

WINGNUT WINGS



Sopwith Pup RNAS

1/32 Scale

Sopwith's wonderful Pup was developed from a design that their test pilot, Harry Hawker, legendarily chalked out on the factory floor for his own personal runabout in the latter stages of 1915. Featuring wing warping technology this runabout formed the basis for the Sopwith Sparrow of which only 4 were made. In February 1916 Sopwith took it upon themselves to produce a single seat fighter prototype based on this design, slightly redesigned, strengthened and with ailerons replacing wing warping for lateral control. Given the serial number 3691, this prototype attracted the attention of the RNAS (Royal Naval Air Service) who were suitably impressed enough to order the type into production as the Admiralty 9901 Type. The RFC were likewise taken by the prototype with Maj. Gen. H.M. Trenchard famously stating 'Let us get a squadron of these' which led to them ordering it into production as the Sopwith Scout. Despite being officially known as the Admiralty 9901 Type or Sopwith Scout it was quickly given the eminently more appropriate, albeit strictly unofficial, nickname 'Pup' after a remark by a Brig. Gen. W Sefton Brancker upon comparing it to the larger Sopwith 1 & 1/2 Strutter.

The Sopwith Pup was universally liked by the young aviators of the RNAS and RFC charged with flying it. Of the more than 2100 built by The Sopwith Aviation Co Ltd, William Beardmore & Co Ltd, The Standard Motor Co Ltd and Whitehead Aircraft Ltd the vast majority were powered by a 80hp LeRhône 9C rotary engine as represented in this kit. Many others were fitted with Clerget and Gnome engines of various capacities, although usually in machines destined for training units. Ever adaptable, the Pup was modified for shipboard use by the RNAS as the 9901a Type, taking off from both aircraft carriers and platforms mounted on gun turrets. Despite having only one gun its light weight and maneuverability ensured it was a good match for the twin gun armed Albatros D.II, Fokker D.II, Halberstadt D.II and D.III fighters it faced in late 1916. At least 29 RFC and RNAS pilots achieved ace status in the Pup with victories claimed over the aforementioned fighters as well as later Albatros D.III's and D.V's, observation balloons, various two seaters, seaplanes and 5 Gotha bombers before being withdrawn from frontline service in the latter stages of 1917.

WW1 aircraft colours are contentious at the best of times and we have done our best to provide what we consider to be accurate painting information. Luckily there is little controversy about the colour of the Sopwith Pup lower flying surfaces being left in CDL (Clear Doped Linen), which on the RNAS 9901a Types usually included the sides of the fuselage. It appears that the upper surfaces of RNAS Pups were painted in their version of PC10 (Protective Covering number 10, which had been patented by the RFC), called 'proprietary Khaki' and was very much olive drab in colour. A number of Pups manufactured for the RFC were supplied to the RNAS and were almost certainly finished in PC10 (of which much controversy exists to its exact colour). Metal cowling panels were often painted Battleship Grey on the exterior with the insides left unpainted or left unpainted all together. Small metal fittings and brackets were usually black. All surfaces exhibited a shiny gloss appearance when new which would lose its shine and fade relatively quickly, especially on ship board 9901a Type Pups.

Wingspan:	Length:	Max Weight:	Max Speed:
26' & 6" (8.07m)	19' & 3.75" (5.89m)	1225lb (555.6kg) 80hp LeRhône 9C	105mph (169kph) 80hp LeRhône 9C
No. manufactured:	Production:	Engine:	Ceiling:
Approx. 2100 (includes over 280 rebuilds)	Feb. 1916 to April 1917	80hp LeRhône 9C, 80hp Clerget 7Z, 80hp Gnome, 100hp Gnome Monosoupape.	17500' (5443m)

Armament (RNAS):

.303 (7.7mm) Vickers gun (9901 Type), .303 (7.7mm) Lewis gun or 8 LePrieur rockets (9901a Type)

References:

The Sopwith Pup, J.M Bruce, Gordon Page & Ray Sturtivant, Air Britain 2002. Windsock Datafile Special Sopwith Pup, J.M Bruce 1992. Windsock Datafile Sopwith Pup, J.M Bruce, 1986. Osprey Sopwith Pup Aces of World War 1, Norman Franks, 2005. 1914-18 Aviation Heritage Trust. Private Collections.

Sopwith Pup RNAS

1/32 Scale

Warning: Choking hazard. Keep small parts and plastic bags away from children. Use glue and paint in a well ventilated area. Always wear protective eyewear when cutting and a protective mask when painting, gluing and sanding. Do not breathe dust from polyurethane resin parts (if included). Beware of sharp edges on metal parts.














Assembly: Read all the instructions carefully before starting assembly. Use glue intended for plastic models. Assemble metal and resin parts (if included) using Cyanoacrylate (CA) or epoxy glue. Before assembly select a marking option and note optional parts required in instructions.

Rigging: If installing rigging please drill out all location holes with a 0.5mm drill bit to a depth of at least 1mm.

Painting: Only use paints suitable for plastic model kitsets.

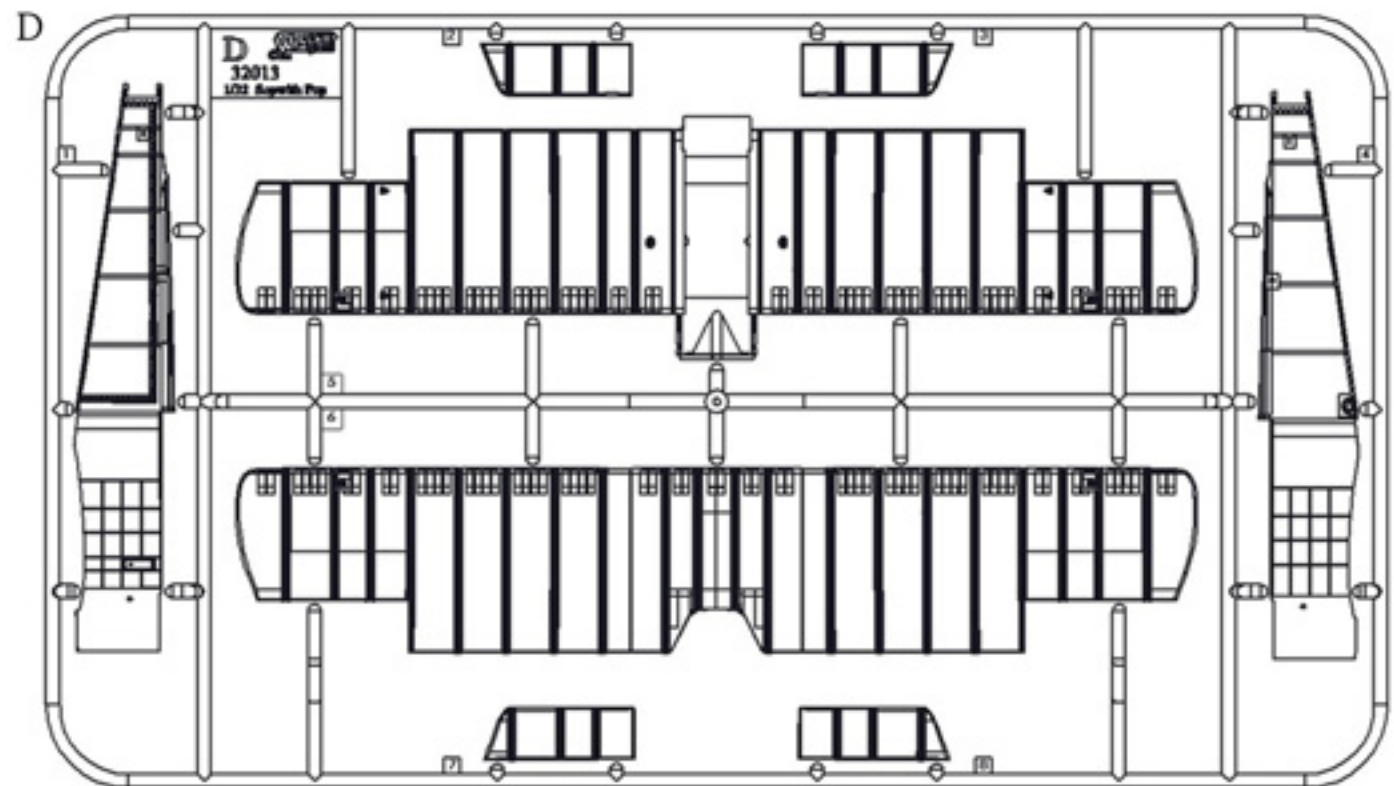
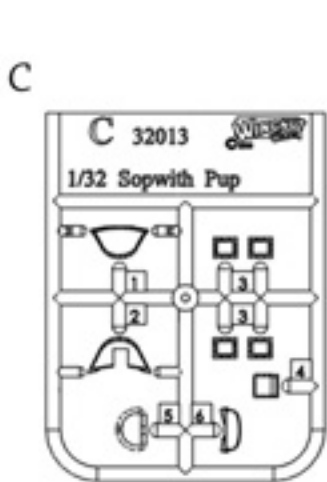
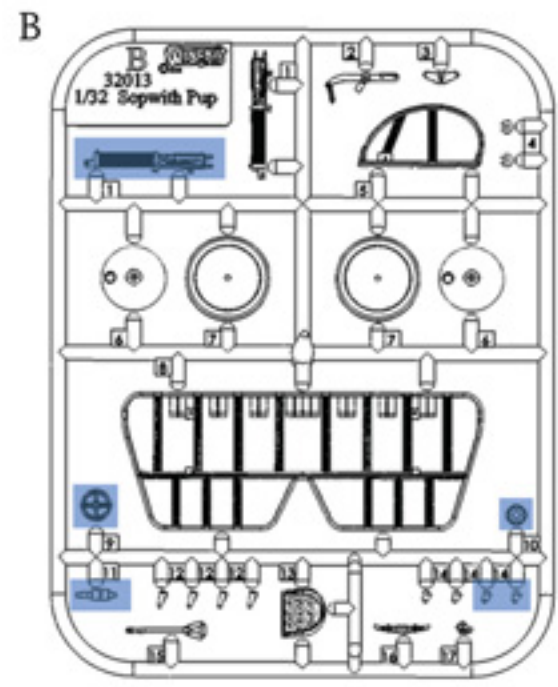
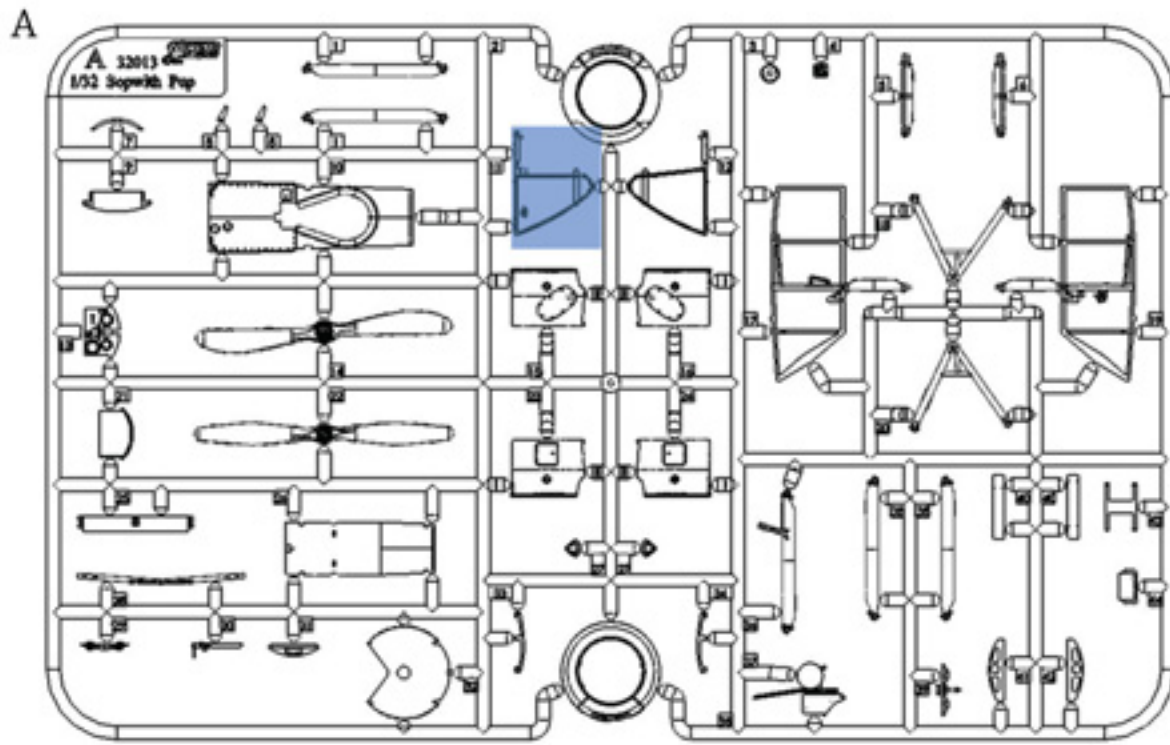
Decals: Cut out each decal as required. Soak in warm water for 15 seconds. Slide off backing paper onto gloss painted surface of model. For large decals it is helpful to apply a drop of water to the area they are being applied to. This will make it easier to maneuver them into the correct position


SYMBOLS

 Construction Step	 Choose	 Attention	 Remove
 Part Number	 Do Not Glue	 Option	 Drill
 Decal	 Cement For Metal	 Other Side	 Paint Colour
 Photo Etch Part			

PAINT COLOURS

	All colours	Tamiya	Humbrol	Misterkit
a	Clear Doped Linen	XF55	121	BC05
b	Light Wood	XF59	93	
c	Dark Wood	XF68	98	
d	Leather	XF52	62	
e	Semi Gloss Black	X18	85	
f	Aluminium	XF16	27001	
g	Brass	X31	54	
h	Proprietary Khaki	XF62	155	BC03
i	Gun Metal	X10	27004	
j	Copper	XF6	12	
k	Rubber	XF69	66	
l	Battleship Grey	XF53	87	BC01
m	White	XF2	34	
n	Blue	XF8	25	BC08
o	Red	XF7	60	BC07
p	Steel	XF56	27003	
q	PC10 Late	XF51	98	BC02



 = Not Used

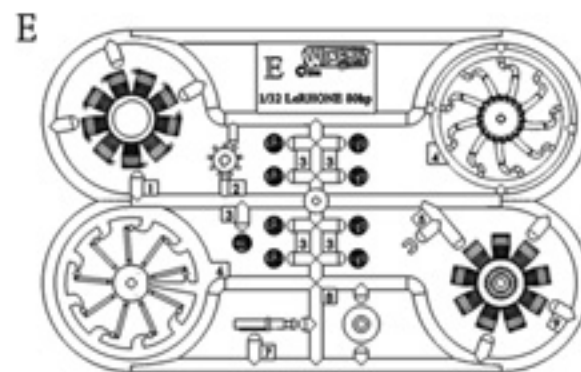
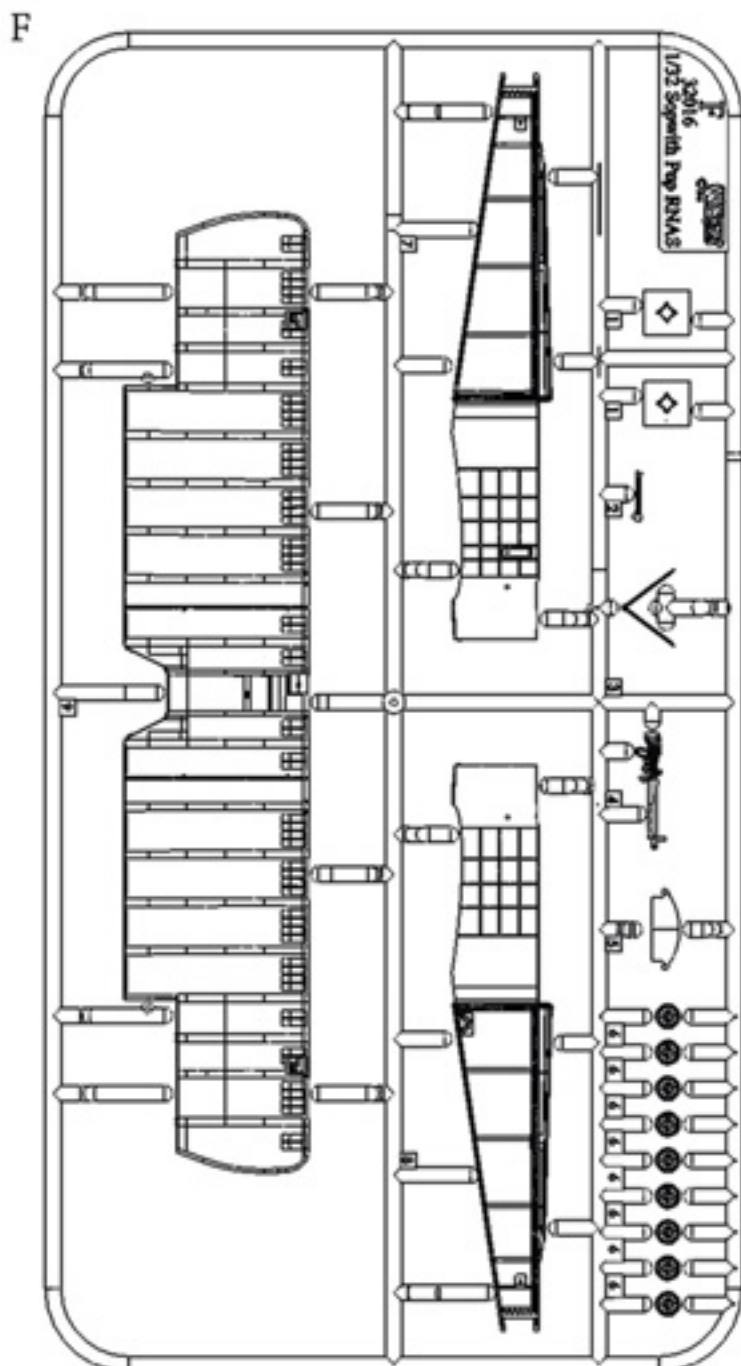
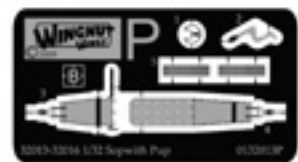


Photo Etch



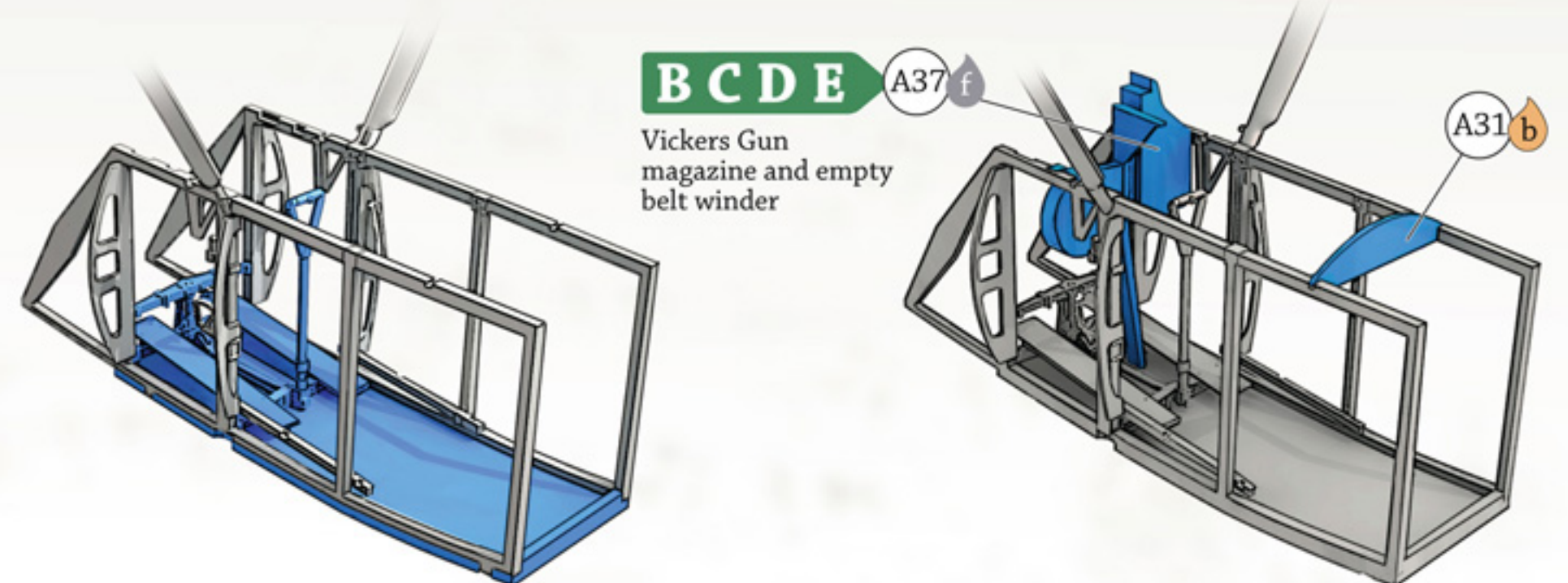
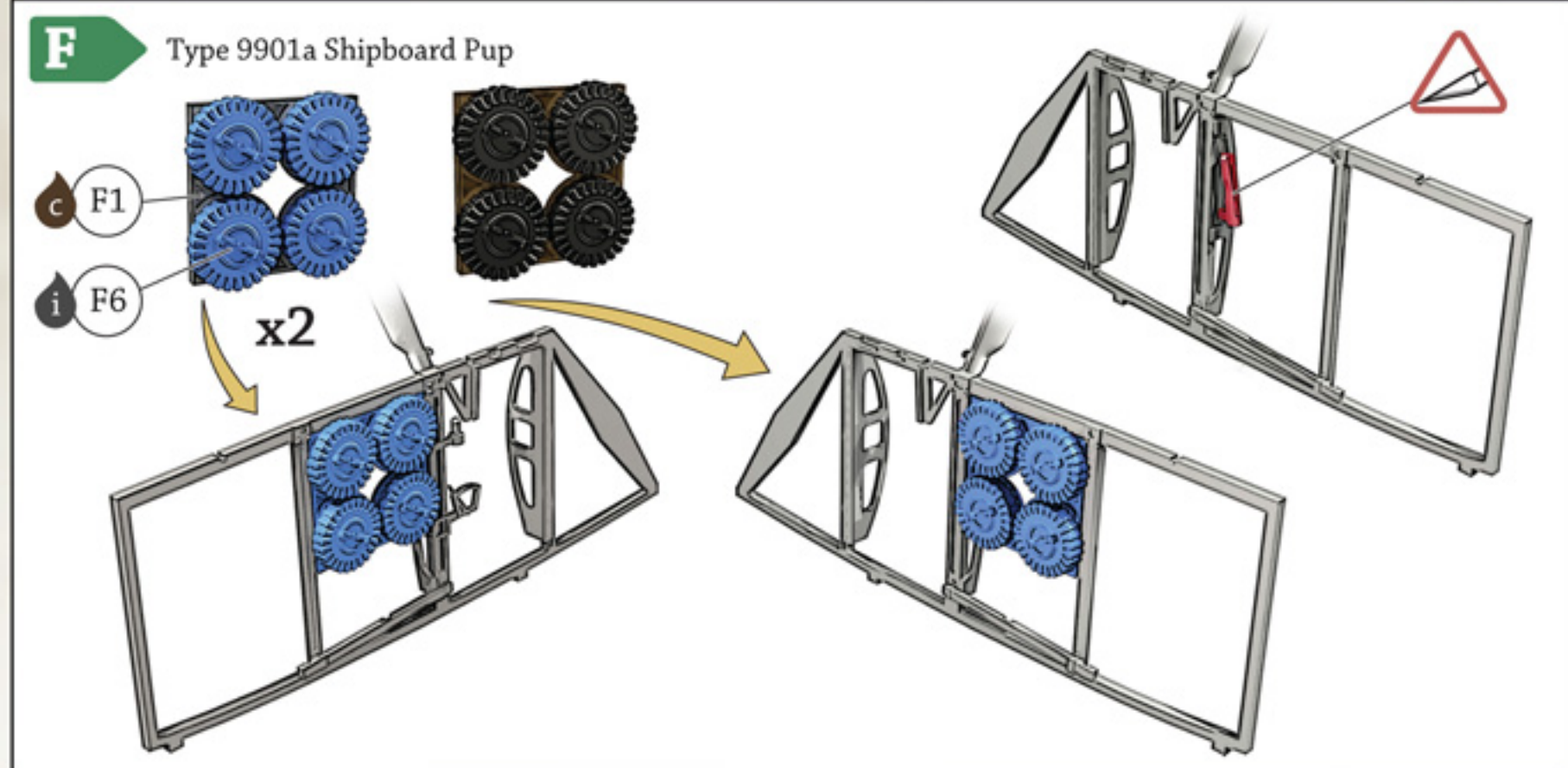
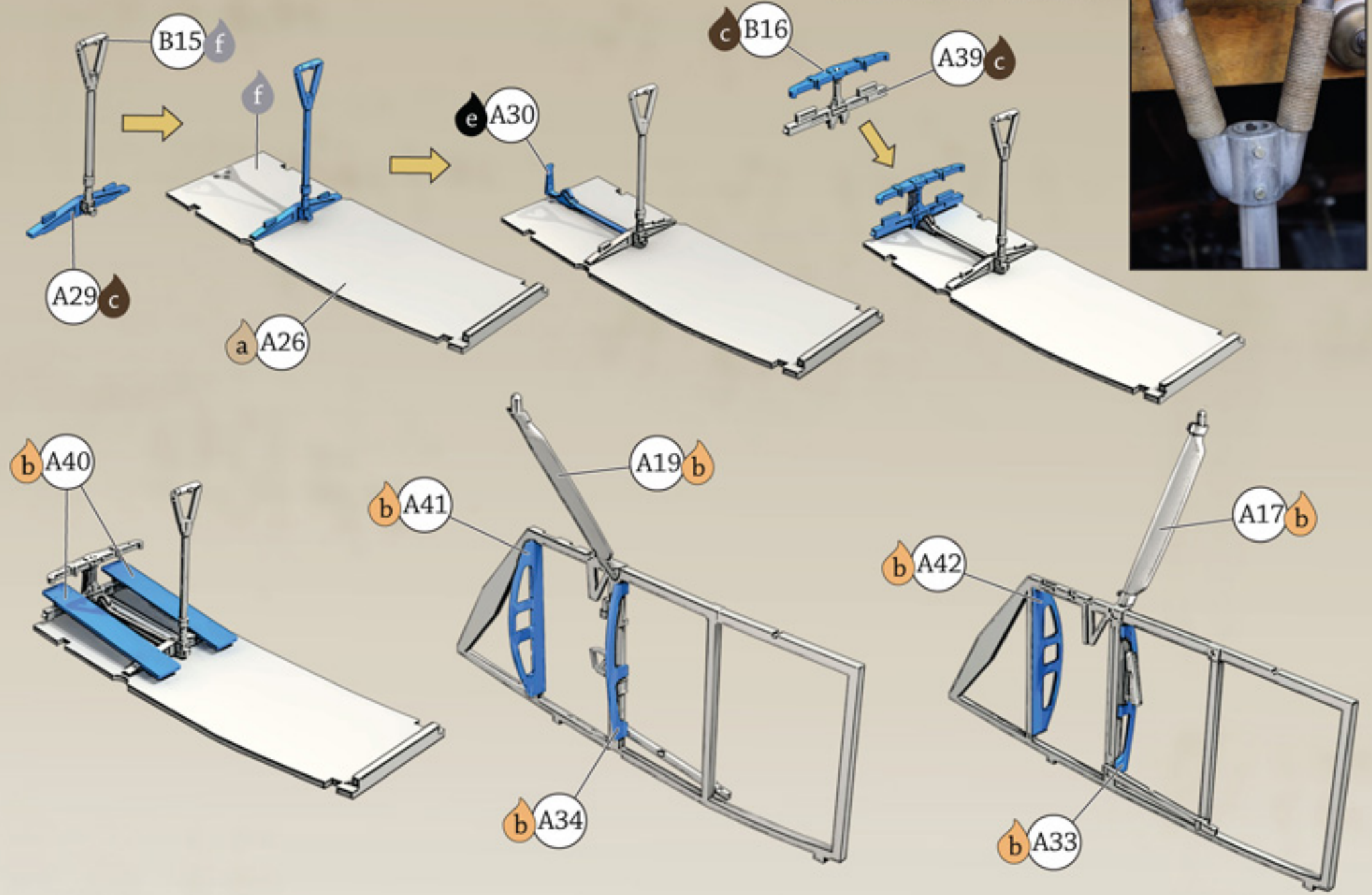
Decal Sheet



1 COCKPIT

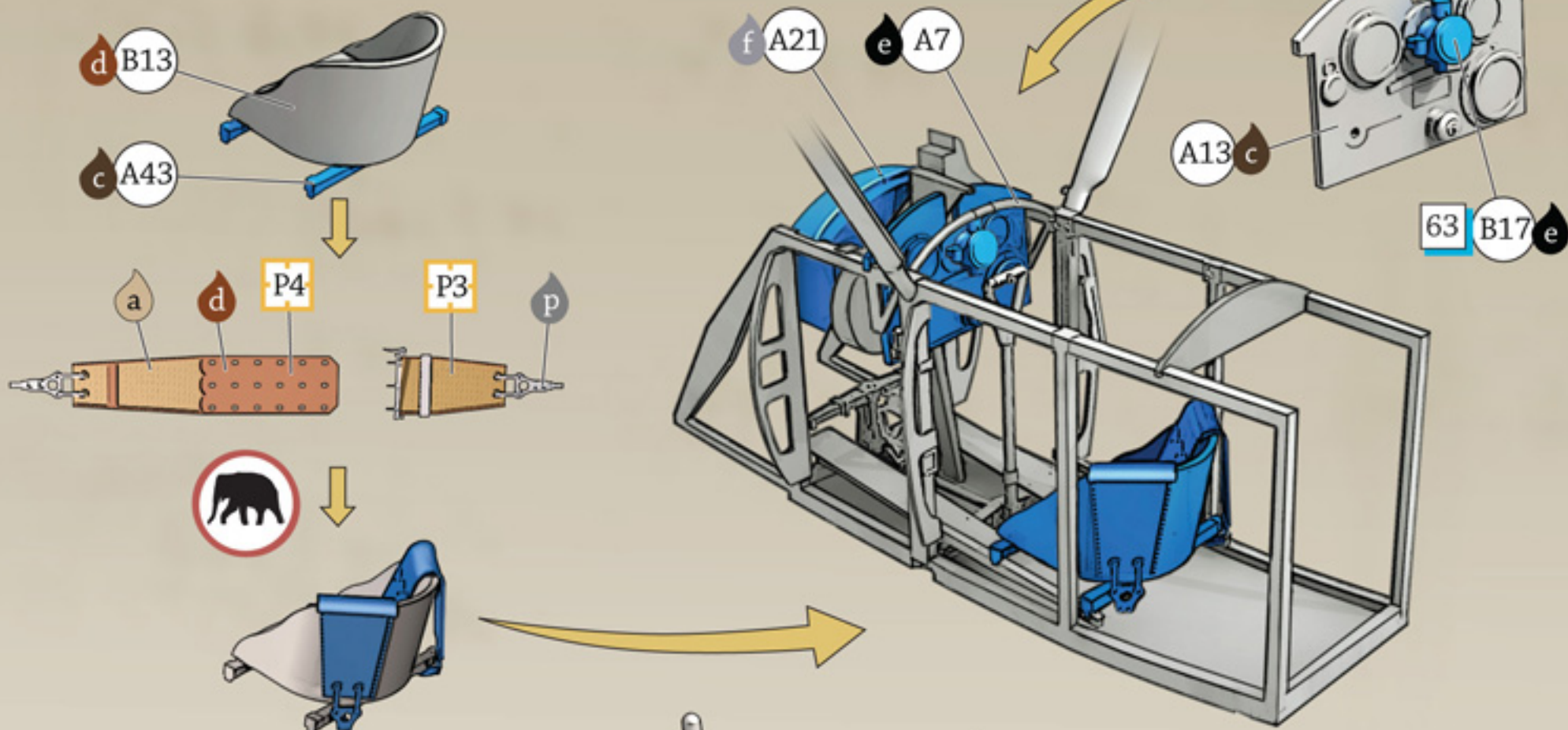
Paint brackets and small fittings **e**

>Control column detail from Shuttleworth's Sopwith Pup (converted from a Sopwith Dove)

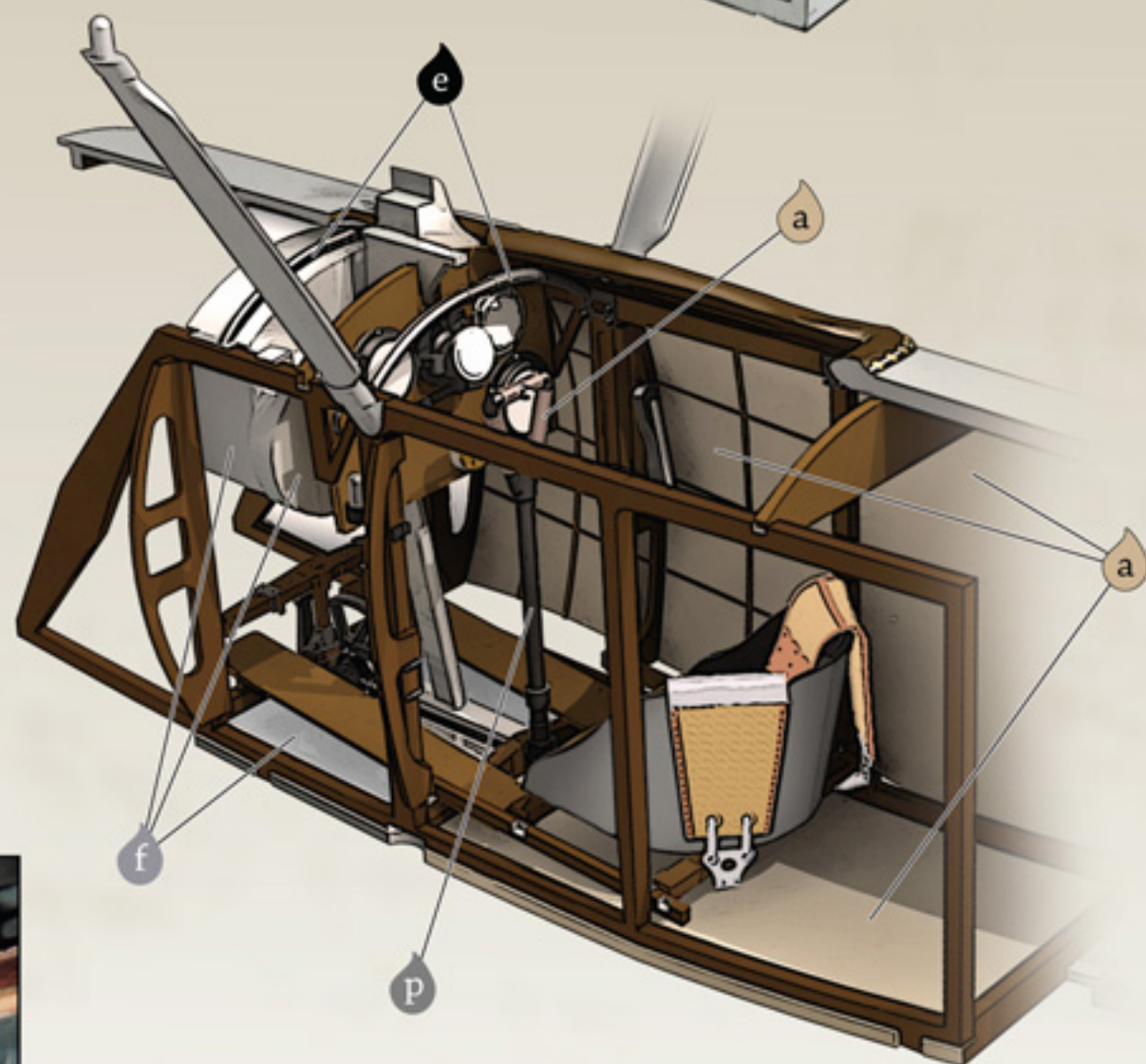
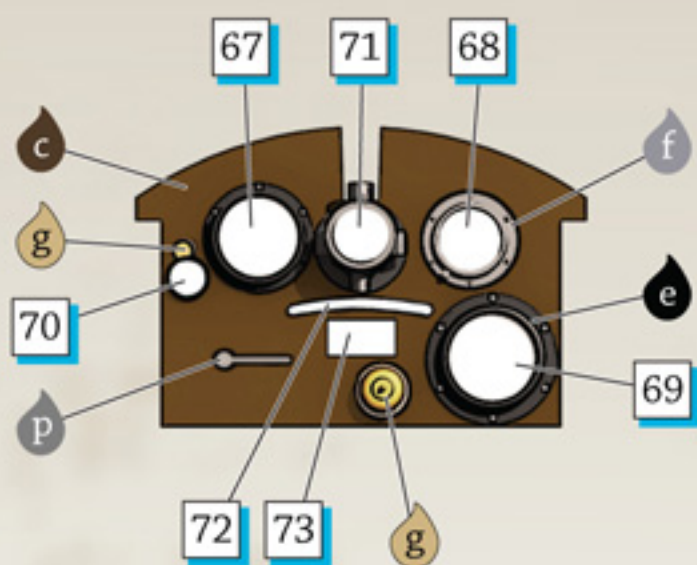


2 COCKPIT continued

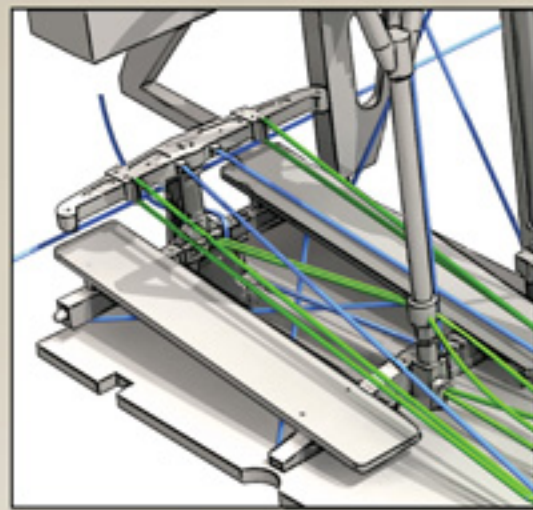
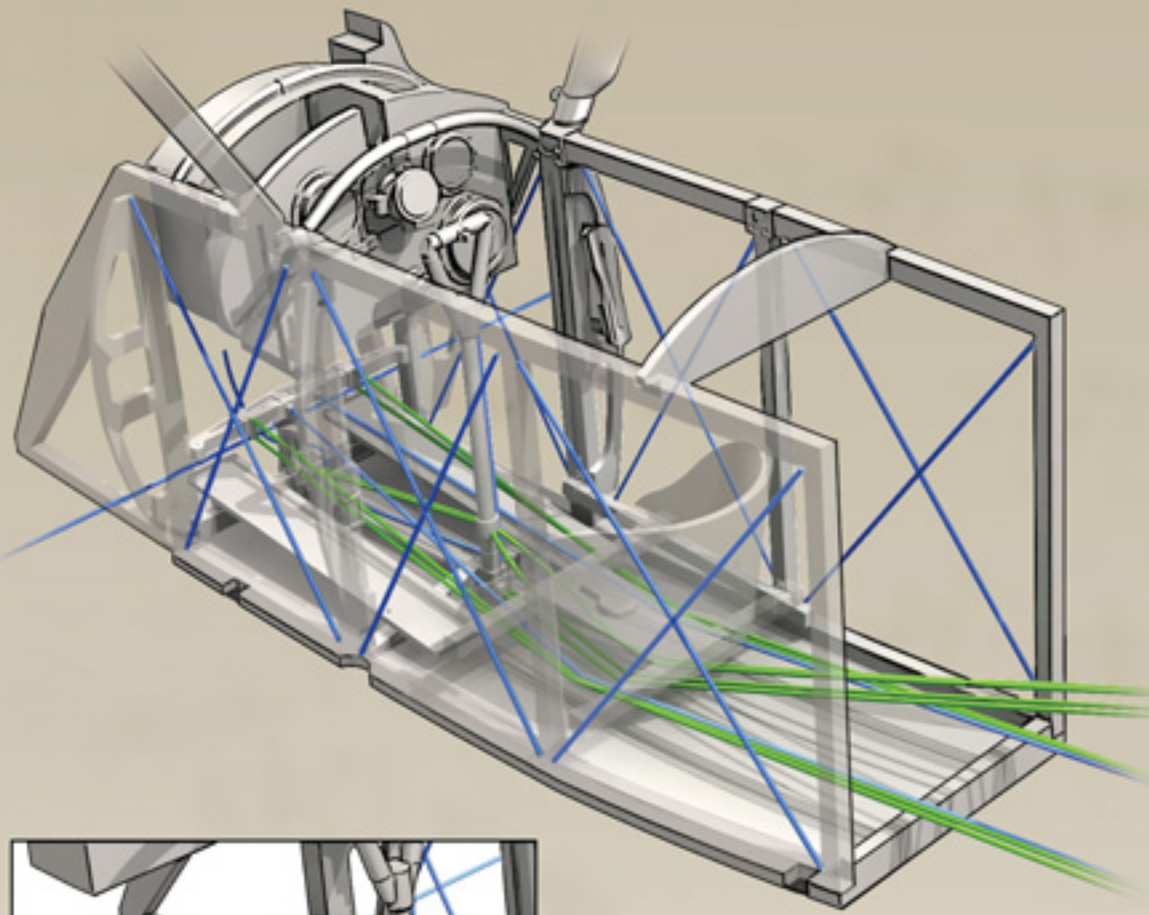
Install A7 after instrument board A13



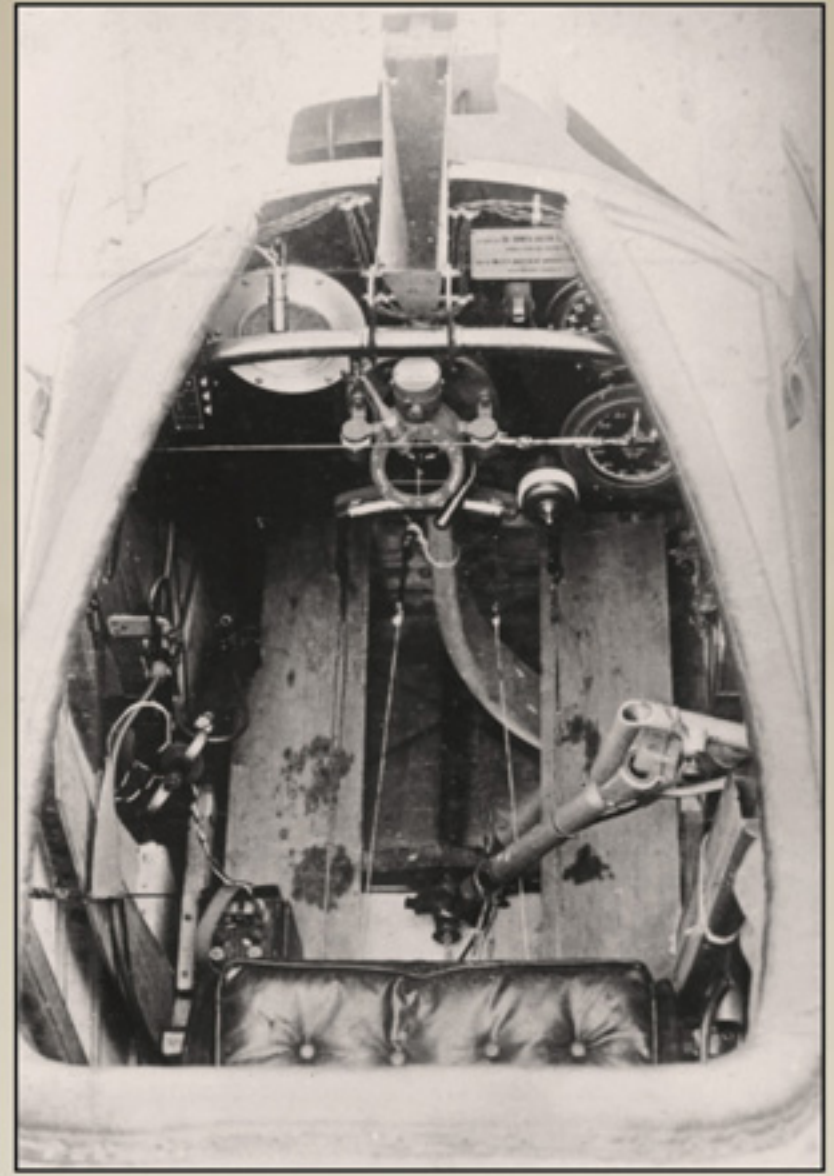
Painting Guide



The very accurate Sopwith Pup replica N6160, built by EMK Aeroplanes Ltd/Skysport Engineering from 1978 to 1983, undergoing repairs at the RNZAF museum. Note the various wood tones, CDL fuselage wall interior and the empty belt winder drum for the Vickers Gun. (Photos by David Frowen)



Internal rigging diagram -
Colours are for clarity only,
rigging material not included.



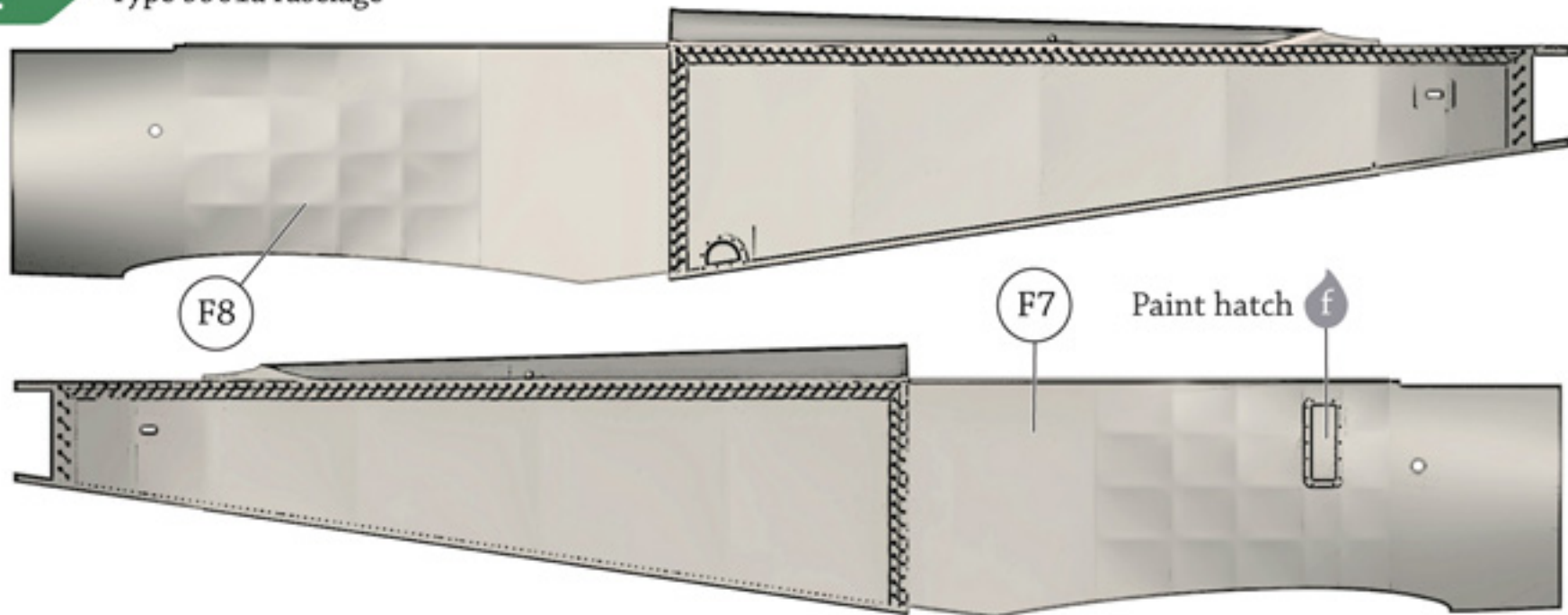
Cockpit from a Sopwith Pup showing one variation of instrument board arrangement. Note the installation of instrument board lights for night flying and wireless for air to ground communication. The Vickers Gun has been removed allowing us to see the top of the empty shell chute.



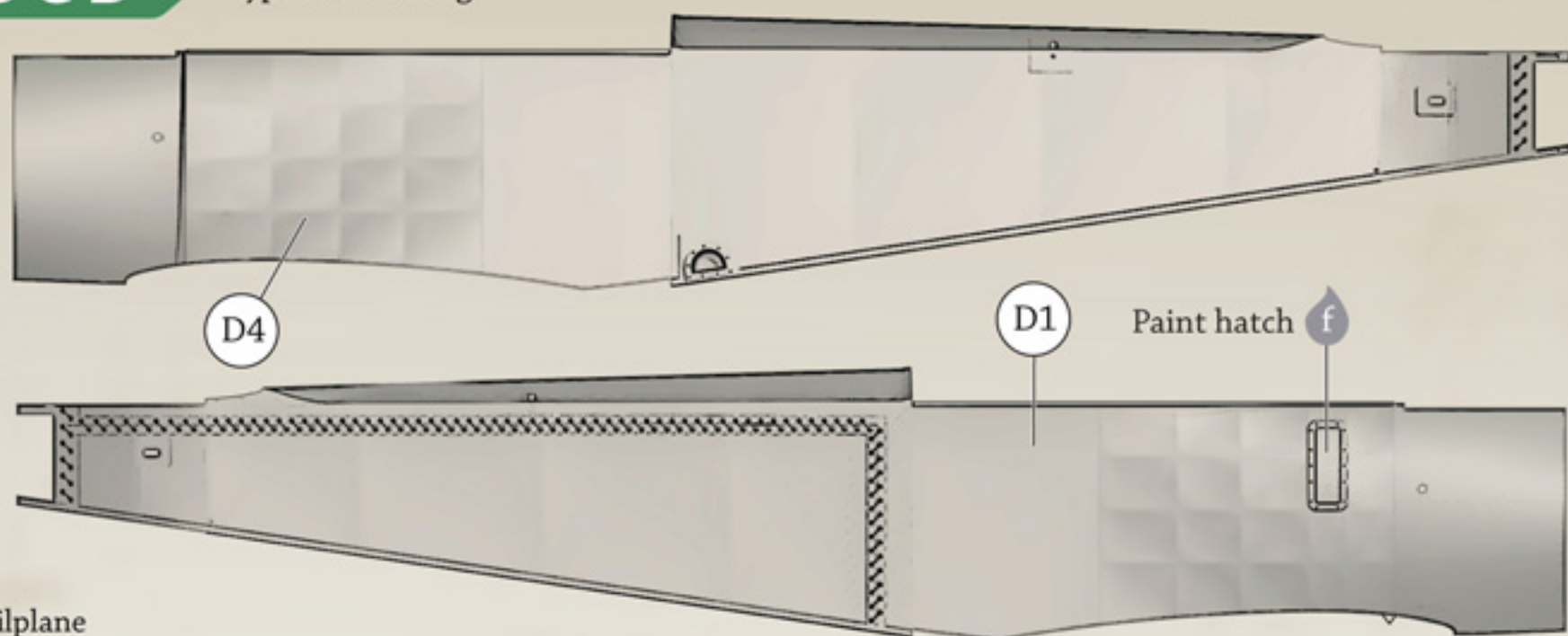
Beardmore built Type 9901a Pup N6453 undergoing deck trials on the 2nd of August 1917 at the hands of S/Cdr E.H Dunning who, on this day in N6453, became the first person to successfully land an aircraft on a carrier at sea. Unfortunately he was to lose his life 5 days later in N6452 when, after 2 prior attempts at landing, the aircraft stalled and crashed into the ocean, drowning S/Cdr E.H Dunning.

3 FUSELAGE

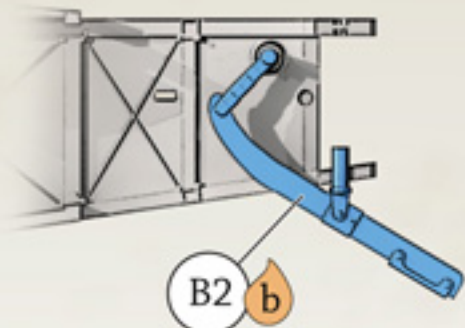
EF Type 9901a fuselage



ABCD Type 9901 fuselage



Fixed tailplane



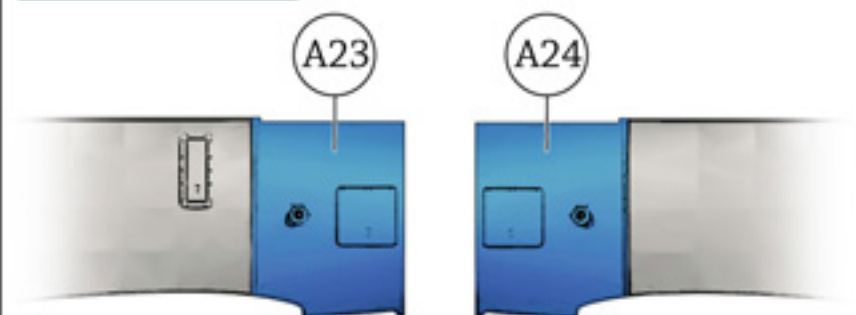
Paint tail skid **b** and metal brackets **e**

Paint interior **a** and frame **b**

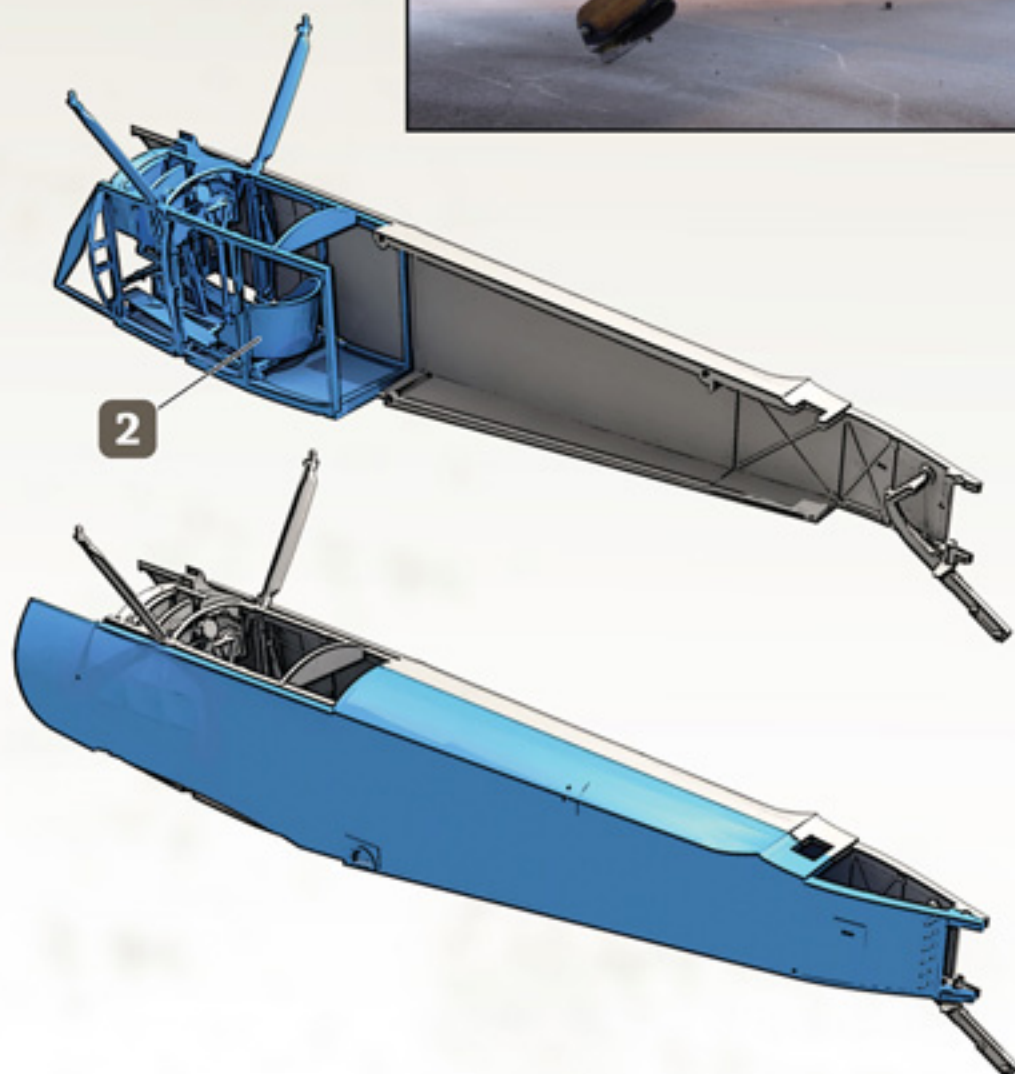
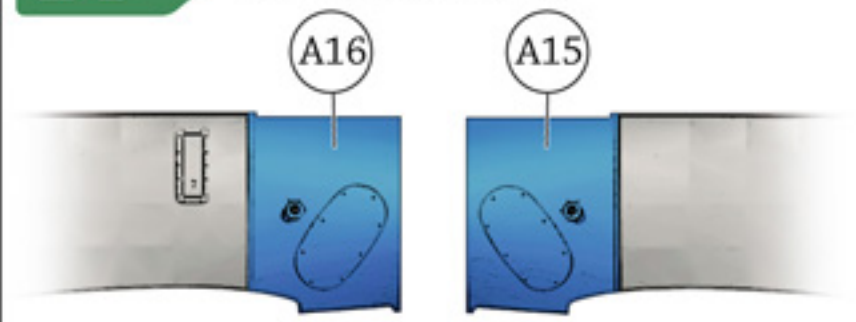
> Tail skid detail from Shuttleworth's Sopwith Pup (converted from a Sopwith Dove)



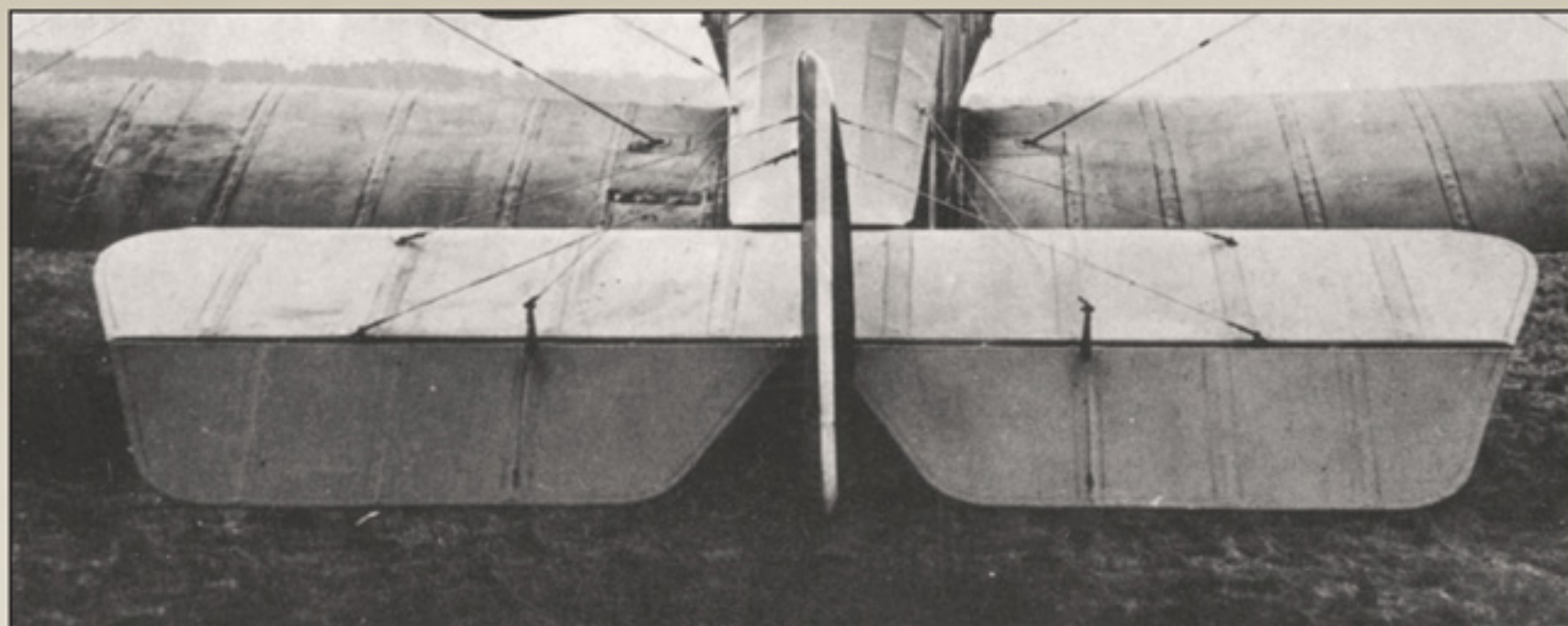
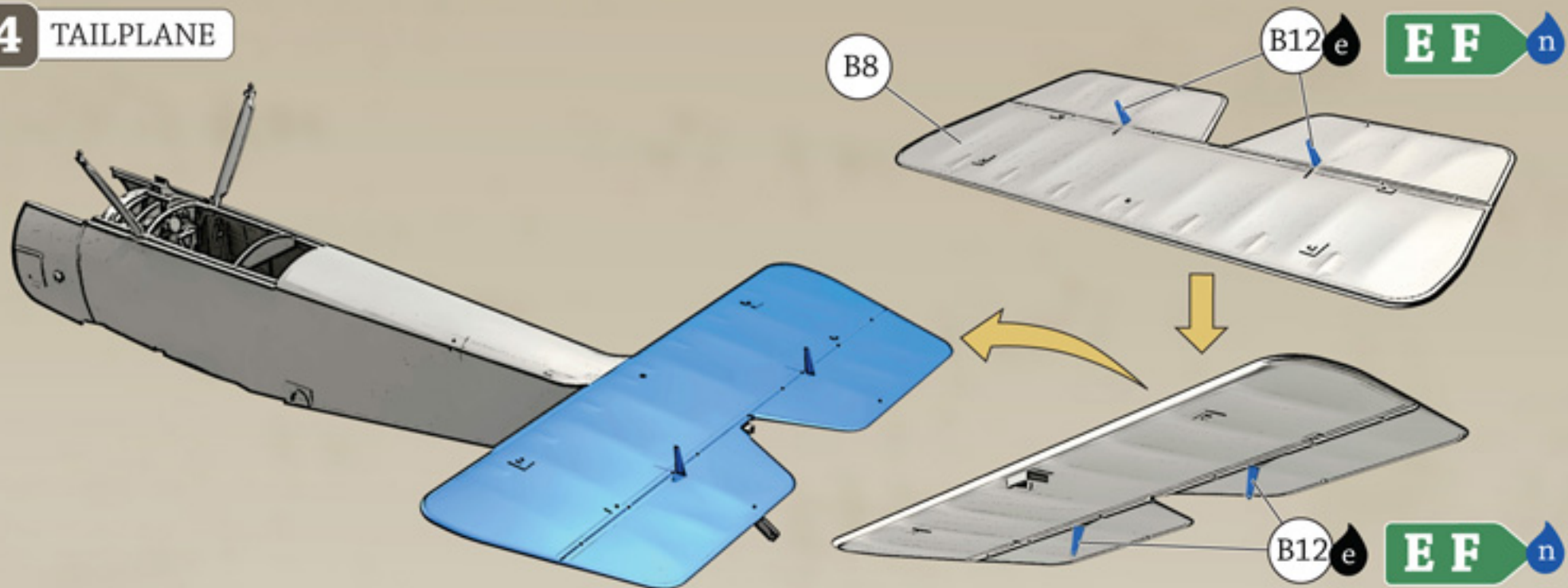
ABCD Square side cowl hatches



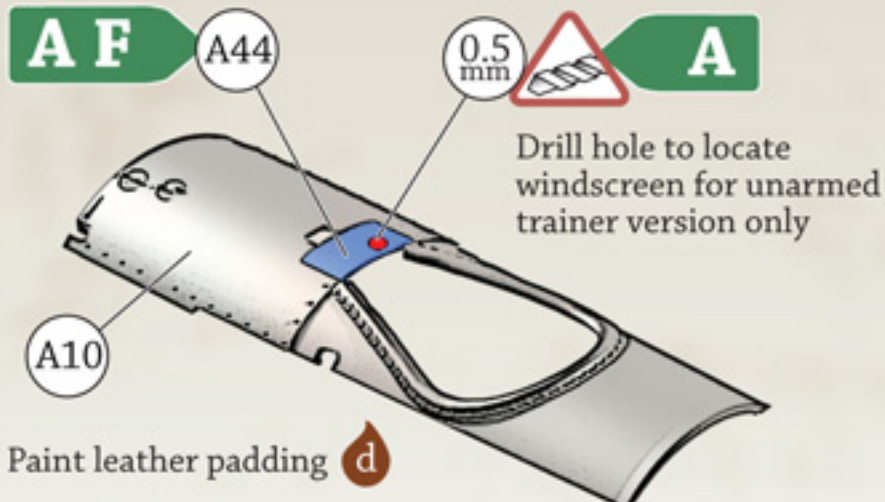
EF Oval side cowl hatches



4 TAILPLANE



Tail plane details from Standard built Sopwith Pup A653 showing the prominent rib tapes and rigging details. The dark lines either side of the ribs are caused by the rough edges of the tapes not reflecting light as well as the rest of the smooth glossy surface.

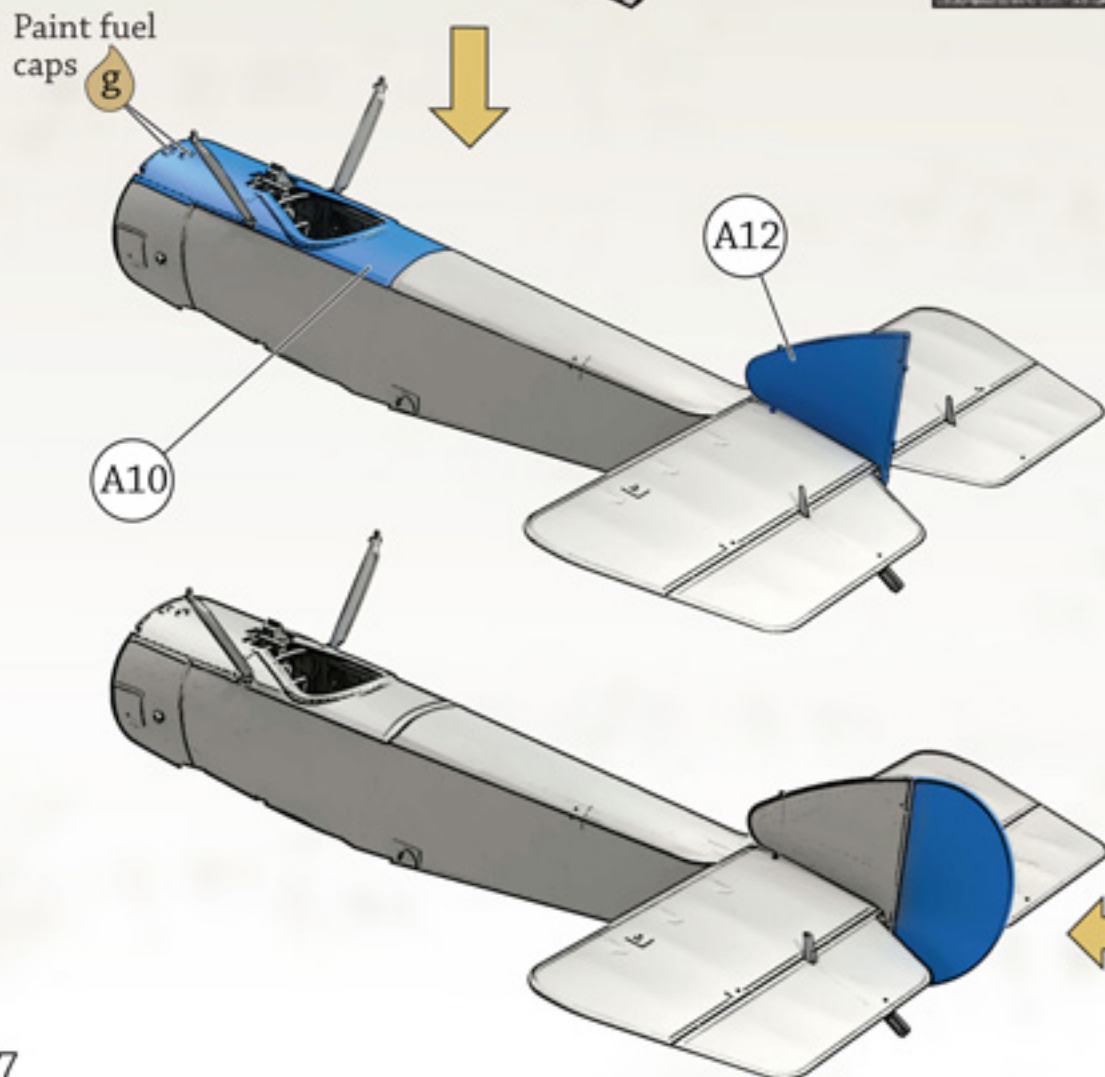


Paint leather padding **d**

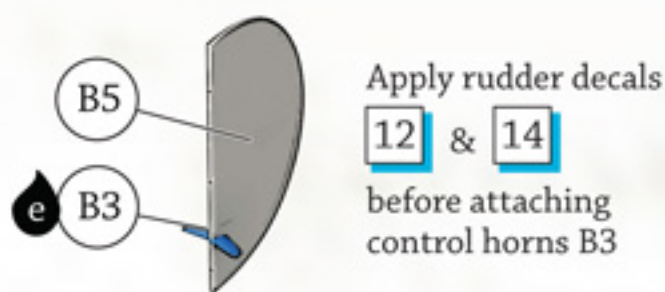
Paint fuel caps **g**



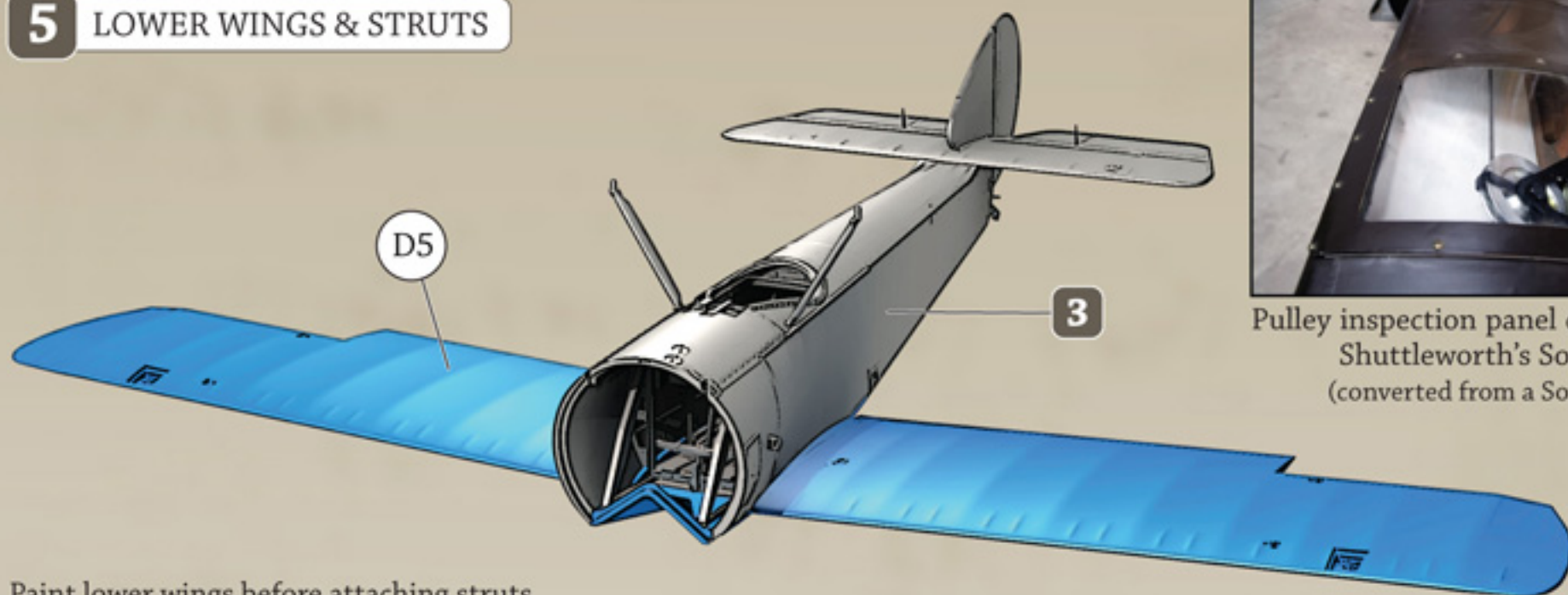
Fixed tailplane detail from Whitehead built Pup A6214.



Sopwith Pup replica N6160 displays the general arrangement of its fixed tail plane fittings. (Photo by David Frowen)



5 LOWER WINGS & STRUTS

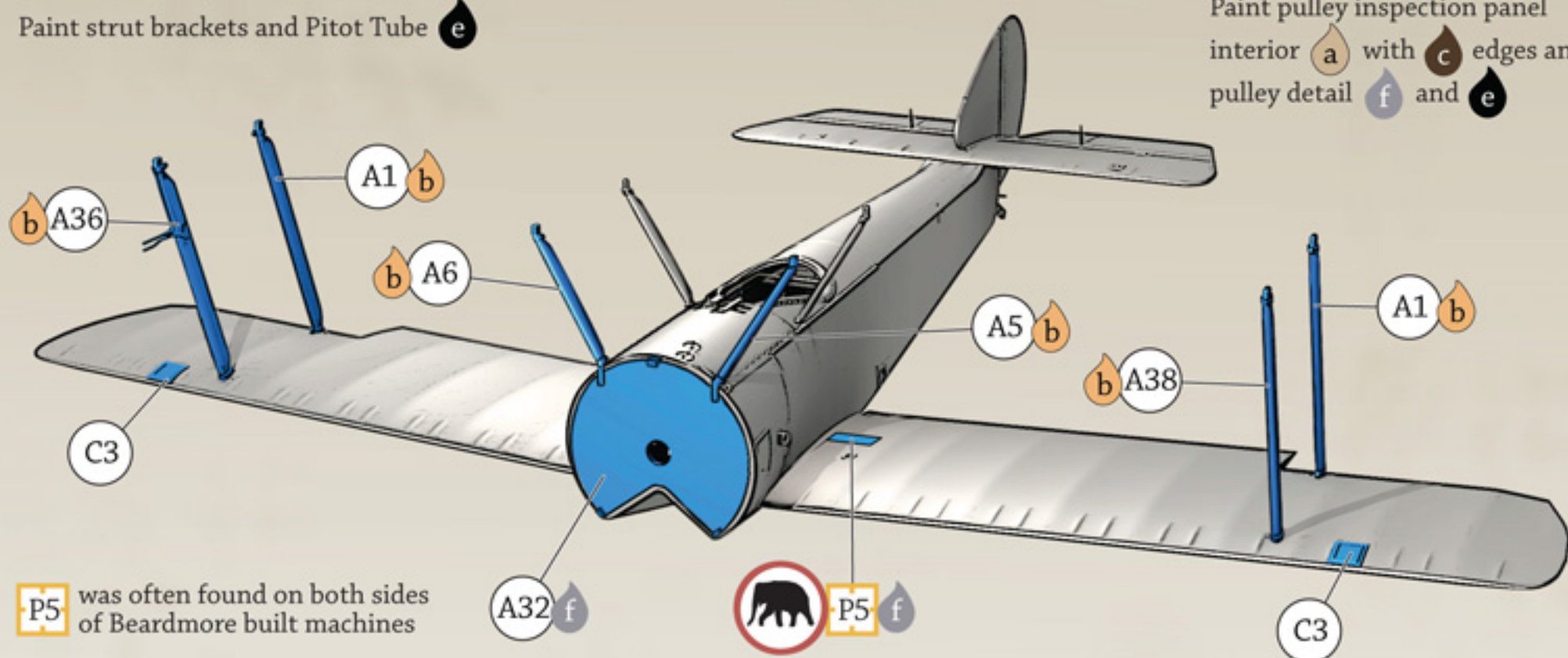


Pulley inspection panel detail from Shuttleworth's Sopwith Pup. (converted from a Sopwith Dove)

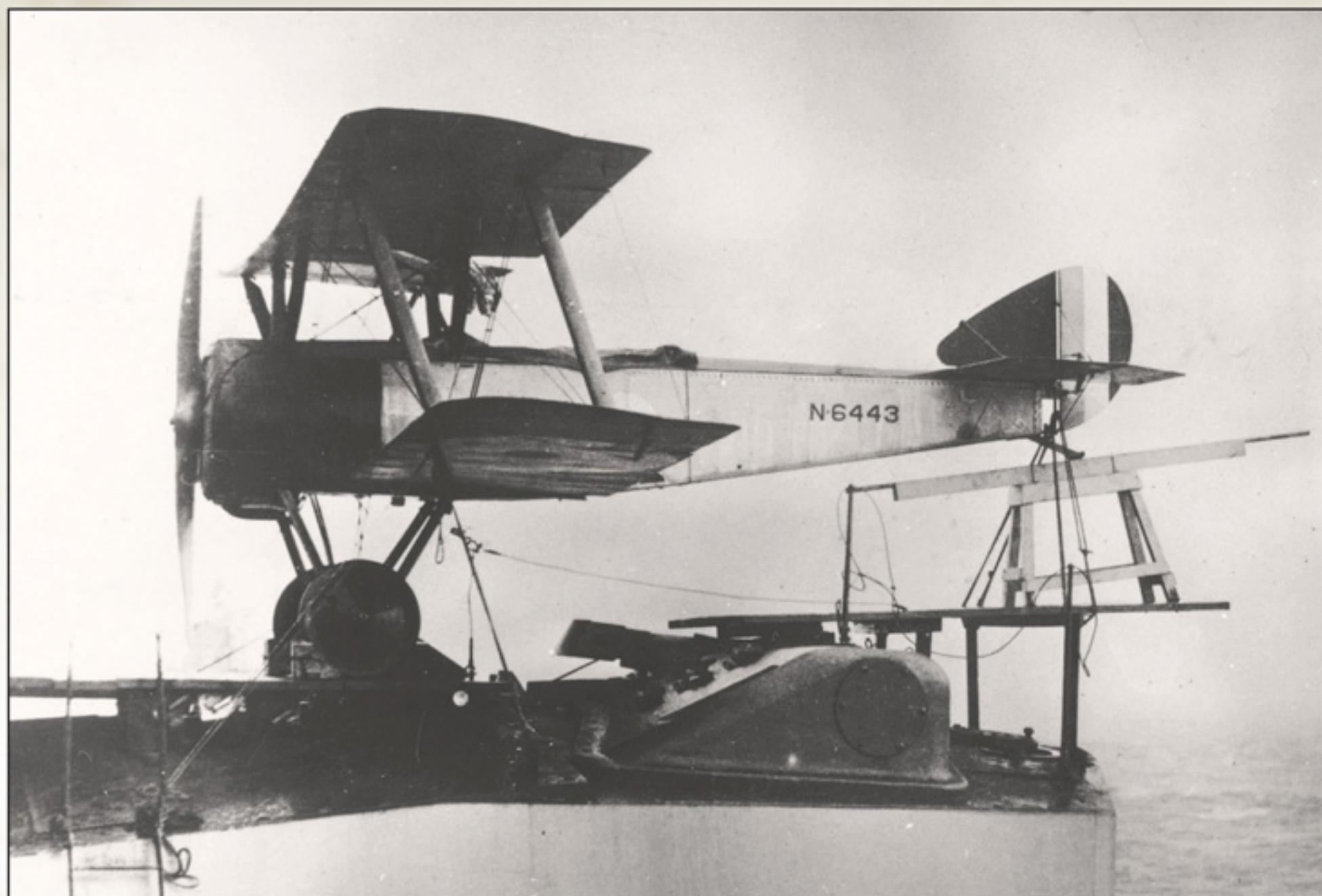
Paint lower wings before attaching struts

Paint strut brackets and Pitot Tube **e**

Paint pulley inspection panel interior **a** with **c** edges and pulley detail **f** and **e**



P5 was often found on both sides of Beardmore built machines

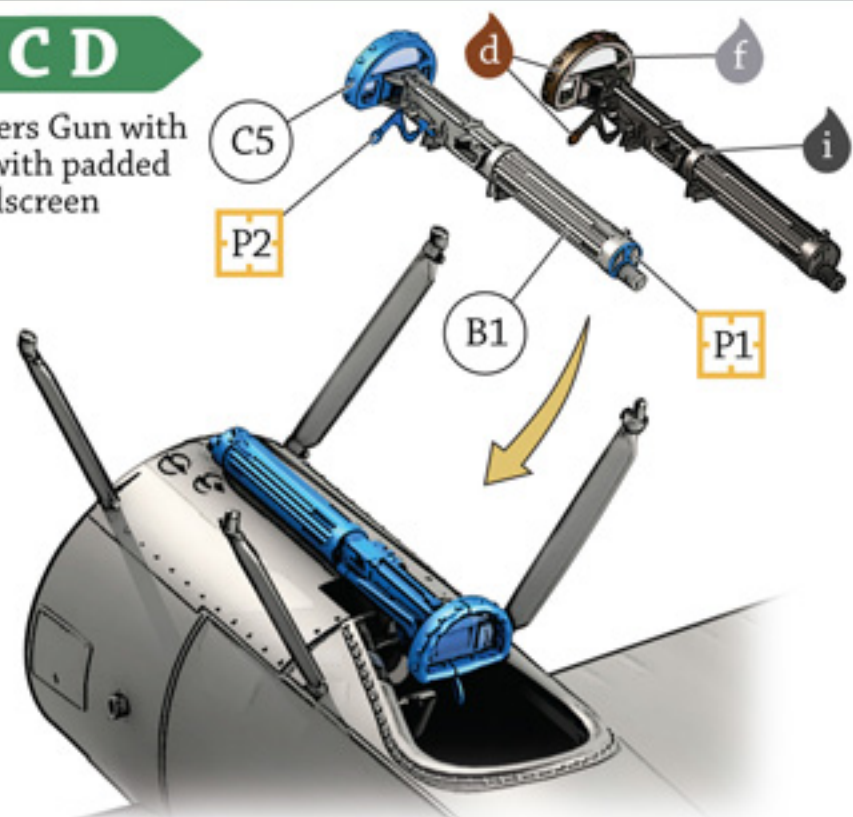


Beardmore built Type 9901a Pup N6443 stowed on its flying off platform atop a gun turret of HMS Tiger. Intended to prevent patrolling Zeppelins from observing the grand fleet in the North Sea, pilots who could not find an appropriate place to land after a patrol were required to ditch in the ocean and wait to be rescued. Note the waterproof covers providing a modicum of protection for the engine, cockpit and Lewis gun from the harsh sea elements.

6 ARMAMENT

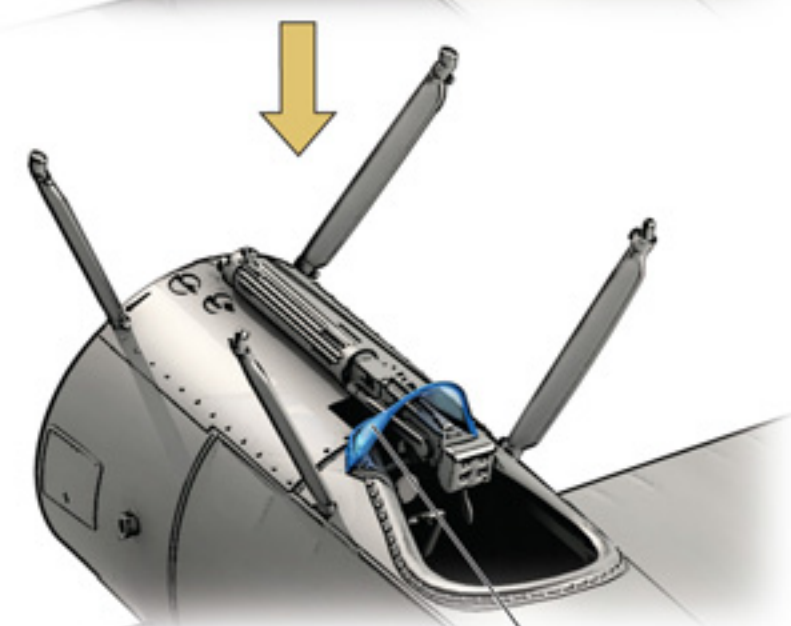
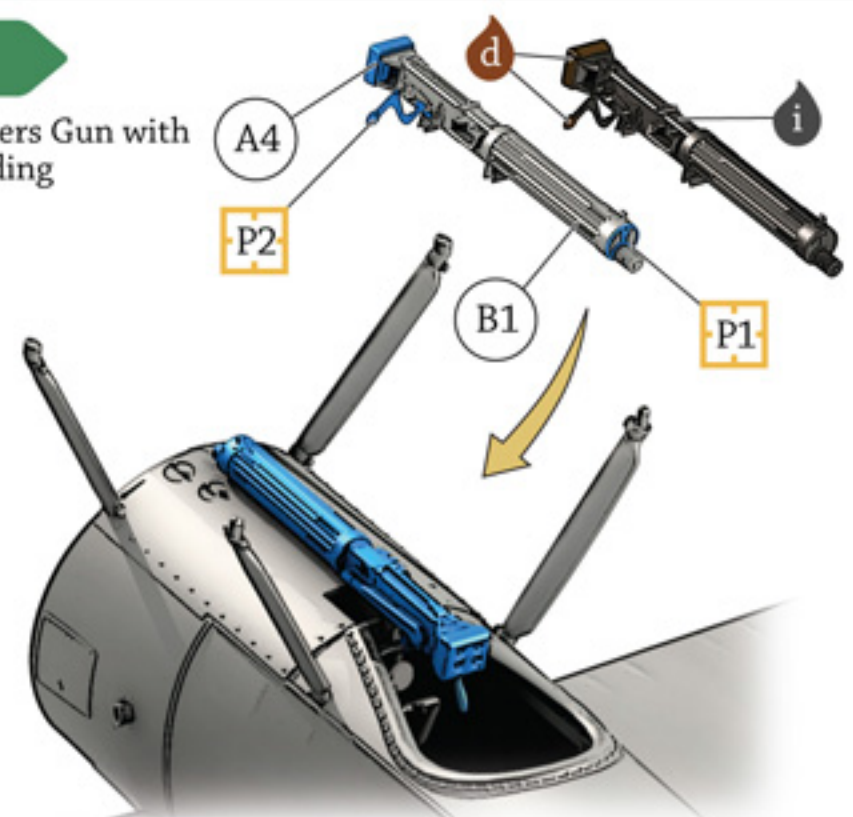
BCD

Vickers Gun with Sopwith padded windscreen



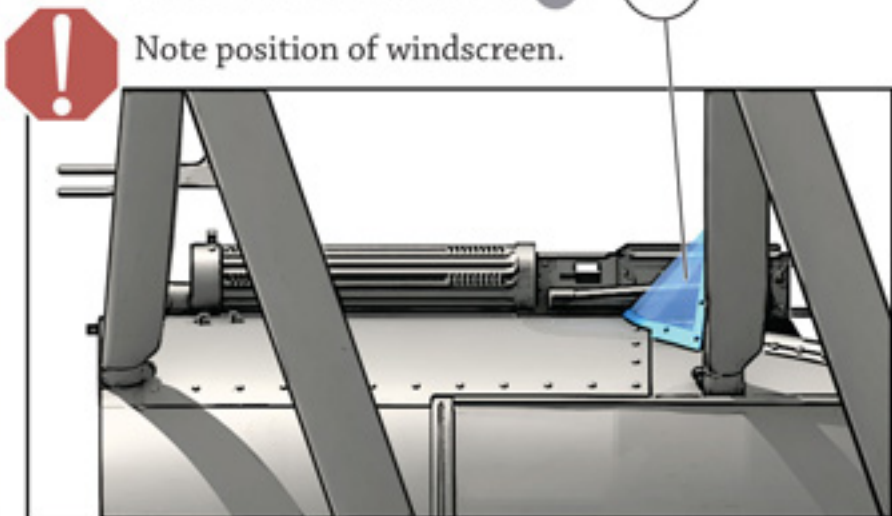
E

Vickers Gun with padding



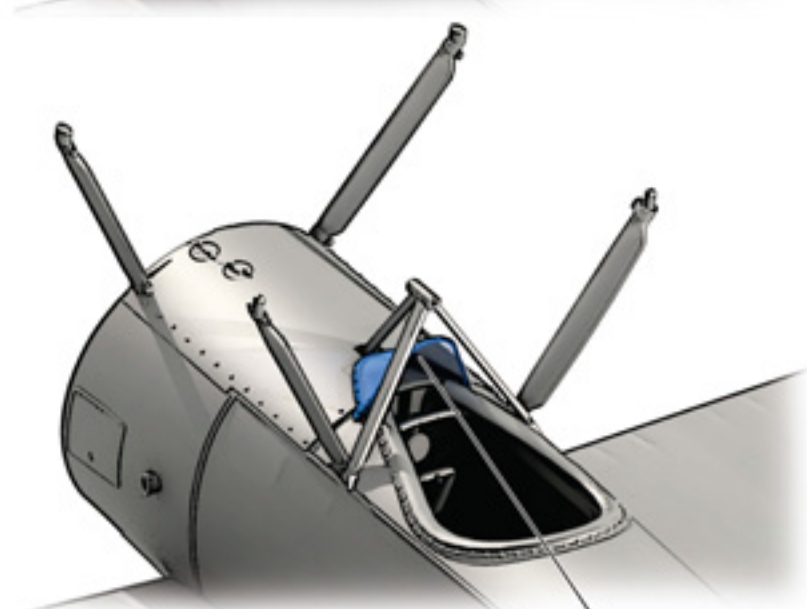
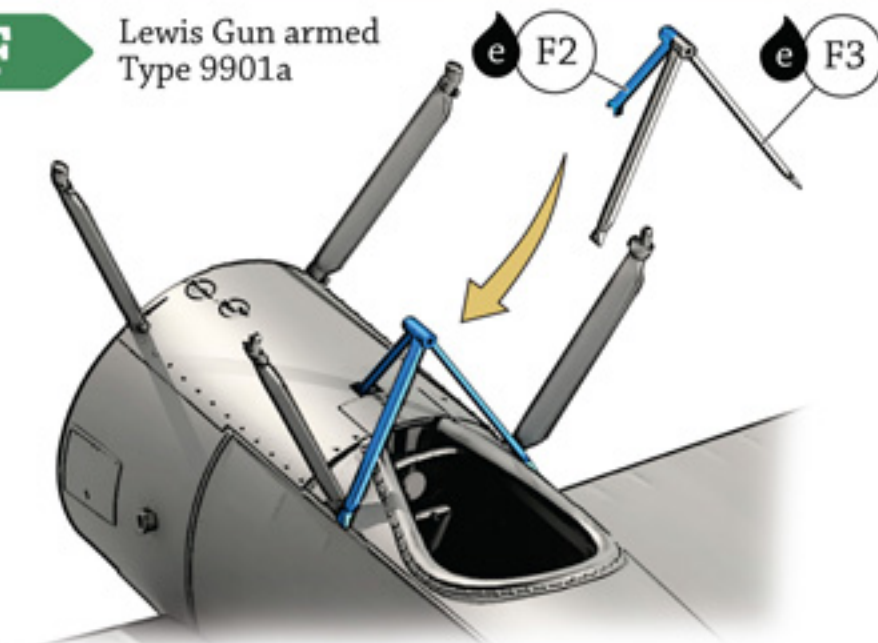
Paint frame of windscreen **f**
 Note position of windscreen.

C2



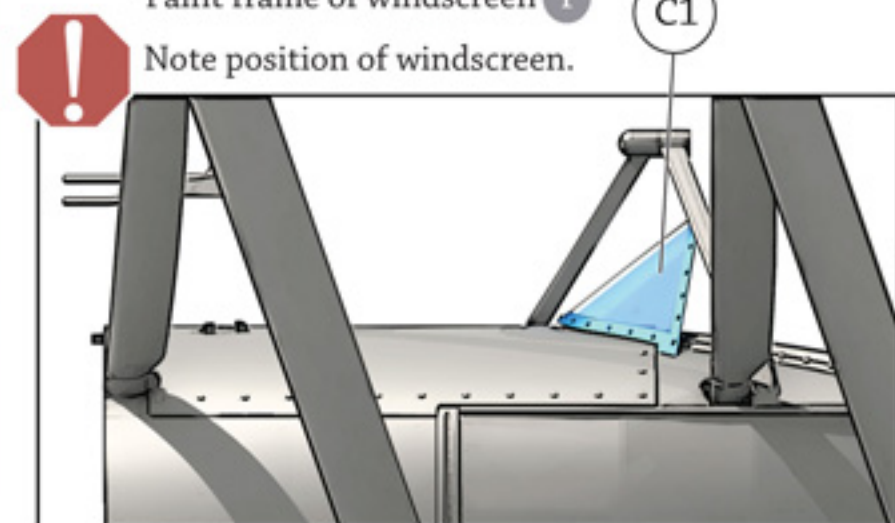
F

Lewis Gun armed Type 9901a



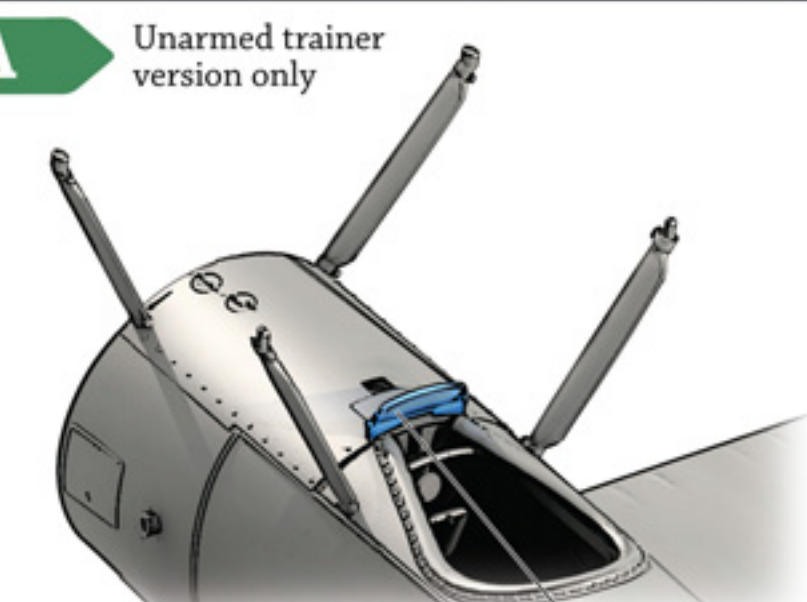
Paint frame of windscreen **f**
 Note position of windscreen.

C1



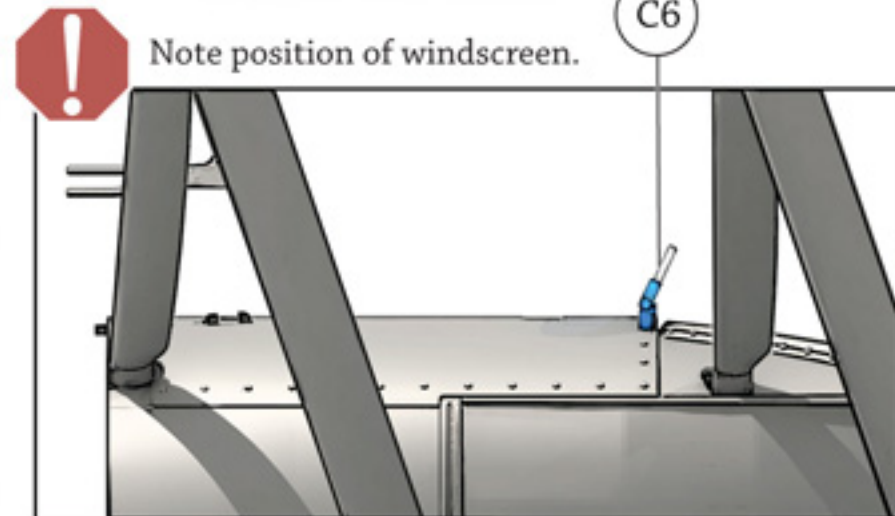
A

Unarmed trainer version only

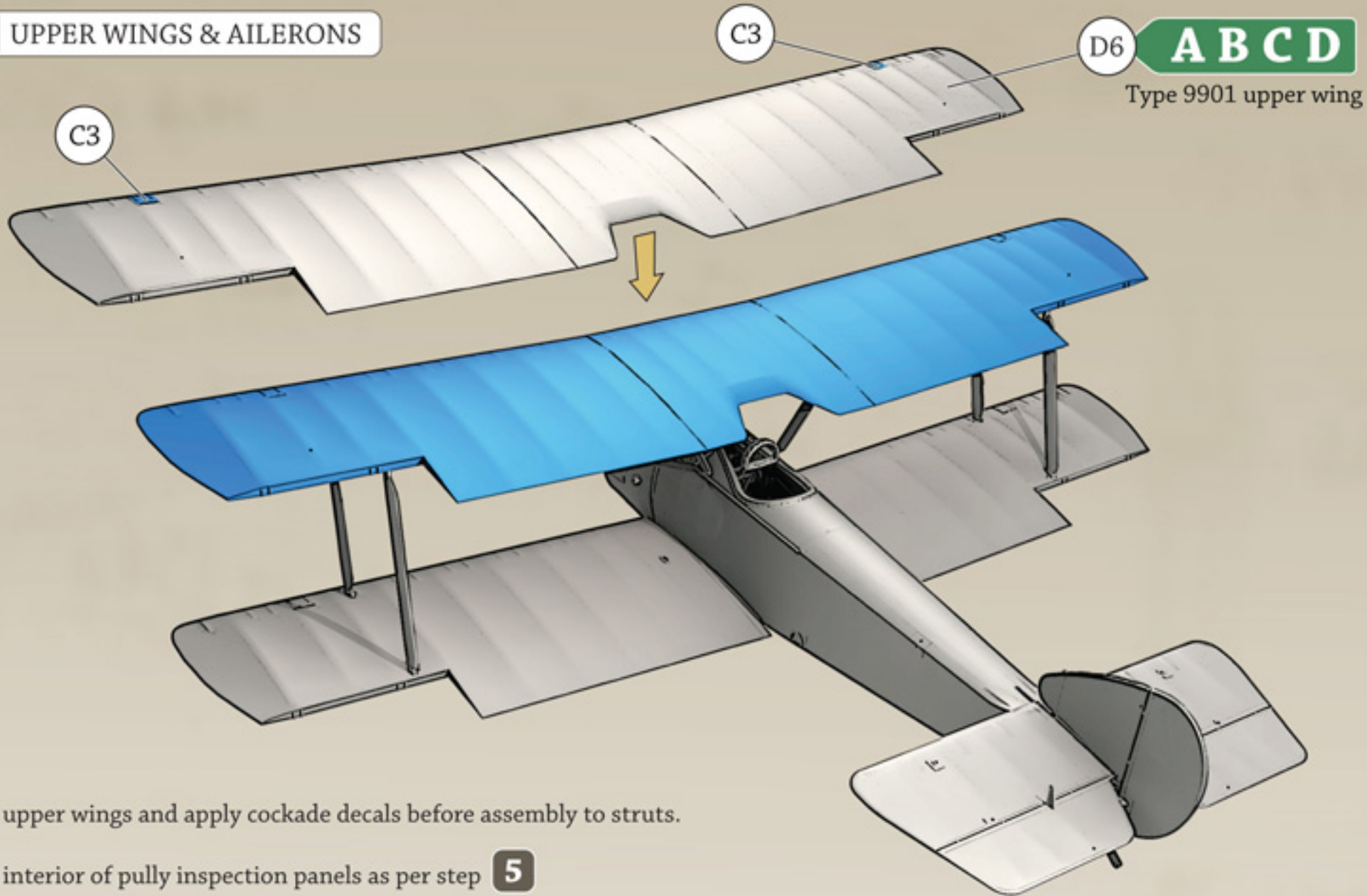


Note position of windscreen.

C6

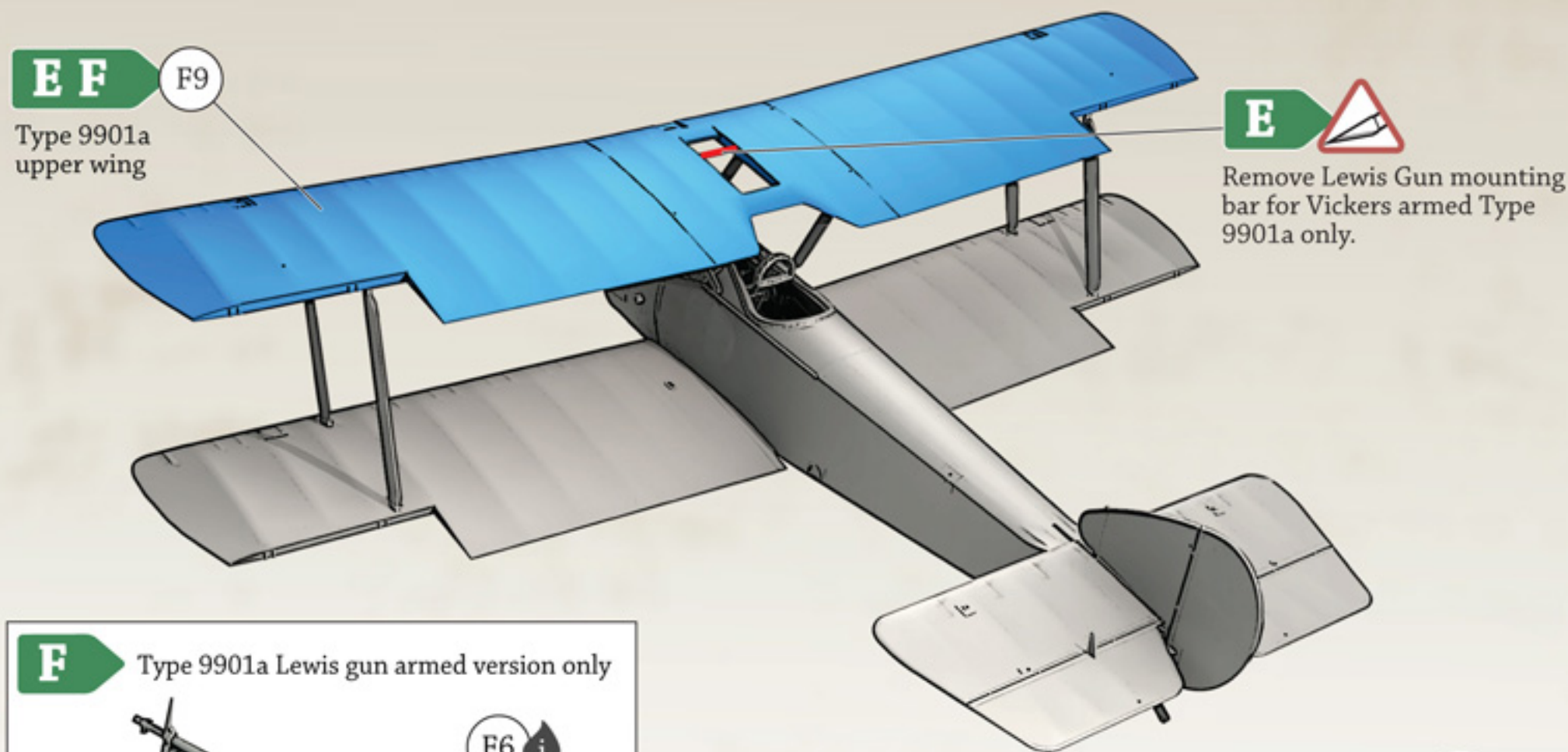


7 UPPER WINGS & AILERONS

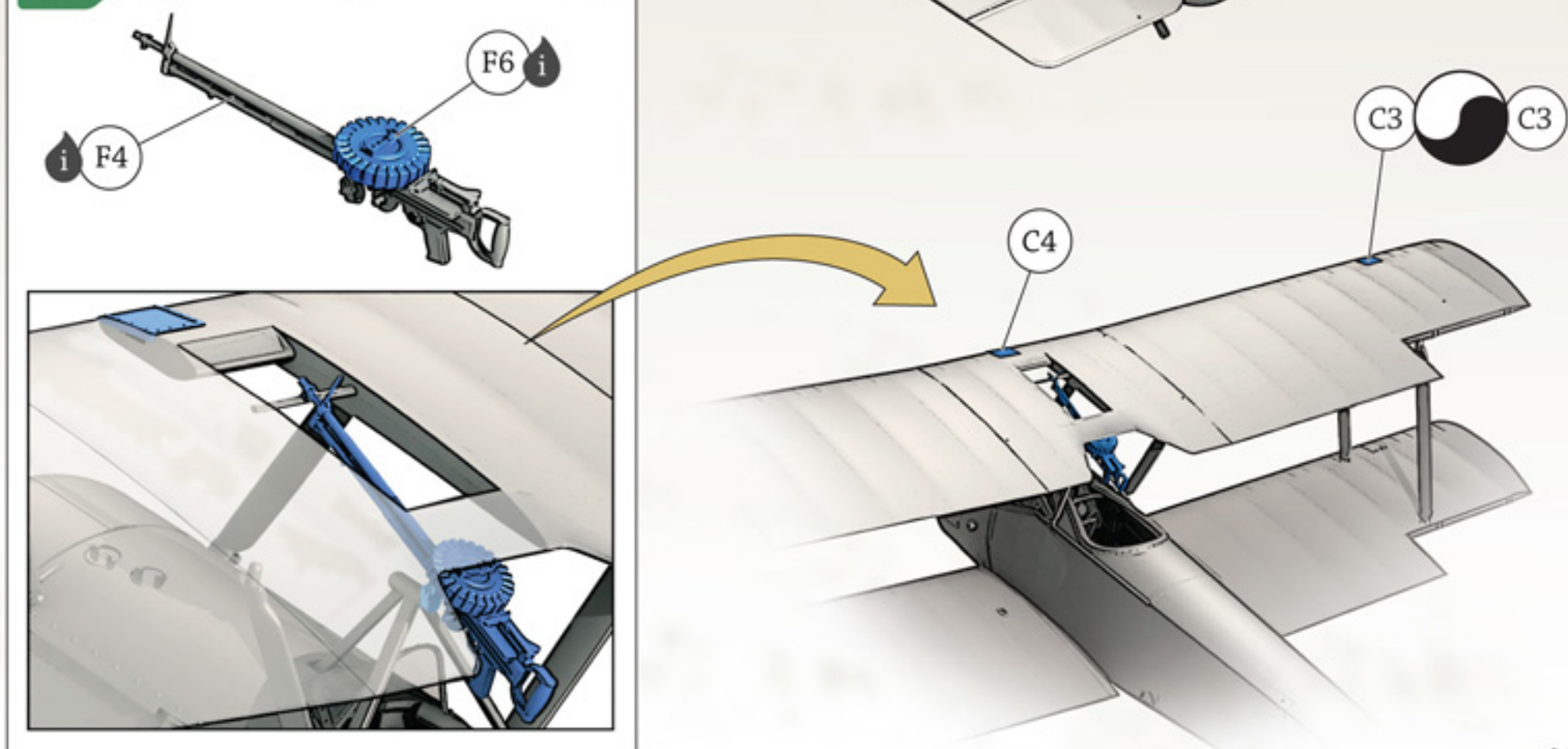


Paint upper wings and apply cockade decals before assembly to struts.

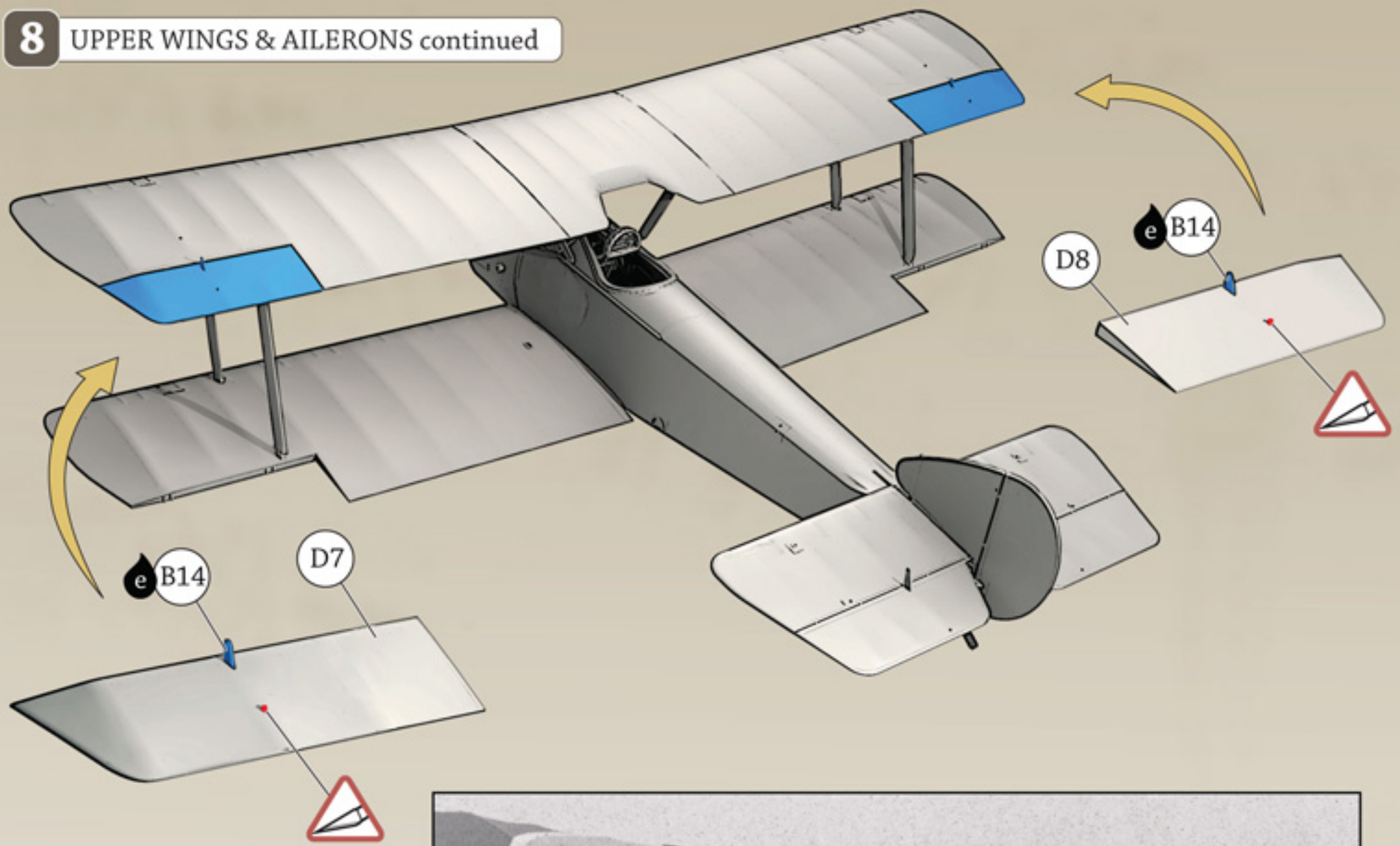
Paint interior of pulley inspection panels as per step **5**



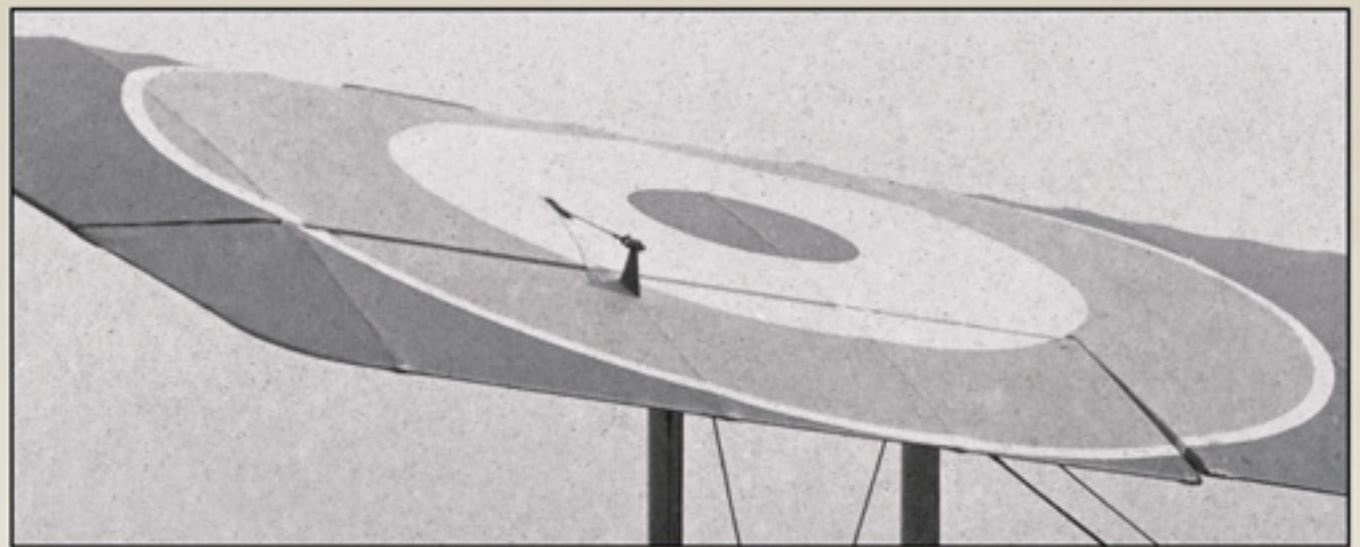
F Type 9901a Lewis gun armed version only



8 UPPER WINGS & AILERONS continued



Paint ailerons and apply cockade decals before attaching control horns (B14)

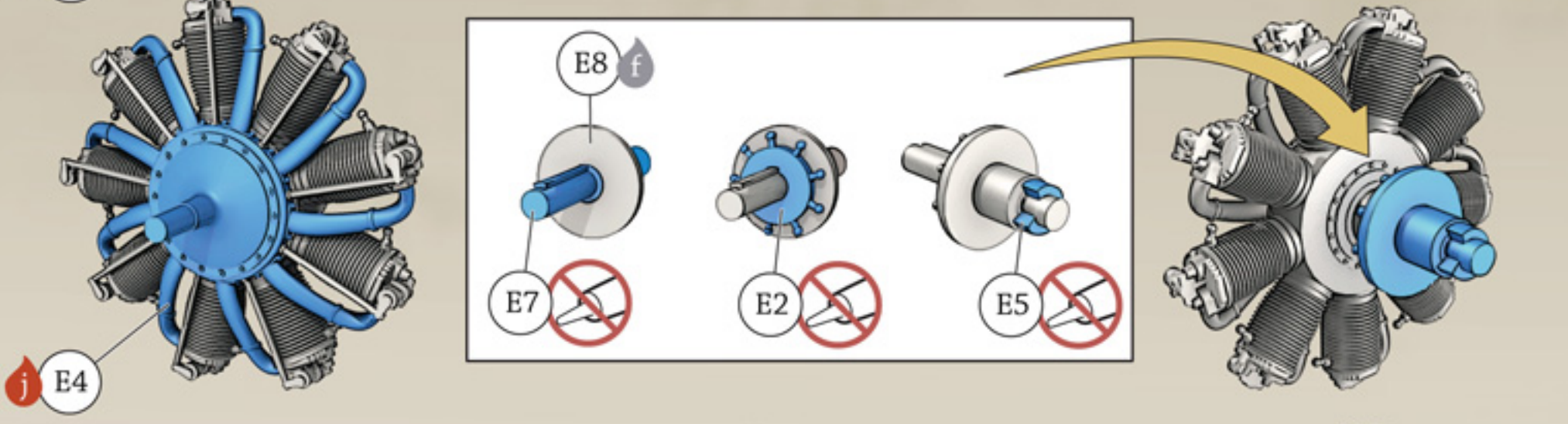
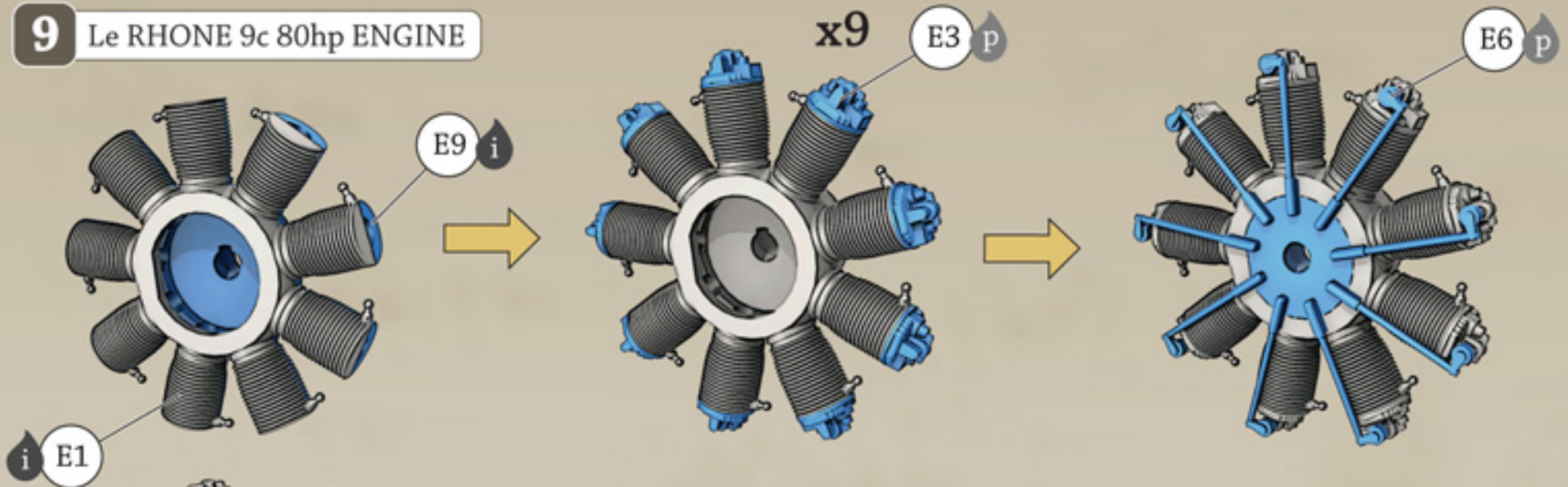


Port upper aileron detail from A6214 showing control horn detail. Note how the cockade is carried down into the hinge area.

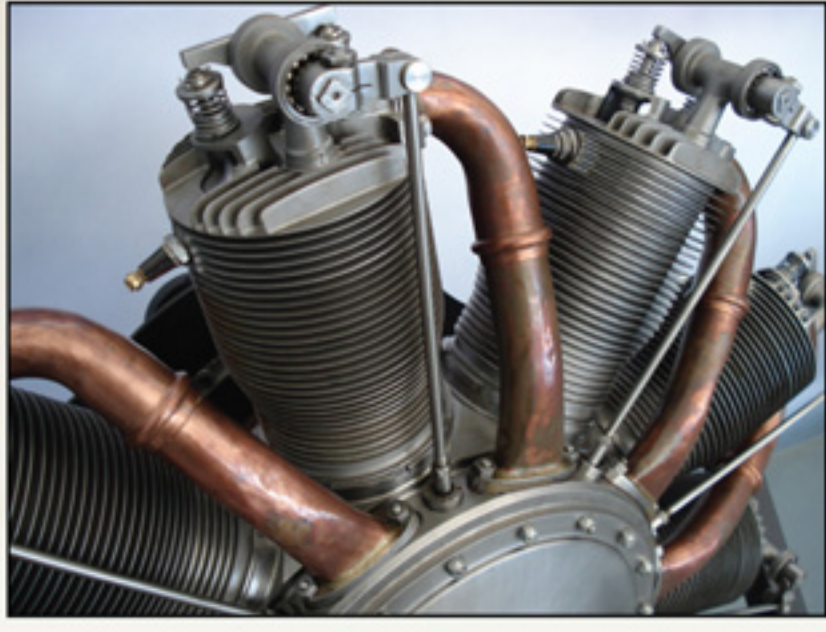
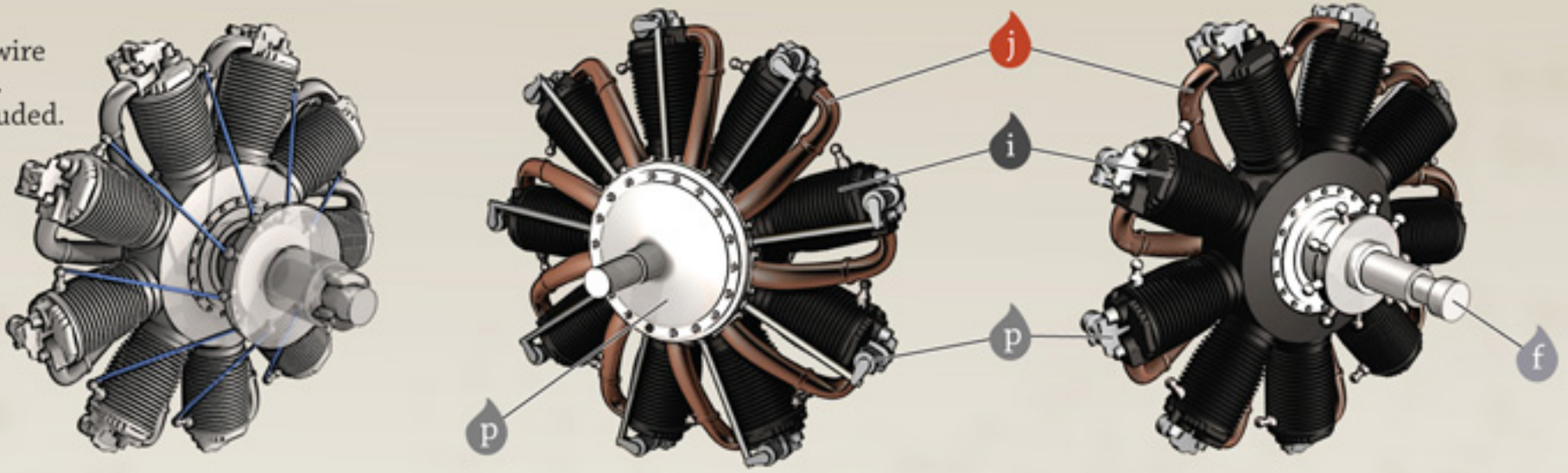


Sopwith built Type 9901 Pup N5186 showing its adjustable tailplane, LePrieur rockets and clear upper wing center section. Most likely pictured here in mid October 1916, N5156 went on to serve in 3,4 and 8 Naval Squadrons before being wrecked in April 1917.

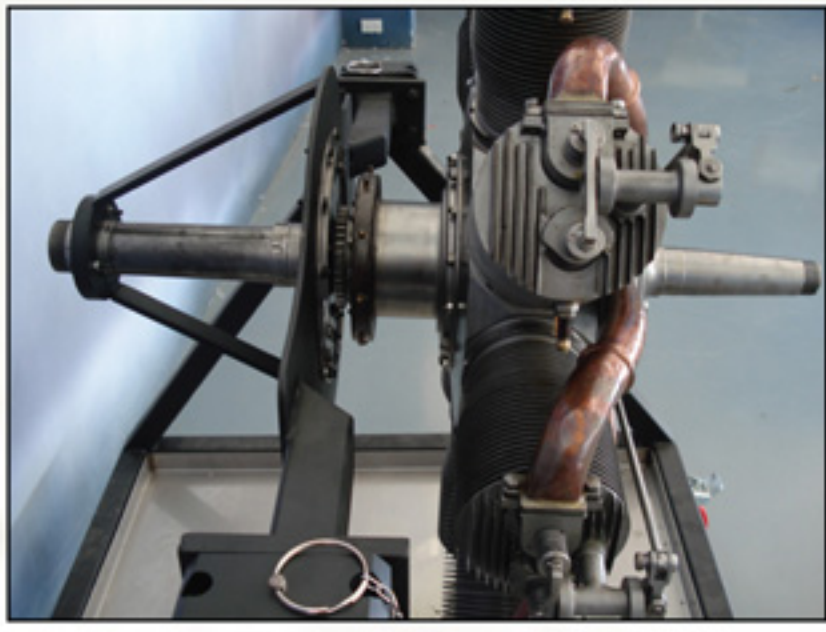
9 Le RHONE 9c 80hp ENGINE



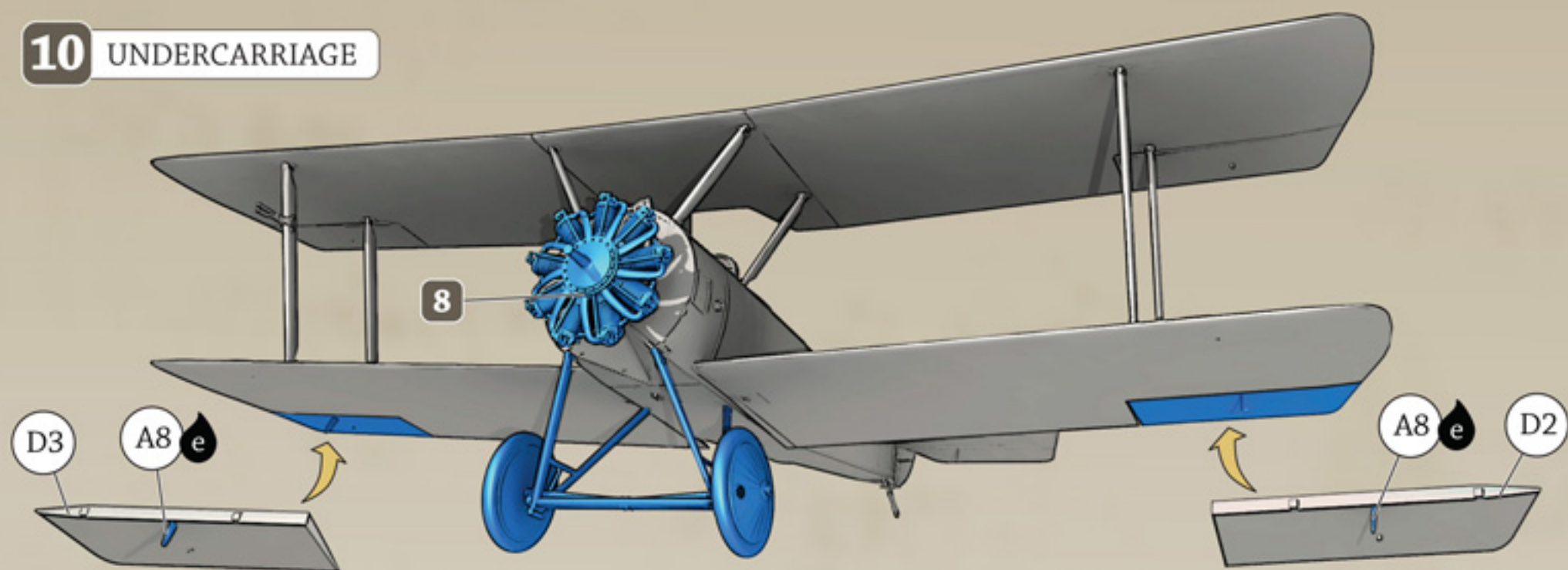
Spark plug wire diagram.
Wire not included.



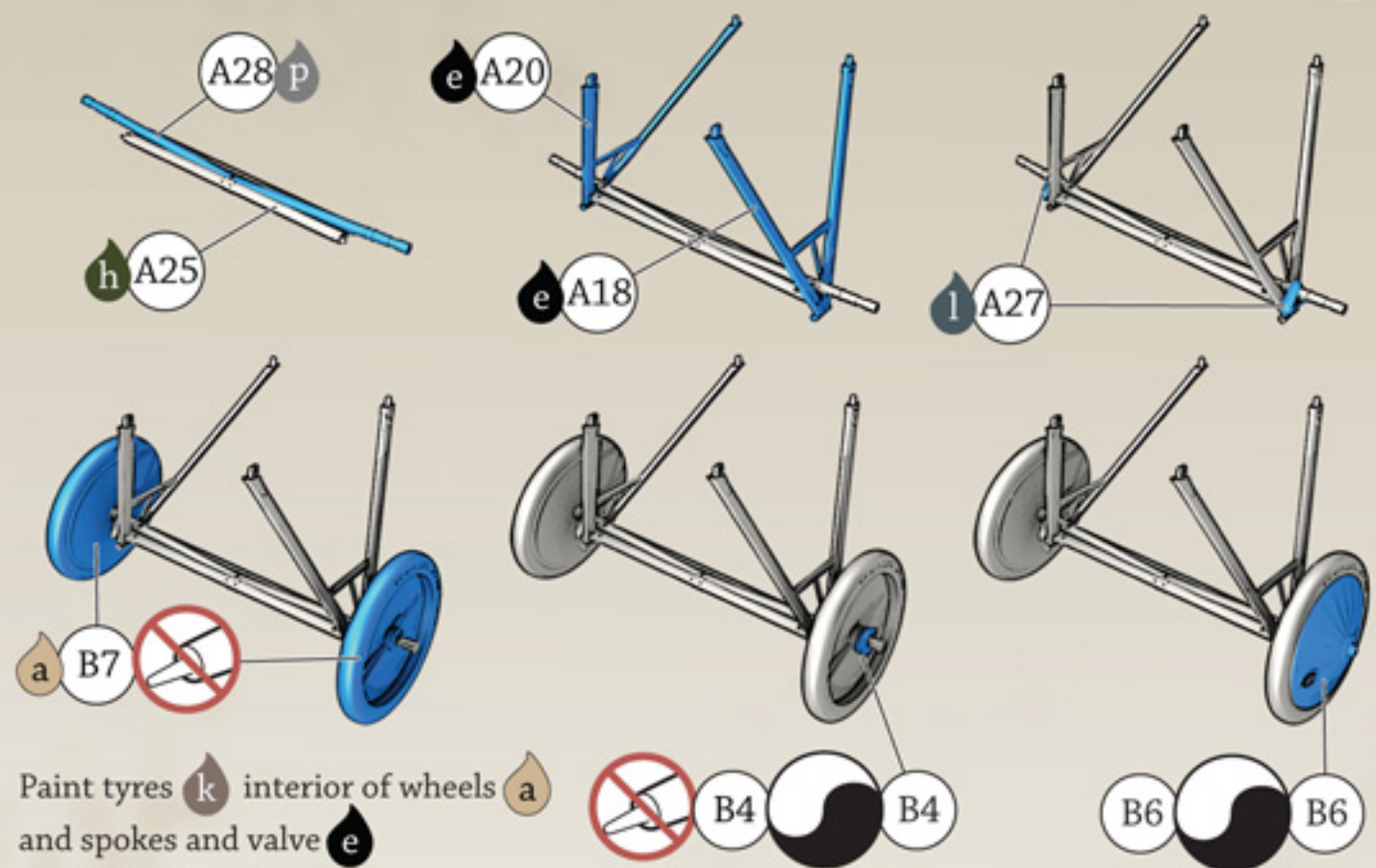
LeRhône 9c 80hp engine. Note the copper intake header assemblies.



10 UNDERCARRIAGE



Paint ailerons and apply cockade decals before attaching control horns **A8**



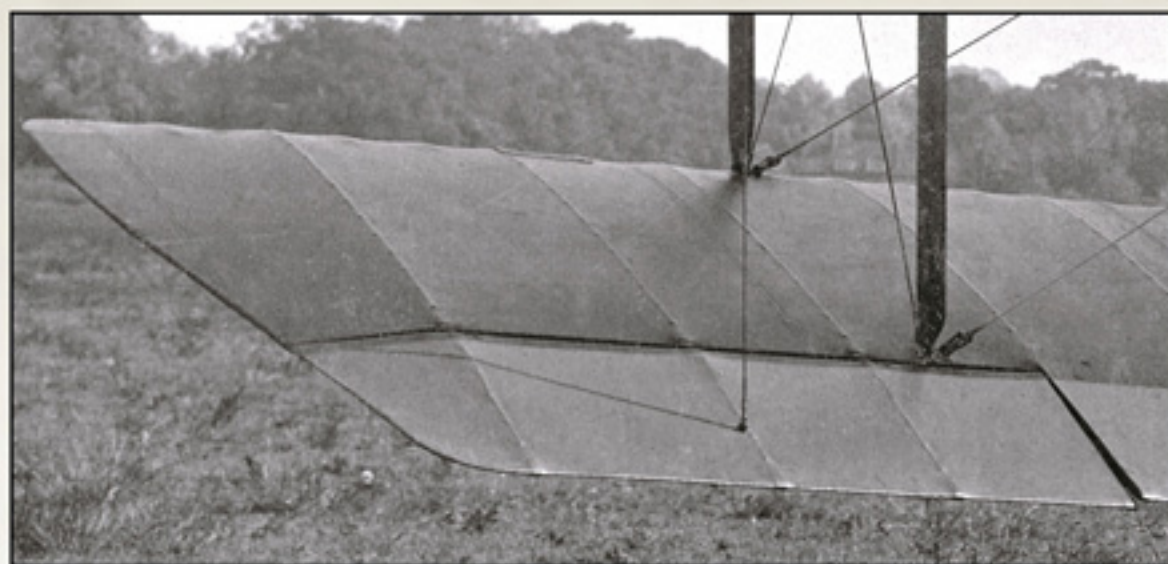
Paint tyres **k** interior of wheels **a** and spokes and valve **e**



Undercarriage detail from Sopwith Pup replica N6160. Note that it is not typical for the split axle to be flat as shown here unless the aircraft is in flight, they should angle upwards under the weight of the aircraft as shown elsewhere. (Photo by David Frowen)



Undercarriage details from Sopwith built pup N5186. Note tyre marking and manufacturers logo decal on front undercarriage leg.



Port lower aileron detail from A6214 showing aileron connecting wire and rigging attachment details.



13 Undercarriage detail showing the usual angle of the split axles when absorbing the weight of the aircraft on the ground.



Note the extreme engine exhaust and caster oil staining on the lower sides of this pranged Pup.

11 FINAL ASSEMBLY

A A35
Standard Motor Co. Cowling

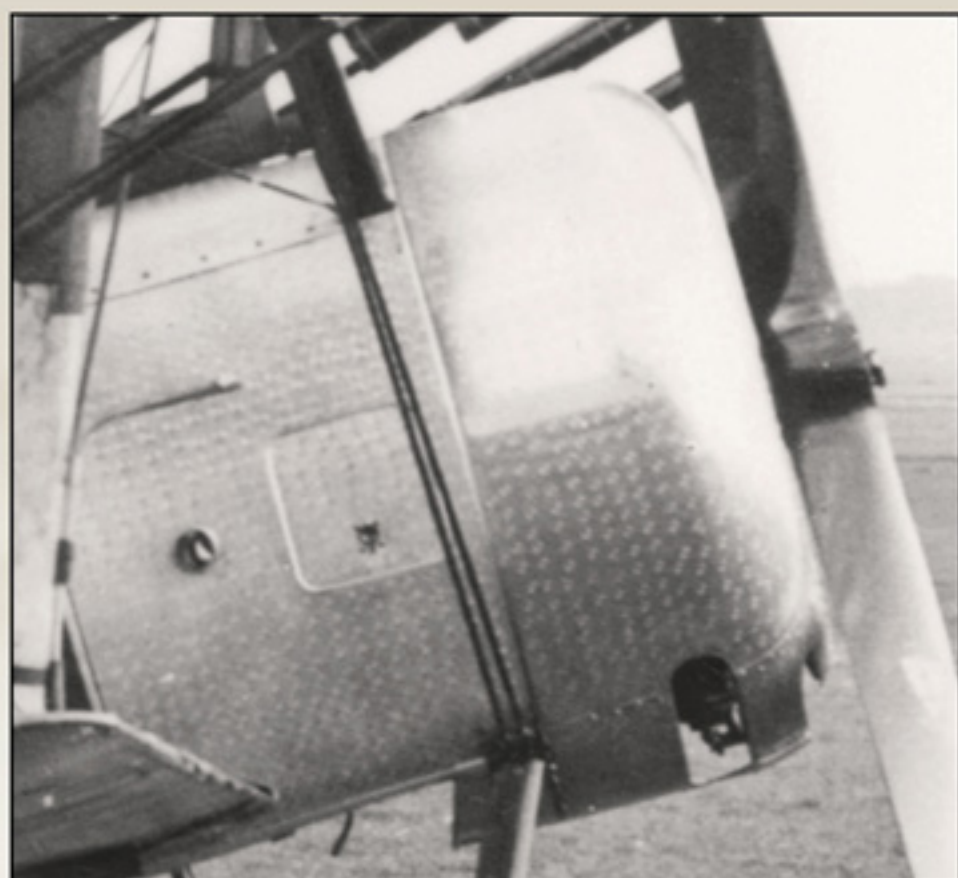
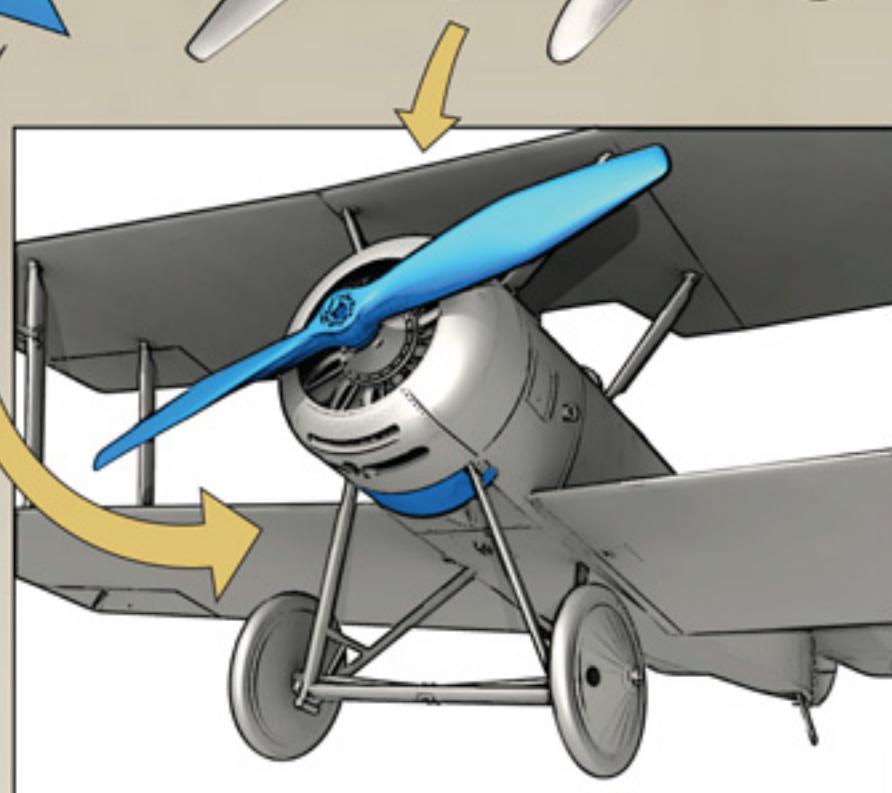
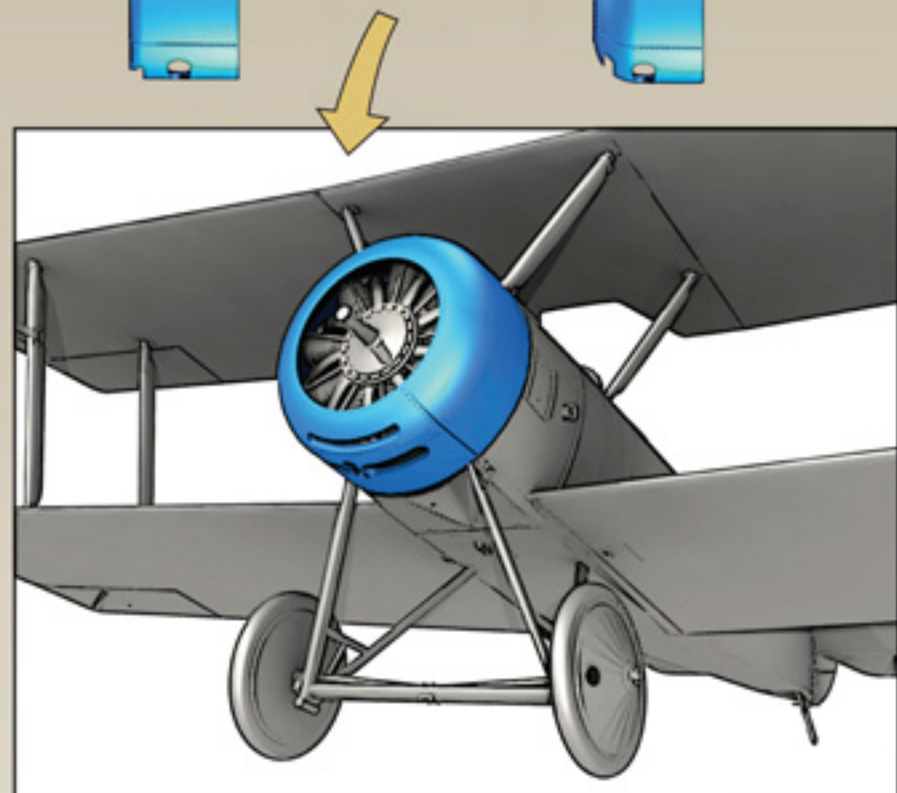
BCDEF A2
Common Cowling

A A9

ABCEF A22 c

D A14 c

EF F5



Common cowling shape of Sopwith, Beardmore and Whitehead built Pups, in this case from Sopwith built Pup N5186 showing the Sopwith factory treatment of the metal panels.

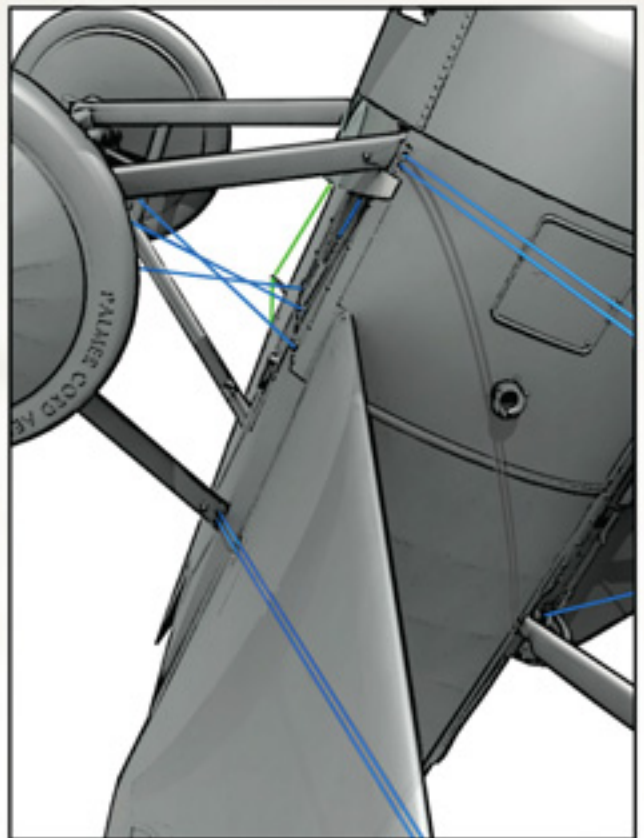
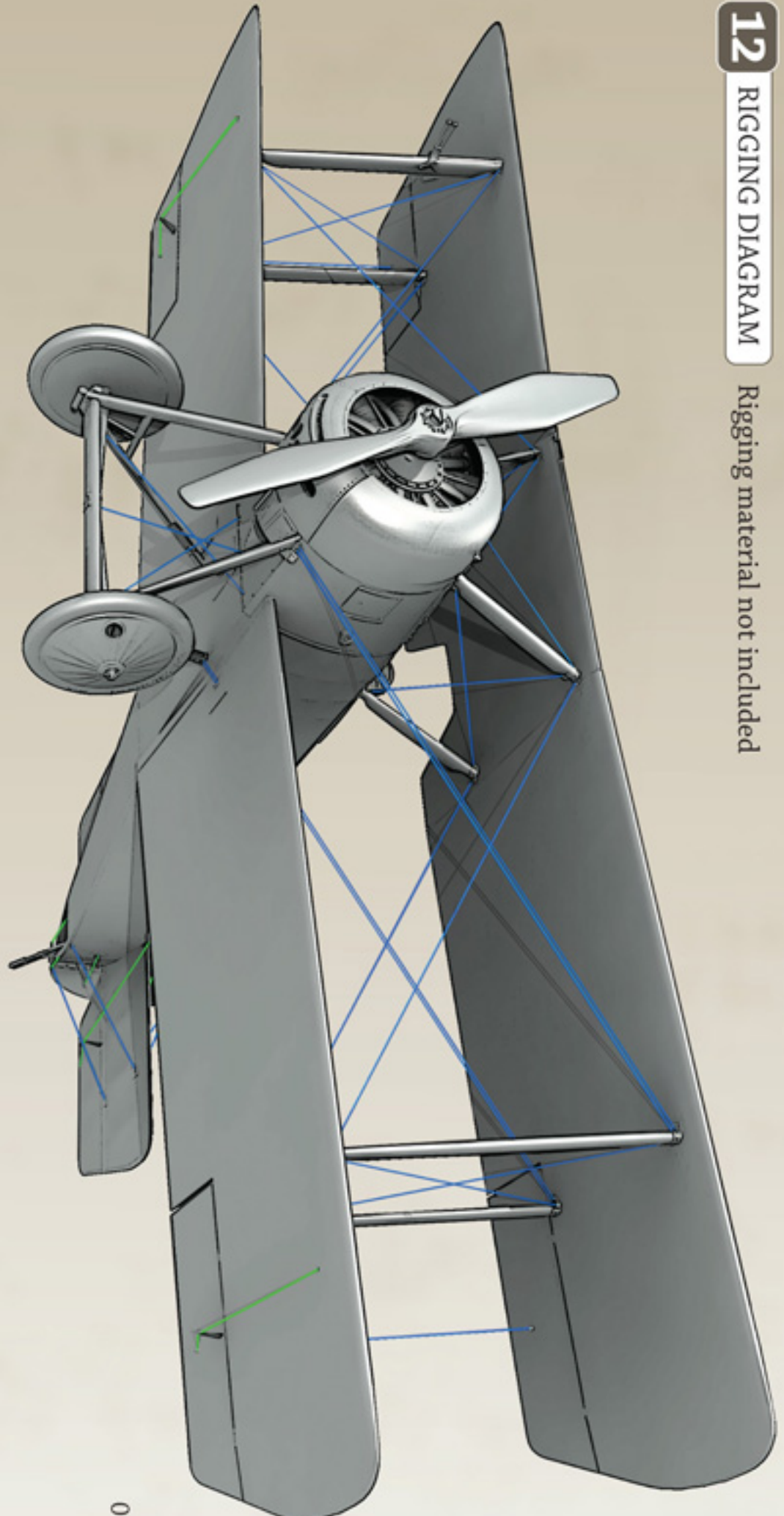
Flat faced cowling shape peculiar to Pups built by the Standard Motor Co Ltd.



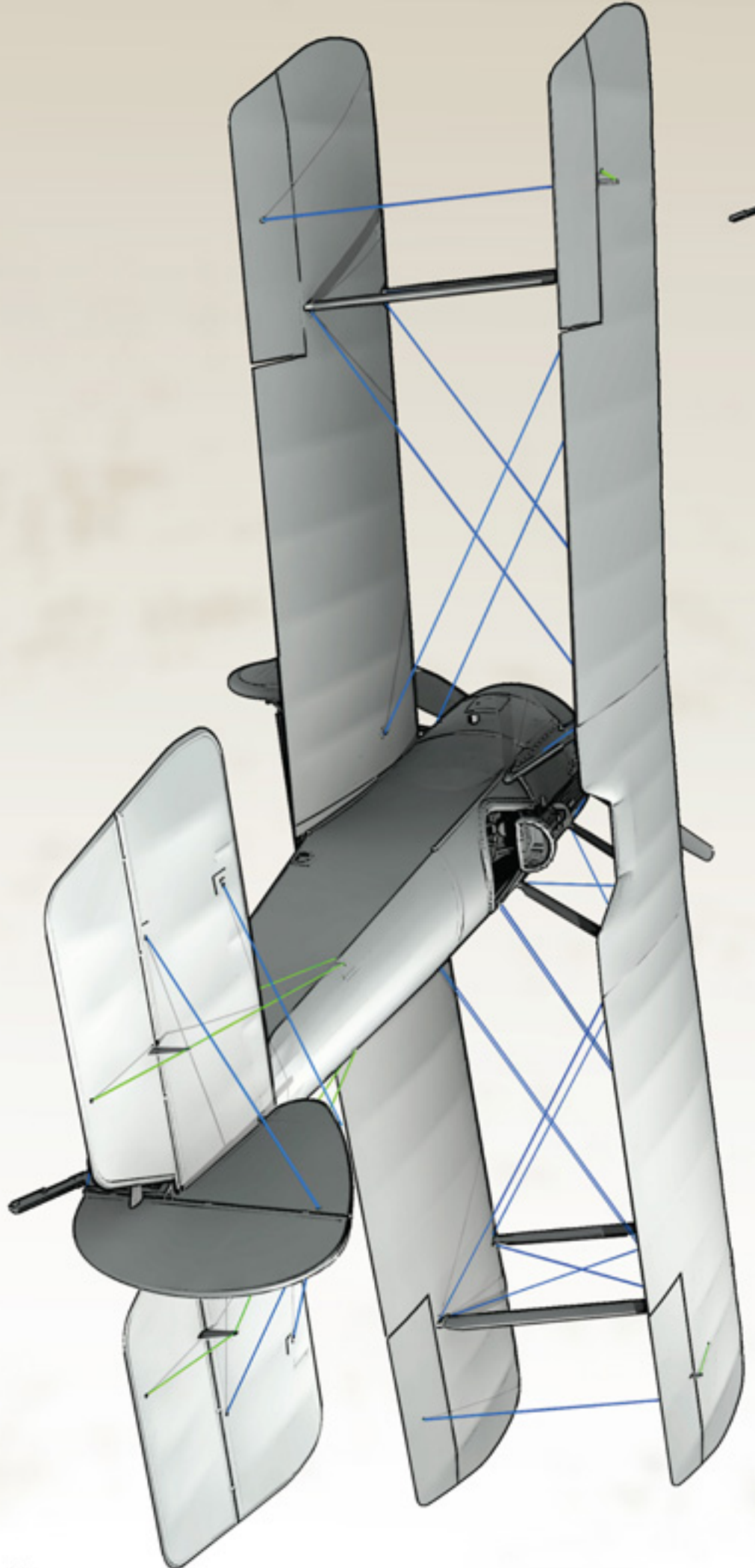
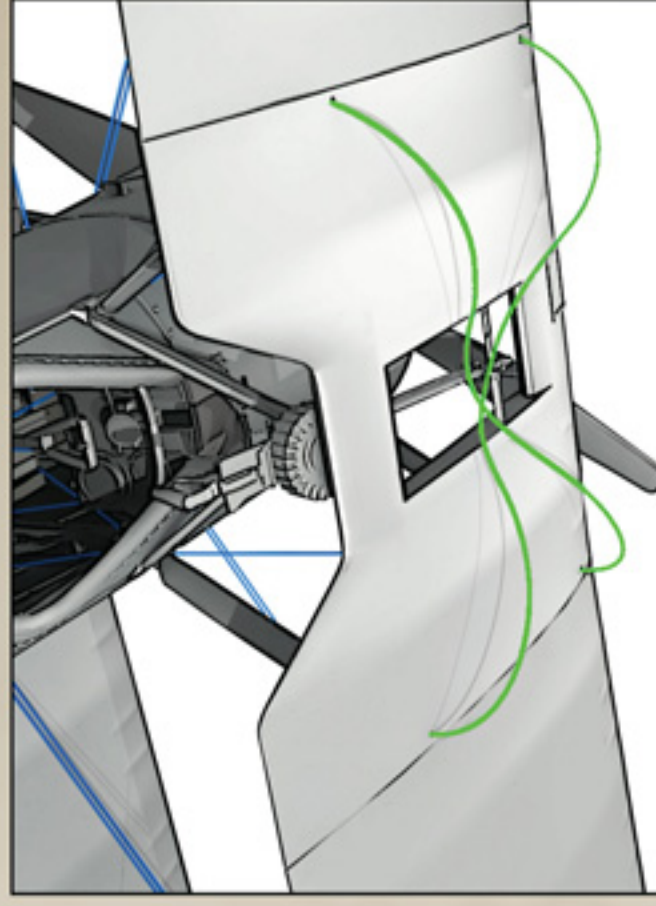
Beardmore built Type 9901a Pup N6453 pictured aboard the aircraft carrier HMS Furious on 27 August 1917. With S/Cdr Busted in the cockpit wearing rather formal headwear, the aircraft firmly (?) tied to the deck and no armament fitted it appears that N6453 is undergoing trials.

12 RIGGING DIAGRAM

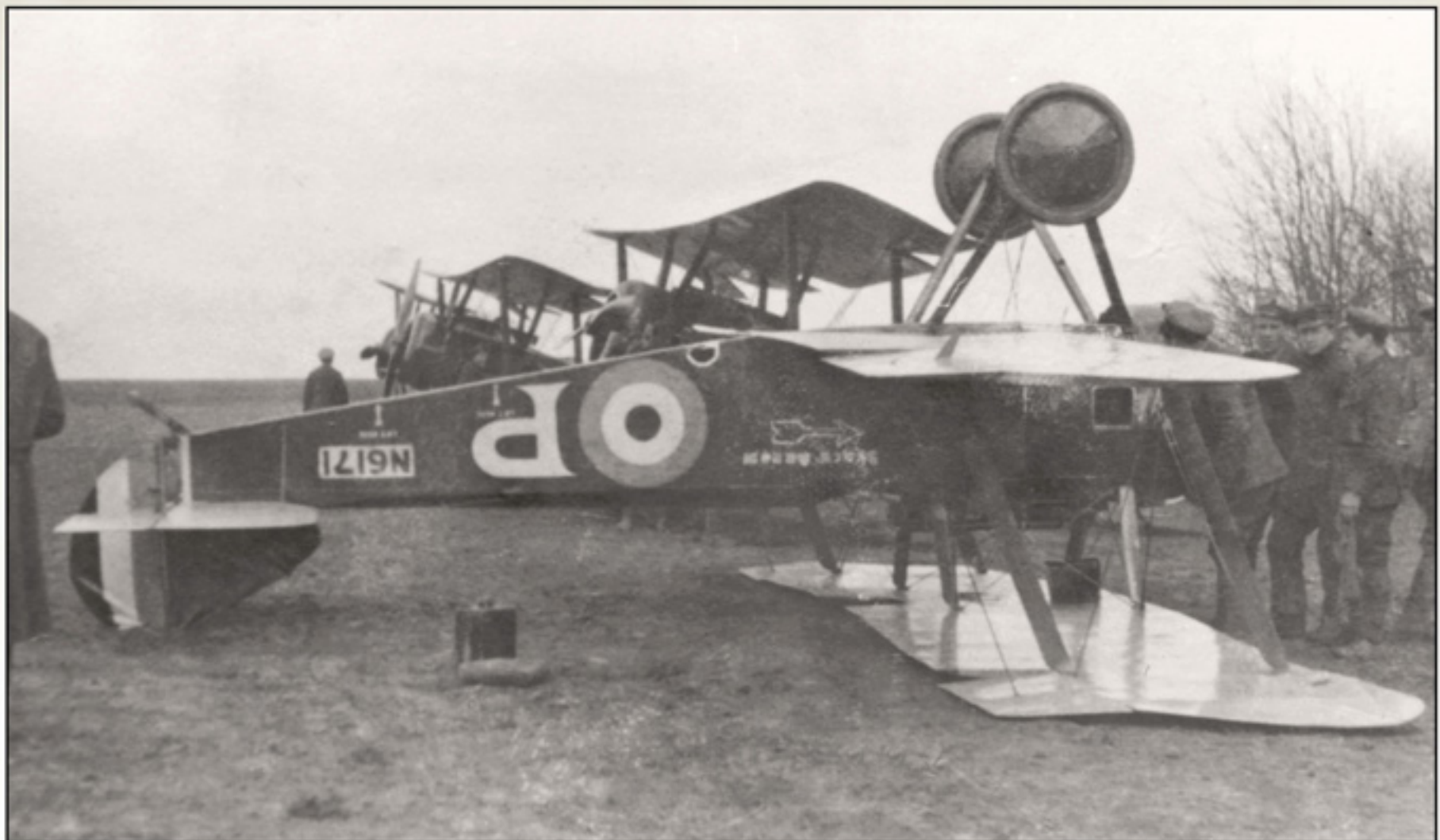
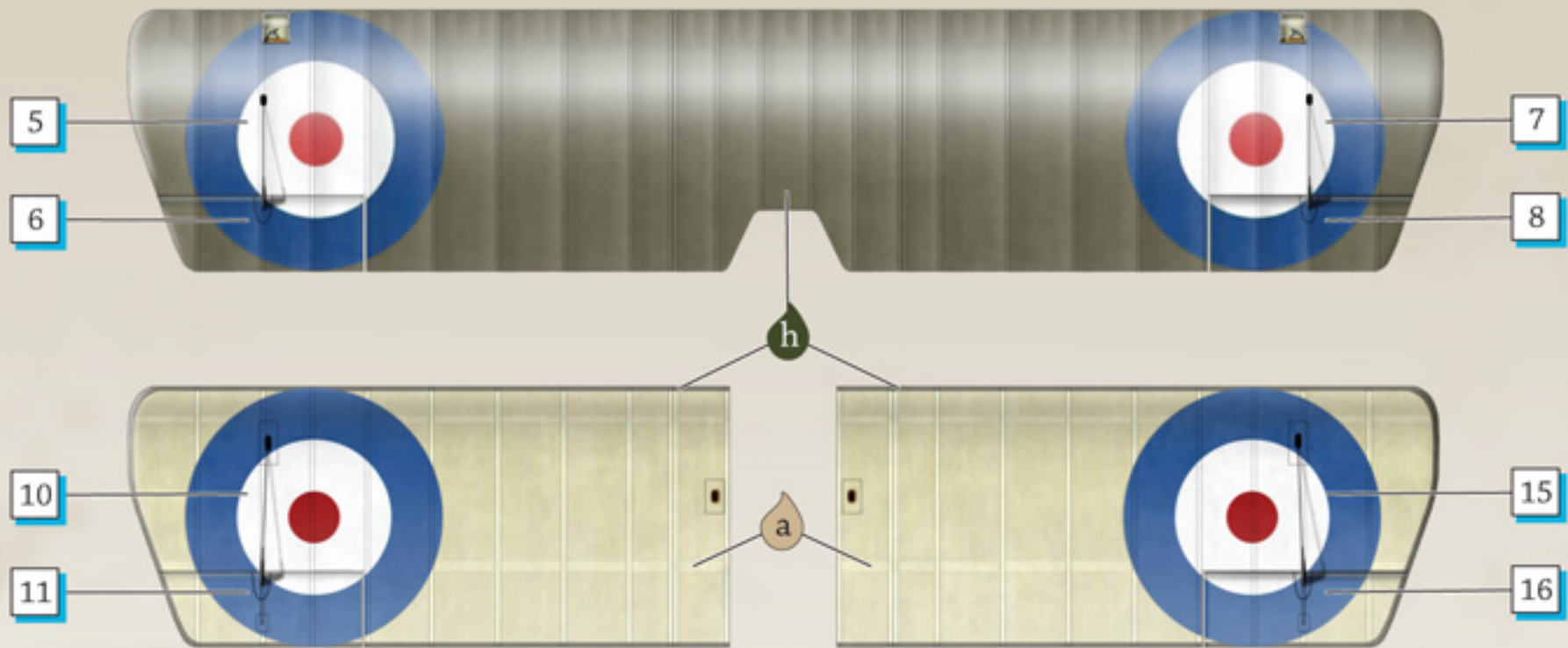
Rigging material not included



F Shipboard 9901a type only

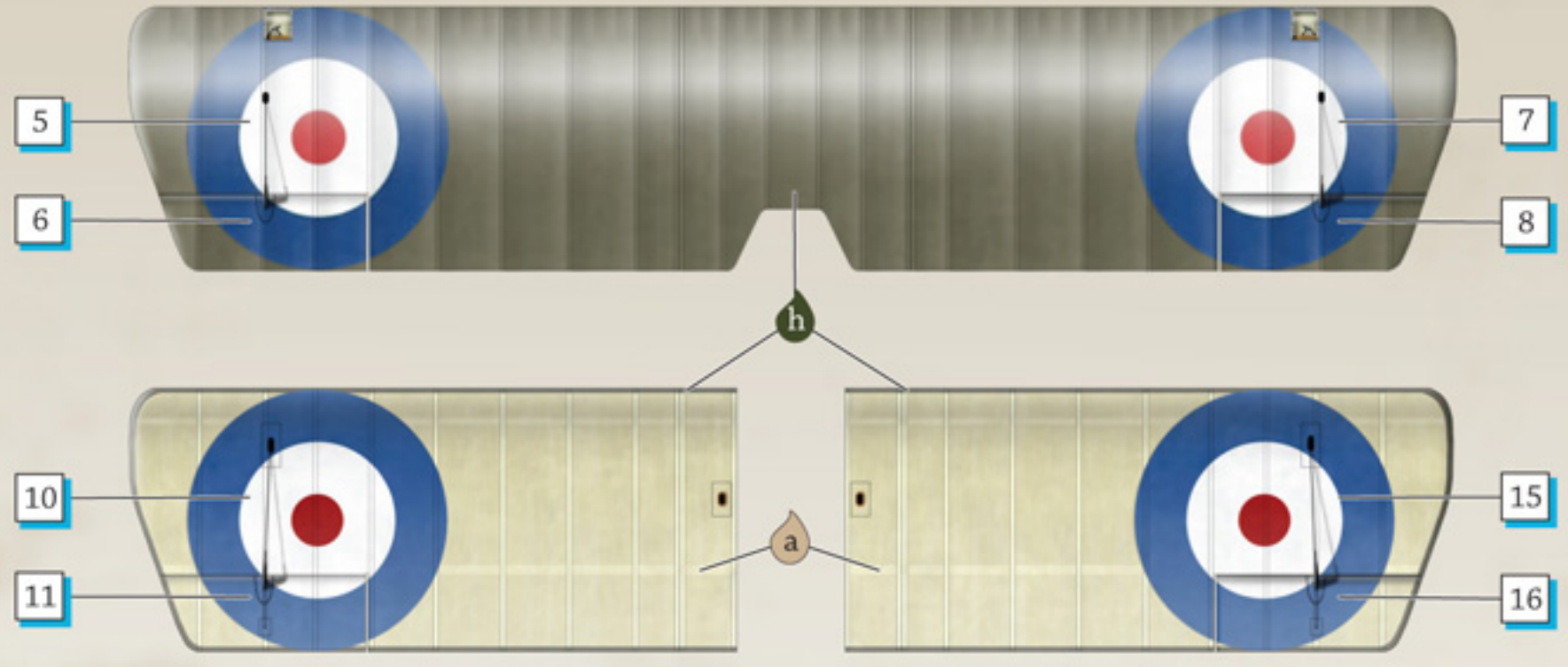


B N6171 "Black Arrow", Sopwith built, 3(N) Sqn, FSLt. Pierce, April-May 1917



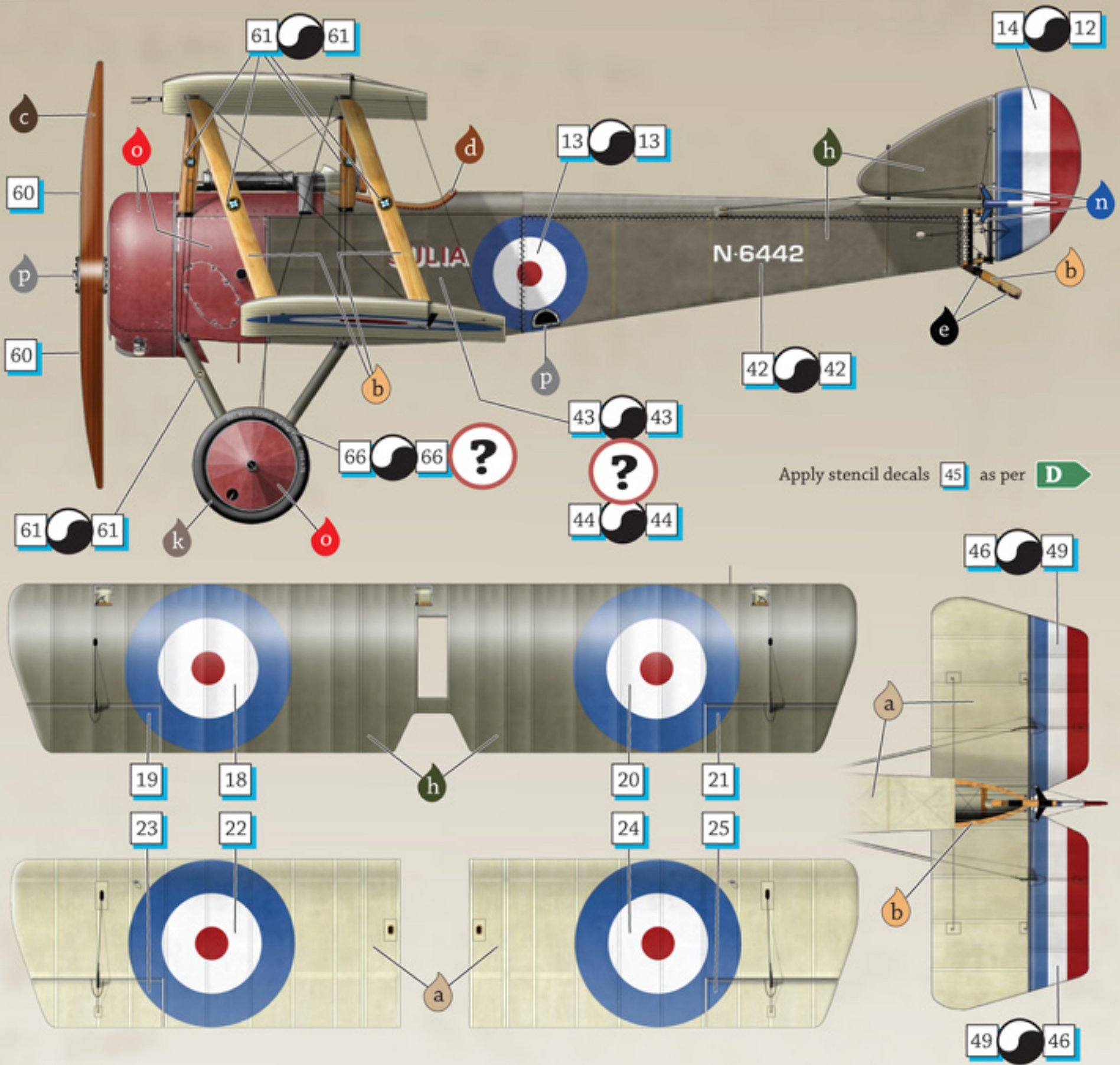
Sopwith built Type 9901 Pup N6171 "Black Arrow", pictured after being blown over by a particularly large gust of wind on 14 April 1917. Between April and May 1917 FSLt. E Pierce claimed 4 Albatros fighters in N6171 before it was damaged in a crash landing by FSLt O.C LeBoutillier on 6 May. After repair and a short stint at the Seaplane Defense Flt at St. Pol in July 1917, N6171 served out its remaining time as a training airframe.

C N6185 "ANZAC", Sopwith built, 4(N) Sqn, FSLt. C.J. Moir, April-May 1917

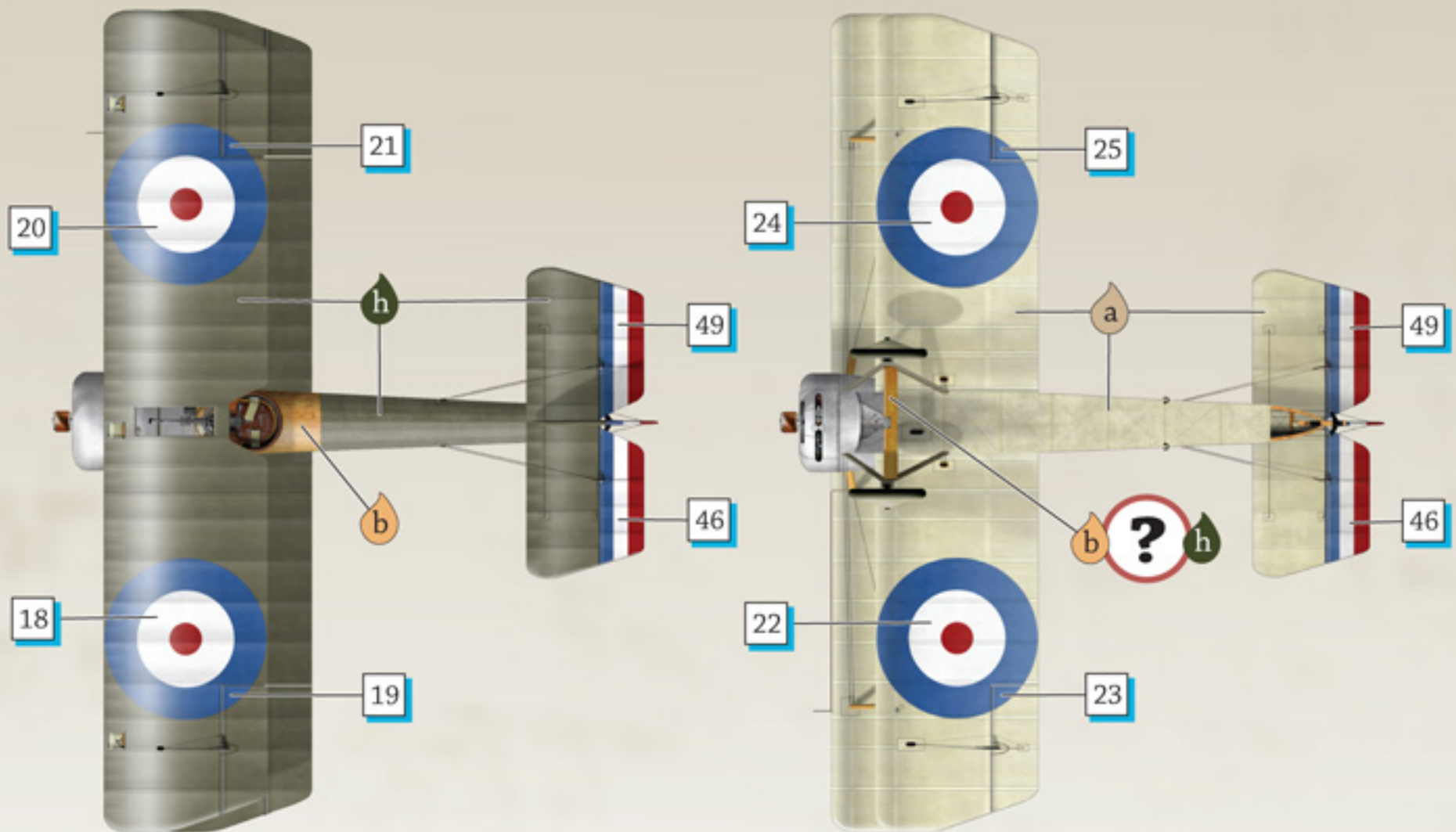
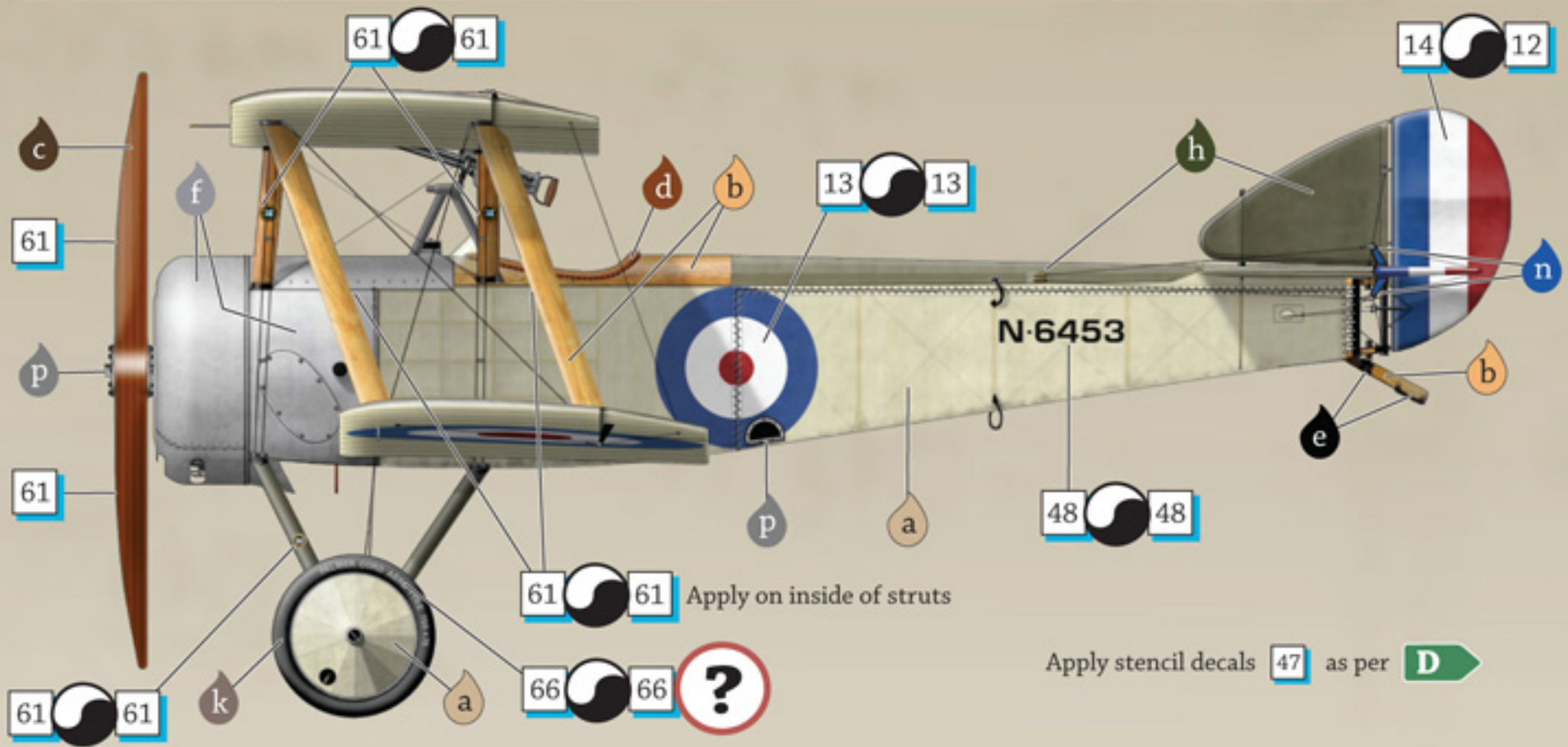


Sopwith built Type 9901 Pup N6185 'ANZAC' flown by Australian FSLt. C.J Moir of 4 (N) Sqn to claim 2 enemy aircraft in April 1917. While escorting bombers in N6185 Moir was shot down and killed near Zeebrugge on 10 May 1917. He was 21.

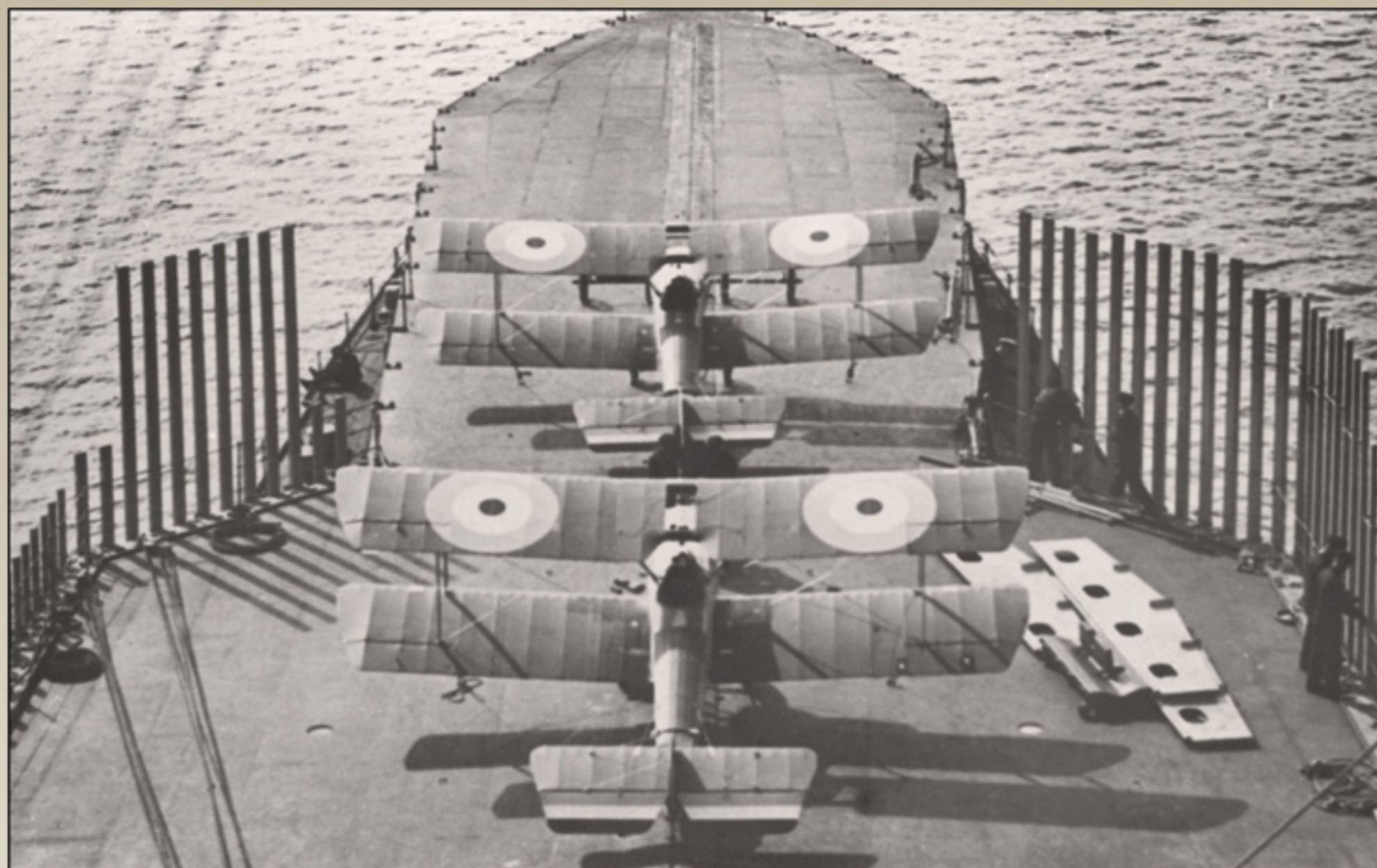
E N6442 "Julia", Beardmore built 9901a Type, Walmer Defense Flt, FSLt. J.A. Shaw, June 1917



Beardmore built Type 9901a Pup N6442 photographed while on Anti-Gotha duties at the Walmer Defense Flt in June 1917. Note the installation of a Vickers gun for Anti-Gotha duties in place of the Lewis gun more commonly fitted to 9901a Type Pups. Also note the sunlight shining through the white portion of the upper wing cockades indicating that the Proprietary Khaki was painted on afterwards. While this was not an uncommon application process it does not appear to have been adopted universally by all manufacturers.

F**N6453, Beardmore built 9901a Type, HMS Furious, S/Cdr E.H. Dunning, August 1917,
HMS Repulse, S/Cdr F.J. Rutland, October 1917**

On 1 October 1917 S/Cdr F.J. Rutland successfully flew N6453 off this platform assembled atop B turret of HMS Repulse, thereby proving the concept of shipboard mounted Pups for anti-Zeppelin patrols. The extra stitching visible on the port fuselage side of 9901a Type Pups was to aid access to the flotation bags intended to assist recovery upon ditching in the ocean. Note the heavily weathered appearance of this aircraft after just 2 months service.



Two Beardmore built Type 9901a Pups tied down to the deck of HMS Furious. Note the inboard placement of the wing cockades and how the rudder stripes are carried onto the elevators, features peculiar to Pups from this manufacturer.



3-D Modelling by Mark Miller

A background in technical illustration and long term passion for modelling and early aircraft has enabled Mark to produce some of the most stunning 3D renderings of aircraft anyone is likely to see. His artwork has appeared in numerous books and publications from Cross & Cockade, Over the Front, Schiffer and Windsock amongst others.

To see some examples of Mark's work please visit <http://www.wwi-models.org/Images/Miller/render/index.html>



Box Art by Steve Anderson

Steve Anderson is an avid historian of military aviation, with a special interest in the many beautiful biplanes and triplanes of World War I. The aircraft and battles of famous World War I aces such as Baron Manfred von Richthofen (better known as the "Red Baron"), James McCudden, Raoul Lufbery, Ernst Udet, Werner Voss, and other pioneers of dogfighting are among Steve's favorite subjects.

An Artist Fellow of the American Society of Aviation Artists, Steve creates works that reflect scrupulous attention to historically accurate detail, from the colorful markings on the fuselages to the time of day of an actual battle.

Visit Steve's website at: www.anderson-art.com.



Profile Art by Ronny Bar

Ronny Bar developed a keen interest in airplanes from an early age, living close at the El Palomar Air Force Base in Buenos Aires. He first flew in the back seat of a T-34 Mentor trainer at the age of ten, and was soon drawing airplanes and building models: Spitfires and Messerschmitt first... Camels and Fokkers later.

He became a successful bass player with a career lasting over 35 years in several Rock bands, recording ten albums (one of them being a National hit selling more than 100,000 copies) and performing countless concerts, TV shows and tours all over Argentina.

Now retired from the R'n'R scene, his interest returned to his early passion: Aviation Artwork. Visiting the WW1 aircraft collection at Hendon focused his already growing interest for that historic period. His artwork is regularly appearing in journals and publications like Windsock Worldwide, Windsock Datafiles, Cross & Cockade and Over the Front.

Visit Ronny's website at: www.ronnybarprofiles.com



Project Co-ordinator, Richard Alexander

A native of Wellington New Zealand, Richard Alexander has a long term interest in military history, race cars & local drivers from motor sports golden era of the '60's. Other interests include mountain biking, scotch and cigars.

An accomplished modeller Richard's models have twice been awarded Best Overall in Show at IPMS(NZ) National Conventions and earned him the inaugural TamiyaCon(NZ) Master Modeller award (along with the associated trip to Japan) in 2001. Many of his works are in private collections around the world, though he no longer accepts commissions.

Richard has been in the model and hobby industry since 1991 and brings with him a keen eye for detail and a passion for ensuring our models are enjoyable to build. So if there is anything you don't like about this model, you can blame him.

If you do have comments, requests or suggestions, Richard is contactable at richard@wingnutwings.com



32016	1/32 Sopwith Pup RNAS	Qty
0132013A	A parts	1
0132013B	B parts	1
0132013C	C parts	1
0132013D	D parts	1
9132016F	F parts	1
0132013P	Photo-etched metal parts	1
132E0006	E parts LeRhone 9c 80hp Engine	1
7132013	Instructions	1
9132013	Decals	1



32009 - 1/32 Albatros D.V



32013 - 1/32 Sopwith Pup RFC



32015 - 1/32 Albatros D.Va

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