

# WINGNUT WINGS



**Fokker E.III** - The legendary Fokker Eindecker, armed with a machine gun synchronized to fire through the propeller, made its 1st kill on the 1st day of August 1915. It was a 80hp Oberursel U.0 (license built 80hp Gnome) powered Fokker E.1 flown by Max Immelmann and marked the beginning of the "Fokker scourge". A 100hp Oberursel U.1 (license built 100hp Gnome Monosoupape) powered version, the E.II, was developed concurrently with the E.1 while the E.III (externally identical to late production E.IIs) followed in August 1915. From about October updated E.IIIs started appearing with internal ammunition storage and a wing mounted compass as seen in this model of Fokker E.III 635/15. The arrival of the French Nieuport 11 and British DH.2 in January-February 1916 marked the beginning of the end of the "Fokker scourge" with these two highly maneuverable aircraft effectively rendering the wing warping German monoplanes obsolete.

It appears that steel tube framework and fittings were painted in grey-green while all aluminium panels and cowls remained unpainted but were given a "turned" finish which broke up the surface reflection. Despite conventional wisdom, photographic evidence indicates that no Fokker Eindeckers were factory finished in CDL (Clear Doped Linen). Contemporary allied combat reports record Fokker Eindecker colours such as "dark brown", "grey", "straw yellow", "black" and "butcher blue" while capture reports of later production E.III 196/16 and 210/16 mention "beige" (possibly the same as "straw yellow"). It is conceivable that the "black" may refer to the painted metal cowls of a misidentified Pfalz Eindecker while the "dark brown" could be a reference to dark caster oil staining of "beige" fabric. It would appear that the linen covering was dyed, possibly before being fitted to the aircraft, or colour doped after being attached but before being finished with clear dope and varnish.

Wingspan:	Length:	Max Weight:	Max Speed:
10.05m (32.97ft)	7.25m (23.78ft)	604kg (1330lb)	150kph (94mph)
No. manufactured:	Production:	Engine:	Ceiling:
230 approximately	August 1915 - Mid 1916	100hp Oberursel U.1	Unconfirmed
Armament:			
7.92mm (0.311in) IMG 08 'Spandau' machine gun			

**DH.2** - The prototype AMC DH.2 (Aircraft Manufacturing Company de Havilland 2) first flew in June 1915 and was sent to the front for evaluation in late July where it was promptly captured by the Germans in early August. Undeterred by this not insignificant setback, development continued and full scale production began in November. This allowed 24 Sqn to be fully equipped with the DH.2 when they arrived in France during early February 1916 where they, along with squadrons equipped with the FE.2b and French Nieuport 11, began putting an end to the 6 months long "Fokker scourge". Although powered by essentially the same engine as the Fokker E.II & E.III the DH.2 was designed from the outset with maneuverability in mind and the wing warping Eindeckers proved no match in combat. It would take until July-August 1916 before the twin IMG 08 'Spandau' armed Halberstadt, Fokker and Albatros D type biplanes would regain air supremacy for the Germans. As with most early aircraft designs many improvements and changes were made to the DH.2 in the field as well as during production and 7851 features many of these details.

Early DH.2 appear to have had their nacelles, metal and wood components and struts painted grey with fabric areas remaining natural CDL. Some limited use of camouflage tinted green and/or brown varnishes appears to have been made early on along with "experimental khaki" PC8 (Protective Covering 8) before PC10 slowly began being introduced during April-May 1916. Richard Alexander 2011

Wingspan:	Length:	Max Weight:	Max Speed:
28.25ft (8.61m)	25.2ft (7.683m)	1441lb (653.8kg)	94mph (150kph)
No. manufactured:	Production:	Engine:	Ceiling:
450 approximately	Sept 1915 - Late 1916	100hp Gnome Monosoupape	14000ft (4270m)
Armament:			
0.303in (7.7mm) Lewis Mk.II machine gun			
References:			

Fokker E.III Windsock Datafile 15, PM Gross, 1989 - Fokker E.I/II Windsock Datafile 91, PM Gross, 2002 - Josef Scott - Avions Allemands Zeppelins et Moteurs, Jean Lagorgette 1917 ([www.association14-18.org](http://www.association14-18.org)) - The AMC DH.2 Windsock Datafile 48, BJ Gray, 1994 - WW1 Aero #146 1994 Cross & Cockade International Journal V20#1 1989 - The Vintage Aviator Ltd - 1914-18 Aviation Heritage Trust - Colin Owers - Private Collections

# Fokker E.III & DH.2

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 **designed and suitable** for plastic model kitssets.
- 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.

**Hints & Tips:** Please visit our website for additional photos, hints and tips to assist you in getting the best result from your Wingnut Wings model.

**1** Construction Step



Choose



Attention



Remove

**A1** Part Number



Do Not Cement



Option



Drill

**5** Decal



Cement For Metal



Other Side

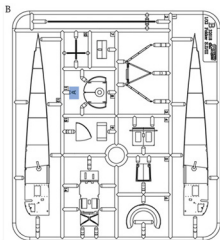
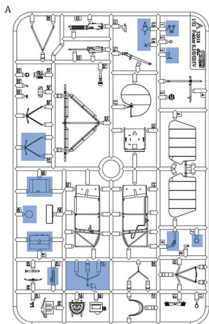


Paint Colour

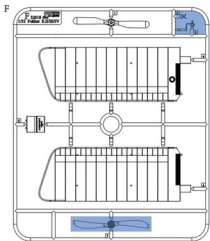
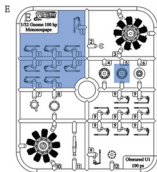
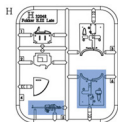
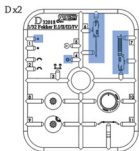
**P1** Photo Etch Part

	All colours	Tamiya	Humbrol	Misterkit
a	Brass	X31	54	
b	Copper	XF6	12	
c	Gun Metal	X10	27004	
d	Aluminium	XF16	27001	
e	Steel	XF56	27003	
f	Interior grey-green	XF76	-	
g	Fokker Beige - semi gloss	XF60	-	
h	Leather - semi gloss	XF52	62	
i	Clear Doped Linen (CDL) - semi gloss	XF55	121	BC05
j	Light rubber - matt	XF19	64	
k	PC10 early - semi gloss	XF62	155	BC03
l	Tinted Varnish Green (over <b>i</b> )	XF58(x1) + X22(x2)	-	
m	Tinted Varnish Brown (over <b>i</b> )	XF52(x1) + X22(x2)	-	
n	DH.2 Grey - matt	XF66	-	BC01
o	White - semi gloss	XF2	34	BC08
p	Black - semi gloss	X18	85	
q	Rubber - matt	XF69	66	
r	Light wood* - semi gloss	XF78	93	
s	Dark wood* - semi gloss	XF68	98	

**Note:** Apply clear varnish to achieve the desired gloss or semi-gloss finish. \*See our website hints and tips for painting wood.



■ = Not Used



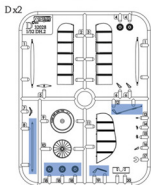
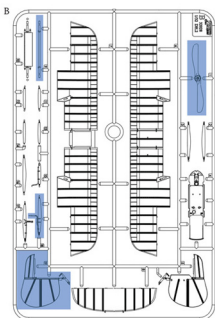
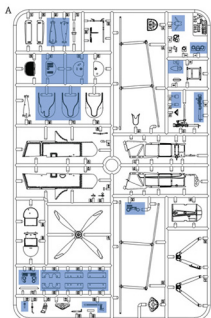
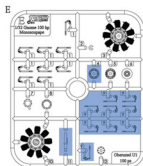
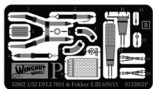
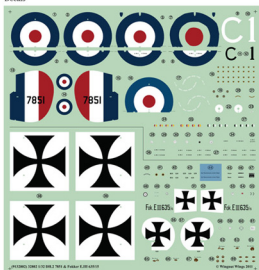


Photo Etch - both kitsets



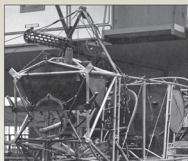
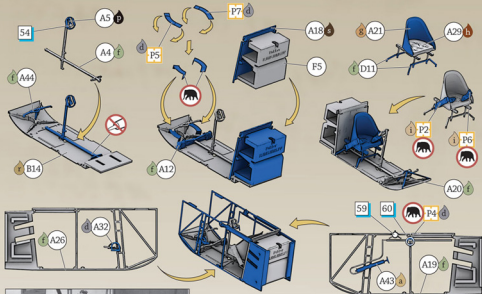
■ = Not Used

Decals



# 1 COCKPIT

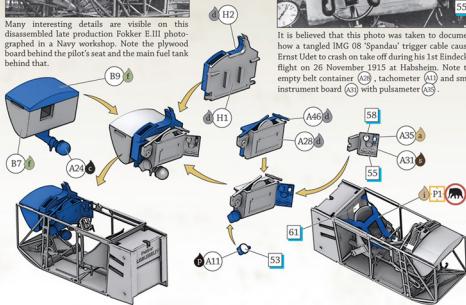
## Fokker E.III 635/15



Many interesting details are visible on this disassembled late production Fokker E.III photographed in a Navy workshop. Note the plywood board behind the pilot's seat and the main fuel tank behind that.



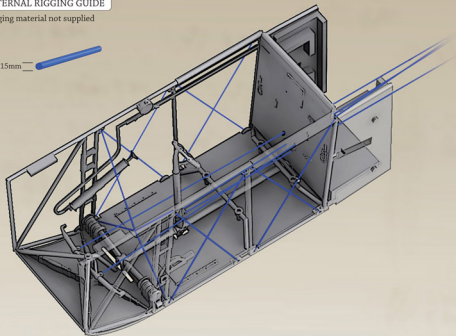
It is believed that this photo was taken to document how a tangled IMG 08 'Spandau' trigger cable caused Ernst Udet to crash on take off during his 1st Eindecker flight on 26 November 1915 at Habsheim. Note the empty belt container (A28), tachometer (A11) and small instrument board (A31) with pulsometer (A35).



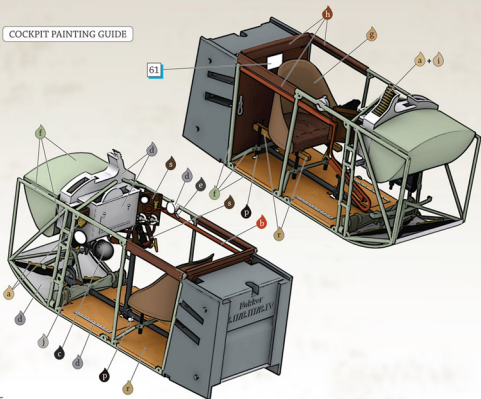
## INTERNAL RIGGING GUIDE

Rigging material not supplied

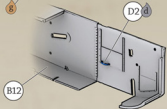
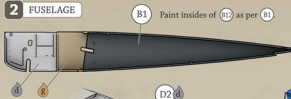
0.15mm



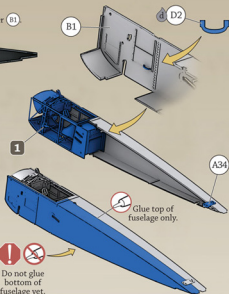
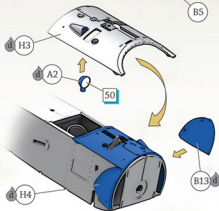
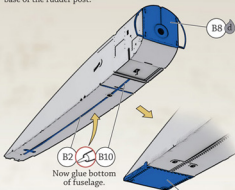
## COCKPIT PAINTING GUIDE



## 2 FUSELAGE



Rudder and elevator control cable outlet detail from an unidentified crashed Fokker E.III. Note the leather(?) reinforcing patches and small Fokker work number at the base of the rudder post.

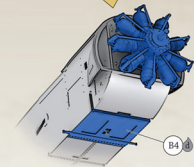
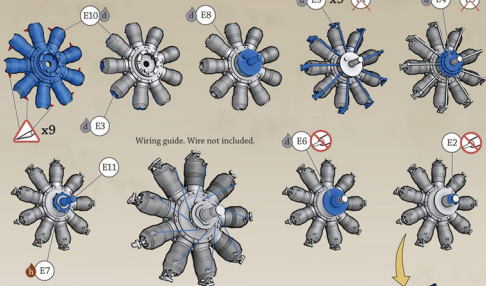


This crashed Fokker, believed to be an E.I, displays the fabric stitching at the rear of the fuselage typical of all Fokker Eindeckers. Note that the fuselage, stitching and elevator control cable outlets have been overpainted with a light colour, possibly light blue, while the elevators remain 'beige' or 'grey'.

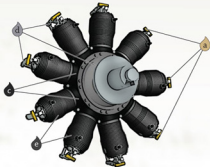
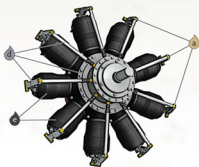


Cockpit coaming detail from Fokker E.III 635/15 showing IMG 08 'Spandau' with internal magazine ammunition feed chute (H1) & (H2), windscreen, compass and shoulder straps of the pilot's 4 point safety harness.

### 3 100hp OBERURSEL U.1 ENGINE



A smiling pilot poses with Fokker E.III 408/15 (possibly wN388N). Note the air deflector shield (A3), wing warping control horns (A5) positioned at 'neutral' and pale painted undercarriage struts. The manufacturer's data plate arrangement shown here is not appropriate for Fokker E.III 635/15 which is as per decal 47.

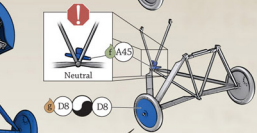
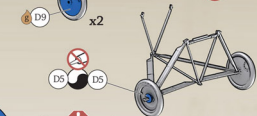
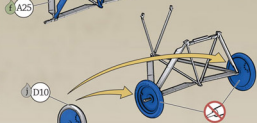
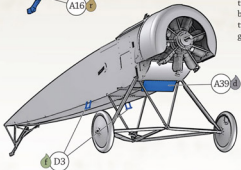




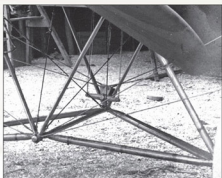
#### 4 UNDERCARRIAGE



Undercarriage detail from Fokker E.III 635/15 showing strut fairings and rigging details.

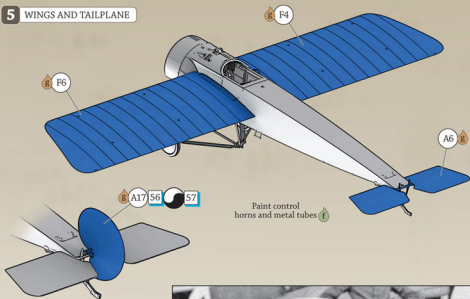


Wheel and tyre detail from the same Fokker E.III shown on page 4 showing the 'Innen' stencil [45] and inner tube access flap detail. Many, but not all, German WW1 tyres were made from light grey rubber as shown here.



> Undercarriage detail and wing warping cable rigging detail from a Fokker E.IV thought to be 638/15. Although this is a Fokker E.IV the details shown here are pertinent for the Fokker E.III.

## 5 WINGS AND TAILPLANE



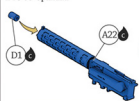
> Rudder and elevator detail from Fokker E.III 635/15 showing control horn details and the small area of linen not painted white. It was in this area that the Fokker work number 43 was often stenciled. Misinterpretation of period photos has lead some historians to mistakenly believe that this area was sometimes cut away to improve ground clearance.



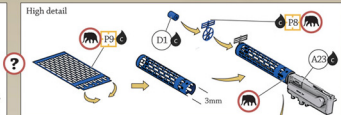
A nice rear view of an unidentified late model Fokker E.III. The eisernkruz on the wing and rudder are similar to that seen on 635/15 but the fuselage cross is not. It appears to have a Germania propeller fitted.

## 6 COCKPIT COAMING

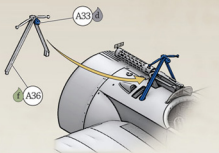
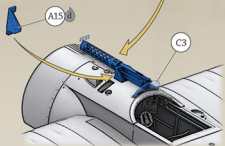
IMG 08 'Spandau'



High detail

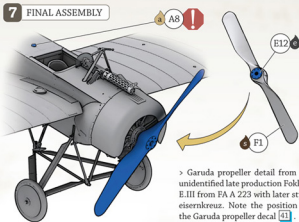


Cockpit coaming detail from an unidentified late production Fokker E.III similar to 635/15. Note the empty belt deflector (A15) beside the 'IMG 08 'Spandau' and opening above the internal magazine immediately aft of the fuel gauge (A2 + 50). The wings and upper surface of the fuselage appear to have been painted, dyed or stained a darker camouflage colour than the sides of the fuselage.



< Cabane strut, turnbuckle and wing warping control cable pulley (A33) detail from a Fokker E.IV prototype (believed to be 122/15). Although the dark cabane struts are not typical, the pulley and wing warping cable details are the same as for the E.III.

## 7 FINAL ASSEMBLY

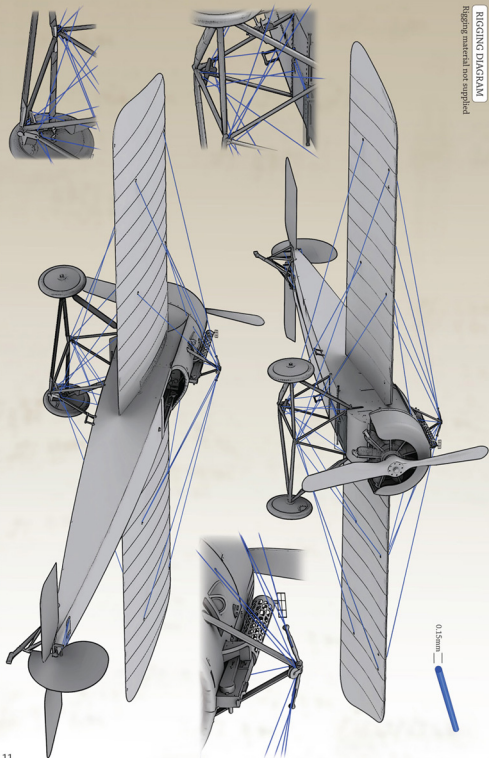


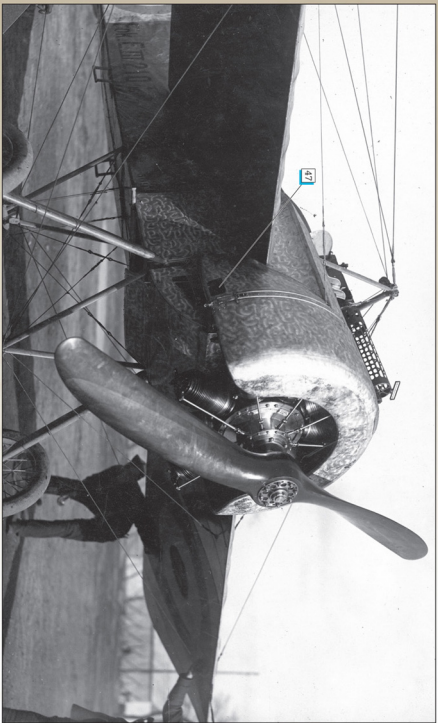
> Garuda propeller detail from an unidentified late production Fokker E.III from FA A 223 with later style eisernkreuz. Note the position of the Garuda propeller decal 41.



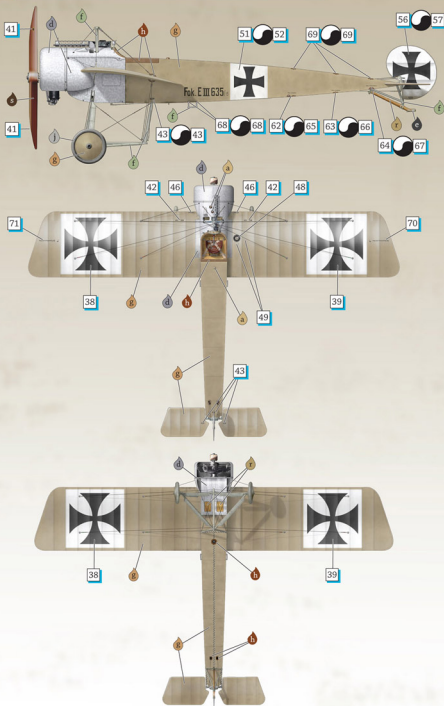
**RIGGING DIAGRAM**

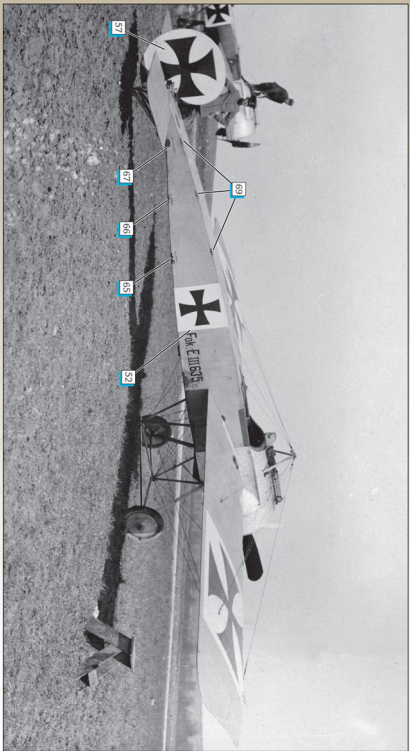
Rigging material not supplied





Late production Fokker E.III 210/16 (wms509) was 1 week old when it's last German pilot handed behind British lines on 6 April 1916. It is seen here after having RPC cockades painted over the top of later style Eisenkruuz. The opacity of the wings is notable in all Fokker Eindecker photos known to us except one, which shows replacement Clear Dogged Linen (CDL) covered wings fitted to Austro-Hungarian Fokker A.III 03.53 (ex-E.1 65/15), reinforcing our position that no Fokker Eindeckers were factory finished in Clear Dogged Linen. Note the distinctive Fokker "turned" pattern applied to all aluminium panels. Please visit [www.wrlgputwings.com](http://www.wrlgputwings.com) hints and tips for ideas about how to replicate this finish on your model.

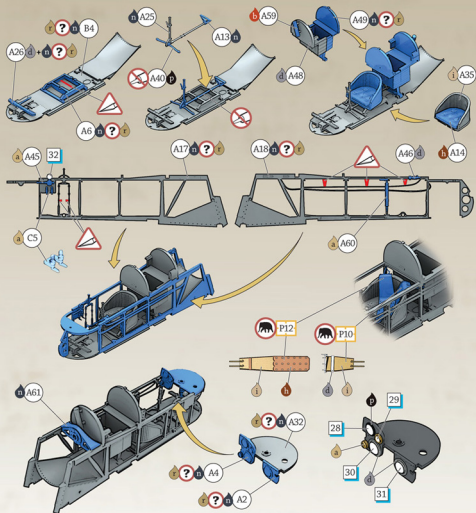
**A** Fokker E.III 635/15, Kampfeinsatzkommando (KeK) Vaux, Somme 1916




Fokker E.III 635/15 was ordered in December 1915 and is seen here in an apparently brand new condition, possibly at Kampf-Einsatz-Kommando (KeK) Vaux on the Somme, in early to mid 1916. By this time the superiority of the Eindecker was waning due to the arrival of British and French dedicated fighting scouts like the highly manoeuvrable Nieuport 11 and DH.2, both of which were more than a match for the German wing warping machines. The full history of Fokker E.III 635/15 is not known so it is impossible to prove that it and DH.2 7851 ever actually met in combat, although it is entirely plausible that they could have at some time because Kok Vaux and 32 Sqn operated in the same vicinity during 1916. Fokker E.III 635/15 has early eisenherrenz on its wings and rudder but, as was common at the time, the fuselage cross has been applied at unit level and is of a different style. While Fokker E.III 635/15 appears to be finished in relatively stain free "Beige" fabric, the E.III in the background is decidedly darker and most likely features a grey finish with dark castor oil staining visible on the bottom half of the fuselage which has soaked through from the inside, behind the outer layers of clear dope, varnish and white fuselage eisenherrenz background.

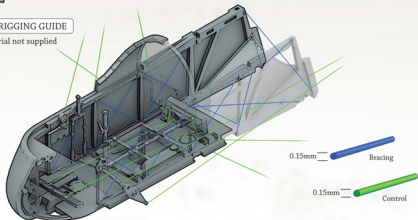
# 8 COCKPIT

DH.2 7851



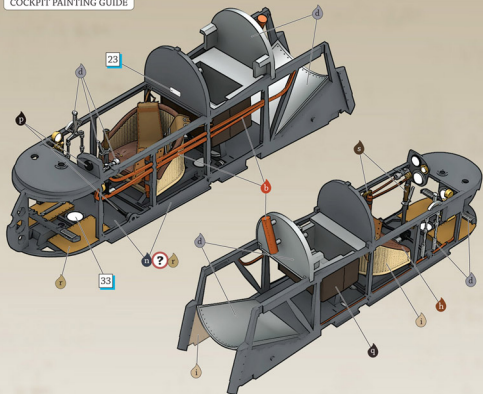
## INTERNAL RIGGING GUIDE

Rigging material not supplied

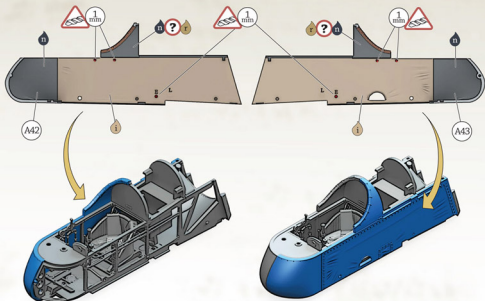




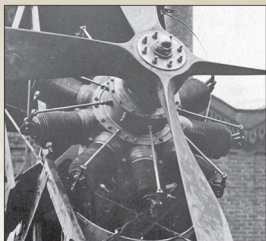
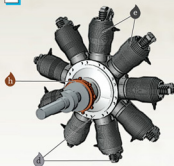
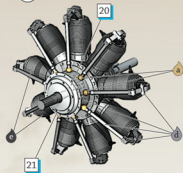
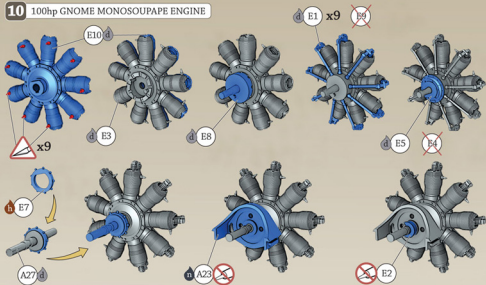
COCKPIT PAINTING GUIDE



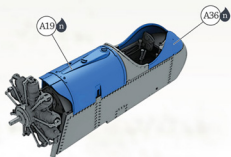
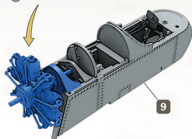
9 NACELLE



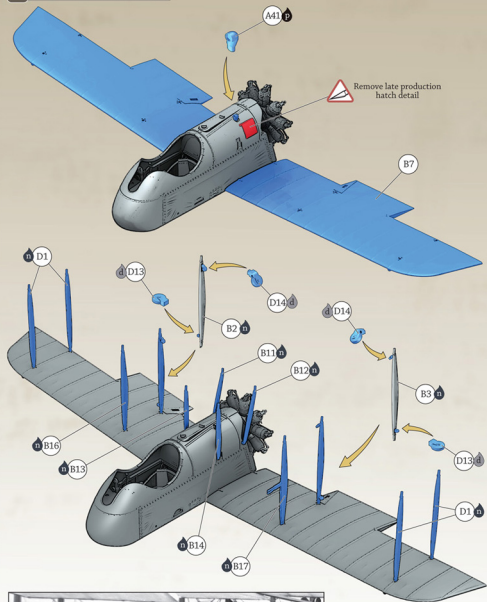
# 10 100hp GNOME MONOSOUPE ENGINE



100hp Gnome Monosoupe engine detail from captured 24 Sqn DH.2 A2542. Note the engine dataplate and 4 blade propeller (A47) details.

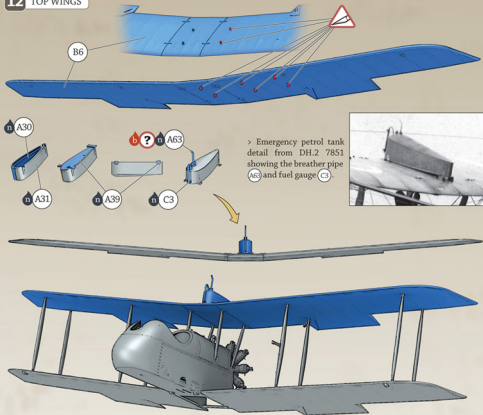


## 11 BOTTOM WINGS AND STRUTS



Nacelle and wing detail from DH.2 7851. Note the air intake scoop (A41) pitot tube (B17) and rudder and elevator control cable pulleys (D13) and (D14). The wing struts and pitot tube have been overpainted with the same grey colour.

## 12 TOP WINGS



Please visit [www.wingnutwings.com](http://www.wingnutwings.com) hints and tips for a simple wing alignment jig idea.

1916

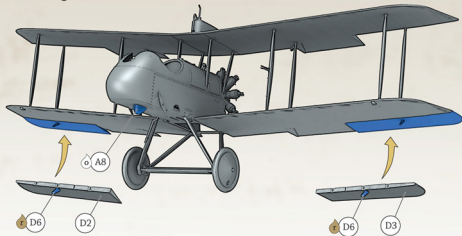
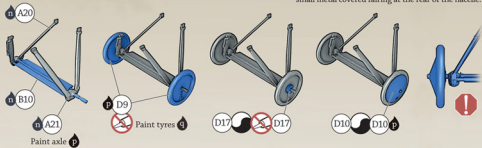
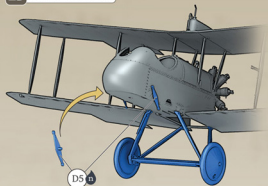


When newly delivered to 32 Sqn, DH2 7851 would have been equipped with twin 47 round Lewis magazine holders and finished in overall CDL fabric areas. The nacelle metal and wood areas would have been finished in grey paint along with the tail booms, undercarriage and wing struts (which would have initially had AMC decals [18] applied). By the time these photographs were taken 7851 was in a very well used state and now has single 97 round Lewis magazine holders. Note the black and white 32 Sqn "C" flight wheel markings.

### 13 UNDERCARRIAGE

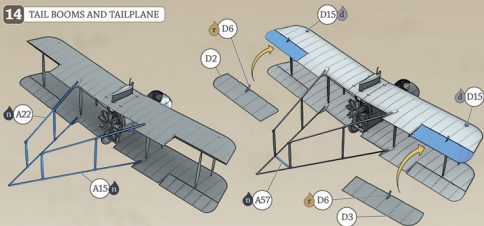


Undercarriage detail from DH.2 7851 showing 32 Sqn C flight wheel markings, axle streamlining (B10), and small metal covered fairing at the rear of the nacelle.



Another view of the undercarriage from DH.2 7851 showing some interesting details such as the compass fairing (A8) under the nacelle, crudely painted cockade (7 & 8) under the port bottom wing which is a replacement upper wing from another DH.2. Note the different style of stencil (35) on this replacement wing.

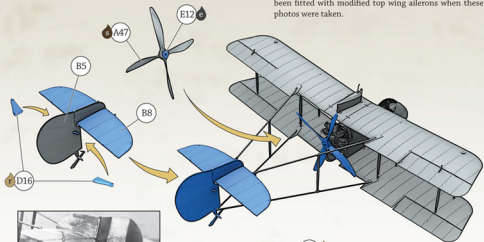
## 14 TAIL BOOMS AND TAILPLANE



Tail boom rigging detail. While most wing and tailplane rigging is RAF section the tail booms of 7851 appear to have been rigged with round cable, although many other DH.2 tail booms were rigged with RAF section wire.



Port upper aileron detail showing late style cable return (D6 & D15). On many DH.2 the ailerons were trued to droop 1" (25mm) for port and 2" (50mm) for starboard (measured at the trailing edge) to counteract the torque of the rotating engine. It is possible that 7851 may have been fitted with modified top wing ailerons when these photos were taken.

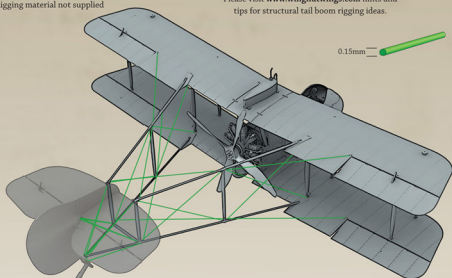


Tailplane and rudder detail showing extensive camouflaged paint and exhaust staining which has all but removed the camouflaged 'paint' from the fin. Note the tail skid and elevator control horn details.

## TAIL BOOM RIGGING GUIDE

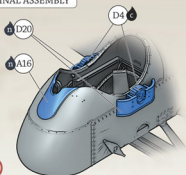
Rigging material not supplied

Please visit [www.wingnutwings.com](http://www.wingnutwings.com) hints and tips for structural tail boom rigging ideas.

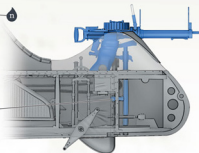
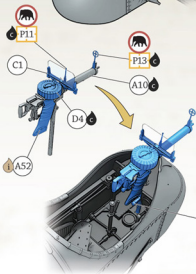


### 15 FINAL ASSEMBLY

24 ? 25 ? 26 ? 27

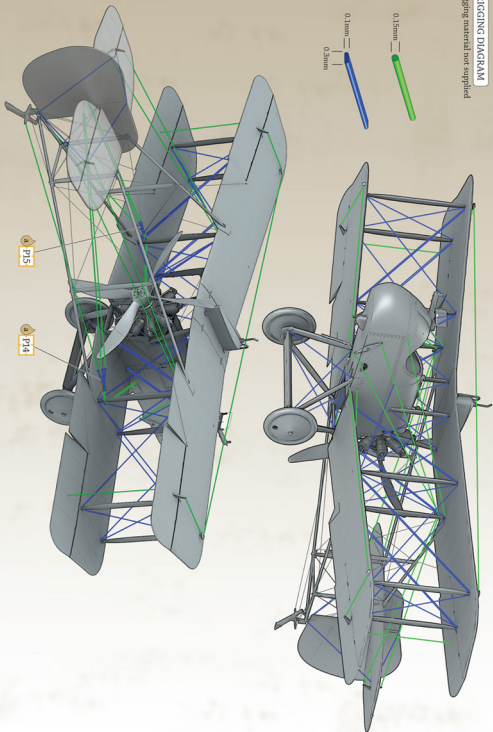


Nacelle detail showing Lewis Mk.II, aluminium nosing, front cowl and external Lewis magazine storage (D20) for 97 round drums (D4).

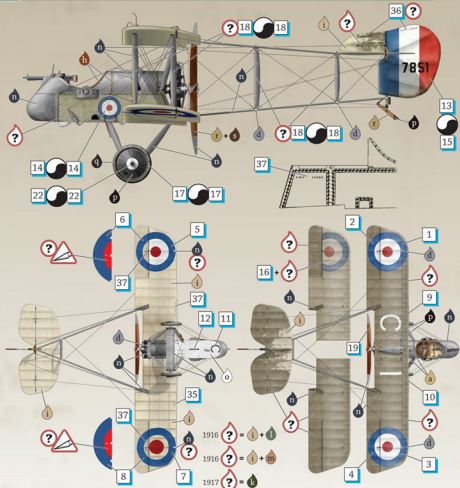


## RIGGING DIAGRAM

Rigging material not supplied









**B DH.2 7851, C flight, 32 Sqn, WGS Curphey (6 victories), mid-late 1916 & EGS Wagner, January 1917**


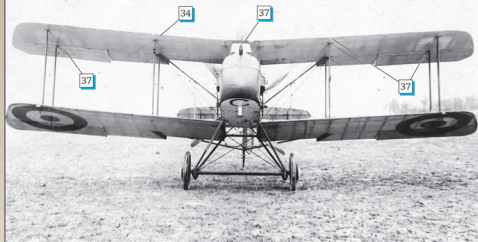
DH.2 7851 was from the 2nd production batch ordered in March 1916 and was possibly on strength at 32 Sqn when they, along with WGS Curphey, arrived in France at the end of May. William George Seller "Growler" Curphey enlisted in 1914 and served in the Royal Berkshire Rgt before transferring to the RFC in 1916. He scored his first victory over a German two-seater sent down "out of control" in DH.2 7851 on 22 August 1916 during the battle of the Somme. He would score 5 more victories before he was shot down in flames in DH.2 A2622 by Franz Walz of Jasta "Boelcke" on 14 May 1917. William died in a German field hospital the following day aged 22.



Ethelbert Godwin Stockwell Wagner served in the Royal Warwickshire Rgt before transferring to the RFC. He was flying DH.2 7851 when he was lost in action on 7 January 1917 following combat with the superior Albatros D.II (or D.1) of Jasta Boelcke's Erwin Bohme. The fate of 2Lt EGS Wagner has been noted as "killed as a POW", although the photo believed to depict the wreckage of 7851 shown here would tend to indicate that he was killed in action. Godwin, as he was known, was 23. It would appear that by January 1917 all upper surfaces had received a fresh coat of PC10 (k), albeit applied roughly around the well weathered cockade.



The transparent nature of the fabric upper surface finish and worn nacelle sides of DH.2 7851 are indicative of having been camouflaged with a tinted varnish  or  rather than PC10  (which is opaque). The replacement port lower wing is significantly more transparent than the other wing panels and ailerons (as can be seen on page 26) which may indicate that this panel was finished with a different tinted varnish from the others. It would appear that by January 1917 all upper surfaces had been over painted with PC10 .



Note the crudely painted port bottom wing cockade **5** and how much more translucent this wing is compared to the other wing panels. The bottom of the nacelle is finished in white with the flight number "C1" **11** + **12** painted in black.



#### 3-D Modelling by Jason McAdam

From a very early age Jason has embraced his creative side, whether it be through drawing or modelling. This creative nature was strongly grafted with a passion for transportation design, whether it be by land, air or sea.

Having graduated with an honours degree in Industrial Design Jason has gone on to develop his skills further in his design work with Weta Digital. While at Weta, Jason has continued to push the boundaries of software technologies and applications, with a keen eye for detail. This passion for design comes hand in hand with a love of sport and recreation, with motorbike riding being among the more popular of past times.



#### 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](http://www.anderson-art.com).



#### Profile Art by Ronny Bar

Ronny Bar developed a keen interest in airplanes from an early age, living close to 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 WWI 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](http://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@wingnutswings.com](mailto:richard@wingnutswings.com)



32802	1/32 Fokker E.III & DH.2	Qty
0132018A	A parts Fokker E.III	1
0132018B	B parts Fokker E.III	1
0132018C	C parts Fokker E.III	1
0132018D	D parts Fokker E.III	2
0132018F	F parts Fokker E.III	1
0132018H	H parts Fokker E.III	1
0132028A	A parts DH.2	1
0132028B	B parts DH.2	1
0132028C	C parts DH.2	1
0132028D	D parts DH.2	2
132E0011	100hp Gnome/Oberursel engine	2
0132802P	Photo-etched metal parts	1
7132802	Instructions	1
9132802	Decals	1
9132018b	Decals	1

If you have any damaged or missing parts please contact [help@wingnutwings.com](mailto:help@wingnutwings.com) for assistance.



32014 - 1/32 FE.2b Early



32013 - 1/32 Sopwith Pup RFC



32023 - 1/32 Rumpler C.IV Early

Also available from  
[www.wingnutwings.com](http://www.wingnutwings.com)

©2012 Wingnut Wings Ltd. PO Box 15-319 Miramar, Wellington 6022 New Zealand.  
 All rights reserved. Designed in New Zealand - Manufactured in China.