

# Ranger

eduard

## BRITISH WWII FIGHTER

### 1/48 SCALE PLASTIC KIT

# #11113



## INTRO

### Hawker Typhoon Mk. IB 'Car Door' Version

What started as an attempt to instill some fear into German pilots ended as a fearsome fighter-bomber. Some are even pointing out that the Hawker Typhoon was one of the worst British fighters of World War II but one of the best ground attack aircraft of the period... The journey from ace maker to the glory of a 'can opener' started just about the time the Hurricane was entering service with the RAF in December 1937. The Hurricane's successor was already on the drawing board, thanks to Specification F.18/37, which called for a large, single seat high performance fighter. In January 1938 Hawker Aircraft received further details, requiring performance of at least 20 % better than that of the Hurricane. In March 1938 it was specified that the new fighter must achieve a maximum speed of at least 400 mph (644 km/h) at an altitude of 20,000 ft (6096 m). As the new fighter was intended to be a heavily armed interceptor to eliminate long range heavy escort fighters, the specification demanded armament of twelve 0.303 (7.7 mm) Browning machine guns, or, preferably, four 20 mm Hispano cannon as soon as they were available. And so, the design team led by Sydney Camm began to ply their craft...

### Tornado and Typhoon

Satisfaction of the requirements meant a strong and heavy aircraft, and thus the need for a very powerful engine. Two new 2000 hp 24-cylinder powerplants, both still in development, were selected. The Rolls & Royce Vulture engine with a V layout, and the Napier Sabre with a less orthodox X layout of the cylinders, were to supply the needed power. It was decided prototypes with both of them would be built, the Type N (for Napier) and the Type R (Rolls & Royce). The latter flew first as the Vulture engine was of a more conventional design than the Sabre and hence was the first of them available. The maiden flight of the Type R took place in October 1939 and the prototype was named the Tornado. Shortly after the first successful flights, Hawker obtained a production order for 1,000 examples at the beginning of November, but it all went south as flight testing ran into troubles and the project was stopped after three prototypes and just one production version being built. Meanwhile, the first Napier Sabre engine had been delivered to Hawker Aircraft and the first prototype of the Type N, called Typhoon, got airborne for the first time on the 24th of February, 1940. As with the Tornado, the first flights indicated a promising fighter. But the long Sabre engine had to be positioned very close to the leading edge of the wing and, due to its severe vibration, caused the stressed skin to tear away from the rivets during initial test flights. Another problem was structural stiffness of the tail assembly, as it had a tendency to collapse at higher speeds. Despite these problems, as well as poisonous carbon monoxide exhausts entering the cockpit, a production order for the first variant, the Typhoon Mk.IA, was placed.

### From Fighter to Mud Mover

The first production Typhoon Mk.IA (R7082) flew for the first time on May 26th, 1941. Armed with twelve Brownings, it mostly served as a platform for operational tactic development. But the cannon-armed Typhoon Mk.IB followed closely, as the Air Ministry demanded early operational status to counter the new Fw 190. So, No.56 and No.609 Squadrons based at Duxford began to receive their Typhoons in September 1941. Needless to say, they were given a fighter which still needed development. The decision was justified by the high speed of the Typhoon and its massive firepower, but in the first nine months of service, more Typhoons were lost due to structural or engine failure than to combat. Power dives especially resulted in frequent structural failure at the tail, such as during the Dieppe operation in August 1942, when a group of Typhoons dove on a formation of Fw 190s, damaging three of them, but losing two Typhoons whose pilots did not manage to pull out of the dive because of tail collapse.

Despite these problems, operations continued and the accident rate declined as the engine troubles were solved to a reasonable extent. Also, the structure of the tail assembly was strengthened. No. 609 Squadron, led by Roland Beamont, moved to Manston in November 1942 to counter numerous raids by Fw 190s, as the Spitfires were unable to do so. The fast Typhoons were and recorded reasonable success. Moreover, the Typhoons with their powerful cannon were recognized as a good strafing platform, carrying out more and more sorties in this role. This success led to trials with two 250 lb. or two 500 lb. bombs carried on underwing racks. The load was later increased to two 1,000 lb. bombs.

### Evolution of the Canopy

The development of the 'Tiffy', as the Typhoon was nicknamed, addressed most of weak points surrounding the engine and airframe. The most visible change to the airframe was replacement of the 'Car Door' arrangement to the first 'Bubble' sliding canopy used on the fighter. The first Typhoons were produced with the cockpit accessed by a door on the port side with a transparent roof opening to the left. Behind the pilot, a metal dorsal fairing with the mast for the radio aerial protruding through it limited the pilot's rearward view. During 1941, the solid metal aft dorsal fairing was replaced with a transparent one and the shape of the pilot's head armour plate was modified to allow a better view towards the six. Despite this, overall pilot's visibility was still limited by the canopy framing and equipment inside, so from August 1943, the aerial mast was moved back to the rear fuselage. Meanwhile, from January 1943, a new, one piece sliding bubble canopy was tested and from November 1943, all production aircraft from JR333 on were fitted with it and existing Typhoons were modified using conversion kits. Not to be overlooked was another change, as the bubble canopied Typhoons were now able to carry eight RP-3 unguided rockets, allowing them to attack heavily armed targets. Although all 26 operational squadrons using the Typhoon Mk.IB were at the time of D-Day fully employed in ground attack duties, it should be noted that pilots of this aircraft shot down 246 enemy planes with John R. Baldwin being the most successful ace on the Typhoon, claiming 15 victories plus one shared and four damaged enemy aircraft. It is also interesting that the black and white recognition stripes were first adopted for Typhoons due to their overall shape similarity to the Fw 190 resulting in the odd friendly fire incident. Without its underwing load, it was capable of a maximum speed of 425 mph (684 km/h), reduced to 398 mph (640 km/h) with two 500 lb bombs. It was still faster than any other dedicated ground attack platform, making it a genuine fighter-bomber of its time.



Carefully read instruction sheet before assembling. When you use glue or paint, do not use near open flame and use in well ventilated room. Keep out of reach of small children. Children must not be allowed to suck any part, or pull vinyl bag over the head.



Před započítím stavby si pečlivě prostudujte stavební návod. Při používání barev a lepidel pracujte v dobře větrané místnosti. Lepidla ani barvy nepoužívejte v blízkosti otevřeného ohně. Model není určen malým dětem, mohlo by dojít k požití drobných dílů.

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



OPTIONAL  
VOLBA



BEND  
OHNOUT



OPEN HOLE  
VYVRTAT OTVOR



SYMMETRICAL ASSEMBLY  
SYMETRICKÁ MONTÁŽ



REMOVE  
ODŘÍZNOUT



REVERSE SIDE  
OTOČIT



APPLY EDUARD MASK  
AND PAINT  
POUŽÍT EDUARD MASK  
NABARVIT

## PARTS



## DÍLY



## TEILE



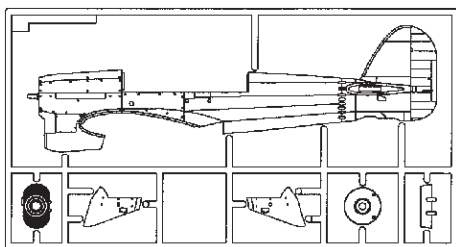
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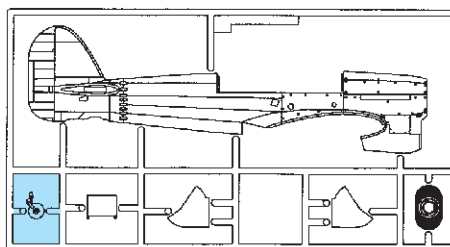
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## PLASTIC PARTS

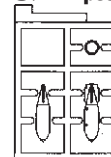
A&gt;



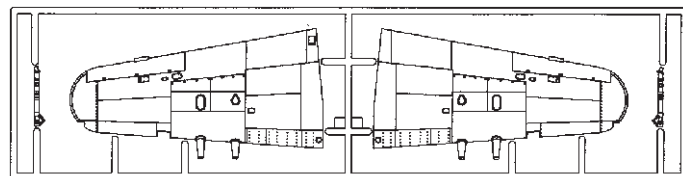
B&gt;



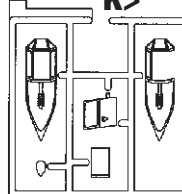
U&gt; 2 pcs.



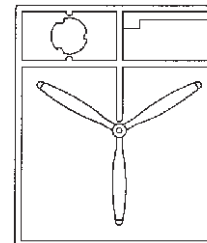
E&gt;



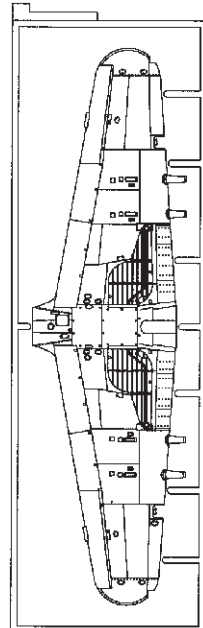
K&gt;



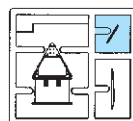
C&gt;



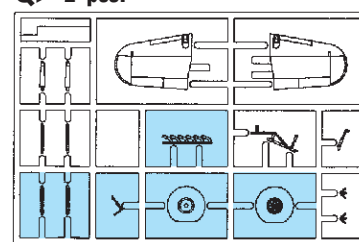
F&gt;



R&gt;



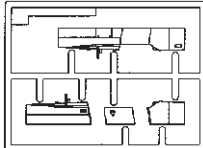
Q&gt; 2 pcs.



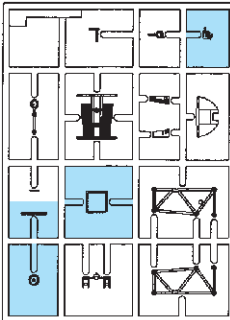
A&gt; (EDUARD 11111)



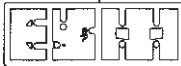
J&gt;



N&gt;



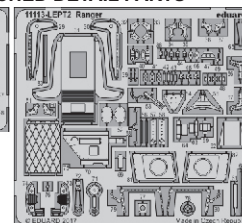
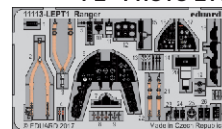
M&gt;



P&gt;



## PE - PHOTO ETCHED DETAIL PARTS



## RP - RESIN PARTS



R4

eduard  
MASK

R1 2 pcs.



R2



R3 2 pcs.



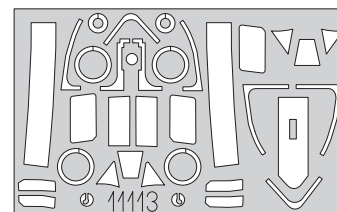
R5



R6 2 pcs.



R7



-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



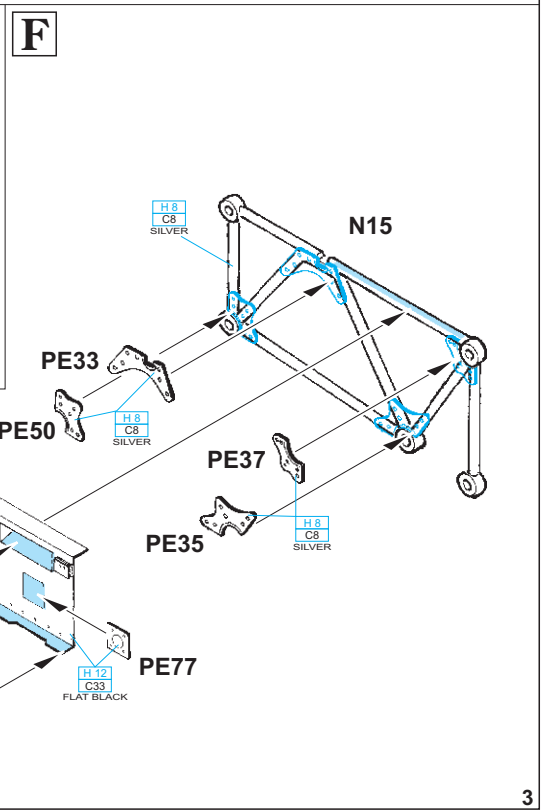
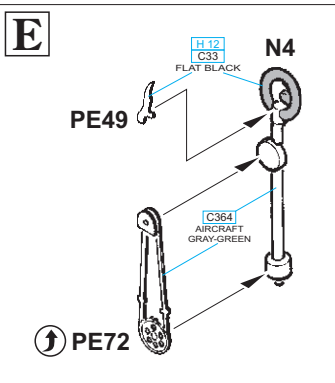
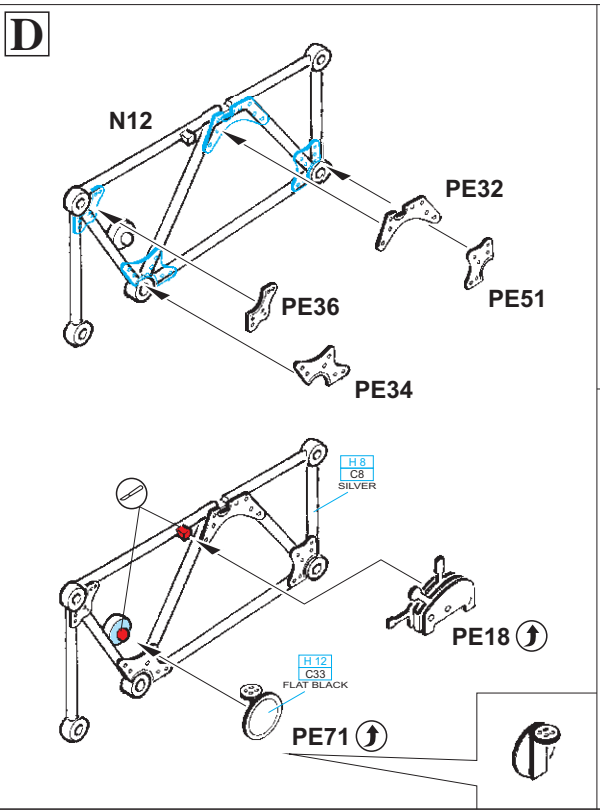
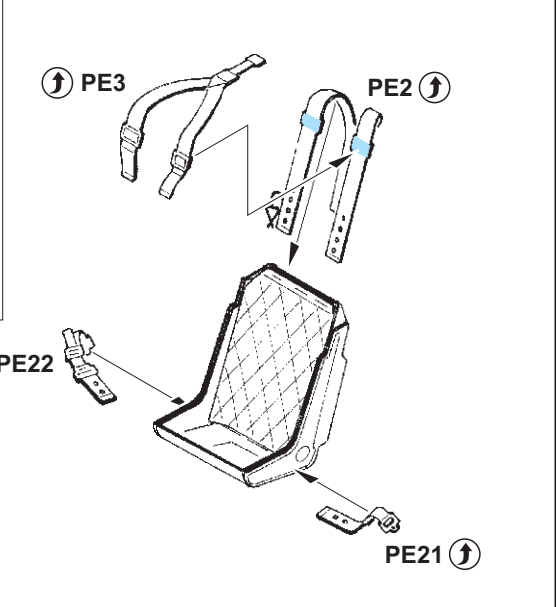
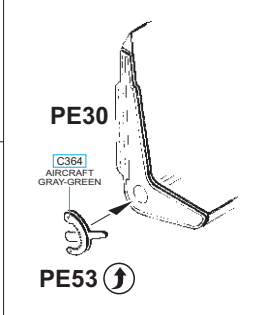
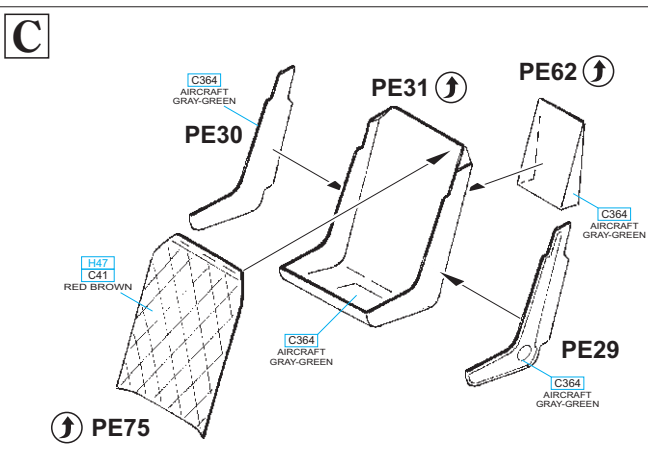
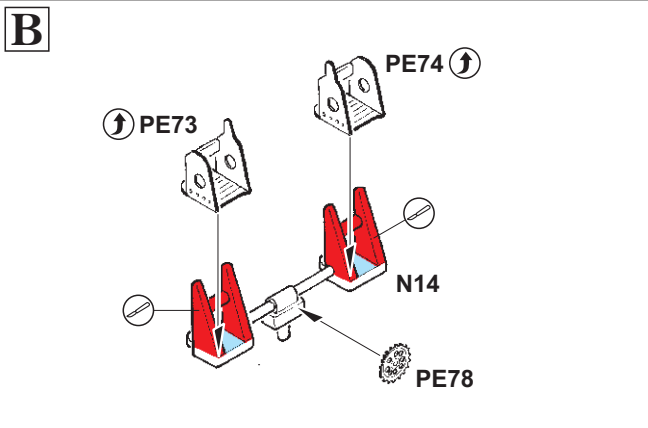
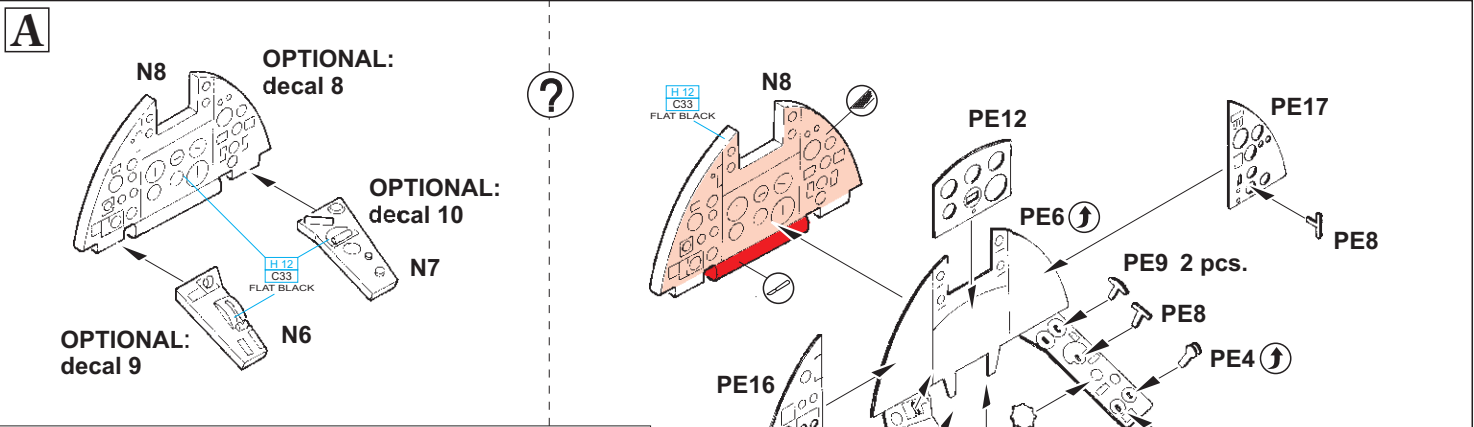
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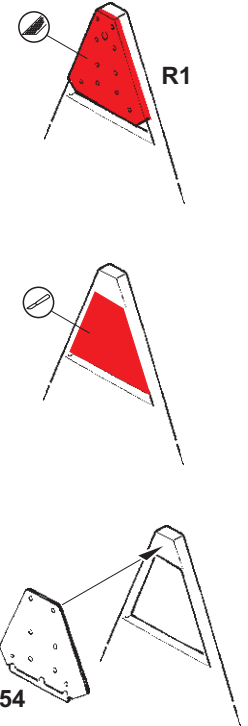
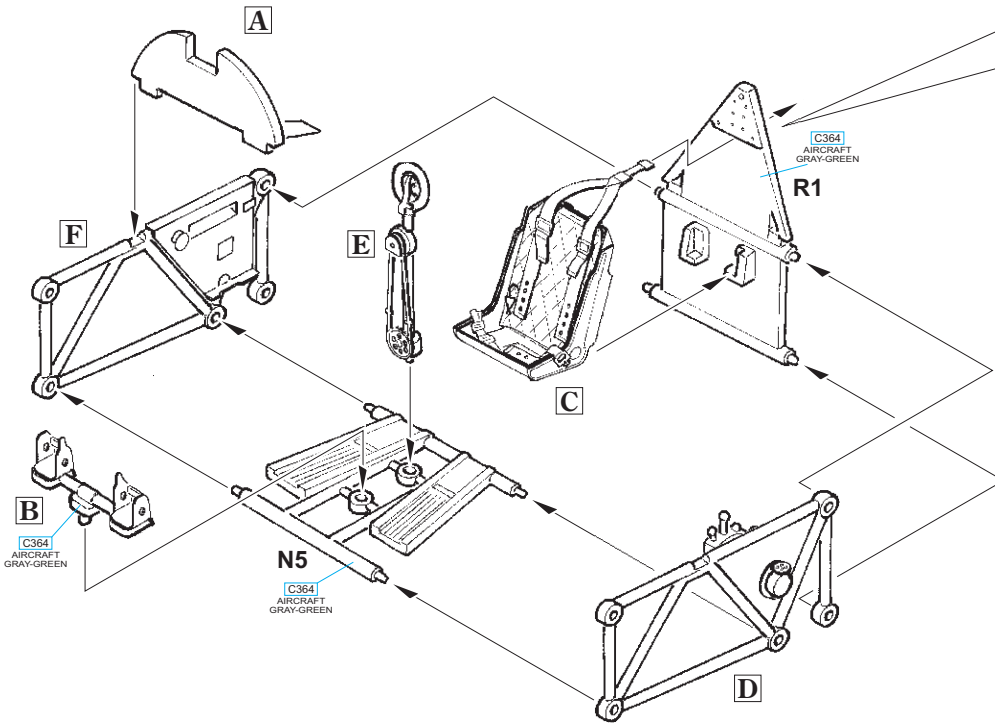
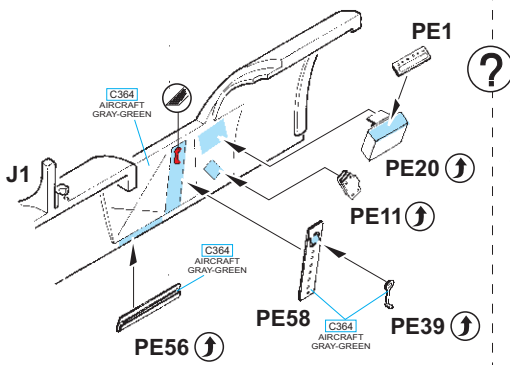


## 色

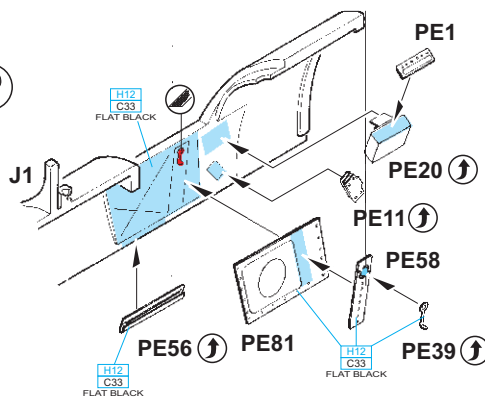
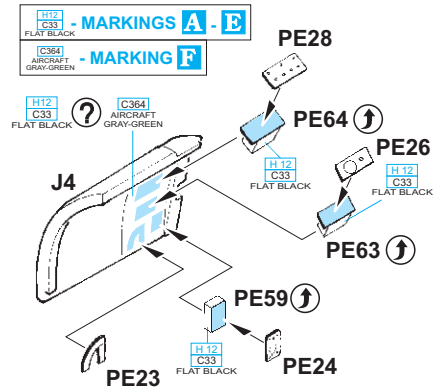
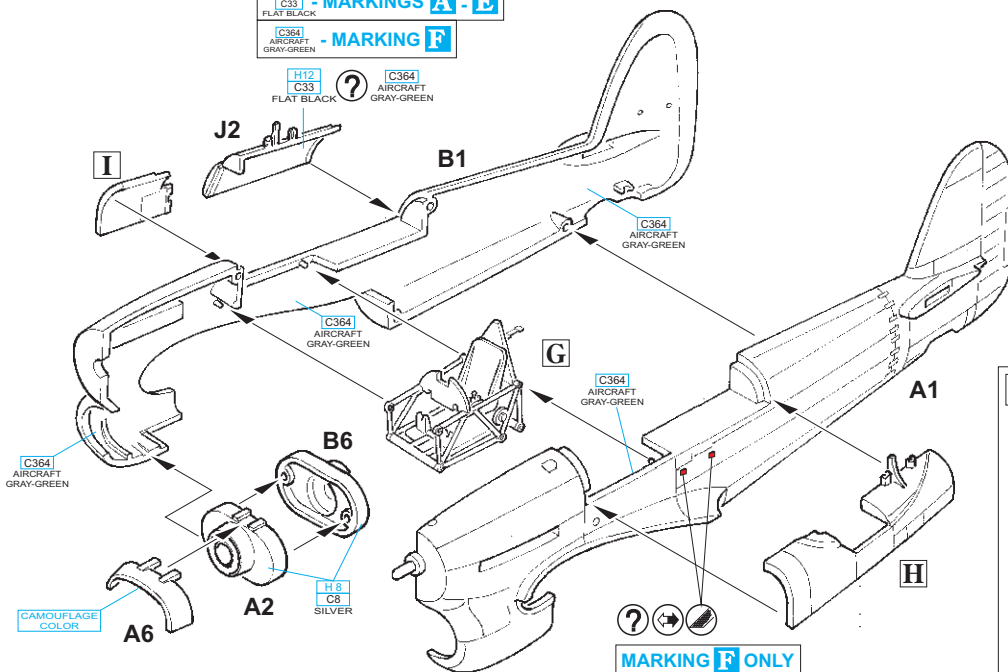
GSi Creos (GUNZE)		
AQUEOUS	Mr.COLOR	
H1	C1	WHITE
H4	C4	YELLOW
H8	C8	SILVER
H11	C62	FLAT WHITE
H12	C33	FLAT BLACK
H33	C81	RUSSET
H37	C43	WOOD BROWN
H47	C41	RED BROWN
H77	C137	TIRE BLACK

AQUEOUS		Mr.COLOR	
H90	C47	CLEAR RED	
H94	C138	CLEAR GREEN	
H330	C361	DARK GREEN	
	C362	OCEAN GRAY	
H335	C363	MEDIUM SEA GRAY	
	C364	AIRCRAFT GRAY-GREEN	
H74	C368	SKY	
Mr.METAL COLOR			
	MC213	STAINLESS	
	MC214	DARK IRON	

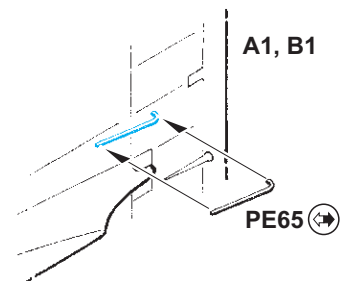


**G****H** MARKING F

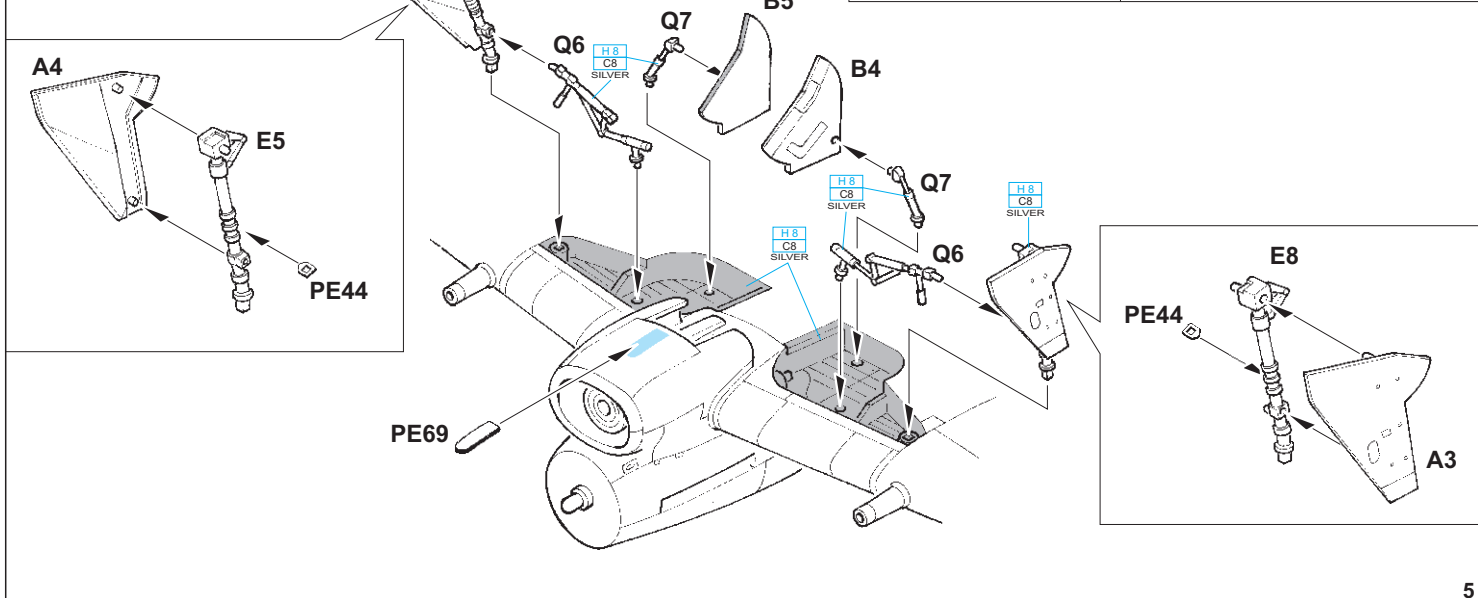
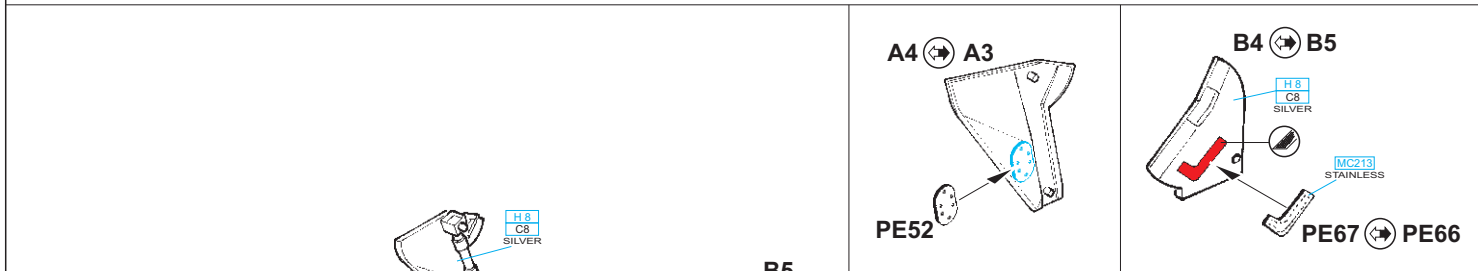
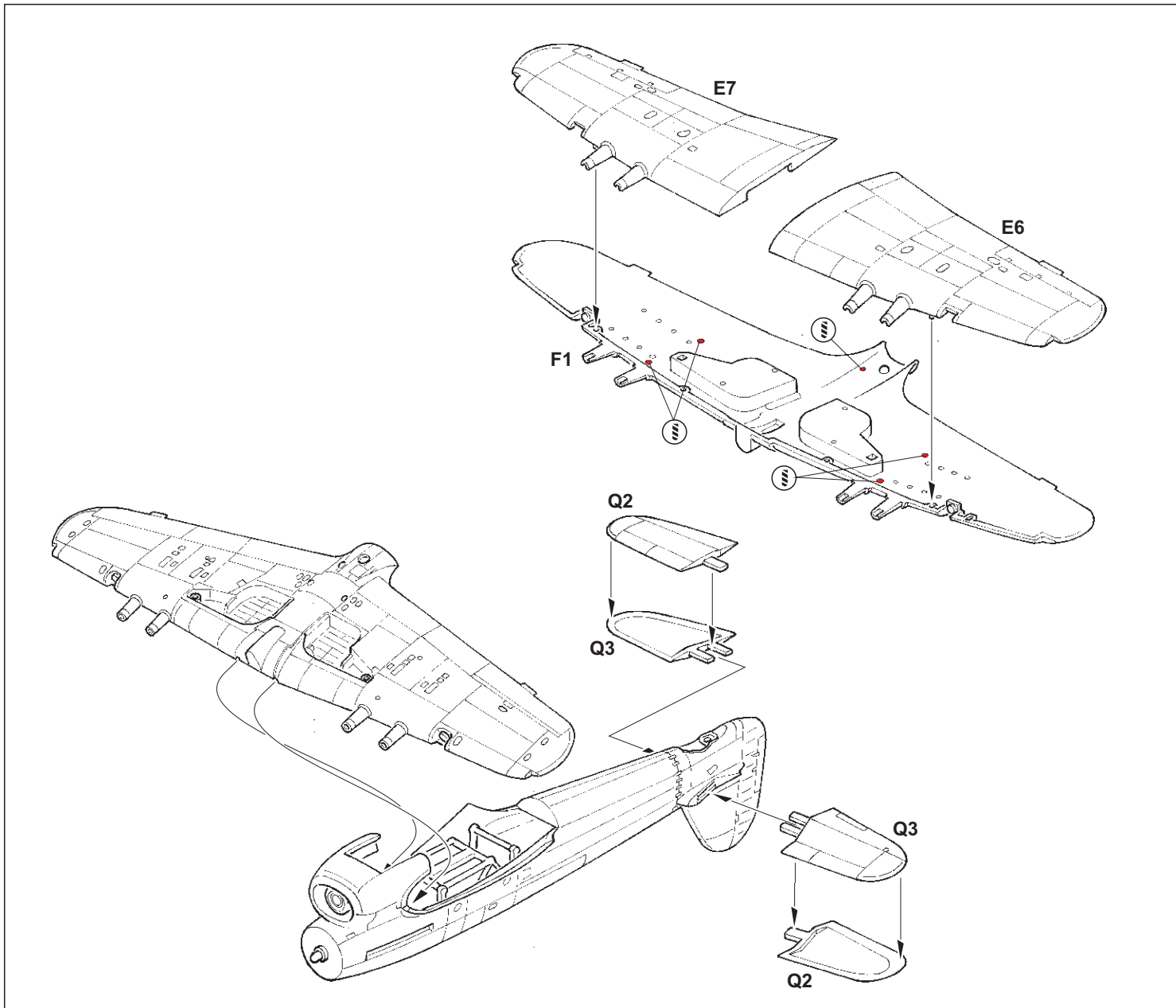
MARKINGS A - E

**I**
**H12 C33** - MARKINGS A - E  
 FLAT BLACK  
**C364** - MARKING F  
 AIRCRAFT GRAY-GREEN


MARKING F ONLY



MARKING F ONLY



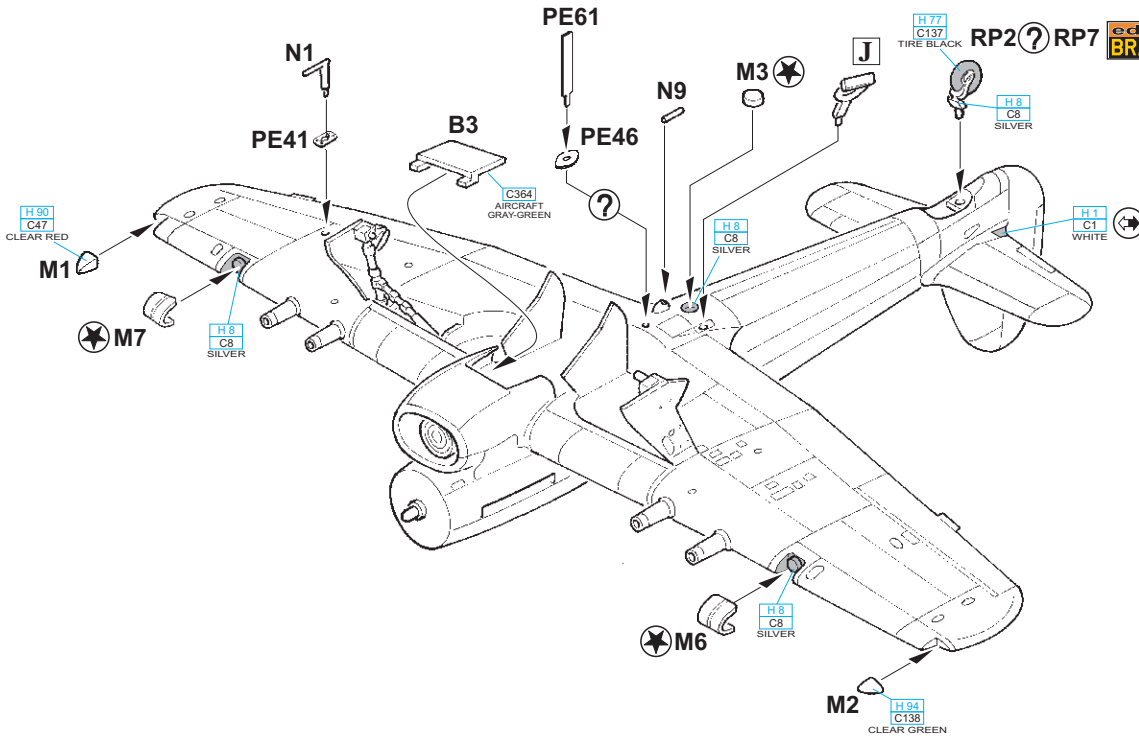
PE46, PE61 - MARKINGS A - E ONLY

RP2 - MARKINGS A - E

RP7 - MARKING F

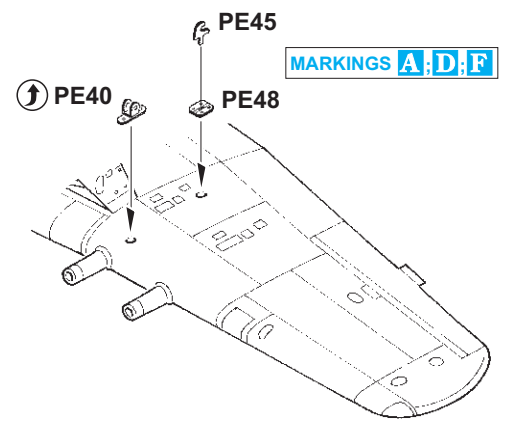
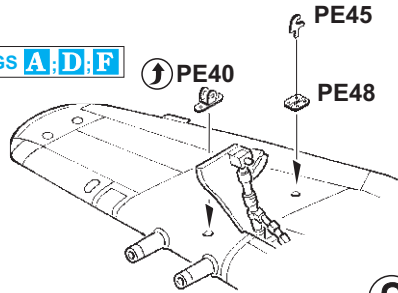
J

PE43

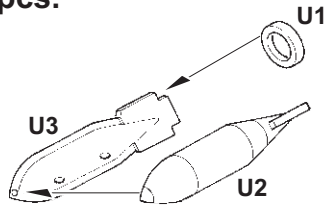


MARKINGS A; D; F

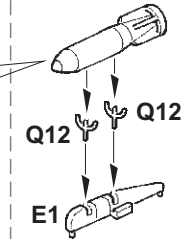
MARKINGS A; D; F



2 pcs.



MARKINGS B; C; E

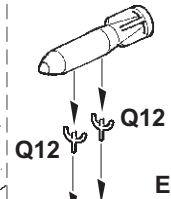


eduard BRASSIN RP1 ? RP6

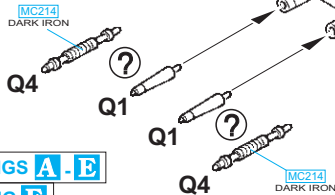
RP1 - MARKINGS A - E  
RP6 - MARKING F

eduard BRASSIN RP1 ? RP6

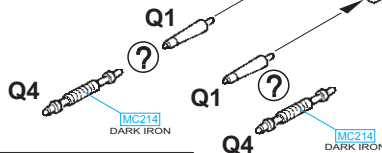
MARKINGS B; C; E



Q1 - MARKINGS A - E  
Q4 - MARKING F



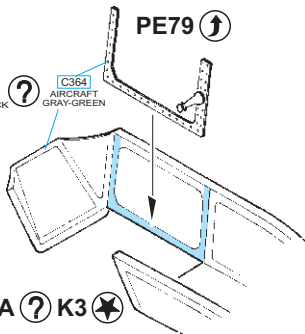
Q1 - MARKINGS A - E  
Q4 - MARKING F



**K**

**H12** C33 - MARKINGS A - E  
FLAT BLACK

**C364** - MARKING F  
AIRCRAFT GRAY-GREEN

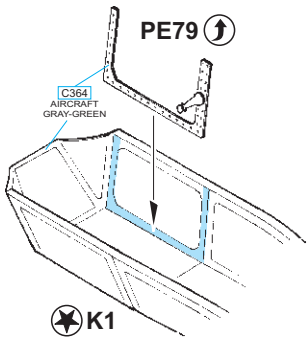


11111 A ? K3

11111 A - MARKINGS A - E  
K3 - MARKING F

MARKING F ONLY

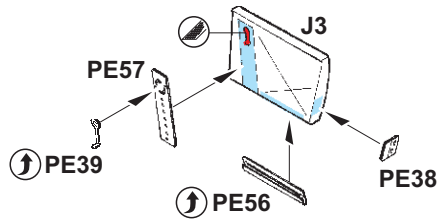
?



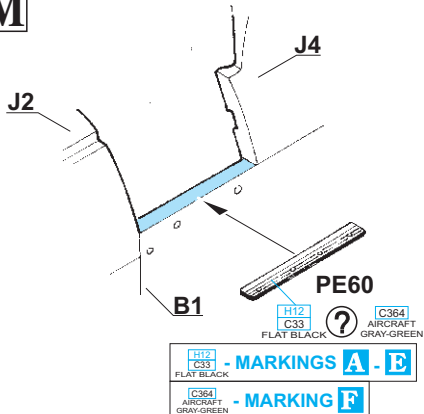
K1

**L**

MARKING F ONLY



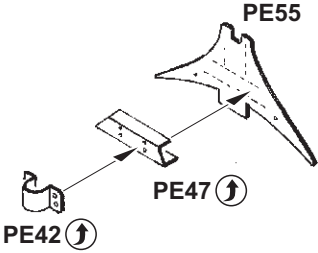
**M**



**H12** C33 - MARKINGS A - E  
FLAT BLACK

**C364** - MARKING F  
AIRCRAFT GRAY-GREEN

MARKING F ONLY



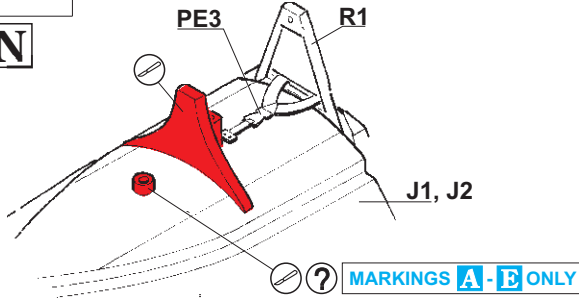
PE42

PE47



PE55

**N**



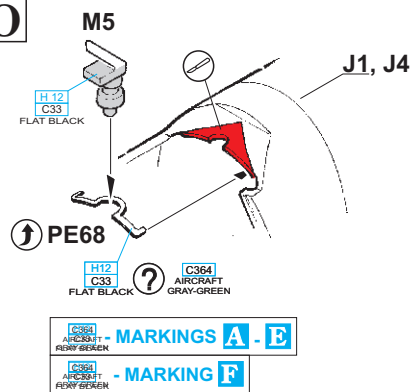
PE3

R1

J1, J2

MARKINGS A - E ONLY

**O**

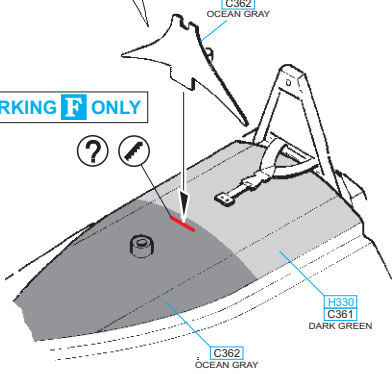


H12 C33  
FLAT BLACK

**H12** C33 - MARKINGS A - E  
FLAT BLACK

**C364** - MARKING F  
AIRCRAFT GRAY-GREEN

MARKING F ONLY

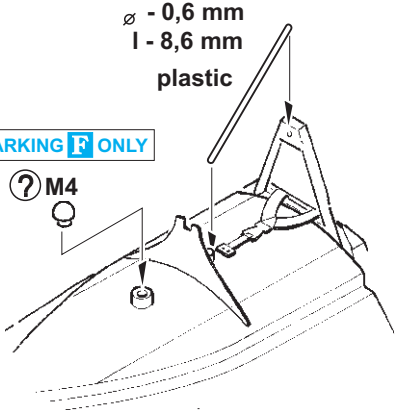


C362 OCEAN GRAY

H330 C361  
DARK GREEN

C362 OCEAN GRAY

M4 - MARKING F ONLY

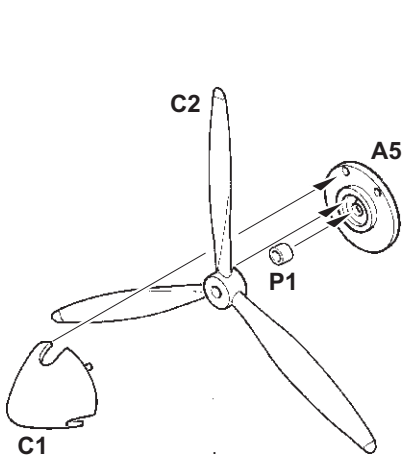


M4

∅ - 0,6 mm  
l - 8,6 mm  
plastic

**P**

CLOSED CANOPY MARKING F ONLY

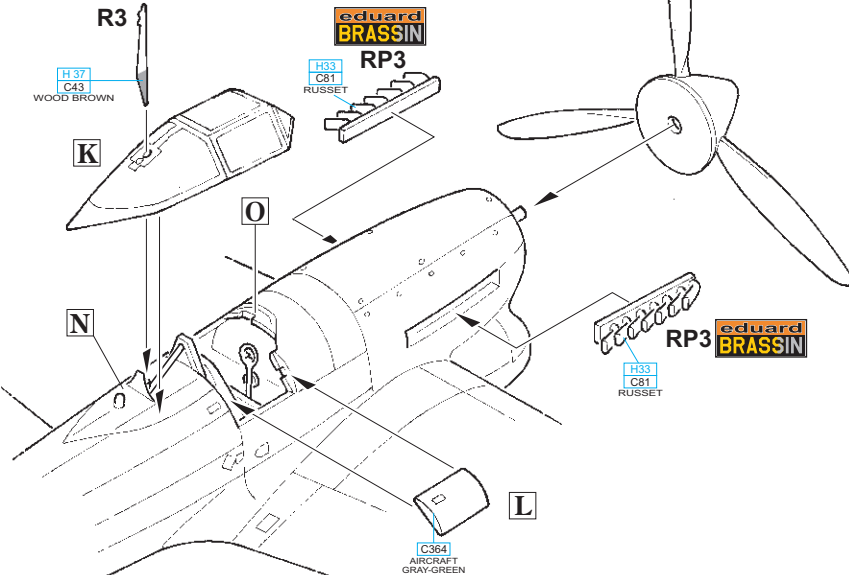


C2

A5

P1

C1



H37 C43  
WOOD BROWN

eduard BRASSIN

RP3

H33 C81  
RUSSET

K

O

N

P

H33 C81  
RUSSET

eduard BRASSIN

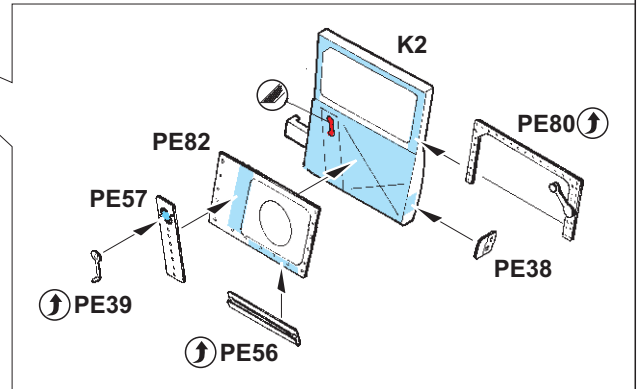
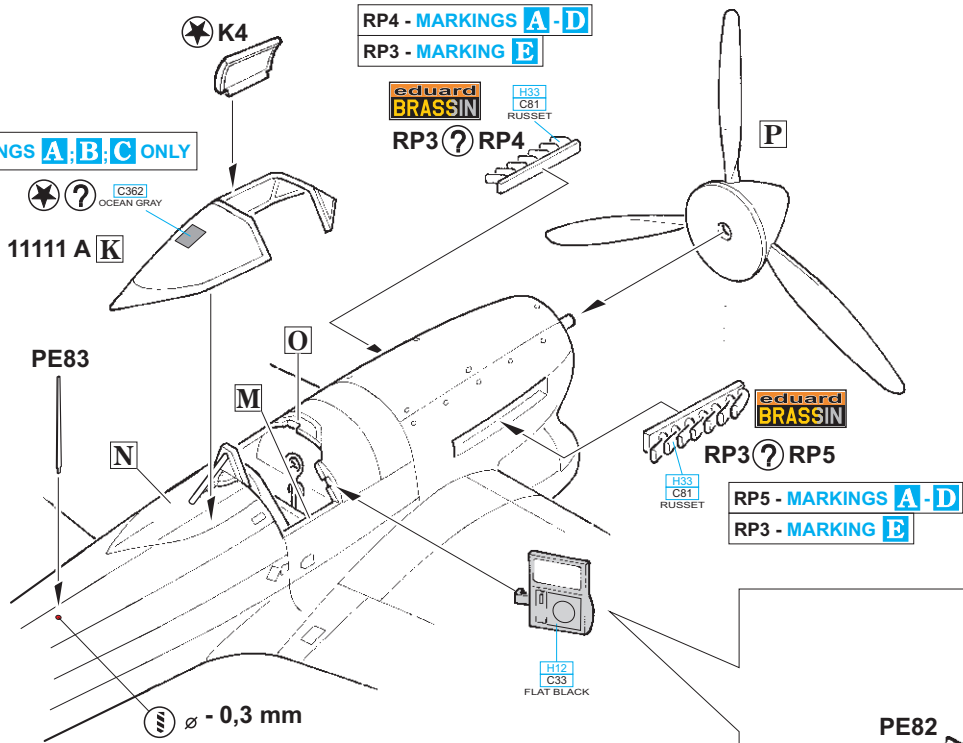
RP3

L

C364  
AIRCRAFT GRAY-GREEN

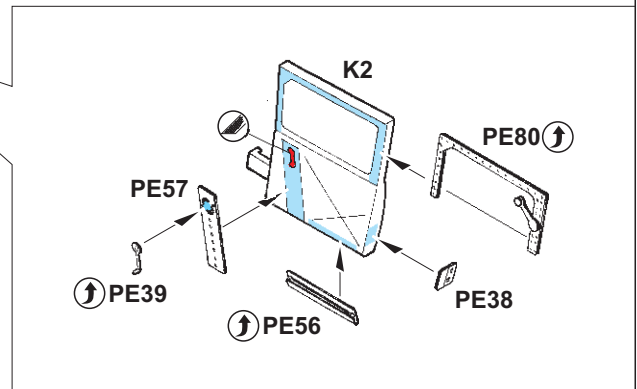
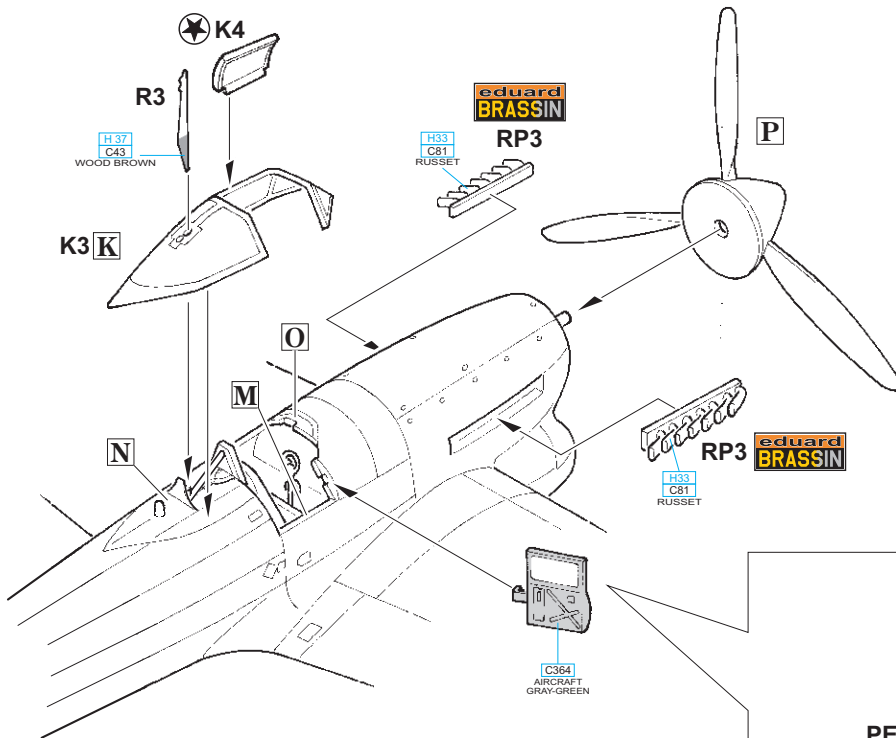
# OPEN CANOPY MARKINGS A - E

MARKINGS A, B, C ONLY

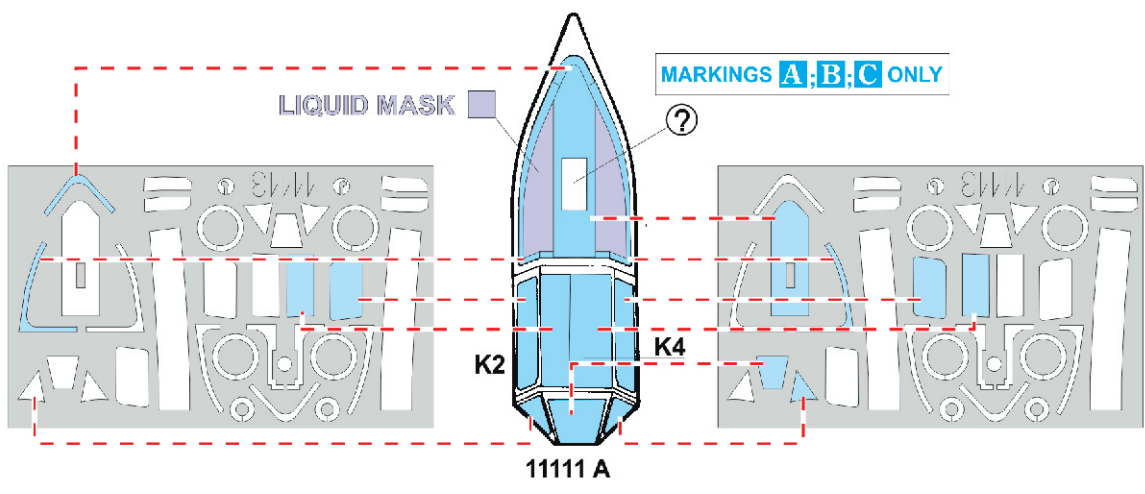
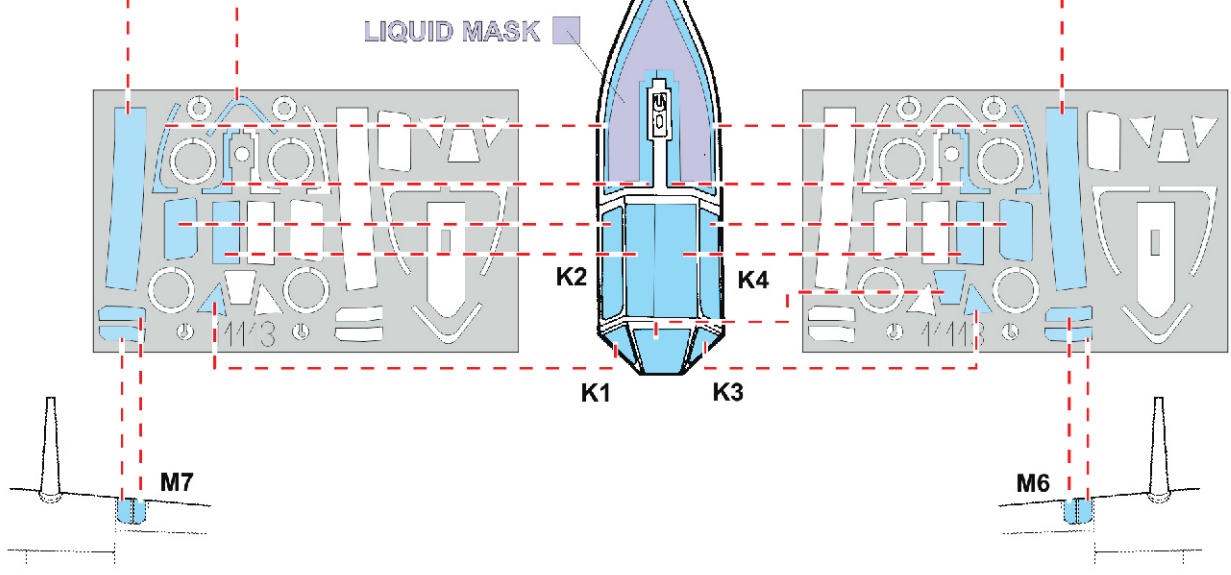
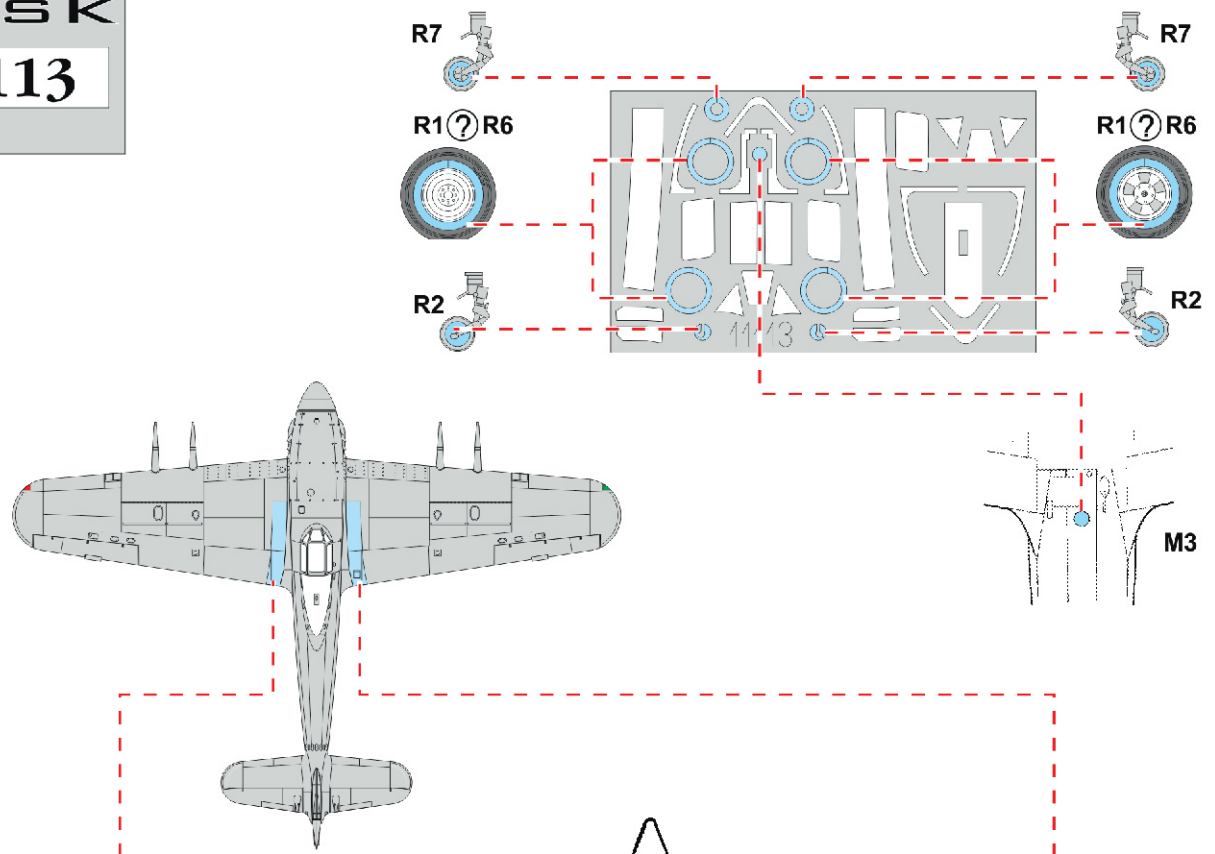


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# MARKING F

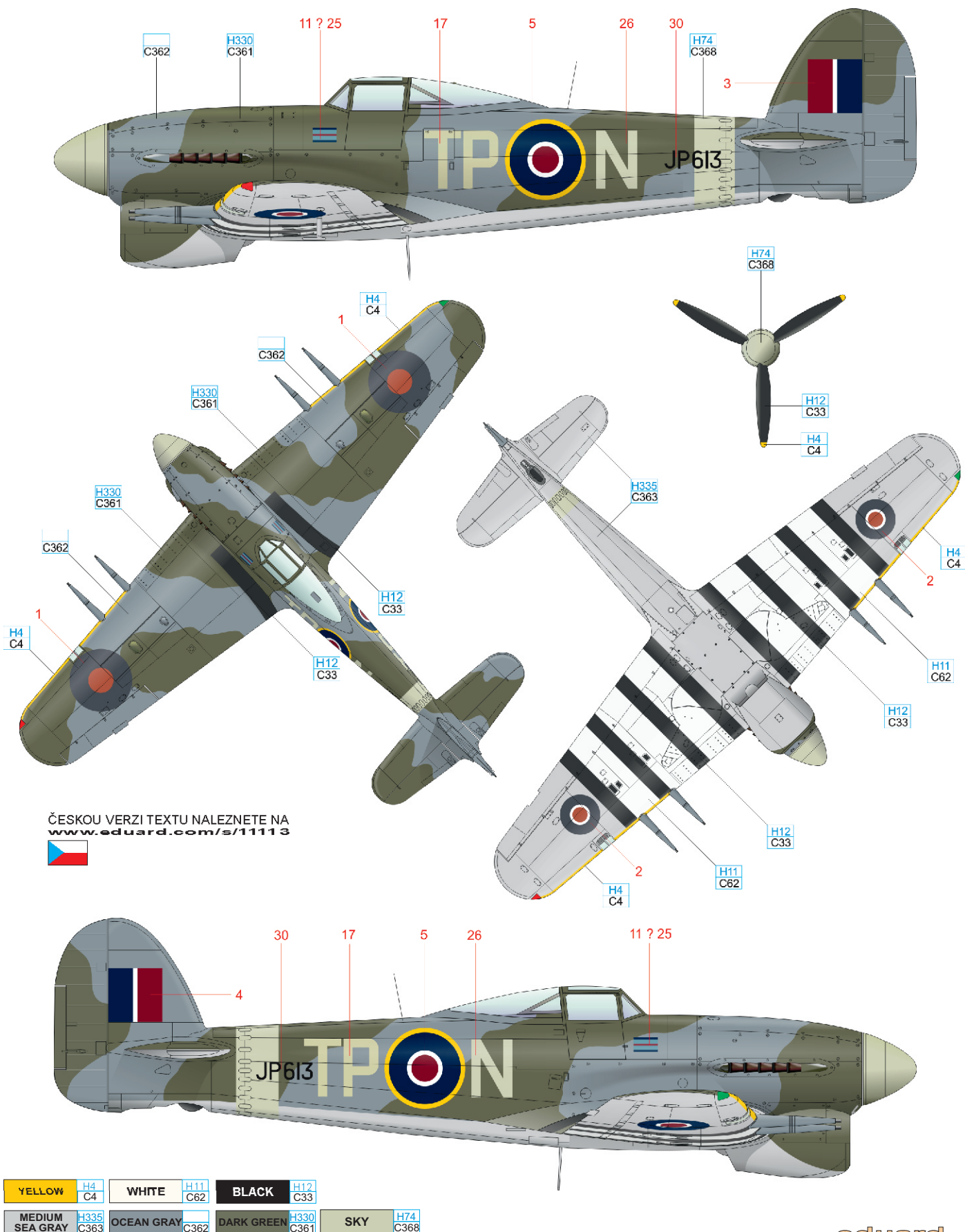






# A JP613, flown by S/Ldr J. Maňák, CO of No. 198 Squadron, RAF Manston, Great Britain, August 1943

Czechoslovak pilot Jiří Maňák was the second Czechoslovak airman to be designated as a squadron commander of a pure British squadron (the very first was also pilot František Fajtl, CO of No. 122 squadron RAF). In case of Jiří Maňák it was No. 198 squadron, which operated under his command from May 1st, 1943. Maňák's leadership lasted for four months, till the end of August, when he became POW. During an operation over enemy territory on August 28th, 1943 was his Typhoon hit by German flak. The action took place in area of Knokke, Belgium and although Maňák turned back for England, soon was forced to land on a stormy sea, some miles from Belgian coast. The next morning, he was captured by a German patrol on Walcheren island, interrogated and sent to transit POW camp Dulag Luft (Durchgangslager der Luftwaffe) in Oberursel. Later he was transported to permanent POW camp Stalag Luft III. (Stamm lager der Luftwaffe) in Sagan (now Żagań, Poland), where he became active in preparation of the famous Great Escape in March 1944. After the war he returned home, but since 1948 he was, as many other Czechoslovak RAF airmen, persecuted by communists.

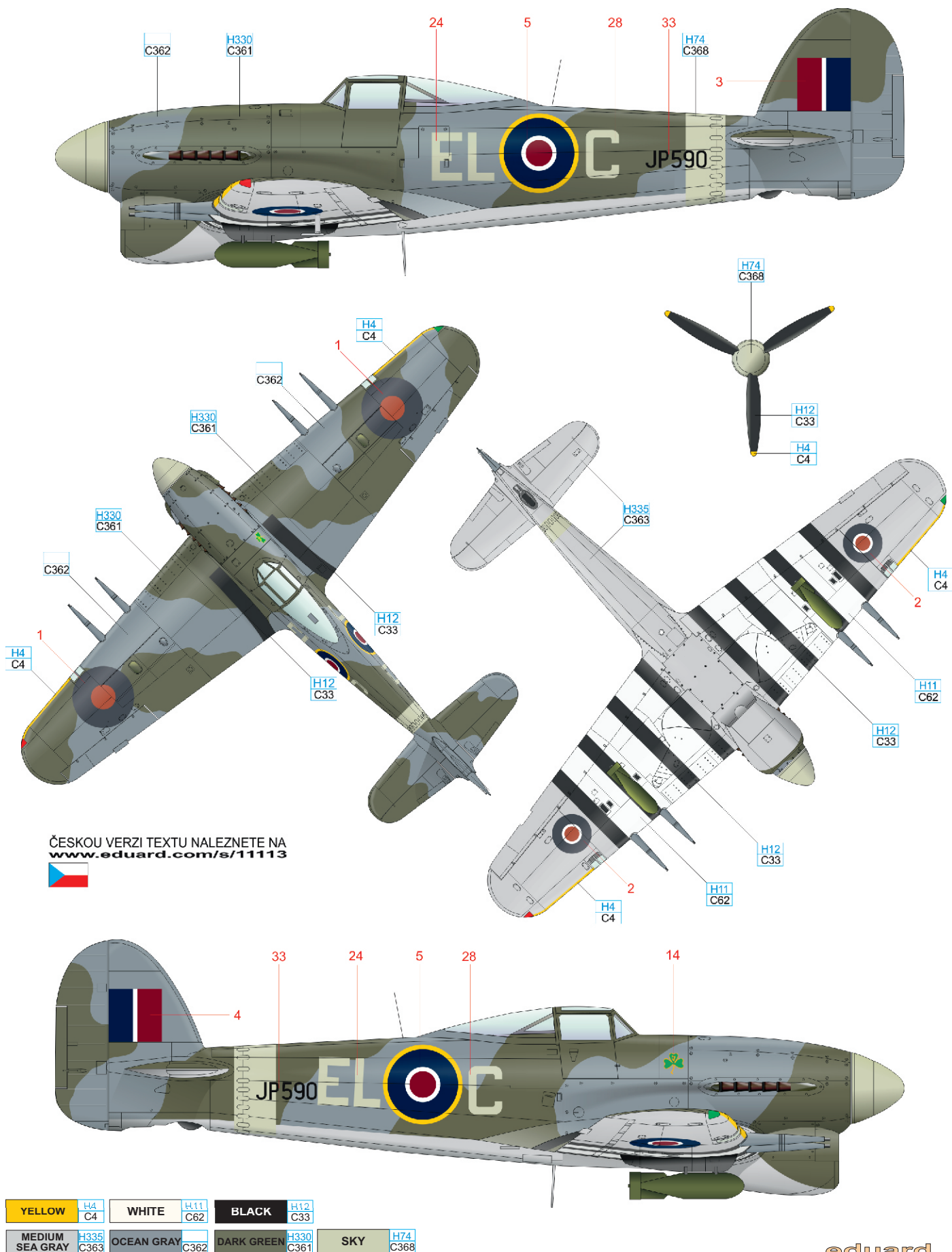


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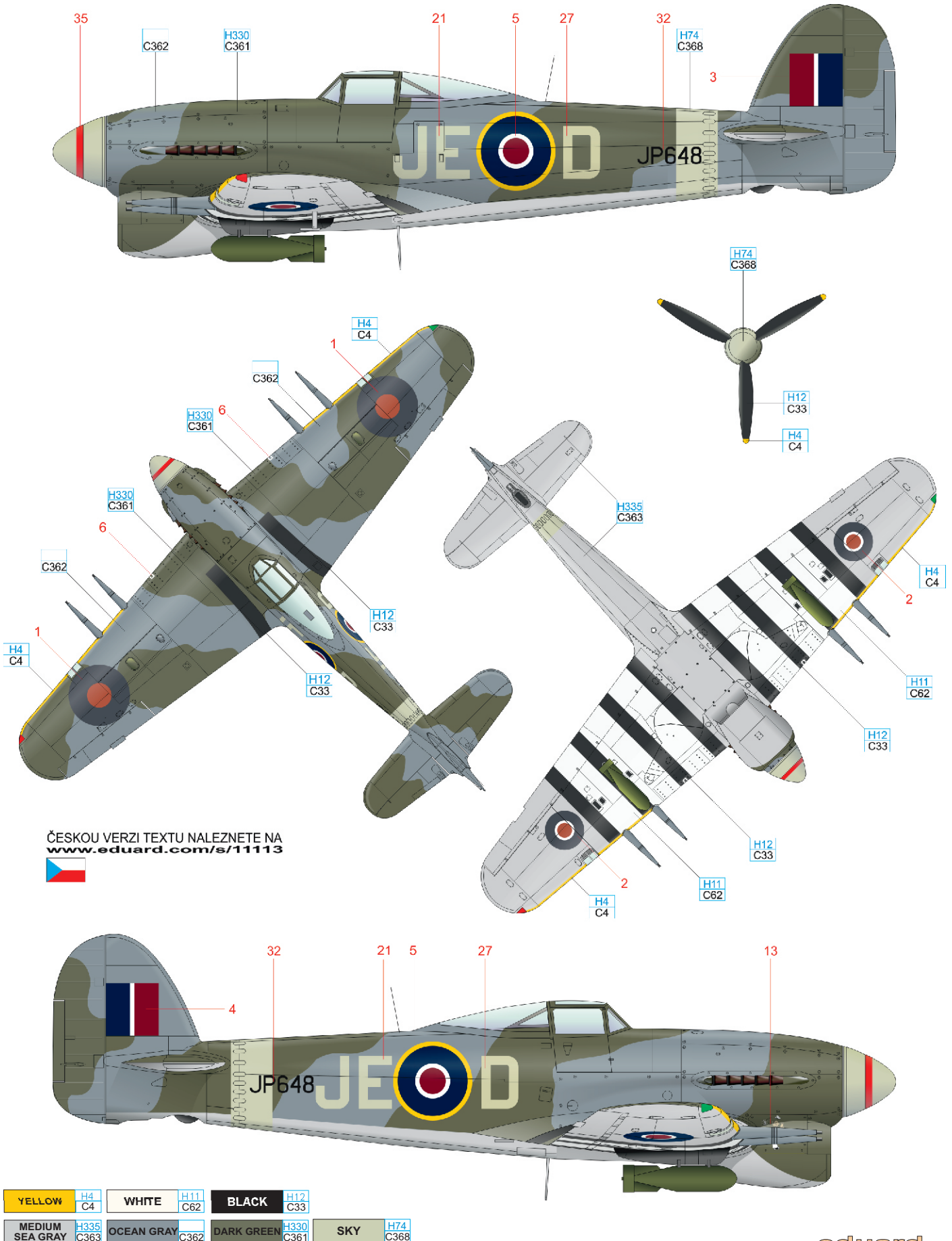
# B JP590, flown by F/O W. R. King, No. 181 Squadron, RAF New Romney, Great Britain, September 1943

JP590 arrived on No. 181 sqn on August 29th, 1943 and was initially equipped as a bomber. It was coded EL-C and allocated to F/O W. R. 'Paddy' King. The last bomber sortie was flown on September 23rd, 1943, after which No. 181 Sqn's Typhoons were fitted with RP equipment. JP590 was flown by S/Ldr F. W. M. Jensen on the first RP operation, on October 21st, but this was abortive as no shipping targets could be found. A further abortive anti-shipping operation took place on October 23rd, but on October 25th, 1943 the Typhoon fired rockets in anger for the first time in an attack on a power station. Unfortunately the flak defences were alerted and 3 of the 6 attacking Typhoons were shot down. F/O King and JP590 were among those that did not return.



# C JP648, flown by F/O K. J. Trott, No. 195 squadron, RAF Fairlop, Great Britain, October 1943

JP648 arrived at RAF Coltishall on August 20th, 1943 and was allocated to No. 195 Squadron as JE-D. At this time a number of this unit's aircraft carried 'nose art' and JP648 was decorated with a 'Popeye' smashing a swastika. A stripe encircled the spinner and this is believed to be red, indicating 'A' Flight. Operations against shipping off the the Dutch coast were flown from Coltishall but the squadron relocated to Fairlop on September 24th, 1943, undertaking different types of operations, including escorts to USAAF Liberators, RAF 'Bomphoons' and Bostons. Although allocated to F/O Ken Trott, a shortage of Typhoons meant JP648 was flown by no less than 16 different pilots during this period.



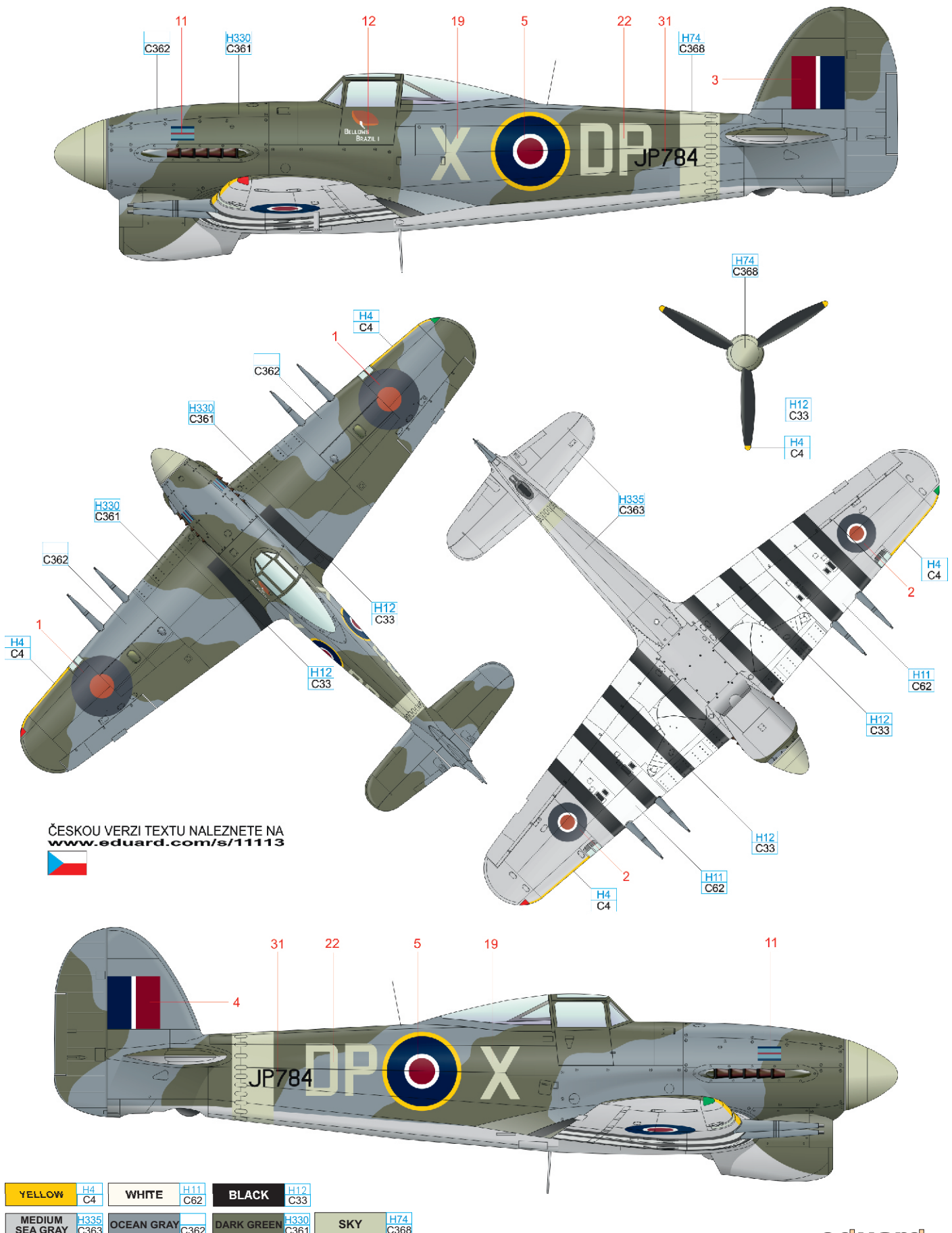
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<b>YELLOW</b>	H4 C4	<b>WHITE</b>	H11 C62	<b>BLACK</b>	H12 C33
<b>MEDIUM SEA GRAY</b>	H335 C363	<b>OCEAN GRAY</b>	C362	<b>DARK GREEN</b>	H330 C361
				<b>SKY</b>	H74 C368

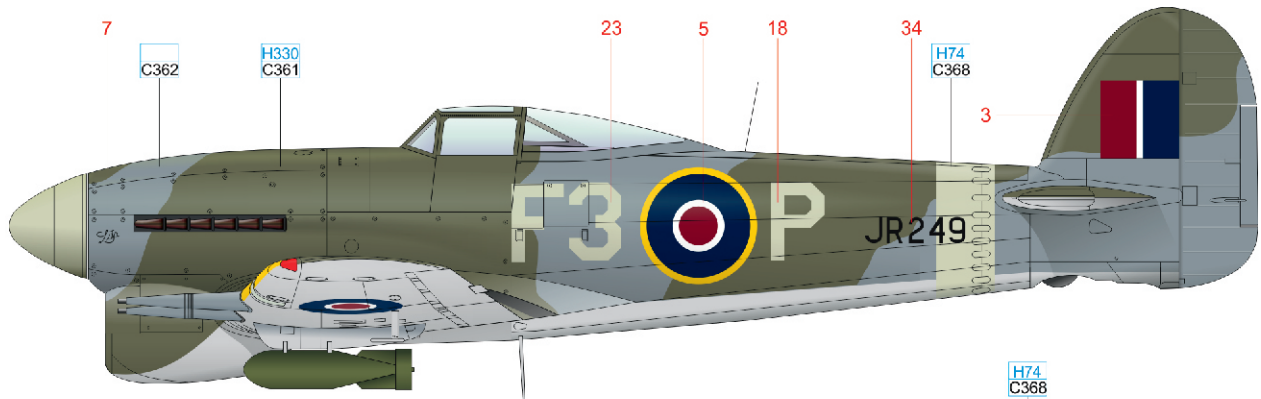
# D JP784, flown by S/Ldr G. W. Petre, Co of No. 193 Squadron, RAF Harrowbeer, Great Britain, October 1943

JP784 was delivered to RAF Harrowbeer on September 14th, 1943 and coded DP-X for S/Ldr G. W. Petre, commanding officer of No. 193 Sqn. Peter was a pre-war Cranwell cadet and flew with the first Spitfire squadron, No. 19. He claimed two enemy aircraft destroyed and further two unconfirmed and shared. He was CO of No. 193 Sqn from its formation with Typhoons in January 1943 to February 1944 and was awarded the DFC. He survived the war and rose to Wing Commander rank in the post-war RAF. His aircraft carries a Sqn Ldr's pennant and an inscription recording its donation by the Fellowship of the Bellows, a Brazilian fund-raising organisation for ex-patriots in Brazil. JP784 suffered an engine failure on January 29th, 1944 a was damaged beyond repair in the subsequent forced landing.

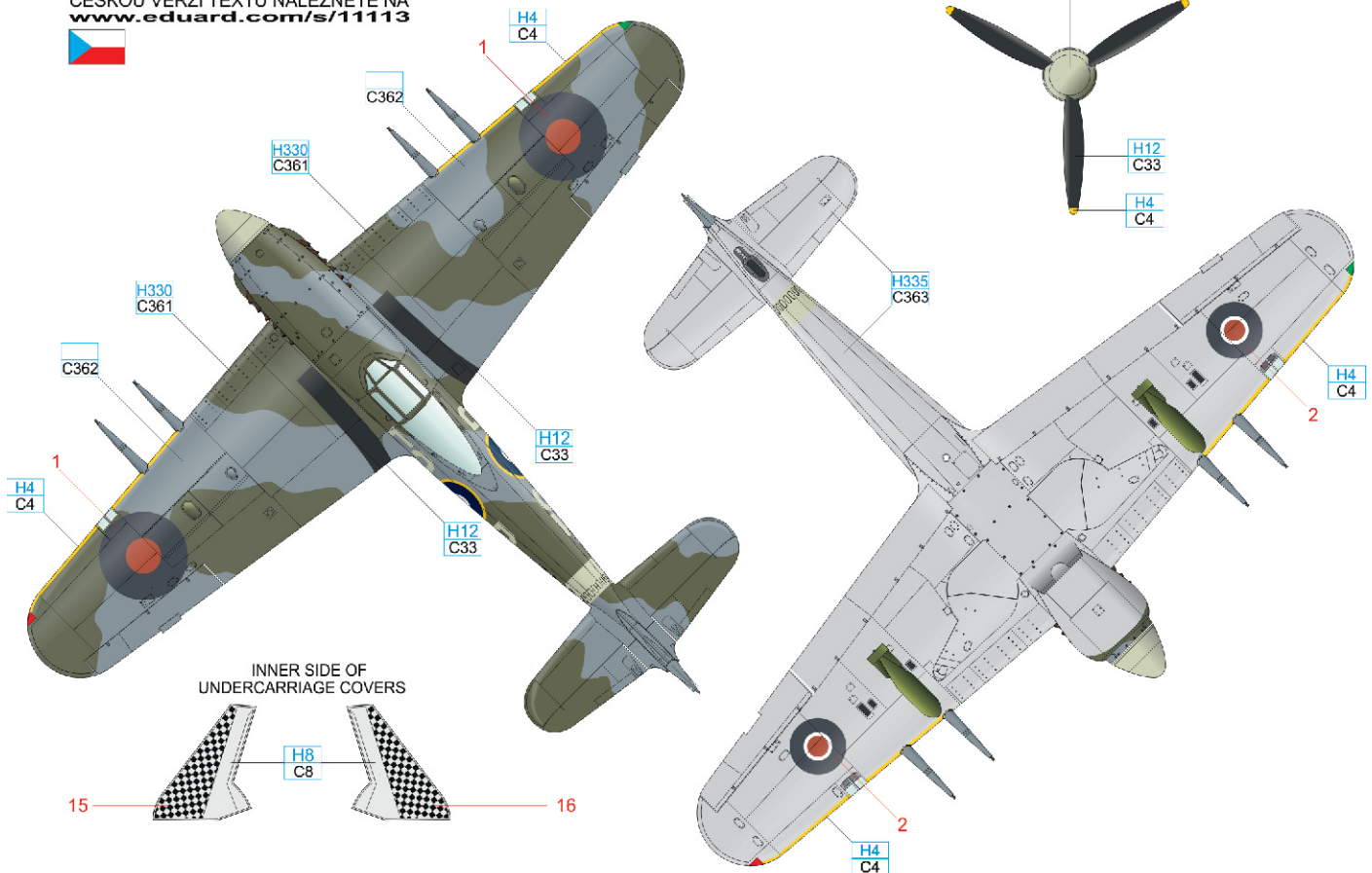


# E JR249, flown by S/Ldr F. G. Grant, No. 438 (RCAF) Squadron, RAF Hurn, Great Britain, March 1944

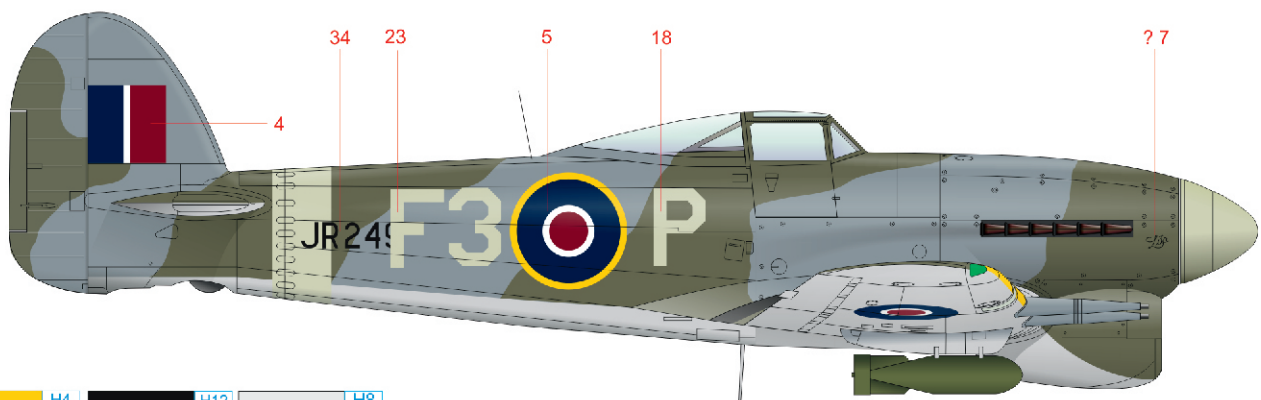
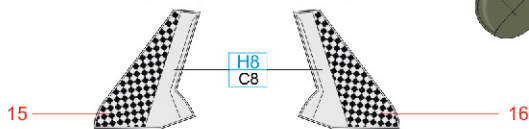
JR249 was first issued to No. 186 Sqn at RAF Ayr in November 1943 but in the reorganisation of 2nd TAF Typhoon squadrons this unit was disbanded and its aircraft given to the RCAF wing which formed at Ayr in January 1944. By March 1944 JR249 had been coded F3-P and on 20th of the month flew on No. 438 Sqn's first operation, piloted by S/Ldr F. G. Grant. Grant later commanded the RCAF Typhoon wing. The Canadian wing (then named No. 143 Airfield) was very short of Typhoons and the three squadrons shared their aircraft - JR249 flew several sorties with No. 439 sqn as well as No. 438 Sqn. The chequered undercarriage doors are believed to have identified the aircraft as the squadron leader's when forming up on the airfield. In May 1944 JR249 was delivered to Hawker Aircraft at Langley for canopy and RP modifications, eventually seeing operational service with No.247 Sqn as ZY-B in October 1944.



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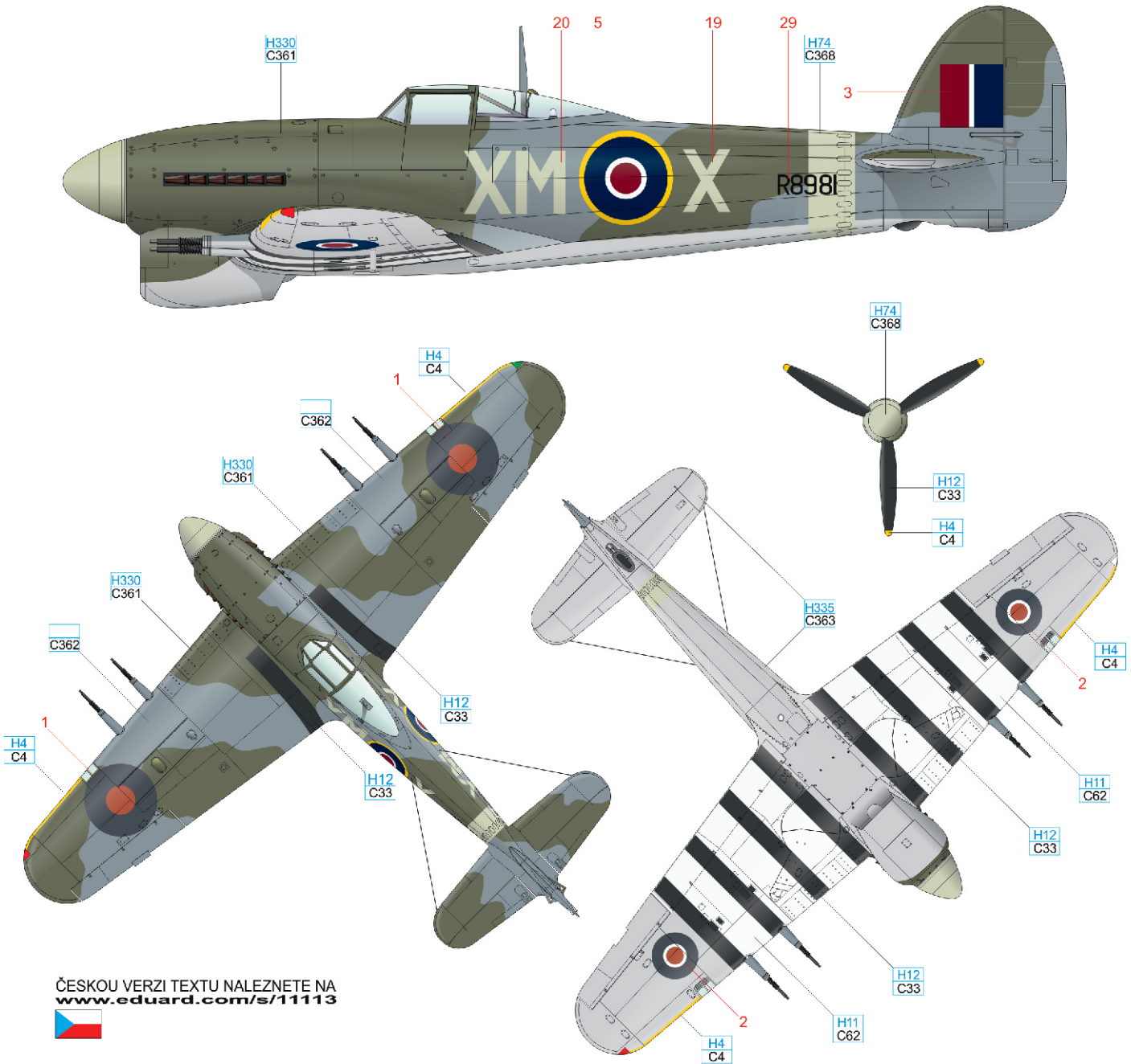
INNER SIDE OF UNDERCARRIAGE COVERS



YELLOW	H4 C4	BLACK	H12 C33	SILVER	H8 C8
MEDIUM SEA GRAY	H335 C363	OCEAN GRAY	C362	DARK GREEN	H330 C361
				SKY	H74 C368

# F R8981, flown by Flt/Lt J. Maňák, No. 182 Squadron, RAF Fairlop, Great Britain, April 1943

R8981 was delivered to 182 Sqn on November 28th, 1942 and given the code XM-X. This unit and its 'sister' squadron, number 181, had just been formed as the first two specialised Typhoon bomber squadrons. Flt Lt Manak flew R8981 10 times in March 1943, before it went away to 13 MU at RAF Henlow for 'Mod 286', the strengthening of the rear fuselage with 'fishplates'. It returned to No. 181 Sqn at the beginning of January 1943 and Manak flew it a further 12 times, including throughout Exercise Spartan. His last 8 flights in R8981 took place between April 16th and April 29th, 1943 and included dive-bombing attacks on Luftwaffe airfields at Tricqueville and Courtrai. On May 13th, 1943 R8981 XM-X was hit by flak and made a crash-landing on a railway line near RAF Ford. Flt Lt E. R. Baker survived by R8981 did not.



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<b>YELLOW</b>	H4 C4	<b>WHITE</b>	H11 C62	<b>BLACK</b>	H12 C33
<b>MEDIUM SEA GRAY</b>	H335 C363	<b>OCEAN GRAY</b>	H330 C361	<b>DARK GREEN</b>	H74 C368

