



## INSTRUCTION SHEET

### MiG-19 Supersonic Fighter

#### Introduction by Libor Režňák

The design of the MiG-19 supersonic fighter hails from the early fifties. A typical characteristic of supersonic capabilities became the swept wing, already used by the German school of thought going back to the Me 262 in the Second World War. It is interesting to note that the benefits of the swept wing weren't actually taken advantage of until 1950 with the introduction of the MiG-15 and F-86 Sabre, which reached speeds of 950km/h. Exceeding the speed of sound was a limitation of engine technology. The Soviets lost time in perfecting the turbojet with a radial compressor, which was, in the MiG-19, ultimately solved by using two axial flow units. Both the MiG-19 and the F-100 Super Sabre broke the sound barrier in 1954.

In any case, the F-100 went into immediate service with the USAF, and the new MiG went into production in the Soviet Union. The urgency injected into the rapid development of new powerplants caused a high level of unreliability. The initial RD-9 engines had a lifespan of a mere twenty-five flight hours, and despite a succession of improvements leading to the RD-9B, this would remain the main drawback of the type.

Series production of the three main versions of the MiG-19, the S, P and PM, spanned between 1955 and 1960 with a total of 1,884 aircraft being built. The MiG-19S was also produced by the Central Bohemian Industrial Works (Vodochody), which turned out 104 examples. The supersonic MiG-19 not only flew with the Warsaw Pact member states - Poland, East Germany, Hungary, Romania, Bulgaria and Czechoslovakia, but aircraft produced in China found their way into the air forces of a list of other nations, too. These included Afghanistan, Albania, Bangladesh, Cambodia, Cuba, Egypt, Indonesia, Iraq, Iran, Pakistan, North Korea, North Vietnam, Somalia, Sudan, Syria, Tanzania and Zambia. It took part in several border clashes, and undertook combat operations in all-out wars in the Middle East and Southeast Asia. In all cases, the MiG-19 developed a reputation for its turn and climb rates, and especially its punch. The three 30mm cannons were lethal, to put it mildly.

### The MiG-19 in Czechoslovakia

Supersonic MiGs appeared in Czechoslovakia in 1957. The delivery of thirteen MiG-19S aircraft was followed by twenty-four MiG-19Ps. The Central Bohemian Industrial Works received another thirteen MiG-19S knock-down kits in preparation for domestic production of the type. Inconsistencies in the documentation for the aircraft delayed production by a year. Assembly of the Soviet MiGs was also delayed, and deliveries did not occur until between January and March 1958. Licensed engine production was entrusted to the Jan Sverma facility, later called Motorlet, located in Prague - Jinonice. The locally produced engines were designated M-07. This firm assembled some fifty units from parts supplied by the Soviet Union.

The first Czechoslovak pilots underwent conversion training from July 1957 in the Soviet Union at Savasleyka Air Base. The first group consisted of two Vodochody and a quartet of military pilots. The two factory pilots, Vlastimil David and Julius Zvara finished their conversion training four months before their air force counterparts, on August 30th, 1957, with a supersonic flight. The first to break the sound barrier was Julius Zvara. On his return to Czechoslovakia, he undertook acceptance flights of all delivered S and P model aircraft, the last of which was accepted by the Air Force in December 1958. Local production of the MiG-19 at the Central Bohemian Industrial Works didn't begin until 1959. The first small production block consisted of six aircraft, which carried serial numbers from 950101 to 950106. The next block consisted of twenty planes, serialised 050201 to 050220, and was manufactured in 1960. The next twenty aircraft produced as the third block (150301 to 150320) were built between 1960 and 1961. The latter year also saw the production of the fourth production block of MiG-19S aircraft. This time, the block spanned thirty airframes (150401 to 150430). Also in that same year, the fifth block of aircraft were produced (serial numbers 150501 to 150515 for a total of fifteen aircraft). The acceptance flights of all aircraft were conducted by factory test pilots V. David, Kremen, Morava, Smidt and J. Zvara.





The Czechoslovak Air Force progressively accumulated from 1958 116 MiG-19S aircraft. The first home produced plane (950101) was used only for structural tests. In all, twenty-six aircraft crashed, and seven Czechoslovak pilots were lost flying the type. No pilots were lost on a second production batch aircraft. Twelve pilots were saved through ejection, and one pilot even bailed out of his aircraft in the traditional sense of the word. The average lifespan of the MiG-19S was 502 flight hours.

Czechoslovak pilots looked on the MiG-19 as a rocket. An afterburner takeoff required a mere 515m of real estate, and its maximum speed was 1,452km/h, and was easy to smoothly achieve. The climb rate of 180m/s was not bettered until the introduction in service of the MiG-29.

### MiG-19P

The MiG-19P was an interceptor version of the MiG-19S that differed in armament, of which the installation of the RP-5 radar was a part, coupled with a pair of NR-30 cannons. The installation of the radar extended the fuselage by some 36cm, and this version could carry rocket pods, bombs and external fuel tanks of the earlier version. The Czechoslovak Air Force took delivery of twenty-four of this version from the Soviet Union. Eight of these aircraft were lost while in service

between 1958 and 1966. Crashes claimed three pilots, one was saved by ejecting, and four aircraft burned on the ground. The MiG-19P interceptors served in the Czechoslovak Air Force with the 1st slp (Fighter Regiment) in Ceske Budejovice, the 5th slp in Pilsen, the 8th slp in Mosnov and the 11th slp in Zatec.

### MiG-19PM

The Czechoslovak Air Force operated a total of 43 MiG-19PMs. These were flown from 1959 by four elite air units, the 1st, 4th, 5th and 11th slp. The PM version introduced a whole new level of quality to the air defense assets. GCI would direct the aircraft towards a target, and the pilot would then conduct terminal phases of the intercept, as well as the firing off of RS-2U air-air missiles, himself. The construction of the airframe was compatible with that of the MiG-19P, but equipment, hydraulics and the fuel system were brought up to date. Typical of this version were four underwing hardpoints for four of the aforementioned missiles, or two auxiliary fuel tanks. The aircraft gained 346kg in weight, which had an effect on performance. The ceiling was 16,600m and maximum speed fell to 1,230km/h. Over the type's service career in the Czechoslovak Air Force, fourteen aircraft were lost, four pilots died, and five ejected successfully. Half of the losses were attributed to technical issues. Average airframe life came to 703 flight hours, with the highest being recorded by 651113 at 758 hours. The MiG-19PM was withdrawn from service in the Czechoslovak Air Force in 1972.

### Conclusion

The supersonic MiG-19 was a world class aircraft at the end of the fifties. In terms of armament, turn rate and climb rate, it had no serious competition. However, in terms of technology standards, the aircraft aged towards obsolescence quickly. The aircraft's on board systems suffered from a definite unreliability problem.

The Czechoslovak Air Force operated a total of 183 MiG-19s. In service, 48 aircraft were lost, which comes to 26.2%. The year 1962 was the worst year for losses, with twelve. The highest number of MiG-19s serving with the Czechoslovak Air Force was between 1961 and 1967. During its service, the expected lifespan of the airframe was at times more than doubled, which is a testament, despite the negatives, to the type's quality of construction and, no less importantly, its maintenance while in service.



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 započatím 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. SYMBOLY

\* 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  
POUŽÍT EDUARD MASK  
NABARVIT

PARTS



DÍLY



TEILE



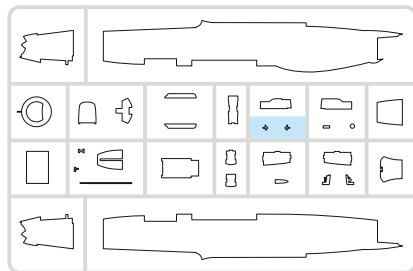
PIÈCES



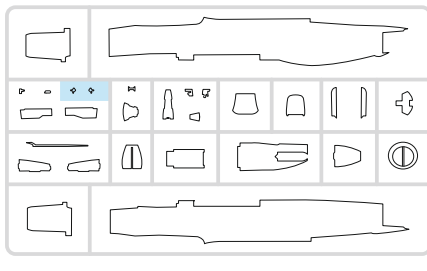
部品

## PLASTIC PARTS

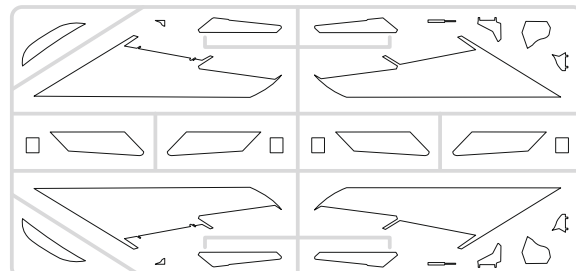
## A&gt; MiG-19PM



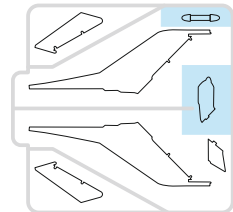
## A&gt; MiG-19S



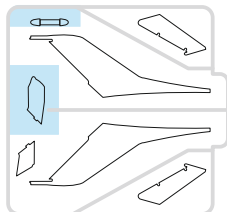
## B&gt;



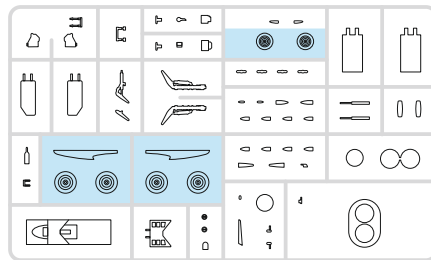
## C1&gt; MiG-19PM



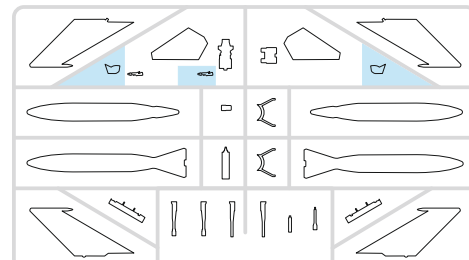
## C2&gt; MiG-19S



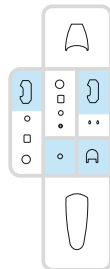
## D&gt;



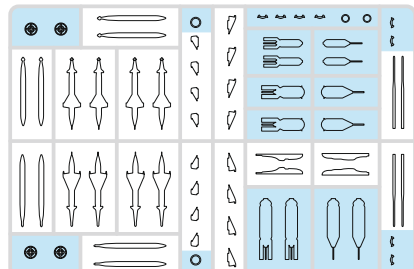
## E&gt;



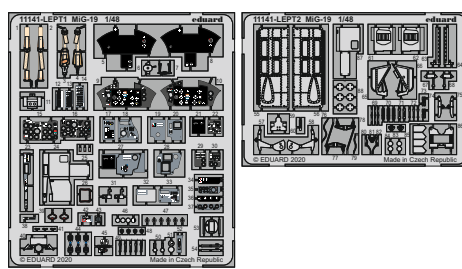
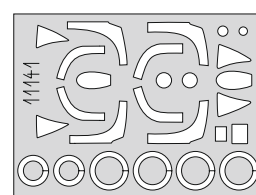
## F&gt;



## G&gt;



## PE - PHOTO ETCHED DETAIL PARTS

eduard  
MASK

## RP - RESIN PARTS

eduard  
BRASSINR9  
2 pcs.R10  
2 pcs.

## FILM



-Parts not for use. -Teile werden nicht verwendet. -Pièces à ne pas utiliser. -Tyto díly nepoužívejte při stavbě. - 使用しない部品

COLOURS



BARVY



FARBEN



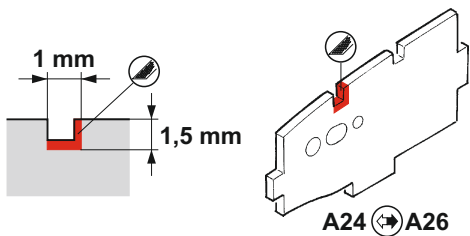
PEINTURE



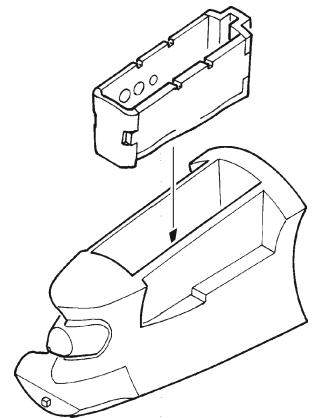
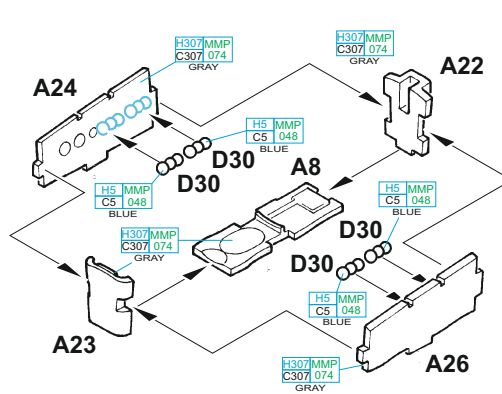
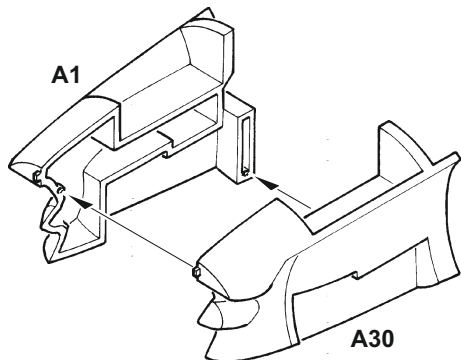
色

GSI Creos (GUNZE)		MISSION MODELS	
AQUEOUS	Mr.COLOR	PAINTS	
H5	C5	[MMP-048]	BLUE
H8	C8		SILVER
H11	C62	[MMP-001]	FLAT WHITE
H12	C33	[MMP-047]	FLAT BLACK
H13	C3	[MMP-003]	FLAT RED
H26	C66		BRIGHT GREEN
H47	C41	[MMP-015]	RED BROWN
H53	C13	[MMP-003]	NEUTRAL GRAY

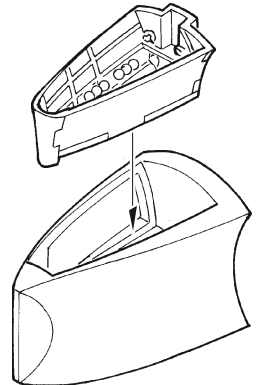
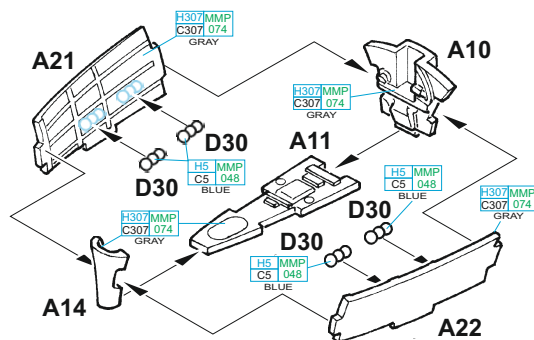
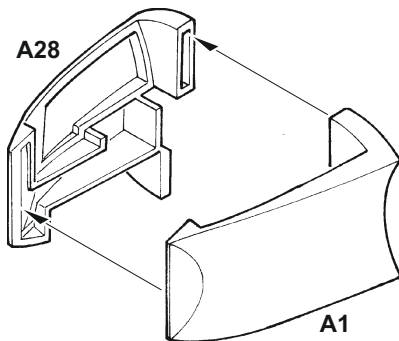
GSI Creos (GUNZE)		MISSION MODELS	
AQUEOUS	Mr.COLOR	PAINTS	
H77	C137	[MMP-040]	TIRE BLACK
H307	C307	[MMP-074]	GRAY
H334	C334	[MMP-102]	BARLEY GRAY
Mr.METAL COLOR		METALLICS	
[MC214]		[MMM-001]	DARK IRON
Mr.COLOR SUPER METALLIC		METALLICS	
[SM201]		[MMC-001]	SUPER FINE SILVER



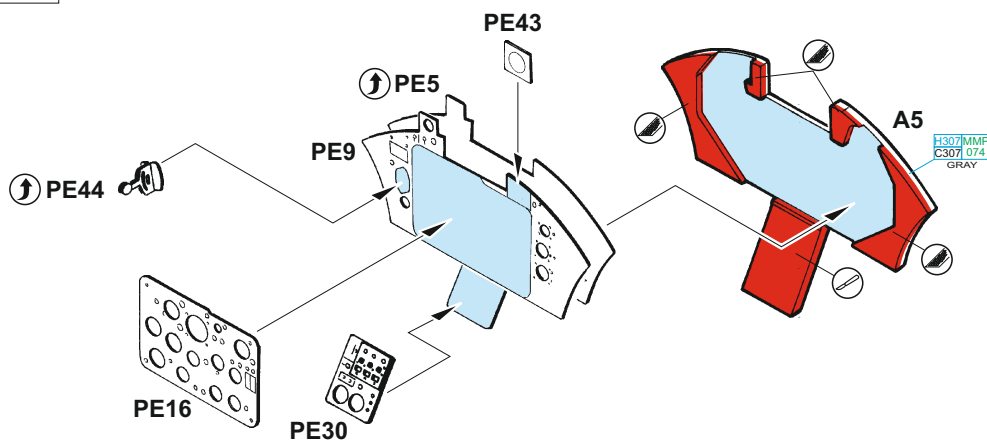
## A MARKINGS F - H ONLY



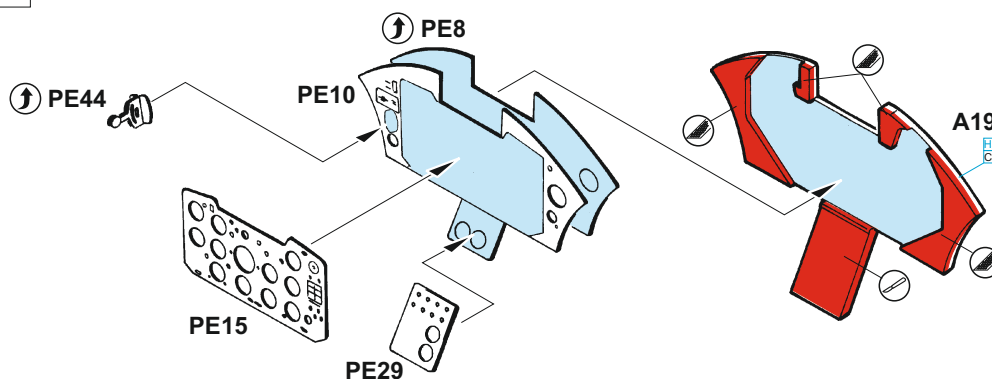
## MARKINGS A - E ONLY



## B MARKINGS F - H ONLY

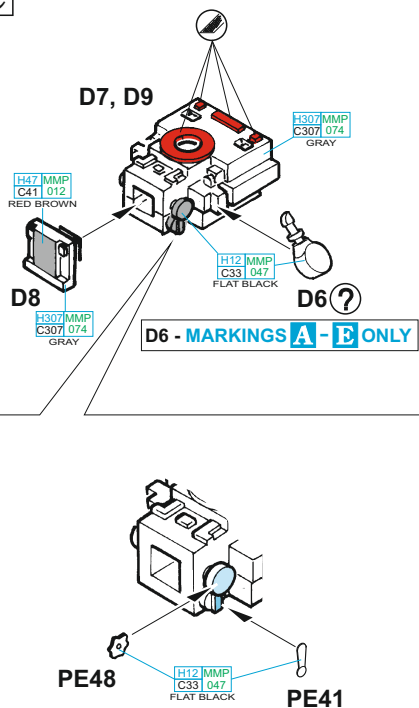


## MARKINGS A - E ONLY

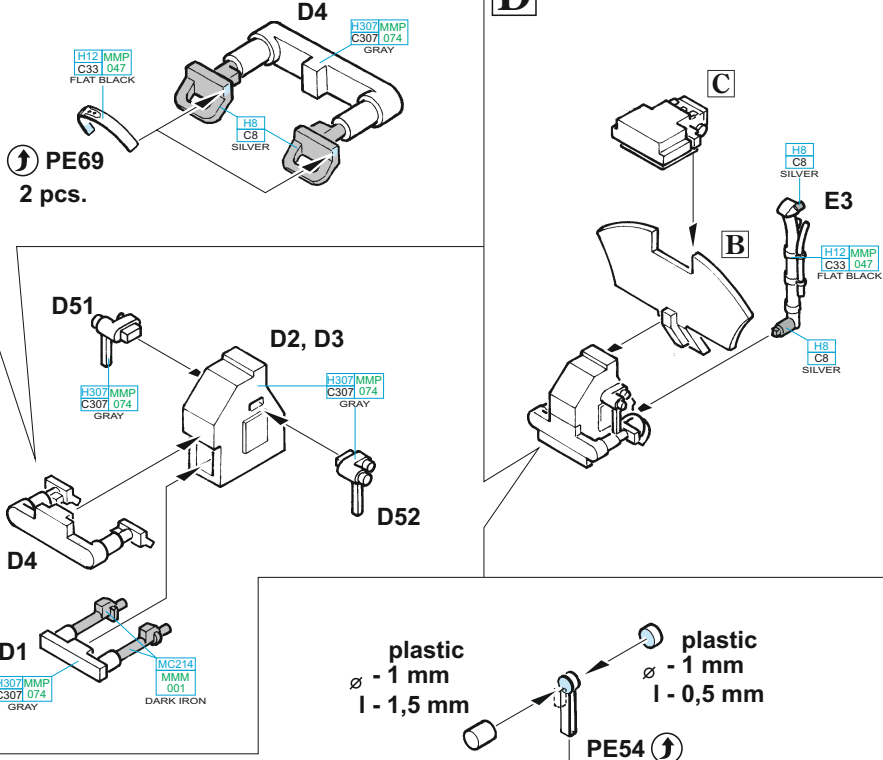




**C**

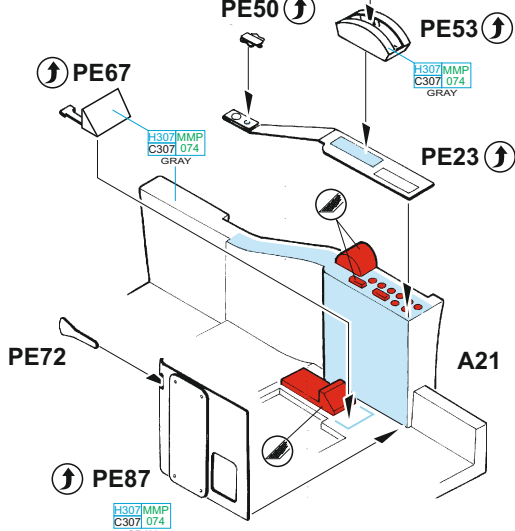
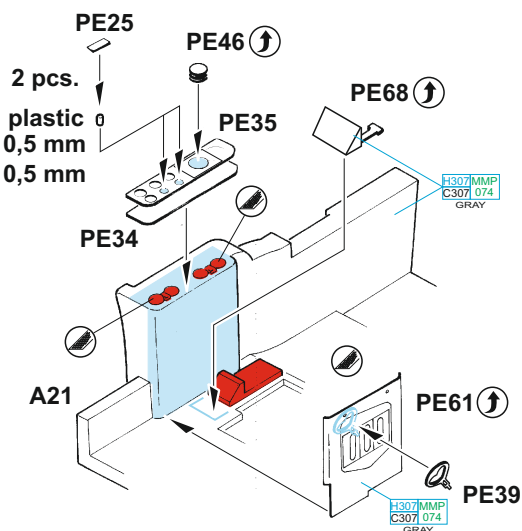


**D**



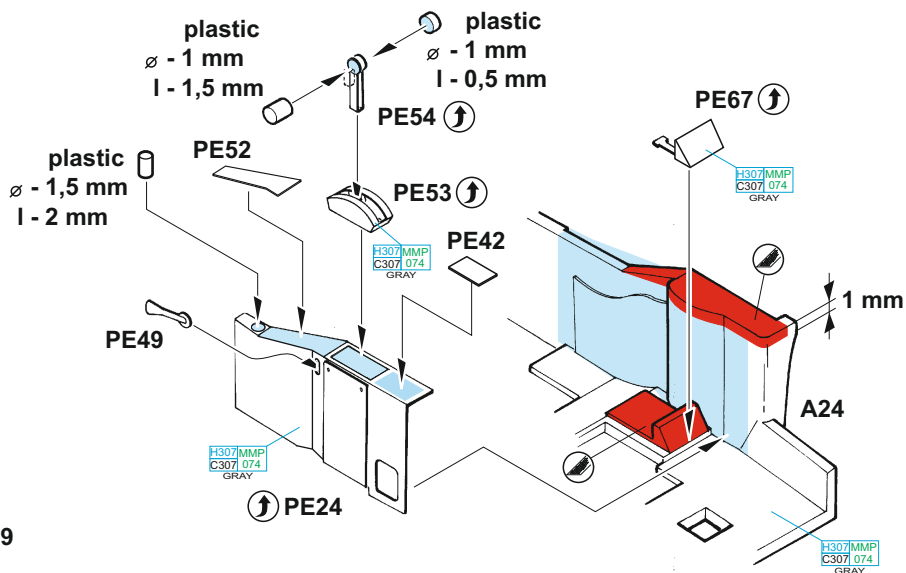
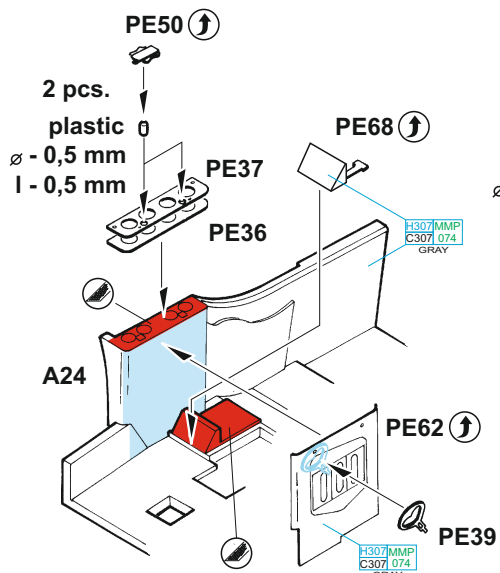
**E**

MARKINGS F - H ONLY

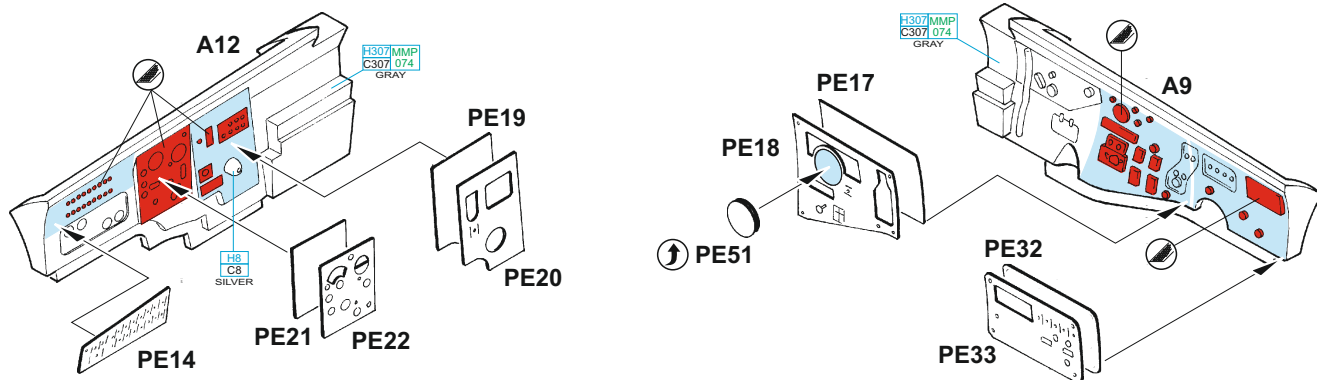


?

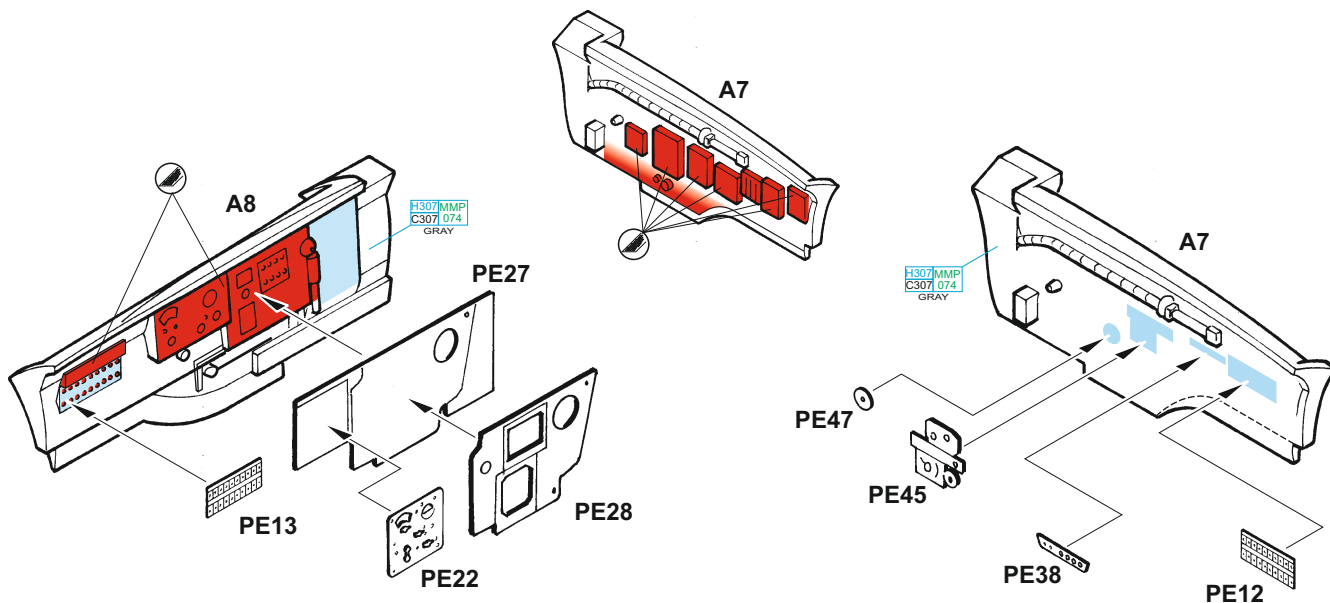
MARKINGS A - E ONLY



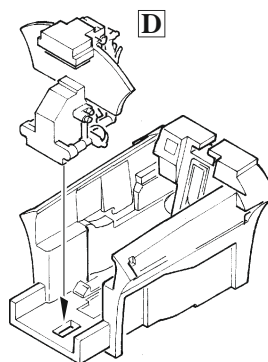
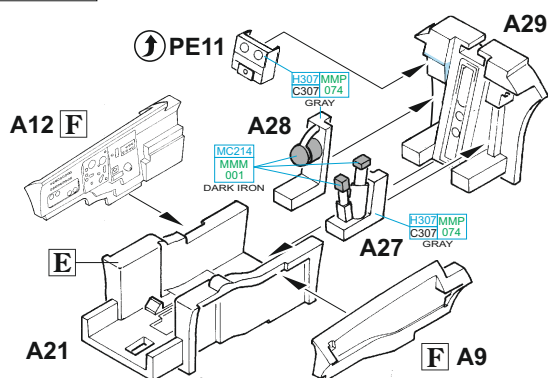
**F** MARKINGS **F - H** ONLY



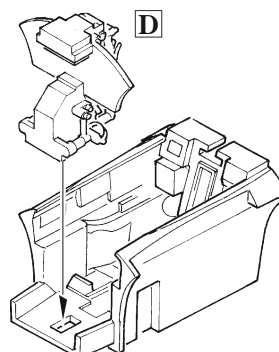
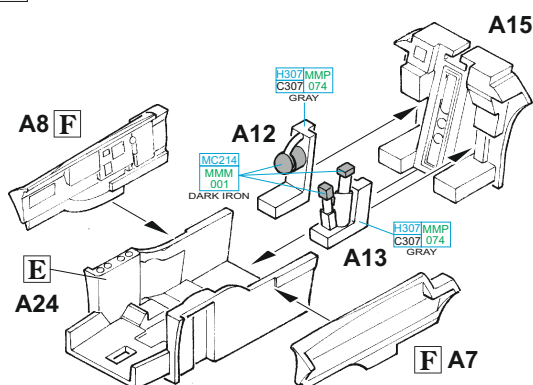
MARKINGS **A - E** ONLY



**G** MARKINGS **F - H** ONLY

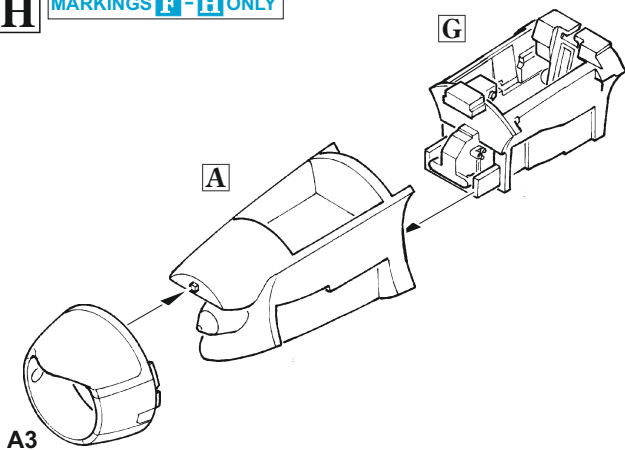


MARKINGS **A - E** ONLY

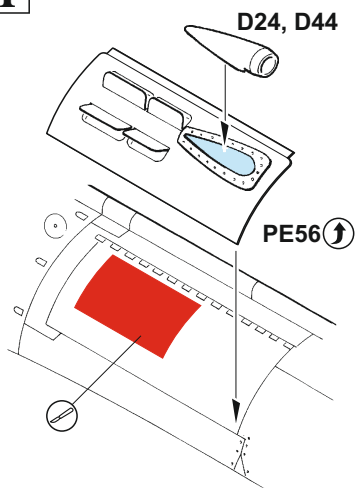




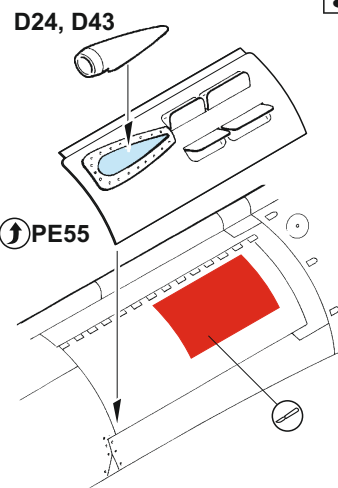
**H** MARKINGS **F-H** ONLY



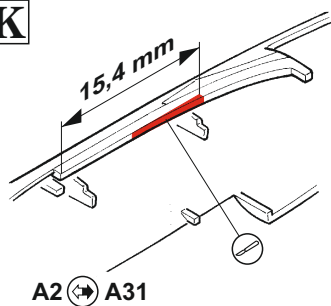
**I**



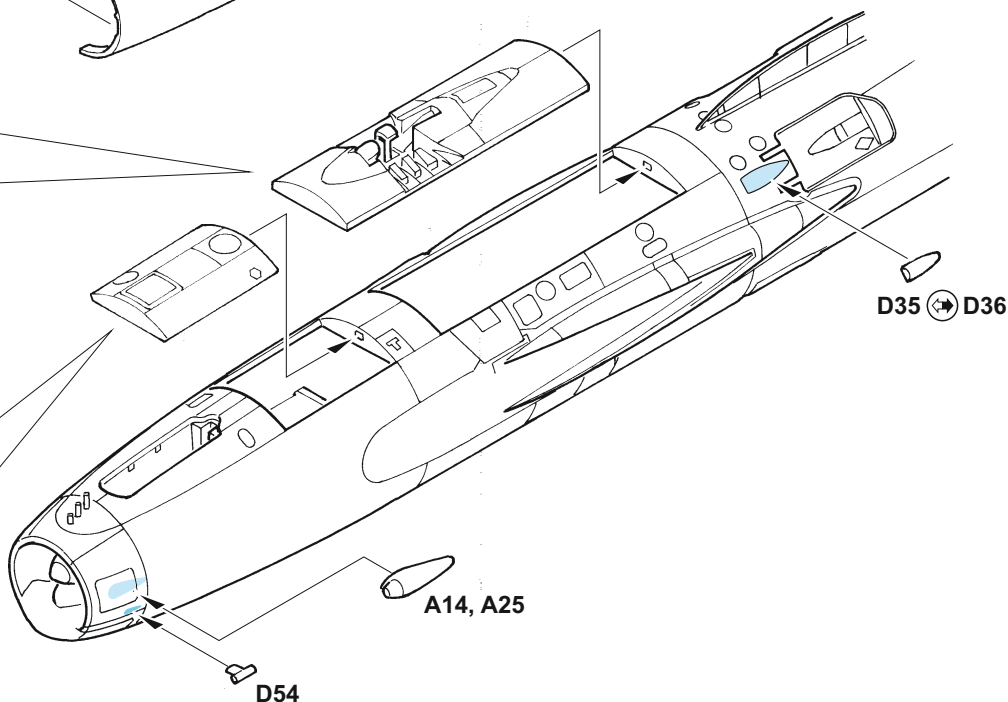
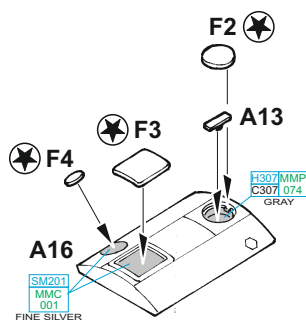
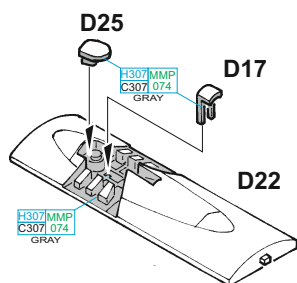
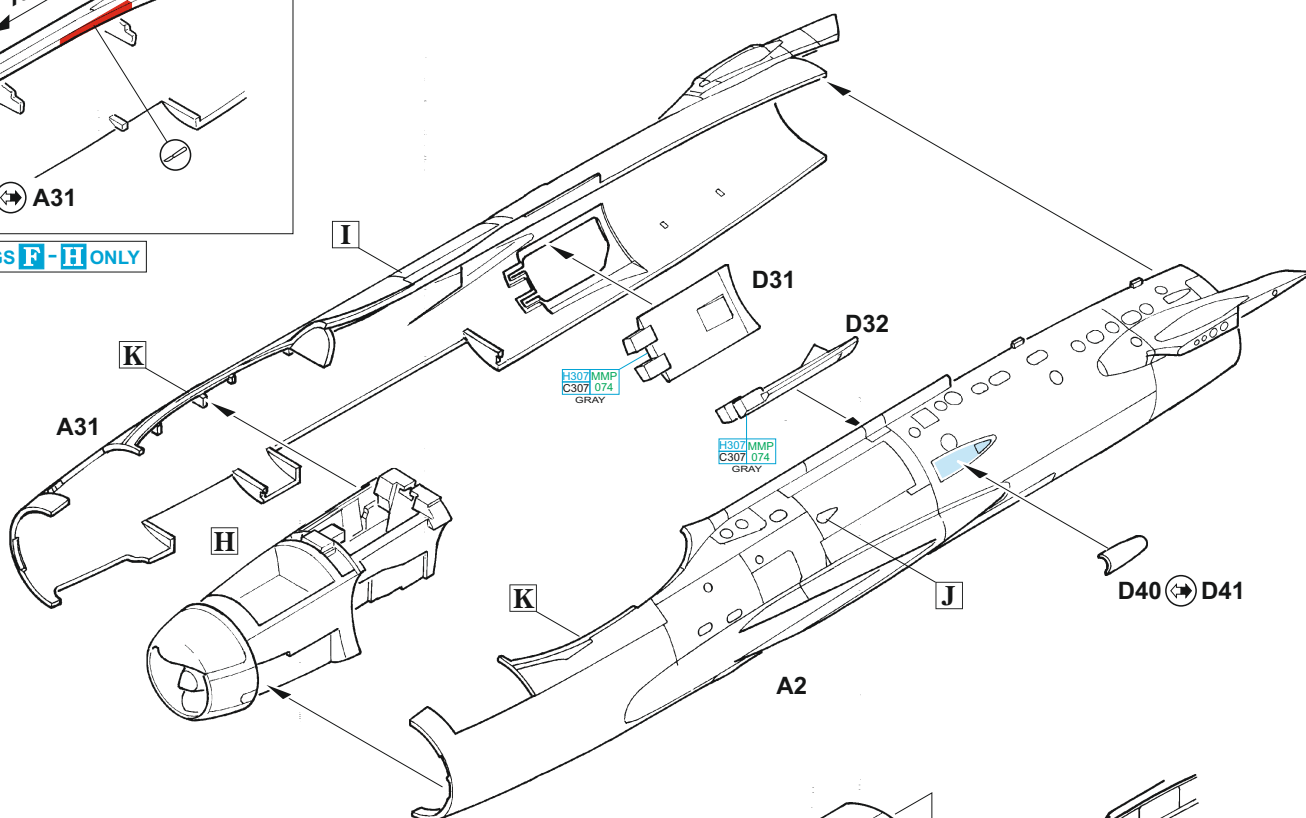
**J**



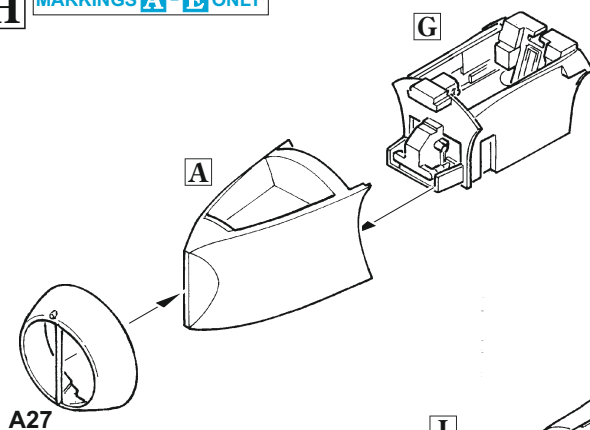
**K**



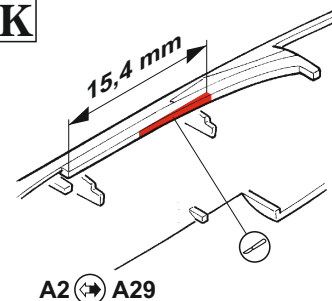
MARKINGS **F-H** ONLY



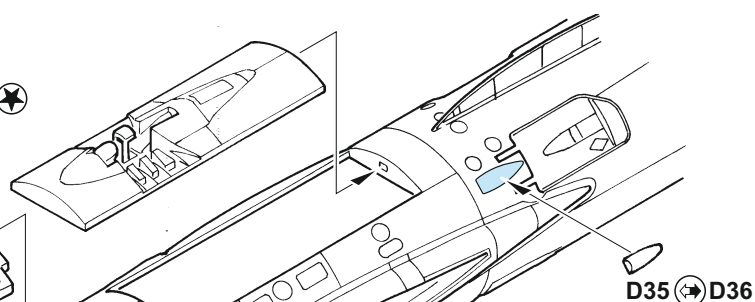
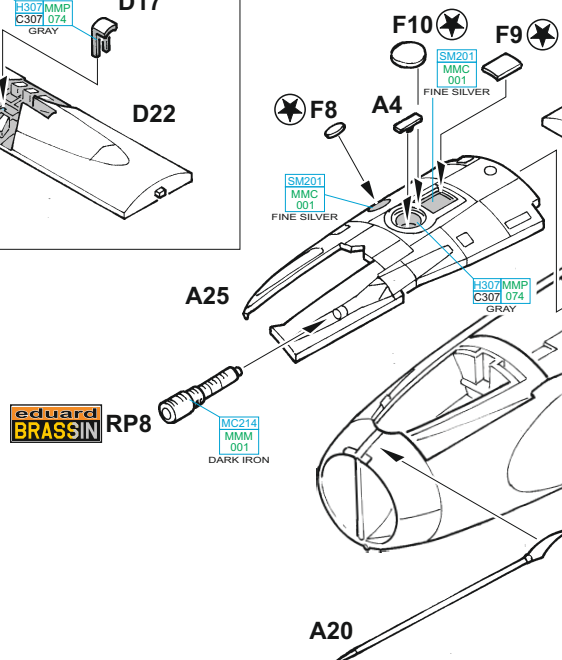
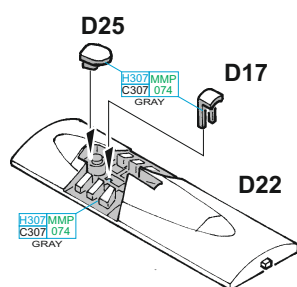
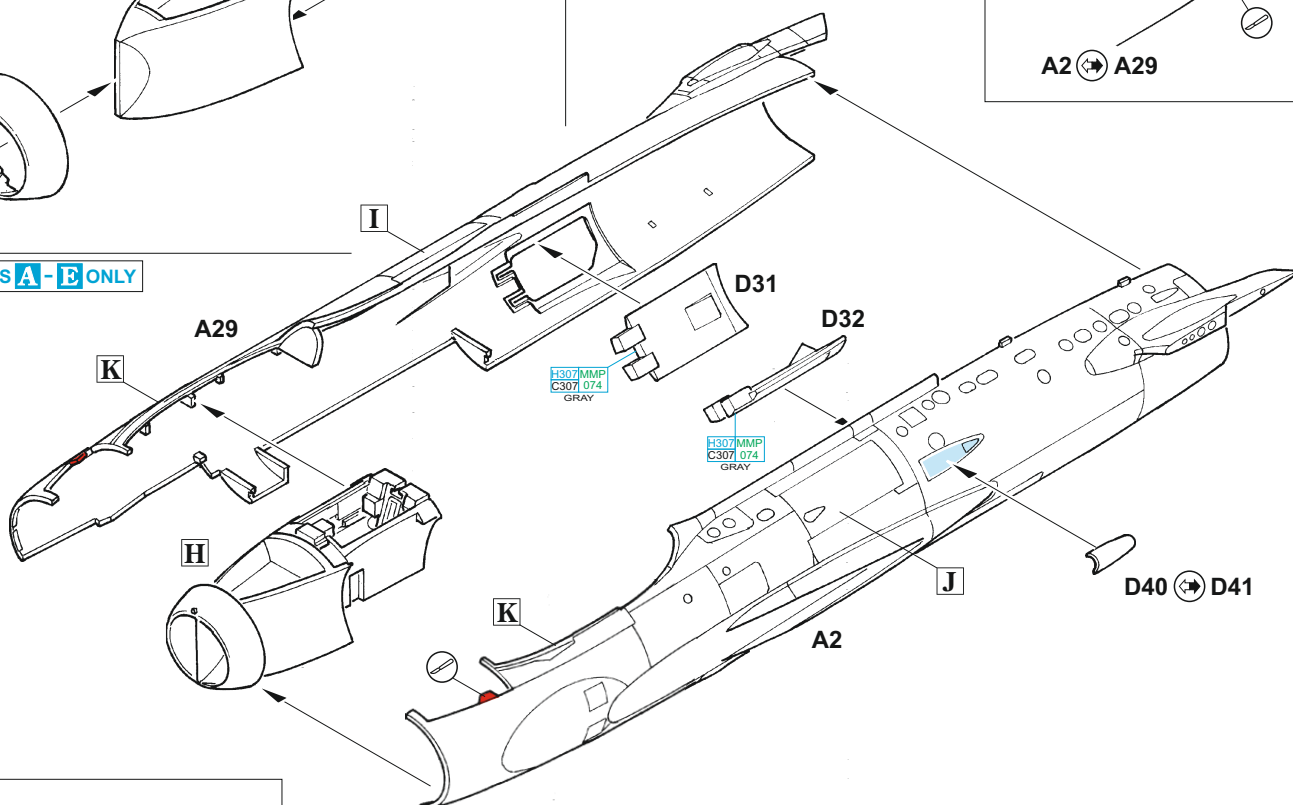
## H MARKINGS A - E ONLY



**K**

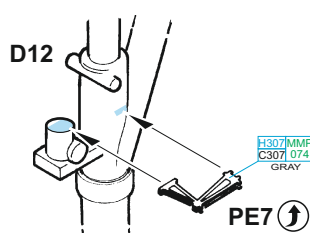
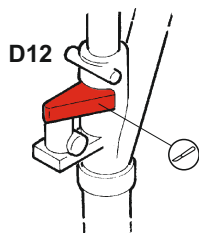
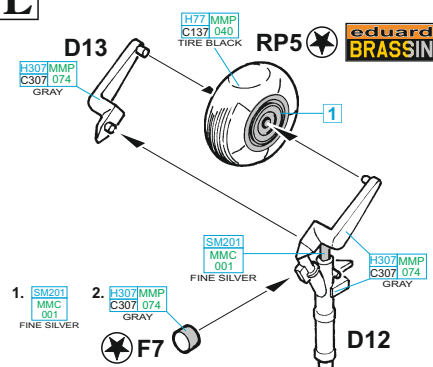


MARKINGS **A - E** ONLY



**1** =  - MARKINGS **A;B;C;F;G**  
 - MARKINGS **D;E;H**  
 GRAY  
 BRIGHT GREEN

**L**





A6, A7 - MARKINGS **F-H**

A17, A18 - MARKINGS **A-E**

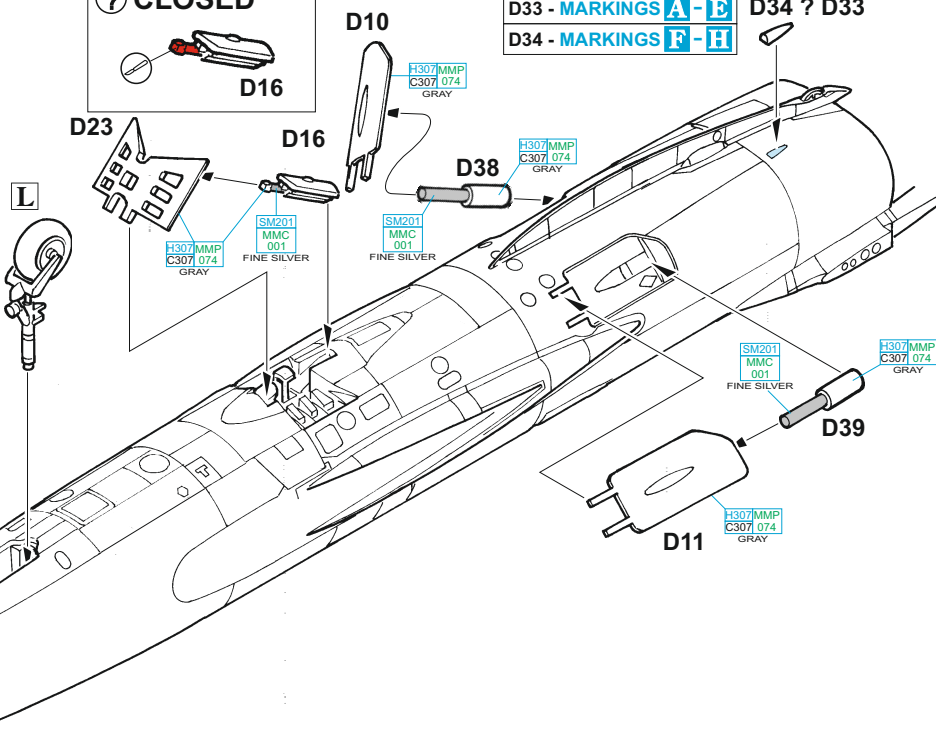
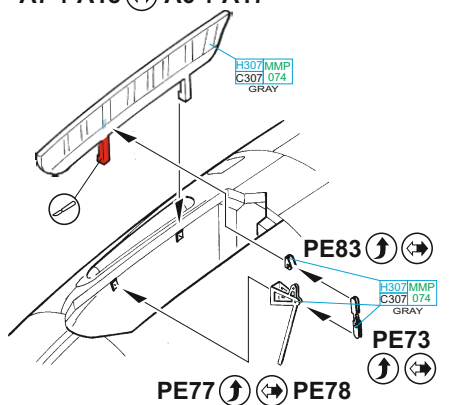
A7 ? A18 (↔) A6 ? A17

? **CLOSED**

D33 - MARKINGS **A-E**

D34 - MARKINGS **F-H**

D34 ? D33



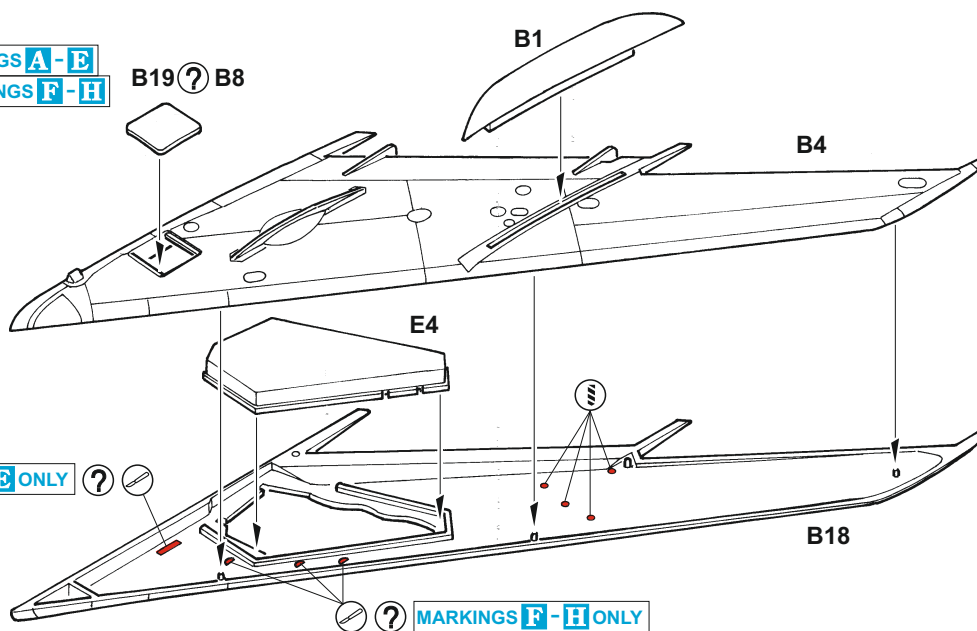
**M**

B8 - MARKINGS **A-E**

B19 - MARKINGS **F-H**

B19 ? B8

MARKINGS **A-E** ONLY

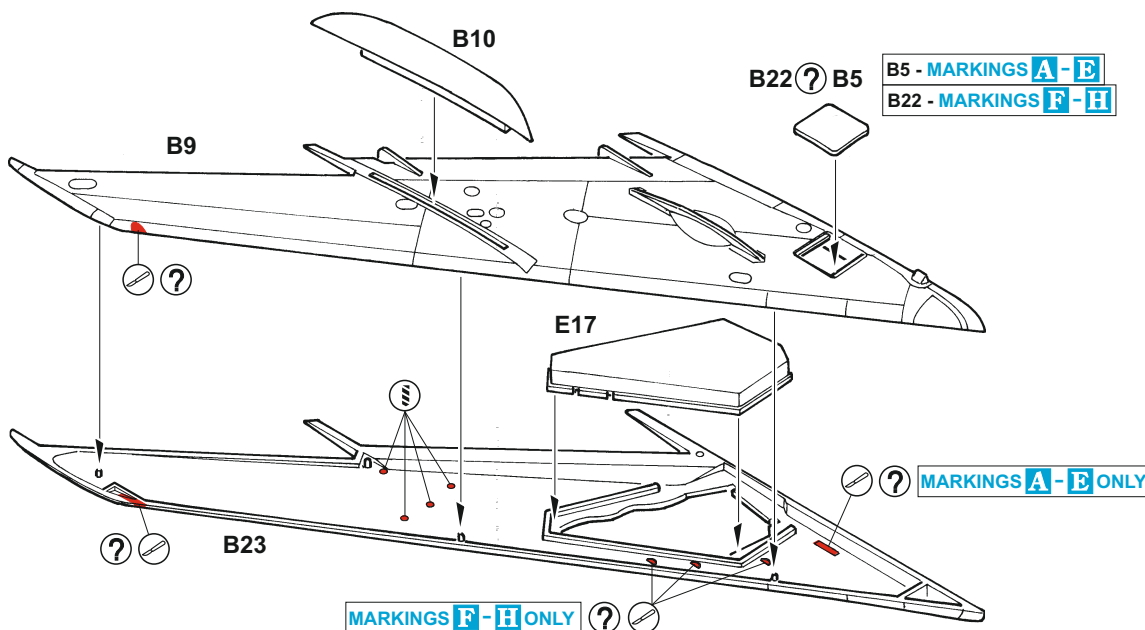


**N**

B5 - MARKINGS **A-E**

B22 - MARKINGS **F-H**

B22 ? B5



C3 - MARKINGS **A-E**  
C4 - MARKINGS **F-H**

C4 ? C3

C1,C7

C6

C2 ? C5

C2 - MARKINGS **F-H**  
C5 - MARKINGS **A-E**

E1, E12

D26

D27

E19, E28

**O**

eduard  
BRASSIN

RP7

H77 MMP  
C137 040  
TIRE BLACK

1

SM201  
MMC  
001  
FINE SILVER

H307 MMP  
C307 074  
GRAY

D14

B27

**P**

eduard  
BRASSIN

RP6

H77 MMP  
C137 040  
TIRE BLACK

1

H307 MMP  
C307 074  
GRAY

SM201  
MMC  
001  
FINE SILVER

D15

B16

D53

MC214  
MMM  
001  
DARK IRON

MC214  
MMM  
001  
DARK IRON

D47

D50

D46

MC214  
MMM  
001  
DARK IRON

**Q**

2pcs.  
PE88

E22, E23 (E7, E9)

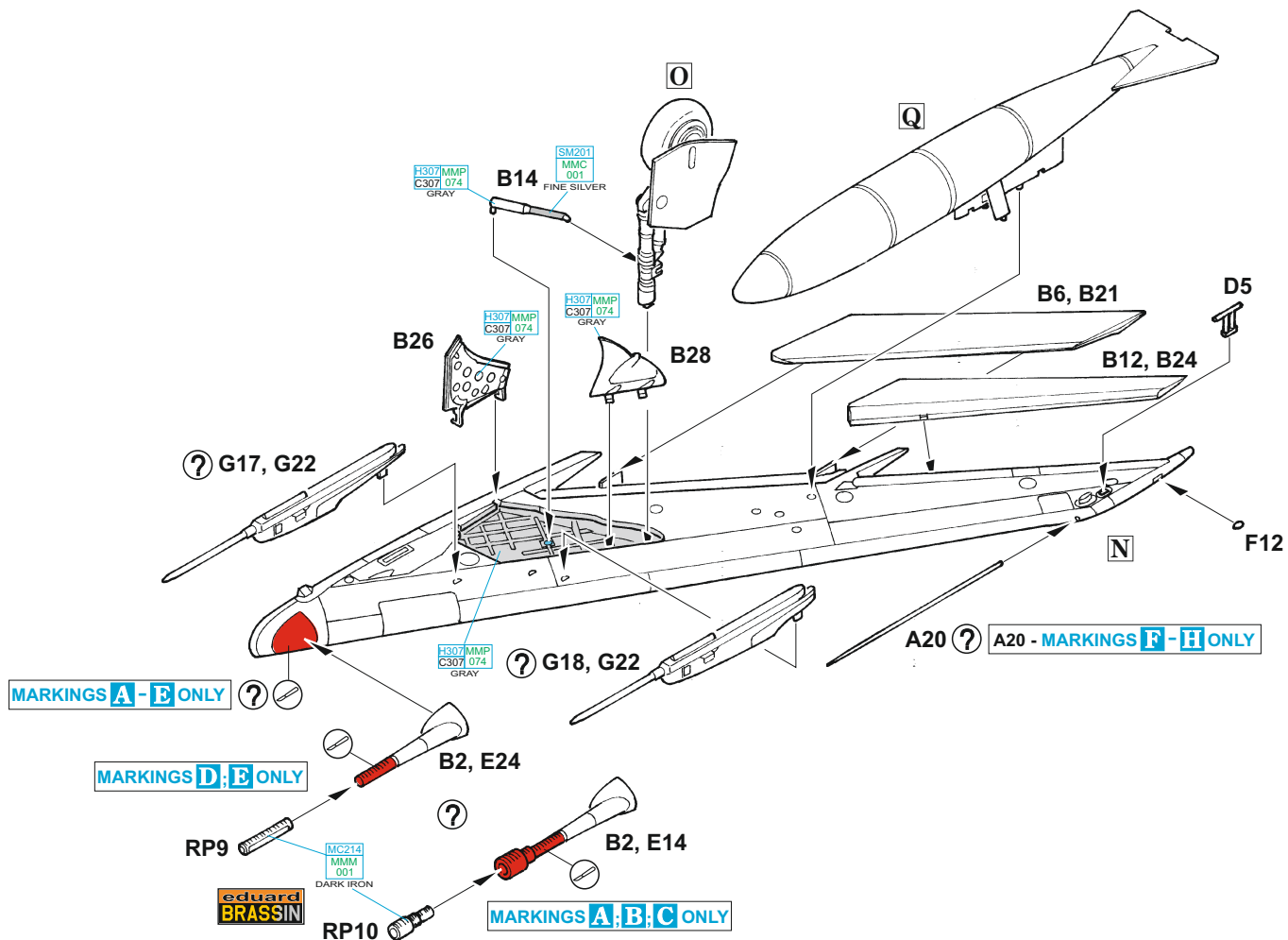
E11 (E27)

E20 (E21)

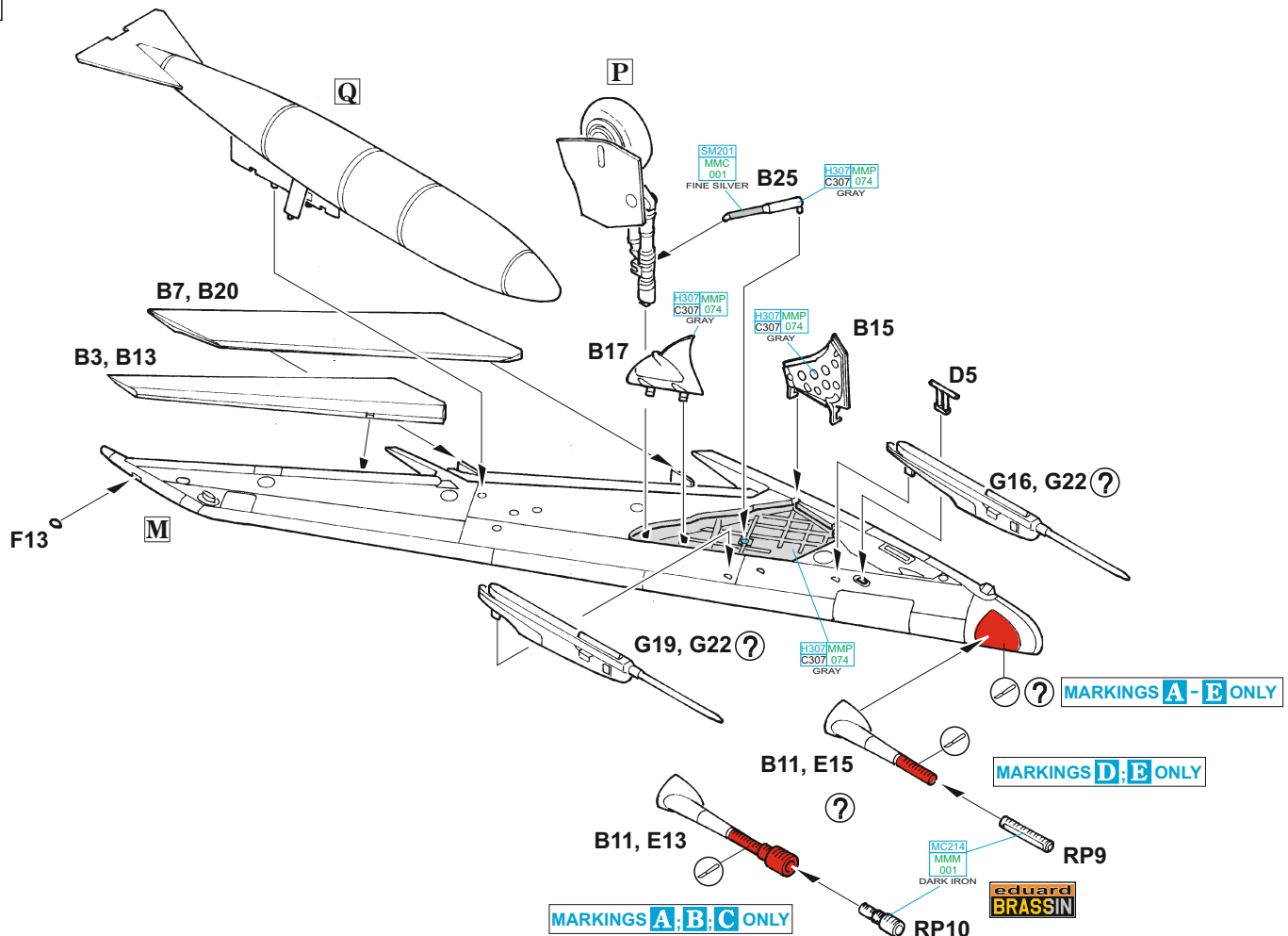
E22, E23 (E7, E9)



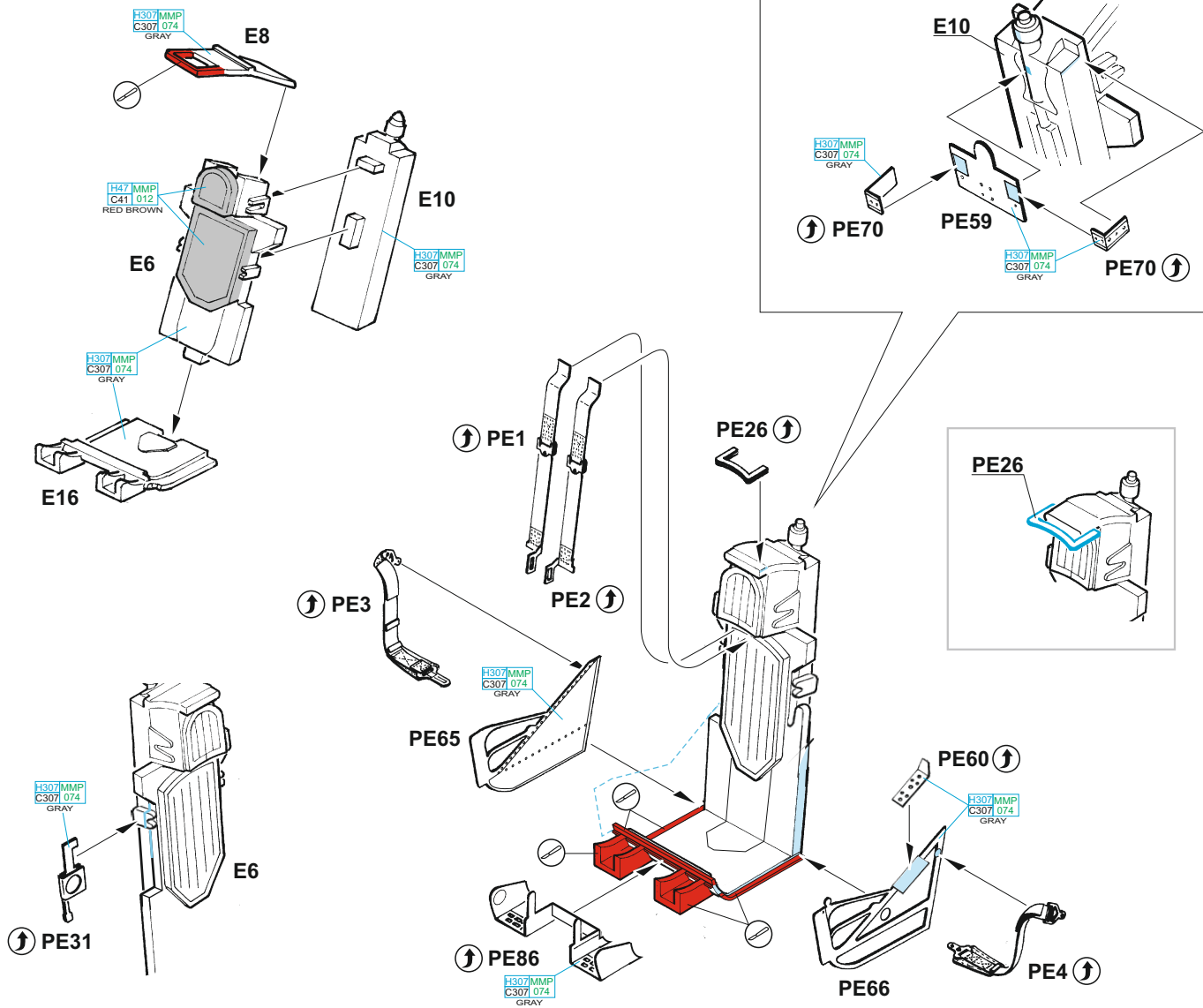
R



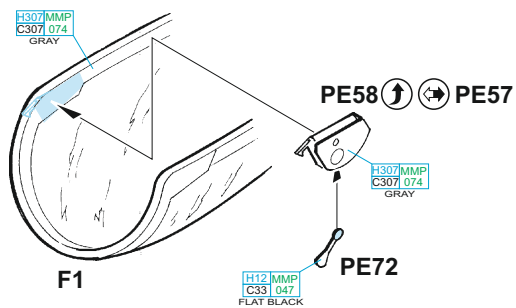
S



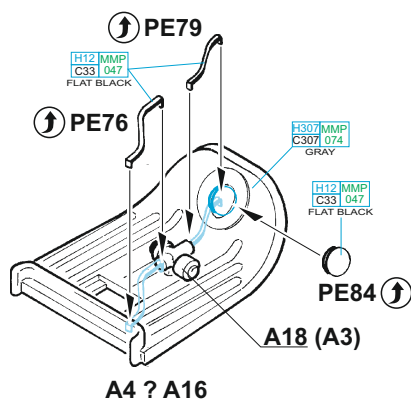
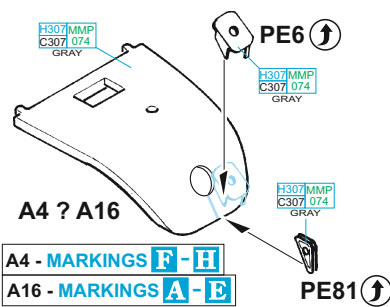
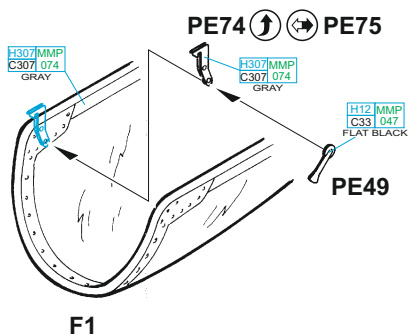
T



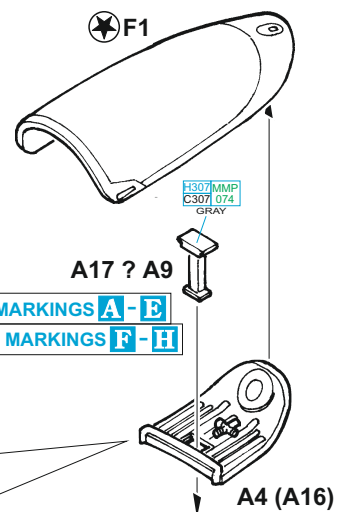
MARKINGS F - H ONLY



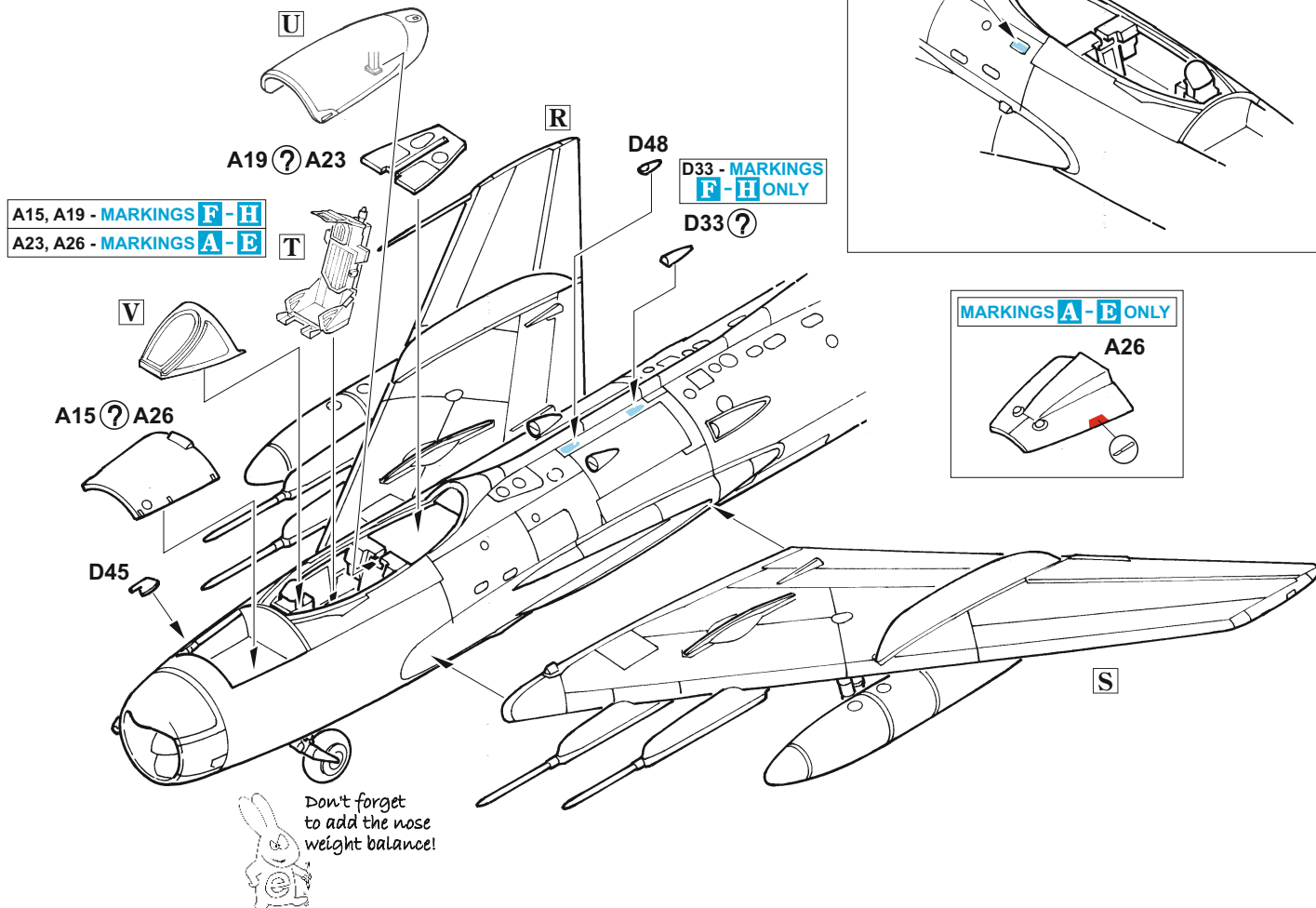
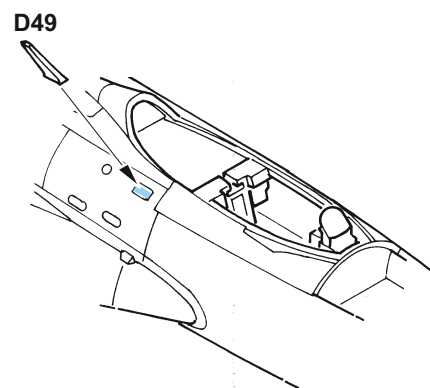
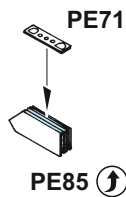
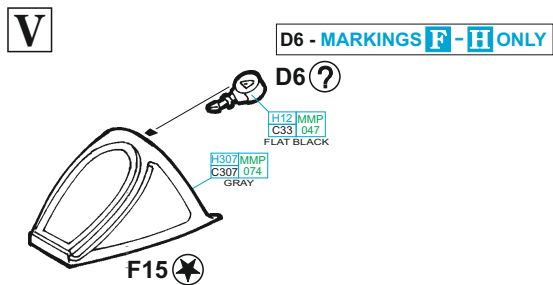
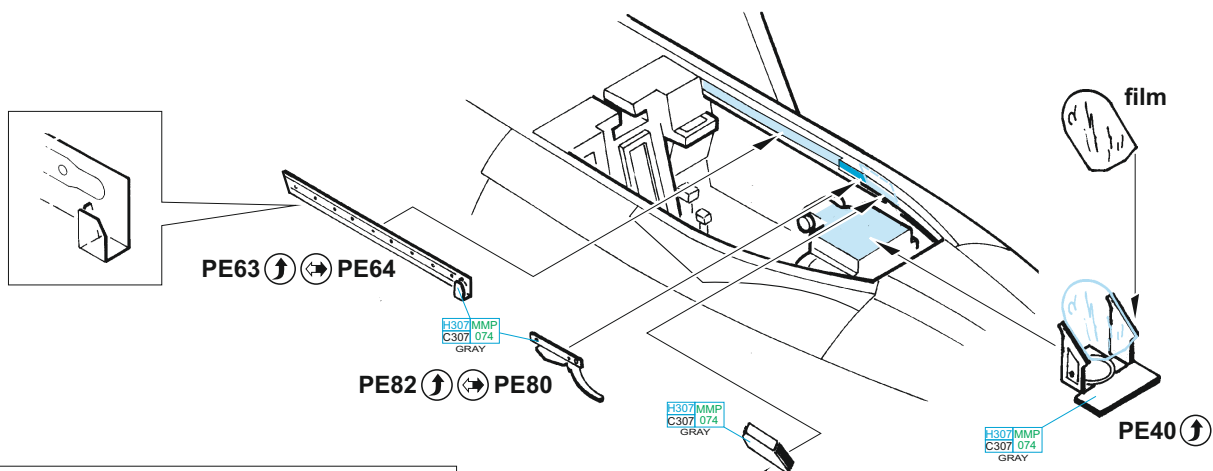
MARKINGS A - E ONLY



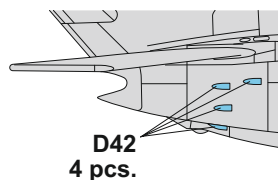
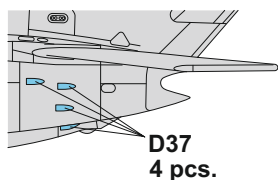
U



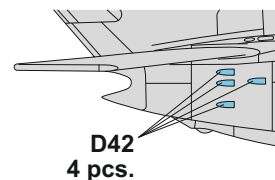
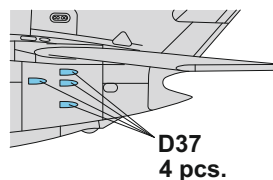




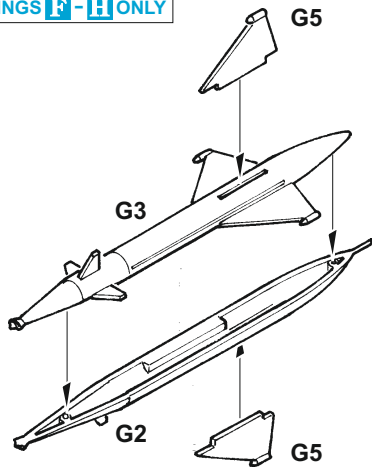
**MARKINGS F - H ONLY**



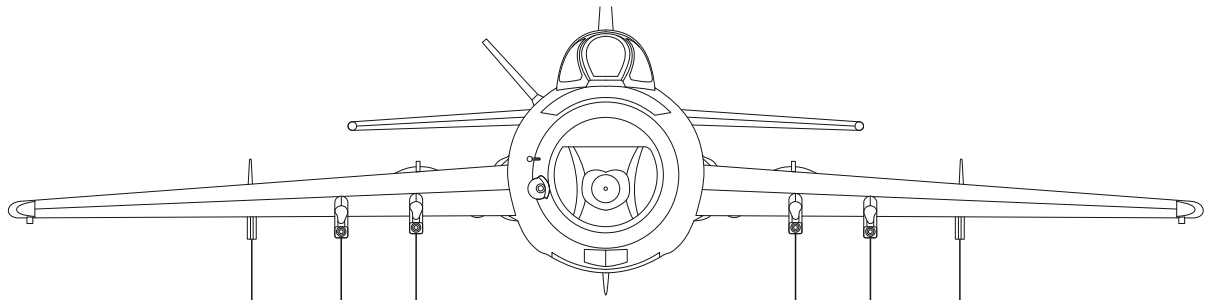
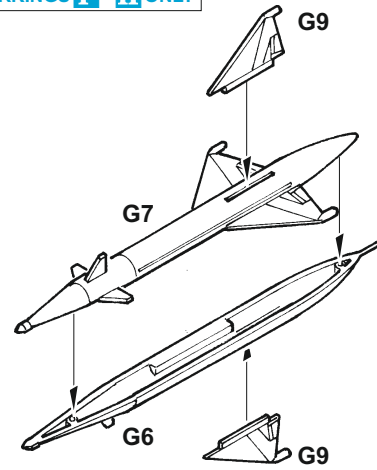
**MARKINGS A - E ONLY**



**RS-2U** MARKINGS **F-H** ONLY  
4 pcs.



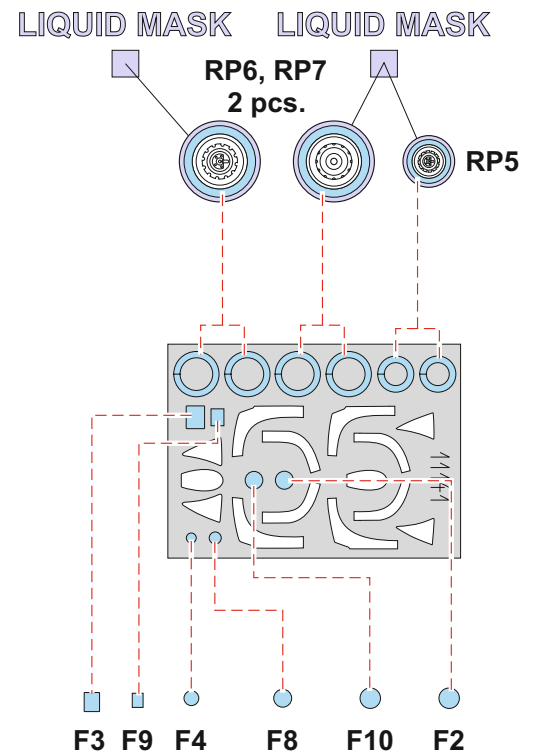
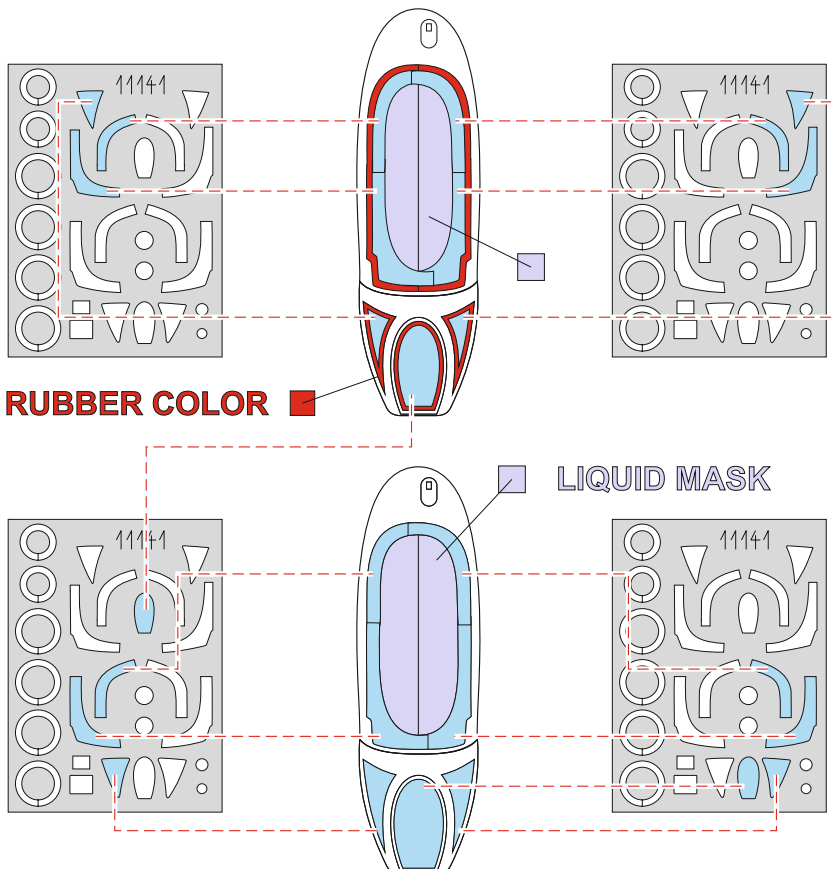
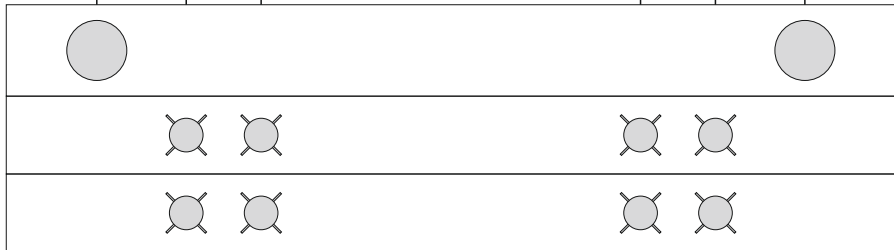
**RS-2US** MARKINGS **F-H** ONLY  
4 pcs.



**FUEL TANK**

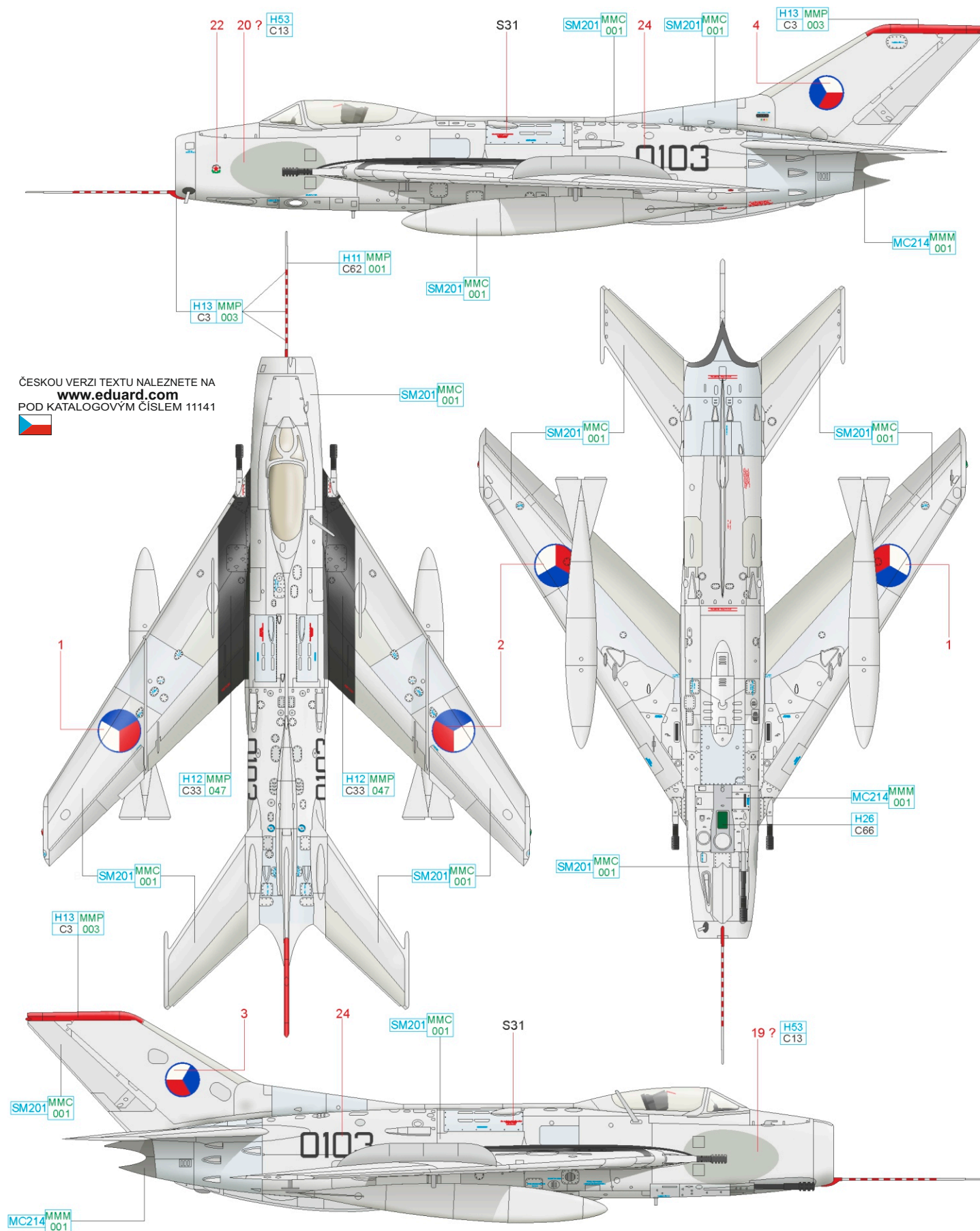
**RS-2U**

**RS-2US**



## A

The 0103 was the third aircraft (and second flying) of the first batch (6 aircraft) of Czechoslovakia-build Farmer Cs produced by the Aero factory in late 1959. It was handed over to the 9th Fighter Air Regiment on March 29th, 1960. The 1st Sqn. was the only of the 9th FAR equipped by MiG-19s and was also "home" of the four-plane aerobatic group (The Box) led by Maj. Ján Patrik. The Box started displays in 1964 and was familiarly called Patrikovci. The 0103 aircraft was put out of operation on September 13th, 1967.



**SUPER  
FINE SILVER**

**DARK  
IRON**

WHITE	H11	MMP
	C62	001

NEUTRAL  
GRAY

RED	H13	MM
	C3	00

P 3	BRIGHT GREEN	H26
		C66

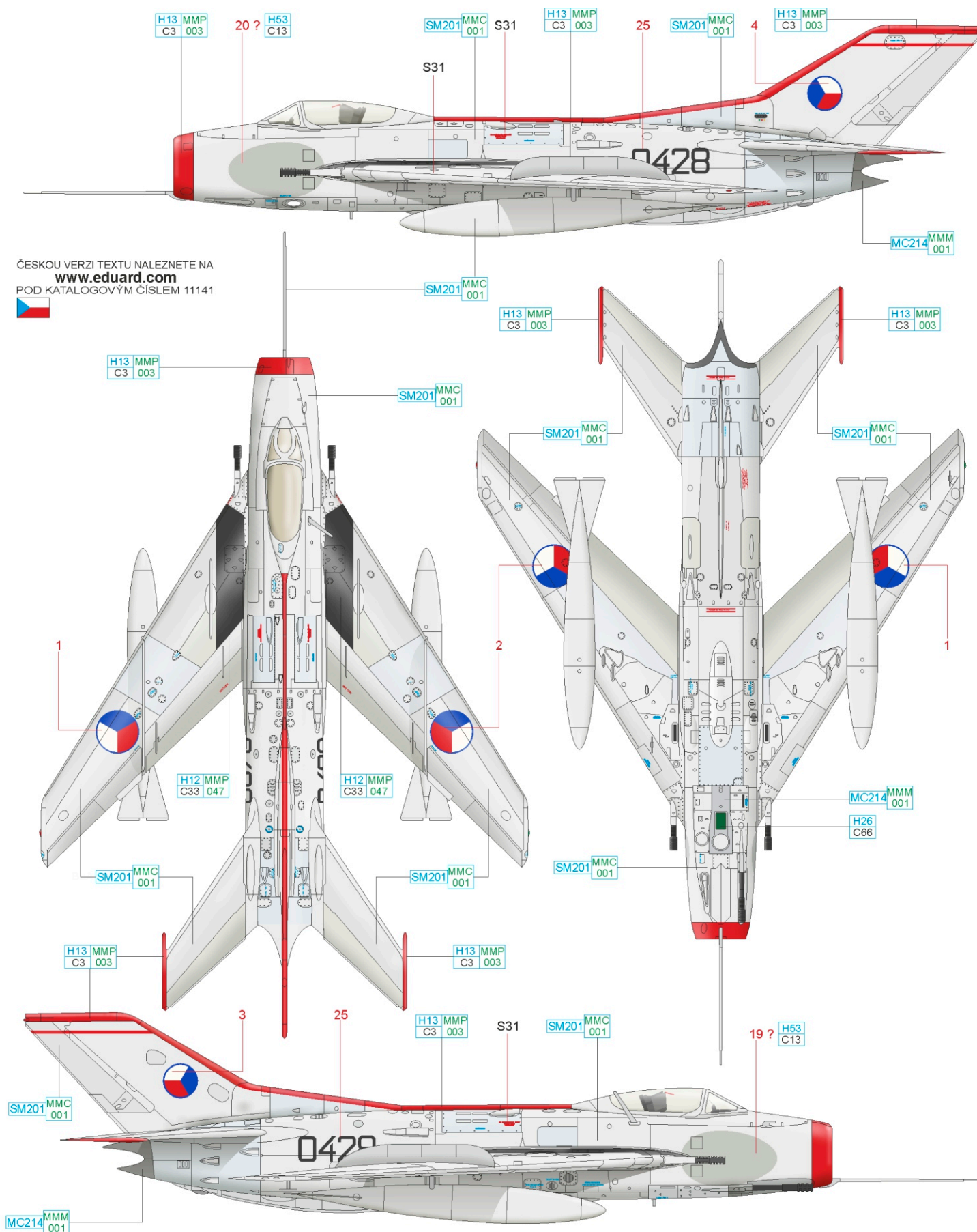
BLACK	H12	MMP
	C33	047

eduard



# B MiG-19S, c/n 150428, 10th Squadron (Staff), 10th Air Force, Czechoslovak Air Force, Hradec Králové, Czechoslovakia, 1961

Czechoslovakia-built aircraft (28th aircraft of 4th series) served from August 1961 with the No 10 Sqn. (Staff) at Hradec Králové airbase, serving for training of the pilots of the 10th Air Force headquarters. It was also used by the Patrikovci aerobatic group occasionally. The maintenance was conducted by the 9th FAR based at Bechyně AB. The 0428 flown by Maj. Ladislav Zemánek performed solo display during Air Show at Sliač air base (SK - Slovakia) on August 29th, 1964. In 1967 was 0428 moved to the 5th FAR at Line and put out of operation in 1971.



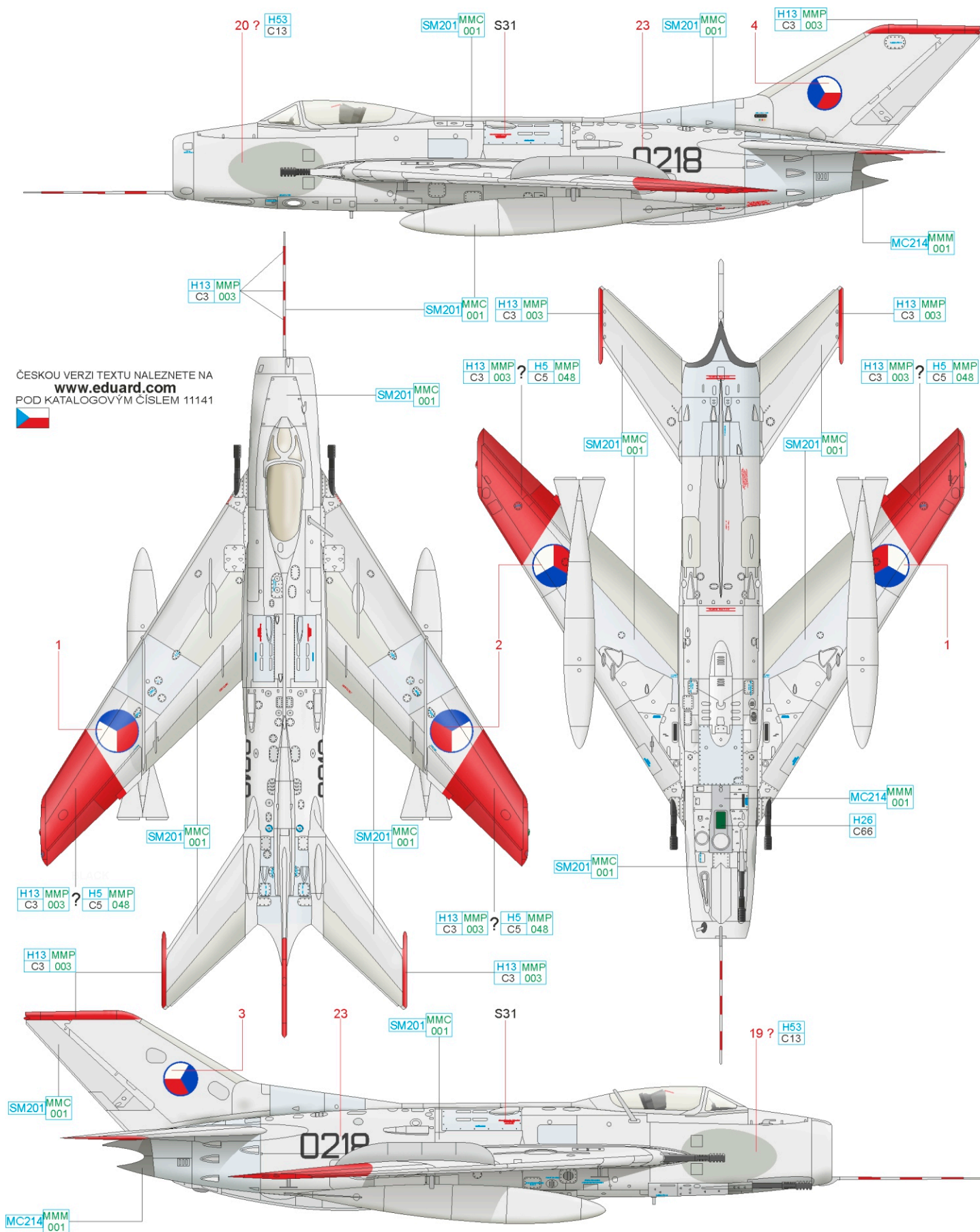
SUPER FINE SILVER SM201 MMC 001 DARK IRON MC214 MMM 001 NEUTRAL GRAY H53 C13 RED H13 MMP C3 003 BRIGHT GREEN H26 C66 BLACK H12 MMP C33 047

eduard



# C MiG-19S, c/n 050218, 1st Fighter Air Regiment, Czechoslovak Air Force, Planá near České Budějovice, Czechoslovakia,

Czechoslovakia-built (18th produced aircraft of 2nd series) aircraft manufactured in 1960, serving from March 25th, 1961 with 1st Fighter Air Regiment of Czechoslovak Air Force at the České Budějovice (Planá) airbase). The aircraft was in service until 1967, when it was put out of operation and handed over to the VLU (Aerospace Research Center) in Prague, where it served as didactic tool. The red wingtips were temporary marking used during local military exercise. The red colour is probable, but not fully proven (some sources state blue colour).



ČESKOU VERZI TEXTU NALEZNETE NA  
**www.eduard.com**  
POD KATALOGOVÝM ČÍSLEM 11141

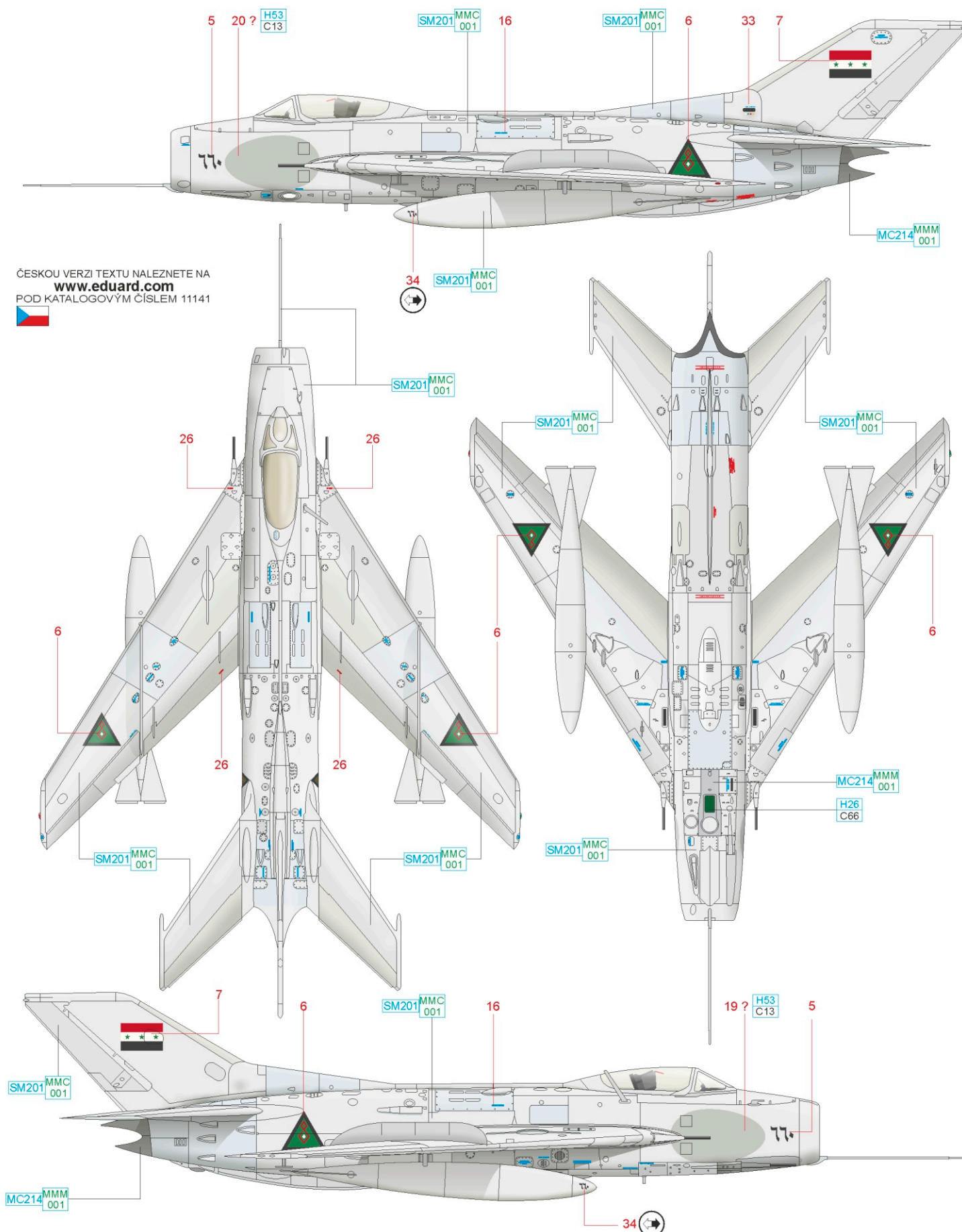


SUPER FINE SILVER SM201 MMC 001 DARK IRON MC214 MMM 001 NEUTRAL GRAY H53 C13 RED H13 MMP C3 003 BLUE H5 MMP C5 048 BRIGHT GREEN H26 C66

eduard

# D MiG-19S, Tactical No. 660, Iraqi Air Force, No. 11 Squadron, Al-Rashid air base, Republic of Iraq, 1963

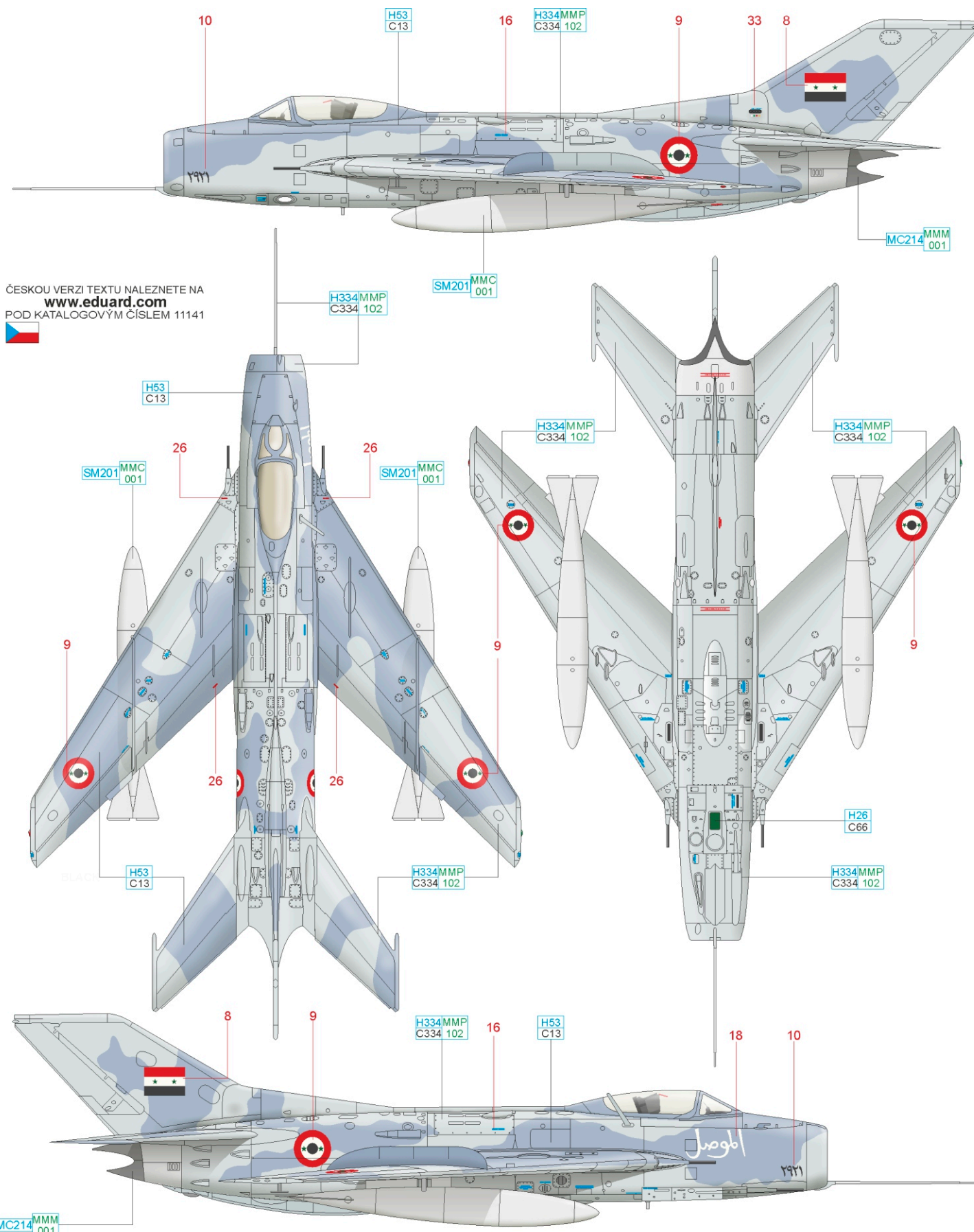
The No. 11 Sqn. was the first IrAF unit to fly the MiG-19s starting in 1962 (receiving 12 aircraft). It is known that some of the aircraft had names of different Iraqi cities written in Arabic script under the cockpit. This aircraft had the name Basra and is one of the ones handed over to Egypt in 1964. The reason for the move was that only handful of MiG-19s remained in good condition after the 1963 Iraqi coup d'état. Egyptians adopted the habit of city names painted at the airplanes and left the Iraqi city names on the aircraft they obtained.





# E MiG-19S, Tactical No. 2921, United Arab Republic (Egyptian) Air Force, No. 29 Squadron, Fayid, Egypt, summer 1965

This aircraft has the name Mossoul written in Arabic transcription under the cockpit and is probably one of the MiG-19s obtained from IrAF during 1964. The Egyptians left the Iraqi City names, but also used their own cities names on the other aircraft (Cairo and others...). The UARAF only ever had two squadrons of MiG-19s (Nos. 20 and 21 Sqn.), later combined into one single unit due to severe losses of aircraft during training. The resulting No. 29 Sqn. was commanded by Alaa Barakat. The squadron was based at the old Fayid airbase, which is located close to the Great Bitter Lake of the Suez Canal. In 1980s the base was abandoned and EAF moved to the new one.

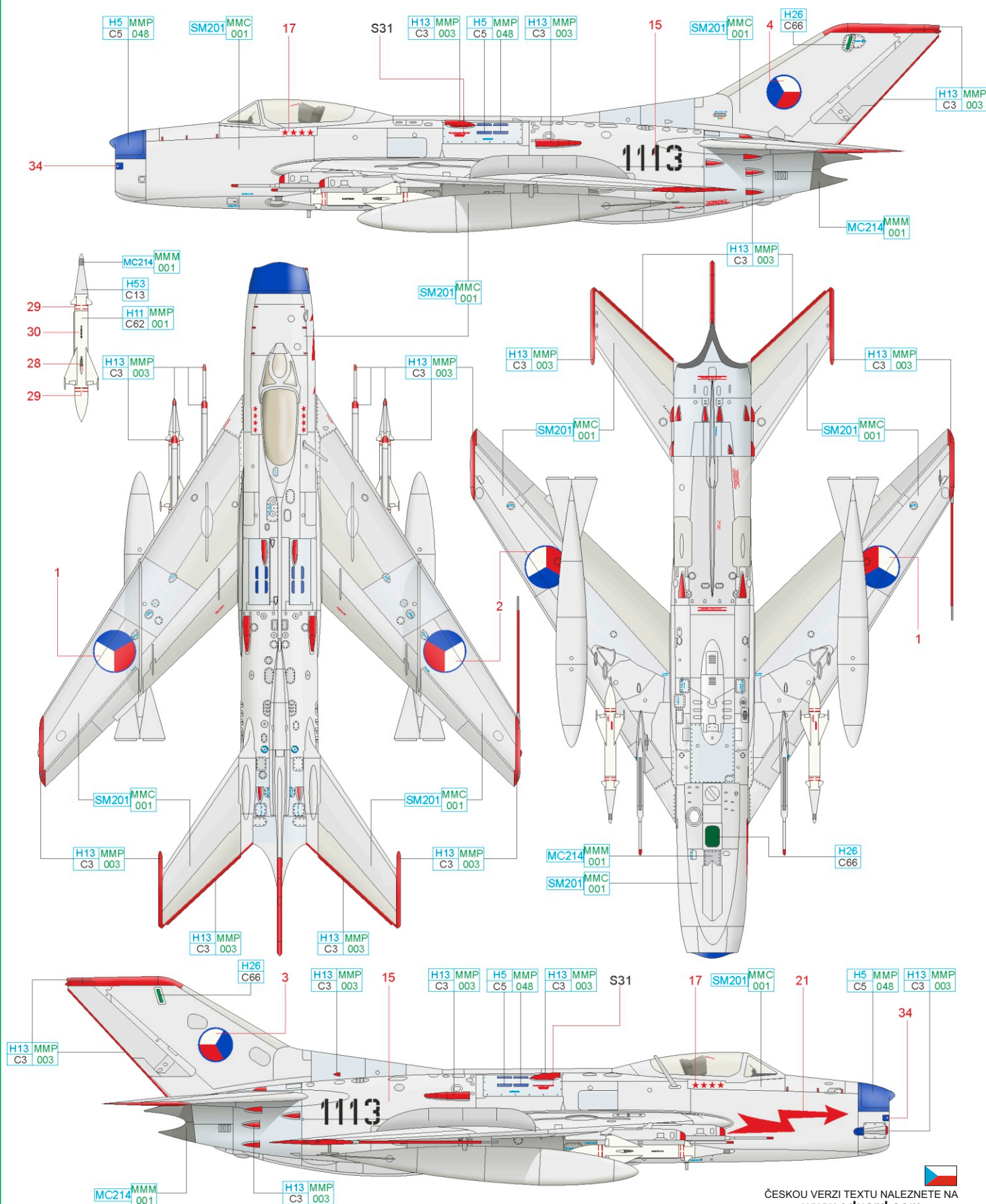


SUPER FINE SILVER SM201 MMC 001 DARK IRON MC214 MMC 001 LIGHT GRAY H334MMP C334 102 BLUE GRAY H53 C13 BRIGHT GREEN H26 C66

eduard

# F MiG-19PM, c/n 651113, 4th Fighter Air Regiment, Czechoslovak Air Force, Pardubice, Czechoslovakia, 1967

The last Soviet build MiG-19PM served with 1st FAR based at the Planá airbase. Later (probably 1966) was handed over to the 4th FAR located at Pardubice airbase, where it suffered an unidentified technical problem on January 26th, 1967. After the aircraft was put out of operation, it was shortly on display in Karlovy Vary before moved to the Prešov Air Force School (SK). Later it was handed over to the aviation museum in Košice (SK) where it was on display until 2009. After that, the 1113 made its last shift to the Piešťany aviation museum (SK) where it is on display today.



ČESKOU VERZI TEXTU NALEZNETE NA  
[www.eduard.com](http://www.eduard.com)  
 POD KATALOGOVÝM ČÍSLEM 11141

SUPER FINE SILVER SM201 MMC 001 DARK IRON MC214 MMM 001 WHITE H11 MMP C62 001 BRIGHT GREEN H26 C66 NEUTRAL GRAY H53 C13 RED H13 MMP C3 003 BLUE H5 MMP C5 048

eduard



The aircraft was part of the 25 aircraft delivered from USSR on February 15th, 1961. The airplane was in service with the 5th FAR at the Lině airbase (near Pilsen) and stayed there until June 2nd, 1972. The same day it was heading to the Malacky (SK) airbase together with three other remaining MiG-19PMs. The pilot hit the ground radio station antenna during the low pass, damaging the wing. The aircraft was put out of operation as a result after 753 flight hours and serves as memorial in front of the kindergarten building in the Lině town today.



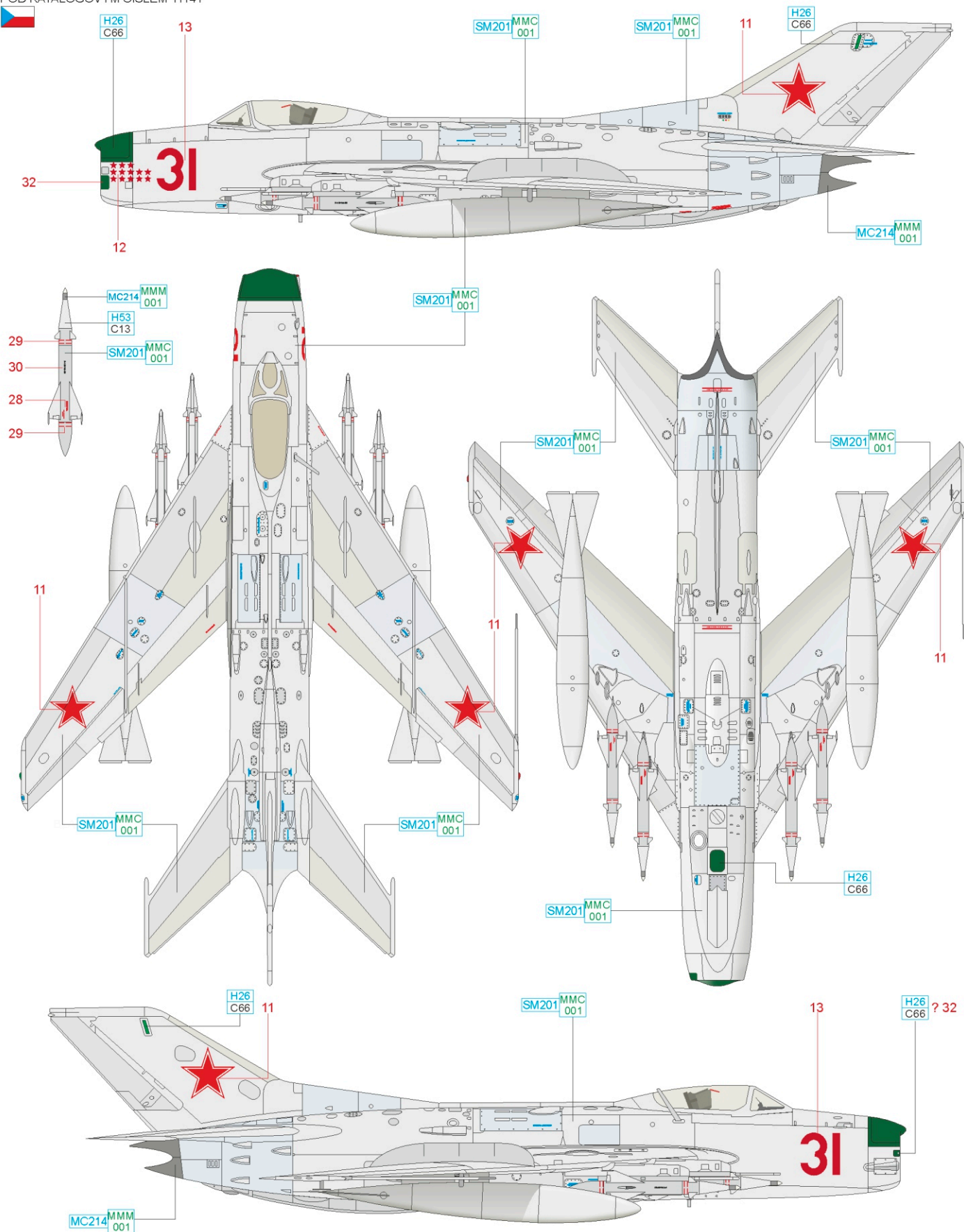
# H MiG-19PM, „Red 31“, unknown unit, Soviet Union Air Force, Soviet Union, 1960s

Although the MiG-19 was quite short lived aircraft in its country of origin regarding the front line units (as it was shortly replaced by more advanced MiG-21s), it remained in service with VVS (Voyenno-Vozdushnye Sily – Military Air Forces) of Soviet Union until 1977. Many of the Farmers were used for combat and live weapons trainings. It might be the case of the „Red 31“, as it wore 13 „kill“ signs on the nose (photo of fully armed „Red 31“ exists). These „kills“ may denote the destroyed target drones, or they were simply painted as a kind of some propaganda.

ČESKOU VERZI TEXTU NALEZNETE NA

[www.eduard.com](http://www.eduard.com)

POD KATALOGOVÝM ČÍSLEM 11141



SUPER FINE SILVER SM201 MMC 001 DARK IRON MC214 MMM 001 BRIGHT GREEN H26 C66 NEUTRAL GRAY H53 C13

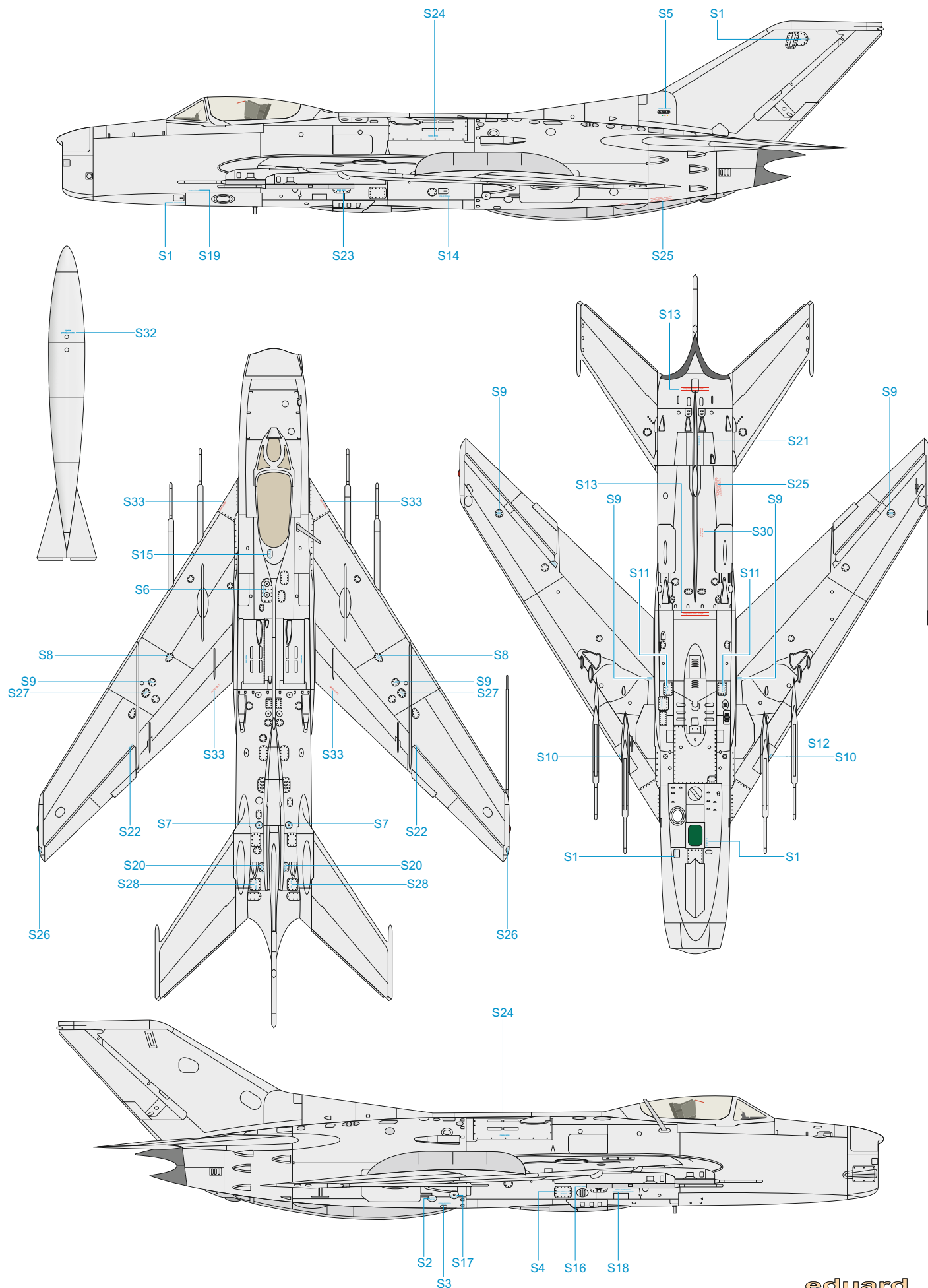
eduard

# MiG-19PM

# STENCILING POSITIONS

The stencils labelled with red S xx – marking options: A, B, C, D, F, G.

The stencils labelled with black S xx – marking options: D, E, H.



The stencils labelled with red S xx – marking options: A, B, C, D, F, G.

The stencils labelled with black S xx – marking options: D, E, H.

