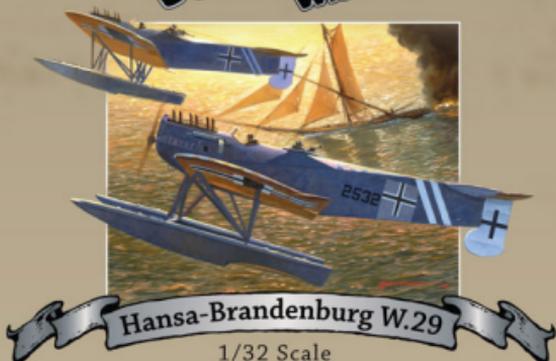


WINGNUT WINGS



Hansa-Brandenburg W.29

1/32 Scale

Allegedly designed by Ernst Heinkel one night on the back of a cabaret wine list, the W.29 was essentially a Hansa-Brandenburg W.12 biplane with the top wing removed. This is a simple enough thing to sketch on the back of a wine list but an altogether different proposition to put into production. The advanced monoplane design, with improved performance due to the reduction in drag afforded by the 50% reduction in wings, was achievable because of the highly rigid nature of the float and strut arrangement. It was a worthy successor to the W.12 in its task of patrolling the North Sea and harassing RNAS flying boats and British surface vessels.

Three prototypes (numbers 2204,5 & 6) were started in January 1917 with each powered by a different engine for comparison purposes, 2204 with a 150hp Benz Bz.III, 2205 with a 185hp BMW IIIa and 2206 with the 160hp Daimler-Mercedes D.III. When production began in April 1917 it was the 150hp Benz Bz.III that was chosen, most likely due to priority being given to land based fighter aircraft for the higher performance engines. Produced in 2 versions, 156 C3MG (C type aircraft equipped with 3 machine guns) and 43 C2MGHFT (C type, 2 machine guns and wireless equipment) the W.29 was powered by 3 different engines during its production, the aforementioned 150hp Benz Bz.III and 185hp BMW IIIa as well as the 185hp Benz Bz.IIIa (a very different design to the Bz.III). The majority of W.29s (121) were powered by the 150hp Benz Bz.III as depicted in our model, 66 with the 185hp Bz.IIIa and just 11 with the 185hp BMW IIIa engine. An order for 30 160hp Daimler-Mercedes D.III powered aircraft placed in September 1918 was cancelled after the armistice. The advanced design of the W.29 ensured that it saw a lengthy post war service with the Deutsche Luft-Reederei (German Air Carrier) and Norway as well as being license built in Denmark, as the H.M.I (15 aircraft), and Japan, as the Hansa-Shiki Suijo Teisatsuki - Hansa Type Reconnaissance Seaplane (between 156 and 310 aircraft). A slightly larger and more powerful version of the W.33, only 7 of which were completed in Germany before the armistice but post war they were license built in Finland, as the IVL A.22 (102 aircraft) and in Norway (30 aircraft). The final IVL A.22 was retired from Finnish service in 1936. Any history of this aircraft here is of necessity very brief, therefore we encourage you to seek any or all of the references listed below for a more thorough understanding of this fascinating aircraft.

WW1 colour schemes are contentious at the best of times and we have done our best to provide what we consider to be accurate painting information for this model and, while we have been as meticulous as we could be, I'm sure some will not find our choices to their liking. From April 1918 onwards German seaplanes were directed to have all surfaces visible from above covered in 3 colour printed camouflage fabric, areas visible from the sides painted grey-blue, areas visible from underneath to be light blue except for fabric surfaces which could remain in their natural linen colour. Photographic evidence suggests that these directives were studiously followed by Hansa-Brandenburg with the exception that the W.29 floats and struts were painted with a black tar based paint for protection from salt water. This same paint also appears to have also been used to seal the wing leading edge tapes. The 3 colour printed naval hex camouflage material was applied to the wings and ply covered rear fuselage and horizontal tailplane areas very carefully so that the pattern matched almost seamlessly. Rib tapes were applied to the wings, ailerons and elevators as per usual practice but in the case of the upper surfaces these are invisible in photographs available to us, either because the tapes were carefully painted to match the underlying fabric or were cut from the same fabric and equally carefully aligned with the underlying pattern. The grey-blue applied to the plywood fuselage sides appears quite matt while the grey-blue used on the cockpit cowlings and metal engine cowlings appears very glossy, in some cases an almost 'mirror like' finish. Reportedly some W.29 fuselages were painted 'sea-green' instead of grey-blue, in particular the very late production 185hp Benz Bz.IIIa powered C3MG machine 2670 examined by the British after the Armistice, but careful study of photographs available to us could not confirm whether this colour was used on any of our decal schemes.

Wingspan:	Length:	Max Weight:	Max Speed:
13.5m (44'4")	9.35m (30'8")	1463kg (3225lb)	164kph (102mph)
No. manufactured:	Production:	Engine:	Ceiling:
199	April 1918 to December 1918	Benz Bz.III, Bz.IIIa and BMW IIIa	Unconfirmed
Armament:			
1x or 2x 7.92mm LMG08 'Spandau' machine guns, 1 Parabellum LMG14/17 7.92mm machine gun.			
References:			
Brandenburg W.29 Datafile 55, P.M Grosz, 1996 - Over The Front, Volume 24 number 4, 2006 - German Naval Air Service, Alex Imrie, Arms & Armour Press 1989 - Over The Front, Volume 9 number 2, 1994 - 1914-18 Aviation Heritage Trust Colin Owers - The Vintage Aviator LTD - Private Collections			

Hansa-Brandenburg W.29

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.

Hints & Tips: Please visit our website for additional 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

P1 Photo Etch Part



Cement For Metal



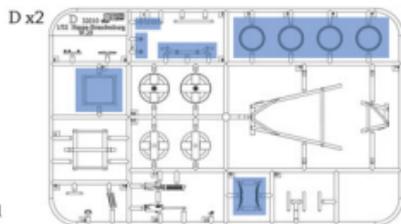
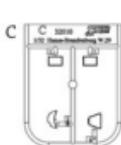
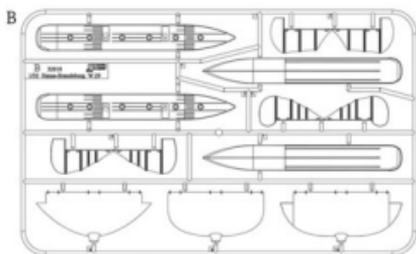
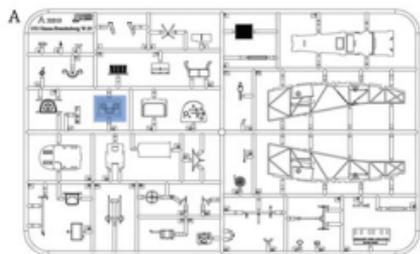
Other Side



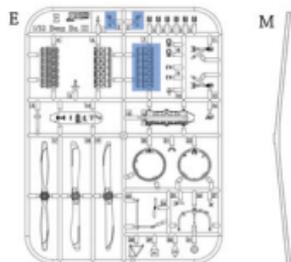
Paint Colour

	All colours	Tamiya	Humbrol	Misterkit
a	Brass	X31	54	
b	Gun Metal	X10	27004	
c	Aluminium	XF16	27001	
d	Black - semi gloss	X18	85	
e	Leather - semi gloss	XF52	62	
f	Grey-blue - matt & gloss	XF83	165	
g	Interior Grey Green - semi gloss	XF76	90	
h	Rust - matt	XF9	113	
i	White - semi gloss	XF2	34	
j	Light Wood - gloss	XF59	93	
k	Steel	XF56	27003	
l	Clear Doped Linen - matt & gloss	XF55	148	GC10
m	Copper	XF6	12	
n	Dark grey - semi gloss	XF22	92	
o	Rubber - matt	XF69	66	
p	Red - semi gloss	X7	19	GC15
q	Light Blue - gloss	XF23(x1)+XF2(x1)	65	GC03
r	Dark Wood - gloss	XF68	98	
s	Light grey - matt	XF19	64	

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



■ = Not Used



M

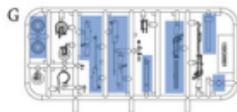
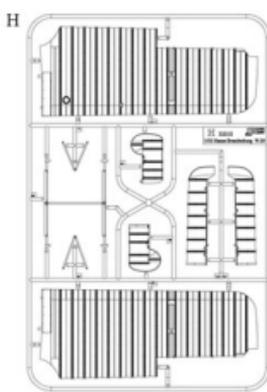
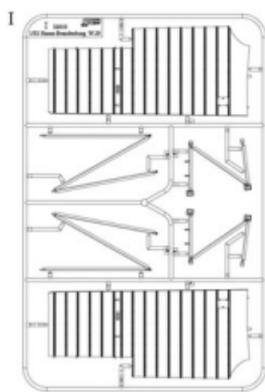
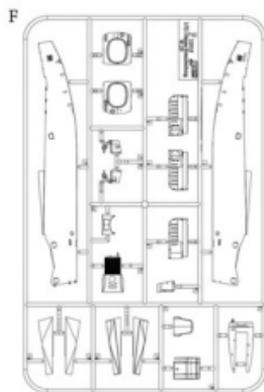
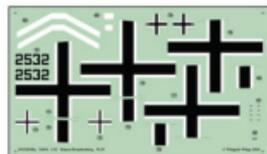
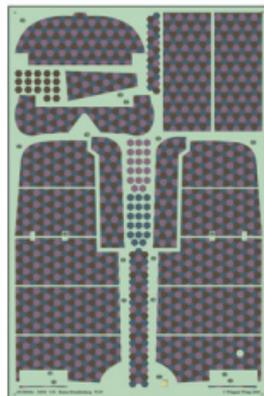


Photo Etch

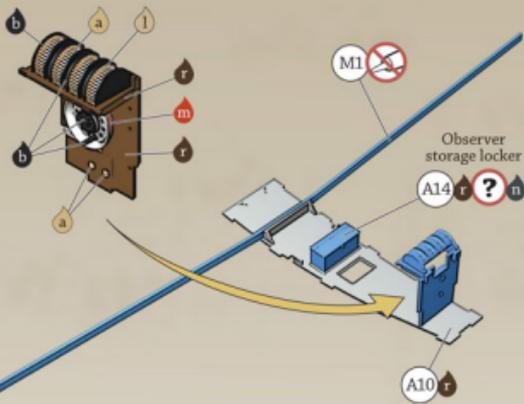
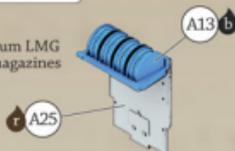


Decal Sheets

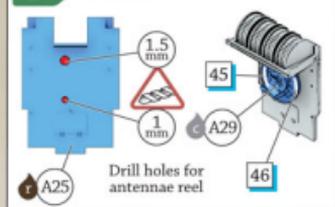


1 INTERIOR

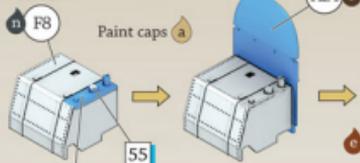
Parabellum LMG
14/17 magazines



B C2MGHFT



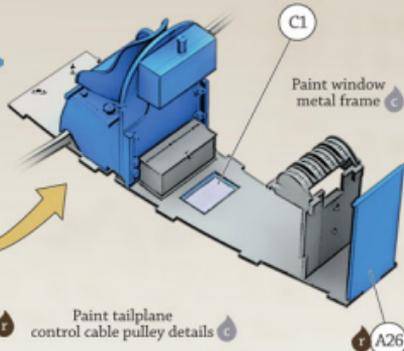
Fuel tank



Pilot's seat

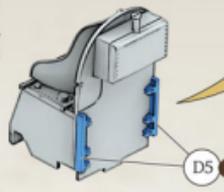


Observer's window

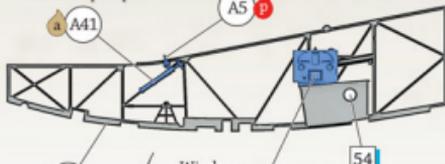


Paint tailplane control cable pulley details c

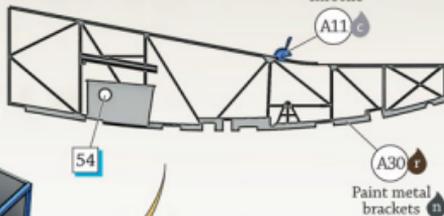
Fuel pump



Hand air pump



Throttle

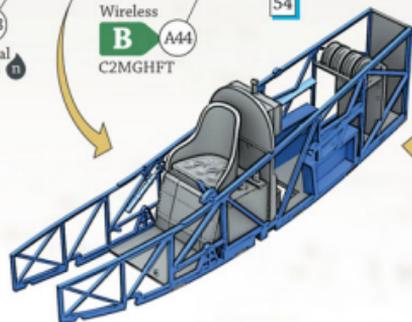


Paint metal brackets n

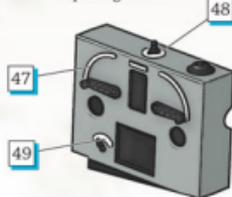
Wireless

C2MGHFT

A44



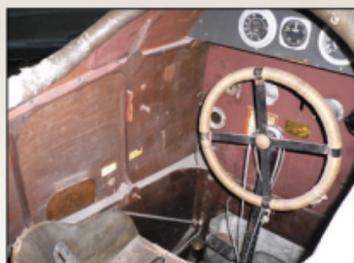
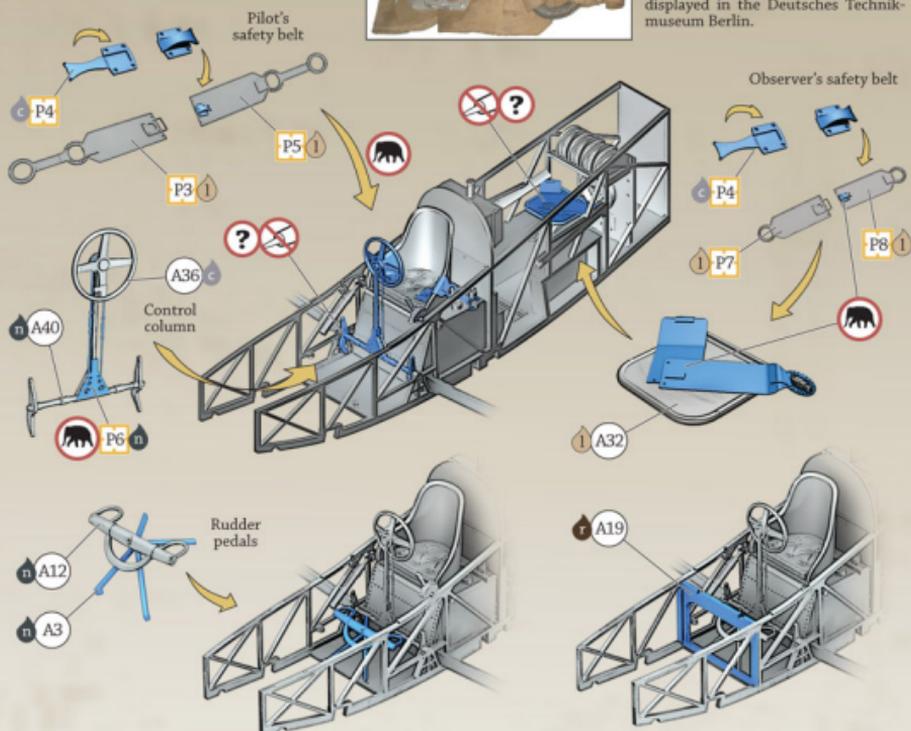
Wireless radio paint guide



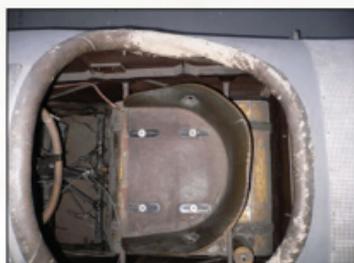
2 INTERIOR continued



Common type of safety belt found in German two-seater aircraft as displayed in the Deutsches Technikmuseum Berlin.



Cockpit detail from IVL A.22 (post war version of the W.29 successor, the W.33, built in Finland). While many details differ from our W.29, this is the only surviving Hansa-Brandenburg monoplane anywhere and therefore provides some useful information for the modeller. This aircraft is located in the Finnish Aviation Museum, Helsinki, Finland.



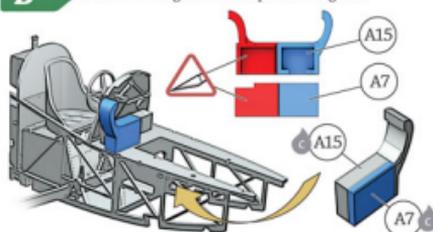
3 ENGINE BAY

Remove for C3MG port LMG 08 'Spandau'

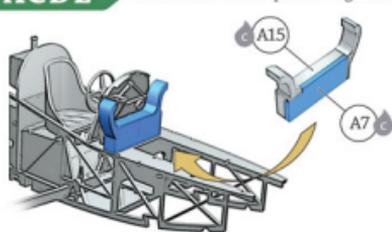
ACDE



B C2MGHFT Single LMG 08 'Spandau' magazine



ACDE C3MG Twin LMG 08 'Spandau' magazines

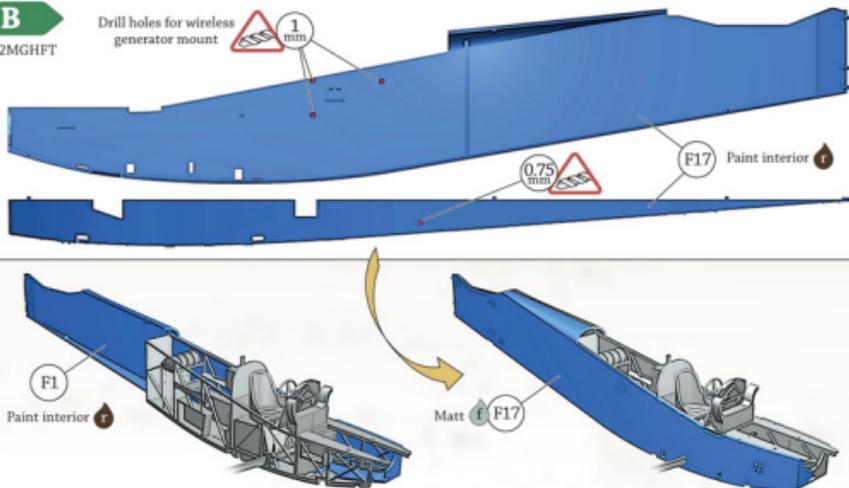


4 FUSELAGE

B

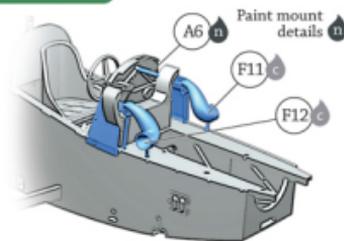
C2MGHFT

Drill holes for wireless generator mount



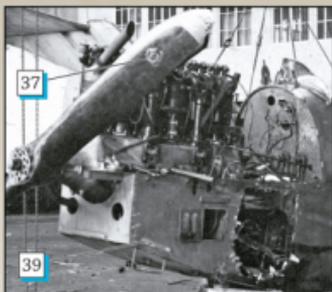
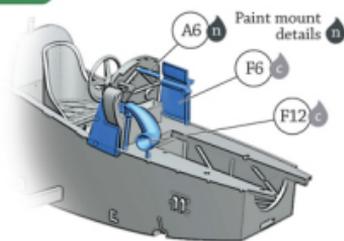
5 FUSELAGE continued

ACDE C3MG Empty shell chutes



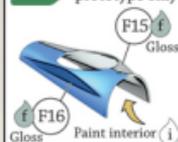
An unidentified C3MG W29 undergoing demolition at Wilhelmshaven after the armistice. Note the empty mount for the port LMG 08 'Spandau' and the fairing used to cover its opening in the cowl during use after the end of the war. Note that the cowl loosely stuffed into the empty engine bay is not from a W29.

B C2MGHFT Empty shell chute

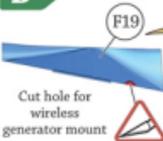


C2MGHFT W29 2583 also undergoing demolition at Wilhelmshaven after the armistice. Note the throttle linkage detail, Niendorf propeller with brass tips and makers plates 39 just above the foot step. There was no provision for a port LMG 08 'Spandau' on C2MGHFT W29s.

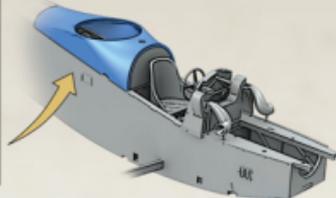
A 2204 prototype only



B C2MGHFT



BCDE

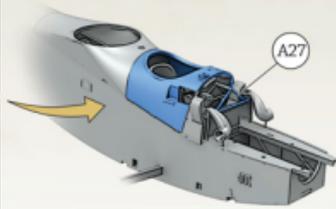


2204 prototype observer's cockpit surround as seen on this W.29 and 2206. BMW IIIa powered 2205 would almost certainly have had the same style but no photograph showing this aircraft has come to our attention so far.

B C2MGHFT

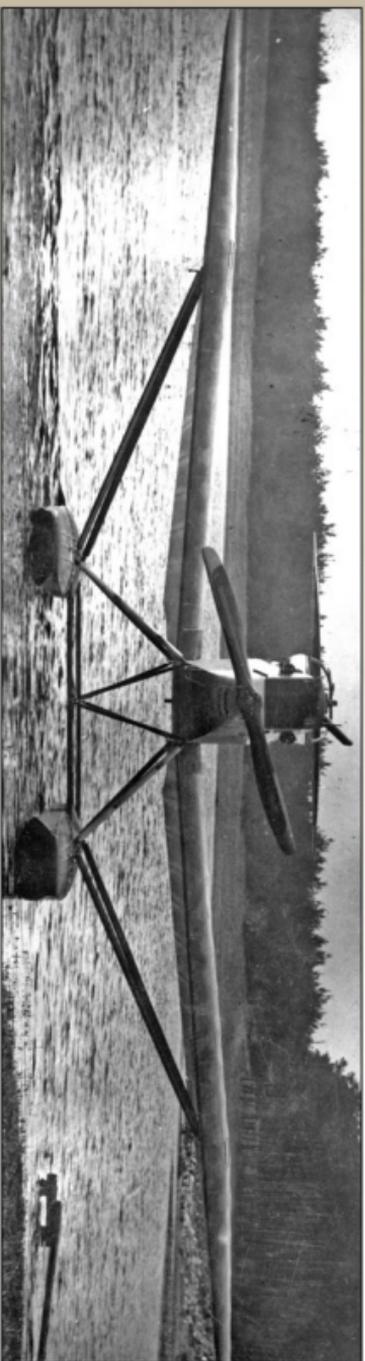


ACDE C3MG

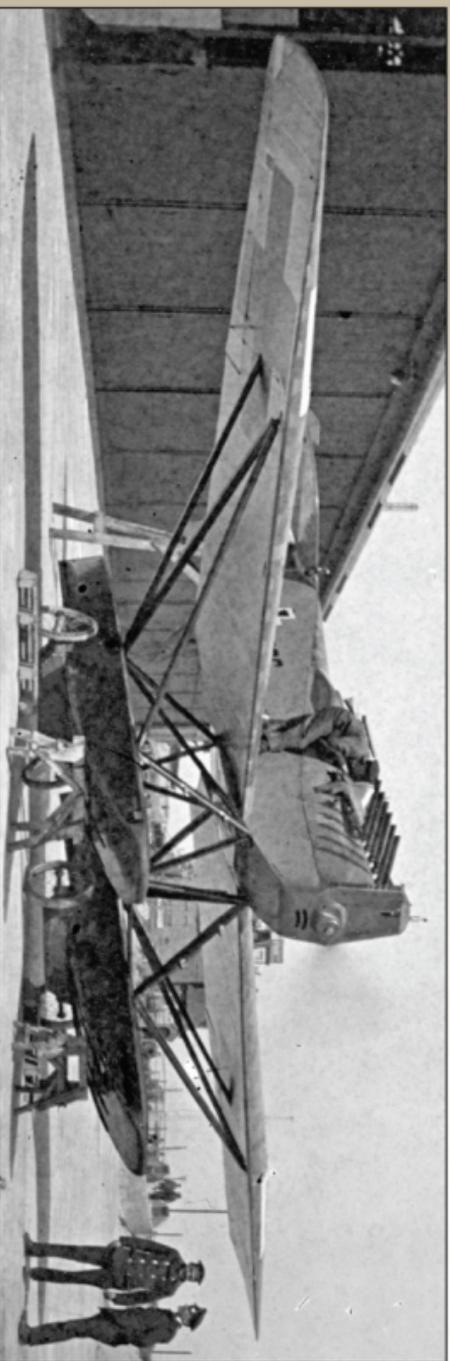


> Cockpit cowl from W.29 2512 showing the production style of observer's cockpit surround. It was common Hansa-Brandenburg practice to paint the insides of upper fuselage cowlings white and this is how we recommend painting them for this model.



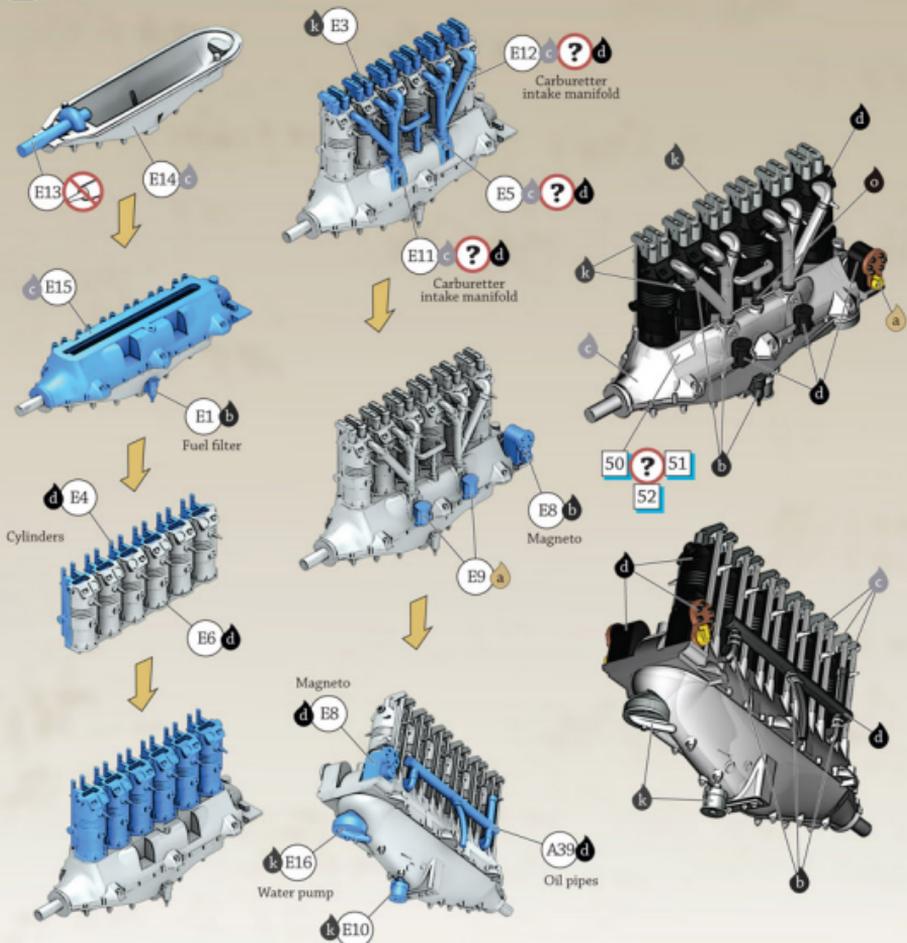


Prototype W.29 Z.204 resting peacefully at the beach. The ribspacs on the underside of the wings appear to have had an additional coating of glossy dope which is reflecting the background light. Note non-slip walk strips at the wing roots, brass propeller tips and style of gun ring (A27) & (A28). No anemometer (A21) was fitted to Z.204.

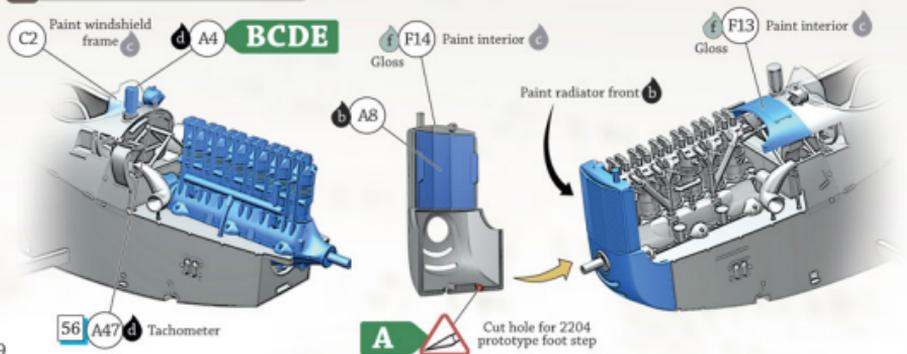


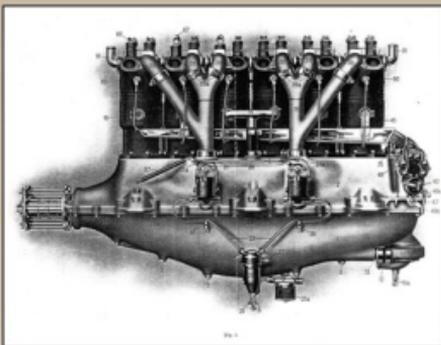
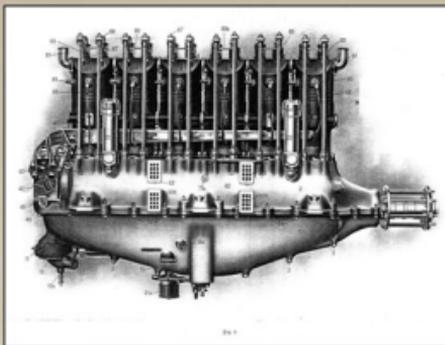
Another view of the 3rd W.29 prototype Z.206 as seen on page 24 showing the unique radiator and exhaust arrangement for the sole 160hp Daimler-Mercedes D.III powered aircraft. The black floats and struts stand out against the clear doped linen lower surface of the wings. The anemometer (A21) was fitted to the starboard wing on Z.206.

6 BENZ BZ.III 150hp ENGINE

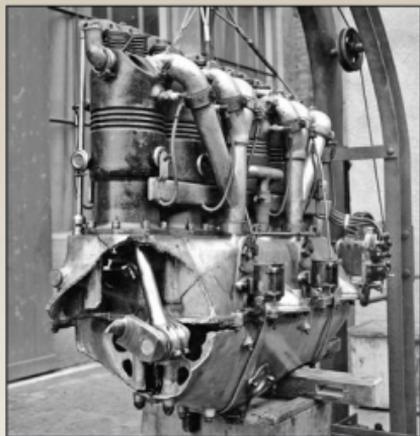
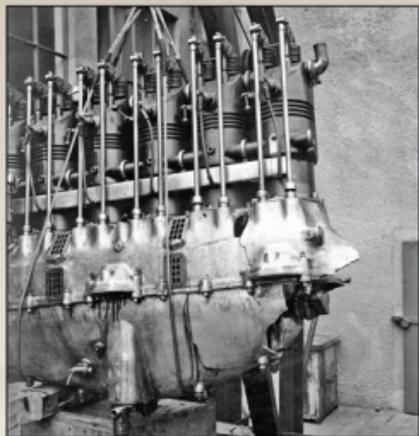


7 INSTALL ENGINE & RADIATOR

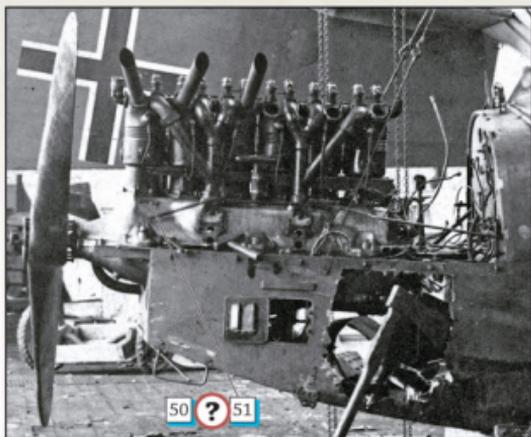




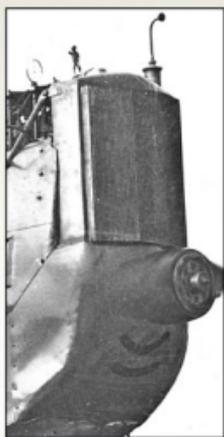
These illustrations from the Benz Bz.III engine manual show many useful details for the modeller.



These photographs of a Benz Bz.III engine, taken to document severe damage to the front end, allow us to see many interesting details for the modeller.

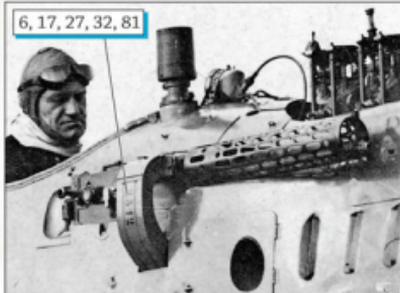
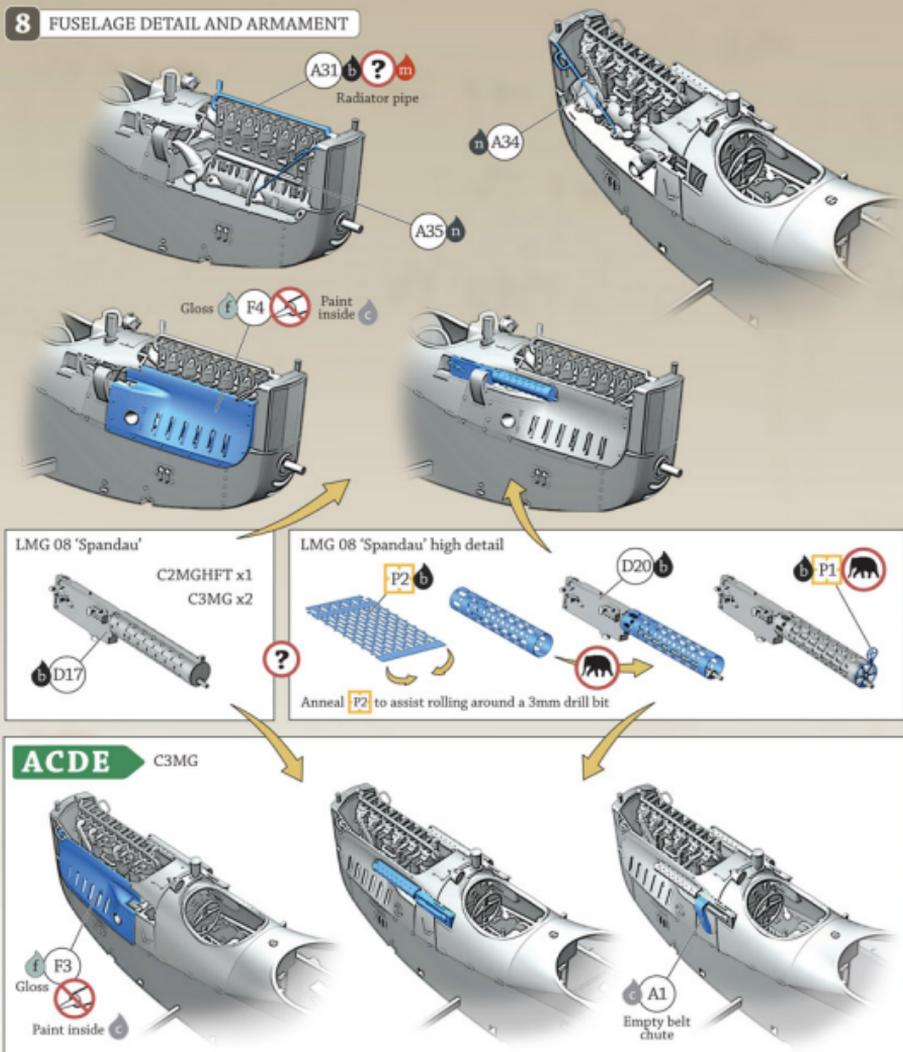


Benz Bz.III engine detail from W.29 2583 undergoing demolition at Wilhelmshaven after the armistice. Note the hammer on the engine bearer and the axe protruding out of a rather substantial hole in the fuselage. The front exhaust pipe is unusually bent forwards.



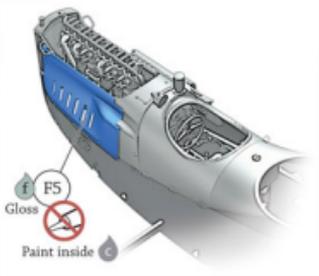
Radiator and nose cowl detail from W.29 2512.

8 FUSELAGE DETAIL AND ARMAMENT

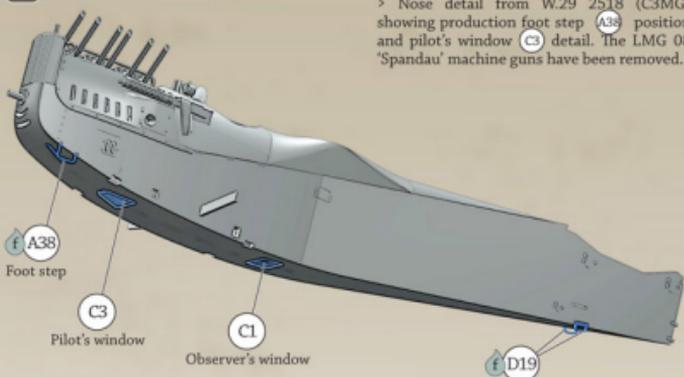


LMG 08 'Spandau' detail from Friedrich Christiansen's W.29 2512. Note the tachometer (A47) in front of the windscreen (C2) and small aircraft number on the ammunition feed chute (A15). The hole in the fuselage under the barrel is for expelling the empty LMG 08 'Spandau' shells.

B C2MGHFT



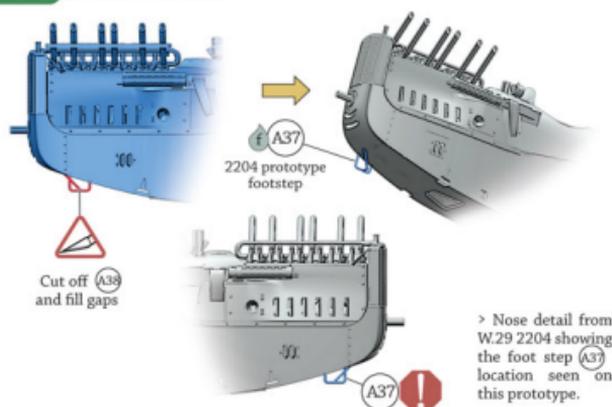
9 FUSELAGE DETAILS



> Nose detail from W.29 2518 (C3MG) showing production foot step A38 position and pilot's window C3 detail. The LMG 08 'Spandau' machine guns have been removed.

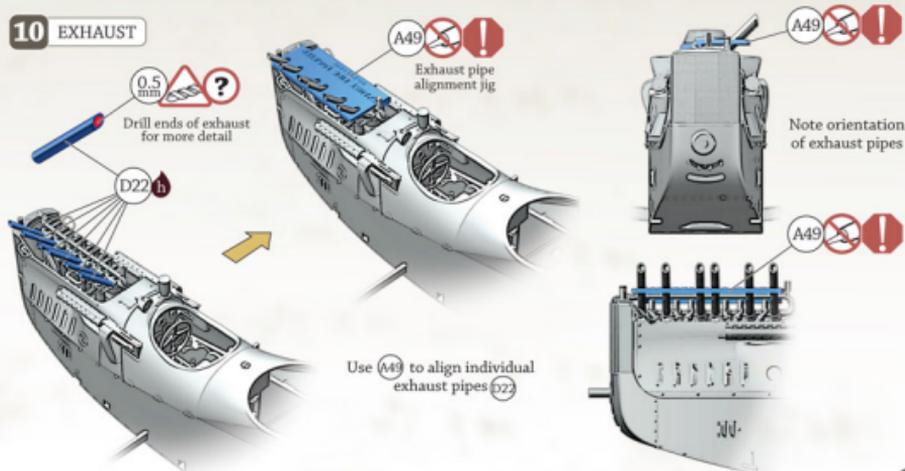


A 2204 prototype only

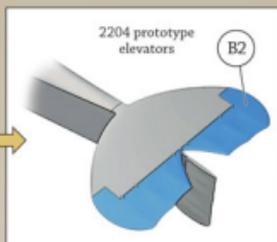
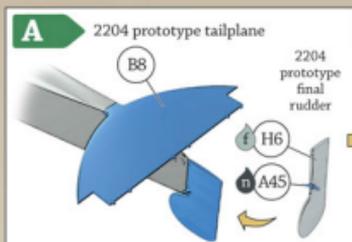


> Nose detail from W.29 2204 showing the foot step A37 location seen on this prototype.

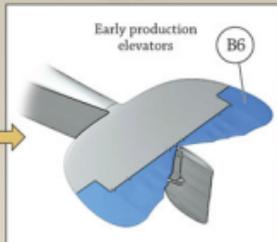
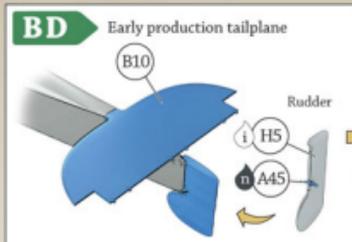
10 EXHAUST



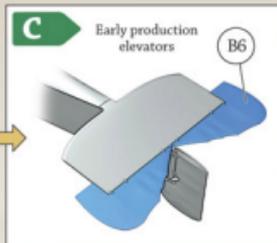
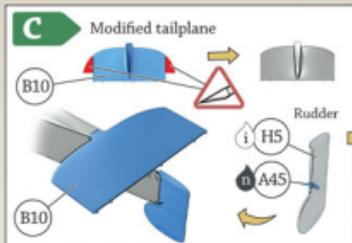
11 TAILPLANE



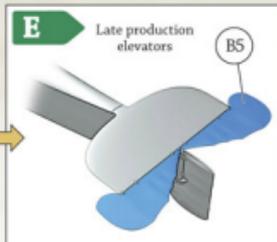
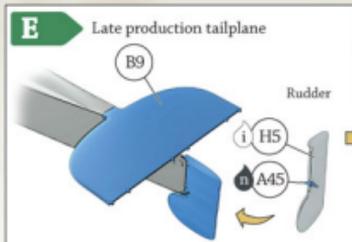
^ Detail from the 1st W.29 prototype 2204 showing its final tailplane arrangement.



^ Detail from the 3rd W.29 prototype 2206 showing the early production form of tailplane. The horizontal tailplane was built from ply and permanently fixed to the fuselage.



^ This dramatic bottom view of an unidentified W.29 allows us to see the modified tailplane. The tips of the horizontal tailplane have been cut off but it retains the production elevators.

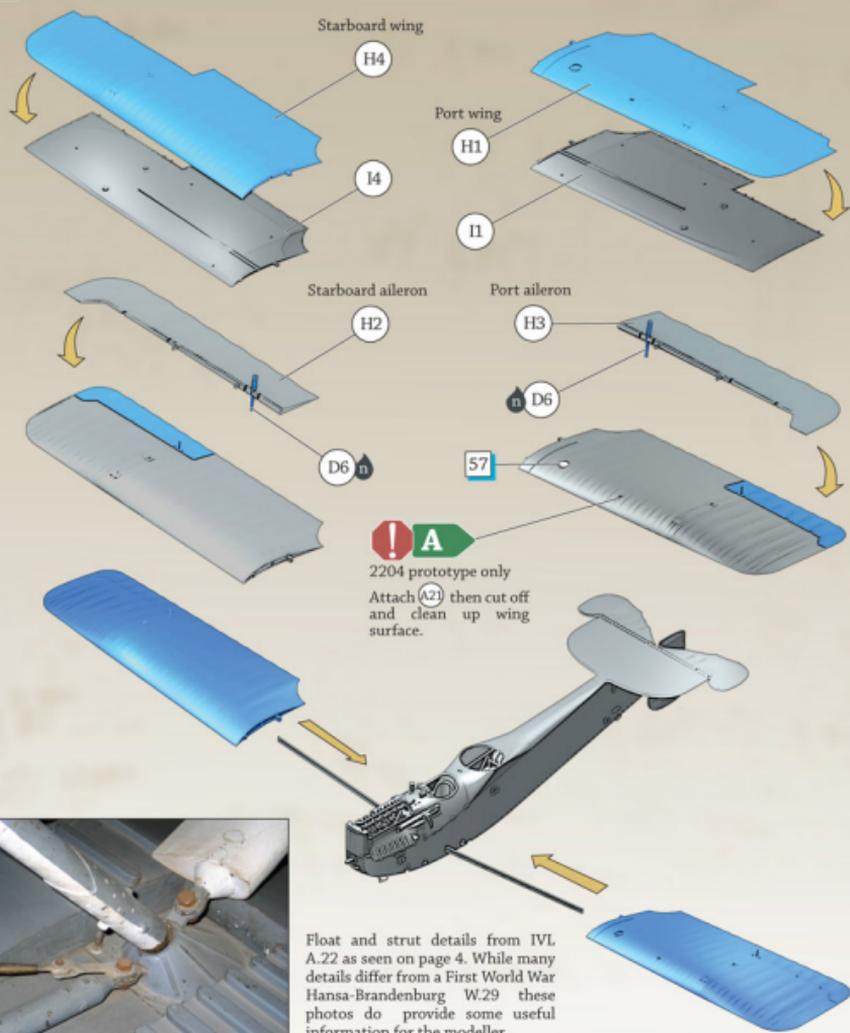


^ This view of W.29 2580 shows the late production horizontal tailplane and elevators.



13 W.29 2577 (the full number is not legible) of 1 C Staffell Seeflugstation Zebbrugge displaying the usual location of the wing balkenkruetz, slightly outboard of where they are on 2206. The early production tailplane is evident as are the black painted floats and struts.

12 WINGS



Port float front strut attachment detail.



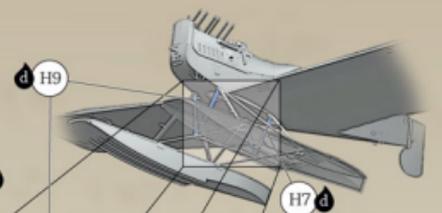
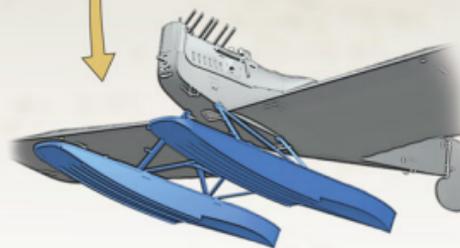
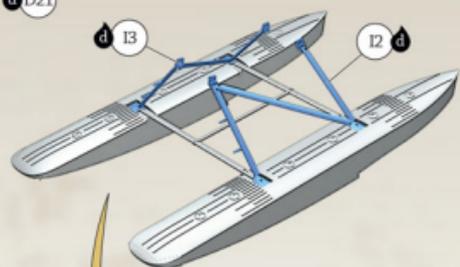
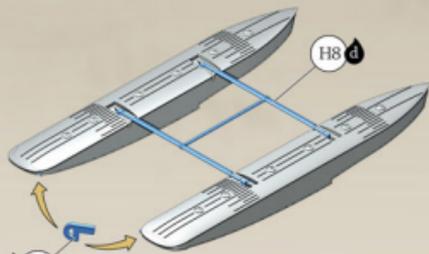
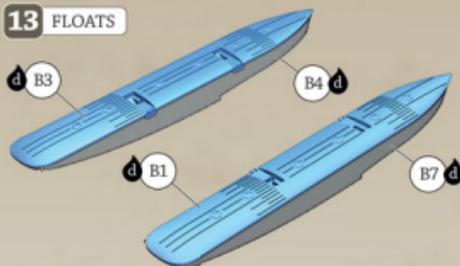
Port float rear strut attachment detail.



Starboard float showing many details which are not applicable to the Hansa-Brandenburg W.29.

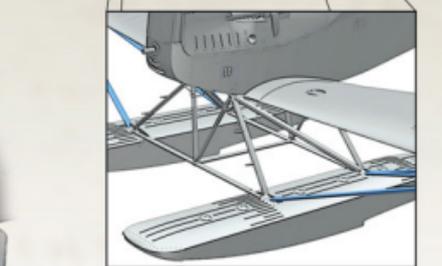
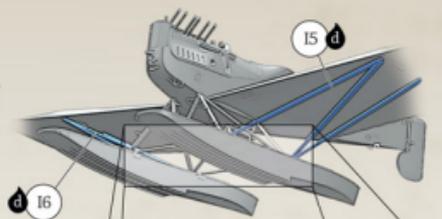


13 FLOATS

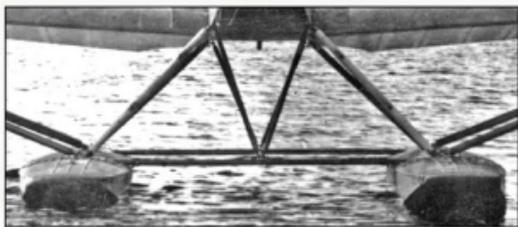


! Note position of center struts

Front float strut detail from W.29 2512 showing the uppermost strut footstep and fuselage attachment bracket details. Note the non-slip walkway material at the wing root. W.29 floats and struts were usually painted with a black tar based paint for protection from salt water.

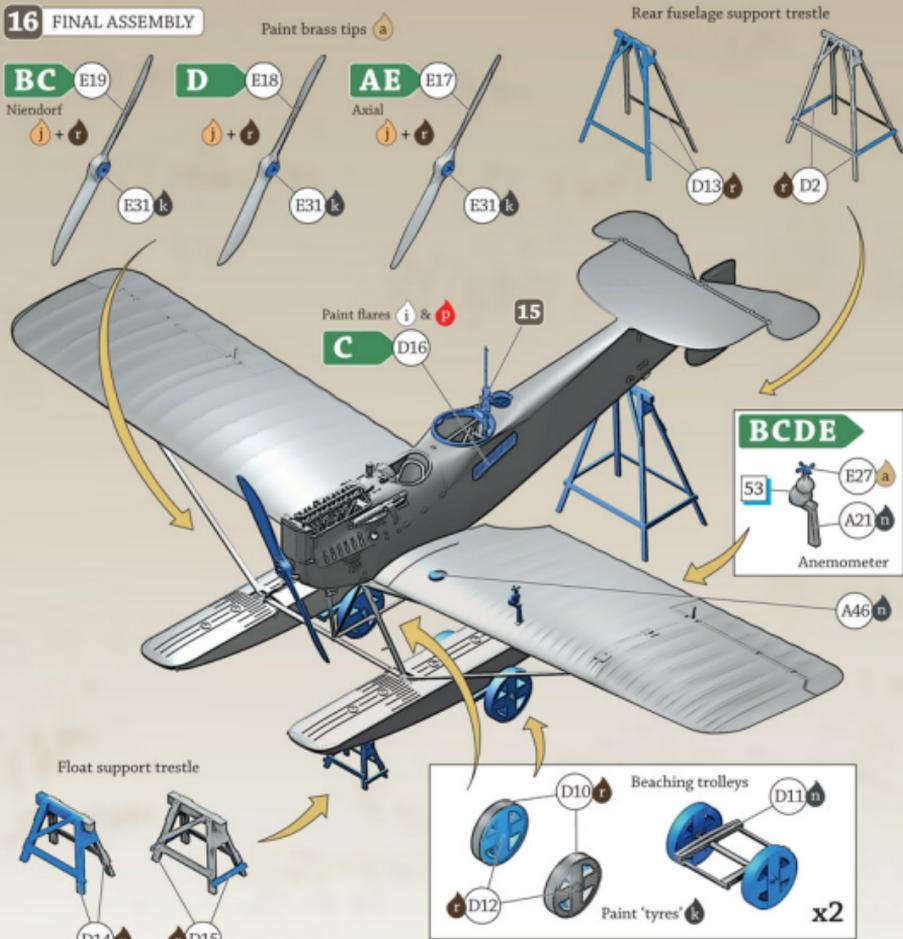


Wing strut attachment detail from W.29 2512 showing aileron control horn and cable exit details. The rib tapes visible here appear to be a very different colour from the rest of the clear doped linen, and while they are possibly a different shade of linen, this effect is mainly due to the matt finish of the rib tapes not reflecting background light as well as the gloss doped wing surface.



Float and strut detail from W.29 prototype 2204 as seen on page 8.

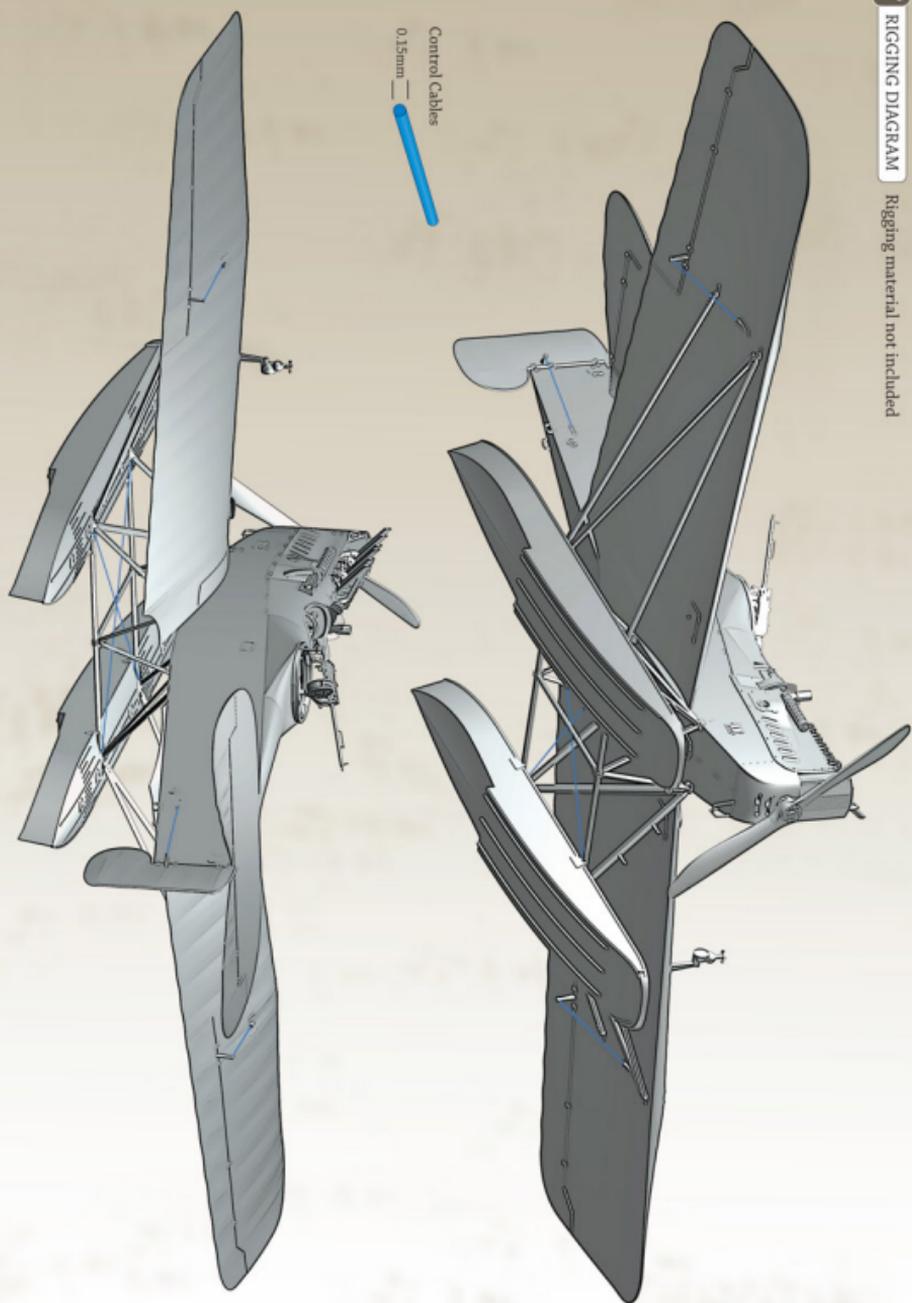
16 FINAL ASSEMBLY



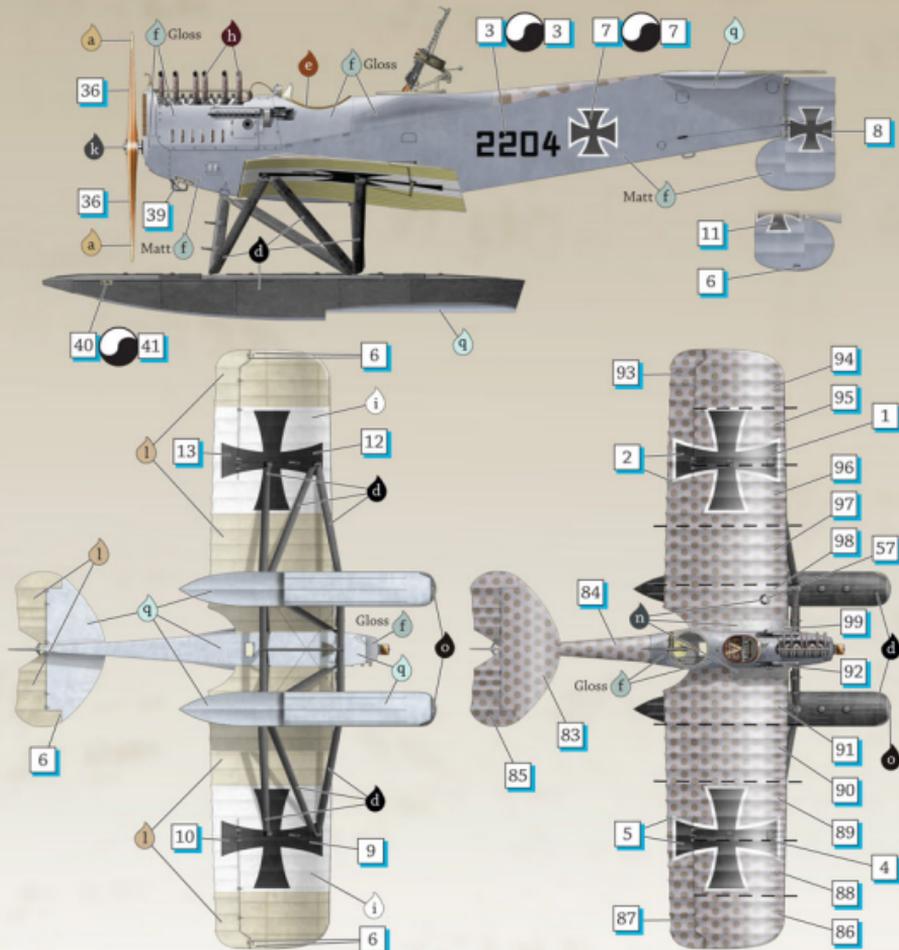
CSMG W.29 2518, identified by the large number painted on the propeller, serves as a suitable backdrop for Schreiber, Bibels, Lehmann (unfortunately all unidentified) and comrades. The jumbled remains of several sea planes in the background and lack of twin LMG 08 'Spandau' machine guns indicate this photograph may have been taken after the armistice.



Control Cables
0.15mm

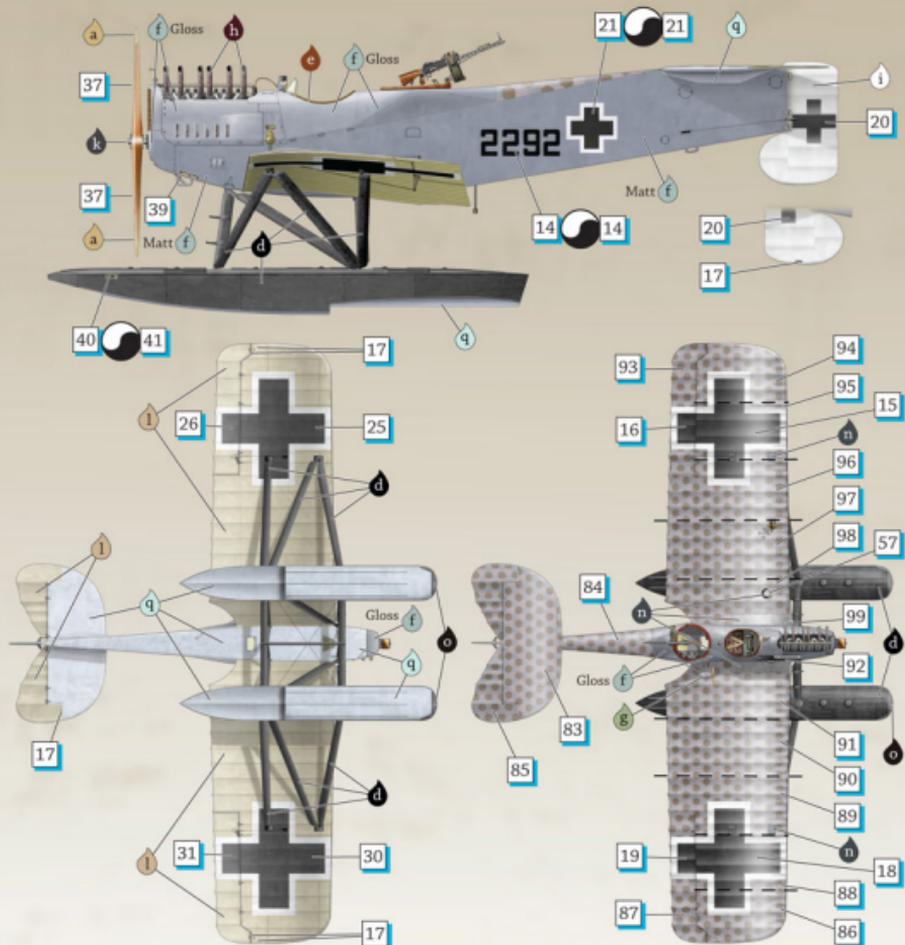


A Hansa-Brandenburg W.29 2204, C3MG prototype, April 1918



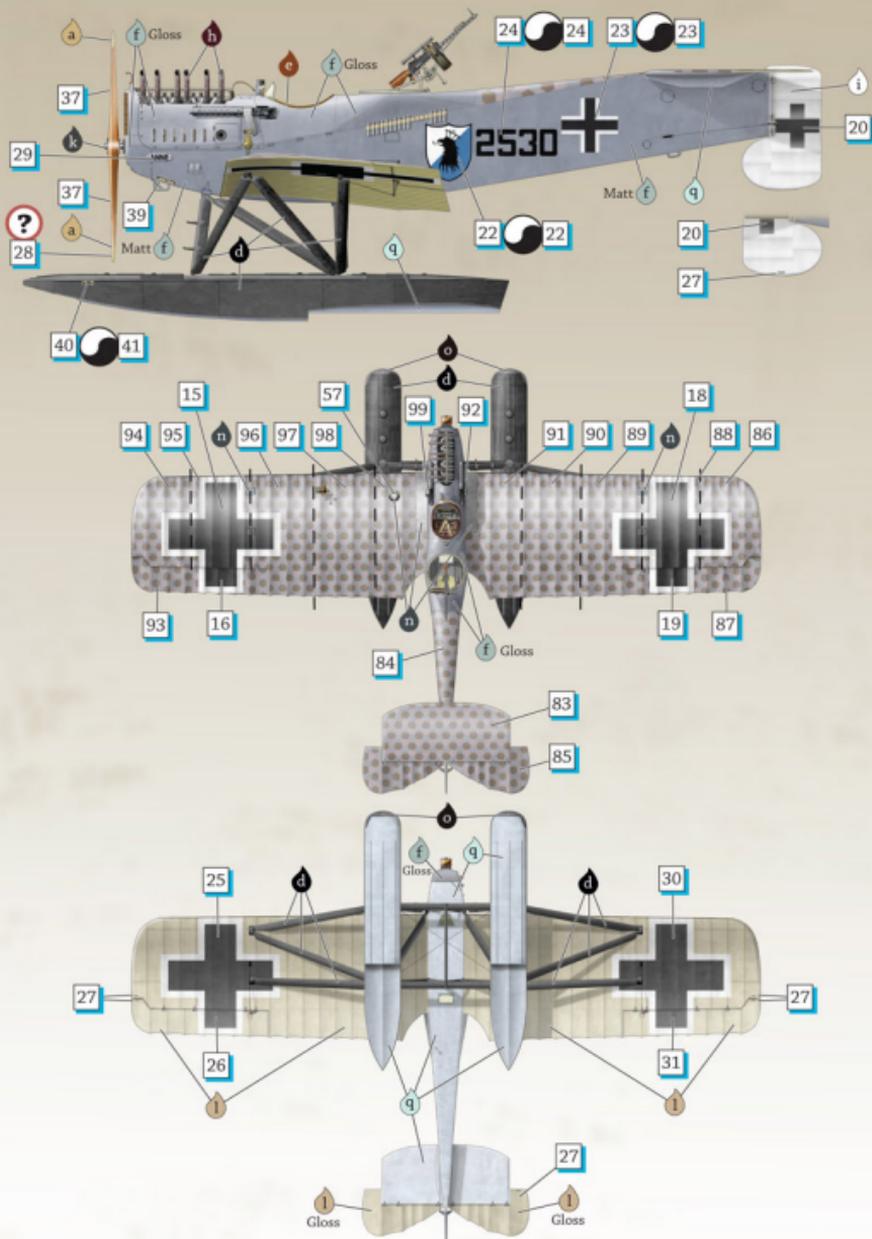
W.29 2204 first flew in March 1918 and went through several refinements before arriving at the final configuration seen here. W.29 2204 was a C3MG aircraft armed with 3 machine guns and no wireless equipment, it is fitted with an Axial propeller here but at other time different propellers were fitted as seen on page 8. Note the style of beaching trolleys and rear fuselage support (13).

B Hansa-Brandenburg W.29 2292, C2MGHFT, July 1918



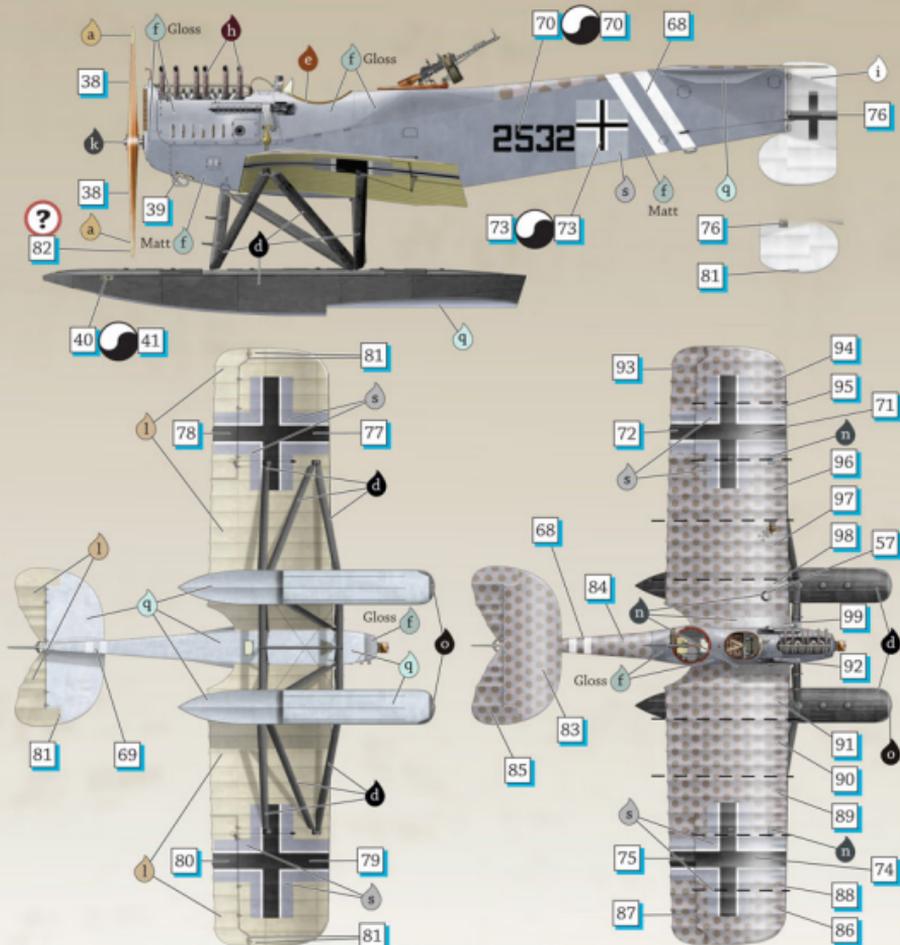
Ordered in April 1918, 2292 was the 5th W.29 completed to C2MGHFT specifications and is pictured here at Warnemünde undergoing acceptance testing. Note the adjustable mount for the wireless generator, early tailplane, black floats and struts, Niendorf propeller and the position of the wing balkenkreuz.

C Hansa-Brandenburg W.29 2530 C3MG, August-September 1918



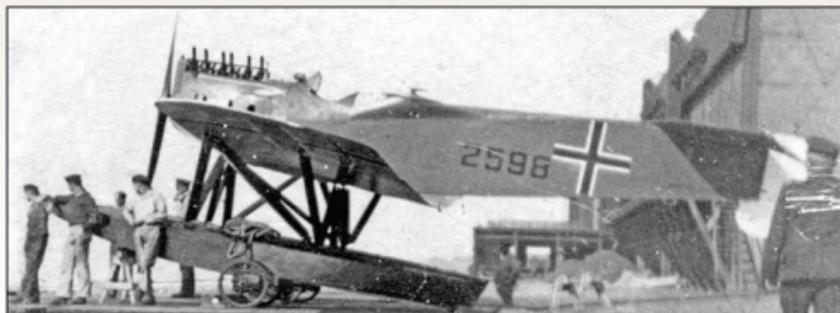
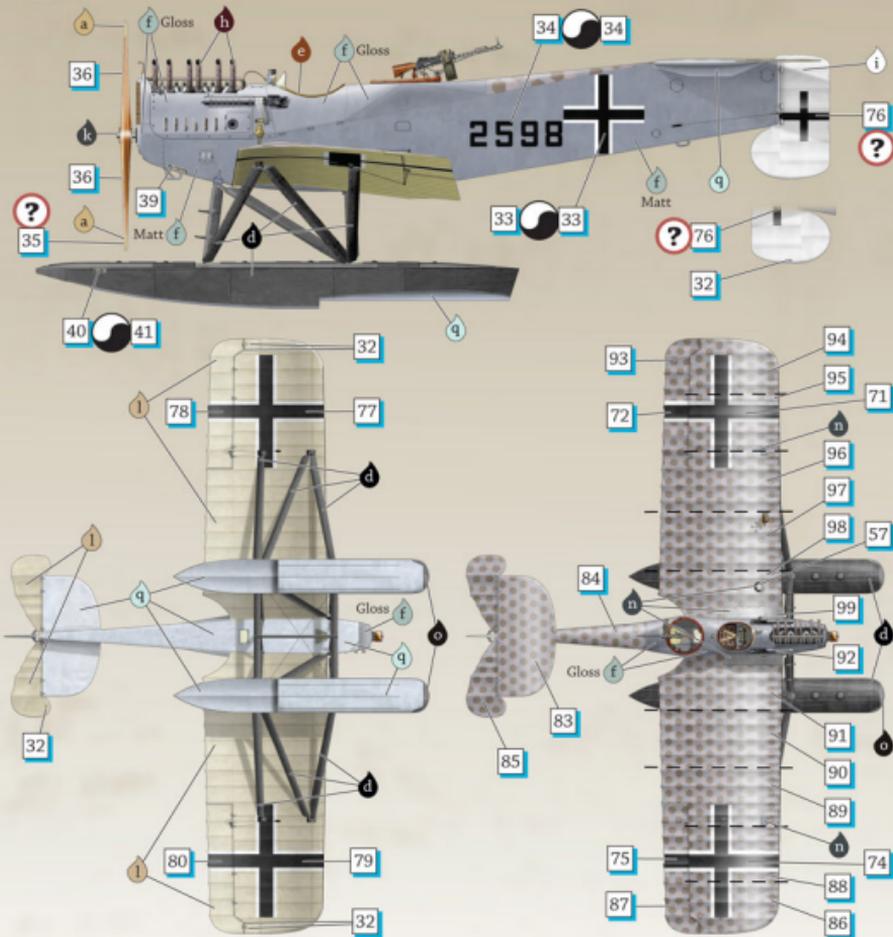
Ordered in early April 1918, W.29 2530 was stationed at Zeebrugge as part of Seeflugstation Flanders II. Features to note include the small name plaque 'Anne' on the nose, flares under the observer's cockpit, gun ring and heraldic wappen (shield) marking on the side of the fuselage. The unidentified crew of this aircraft is almost certainly the same as from an identically marked W.12 1410 as seen in Brandenburg W 12 Windsock Datafile 61. For a photo of W.29 2530 see Windsock Datafile 55 or *Over The Front*, Volume 24 number 4, 2006.

D Hansa-Brandenburg W.29 2532 C3MG, September-October 1918



From the same production order as **C**, 2532 features the diagonal white band markings of the Seeflugstation based on the resort island of Norderney. The wide March 1918 balkenkreuz have been altered to the thinner June style by neatly overpainting them with black and white and grey paint. This may have been positioned directly over the existing cross like we have illustrated or slightly outboard as seen in the photo on page 24 as both locations are shown in archive photographs and until an image confirmed to be the upper surfaces of 2532 comes to light, either style is possible. Note how the engine cowlings are shinier than the fuselage. From the caption to the original photograph the pilot is identified as 'Boninger'.

E Hansa-Brandenburg W.29 2598 C3MG, October-November 1918



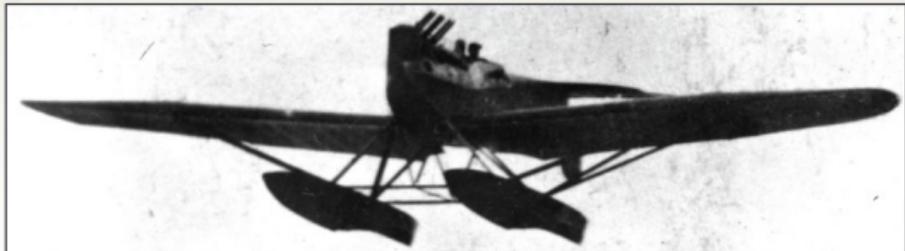
Ordered in July 1918, W.29 2598 is seen here at Wilhelmshaven after the armistice with its armament removed and LMG 08 'Spandau' openings faired over. Our decal scheme represents 2598 as it would have looked before the armistice, fitted with twin LMG 08 'Spandau' and a Parabellum LMG 14/17. While the photo shows the rudder without balkenkreuz [76] markings, during active service it almost certainly would have had these applied. Although it is impossible to confirm from the photo available to us, the undersides of the floats are likely to have been painted [q] like the others.



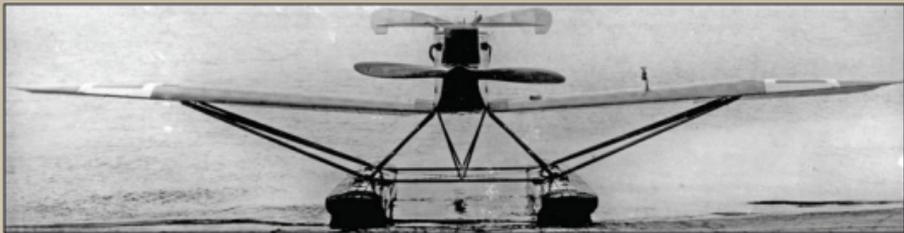
W.29 2206 was the 3rd prototype and the only W.29 to be powered by the 160hp Daimler-Mercedes D.III engine, it was also the 1st W.29 to reach front line service. It is interesting to note that there are no upper surface wing, aileron or elevator rib tapes visible in any W.29 photos. They are there, but are either very carefully painted to match the surrounding naval hexagon printed camouflage fabric or they are cut from the same material and carefully aligned to match the underlying pattern. The wing crosses are positioned as for **A** (note how the aileron control horn is positioned inside the white border) but are of the balkenkruetz design introduced in the middle of March 1918. It is possible that this aircraft has the early Parabellum LMG 14 observer's armament.



W.29 22?? (the full number is not legible) showing how the March 1918 balkenkruetz design has been converted to the thinner style introduced at the end of June by overpainting the earlier style with black and white and grey paint. On this particular aircraft the June balkenkruetz have been painted slightly outboard of the earlier ones, but this was not always the case. Note the 2-2-2 arrangement of the Benz Bz.III exhaust and Parabellum LMG 14/18 with Oigee optical sight.

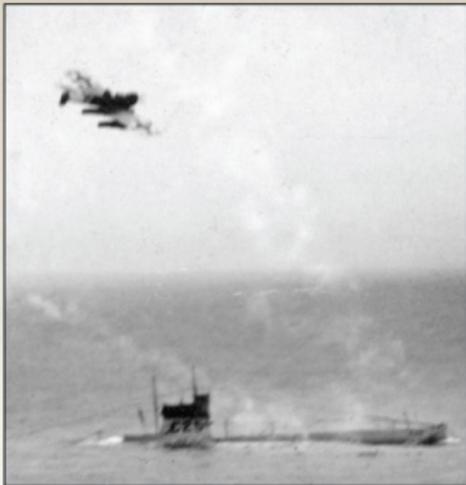


Tentatively identified as 2204 **C** in its earlier configuration due to its Benz Bz.III engine exhaust pipes, prototype observers cockpit surround and early style of rudder, this W.29 shows off the graceful lines of its advanced design. Note how the upper fuselage cowlings stand out compared to the fuselage, possibly due to them being in their early unpainted aluminium finish. The original caption to this photo identifies a Lt Mouvikmeyer in flight, whether he was the pilot, observer or the result of misinterpreting the original handwriting is not known.

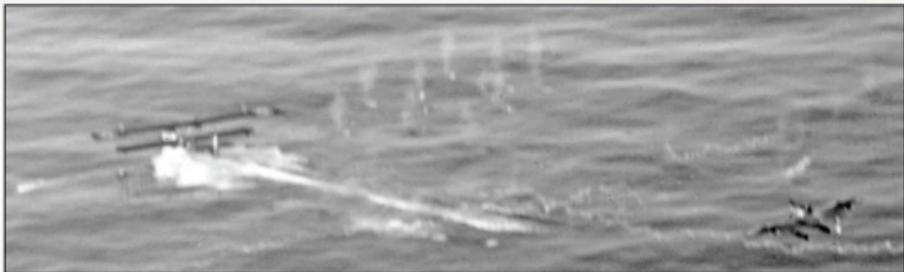


Unfortunately the aircraft number painted on the tip of the Niendorf propeller is not clear enough to identify this C3MG W.29. Note the distinctive W.29 wing profile, anemometer (A21) and production style tailplane and elevator details.

∨ Fredrich Christiansen's W.29 2512 photographed while attacking HMS C.25 on 6 July 1918. Six crewmen were killed in the 35 minute attack, including the commanding officer Lt David Bell, but the 5 sea planes of 1 C Staffell Seeflugstation Zebrugge could not sink C.25 which was towed to safety by another submarine, HMS E.51. Despite escaping to safety, C.25 was awarded as a kill for Christiansen.



^ On 31 July 1918 four W.29s of 1 C Staffell Seeflugstation Zebrugge attacked Felixstowe F.2a N4305 setting it on fire and killing 2 of the crew. This photo and the one below are believed to show this dramatic action.





C2MGHFT W.29s 2580 and 2583 await demolition at Wilhelmshaven after the armistice. Both aircraft were from a batch of 20 C2MGHFT W.29s (numbers 2564 to 2583) ordered in late May 1918 and feature late production tailplanes (89). The anemometer has been removed from 2580 and neither aircraft has any weapons fitted. What appears to be a hole in the side of 2580 is damage to the photograph negative.



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 pass 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.

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 *Wingsock Worldwide*, *Wingsock Datafiles*, *Cross & Cockade* and *Over the Front*.

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



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.



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



32010	1/32 Hansa-Brandenburg W.29	Qty
0132010A	A parts	1
0132010B	B parts	1
0132010C	C parts	1
0132010D	D parts	2
0132010F	F parts	1
0132010H	H parts	1
0132010I	I parts	1
0132010P	Photo-etched metal parts	1
0132010M	Metal wing spar	1
132E0009	E parts Benz Bz.III engine	1
132G0001	G parts Parabellum LMG 14/17	1
7132010	Instructions	1
9132010a	A decals Hansa-Brandenburg W.29	1
9132010b	B decals Hansa-Brandenburg W.29	1
9132010c	Naval camouflage Hansa-Brandenburg W.29	1

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



32001 - 1/32 Junkers J.1



32005 - 1/32 Gotha G.IV



32006 - 1/32 Pfalz D.IIIa

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