



## Historie

Firma Short byla jednou z největších firem, které se věnovaly vývoji a výrobě létajících člunů. Ve třicátých letech minulého století, kdy celokovové jednoplošníky začaly vytlačovat dvouplošníky, Short vyvinul několik variant civilních čtyřmotorových celokovových létajících člunů S.23, 30 a 33, souhrnně označovaných C-Class nebo Empire Class. Část z nich dostala vojenské vybavení a používaly se i bojově. Zkušenosti s výrobou a provozem těchto člunů se projeví v konstrukci stroje Short S.25. Ten byl navržen podle specifikací R.2/33, požadujících létající člun dalekého doletu určený k protiponorkovému hlídkování a k průzkumu. Čtyřmotorový celokovový stroj, jehož první prototyp vzletl poprvé 16. října 1937 dostal pojmenování Sunderland Mk.I. Sunderlandsy Mk.I byly vybaveny motory Pegasus Mk.XXII, střeleckými věžemi v přídě a zádi a otevíratelnými střelišti na hřbetě trupu. Bylo jich vyrobeno 90 kusů, část z nich u firmy Blackburn. Verze Sunderland Mk.II dostala hřbetní střeleckou věž a silnější motory Pegasus Mk.XVIII. Společná výroba u Shortu a Blackburnu dal vzniknout 43 kusům této verze. Na některých kusech této verze byly použity první verze radarů se stromčekovitými anténami ASV Mk.II. Zkušenosti z bojišť vedly k úpravám Sunderlandu. Výroba přešla na verzi Mk.III/IIIA. Trup této verze dostal nové, aerodynamicky výhodnější stupnění kýlu, ASV radar Mk.III v kapkovitém výstupku pod křídlem. Pozdější vyrobené kusy dostaly do příďové výzbroje čtyř pevných kulometů určených k boji s obsluhami protiletadlových zbraní na vypořených ponorkách. Celkem bylo vyrobeno 456 kusů trojek. Vzhledem k tomu, že zvětšená verze Sunderland Mk.IV, později přeznačená na Seaford Mk.I se nevyrobila sériově, poslední verzí Sunderlandu v sériové výrobě se stala verze Sunderland Mk.V. Dostala americké motory P&W R-1830-90B a radar ASV Mk.VIC. Výroba byla ukončena až v červnu 1946 po vyrobení 150 kusů. Sériové Sunderlandsy Mk.I dostala jako první No.230 sqn. RAF v roce 1938. Na konci války se Sunderlandsy létalo dvacet squadron pod velením RAF a další squadrony pod velením spojeneckým. Bojovaly od prvního dne války až do jejího konce. Během válečných let se nesporně osvědčily. Nasazeny byly v nad oceány od Atlantiku, přes Indický oceán až po Pacifik. Spolehlivě sloužily na chladném severu v polárních oblastech, stejně jako v tropech. Vysloužily si, pro svou obrannou výzbroj, pojmenování létající dikobraz. Konec války neznamenal konec jejich služby. Sunderlandsy RAF se mohou pochlubit mimo jiné účasti v Korejském konfliktu, Berlinském mostu nebo bojů s komunistickými bojovníky v Malajsku. Kromě britského RAF létaly v řadách australského, novozélandského, norského, jihoafrického a kanadského letectva, francouzského a portugalského námořnictva. U většího zahraničních uživatelů již během války. Poslední novozélandské Sunderlandsy byly přitom vyřazeny až v roce 1967!

CZ

### TTD verze Mk.V

Rozpětí: 34,39 m, délka: 26 m, max. rychlost: 343 km/h v 1900 m, operační dostup: 5457 m, dolet 3027 km, vytrvalost: 10/21 hodin při rychlosti 260/220 km/h, výzbroj: 2250 kg bomb či hlubinných bomb, 12x kulomet 7,7 mm, 2x kulomet 12,7 mm

## History

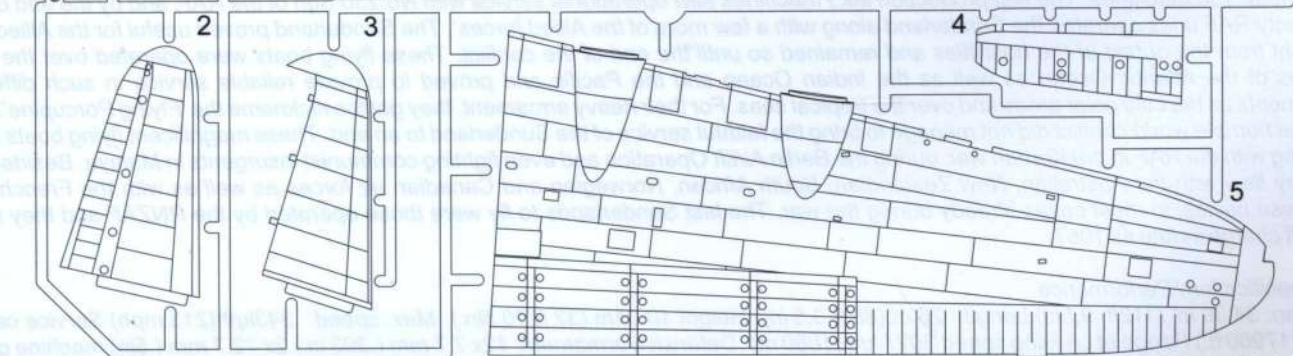
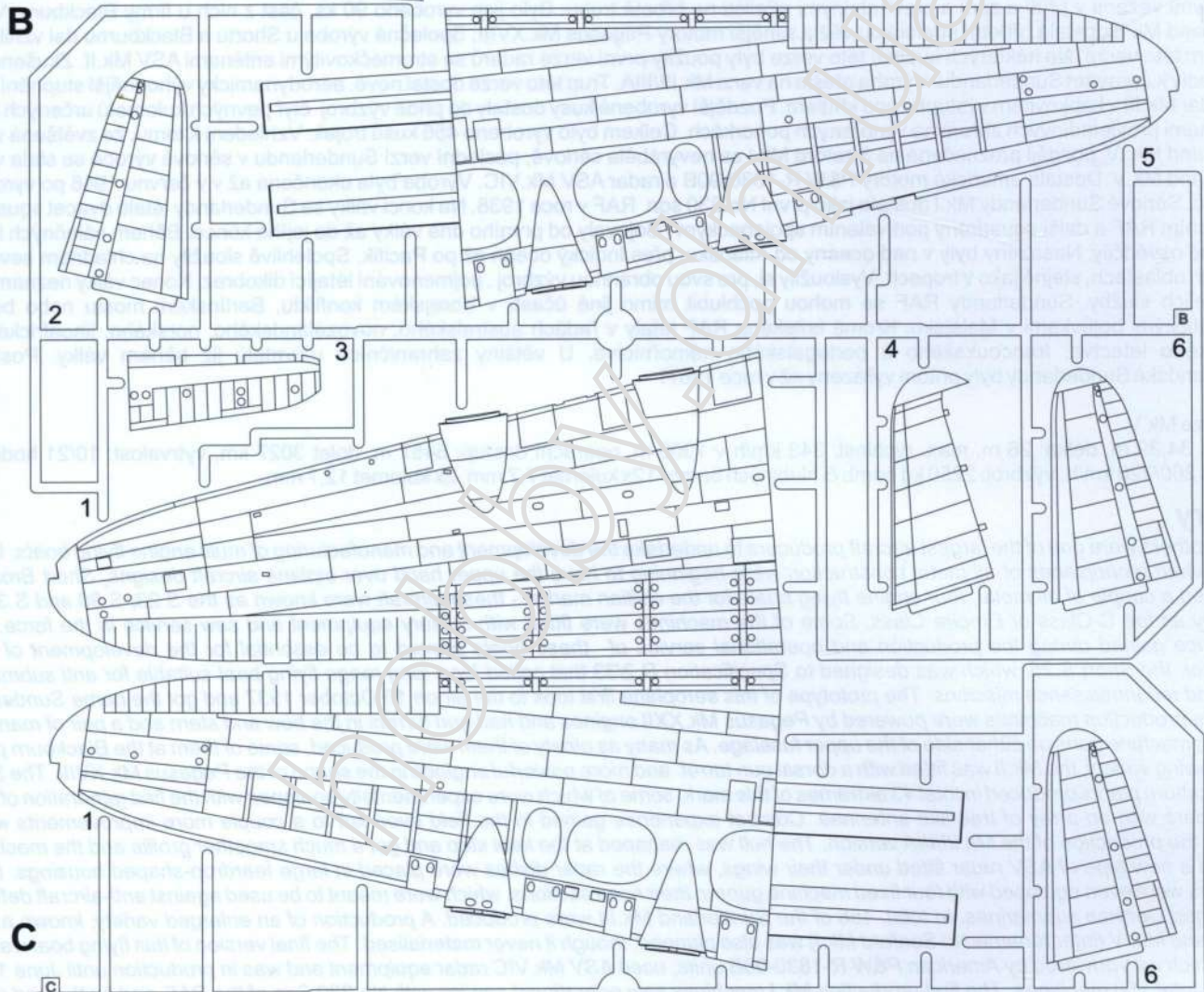
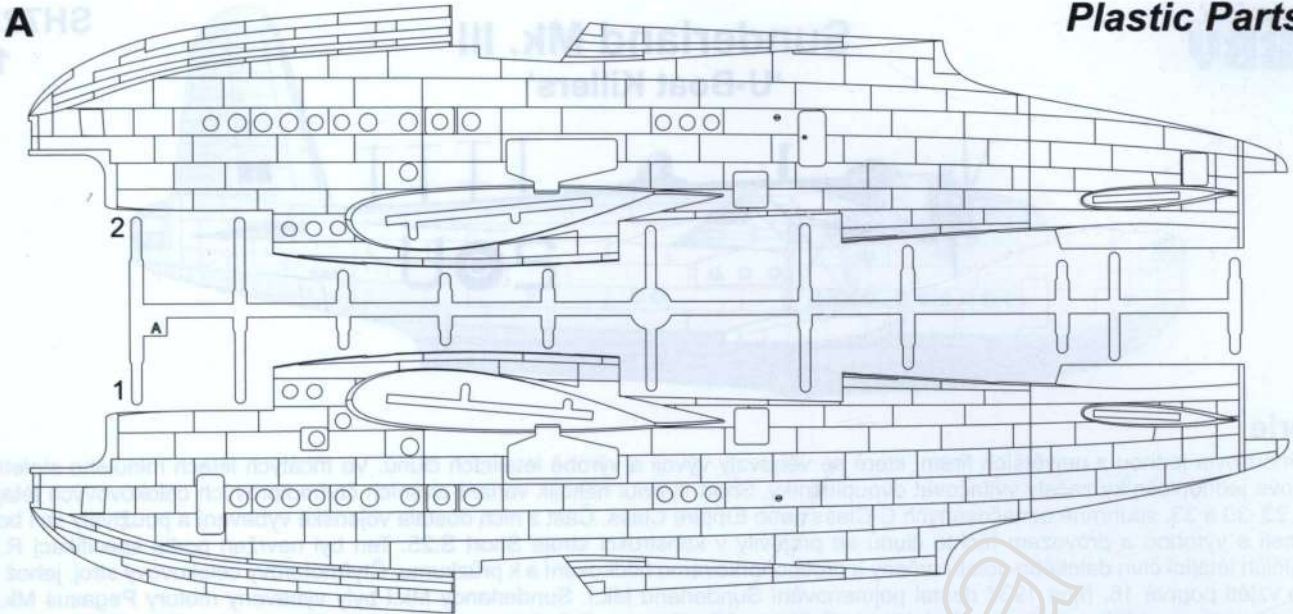
Short Brothers were one of the largest aircraft producers to undertake the development and manufacturing of multi engine flying boats. In the 1930s, when monoplanes of all metal construction were beginning to have the upper hand over biplane aircraft designs, Short Brothers developed a couple of all metal, four engine flying boats for the civilian market - these aircraft were known as the S.23, S.30 and S.33, or generally as the C-Class or Empire Class. Some of the machines were fitted with military equipment and saw service in the force. The experience gained during the production and operational service of these boats proved to be essential for the development of their successor, the Short S.25, which was designed to Specification R.2/33 that called for a long range flying boat suitable for anti submarine patrol and reconnaissance missions. The prototype of this aeroplane first took to the air on 16 October 1937 and got the name Sunderland Mk.I. The production machines were powered by Pegasus Mk.XXII engines and had gun turrets in the bow and stern and a pair of manually operated machine guns on either side of the upper fuselage. As many as ninety of them were produced, some of them at the Blackburn plant. The following variety, the Mk.II was fitted with a dorsal gun turret and more powerful engines in the shape of the Pegasus Mk.XVIII. The Short and Blackburn plants produced in total 43 airframes of this mark, some of which were experimentally equipped with the first generation of ASV Mk.II radars with an array of tree-like antennae. Combat experience gained in the field even led to a couple more improvements which enabled the production of the Mk.III/IIIA version. The hull was reshaped at the keel step and got a much smoother profile and the machines also had a new type of ASV radar fitted under their wings, where the radar dishes were placed in large teardrop-shaped housings. Later machines were even equipped with four fixed machine guns in their nose sections, which were meant to be used against anti-aircraft defence of emerged German submarines. In total, 456 of the Sunderland Mk.III were produced. A production of an enlarged variety, known as the Sunderland Mk.IV (later renamed to Seaford Mk.I) was also planned, though it never materialised. The final version of this flying boat was the Mk.V, which was powered by American P&W R-1830-90B units, used ASV Mk.VIC radar equipment and was in production until June 1946, giving in total 150 machines. The first production Mk.I machines saw operational service with No.230 Sqn of the RAF, and by the end of the War, twenty RAF units operated the Sunderland along with a few more of the Allied forces'. The Sunderland proved useful for the Allied war effort right from the outset of the hostilities and remained so until the end of the conflict. These flying boats were operated over the vast expanses of the Atlantic Ocean as well as the Indian Ocean and the Pacific and proved to provide reliable service in such different environments as the cold polar areas and over the tropical seas. For their heavy armament, they got the nickname the 'Flying Porcupine'. The end of the horrible world conflict did not manage to bring the faithful service of the Sunderland to an end. These magnificent flying boats went on serving with the RAF in the Korean war, during the Berlin Airlift Operation and even fighting communist insurgents in Malaya. Besides the RAF, they flew with the Australian, New Zealandian, South African, Norwegian and Canadian air forces as well as with the French and Portuguese navies, in most cases already during the war. The last Sunderlands to fly were those operated by the RNZAF and they were struck off charge as late as 1967.

EN

### Mk.V Specification / Performance

Wingspan: 34.39 m, (112ft. 9.5in) Length: 26 m, (85 ft. 3.5 in) Height 10.01m (32 ft. 10.5in) Max. speed: 343kph (213 mph) Service ceiling 5457m (17900 ft.) Range at cruising speed 3027 km (1880 m) Defensive armament: 12x 7.7 mm (.303 in.) 2x 12.7 mm (.5in) machine guns. Offensive ordnance 2250 kg (4960lbs)

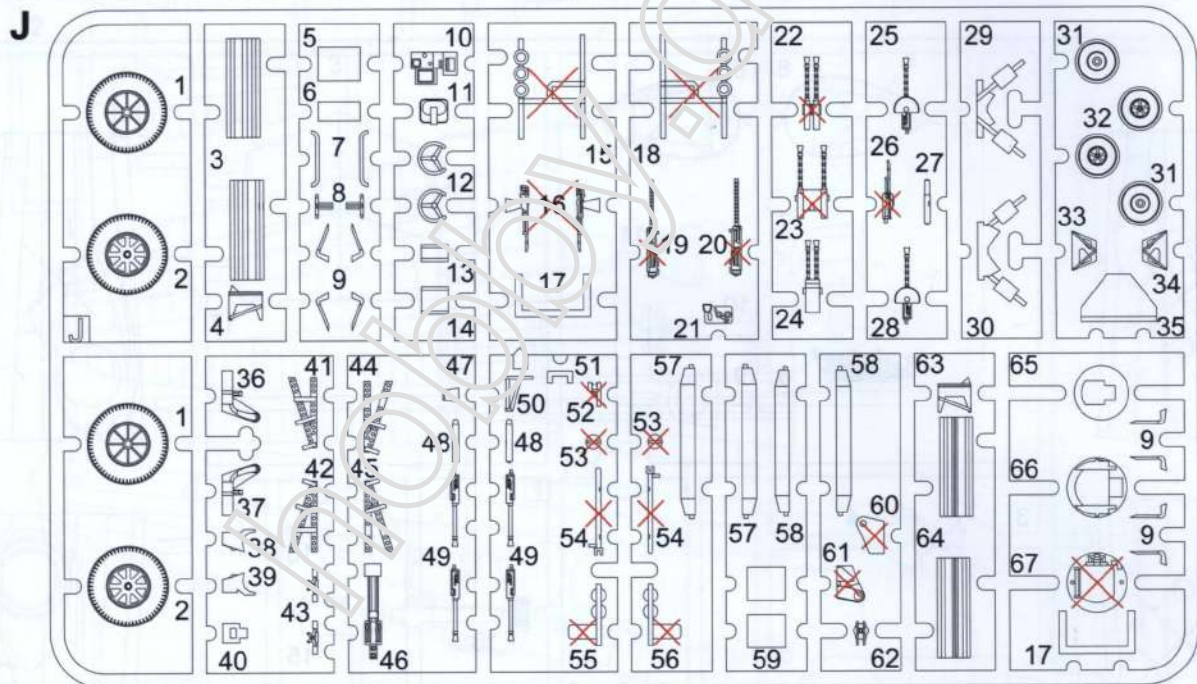
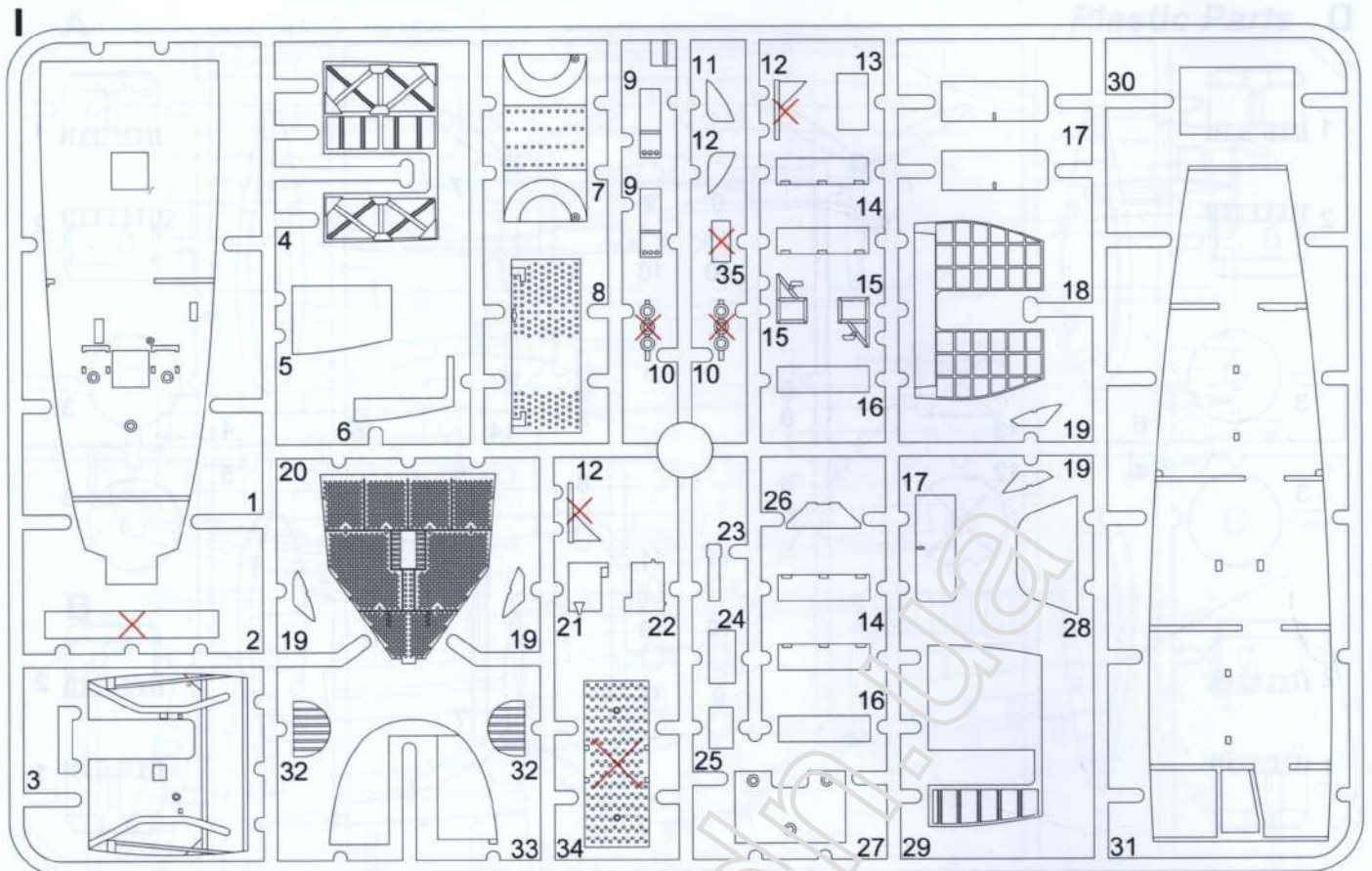












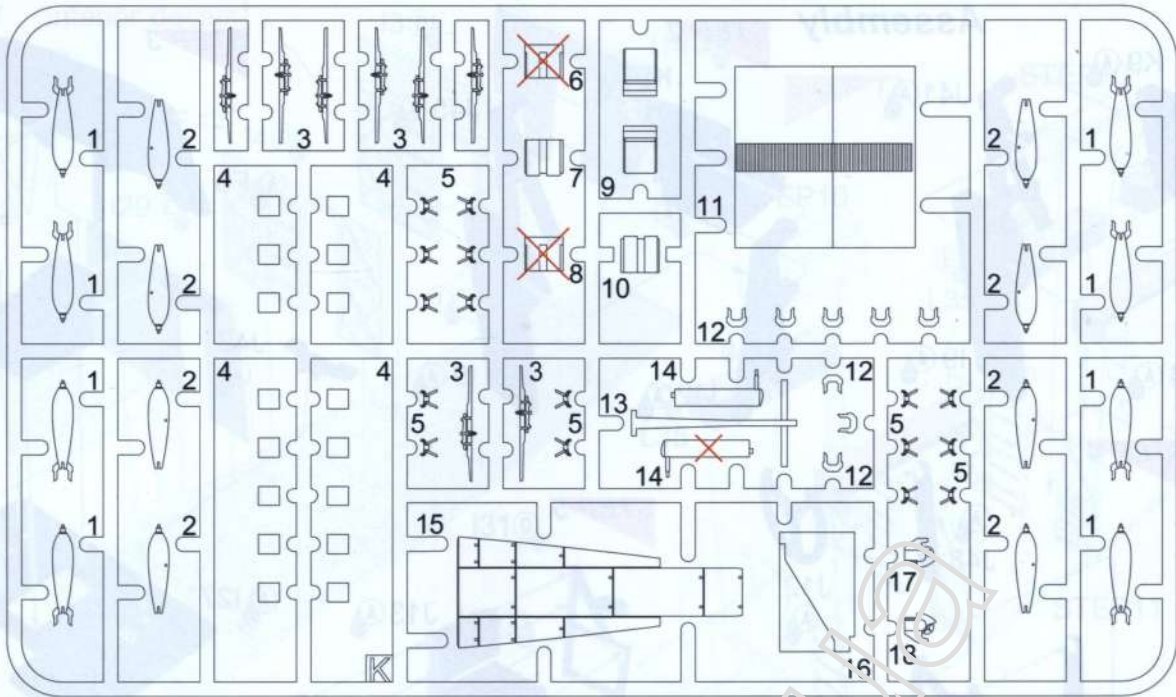
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Barvy GUNZE/ GUNZE Colour No.

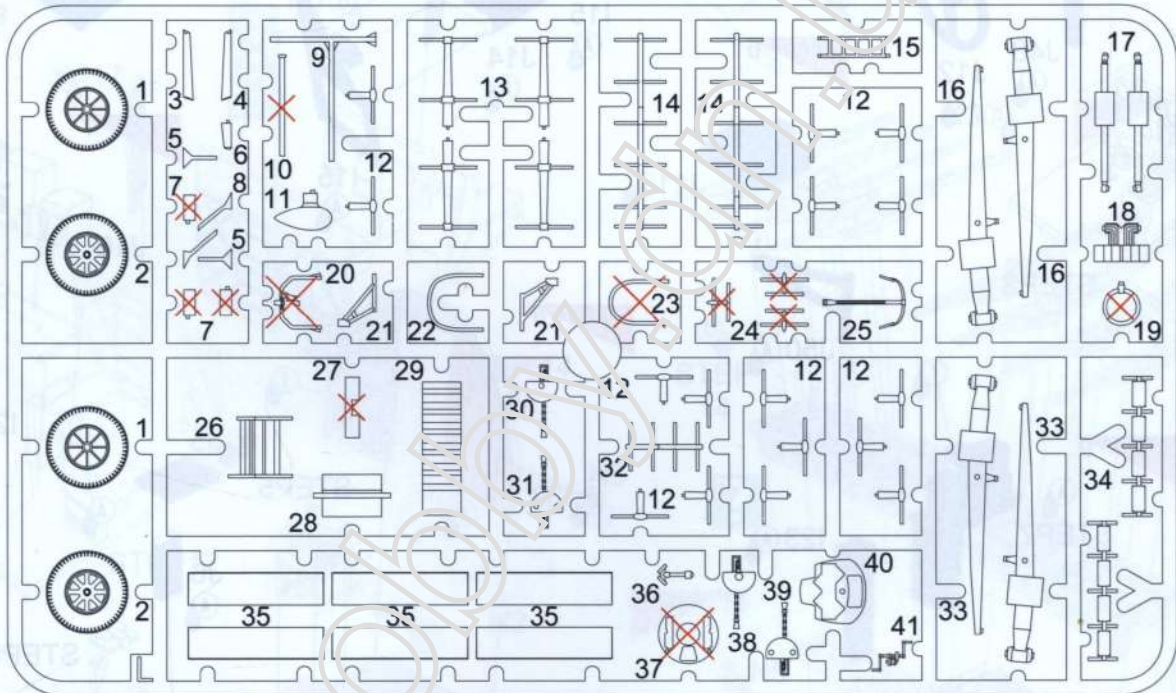
|   |            |                                  |          |
|---|------------|----------------------------------|----------|
| <b>A</b> Černá/ Black                         | H12/ C33   | <b>H</b> Žlutá/ Yellow           | H4/ C4   |
| <b>B</b> Barva pneu/ Tire Black               | H77/ C137  | <b>I</b> Barva plátna/ Tan       | H27/ C44 |
| <b>C</b> Tmavý kov/ Dark Iron                 | H28/ C78   | <b>J</b> Bílá/ White             | H28/ C78 |
| <b>D</b> Hliník/ Aluminium                    | H8/ C8     | <b>K</b> Dřevo/ Wood             | H37/ C43 |
| <b>E</b> Inter. šedozelená/ Inter. Grey Green | C364       | <b>L</b> Opálený kov/ Burnt Iron | H76/ C61 |
| <b>F</b> Motorová šedá/ Engine Grey           | H339/ C339 | <b>M</b> Barva kůže/ Red Brown   | H17/ C29 |
| <b>G</b> Červená/ Red                         | H43/ C100  |                                  |          |



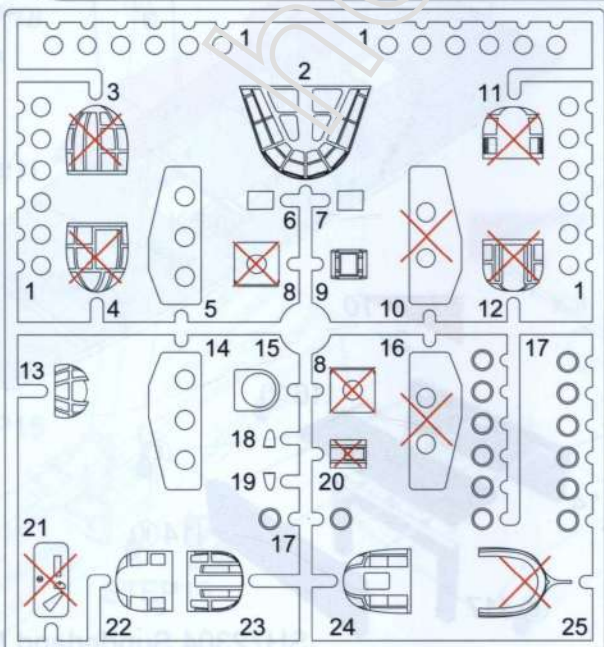
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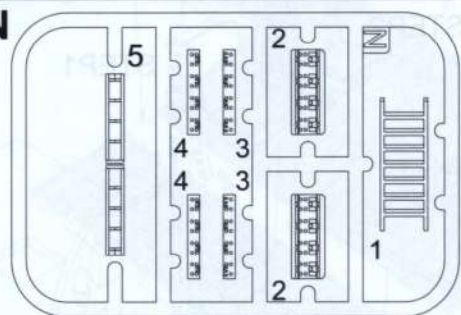
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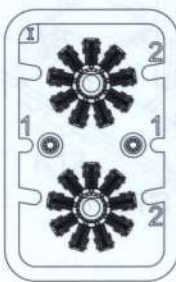
**CP  
(Clear  
Parts)**



**N**



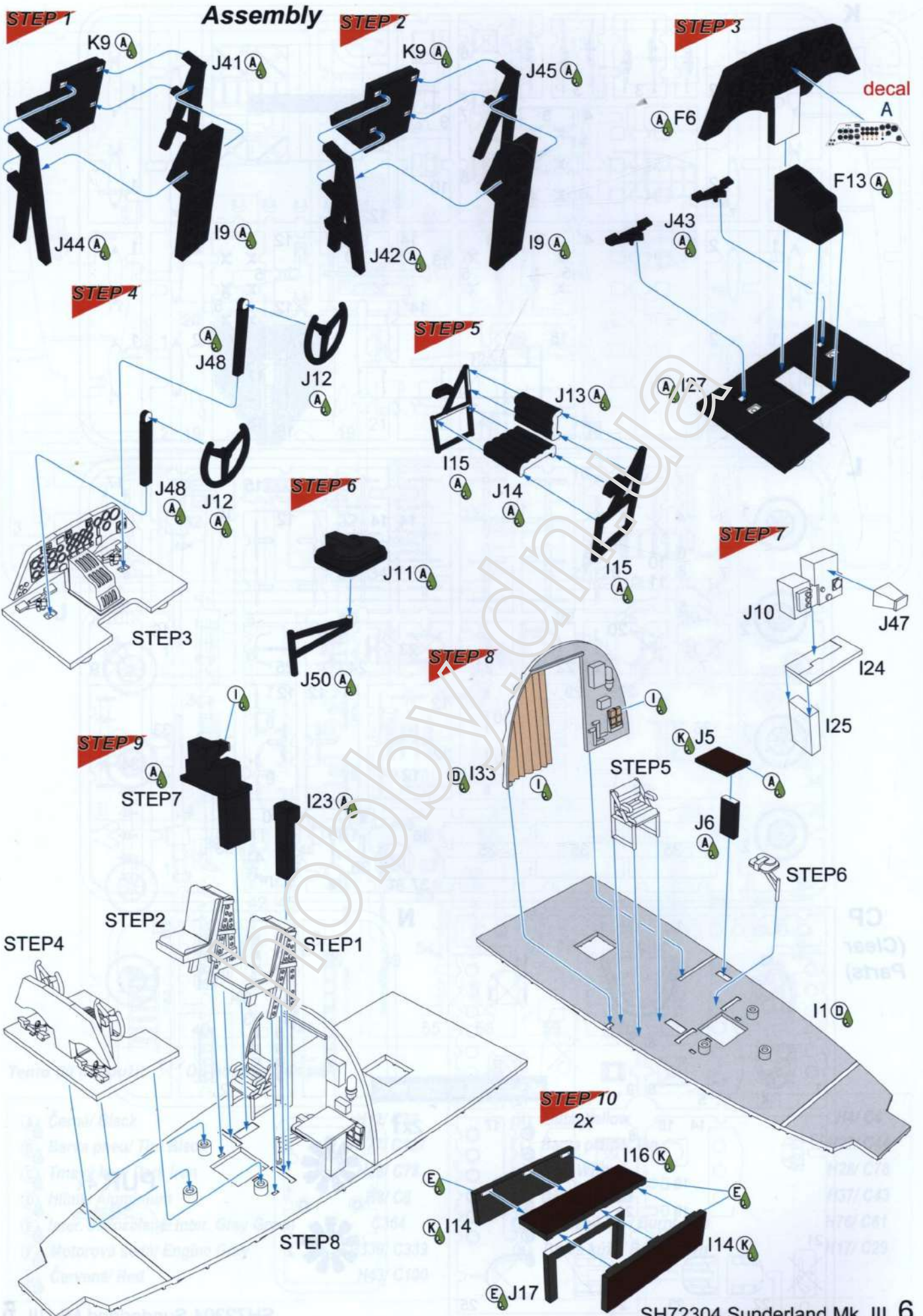
**2xI**



**PUR 4x**

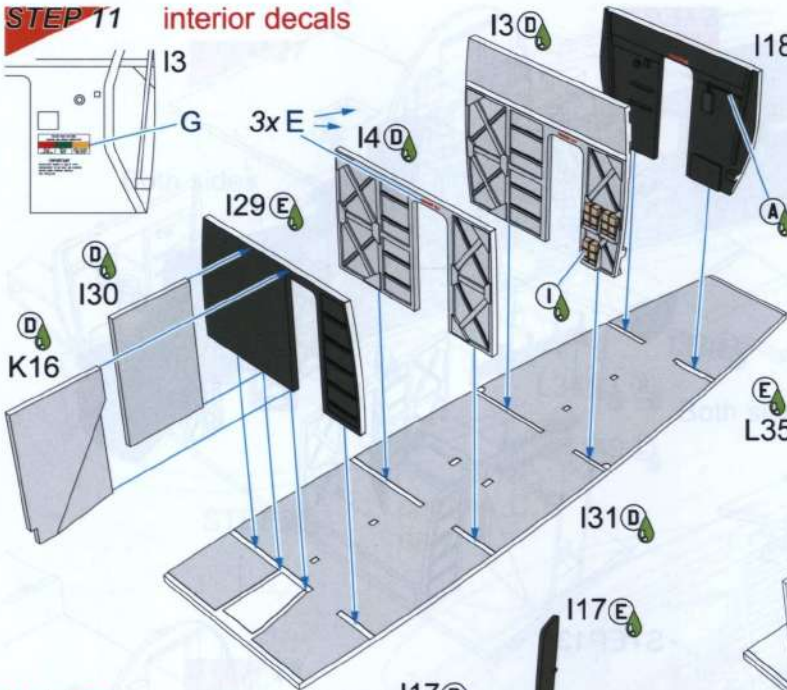




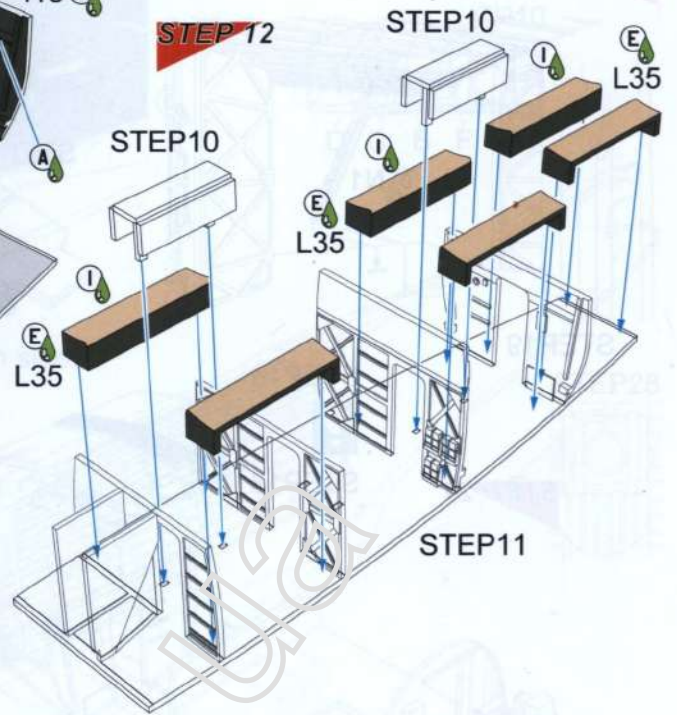




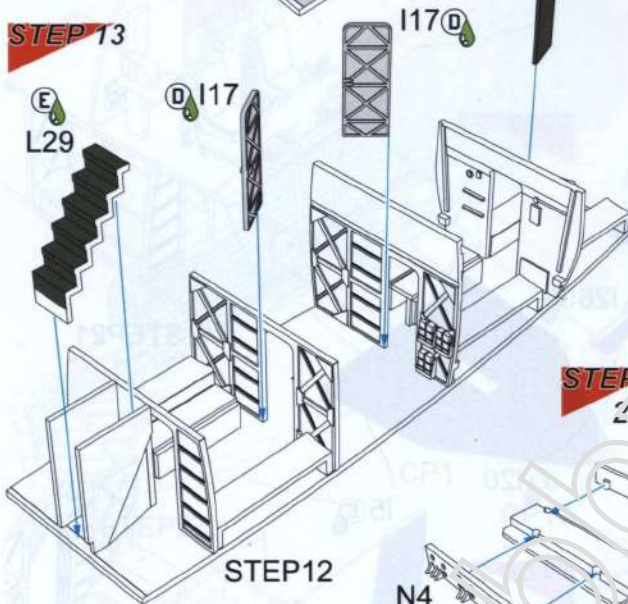
**STEP 11** interior decals



**STEP 12**

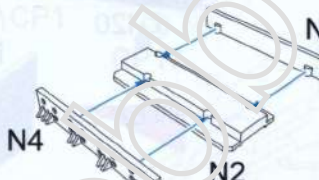


**STEP 13**

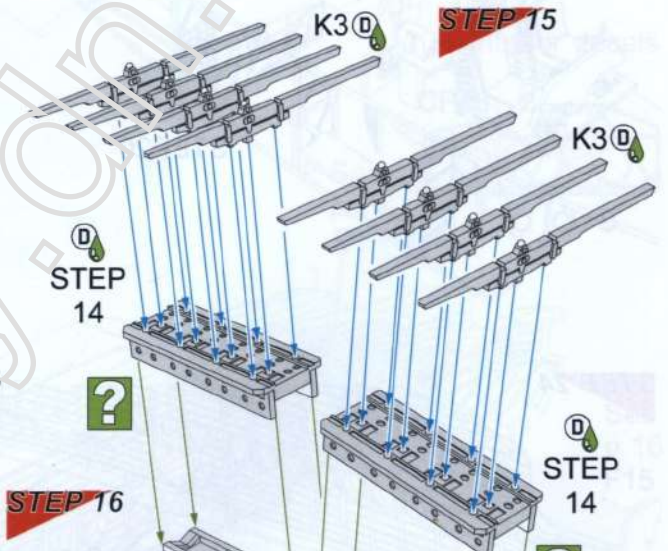


**STEP 14**

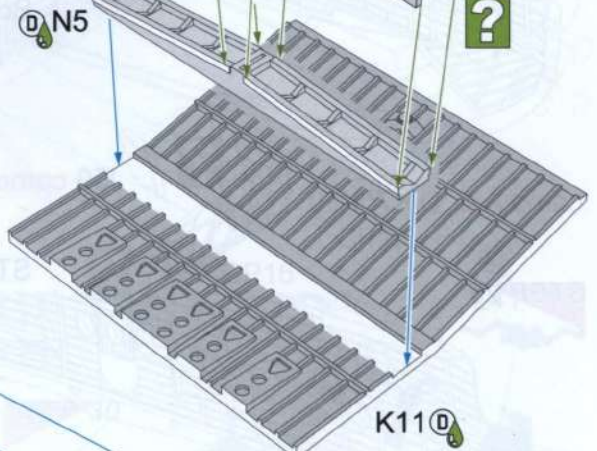
2x



**STEP 15**



**STEP 16**



**STEP 18**

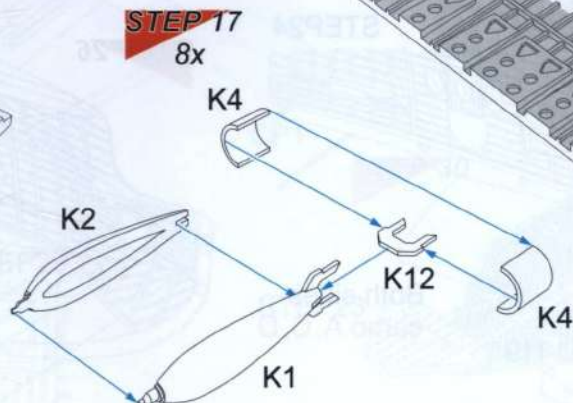
8x



**STEP 17**

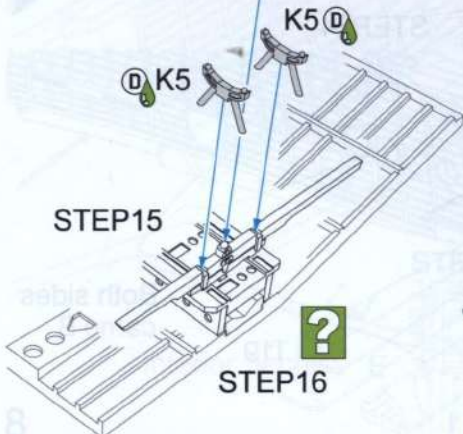
**STEP 17**

8x



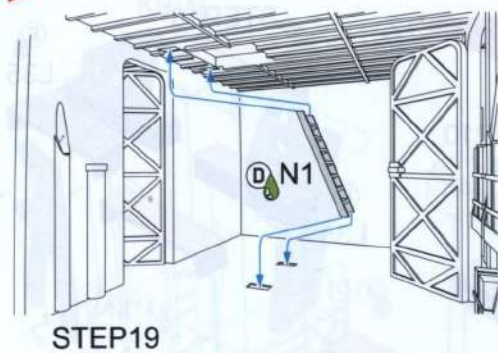
**STEP 15**

**STEP 16**

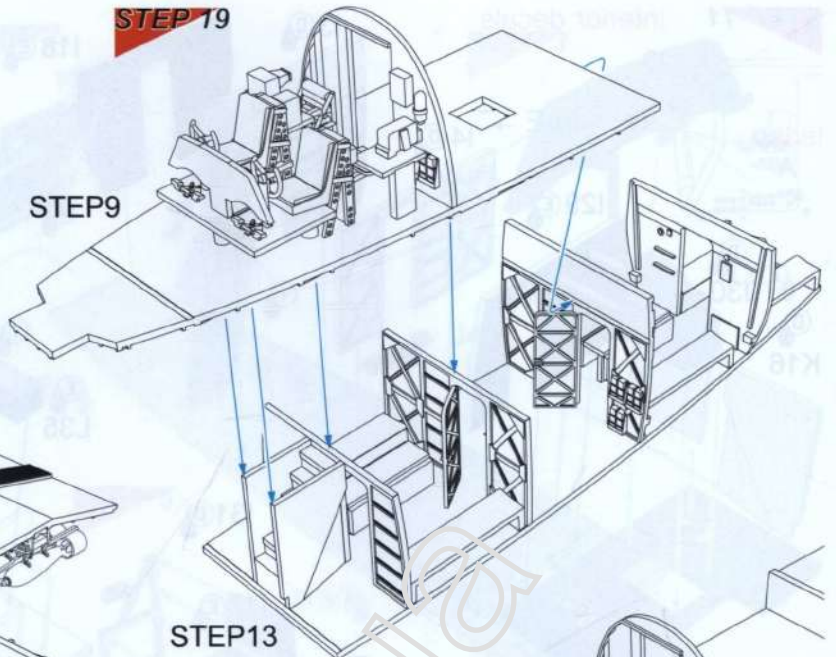




**STEP 20**



**STEP 19**

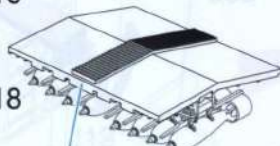


STEP19

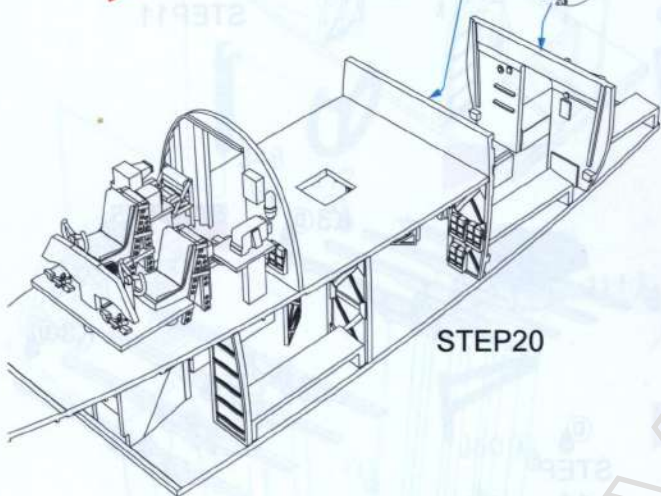
STEP16



STEP18



**STEP 21**



STEP13

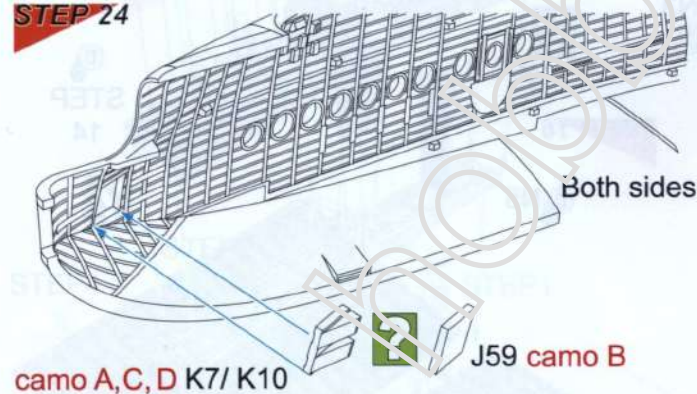
**STEP 22**



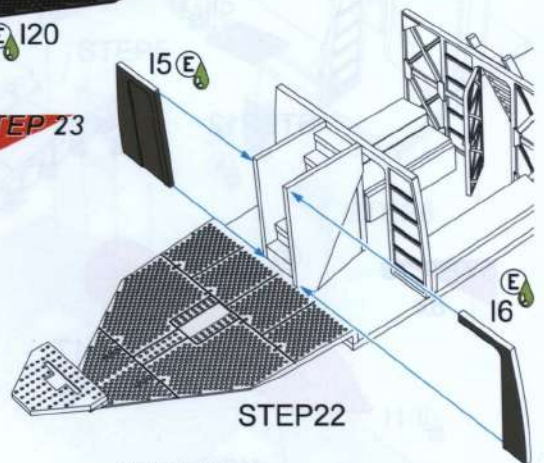
STEP20

STEP21

**STEP 24**

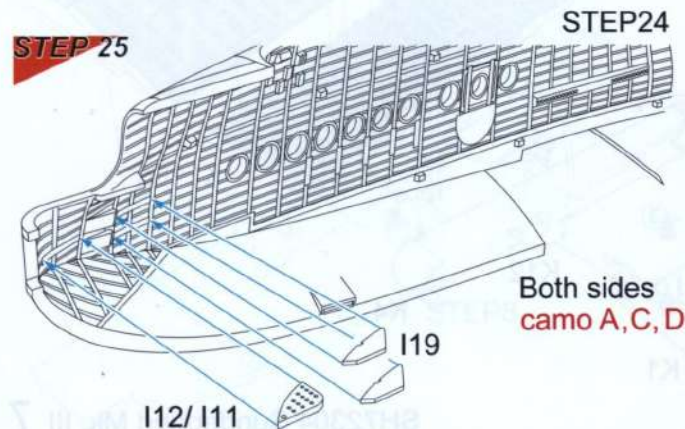


**STEP 23**



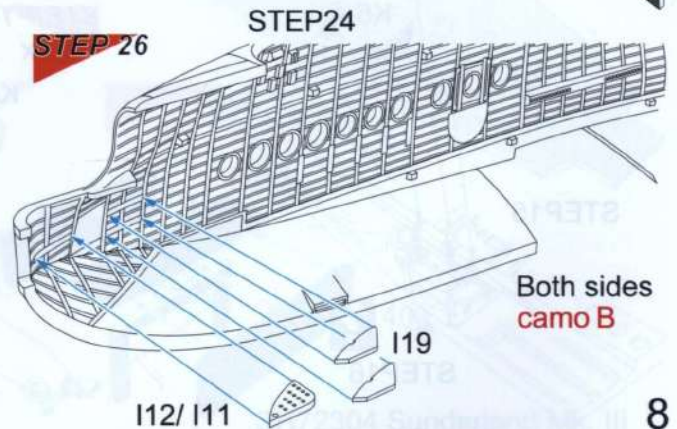
STEP22

**STEP 25**



STEP24

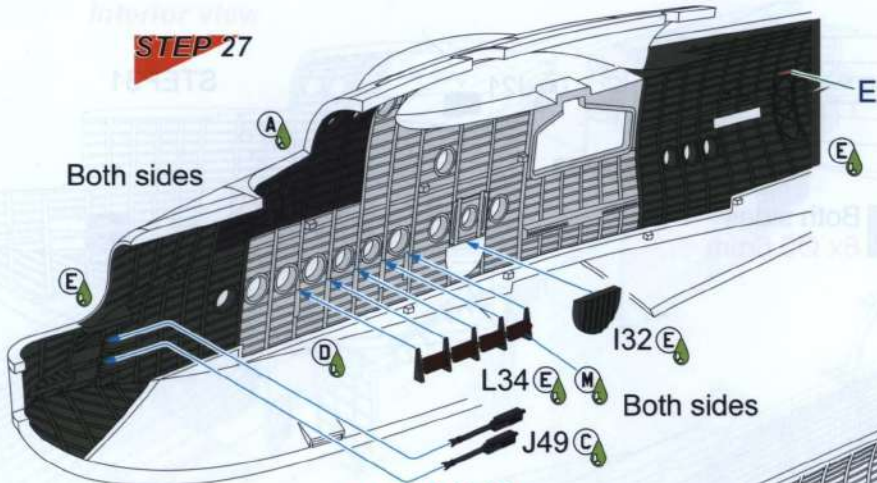
**STEP 26**



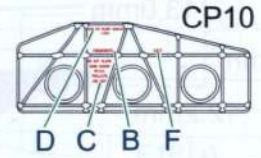
STEP24



**STEP 27**



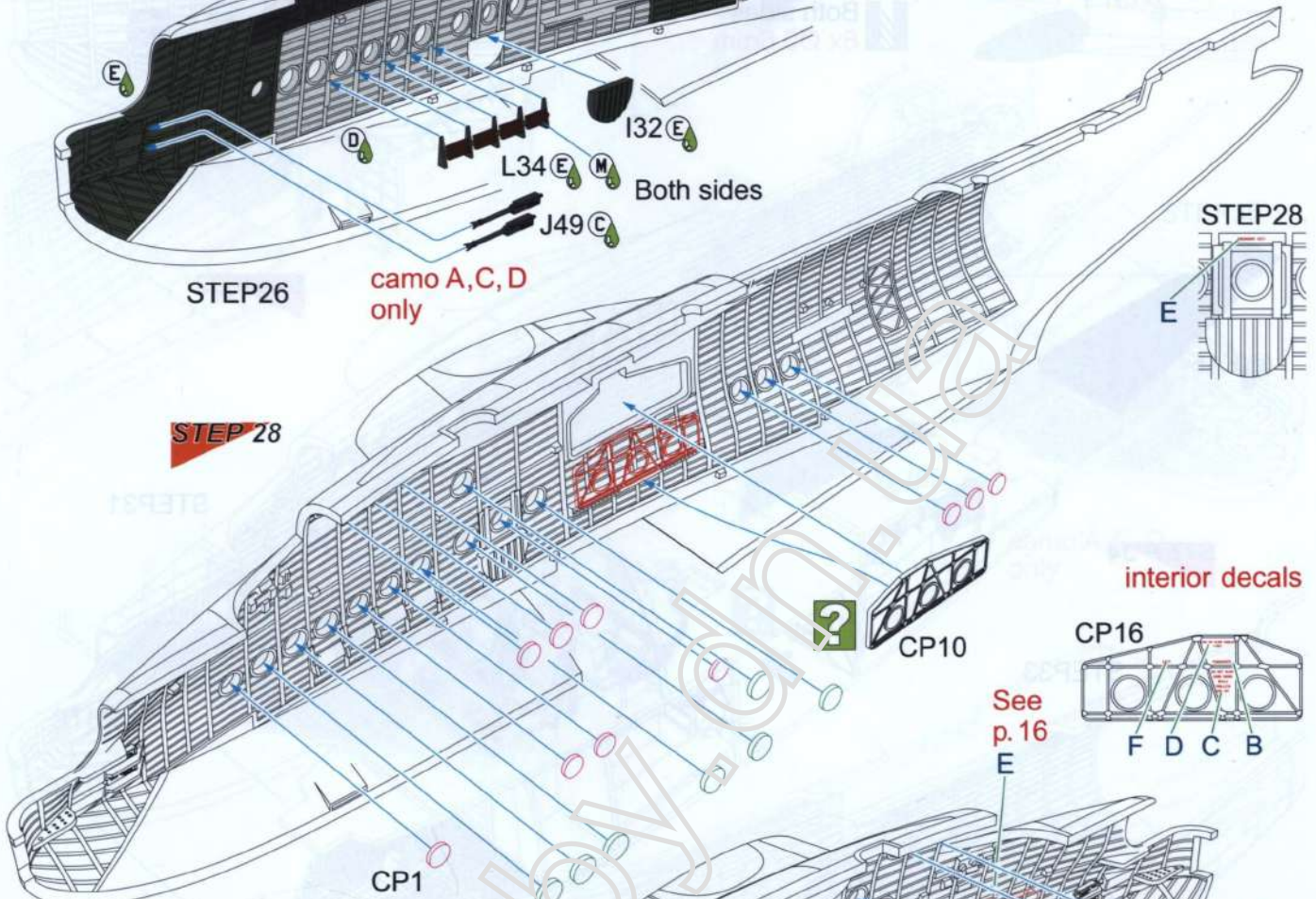
interior decals



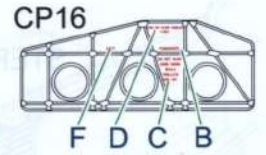
**STEP 26**

camo A, C, D only

**STEP 28**

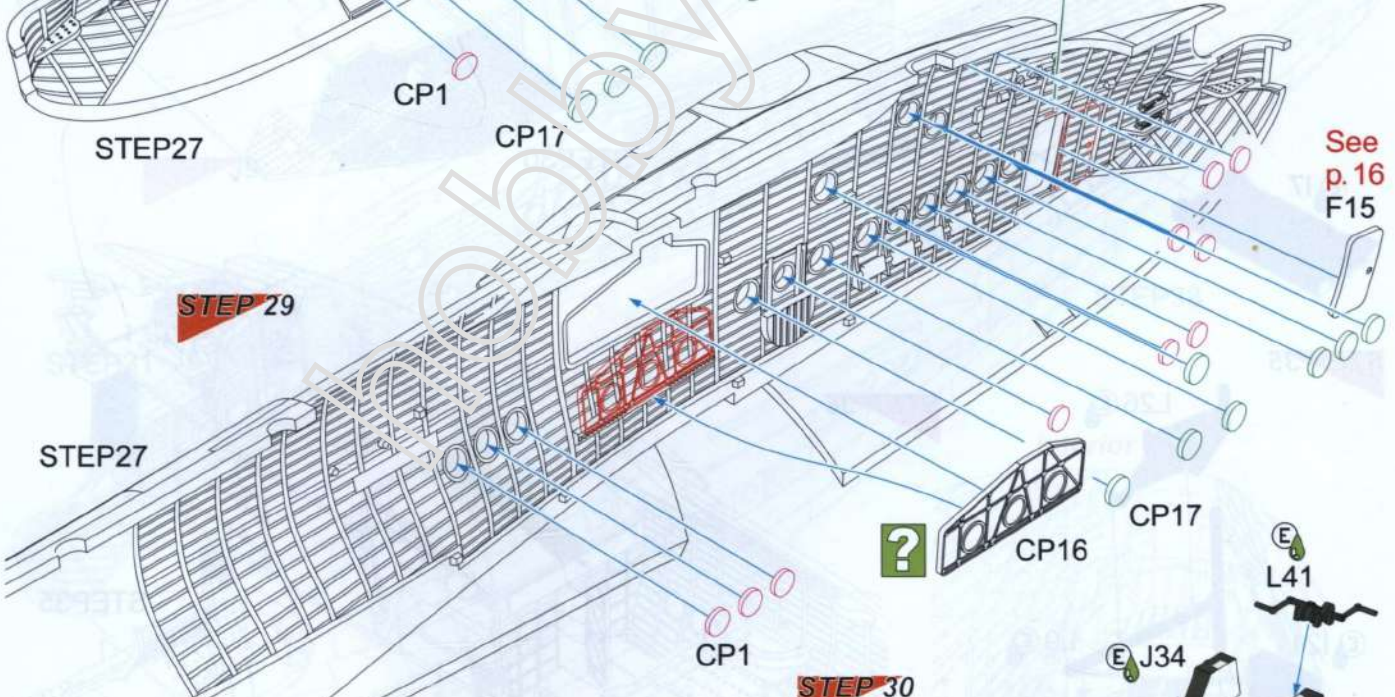


interior decals



**STEP 27**

**STEP 29**

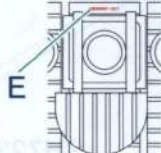


**STEP 27**

**STEP 30**

interior decals

**STEP 29**

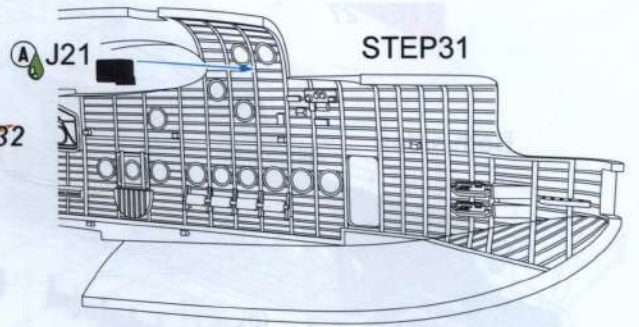
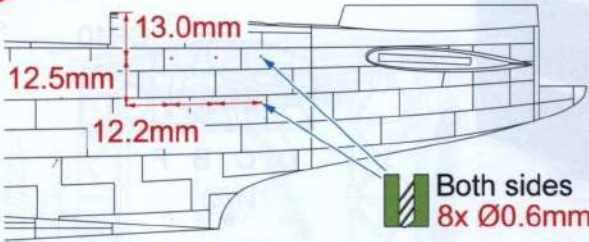


**STEP 23**

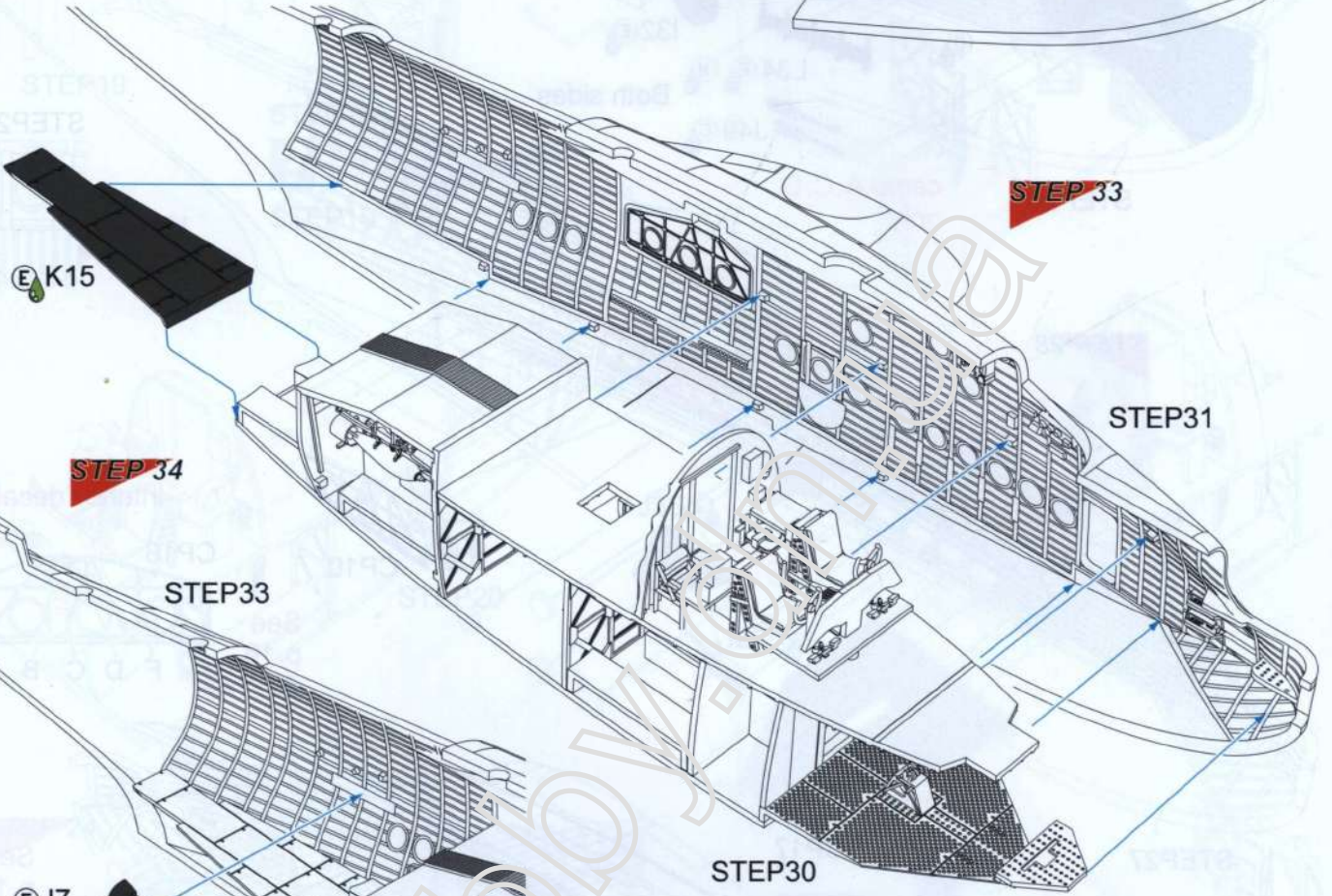




**STEP 31**

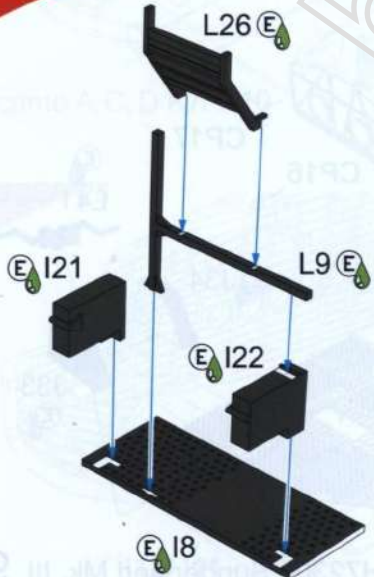


**STEP 32**

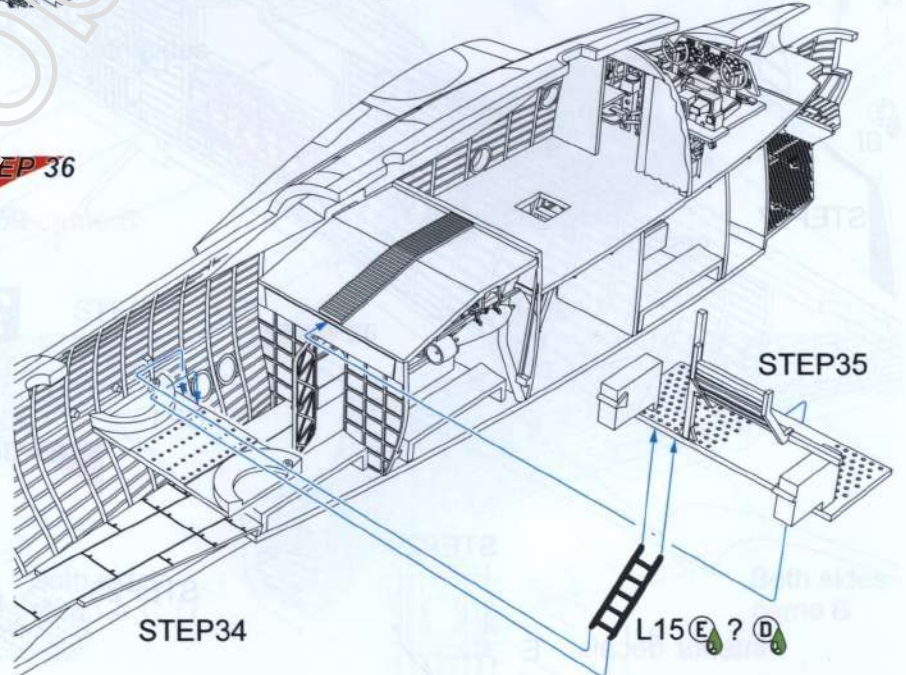


**STEP 33**

**STEP 35**

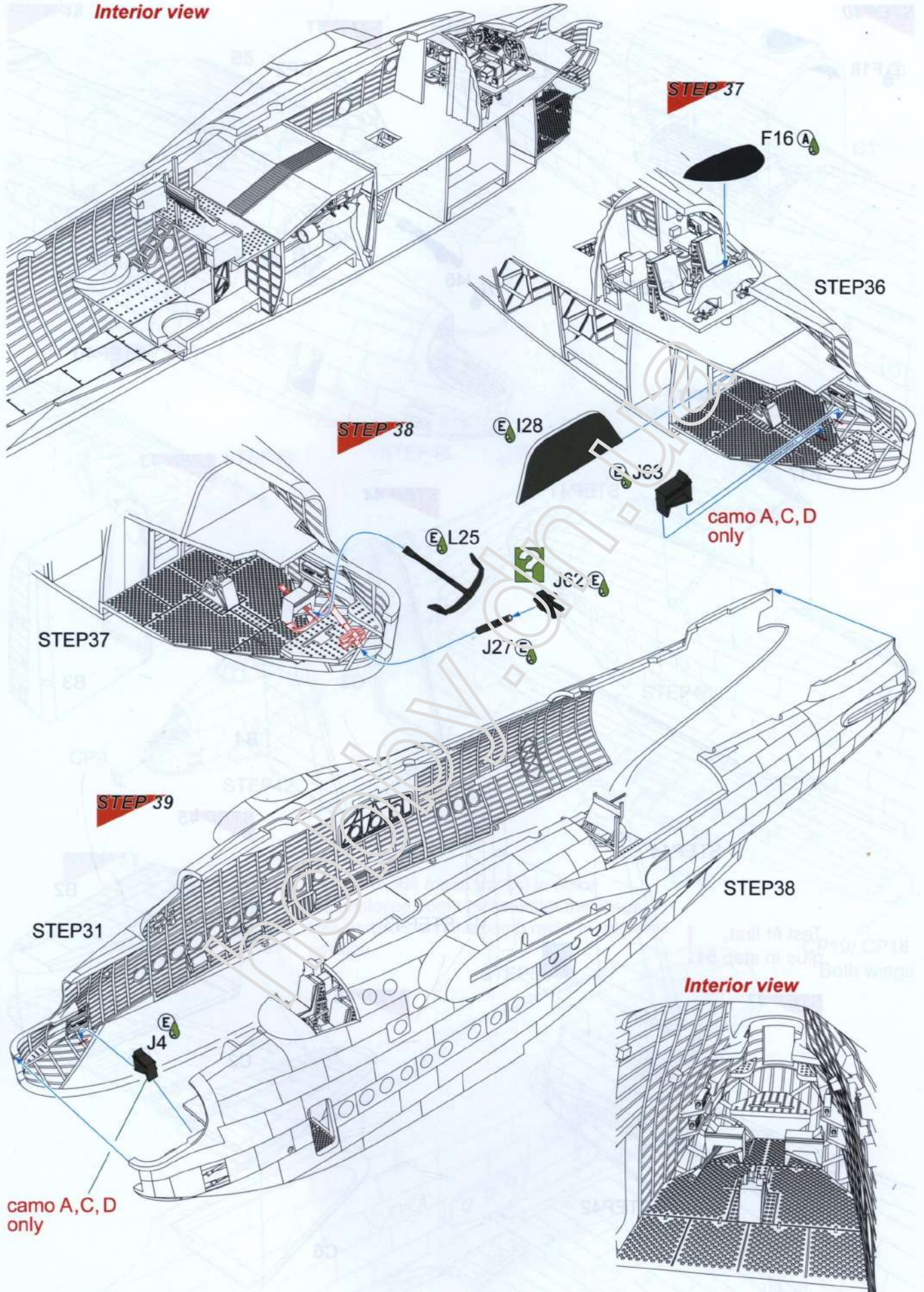


**STEP 36**



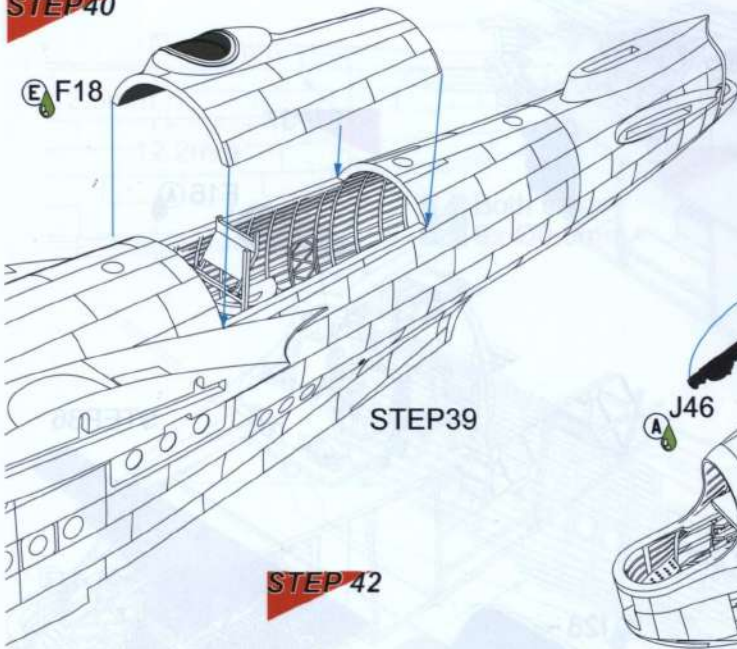


**Interior view**

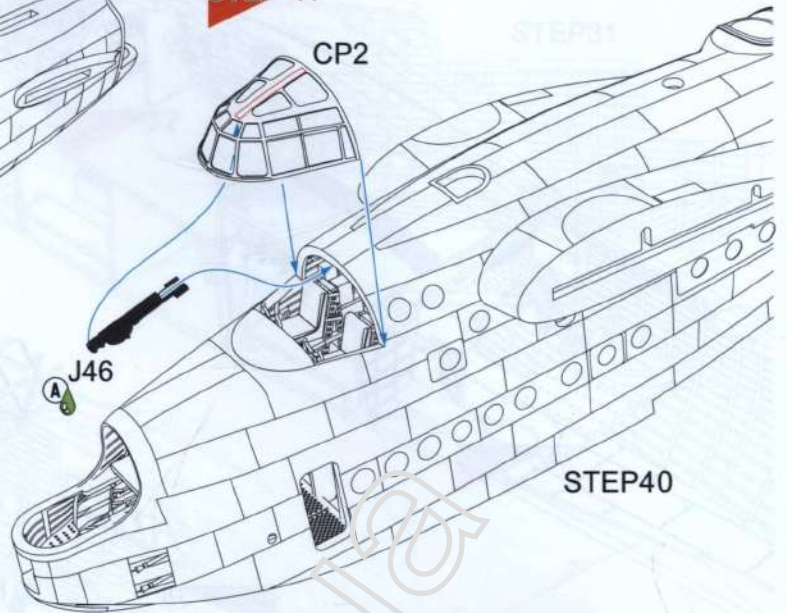




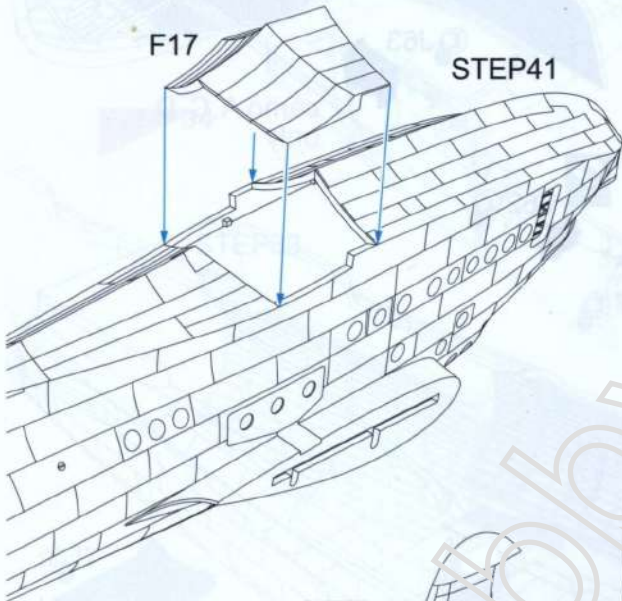
**STEP 40**



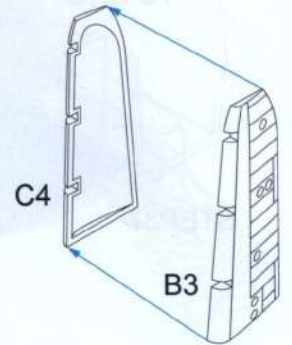
**STEP 41**



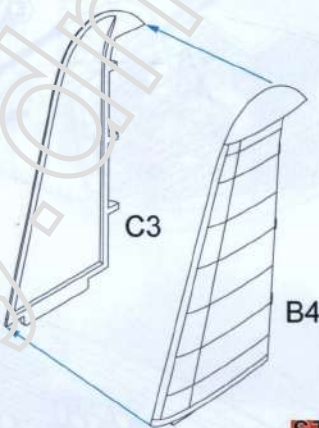
**STEP 42**



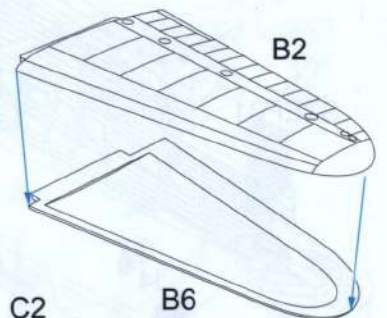
**STEP 43**



**STEP 44**



**STEP 45**



**STEP 44**

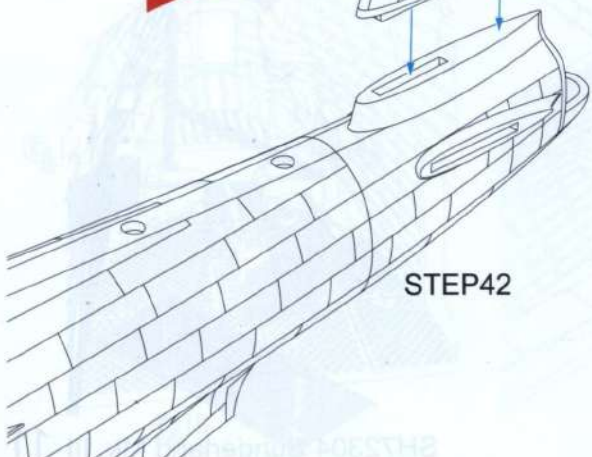


**STEP 43**

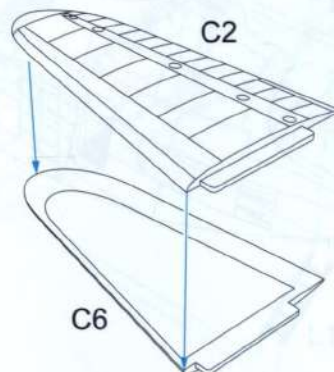


Test fit first, glue in step 51!

**STEP 47**

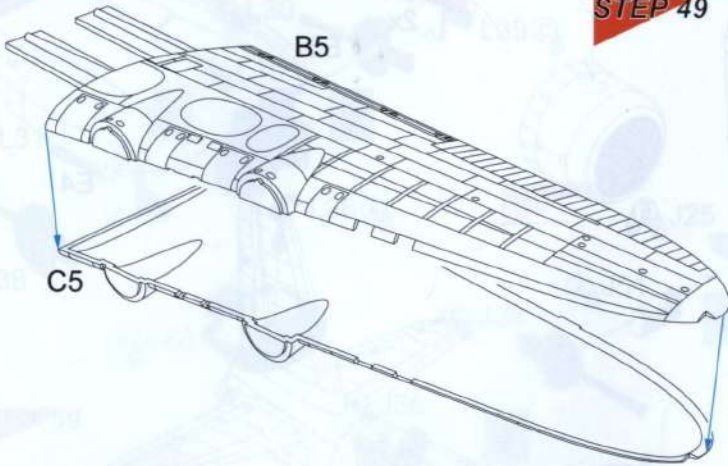


**STEP 46**

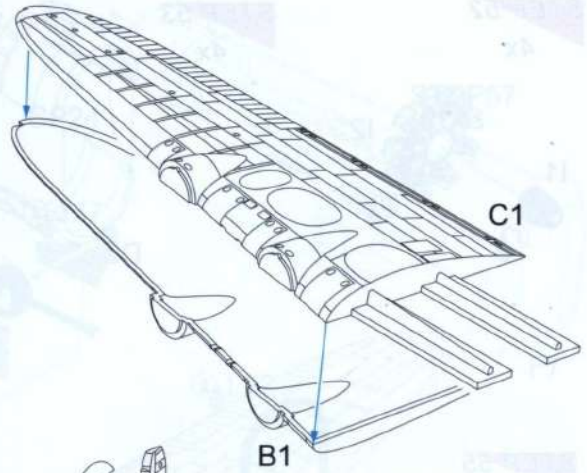




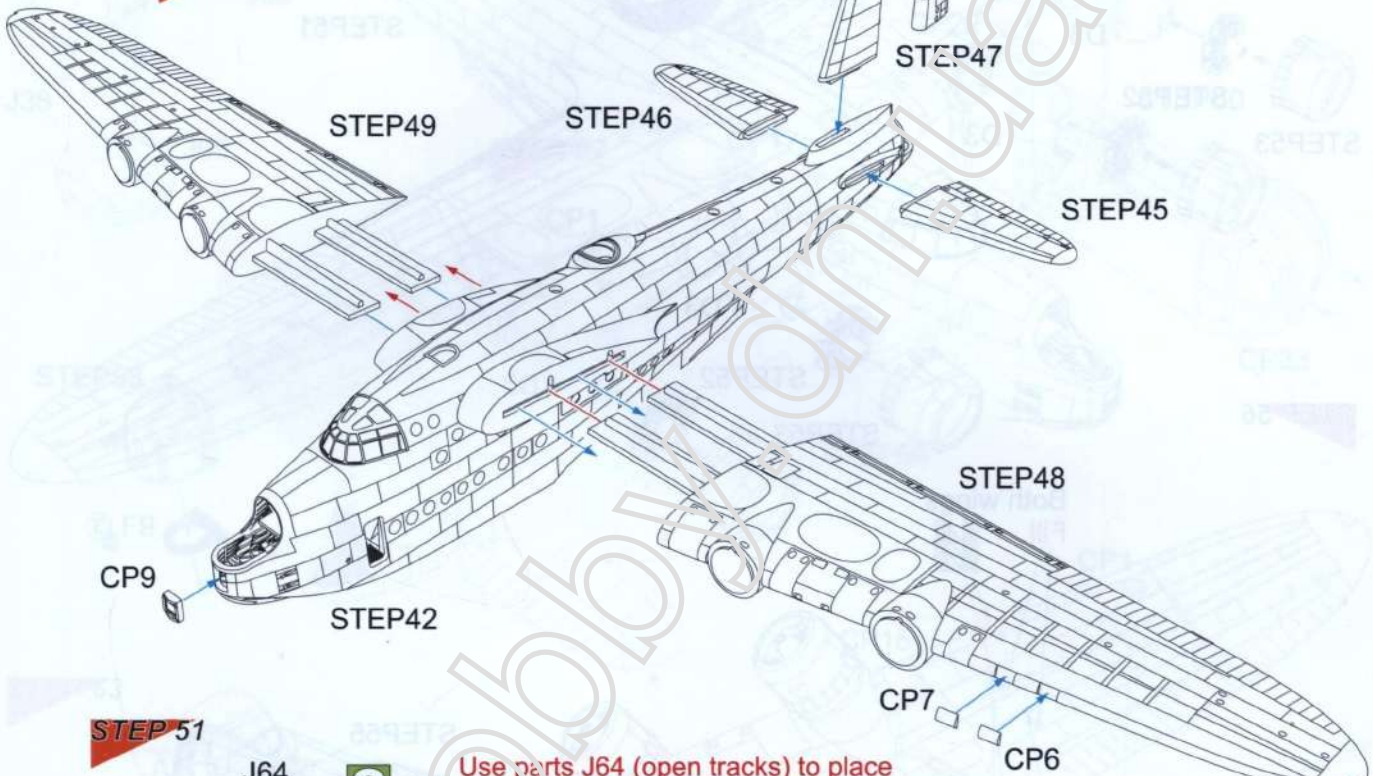
**STEP 48**



**STEP 49**



**STEP 50**



**STEP 51**

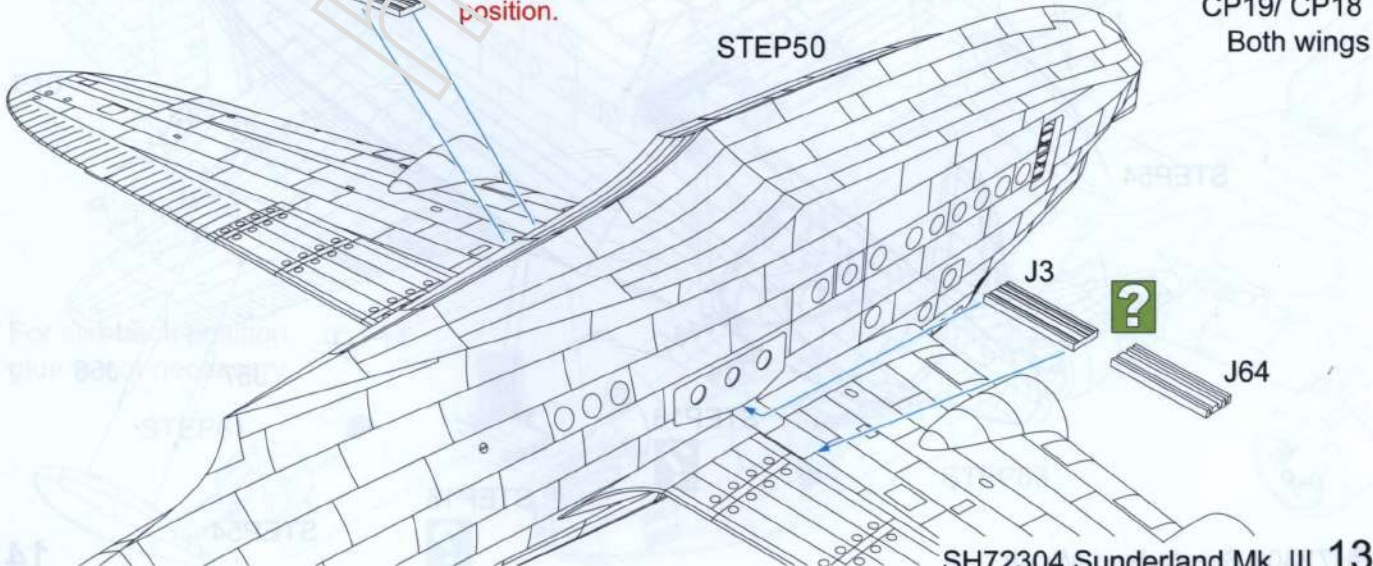
J64



J3

Use parts J64 (open tracks) to place the deployed bomb racks under the wings.  
Use parts J3 with the bomb racks in retracted position.

**STEP 50**

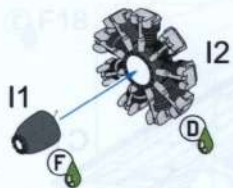


CP19/ CP18  
Both wings



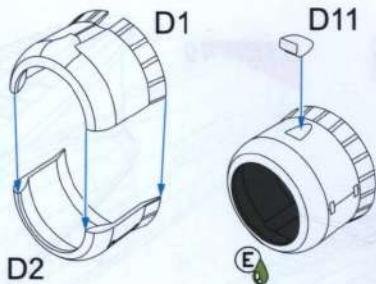
**STEP 52**

4x



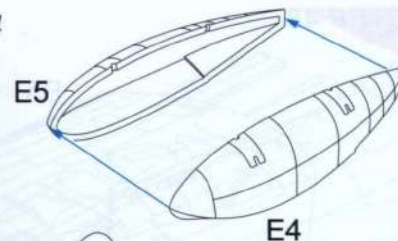
**STEP 53**

4x

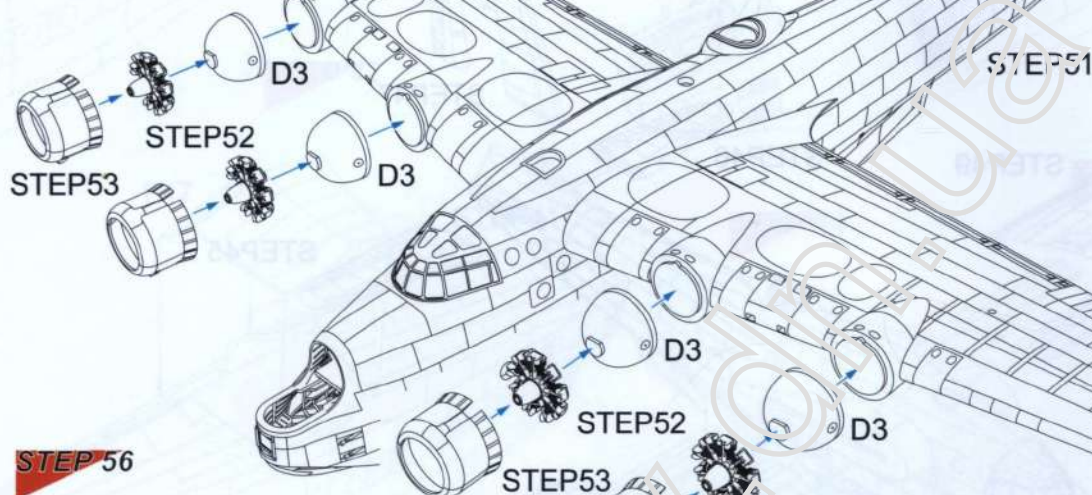


**STEP 54**

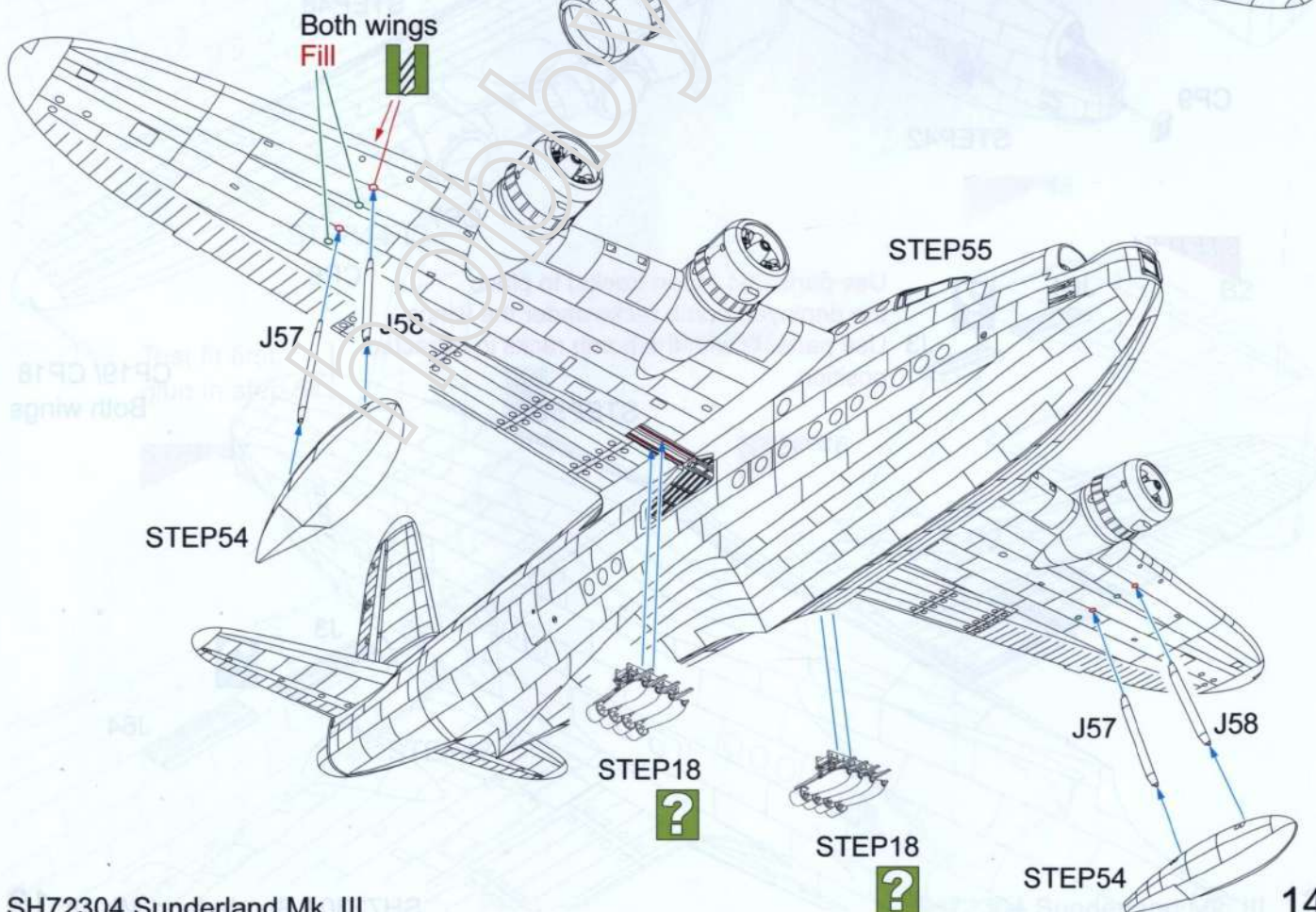
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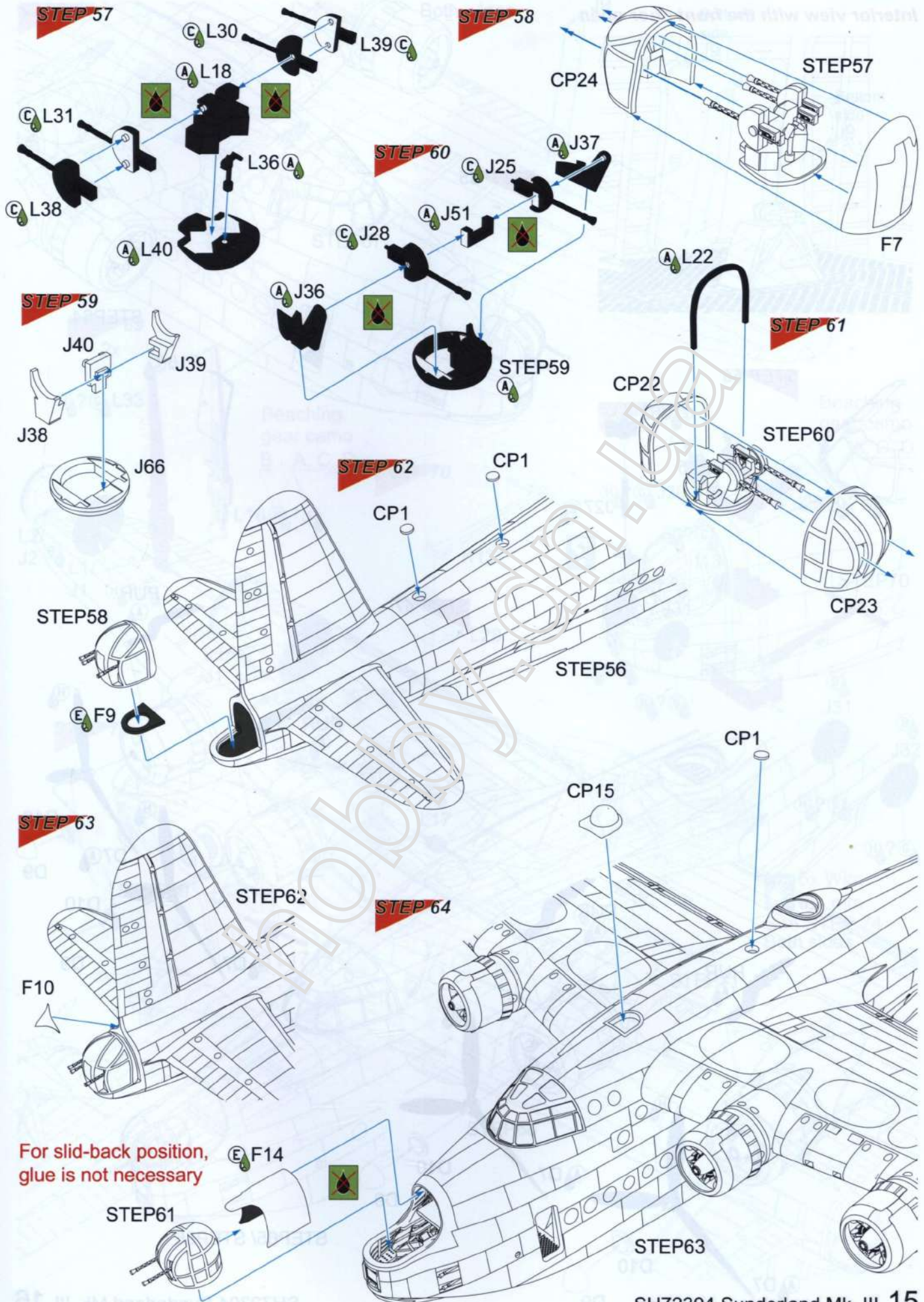
**STEP 55**



**STEP 56**



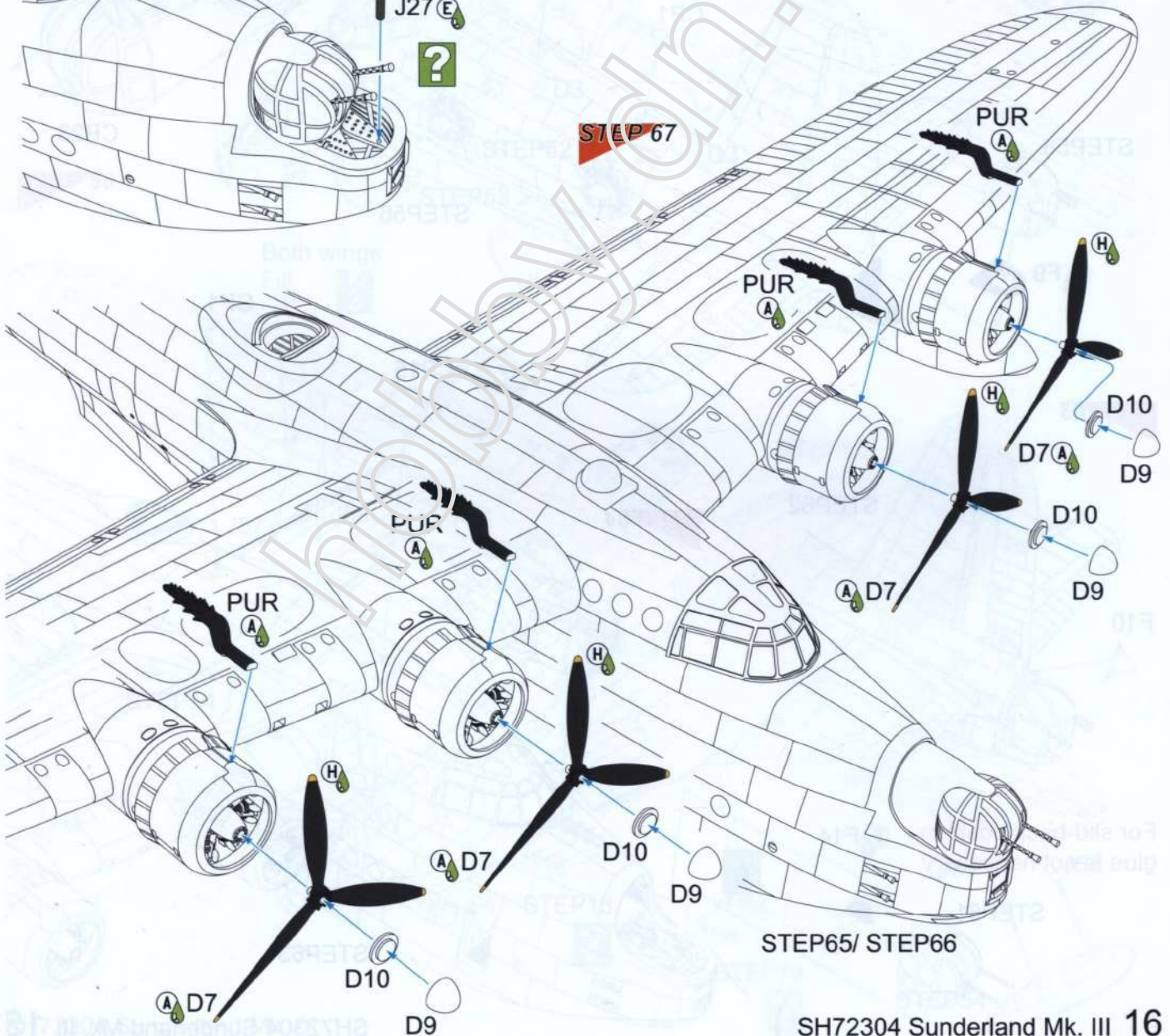
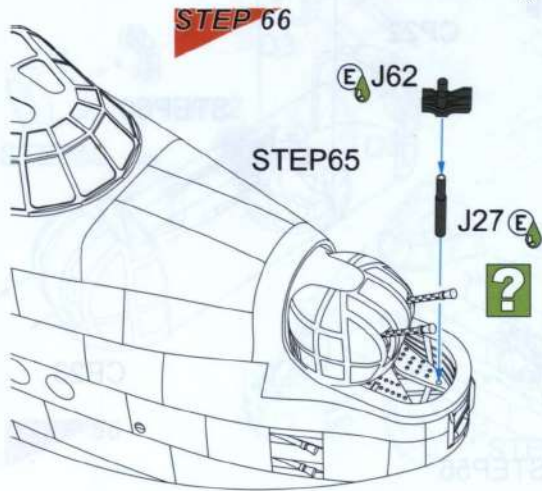
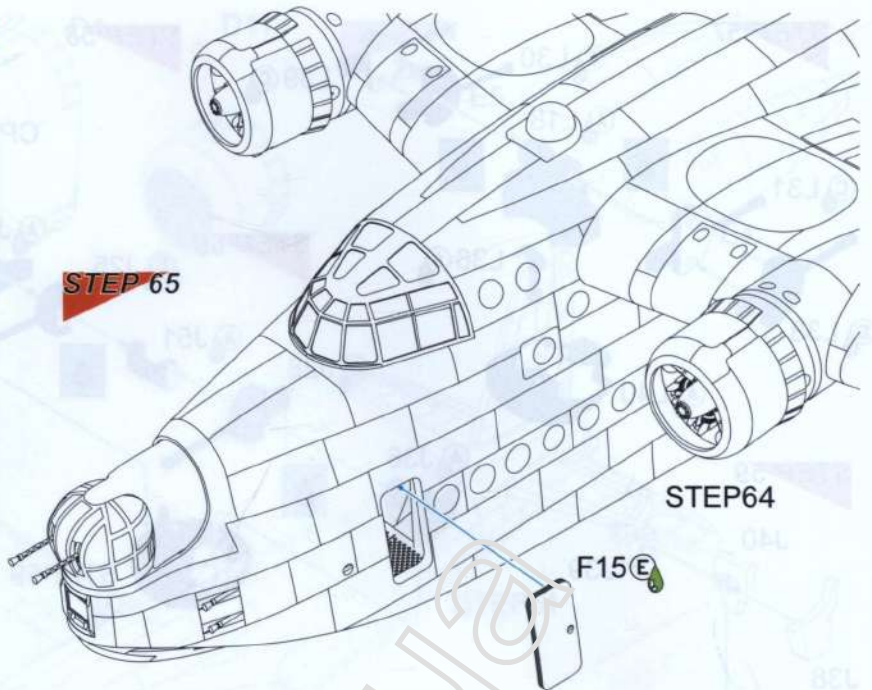




For slid-back position,  
glue is not necessary



Interior view with the front door open





**STEP 68**

Both wings

J9

Bottom side J9

J9

Bottom side J9

STEP67

**STEP 69**

2x

H?G L33

Beaching gear camo  
B A, C, D

L16 H?G

L2/J2 B

L1/J1 H?G

L1/B J1

L2/B J2 H?G

**STEP 70**

K13

L28

**STEP 71**

Beaching gear camo  
B A, C, D

H?G J30

H?G I13

J32 B

J31 B

H?G

H?G

STEP70

B J31

B J32

H?G

H?G

**STEP 72**

STEP69

L17

STEP69

L17

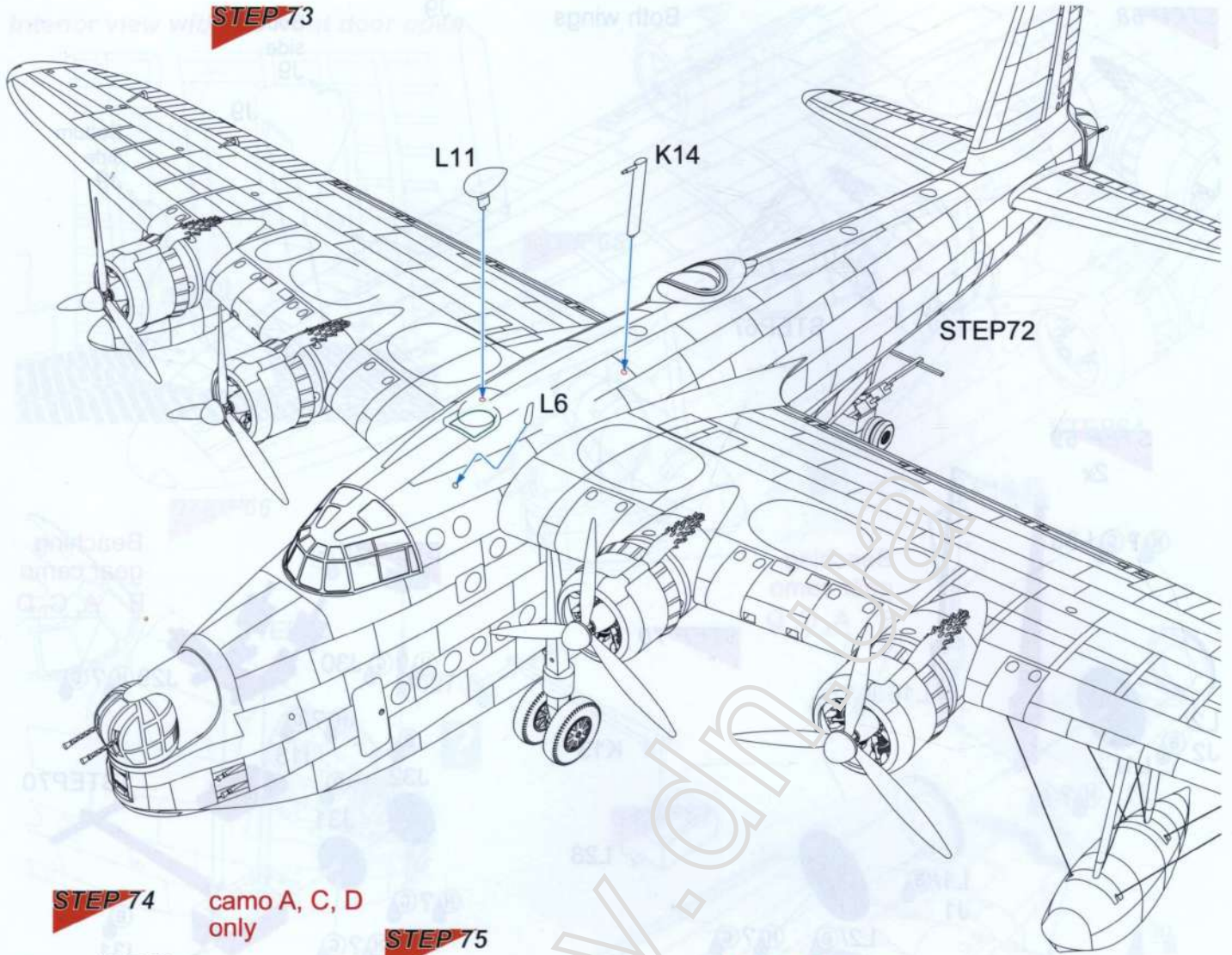
STEP71

 6x Wire  
0,3 mm  
See STEP 74  
Both sides

STEP68



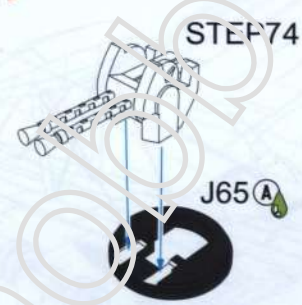
**STEP 73**



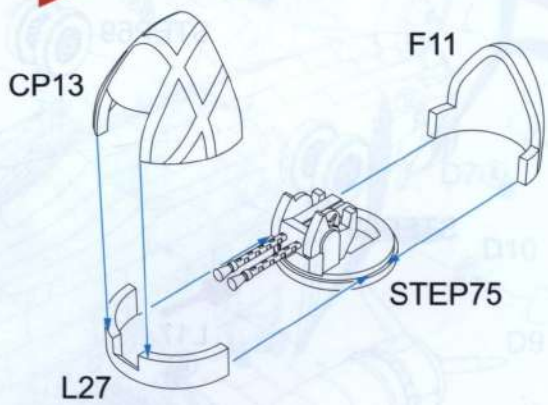
**STEP 74** camo A, C, D only



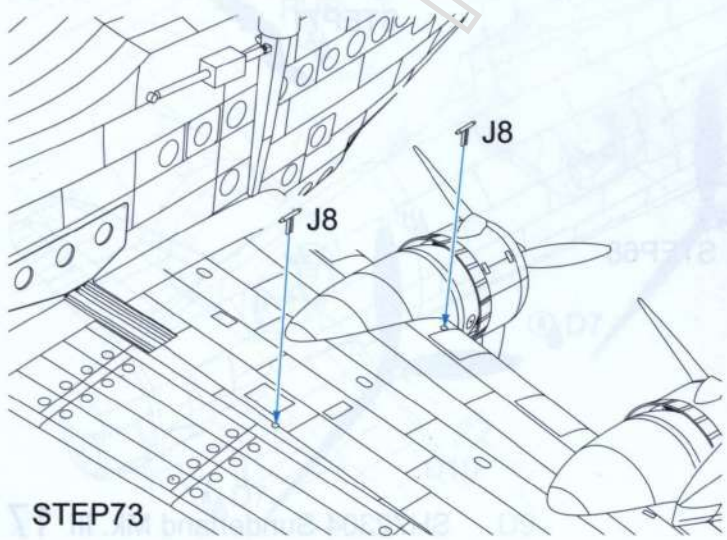
**STEP 75**



**STEP 76**

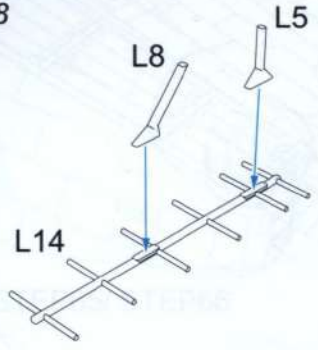


**STEP 77**



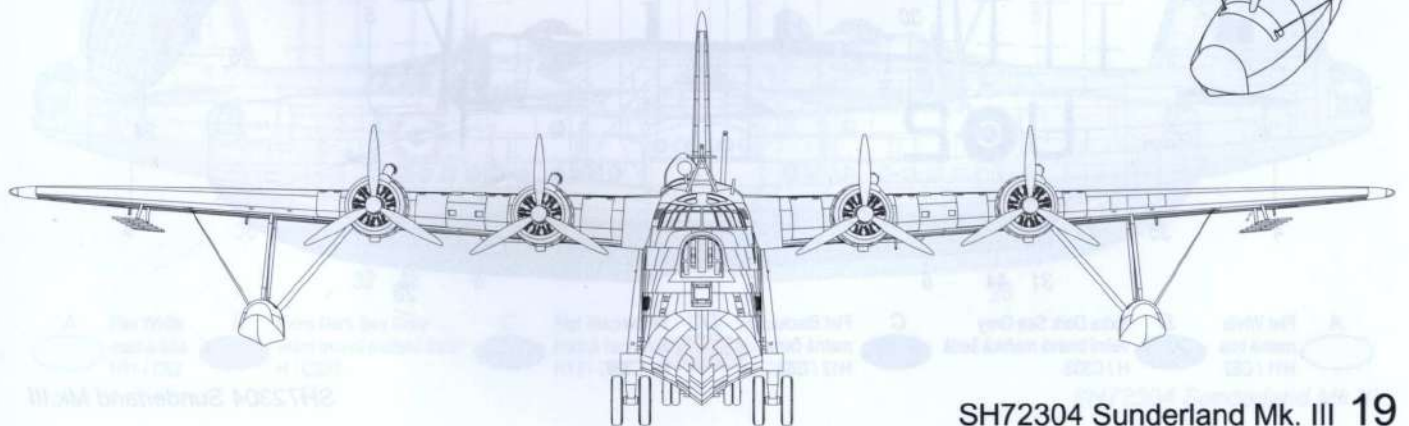
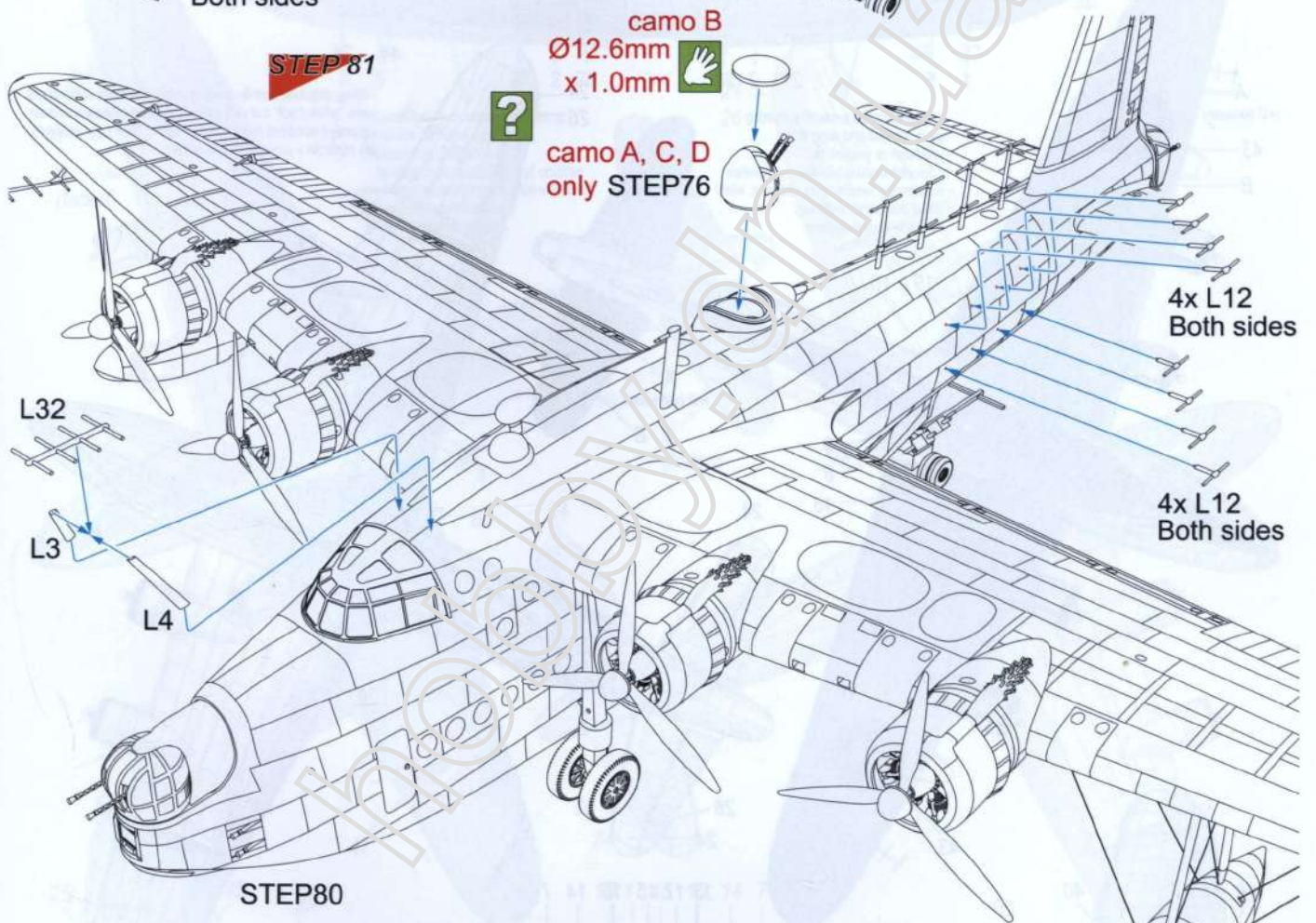
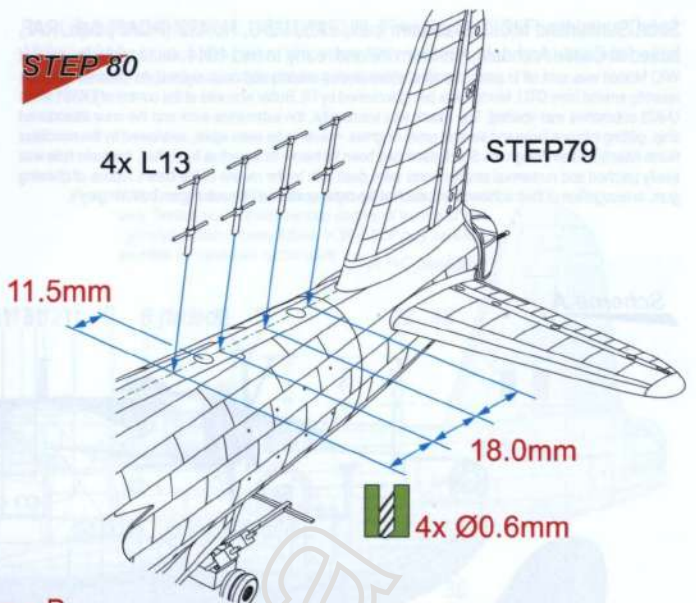
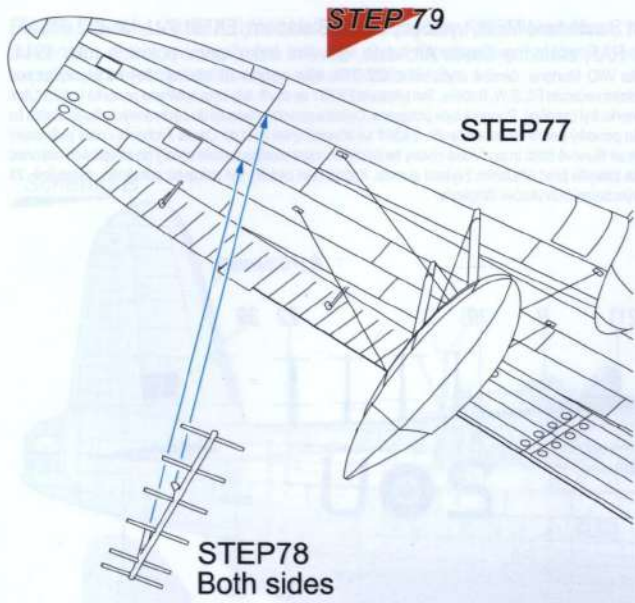
**STEP 78**

2x



**STEP 73**



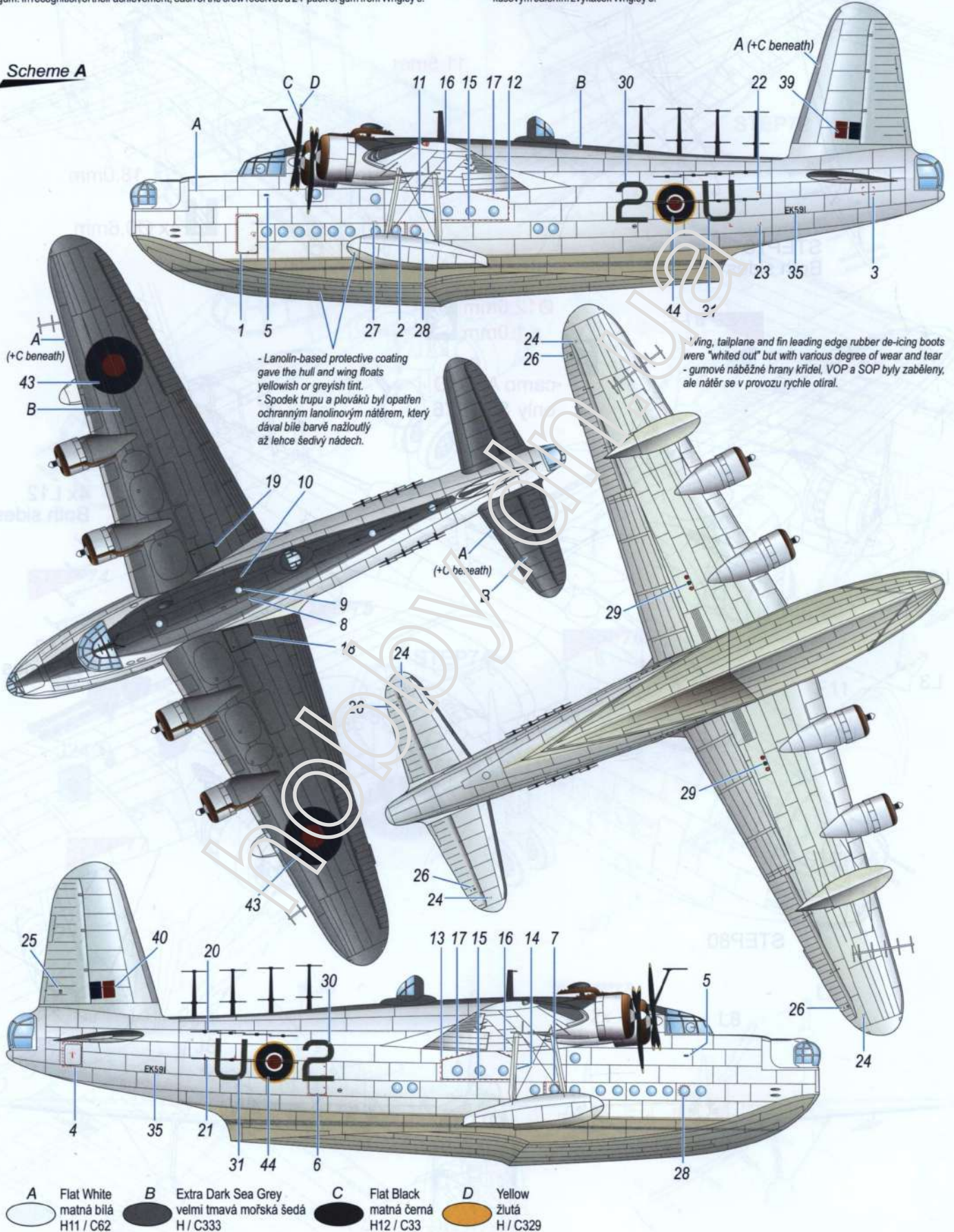




Short Sunderland Mk.III, Blackburn built, EK591/2-U, No.422 (RCAF) Sqn. RAF, based at Castle Archdale, Northern Ireland, early to mid 1944. On 10 March, the crew of W/O Morton was sent off to patrol the area where enemy u-boats had been sighted. As the crew had only recently arrived from OTU, Morton was being screened by F/L Butler who was at the control of EK591 when U-625 submarine was spotted. The attack was successful, the submarine sunk and the crew abandoned ship, getting into one large and several small dinghies – never to be seen again, swallowed by the merciless North Atlantic. Even though the Sunderland had been hit below its waterline by a shell, the main hole was easily patched and numerous smaller holes were dealt with by the means of the crew's rations of chewing gum. In recognition of their achievement, each of the crew received a 24-pack of gum from Wrigley's.

Short Sunderland Mk.III, vyrobený firmou Blackburn, EK591/2-U, No.422 (RCAF) Sqn. RAF, základna Castle Archdale, Severní Irsko, první polovina roku 1944. Osádka W/O Mortona, čerstvě dorazivší z 422.OTU, byla vyslána 10. března 1944 na bojový let pod kontrolním vedením F/L S.W. Butlera. Ten pilotoval EK591 ve chvíli, kdy byla spatřena ponorka U-625. Útok na ponorku byl úspěšný. Ponorka byla potopena. Osádka ponorky nasedla do záchranných člunů. Zatím co osádka ponorky pohltit severní Atlantik, EK591 se šťastně vrátil zpět do Castle Archdale i přes poškození flakem ve číunové části trupu. Velké otvory se podařilo ucpat snadno a malé otvory po střepech nakonec osádka zalepila před přistáním žvýkačkami. Každá člen osádky byl nakonec odměněn, mimo jiné, 24 kusovým balením žvýkaček Wrigley's.

**Scheme A**



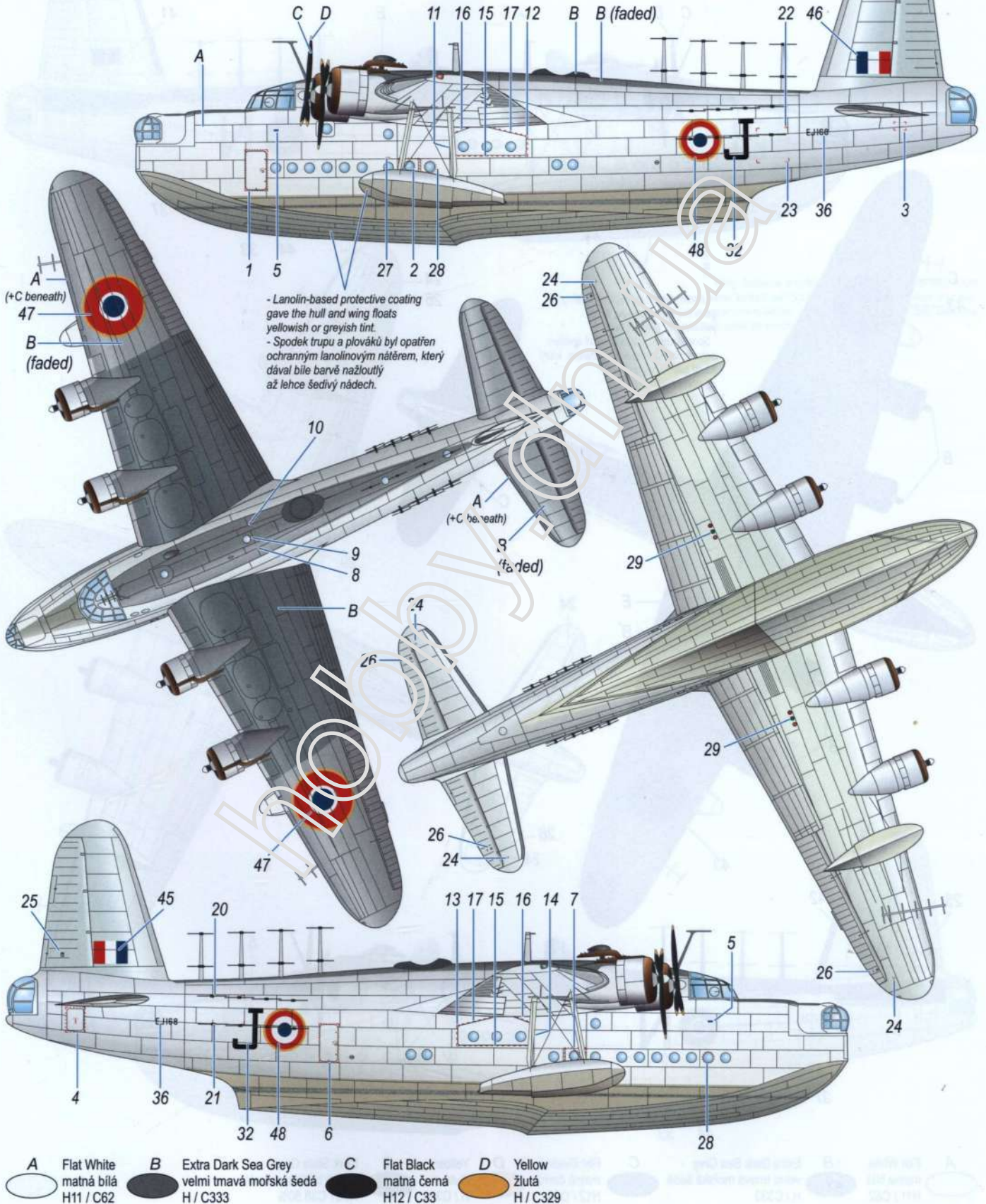


Short Sunderland Mk.III, EJ168/J, No.343 (French) Sqn. RAF, Dakar, Africa, 1944. Sunderlands of this unit usually flew with their dorsal turret removed, machine J was no exception. However, the turret fairing panels were retained.

Short Sunderland Mk.III, EJ168/J, No.343 (French) Sqn. RAF, základna Dakar, Afrika, 1944. Letoun létal, jako jiné stroje této jednotky, bez horní střelecké věže. Aerodynamické zaplechování věže přitom nebylo odstraněno.

**Scheme B**

- Wing, tailplane and fin leading edge rubber de-icing boots were "whited out" but with various degree of wear and tear  
 - gumové náběžné hrany křídel, VOP a SOP byly zaběleny, ale nátěr se v provozu rychle otíral. A (+C beneath)

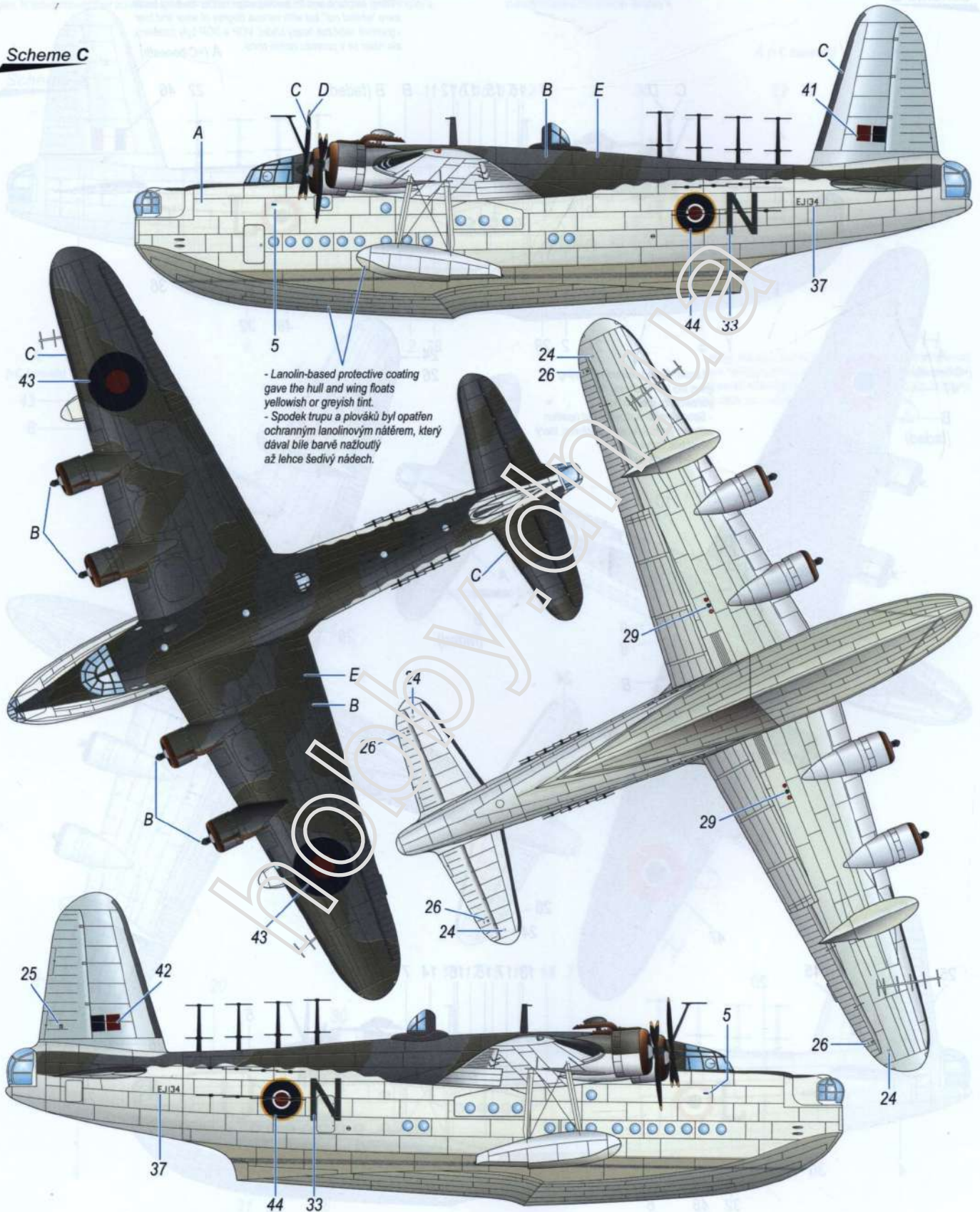




Short Sunderland Mk.III, EJ134/N, No.461 Sqn. (RAAF) RAF, Pembroke Dock, Wales, 1943. On 13 February 1943, N for 'Nuts' was attacked by two Ju 88s and two Fw 190s and was lucky to get away only being damaged. On 2 June 1943, the machine found itself under another attack from V/KG40 Junkers Ju 88s and although having shot down three of them, it did not make it home in one piece. Sgt.E.C.B. Miles had been killed during the combat and the struck Sunderland made a crash landing off Praa Sands in South Cornwall. The crew of F/L Colin B. Walker escaped from the machine and got to the shore. Abandoned EJ134 was eventually destroyed in a storm on the beach of Praa Sands.

Short Sunderland Mk.III, EJ134/N, No.461 Sqn. (RAAF) RAF, základna Pembroke Dock, Wales, 1943. N-'Nuts' vyvázl 13. února 1943 ze souboje s dvěma Junkersy Ju 88 a dvěma Focke Wulfy Fw 190 s poškozením. 2. června 1943 byl napaden osmi Junkersy Ju 88 od V/KG 40. V souboji tři z nich sestřelil. Na palubě EJ134 padl Sgt. E.C.B. Miles. Poškozený EJ134 nouzově přistál u pobřeží Praa Sands v Jižním Cornwallu. Osádka F/L Colina B. Walkera stroj opustila a uchýlila se na pevninu. Opuštěný EJ134 byl na pláži Praa Sands zničen bouří.

**Scheme C**



- Lanolin-based protective coating gave the hull and wing floats yellowish or greyish tint.  
 - Spodek trupu a plováků byl opatřen ochranným lanolinovým nátěrem, který dával bílé barvě nažloutlý až lehce šedivý nádech.

- |  |   |   |                                      |   |
|--|---|---|--------------------------------------|---|
| <b>A</b> Flat White<br>matná bílá<br>H11 / C62 | <b>B</b> Extra Dark Sea Grey<br>velmi tmavá mořská šedá<br>H / C333 | <b>C</b> Flat Black<br>matná černá<br>H12 / C33 | <b>D</b> Yellow<br>žlutá<br>H / C329 | <b>E</b> Dark Slate Grey<br>tmavá břidlicová šedá<br>H78 / C38 50%<br>H32 / C40 50% |
|--|---|---|--------------------------------------|---|



Short Sunderland Mk.III, DV969/E, No.10 Sqn. RAAF, Pembroke, Wales, spring 1943. On 31 May 1943, the crew of F/O Mainprice managed to sink German U-boat U-563. A month later, on 27 July 1943, the machine was engaged in a fight against four Ju 88s and survived despite being hit at least 20 times by enemy fire. Eventually, her luck had ran out on 21 September 1943 when DV969 was outnumbered by Ju 88s of V/KG40 and was shot down. The entire crew of F/O A. G. Jennison, F/O A. N. Buckland, P/O A. W. Morphet Gunson, F/O A. L. Coomes, A/Sgt J. T. Law, A/Sgt S. Ch. E. Leech, F/Sgt N. D. Kerr Swinton, F/Sgt L. E. Waddington, Sgt J. D. T. Daley, F/Sgt D. Harris, F/Sgt C. S. Cameron perished in the Bay of Biscay.

Short Sunderland Mk.III, DV969/E, No.10 Sqn. RAAF, základna Pembroke, Wales, jaro 1943. 31. května 1943 tento stroj s osádkou vedenou F/O Mainpricem potopil ponorku U-563. 27. července 1943 se uchránil útoku čtyř Junkersů Ju 88, byl přitom poškozen 20 zásahy. Štěstí tento Sunderland opustilo 21. září 1943, kdy byl sestřelen přesilou Junkersů Ju 88 od V/KG 40. Celá osádka F/O A. G. Jennison, F/O A. N. Buckland, P/O A. W. Morphet Gunson, F/O A. L. Coomes, A/Sgt J. T. Law, A/Sgt S. Ch. E. Leech, F/Sgt N. D. Kerr Swinton, F/Sgt L. E. Waddington, Sgt J. D. T. Daley, F/Sgt D. Harris, F/Sgt C. S. Cameron zahynula v Biskajském zálivu.

**Scheme D**

