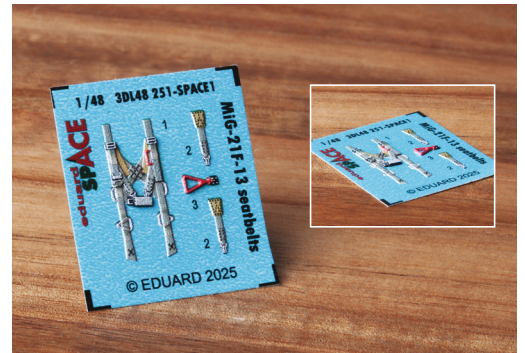
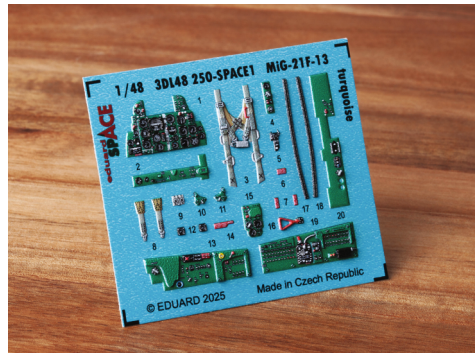
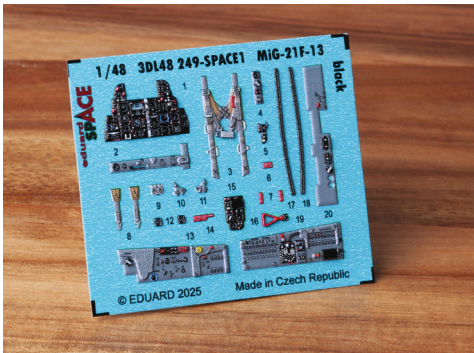




- 481175 MiG-21F-13 upgrade set (PE-Set)
- FE1556 MiG-21F-13 seatbelts STEEL (PE-Set)
- 644329 MiG-21F grey LööK (Brassin)
- 6481149 MiG-21F exhaust nozzle PRINT (Brassin)
- 6481151 MiG-21F wheels (Brassin)
- 6481154 MiG-21F PTB-490 fuel tank PRINT (Brassin)
- 3DL48249 MiG-21F-13 black SPACE (3D Decal Set)
- 3DL48250 MiG-21F-13 turquoise SPACE (3D Decal Set)
- 3DL48251 MiG-21F-13 seatbelts SPACE (3D Decal Set)
- EX1142 MiG-21F-13 TFace (Mask)



3DL48249



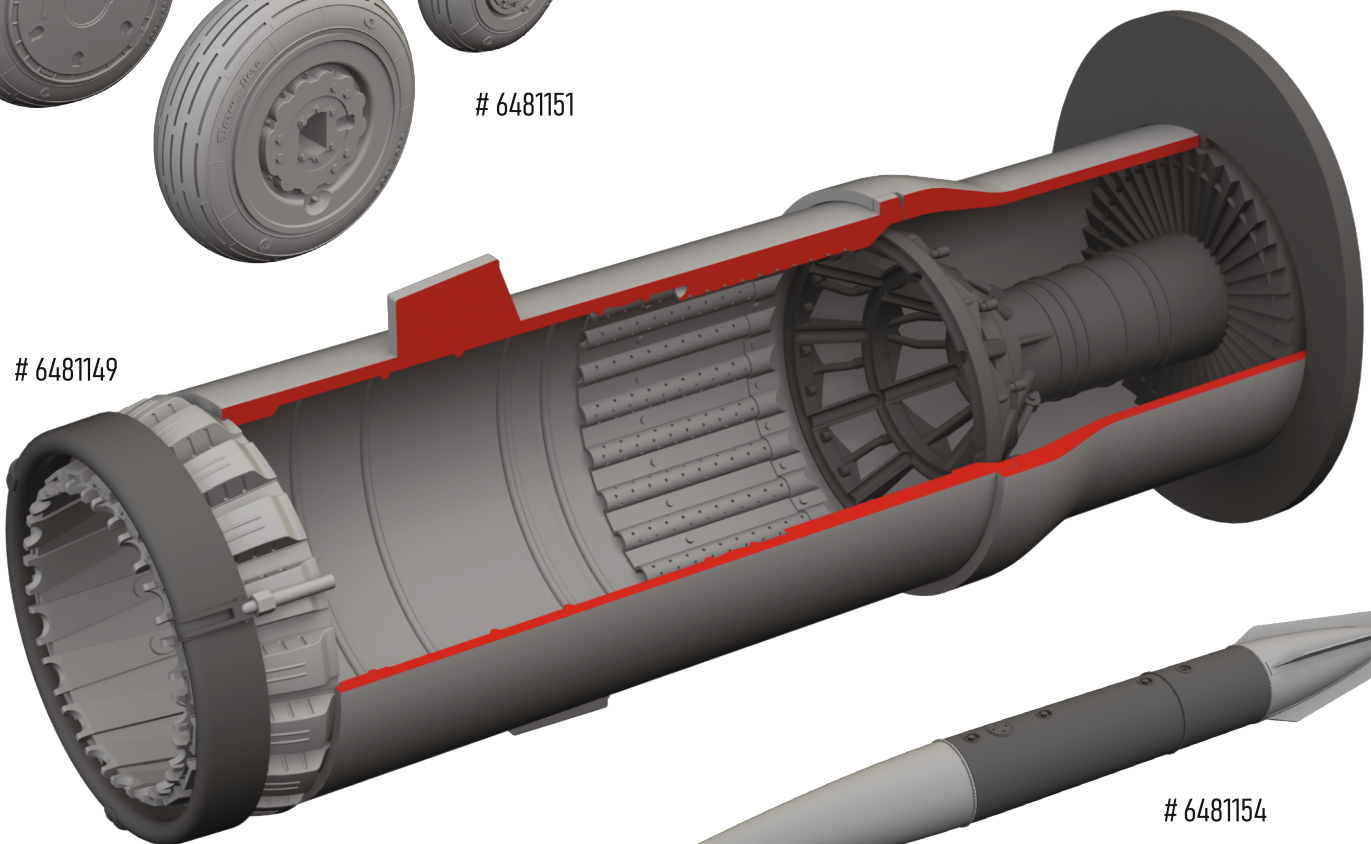
3DL48250

3DL48251



6481151

6481149



6481154