

WINGNUT WINGS



AMC DH.2 "Lanoe Hawker"

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 February 1916 where they, along with squadrons equipped with the FE 2b and French Nieuport 11, began putting an end to the 6 month long "Fokker scourge". Although powered by essentially the same 100hp 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 160hp Albatros D.1 and D.II biplanes would regain air supremacy for the Germans. By June-July 1917 the DH.2 had been replaced in front line service by the Nieuport 17 and DH.5, although they continued to serve in the Middle East well into 1918.

Early production DH.2 arrived with an impracticable flexible "wobbly" Lewis gun mount, 2 bladed propeller, bungee or spring type aileron returns and had the 5 gallon emergency petrol tank fixed under the top wing center section. Other identifying features of early production aircraft are the small fairings at the rear of the nacelle, external magazine storage for 4x 47 round magazines, a single tube pitot head and the rudder control cable pulleys positioned slightly further forward in the nacelle. Like all new aircraft many unofficial and official changes would take place in service, some of which are noted here; the position of the emergency petrol tank directly above the hot engine was not thought to be ideal so it migrated to various positions on the top wing. Problems with the bottom longerons cracking lead to small inspection flaps being added just above the front undercarriage strut, the "wobbly" Lewis gun mount was fixed to fire straight ahead and the capacity of the main petrol tank was increased. The instrument board layout could vary considerably as did, surprisingly, the front cowl. A 4 bladed propeller developed for another single seat pusher, the FE.8, was introduced in the middle of 1916 and improved performance. Any history of this aircraft here is of necessity very brief, therefore we encourage you to seek out the references mentioned below for a more thorough understanding of this interesting aircraft.

Arriving early in the war at a time when camouflage was only just being introduced, the DH.2 features many interesting colour scheme possibilities. Early DH.2 appear to have had their nacelles, metal and wood components and struts painted grey with fabric areas remaining clear doped Irish Linen. The desire to camouflage aircraft lead to "emergency" applications of varnish tinted with liquid or ground pigments which were quite transparent, although slightly less so for the ground pigment versions, and ranged in colour from approximately FS14097 to 24098 for green and FS30118 to 20122 for the brown (Ian Huntley writing in Scale Models). While offering some protection from prying eyes these dyed varnishes offered no protection from the sun's harmful rays and a line of opaque Protective Covering (PC) dopes were developed, the most infamous of which, PC10, was slowly introduced from April-May 1916. Prior to the introduction of PC10 it appears that "experimental khaki" PC8 saw limited use and was, reportedly, a light brown similar to FS10266. Many aircraft exhibit evidence of being camouflaged with tinted green and/or brown varnishes and some may have received a coat of PCB before PC10 was available in large quantities. Lanoe Hawker's long serving DH.2 5964 would certainly have received a field application of PC10 on all upper nacelle, wing and tail surfaces. All wood and almost all metal parts were painted grey and metal parts which were not grey appear to have initially been finished in black, although many were later overpainted in service. Everything behind the propeller would get liberally coated with castor oil & exhaust staining after just a few minutes use.

Richard Alexander 2018

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

References:

The AMC DH.2 Windsock Datafile 48, RJ Gray, 1994 - WW1 Aero #146 1994 - Cross & Cockade International Journal V20#1 1989
The Vintage Aviator Ltd - 1914-18 Aviation Heritage Trust - Hawker VC RFC Ace, Tyrrel Hawker, 1965 - Colin Owers - Private Collections

AMC DH.2 "Lanoe Hawker"

- 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 included 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. To make rigging as simple as possible we recommend using stretchy elastic type material like 'EZ Line' etc and not trying to replicate any turnbuckles.
- Painting:** Only use paints **designed and suitable** for plastic model kits.
- Decals:** Cut out each decal as required. Soak in warm water for 15 seconds. Slide off backing paper onto **gloss painted surface of model (not just clear coated plastic)**. 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	Federal Standard
a Brass	X31	54	
b Copper	XF6	12	
c Gun Metal	X10	27004	
d Aluminium	XF16	27001	
e Steel	XF56	27003	
f Red - semi gloss	XF7	60	31350
g Light Grey - matt	XF19	64	36463
h Leather - semi gloss	XF52	62	30219
i Irish Linen - semi gloss	XF55 (x1) + X2 (x10)	22 (x10) + 148 (x1)	26329
j Rubber - matt	XF69	66	35042
k PC10 - matt	XF62 (x2) + XF10 (x1)	-	36160
l Light Wood* - semi gloss	XF78	93	30340
m Dark Wood* - semi gloss	XF68	98	30111
n Grey - matt	XF66	87	35237
o White - semi gloss	XF2	34	
p Black - semi gloss	X18	85	

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

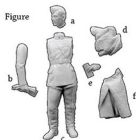
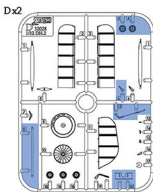
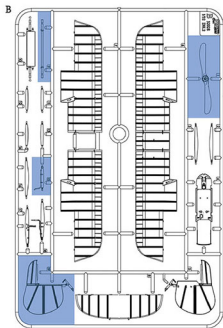
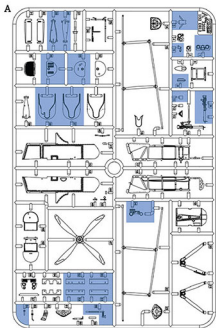
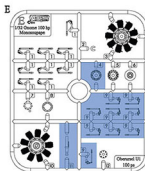


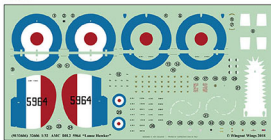
Photo Etch



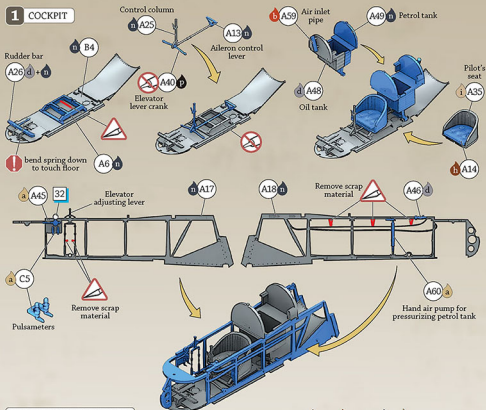
■ = Not Used



Decals

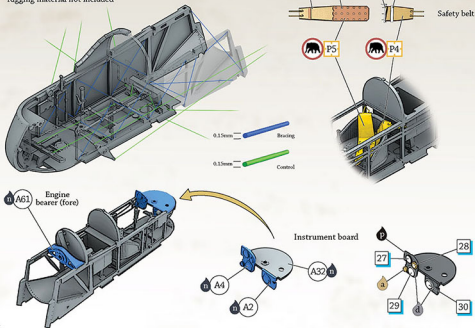


1 COCKPIT

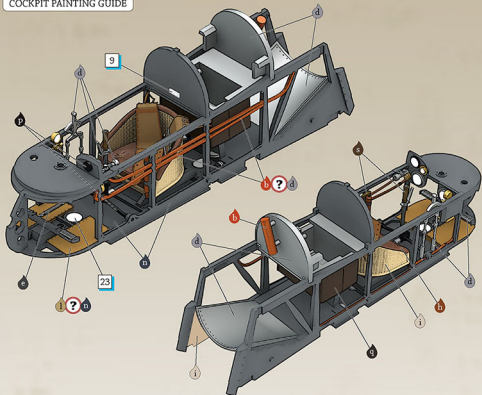


INTERNAL RIGGING GUIDE

Rigging material not included

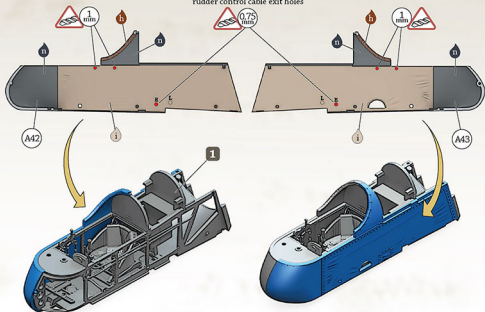


COCKPIT PAINTING GUIDE

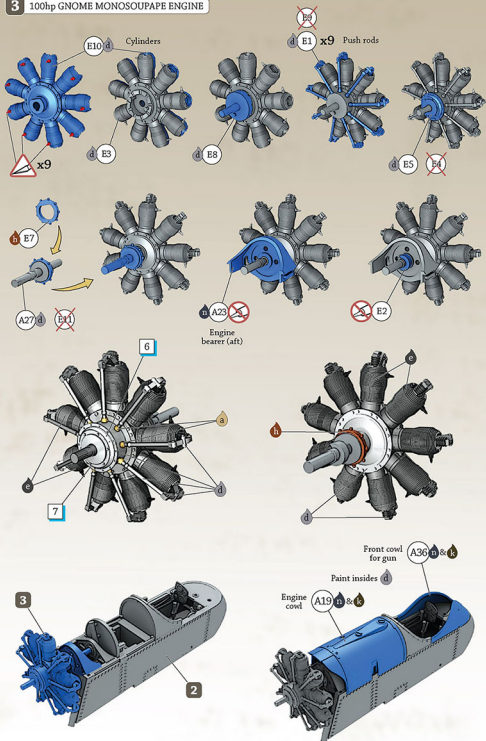


2 NACELLE

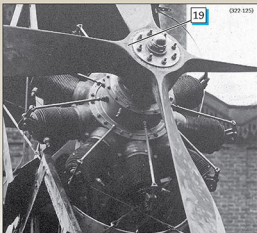
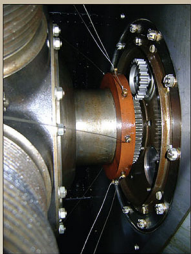
Drill out early production
rudder control cable exit holes



3 100hp GNOME MONOSOUPE ENGINE



A working 100hp Gnome Monosoupape as fitted to The Vintage Aviator LTD's Avro 504. Note the castor oil staining, rocker arm and plug lead details.



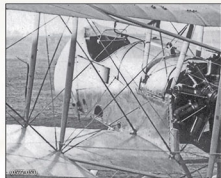
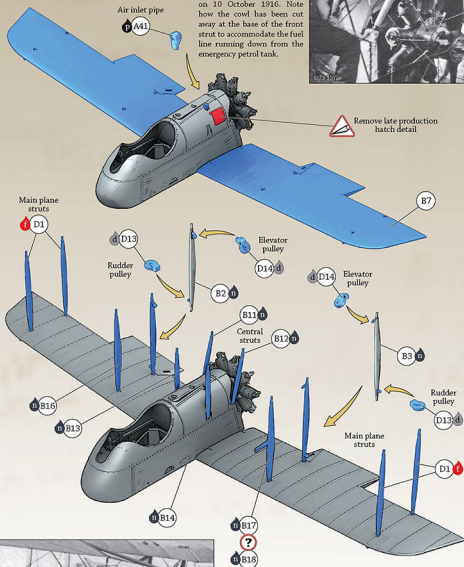
100hp Gnome Monosoupape engine detail from captured 24 Squadron DH.2 7873. Note the engine dataplate [6]. See also page 17. Engine reliability would prove to be a major concern with the DH.2 throughout its service.



Nacelle detail from DH.2 5938 as seen on page 13. Note the early production rudder control cable exit hole, Lewis Gun drum magazine rack and bound double flying wires. All metal and wood components have been painted grey.

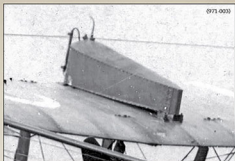
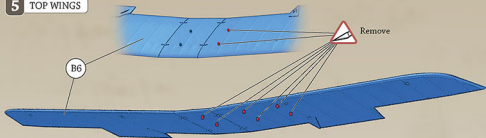
4 BOTTOM WINGS AND STRUTS

Engine and nacelle cowl detail from a 24 Squadron DH.2, believed to be A2540 photographed after it was captured on 10 October 1916. Note how the cowl has been cut away at the base of the front strut to accommodate the fuel line running down from the emergency petrol tank.



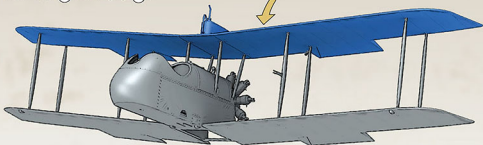
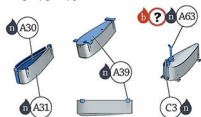
Nacelle and wing detail from DH.2 5938 as seen on page 13. Note the air intake scoop (A41) and pitot tube (B18).

5 TOP WINGS



Emergency petrol tank detail from DH.2 7851 showing the breather pipe (A63) and fuel gauge (C3).

Emergency gravity petrol tank

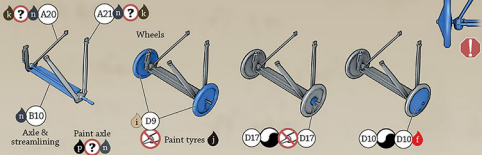


Please visit www.wingnutwings.com hints and tips for a simple wing alignment jig idea.

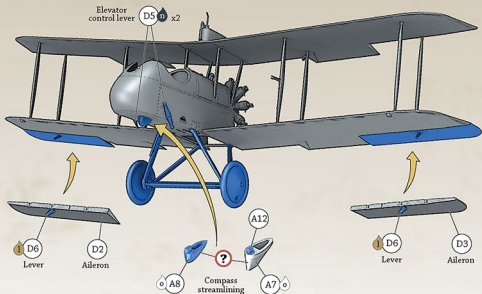


This 24 Squadron DH.2 has previously been identified as both 5964 and 5925. If you wish to re-create this aircraft as 5964 then you should use front cowl (A37) and paint the outer main plane struts as seen above. See also page 13.

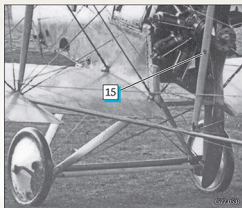
6 UNDERCARRIAGE



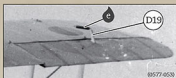
! It is a good idea to rig the wings before adding the tail booms. See page 12 for rigging guide.



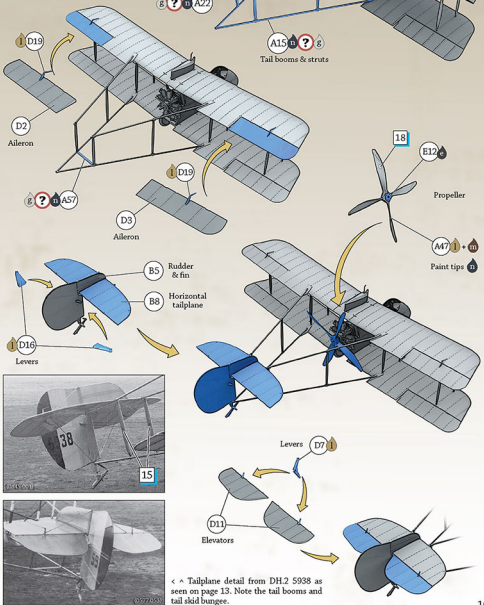
^ > Undercarriage detail from DH.2 5938 as seen on page 13. Note the grey painted struts and black rubber tyres.



7 TAIL BOOMS AND TAILPLANE



Starboard top aileron details from DH.2 5938 as seen on page 13. Note the spring tensioned aileron control cable return (D19).

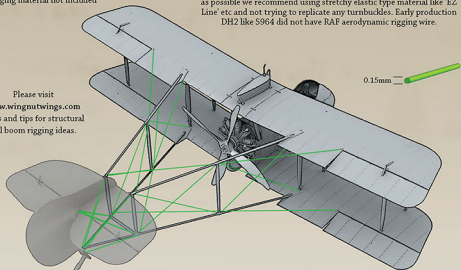


TAIL BOOM RIGGING GUIDE

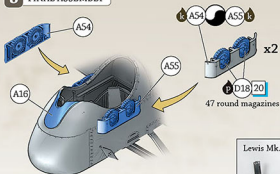
Rigging material not included

Please visit
www.wingnutwings.com
hints and tips for structural
tail boom rigging ideas.

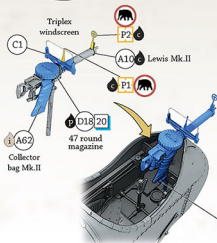
If you choose to install the rigging please drill out all location holes with a 0.5mm drill bit to a depth of at least 1mm. To make rigging as simple as possible we recommend using stretchy elastic type material like 'EZ Line' etc. and not trying to replicate any turnbuckles. Early production DH2 like 5964 did not have RAF aerodynamic rigging wire.



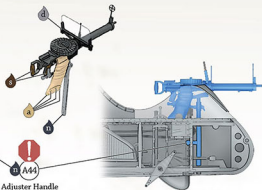
8 FINAL ASSEMBLY



Twin Lewis gun drum magazine rack detail from 29 Squadron DH.2 5994 which was lost in action on 25 August 1916. In this case the center portion has been further reduced.

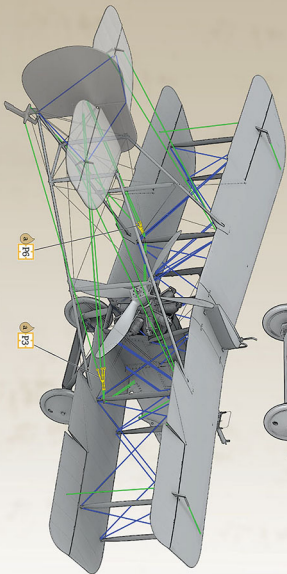
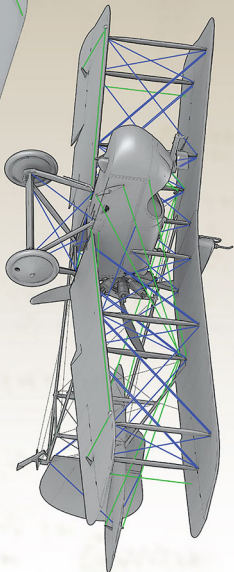
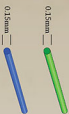


Lewis Mk.II with 97 round magazine



RIGGING DIAGRAM

Rigging material not included



If you choose to install the rigging phase drill out all location holes with a 0.5mm drill bit to a depth of at least 1mm. To make rigging as simple as possible we recommend using stretchy elastic type material like "EZ Line" etc and not trying to replicate any turnbuckles. Early production DH2 like S964 did not have RAAF aerodynamic rigging wire.



AMC DH.2 5938 is from the same initial production order as Lanoe Hawker's 24 Squadron 5964 and is seen here in factory fresh condition. Note the spring type aileron control horn returns, 2 blade propeller, single pitot tube and lack of a compass and fairing.



AMC DH.2 5938 displays its factory fresh finish of translucent clear doped Irish Linen with grey painted wood and metal parts. Note the position of the emergency gravity petrol tank under the port top wing. This is almost certainly how 5964 would have appeared when it was initially delivered to 24 Squadron on 2 April 1916. By the time 5964 was being flown by Lanoe Hawker in November 1916 it would have undergone quite a few changes including the addition of a 4 blade propeller, relocating the emergency petrol tank to the top of the wing and having the upper surfaces overpainted with PC10.



An impressive line up of 24 Squadron DH.2 (along with a sole Morane Type N) photographed at Bertangles in July 1916. See also pages 8 and 16.

Lanoe Hawker figure



Because figure painters prefer a wide variety of types of paint (enamel, acrylic, oil etc) and many of the colour choices are subjective we will let these larger than life images of the figure painted by John Belcher serve as our painting guide.

Please visit our website for some figure painting hints and tips.



Cap – matt khaki with badge **35**.

Tunic – matt khaki with RFC wings **36**, medal ribbons **37** and rank of Captain **33** or Major **34**”.

Sam Brown “belts” – brown leather with brass buckles.

Jacket – sheep skin wool & leather.

Fug boots – brown leather with wool lining.

Map – white/linen & **16** & **17**.

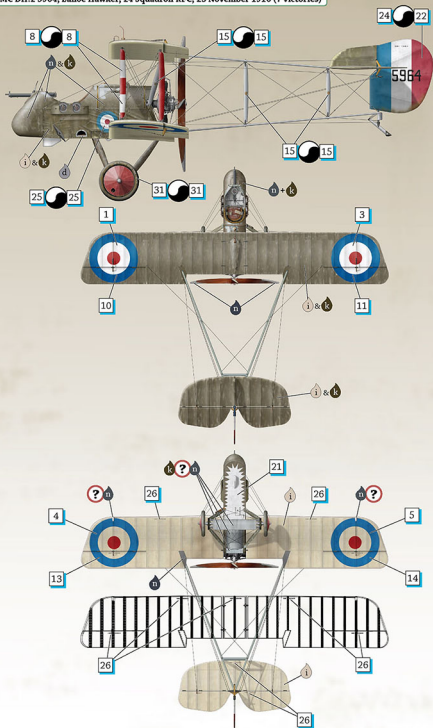
*Hawker was promoted to Major before commanding 28 Squadron and we have included optional Major’s rank Crown decals **34** (remove moulded on Captains pips)

> Lanoe Hawker while serving in 6 Squadron as a Captain in 1915. He wears his DSO medal ribbon awarded in April 1915 for bombing Zeppelin sheds at Gontrode in a BE.2c but has not yet received his VC awarded in August 1915.

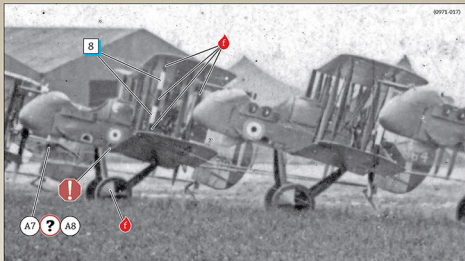


Lanoe Hawker was born into a military family and joined the Royal Engineers as an officer cadet after his schooling. He learned to fly privately and transferred to the RFC before the war, going to France with 6 Squadron in October 1914. Initially he flew Farman pusher types and then the BE.2c on reconnaissance until the Squadron started receiving some FE.2b and Bristol Scouts during 1915. Ever the engineer and designer, Hawker designed a mount that allowed him to arm Bristol Scout 1609 with a diagonally forward firing Lewis gun in with which he was credited with his first victory on 25 June 1915. He was credited with an additional 2 victories in Bristol Scout 1611 on 25 July, for which he was also awarded the Victory Cross for valour. Hawker’s remaining 4 victories in August and September 1915 (achieved in FE.2b 4227 and Bristol Scout 1611) affirmed him as Britain’s first ace. He was posted to the UK in late 1915 where he was tasked with setting up 24 Squadron, the first dedicated fighter Squadron in the RFC. In February 1916 Hawker was promoted to Major and led 24 Squadron to France where their DH.2 fighters immediately challenged the superiority of the German Fokker Eindeckers. As Commanding Officer, Hawker was not able to fly as frequently as before but did so whenever he was able, often filling in when they were undermanned or for a pilot about to go on leave. It was in the former capacity that he found himself flying DH.2 5964 behind German lines in a 4 aircraft patrol lead by A flight commander JO Andrews on 23 November 1916. One DH.2 had retired with a faulty engine by the time the remaining 3 were attacked by about 8 twin gunned 160hp Albatros D.1 and D.II fighters from Jasta 2 lead by Manfred von Richthofen. An epic dog fight between Hawker and Richthofen ensued that the victorious Richthofen described as “...the most difficult battle I have had” (up to that that time anyway). Richthofen expended about 900 rounds of ammunition during the 3 to 5 minute long duel before hitting the 25 year old Lanoe Hawker in the head and killing him, becoming Richthofen’s 11th credited victory.

AMC DH.2 5964, Lanoe Hawker, 24 Squadron RFC, 23 November 1916 (7 victories)



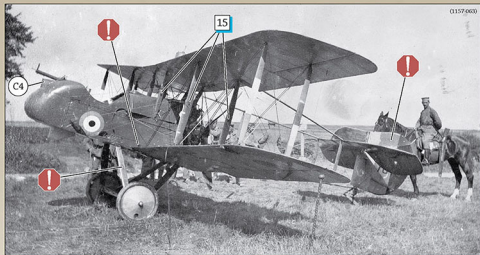
Unfortunately no confirmed photo of AMC DH.2 5964 is known to us. DH.2 5964 was from the initial production order for 100 aircraft (numbers 5916 to 6015) placed in September 1915 with the Aircraft Manufacturing Company LTD and was delivered to 24 Squadron RFC on 2 April 1916. It would have originally been finished in all over clear doped Irish Linen with grey struts, booms and cowlings as per 5938 seen on page 13. By the time 5964 was being flown by Lanoe Hawker in November 1916 the rudder had been repainted (probably at least twice) and the upper surfaces had been (roughly) overpainted in PC10 as was the practice in 24 Squadron by this time.



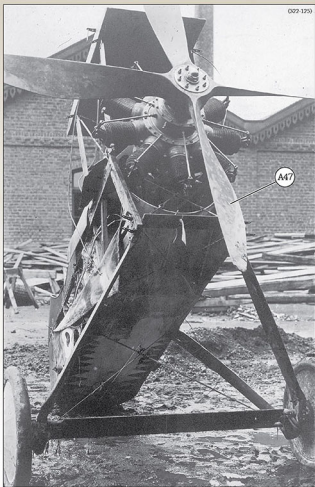
This photo is believed to show 24 Squadron AMC DH.2 5964 at Bertangles in July 1916 by which time its nacelle had been completely overpainted. The "white" area of the rudder is simply unpainted clear doped Irish Linen and the serial number has been reapplied, most likely in blue. If this photo doesn't show 5964, then it is almost certainly 7864 which served with 24 Squadron from 9 July 1916 until 9 September 1916 when 2 cylinders failed in flight killing AE Grew in the resulting crash. The aileron control cable exit position might have been able to confirm the identification but it is not known exactly when this was changed, although it had been moved rearward by the time 7873 was manufactured (as seen on page 17). See also page 13.



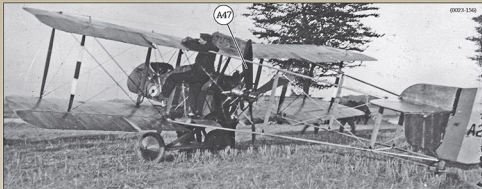
< ^ Serial number cut from the rudder of AMC DH.2 5964 as a souvenir of Manfred von Richthofen's hard fought victory over Lanoe Hawker. The Lewis Mk.II beneath the portrait photo of Richthofen is presumed to have also come from Hawker's DH.2 5694 while the rudder at top right is from 29 Squadron DH.2 7927 in which AG Knight was shot down and killed by Manfred von Richthofen on 20 December 1916. Also visible are remnants of the 43 Squadron Sopwith 1 & 1/2 Strutter A1108 of HJ Green & AW Reid lost on 15 February 1917, 13 Squadron BE.2d 5841 of PJG Powell & P Bonner lost on 2 April 1917 and 46 Squadron B1795 "Z" of AF Bird lost on 3 September 1917.



^ AMC DH.2 7873 was from the 2nd production order for 100 aircraft (numbers 7842 to 7941) placed in March 1916 and was delivered to 24 Squadron on 30 July 1916. It is seen here after JV Bowring was shot down by Oswald Boelcke and captured on 14 September 1916. Note the "C Flight" blue & white bands painted around the outer main plane struts, blue wheel covers, recently replaced (and unpainted) port front undercarriage strut and dark appearance of the PC10 painted upper surfaces. The "white" stripe on the rudder is actually unpainted clear doped Irish Linen which has been liberally soaked with castor oil from the inside causing it to appear darker than the blue stripe.



> Nacelle detail from captured 24 Squadron DH.2 7873 seen above. This was previously thought to be from A2542 but this is now understood to have been completely destroyed in a crash. Note the 24 Squadron "sawtooth" marking, 100hp Gnome Monosoupape engine and 4 blade propeller (A47).



00073-1540

Although the full serial number is not visible, a process of elimination has led us to the conclusion that this is A2540, the 24 Squadron DH.2 of 19 year old Norman Middlebrook who was shot down and captured by Max Ritter von Müller on 10 October 1916. AMC DH.2 A2540 was from the 3rd production order for 100 aircraft (numbers A2533 to A2632) placed in July 1916 and was delivered to 24 Squadron on 15 September 1916. All upper surfaces have received a coat of opaque camouflage, almost certainly PC10, which appears to have been worn off the fin. The emergency gravity petrol tank has also received the camouflage treatment but with a mottled effect. The outer wing struts have been painted white and "A flight" red along with the wheel covers.



Product design 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 & Wingnut Wings. 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.



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.

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 Windsoc Worldwide, Windsoc Datafiles, Cross & Cockade and Over the Front.

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



Decal Art by Malcolm Laird

Malcolm has been in the scale model industry since 1981 and now produces his line of Ventura decals and a range of soft cover aviation books mainly with a Kiwi flavour. Outside work he suffers the dual afflictions of restoring old Kawasaki motorcycles and trying to paint impressionist landscapes, with 'mixed' results so far.

Visit Malcolm's web site at www.venturapublications.com



32606 Project Manager, Richard Alexander

A native of Wellington New Zealand, Richard Alexander is an award winning scale modeller with many years of experience in the model and hobby industry, Richard has a long term interest in military history, race cars from motor sports golden era of the '60s, malt scotch and fine cigars.

Richard is an accomplished modeller and 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 have any questions about this model, comments, requests or suggestions, Richard is contactable at richard@wingnutwings.com



Figure Sculpting by Mike Good

Mike Good built his first model at 6 years old and never really stopped. This led to a lifelong career in the model business which began Testors in 1979. Models and dioramas lead him to figure modelling and he quit his job at Testors in 1987 to become a full time figure sculptor. He has sculpted figures for numerous companies including Poste Militaire, Pegaso, Revell/Monogram, Dragon, The Model Cellar and various toy companies. He has received numerous accolades over the years including Best of Shows at MFCA and Euro Militaire, Grand Master (MFCA - Model Figure Collectors of America), Chicago Medallist (MMSI - Military Miniature Society of Illinois) and was voted a charter Master of the World Model Soldier Federation. His interests over the years have been many and varied including stints in music, painting, poetry, photography, hiking, karaoke and UFOlogy (he was a regular columnist for UFO Magazine US for several years!) You can find many other figures sculpted by Mike at: <https://modelcellar.com>



Figure Painting by John Belcher

John's passion for painting figures started in his early teens with an interest in history, military and otherwise, and he's now been at it for over 40 years. As well as assembling and painting commercially available figures, John sculpts his own figures from scratch. Over the years John has received many awards for his work, these include multiple "best in show" awards at national level in New Zealand and Australia, gold medals nationally and internationally in the USA and in England at the prestigious Euro Militaire.



32606	AMC DH.2 "Lanoe Hawker"	Qty
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 Monosoupape engine	1
0132606P	Photo-etched metal parts	1
7132606	Instructions	1
9132606	Decals	1
54606	Lanoe Hawker Figure a b c d e f	1

If you have any damaged or missing parts please contact help@wingnutwings.com for assistance.



32026 - Roland C.II



32035 - AMC DH.9



32029 - Fokker B.IV

Also available from
www.wingnutwings.com

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