



Mikes WW1 Aircraft Models

I have always held a fascination with early military aircraft. After serving for 27 years in the Royal Air Force, I became a Military Aerospace Technical Author. Although, as most modelers, I got involved in the world of construction kits at an early age, I stopped for most of my service career and for some years afterwards.

I started modeling again a few years ago and now enjoy the challenge of building aircraft of World War One. Since posting photographs of my completed models online, several people have asked if I would create a 'build log' for future builds.

I don't consider myself a 'master' of this craft, but hope to be able to pass on what I have learned. As such, here is my build log, which covers my build of the Wingnut Wings 1:32 scale model of the Fokker D.VII (Albatros built) 'Nickchen IV', Serial No.817/18 operating with Jasta 53 during August 1918 and flown by Offizierstellvertreter Fritz Blumenthal.

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Completed: March 2019

CONTENTS

INTRODUCTION

AFTER MARKET

THE MODEL (GENERAL)

PREFACE

The pilot - The aircraft

PART 1 - THE MODEL

Modifications or Corrections:

- 1A. General preparation
- 1B. Control surfaces - animation
- 1C. Engine
- 1D. Gun installations
- 1E. External rigging points
- 1F. Pilot seat belts
- 1G. Propeller
- 1H. Decals
- 1I. Engine radiator
- 1J. Seat harness attachment
- 1K. Cockpit wind baffle
- 1L. Cockpit additional detail
- 1M. Non-installed modifications
- 1N. Wheels - modification

PART 2 - WOOD EFFECTS (General)

PART 3 - WEATHERING (General)

PART 4 - DECALS (General)

PART 5 - RIGGING (General)

PART 6 - ENGINE

PART 7 - PROPELLER

PART 8 - COCKPIT AND FUSELAGE

PART 9 - WEAPONS

PART 10 - MODEL CONSTRUCTION

PART 11 - FIGURES

PART 12 - DISPLAY BASE

COMPLETED MODEL PHOTOGRAPHS

INTRODUCTION

Before I start with the build log, I'd like to show how I've set up my work area. I prefer to keep the work area as clear as I can (I've lost too many small items in the past). I think it's important to have the tools etc you need ready to hand and other, non-essential stuff tucked out of the way until needed. I'm lucky in that I have my 'man cave', which is sorted into a modelling area, airbrush spray booth in addition to my work station PC, games PC and games console.

Sorted



AFTER MARKET

After Market Parts

'Proper Plane' Heine 1:32 scale wood propeller (WP-003),
'Taurus Models' engine intake manifold lock rings (3211),
'Taurus Models' engine fuel priming cups (3219),
'Taurus Models' engine complete timing gear - conical valve springs (3209),
'Gaspatch' Spandau 08/15 extended loading handle (18-32128),
'HGW Models' Fokker D.VII double sided seat belts (132302),
'RB Productions' Fokker D.VII radiators (RB-P32031),
'Steve Robson' supplied wheel rubber tyres.

Figures

'Blackdog Models' German photographer (F32008),
'Aviattic' Legend Series - Anthony Fokker (ATTL-02).

Decals

'Aviattic' linen effect - Fokker D.VII (Alb) 4 colour lozenge
(ATT32164), (ATT32170) and (ATT32171),
'Wingnut Wings' kit supplied markings (scheme B).

Rigging accessories

'GasPatch' Elite Accessories 1:48th turnbuckles (Type C),
'Albion Alloy' micro-tube 0.4 mm (NST04) and 0.5 mm (MBT05),
'Steelon' mono-filament (0.12 mm diameter),
'Stroft' mono-filament (0.08 mm diameter).

Sundries

'Tamiya' acrylic, 'Humbrol' acrylic, 'Mr Metal Colour' enamels,
'AK Interactive' primer and micro-filler (Grey AK-758) (White AK-759),
'AK Interactive' acrylic paints, 'Mr. Colour' levelling thinners,
'Model Colour' acrylic, 'MiG' oil brushers and odourless enamel thinners,
PVA Adhesive, Cyanoacrylate (CA) glue (thin),
'Fleky 5' CA adhesive, 'Deluxe Materials' perfect plastic putty,
'Flory Models' sanding and polishing sticks, 'PlusModel' lead wires,
'Humbrol' Maskol, 'Bostik' blue tack, 'UHU' white tack,
'Johnson' Pledge Floor Care finish, 'Alclad' lacquers (as specified),
'Stroft' 0.08 mm mono-filament,
'Steelon' 0.12 mm mono-filament,
'Mr Finery' slit masking sheet (GT53 : 480).

Weathering mediums

'Flory Models' clay washes and pigment powders,
AK Interactive engine washes,
'Tamiya' Weathering Master sets, Oil paints (as specified).

Display Base

Online vendor built Acrylic base/cover and etched plaque (information plate).
'Model Scene' grass mat x2 (Wetlands light F010),
'Coastal Kits' 1:32 Scale 'Abandoned Airfield' display mat, Plastic profile 90 degree (6 mm).

THE MODEL (General)

(Wingnut Wings Kit No.32027)

This kit was released along with four other versions of the Fokker D.VII, although since then some of the kits are no longer in production.

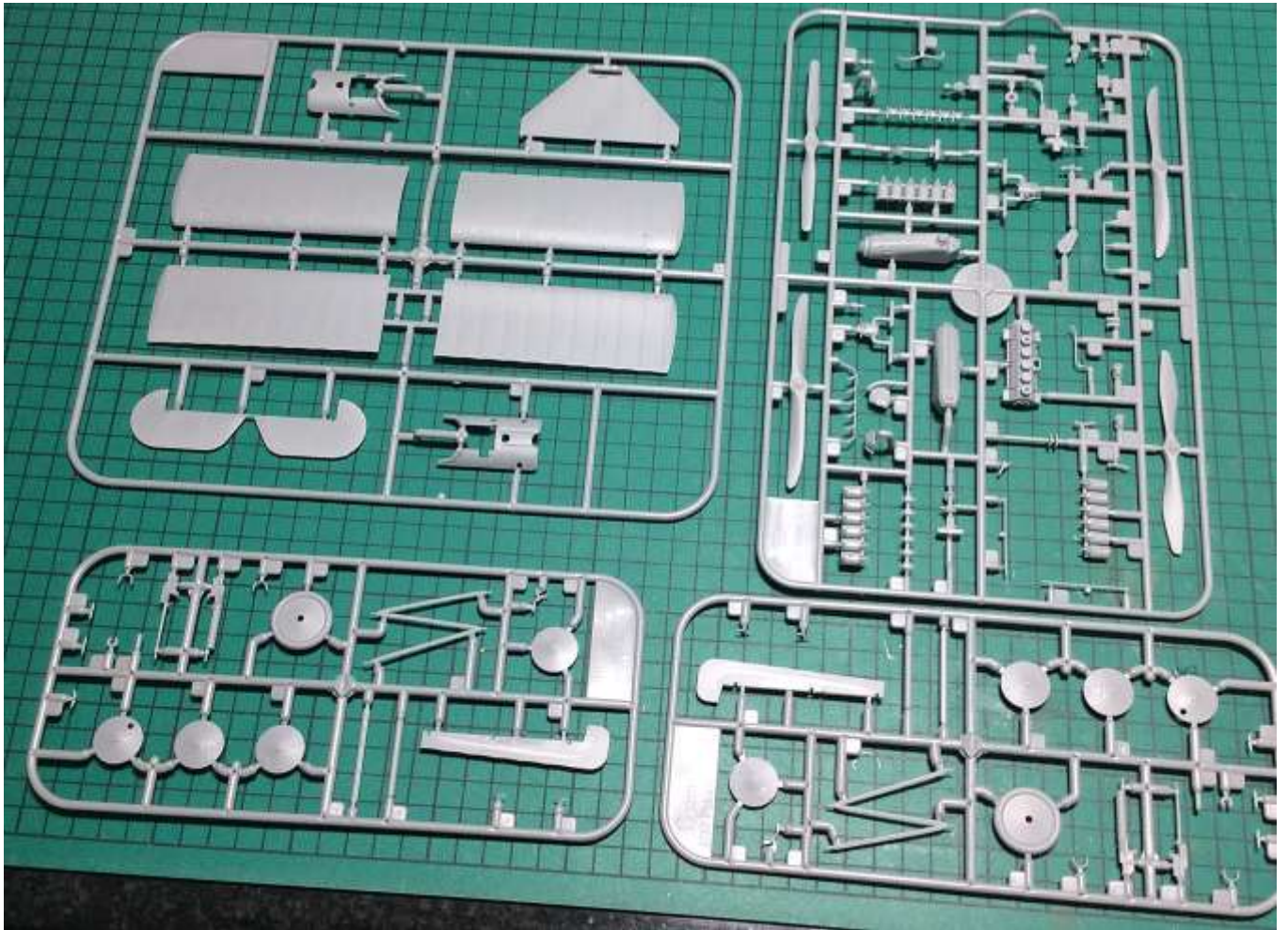
As expected, any model from WingNut Wings (WNW) is at the top of quality and accuracy. The parts are manufactured from traditional styrene (plastic), not resin. There is minimal mould flash that needs to be removed and also virtually no ejection pin marks that need to be filled and sanded away. All of the main sprues, including the transparencies and photo-etch (PE) parts, are sealed in separate plastic bags, which prevents and sprue damaging another. There are eight main sprues, one transparency and one photo-etch for this model. There are six full decal sheets included in the kit. Four of the sheets cover different versions of the coloured lozenge scheme, one sheet has the separate coloured rib tapes and the last has the various unit and personal markings. The decal sheets supplied are by 'Cartograf' so should be of the best quality in both colour and registration.

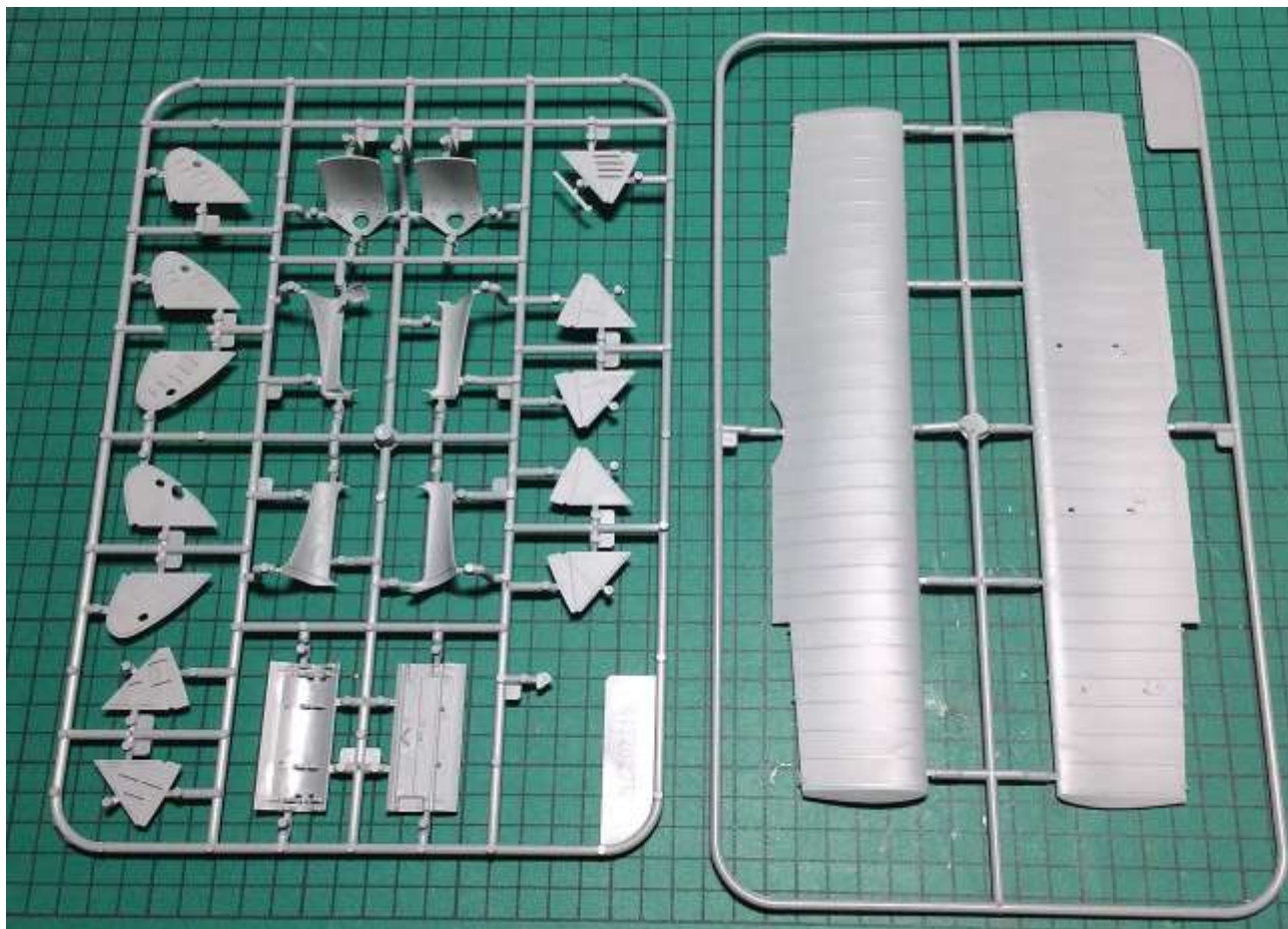
Some of the sprues are common to all of the different kit versions and therefore some parts are not required for this model. Those parts not required are marked as such in the instruction manual.

The instruction manual is in the well known format that WNW produce and has clear and concise instructions, including coloured illustrations and photos for reference. Also the manual contains reference information and photographs about the aircraft, including five colour profiles of different colour schemes.

As usual, some modellers may wish to carry out modifications to further enhance the model. As such there are aftermarket items that can be added or used to replace kit parts. Those used on this particular model are listed on the 'Aftermarket' page of this build log.







PREFACE

This model represents Fokker D.VII (Albatros built) 'Nickchen IV' (Little Nick), Serial No.817/18 operating with Jasta 53 during August 1918 and flown by Fritz Blumenthal.

References:

Osprey Aircraft of the Aces - Fokker D.VII aces Part 1-2 (Norman Franks/Greg VanWyngarden).

Albatros Productions - Windsock - Data file No.9 - Fokker D.VII (P.M. Grosz).

Albatros Productions - Fokker D.VII Anthology 3.

Kagero Publishing - Fokker D.VII The Lethal Weapon (Tomasz J. Kowalski and Marek Rys).

Wingnut Wings - Instruction manual (Kit No.32027).

Windsock Modelling Special No.3 - Building the Fokker D.VII (Ray Rimell).

Various online resources (e.g. Wikipedia and the Aerodrome forum).

NOTE:

I researched the background and wartime career of Fritz Blumenthal, but sadly could find no information on the man himself, apart from his last flight, during which he was shot down and taken prisoner.

The pilot

Fritz Blumenthal joined Jasta 53, as one of its original members, on the 23rd of January 1918, having been transferred in from 'JastaSch II' flight training school. His final flight was detail in the combat report of Captain Frederick R.G. McCall, which stated that "Whilst on offensive patrol at 09:15 on 12 August 1918, No.41 Squadron, RAF, Captain Frederick R. G. McCall attacked a Fokker D.VII, a short distance north of Bayonvillers, and due east of Villers-Bretonneux".

Captain McCall later reported that he had dived on the aircraft and “on firing a short burst at close range saw the top half of its rudder fly off past his machine.” This damage seems to have been the linen covering the rudder, not the actual rudder structure. The pilot was unable to steer to safety and landed his aircraft behind British lines just north of the Villers-Bretonneux to Péronne road, where he was captured by ground troops. The pilot was Offizierstellvertreter Fritz Blumenthal, who confirmed McCall’s victory, and who belonged to Jasta 53, 9th Army.

The aircraft was Fokker D.VII, Serial No.817/18, nicknamed ‘Nickchen IV’.

After the linen on the rudder was replaced and RAF markings applied, it was given the serial G/5Bde/20 and subsequently evaluated by the RAF. According to the RAF report it had a 180hp Mercedes engine, Serial No.34358 and machine guns numbered 6121 and 4952. It was fitted with propeller, serial No.34358 and manufactured by ‘Heine’. The report described the nose and tail as white with 4 colour lozenge linen covering the aircraft. On the fuselage, to the rear of the pilot, was a ‘wide white line with blue edging’. The nickname ‘Nickchen IV’ was applied in white script on both sides of the fuselage. Three large holes had been cut through the chin cowl and the engine side cowls had been removed, both for extra cooling it seems. The rudder /fin had no black cross marking and assumed to be the pilots preference.

The aircraft

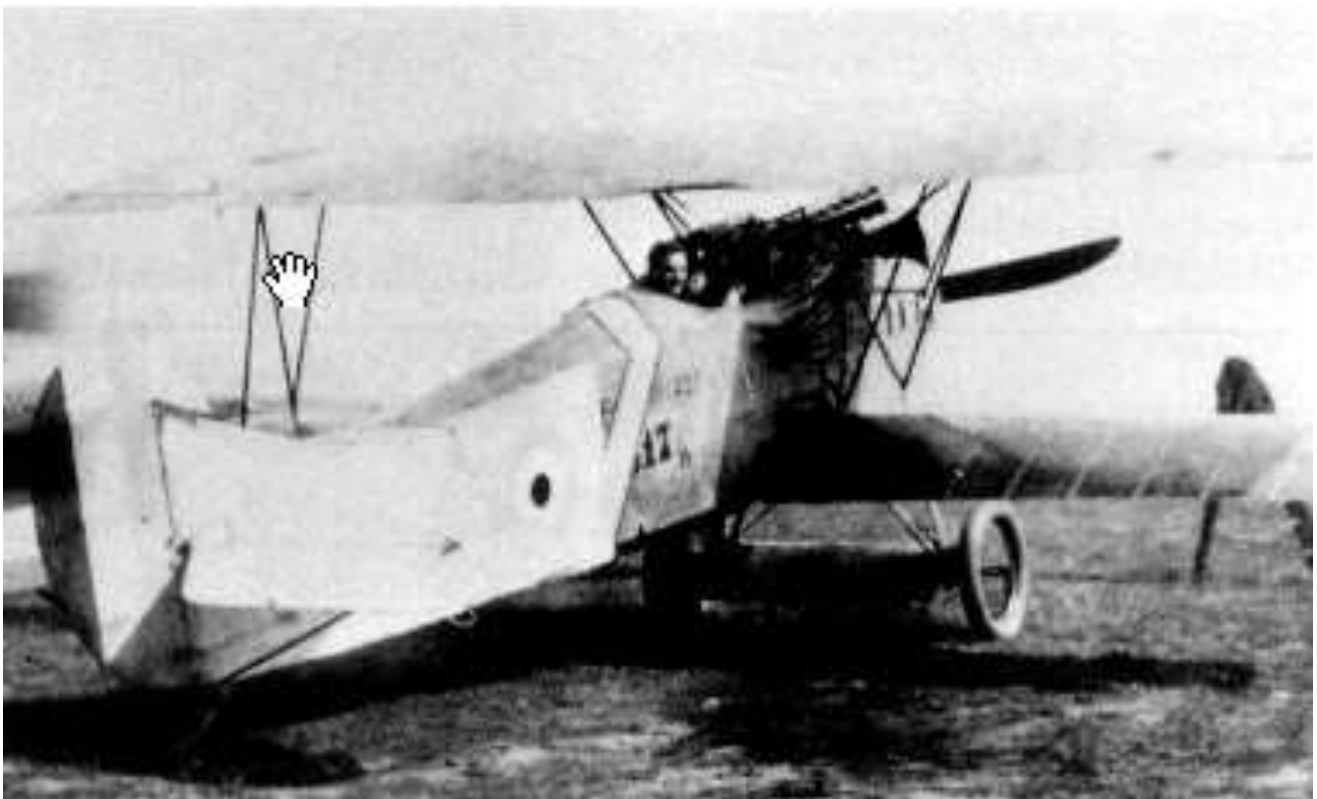
Jasta 53:

Royal Prussian Jagdstaffel 53, commonly abbreviated to Jasta 53, was a "hunting group" (i.e. fighter squadron) of the Luftstreitkräfte, the air arm of the Imperial German Army during World War I. Jasta 53 was formed on the 27th of December 1917 at the Flieger-Abteilung (Flier Detachment) 9, at Darmstadt, Germany. Jasta 53 began operations on the 9th of January 1918 and on the 10th of January was transferred to the 3rd Army. However, the new squadron did not fly its first combat missions until the 10th of March 1918.

On the 18th of March, it was transferred to the 18th Army and thereafter claimed the first three victories on the 22nd of March. On the 15th of July, Jasta 53 returned to the 3rd Army and joined Jagdgruppe 11, who moved to support the 9th Army a few days later. On the 25th of September, Jasta 53 returned to support the 3rd Army, where it remained until war's end. The squadron would score over 20 aerial victories during the war. The unit's victories came at the expense of one pilot killed in a flying accident, another injured in an accident, one wounded in action, and four taken prisoner of war.

Colour scheme - contradictions:

After being forced down this aircraft was taken by the RAF. It’s rudder was replaced and a RAF evaluation colour scheme and markings were applied. The RAF evaluation report stated that the aircraft had 4 colour lozenge linen covering and that the tail was painted white, with no black cross markings. As the rudder was re-skinned by the RAF after it was captured it doubtless had no German markings, as seen on the most famous photographs of the aircraft after capture. The photographs of aircraft in Jasta 53 colours show that the fin had a black cross. The rib tapes on the lower wing are visible, but those on the upper wing and its lozenge can’t easily be discerned. The Wingnut Wings instructions indicate the lower wing was 4 colour lozenge with light blue rib tapes, but that the upper wing was 5 colour lozenge with rib tapes cut from the same linen. This, if correct, may indicate that either the upper wing linen was recovered or that the wing itself had been replaced at some point. Also the rudder is shown with a black cross. Once again the choice must be made by the modeller, but most seem to have followed the version by Wingnut Wings. *I’ve chosen the 4 colour lozenge overall scheme, with blue rib tapes on the lower wing and lozenge rib tapes on the upper wing, as per the Wingnut Wings instructions.*



Design:

Fokker's chief designer, Reinhold Platz, had been working on a series of experimental V-series aircraft, starting in 1916. The aircraft were notable for the use of cantilever wings. Junkers had originated the idea in 1915 with the first all-metal aircraft, the Junkers J 1, nicknamed Blechesel (sheet metal Donkey or Tin Donkey). The wings were thick, with a rounded leading edge. The shape of the wings aerofoil section gave greater lift and more docile stalling behaviour than the thin wings commonly in use. Late in 1917, Fokker built the experimental V 11 biplane, fitted with the standard Mercedes D.IIIa engine. In January 1918, Idflieg held a fighter competition at Adlershof. For the first time, front line pilots participated in the evaluation and selection of new fighters.

Fokker submitted the V 11 along with several other prototypes. Manfred von Richthofen flew the V 11 and found it tricky, unpleasant and directionally unstable in a dive. Platz lengthened the rear fuselage by one structural bay and added a triangular fin in front of the rudder. Richthofen tested the modified V 11 and praised it as the best aircraft of the competition. It offered excellent performance from the outdated Mercedes engine, yet was safe and easy to fly. Richthofen's recommendation virtually decided the competition but he was not alone in recommending it. Fokker immediately received a provisional order for 400 production aircraft, which named D.VII by Idflieg. Fokker's factory was not up to the task of meeting all D.VII production orders.

The Idflieg directed Albatros and AEG to build the D.VII under license, though AEG did not ultimately produce any aircraft. Because the Fokker factory did not use detailed plans as part of its production process, Fokker simply sent a D.VII airframe for Albatros to copy. Albatros paid Fokker a five percent royalty for every D.VII they built under license.

Albatros Flugzeugwerke and its subsidiary, Ostdeutsche Albatros Werke (OAW), built the D.VII at factories in Johannisthal (Fokker D.VII-Alb) and Schneidemühl (Fokker D.VII-OAW) respectively. The Fokker D.VII soon became recognised as the best German fighter of the war and in fact the Treaty of Versailles specifically called for the surrender of these aircraft to the victorious Nations involved. Of the 3,380 aircraft built, 1,100 were built by Albatros.

The basic aircraft statistics are:

Wingspan - 8.7m (28.54ft)

Length - 6.95m (22.8ft)

Maximum weight - 895kg (1,973 lbs)

Maximum speed - 200kph (124mph)

Operational ceiling - 6900m (22,600ft)

Weapons - two 7.92mm LMG 08/15 'Spandau' machine guns

Engine - Daimler-Mercedes 180hp D.IIIa



PART 1 - THE MODEL

MODIFICATIONS OR CORRECTIONS

- 1A. General preparation
- 1B. Control surfaces - animation
- 1C. Engine
- 1D. Gun installations
- 1E. External rigging points
- 1F. Pilot seat belts
- 1G. Propeller
- 1H. Decals
- 1I. Engine radiator
- 1J. Seat harness attachment
- 1K. Cockpit wind baffle
- 1L. Cockpit additional detail
- 1M. Non-installed modifications
- 1N. Wheels - modification

Despite this model being produced by Wingnut Wings, there are still a few minor changes that can be made to the model to enhance the overall effect.

1A. General preparation:

Some modellers work the various pieces whilst they are still attached to the main sprue, but I prefer to remove the pieces first so that I can clean them up more easily. However pieces like the cockpit frames are delicate and can easily be damaged when being removed. When parts are cut from the sprues, care should be taken as they can either break or get stressed at the cut point, which causes 'white' stress and/or deforming. For plastic kits, I use fine sprue cutters to cut away the kit part, not too close to the part, then sand off the tag. When I cut resin parts away from their mold blocks, I use a fine cutting saw, which has a more gentle cutting action. Despite being a WNW kit, there are still some fine moulding lines around items such as the cockpit frames, but they are only slight and are easily removed using a sharp blade or sanding stick. I use a new scalpel blade to gently scrape off the mould lines. Some of the model items like the parts for the cockpit are very small and can easily 'fly off' when being handled, so take care. Remember to drill any holes needed for rigging or control lines by referring to the relevant pages and diagrams in the kit instruction manual.

Once the items have been removed from the sprue and prepared, I normally gently wash them in warm, soapy water, to remove any handling 'grease' or mould release agent remaining on the items. I use an old toothbrush to do this. Once dry they can be primed ready for painting. Primer can be applied by brush, airbrush or from aerosol cans. These days I prefer to use 'AK Interactive' Primer and Micro-filler (Grey AK758) or (White AK759). These have good coverage as the base primer for acrylics. Take care when spraying the primer as if you apply too much it will result in 'pooling' or 'runs', which would then need to be removed once the primer has dried. Make sure you spray in a well ventilated area or preferably, if you have one, use an extractor booth.

1B. Control surface - animation:

The modeller may wish to show the flight control surfaces 'animated' rather than to have them aligned to their airframe components. Fortunately the rudder, elevator and ailerons are intended to be cemented onto locating 'lugs' on the fin, tail plane and upper wing. This type of assembly allows for the control surfaces to be positioned as desired, although applying too much pressure on the cemented parts may cause them to break away. If reinforcing the location points is felt necessary then one method that can be employed is to drill and fit micro-tube between the control surface and its mating surface. This was not felt to be necessary for this particular model.

1C. Engine:

Although the kit supplied engine is of good quality, I felt it could be further enhanced by adding or replacing parts with after market items.

How these changes were achieved is detailed in Part 6 (Engine) of this build log.

'Taurus Models' engine complete timing gear - conical valve springs (3209)



'Taurus Models' engine intake manifold lock rings (3211)



'Taurus Models' engine fuel priming cups (3219)



Ignition leads - Engine control - Associated pipes - Engine sump apertures - Oil sight glass etc:
These modifications will be incorporated during the engine build at Part 6 of this build log.

1D. Gun installations:

For this model build I chose not to use the kit supplied weapons, but instead those supplied from 'GasPatch' Models, which are the Spandau 08/15 Extended Loading Handle Fokker Version 1/32 (18-32128).

These will be assembled and painted in Part 9 of this build log and fitted later in the model build.



1E. External rigging points:

The Fokker D.VII was noted for its structural integrity and strength, being due to its design. This meant that it had hardly any externally visible rigging. German aircraft were rigged using 'standard' round section cable, which were tension adjusted by turnbuckles. As turnbuckles are not supplied in the kit, I used the 'GasPatch' Elite Accessories 1:48th turnbuckles (Type C), as these are more 'in-scale' than the 1:32 scale version, which appear to be slightly over-scale.

These will be fitted to the required rigging or control wires later in the model build.



To prepare for installing the rigging to the model, holes will need to be drilled to accept the rigging and anchors.

Undercarriage cross bracing:

NOTE: *The actual cross-bracing wires will be fitted later in this build.*

Cross bracing wires were fitted to the undercarriage, diagonally between the top and bottom of the forward undercarriage struts. Turnbuckles were fitted at the bottom of each bracing wire.



1. The supplied axle fairing already has two cable locations pre-molded inboard and rear of the aperture for the front struts. These locations need to be drilled at the correct angle for the installed bracing cables, using a 0.3 mm diameter drill.
2. The under fuselage panel (A25) needs to have a hole drilled adjacent to the forward strut cut-outs. Drill the holes, at the correct angle for the installed bracing cables, using a 0.3 mm diameter drill.

Aileron cables - upper wing:

NOTE: *The actual aileron cables will be fitted later in this build.*

The installation for the aileron control cables requires holes to be drilled, at the correct angle for the installed aileron cables, using a 0.3 mm diameter drill. Turnbuckles were fitted to these control lines.

1. Wing cable entry locations for each aileron - upper and underside surfaces at the pre-molded locations.
2. Underside - twin cable entry points inboard of the rear cabane strut locations.



Tail plane to fin - bracing wire:

NOTE: *The actual cross-bracing wires will be fitted later in this build.*

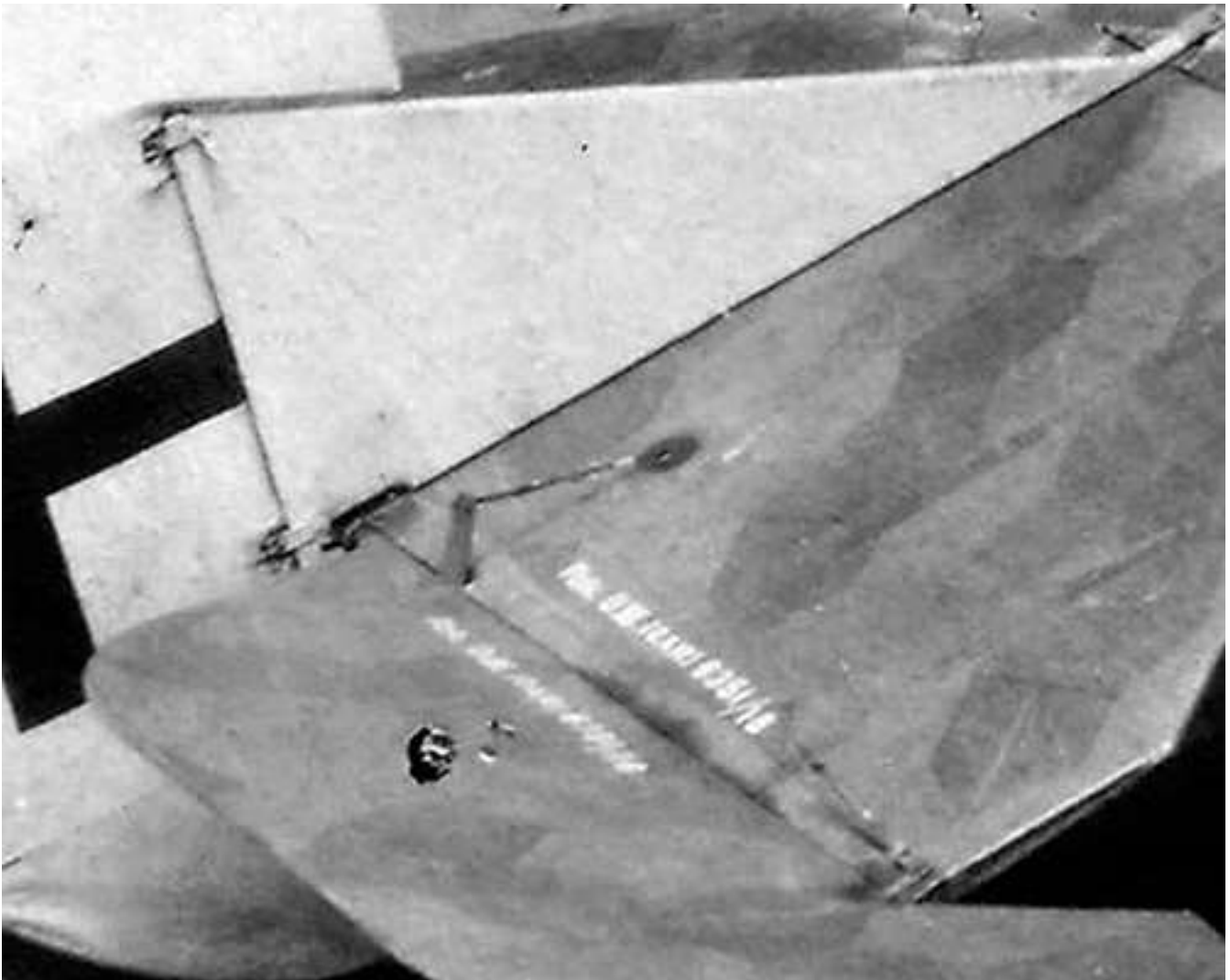
The tail plane was braced to the fuselage by support struts underneath the tail plane. Above the tail plane was braced by a wire, routed from the outer trailing edge of the tail plane and through the fin, just below the upper rudder hinge. These locations are pre-molded into the fin and tail plane, but need to be drilled out, at the correct angle for the installed cables, using a 0.3 mm diameter drill. Turnbuckles were fitted at the bottom of each bracing wire

Elevator control cables:

NOTE: *The actual elevator cables will be fitted later in this build.*

Movement of the elevator was made by a control cables, which were routed from each side of the fuselage and attached the upper and lower levers of the elevator control horns. The fuselage has pre-molded locations for the elevator cables, which need to be drilled out, at the correct angle for the installed cables, using a 0.3 mm diameter drill.

The elevator horns (D17) need a hole of 0.2 mm diameter drilling through each end of the horns, for passing through the control line. Turnbuckles were fitted to each control wire



Rudder control cables:

NOTE: The actual rudder cables will be fitted later in this build.

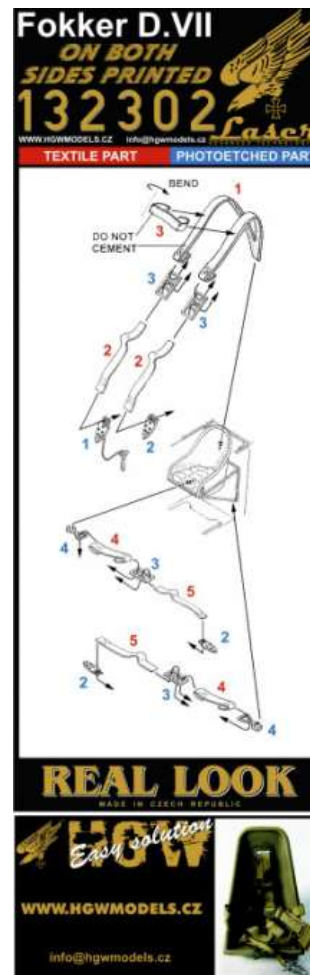
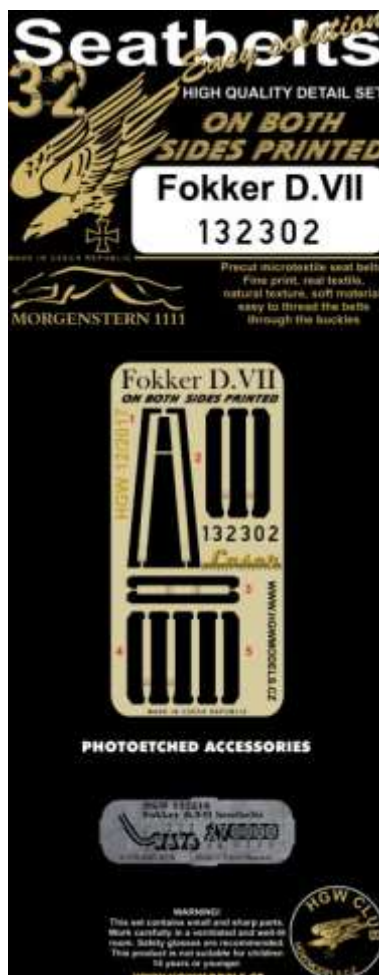
Movement of the rudder was made by a control cable, which was routed from each side of the fuselage and attached the rudder control horn on that side of the rudder. The fuselage has pre-molded locations for the rudder cable, which need to be drilled out, at the correct angle for the installed cables, using a 0.3 mm diameter drill. The assumption is that turnbuckles were fitted at each control wire

The rudder control horn (D17) needs a hole of 0.2 mm diameter drilling through each end of the horn, for passing through the control line.

1F. Pilot seat belts:

The crew seat belts supplied in the kit are photo-etch. However I prefer to use the 'fabric' seat belt sets from 'HGW Models', which can be tricky to assemble but are more natural looking and are more 'in-scale'. The set used for this model is the Fokker D.VII - Double-sided Seatbelts 1/32 - Set 132302, which are comprised of crushable 'fabric' paper and photo-etch parts and are assembled following the HGW instructions.

These will be assembled and fitted in Part 8 of this build log.



1G. Propeller:

For this build I chose to replace the kit supplied propellers with wood laminated, hand made 'Heine' propeller from 'Proper Plane' (32-003). The propeller is supplied with resin mounting plates.

This will be assembled and finished in Part 7 of this build log and fitted to the model in Part 10.



1H. Decals:

Rather than use the kit supplied decals I chose instead to use the 'Aviatic' linen effect - Fokker D.VII (Alb) 4 colour lozenge (ATT32164), (ATT32170) and (ATT32171). These decals are of the 'clear' type, which means the applied base colour on the model surface will show through the decal, to give the 'linen' effect. The decals are supplied later in this build, but general information is given in Part 4 of this build log.

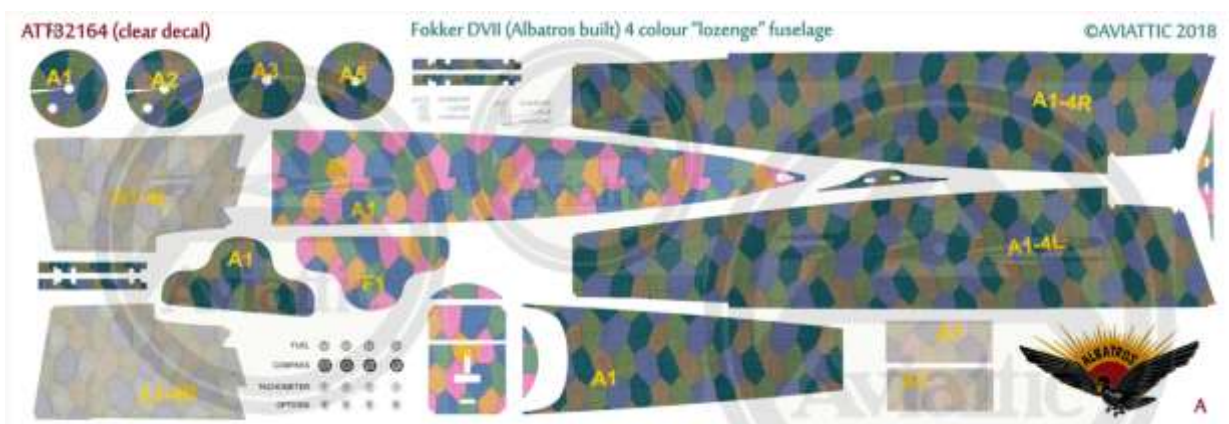
ATT32164 is for the fuselage and wheels.

ATT32170 is a full wing set but being used for the upper wing only (lozenge rib tapes).

ATT32171 is a full wing (blue rib tapes) set but being used for everything except the upper wing.

Information on decals can be found in Part 4 of this build log.

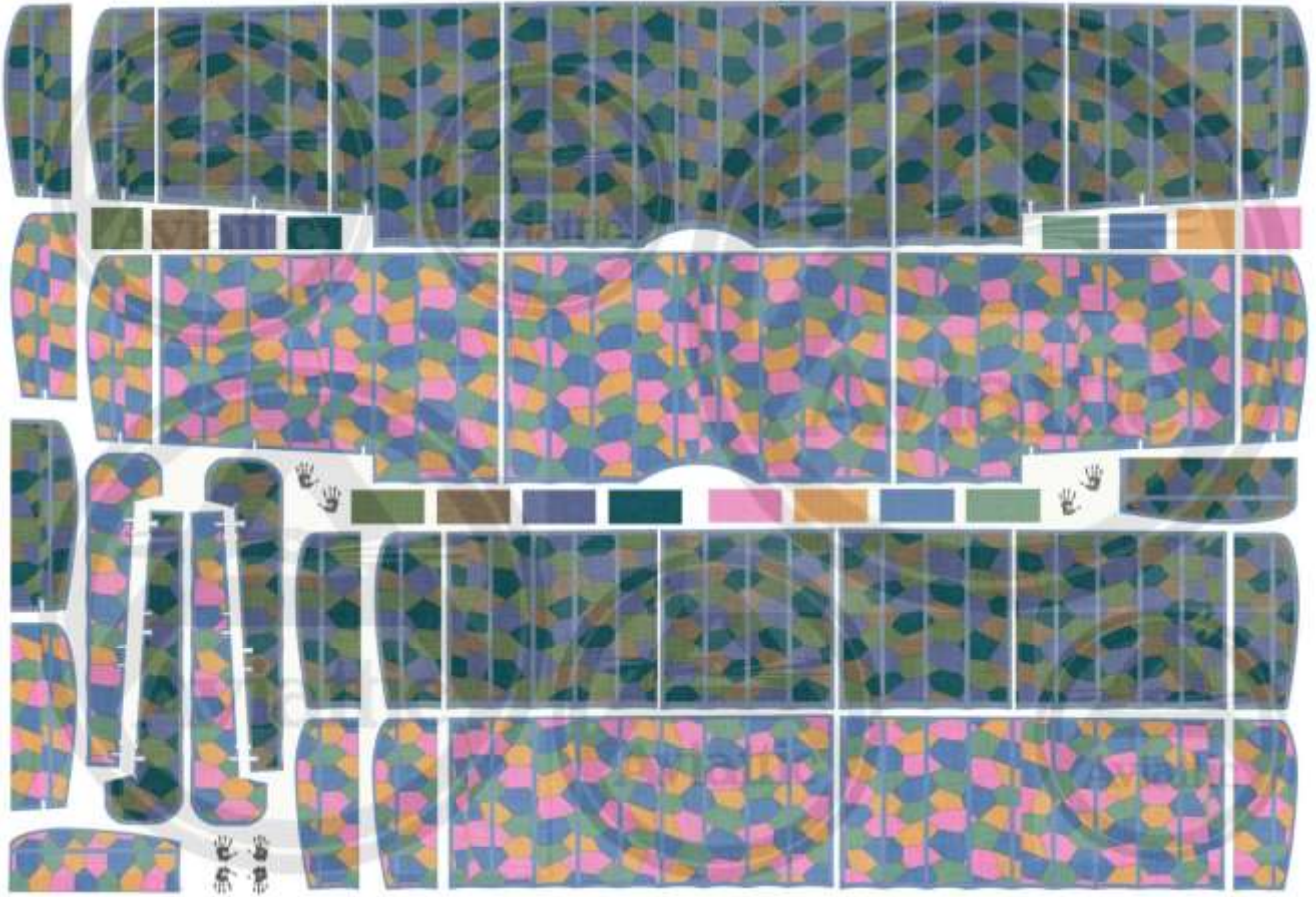
Application of these decals is detailed in Part 10.



ATT32171 (clear decal)

Fokker DVII (Albatros or OAW built) 4 colour "lozenge" with blue rib tapes

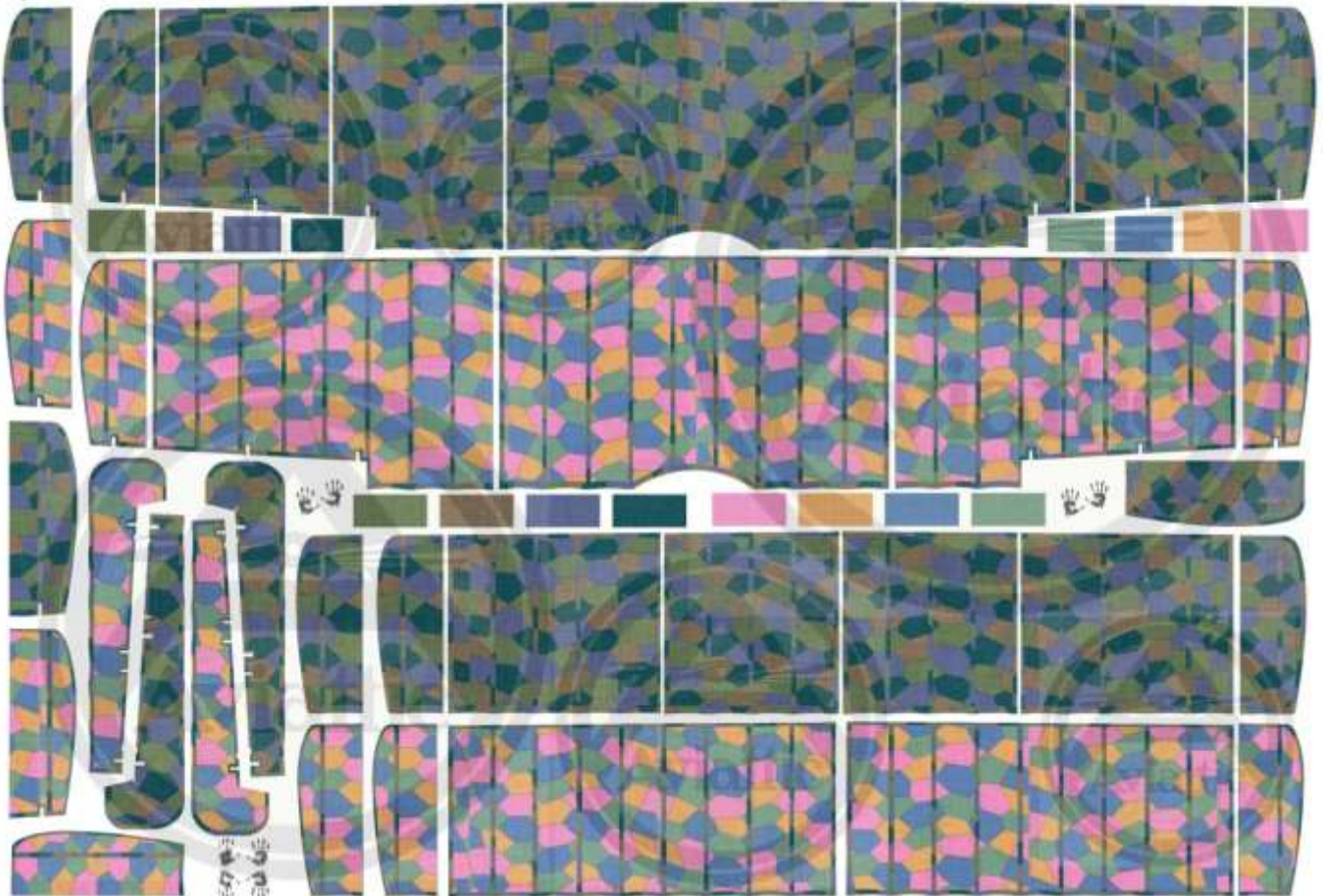
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ATT32170 (clear decal)

Fokker DVII (Albatros or OAW built) 4 colour "lozenge" with lozenge rib tapes

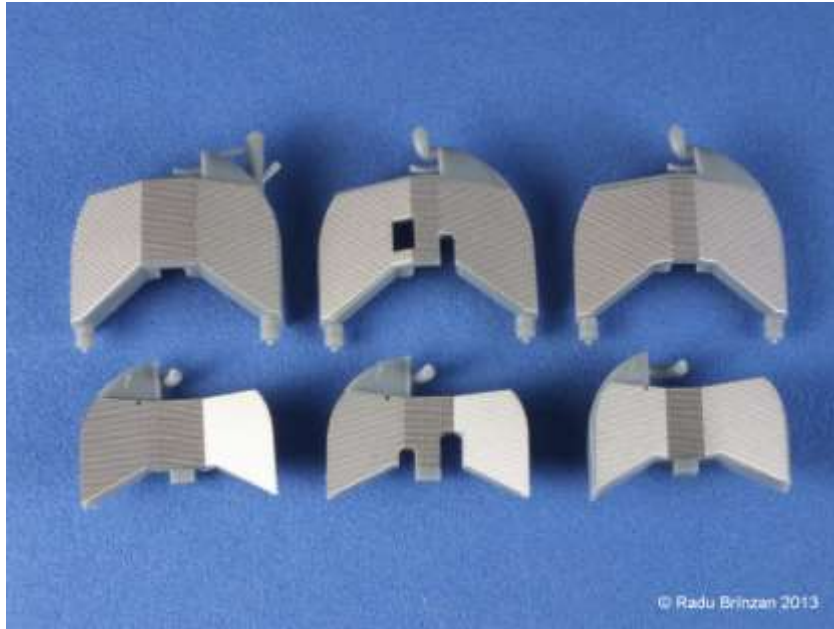
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1I. Engine radiator:

The kit supplies different radiator assemblies covering the various manufacturers of the Fokker D.VII. The detail on these parts is good but I felt could be enhanced with after market parts. To that end I used the photo-etched set from 'RB Productions' Fokker D.VII radiators (RB-P32031) and was fitted later in this build log. These items cover three variations of radiator and include the mesh for the front and rear faces of the radiator.

These will be assembled, painted and fitted in Part 10 of this build log.



1J. Seat harness attachment:

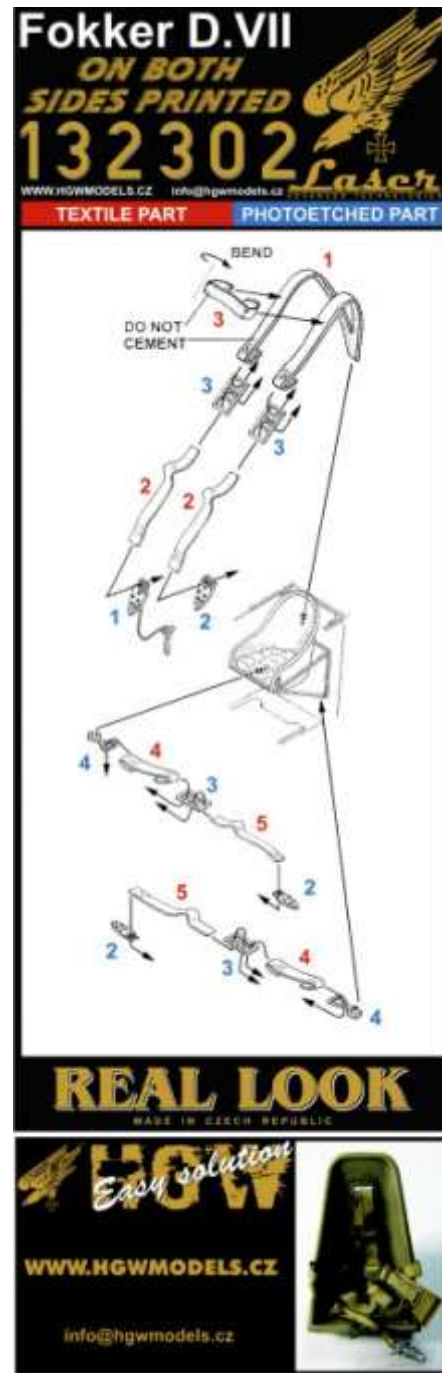
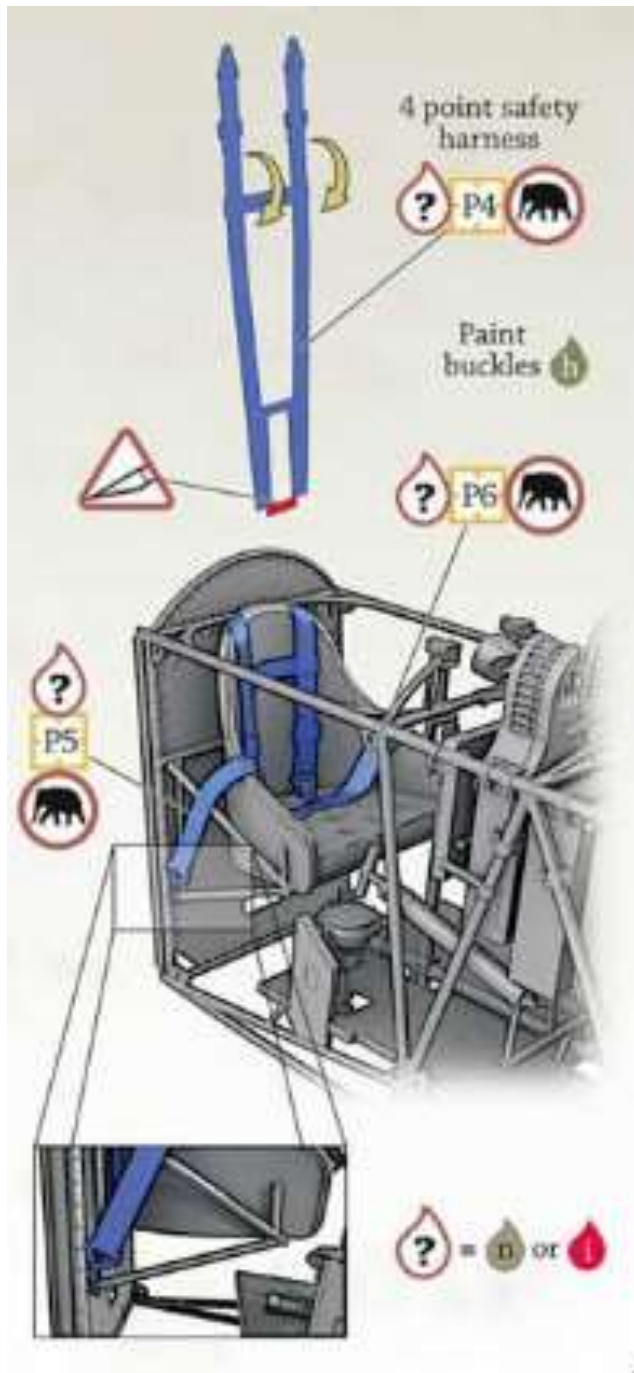
As is usual when researching information for WW1 aircraft, I found conflicting information as to the type and attachment of the pilots seat harness.

Some pilots had the seat harness replaced in the field by the more traditional lap strap. However the standard harness consisted of two shoulder straps which were joined across the chest area by a cross strap. A lap strap was located at each side of the pilots seat. Each of the four straps were fastened together by a lock pin through the strap end fittings.

The conflicting information is about how the seat harness was attached to the aircraft. There are some sources, such as the instructions for the Wingnut Wings kit and the 'HGW Models' fabric replacement seat harness, that indicate that the two lap straps were anchored by their end fittings to the bottom of the seat side mounting frames. In addition, that the two shoulder straps were attached to either the back of the seat or to the top cross bar of the seat mounting frame.

The seat was constructed from sheet metal with a plywood base. A leather seat cushion was used, but was eventually made redundant with the introduction of the 'Hienecke' parachute. The inside surface of the metal seat was usually covered with linen of either lozenge design or just clear doped linen (CDL). The seat itself was attached to the seat support frame in three places. These were the vertical supports on the front of each side support frame. The third location was an attachment plate bolting the back of the seat to the centre cross bar of the seat support frame.

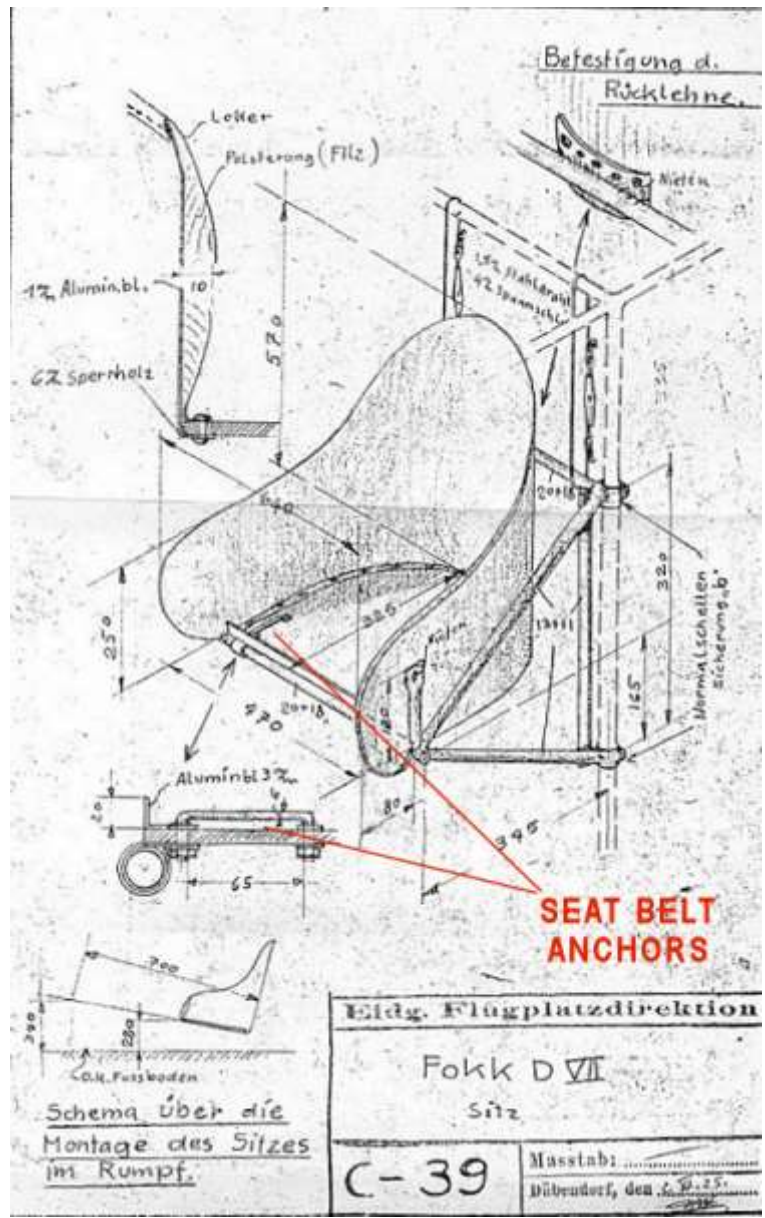
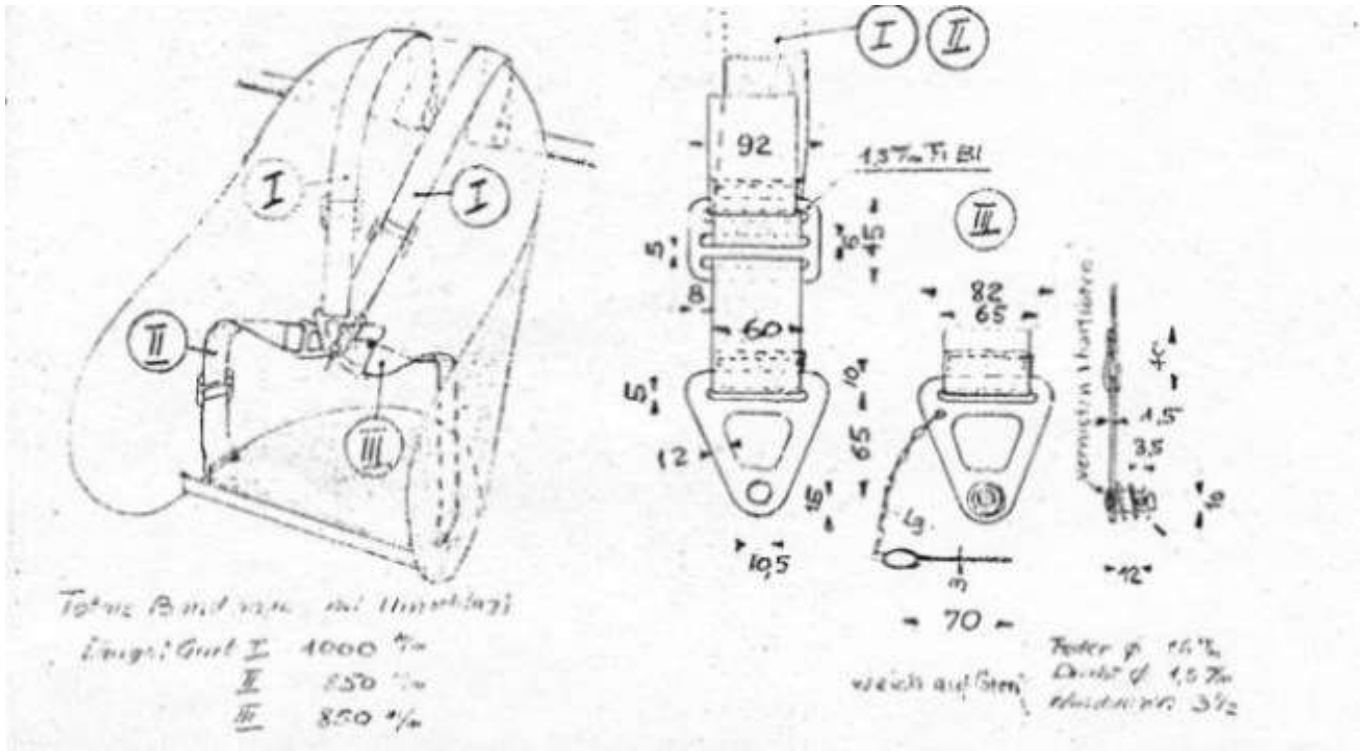
I believe that it is unlikely the shoulder straps were attached to the seat support frame as low as the central cross bar. Even being held together by the cross strap, attached at that location would mean the shoulder straps being much longer than necessary and during an impact would cause the straps to push down hard on the pilots shoulders. For the same reasons I believe the straps would not have been attached directly to the seat itself.



Other research information indicates that the seat harness was attached to the upper cross bar of the seat support frame and to the plywood seat base.

The two shoulder straps were looped around the upper cross bar of the seat support frame then joined together at their harness buckles below the harness cross strap. The two lap straps were looped through anchor brackets attached to each side of the plywood seat base. The straps were joined together at their harness buckles. Photographs exist of Fokker aircraft of that time, aircraft restorations and design drawings, all of which appear to support this method of harness attachment, which is the method I chose to use for this model.



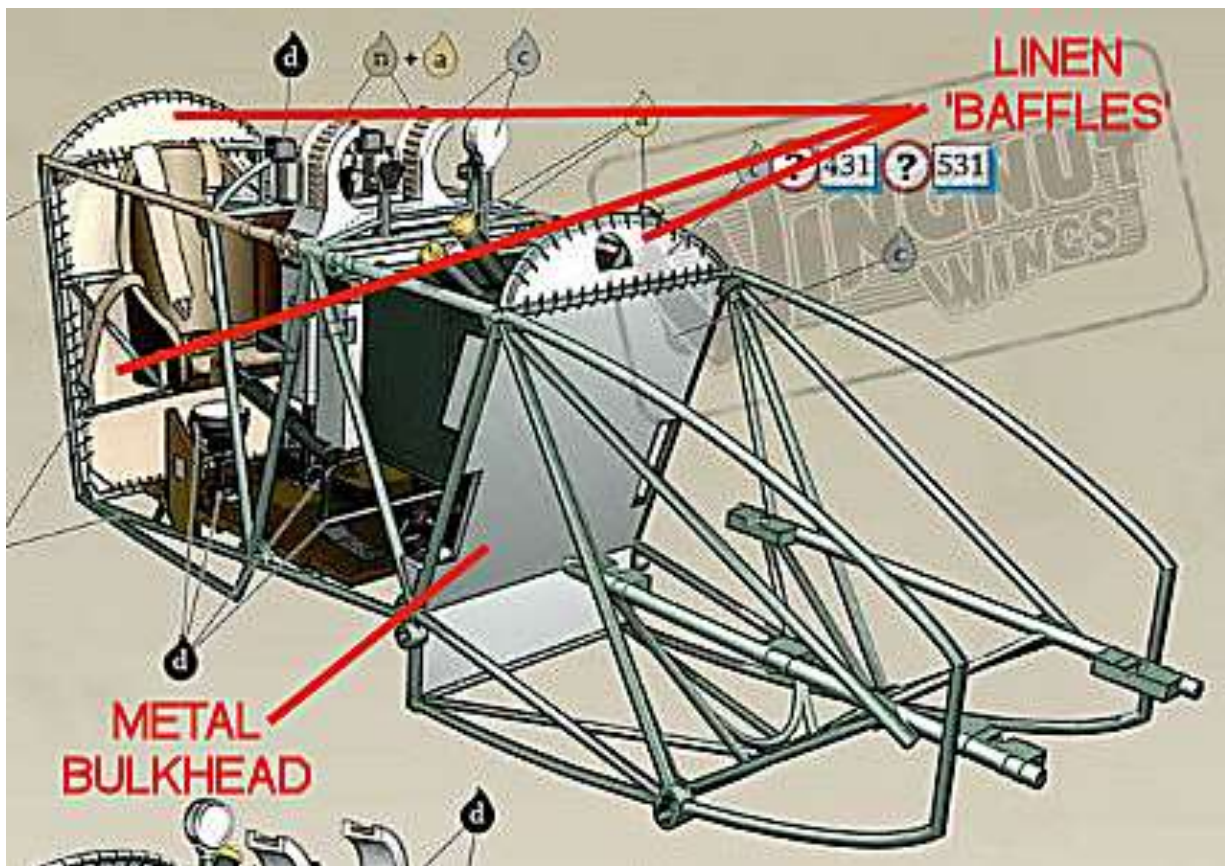


1K. Cockpit wind baffle:

I also found conflicting information as to the design of the wind 'baffle' above and behind the pilots head.

The open cockpit was obviously subjected to airflow into it when the aircraft was in flight, which if not controlled, would pressurize the inside of the fuselage and tear away the fuselage covering. To reduce airflow through the fuselage, wind 'baffles' were located in certain areas. These 'baffles' were made of the same linen used throughout the aircraft and were stitched over cockpit framework forward of the cockpit and behind the pilots seat. The primary linen 'baffle' was located behind the pilots seat. The pilots seat support frame was attached to a 'bulkhead' constructed as a tubular wind 'baffle', which had linen stitched inside the frame.

Most reference data and with most models of the Fokker D.VII, this curved 'baffle' linen is of a single thickness and the shoulder straps of the pilots seat harness were located over the top of the seat and attached to the cross bar of the frame and not through the linen cover.



However, there is some evidence that this part of the primary 'baffle' may have been double skinned.

NOTE: *Richard Andrews (of 'Aviatic') was at one time in contact with the head of the Fokker D.VII restoration team in Canada and was given information about the curved 'baffle', located at the top of the primary 'baffle' behind the pilots seat. This information was from the restoration aircraft, which was 'war prize' and delivered to Canada in 1919. It was comprised of parts from different Fokker D.VII aircraft, including OAW built Serial No:6506/18, 8318/18 and 8502/18. The aircraft was partially restored in 1963 and is now on display at the 'Brome County Historical Society Museum', Knowlton, Quebec, Canada.*

It seems that the linen was possibly stitched to the bottom of the upper horizontal tube of the primary 'baffle' then up and over the curved top and down the rear to be stitched again to the same tube of the primary baffle. The top edge of the linen was stitched to the cockpit surround padding. Two cut-outs in the front face of the linen allowed the shoulder straps of the seat harness to pass through and into the gap between the linen surfaces, then loop around the upper cross bar of the seat and back out to be joined together at their harness buckles.

I assume that doubling the linen was intended to reinforce that area to reduce the effect of the airflow at the top of the open cockpit and where the shoulder straps of the seat harness needed to be attached. This reduced the effects of airflow into the rear of the fuselage, which would have been severe enough to cause damage.

I chose to incorporate this double 'baffle' and did so by using the 'Aviatic' decal on sheet ATT32164 as a template to cut the shape from 0.2 mm thick plastic card. Two holes for the shoulder straps were cut into the linen 'baffle' shape, which was fitted later in Part 8 of this build log.

This arrangement seems to have been employed on other Fokker aircraft.

The crashed Fokker DR.1, Serial No: 115/17 of Heinrich Gontermann of Jasta 15.

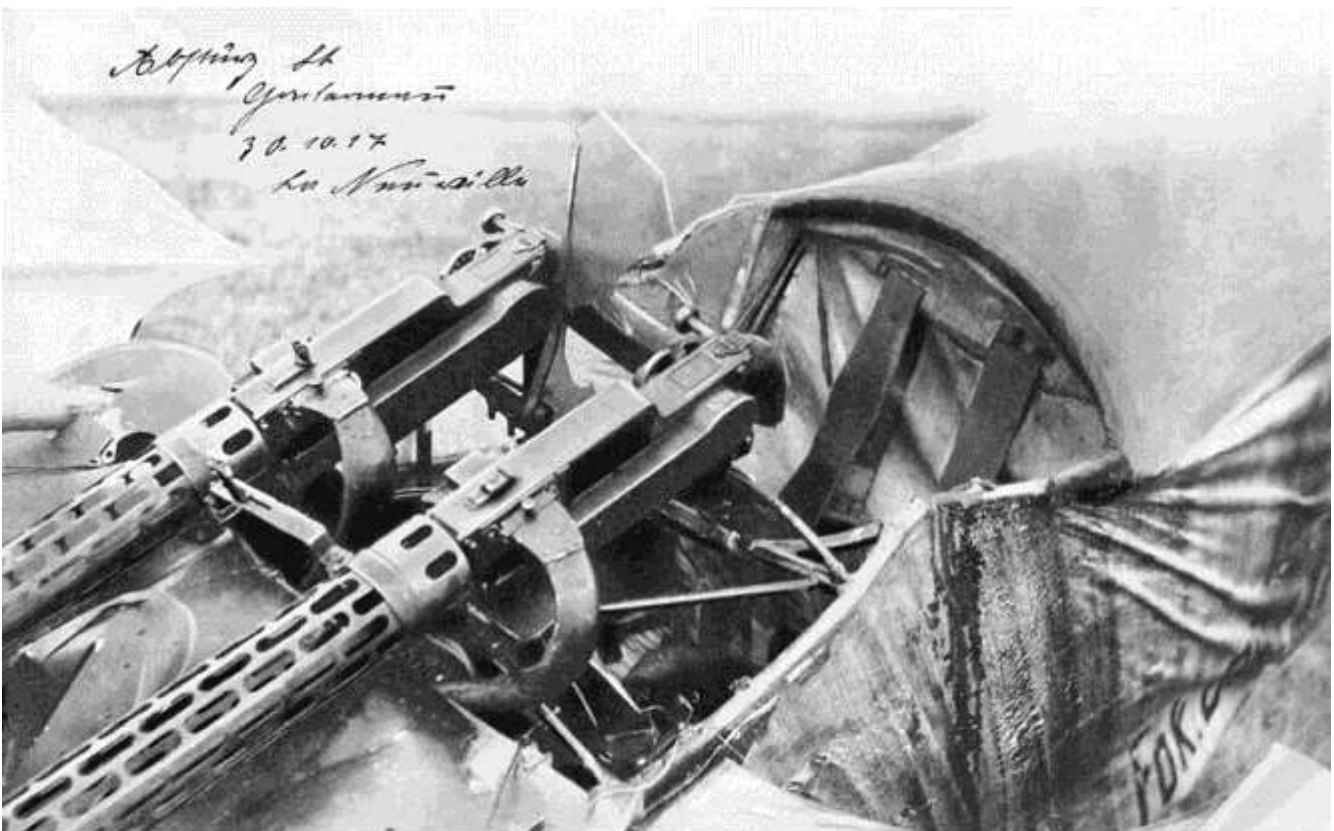


Photo Courtesy Hans Franke





1L. Cockpit additional detail:

The following addition cockpit details will be added during assembly of the cockpit in Part 8 of this build log:

1. Throttle and mixture controls (cockpit controls to engine bay)
2. Spark advance control (cockpit control to engine bay)
3. Gun trigger cables (from control column to machine guns)
4. Pressure pump pipe (from pump to fuel tank)
5. Instrument cables
6. Hand throttle cables (control column through cockpit floor)
7. Fuel pressure pump - pipe to fuel tank

1M. Non-installed modifications:

There are several modifications that can be carried out to enhance this model. However the incorporation of these modifications really depends on whether they will be seen on the completed model. As this model will have no external panels removed and cockpit visibility is limited, I have not added the following modifications:

1. Rear radiator flap.
2. Instrument wiring behind instrument panel.
3. Machine gun synchronising cables.

However the above modifications will be incorporated on the build of the fully exposed 'skeletal' Fokker D.VII, which will be displayed alongside this model.

1N. Wheel modification:

This particular model is one of a pair, to be displayed together. The other model will be 'skeletal' showing all internal structure etc. As such it will be fitted with hand made replacement wheels, made by 'Steve Robson' in Australia. His wheels are supplied with rubber tyres, so to keep the tyres on both models matching, this models wheels need to be modified.

1. Position the front wheel cover (D12) onto the rear cover (D8) and once aligned, cement together.
2. Using a modellers saw, carefully cut the tyre into small sections, the gently prise away the from the rear wheel covers (D8).
3. Sand the cut rim of the remaining wheel cover so it matches the diameter of the front wheel cover (D12).
4. Apply the decals from the 'Aviatic' sheet (ATT32164) - refer to Part 4 of this build log.
5. Weather the wheel covers by brushing with coloured pigment powders or applying 'Flory' clay washes (refer to Part 3 of this build log).

NOTE: *As the tyres are rubber, a secure and permanent bond to the styrene wheel covers is unlikely.*

6. Fit the rubber tyres (O-rings) onto the wheel covers and secure using PVA adhesive.

Example of modifying the wheels



PART 2 - WOOD EFFECTS (General)

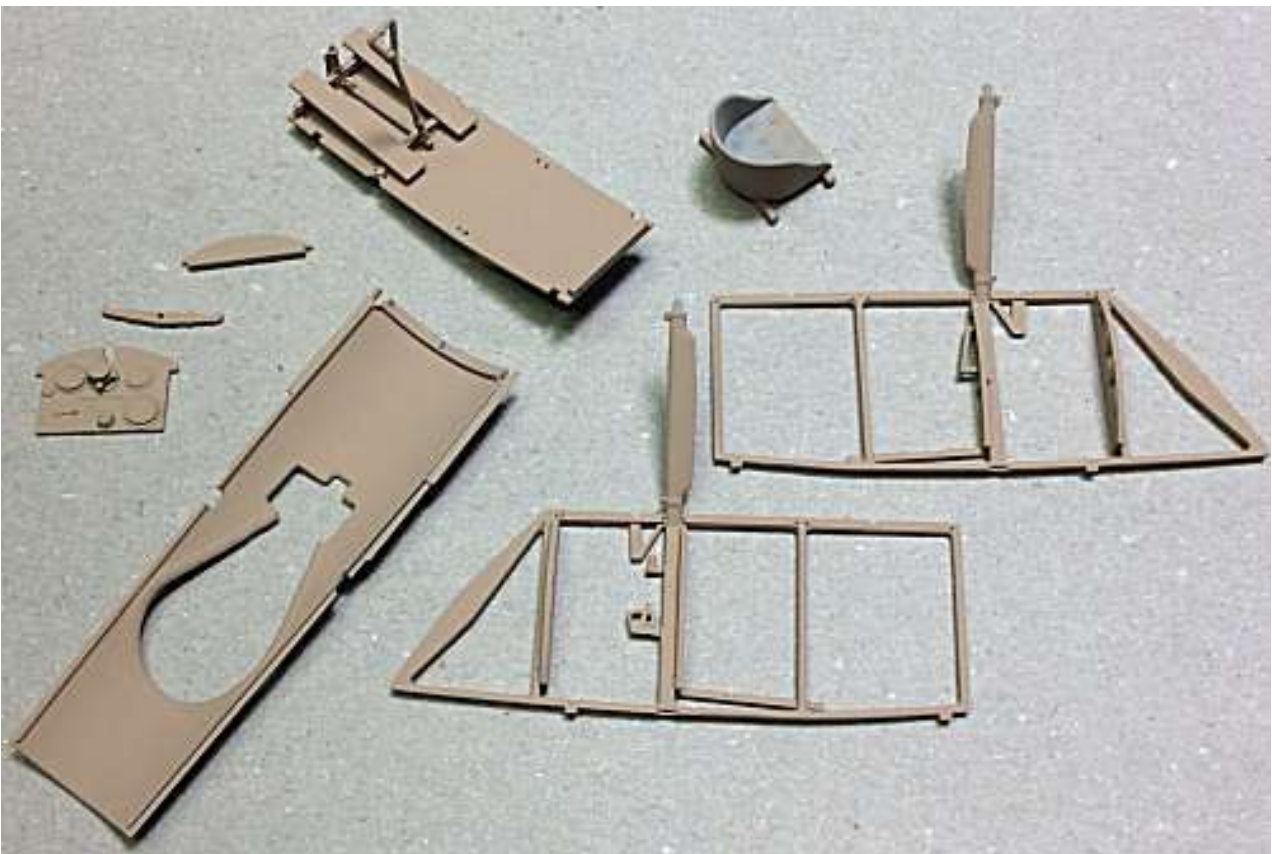
A basic technique:

Parts of the model that are supposed to be made of wood can prove to be a challenge to replicate a wood finish to the part. Some after market companies produce accurate wood decals, which can be used to cover larger areas, such as cockpit decking and fuselage panels. However, decals can't easily be used to create realistic wood finish to smaller items or parts that don't lend themselves to having decals applied. To do this requires brush painting, using such as acrylic or oil paints, which can be enhanced with various washes or filters.

The first thing to do is to ensure the model parts are cleaned, normally with warm water with washing up fluid and something like an old tooth brush. Once cleaned and thoroughly dried, the primer coat can be applied. I use 'Tamiya' Aerosol Light Grey (Fine) or White (Fine) acrylic primer. Once the primer is dry, you can start applying the wood effect to the applicable cockpit items, such the cockpit framework, decking, seat supports, rudder bar, instrument panel and of course, the wing struts. With practice, this method can also be used on fuselage panels and propellers.

To start, apply a suitable base colour. For most painting I use an airbrush and only resort to brush painting when dealing with small items, when I add a few drops of 'Mr. Colour Levelling Thinner', which aids brush painting. For most wood effect, I use 'Tamiya' Deck Tan (XF55) or Dark Yellow (XF60), suitably thinned with 'Tamiya' Thinners (X20A). Allow this base coat to fully dry (if you can't smell the paint, then it's dry).

Example of base coat using 'Tamiya' Wooden Deck Tan (XF78).



For the next step I use 'DecoArt Crafters Acrylic' (water based) oil paints, either Burnt Umber or Burnt Sienna. These are similar to standard acrylic oil paints, but are water based instead of oil based. This paint is not as thick as oil based paint and is more creamy, so can be brushed and controlled more easily. Also, as it is water based, it's easy to clean your brushes, and if really necessary, can be thinned slightly with water. In addition, the paints dry as quickly as normal acrylic paints, avoiding the disadvantage of using true oil paints, which can take days to fully dry.

Place a small amount of the oil paint onto a non-absorbent surface and using a suitable oil paint brush (I use a slightly curved brush), wipe a small amount of the paint onto the brush. For larger areas, such as decking or panels etc I use a small piece of fine sponge to apply the paint.

Apply the paint to the applicable item, using light strokes and in the required direction. Apply the paint along struts and across instrument panels and other smaller items. This gives variation to the wood effect and for the wing struts, is correct for the direction of the wood grain. If you apply too much paint, just brush or sponge it off immediately before it dries. Although the paint is water based, don't try to thin any applied paint with water as it will lift the paint, which builds up into clumps. If required, a second light coat can be applied. Always wait until a first coat has fully dried before applying a second coat, otherwise the first coat will 'drag' and lift from the surface.

Once painting is complete, clean the brush in water.

Below is an example of the Burnt Sienna oil paint applied to a cockpit side frame.



Once the oil paint layers have dried, the final top coats can be applied to give the final effect of varnished wood.

PART 3 - WEATHERING (General)

Flory Model clay washes: These washes come in various shades and consist of a very fine clay pigment. They are brushed over the surface to be weathered and dry in around 30 minutes. When dry, use either a piece of good, absorbent kitchen roll or a brush used for oil paint (as the bristles are harder than normal painting brushes) to remove as much of the clay wash as you need to achieve the desired effect. Once dampened, the dried clay is re-activated and the clay wash can be removed or worked as required.

First I seal the surface with airbrushed a semi-matt sealer, such as 'Alclad' Light Sheen (ALC-311), which dries quickly. A gloss coat tends to stop the clay wash 'gripping' the surface when it is applied and it can run off or just puddle. A matte coat can cause the clay wash to 'grip' too much, making it very difficult to remove or even to wash it off completely.

To apply the clay wash is just a matter of brushing all over the surface to be weathered. It doesn't matter really how much is applied as it can be left on for any period, as it is easily removed without any effect on the surface underneath. The washes I tend to use are Flory Clay Wash 'Grime' and 'Dark Dirt' .

I use a still oil brush to brush off the clay wash, but for smearing effects, an only very slightly damp brush or absorbent paper can be used, but even then I dab them onto a dry piece of the paper. That's how 'damp' it needs to be. Any wetter and you'll find that you are removing too much of the clay wash. If that happens you would have to re-apply the wash and start again.

That said, if you not happy with the final effect, you can easily remove the clay wash by brushing with a wet brush or even airbrush water over the surface. Dry off the surfaces washed and then re-apply the clay wash and try again until you are satisfied.

The technique is to brush over the surface to re-activate the clay wash and at the same time, to smear it over areas that had no clay wash. It'll dry more or less straight away.

Then I'll very lightly stiff brush and/or use a piece of damp absorbent paper or brush to remove as much as I want until I get the desired effect. If I remove too much I just reapply clay wash to that area and repeat the removal procedure.

Once finished, just run the brush under a tap to rinse out any residual clay pigments.

Finally I airbrush an appropriate sealer over weathered areas, which seals the applied clay wash.

NOTE: *Flory washes can be mixed to create other colour blends.*



Tamiya' have 'Clear' coloured Acrylic paints, which are intended to be mixed with either Flat Clear (XF86), Semi-Gloss Clear (X35) or Clear (X22), to give the required finish but with a tint of the added 'Clear' colour. I use the Clear Yellow (X24) or Clear Orange (X26) to add a varnished tint to the clear coat. However, I don't use the 'Tamiya' Clear, but instead use Alclad Light Sheen (ALC-311). Although it's a lacquer, I've found that it will accept 'Tamiya' 'Clear' coloured Acrylics without any separation, which can happen with other paints. The Alclad lacquers dry fast and provide a good sealing layer over the painted surfaces. When using Alclad sealing coats, the golden rule is to allow the various painted surfaces to dry fully before applying Alclad lacquers.

In this instance, I added a few drops of Clear Yellow (X24) into the Alclad Light Sheen (ALC-311) and thoroughly mixed it. Only add small amounts to the Alclad in order to control the amount of tint you desire. I increased my airbrush air pressure to around 20 psi to airbrush the sealing coats over the various cockpit items. The first coat usually dries to a more matte finish, which I assume is due to being sprayed onto the oil paint, rather than onto straight acrylic paint. Once this first coat has dried, I airbrushed several coats of just Alclad Light Sheen (ALC-311), which added not only more sealing coats, but more importantly gave the desired semi-gloss 'varnished' finish I was after.

Below is an **example** of the applied Alclad lacquer/X24 mix on the propeller.



NOTE: *Once you are confident using this method of replicating wood finishes, you can vary both the colour of the acrylic base coat and tinting of the sealing coat, to replicate other types of wood used in aircraft construction.*

Once the lacquer coats are thoroughly dry, any detail painting, decals or final weathering can be applied to the parts, as required, prior to fitting them to the model.

Chipping effects:

To achieve the effect of chipped paint etc, various methods can be used by using a chipping fluid, hair spray or by 'dry' chipping. To achieve this effect, first prime the areas with, for example, 'Tamiya' Fine surface primer (Grey) then airbrush a suitable metallic colour, such as 'Tamiya' Aluminium (XF16) or 'Alclad' Duraluminium (ALC-102). Once dry apply a chipping fluid, such as 'AK Interactive' Medium Chipping fluid (or Vallejo chipping fluid) or a cheap hair spray and when dry, top coat with the required colour. Once fully dry moisten the top coat with water, which will soften the paint. Then with a cut down (stiff) brush and/or wood cocktail stick, gently tease off the top coat paint. Take care when doing this as 'too much chipping' can't really be covered up. In that event you would have wet the top coat and remove it all with an old toothbrush or similar and then when dry, re-spray the top coat and try again. Once the desired effect is achieved, seal the surfaces with an airbrushed coat of sealer, for example 'Alclad' Light Sheen (ALC-311).

The 'dry' chipping method relies on chipping away the top coat of paint from the base metal colour. This method does not require chipping fluids or hair spray to be pre-applied, but really only works when using acrylic paints, which dry 'softer' than lacquer paints.



'Tamiya' Weathering Master sets: Each of these 'Tamiya' produced weathering sets contain three 'tablets' of different colours and an applicator, which has a brush on one end and a sponge on the other. The tablets have a wax look and feel and can be applied onto painted surfaces to reproduce various finishes. It's best to use these as the final surface treatment, as being a 'Wax', any treated surfaces can't be painted or sealed.



Pigments: Pigments, such as those produced by 'Flory Models' or 'Humbrol' are effectively very fine 'dusts', which can be applied to a model to re-create dust, dirt, stains etc. They can be applied by dry brushing or mixed with other mediums to create paintable solutions.



Washes: Washes can be applied to either enhance panel lines etc or to add a 'filter' of colour onto a painted surface. They can be purchased ready made from various manufacturers or can be 'home made' using such as oil paints with a suitable thinning agent. I tend to use 'AK Interactive' products.



Oil paint: A technique used more frequently now is oil paint 'dot and drag'. Basically an oil paint of the desired colour is placed onto a piece of cardboard, which over a hour or so, soaks out the oil in the paint, leaving a drier pigment. The pigment is 'dotted' onto the painted surface where it is required then dragged with a brush previously wetted with 'Tamiya' X20 enamel thinners then wiped virtually dry.

Softly 'flick' the brush to drag the oil paint in the direction required, which will blend it in a thin layer.

The amount of oil paint left showing depends on the effect you require. Always keep the brush wiped clean to avoid a build up of oil paint and remoisten and wipe dry often. The more paint you drag, the less is left showing. Blending different coloured oil paints can create stains from smoke/gun blast, rain marks/runs, dirt/dust and oil/fuel stains.

A good quality oil paint and thinners are essential to produce a good finish. Some quality oil paints can be too 'gritty' when leached of oil, so I use 'Abteilung 502' oil paints and 'Tamiya' Enamel thinners (X20).



Similar results can be obtained by using the oil brushers and enamel odourless thinners (2019) from 'MiG'.

PART 4 - DECALS (General)

The personal and national decals supplied in the kit will be used, but for the 4 colour lozenge I chose to use linen effect decals 'Aviattic' linen effect - Fokker D.VII (Alb) 4 colour lozenge (ATT32164), (ATT32170) and (ATT32171).

'Silvering' explained:

The term 'silvering' is given to areas of an applied decal that have a dry, silver appearance. 'Silvering' is caused by air being trapped under the decal during application. This air builds up around 'imperfections' on the model's surface, such as dust and surface or paint imperfections. As the applied decal is drying, any air trapped under the decal prevents the decal from adhering to the model surface. Once the decal has set, the area of decal kept off the model surface by the trapped air will have dried out, producing a 'silver' effect. This is more evident under the clear carrier film of the decal, but can also occur under coloured areas. Although decal setting solutions help to conform decals to the model surface, 'silvering' will occasionally occur, no-matter how much care is taken in surface preparation. If 'silvering' has occurred under a set decal, all is not lost. The affected area of the decal can be carefully pin pricked and more decal setting solutions applied. The solution should penetrate through the pin pricks, filling the void and expelling the trapped air. The decal should conform to the model surface with the 'silvering' removed or at least reduced.

Traditional decals:

Traditional decals are normally created for the particular model markings using processes such as silk screen printing and are pre-shaped ('cookie cut'), which means the carrier film covers only the decals, not the entire decal sheet. When placed in warm water they will detach from the backing sheet and can then be slid onto the model surface. Once correctly positioned they are wiped with a semi-dry brush or cotton bud etc, to expel any water from under the decal. When fully dry, decal softeners, such as 'MicroSol' and/or 'MicroSet' can be applied, if necessary, to 'weld' the decal to the model surface. Finally a sealing coat of acrylic or lacquer gloss, semi-matt or flat is applied over the decal, to seal and protect the decal.

Aviattic decals:

The 'Aviattic' decals are different in both production techniques and application to that of traditional decals. 'Aviattic' decals are laser printed onto either 'clear' or 'white' backing, the 'clear' being dependent on the base coat you apply and the 'see through' finish you desire. The 'white' backed decals are not dependent of a base coat and are intended to be applied 'as is' to the model. For example, 'white' backed decals are used for rib tapes. The decals are supplied with very clear instructions on their application, including when to add pre-shading to the base coat ('clear' decals), where desired, before you apply the decals. 'Aviattic' decals are printed onto a very fine carrier film and although this film is thin, the decals are remarkably resilient and somewhat 'stretchy' when being applied. This allows them to be more easily moved and positioned during application. When applying traditional decals, I've often used softeners to help the decals conform to surface irregularities and contours, which is something I've found is not really required for 'Aviattic' decals, due to the nature of the carrier film. The decals created by 'Aviattic' may be printed 'to shape' or as full sheets or strips. However they are not 'cookie cut', as the carrier film covers the entire decal sheet. Therefore each required decal needs to be cut out of the supplied decal sheet and cut out as close as possible to the edge of the decal.

This avoids transparent carrier film showing at the edges of the decals. For more information, refer to the 'Aviatic' instruction sheet supplied with the decals.

NOTE: *For this model I chose to use the 'clear' decals, so that I could pre-shade the surfaces and enhance the decals linen effect.*

Surface preparation:

First airbrush a primer coat of 'AK Interactive' Primer and micro-filler (White - AK759) on all of the surfaces to have the decals applied and once dry, check the surfaces for any imperfections, such as trapped dust and surface or paint imperfections. Any found were carefully polished out.

Then airbrush your desired pre-shading followed by **several light sealing coats** of gloss finish, **either Alclad Clear Coat Gloss (ALC-310) lacquer, 'Tamiya' Clear (X22) or 'Johnson' Pledge Floor Care finish (similar to 'Future'), which forms a gloss surface for applying the decals. Another method is to mix 'Tamiya' Clear (X22) with approximately 25% of 'Mr Colour' levelling thinners, which is a lacquer but has a retarder added. This thins the clear and also slows the drying time, allowing the clear time to self-level.**

Apply the decals following the supplied 'Aviatic' instruction sheet. Pre-wet the model surface with like warm water with a few drops of 'Microscale' MicroSet. Care needs to be taken when you slide the decal from the backing sheet and onto the model surface, as the thin decal can fold over on itself. Once the decal is correctly positioned, use a flat brush to brush the water out from under the decal, working from the centre of the decal out towards the edges. Then use a dry cotton bud in the same manner. Finally, wearing cotton gloves, apply slight pressure and slide your fingers across the decal to finally push the decal onto the surface.

For this model the decal sheets had to be cut to match the profiles of the surfaces that required decals. Care is needed to ensure the cut decals are the correct size and shape, otherwise gaps between decals can occur. Trace and cut paper templates or use the kit supplied decals to trace the outline onto the 'Aviatic' sheet before cutting out the shape.

Once the decals have been applied airbrush a gloss sealing coat over areas where more decals are to be applied. Once those decals have been applied and are dry, airbrush a final sealing coat of Alclad Light Sheen (ALC-311) or 'Tamiya' Semi-Matt (XF35) over the decals.

To 'knock back' the sheen for applying further weather effects ('Flory' clay washes or oil paint) airbrush a sealing coat 'Alclad' Light Sheen (ALC-311) mixed with Flat (ALC-314) at a 3 to 2 ratio.

Applying 'standard' decals to painted surfaces:

NOTE: *The following is applicable only for decals on a painted surface. If decals are to be placed on top of previously applied decals, the decal setting solutions may 'eat' into the previous decals. In this case a gloss sealing coat should be airbrushed over the first decals, to provide a barrier against the setting solutions.*

Applying 'standard' water slide decals to a painted surface is different to that for 'Aviatic' decals.

1. Ensure the painted surface is smooth and free from any surface imperfections.
2. Airbrush **several light** sealing gloss coat finish, to provide a smooth and glossy surface.
NOTE: *'MicroSet' solution softens the decal to allow it to conform to the painted surface. Do not attempt to move the decal too much or it may tear.*
3. Wet the area using a light coat of 'MicroScale' **MicroSet** solution.
4. Apply the decal after it has soaked in 'warm' water enough to start to loosen the decals from its carrier backing.
5. Carefully move the decal into the correct position.
6. Carefully press out any residual water from the decal by either pressing with a tissue or by gently rolling over the decal with a cotton bud.
NOTE: *'MicroSol' solution will soften the decal to allow it to conform fully to the painted surface. The solution usually causes the decal to wrinkle, but this is normal as the decal semi-dissolves to the surface. Once the solution has been applied, never try to disturb the decal as it will tear. Leave the solution for several hours to do its job, after which the decal will return to a smooth surface, but conformed fully to the painted surface.*
7. Wet the decal surface with a light coat of 'MicroScale' **MicroSol** solution.
8. Leave the solution for several hours to fully dry and set the decal.
9. Once fully dry and set, airbrush a sealing coat over the decal, dependant of your desired finish. I tend to use either 'Alclad' Light Sheen (ALC-311) lacquer or 'Tamiya' Semi Gloss (X35).

PART 5 - RIGGING (General)

The first thing to check is that you have already drilled out the rigging attachment points. Most models have these located on the model, but it's best to carry out research in reference books or research on line before drilling.

Some modellers use micro drills manufactured for drilling printed circuit boards etc and these drill bits sometimes have identifying coloured collars fitted to the drill shanks. I have found that care needs to be taken when using these drills, as they are sharp and instead of easing their way into the plastic of the model, they tend to bite in and effectively 'cork screw' their way in, which causes jamming and lots of broken drills. This is not only expensive but can leave broken drill bits in the model, which are virtually impossible to extract. An alternative is to use High Speed Steel (HSS) drill bits, which are cheaper and have less 'bite' when in use, although again, they are very fragile and can very easily be broken.

Some modellers drill through the wings etc of the model and rig by pulling through the rigging line/EZ thread etc, gluing in position and then rubbing down the exposed line 'tag' and re-painting that area. I prefer to drill only part way into the plastic and attach the applicable rigging fixture with CA adhesive.

With your research complete and all necessary holes pre-drilled, the rigging can start. For the primary I used 'Steelon' mono-filament (fishing line) of 0.12 mm diameter and for flight control I used 'Stroff' 0.08 mm diameter mono-filament. These are effectively transparent but do give a look of steel, without the need of painting or colouring with a gel pen.

NOTE: *As you work your way through the rigging it is always good to check the rigging attachment points for any damaged paint. This can be rectified before continuing with the rigging, just in case access will be limited once all of the rigging is completed.*

Flight controls cables:

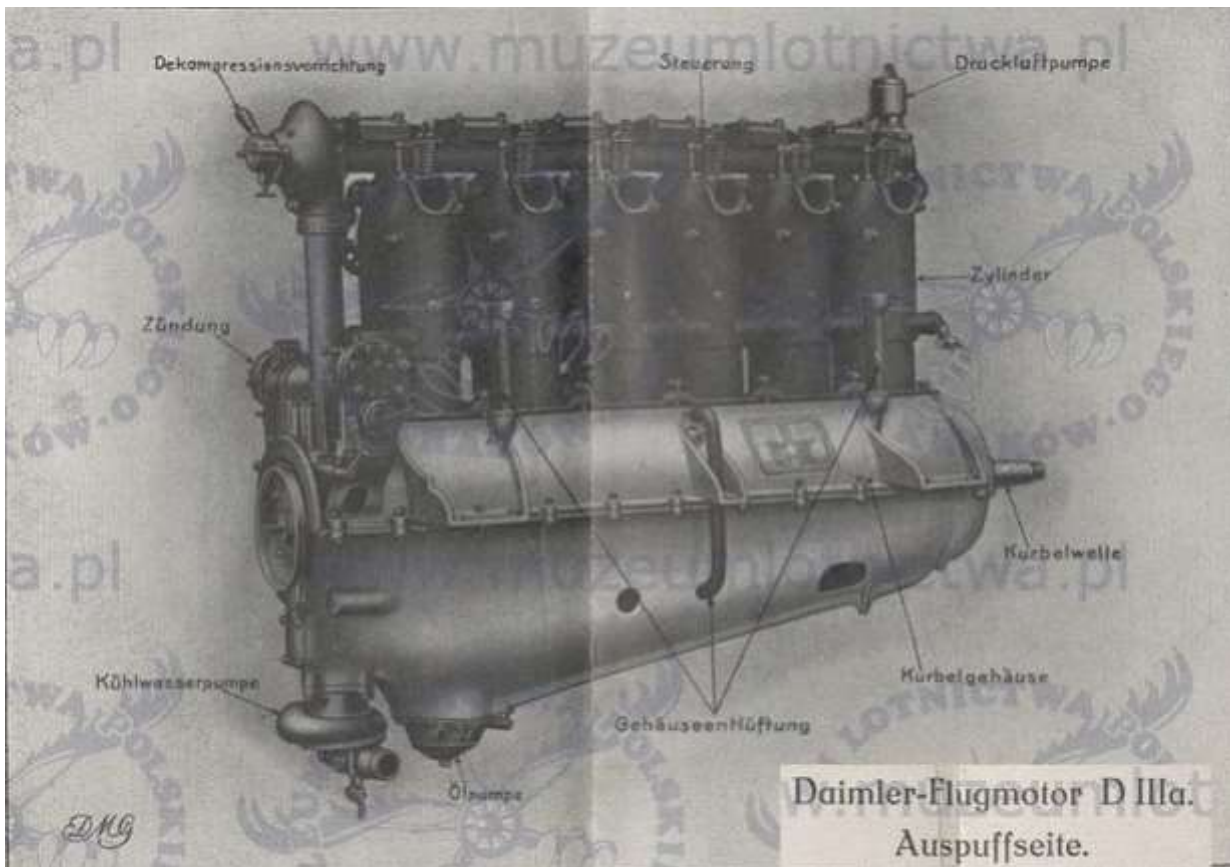
A long length of 0.08 mm diameter 'Stroff' line is inserted into its pre-drilled rigging point and secured with thin CA adhesive. An Albion Alloy's 0.4 mm diameter micro-tube of Nickel-Silver (NST04) is slid onto the line and then the free end of the line was passed through the associated flight control horn and looped back to the tube. Using two pairs of tweezers, the free end of the line is inserted into the tube and pushed through until the line could be gripped from the other side. Then holding the tube with one pair of tweezers, the free end on the line is gently pulled to tighten the line and cause the free tube to slide up against the control horn etc. Hold the tube in position and apply thin CA adhesive to secure the line and tube in position. Once dry the exposed free end of the line can be cut away, as close to the control horn as possible, using a shielded razor blade.

This method can be used for attaching control cables from rigging holes to control horns etc, and when using after market turnbuckles. For turnbuckles fitted part way along a control cable, the lines and micro-tubes would attach to both ends of the turnbuckle. Where a single end turnbuckle is used, such as directly from the model part, the line and micro-tube would only be attached to the 'loop' end, as the other end of the turnbuckle would be attached to the model part.

PART 6 - ENGINE

The engine for this particular build is the Daimler-Mercedes D.IIIa (180 hp). The basic engine can be seen in the following illustrations.





NOTE: The following steps detail the building of the engine prior to it being installed into the fuselage.

The following aftermarket parts will be used to replace kit items or to enhance the engine detail.

- 'Taurus Models' engine intake manifold lock rings (3211),
- 'Taurus Models' engine fuel priming cups (3219),
- 'Taurus Models' engine complete timing gear (3209) - conical valve springs only.

The following modifications will be applied during the engine build:

- Cylinder jacket coolant pipe
- Ignition lead support rail
- Engine sump apertures
- Oil reservoir sight glass
- Intake manifold lock rings
- Spark plugs
- Fuel priming cups
- Ignition leads
- Timing gear - conical valve springs
- Additional pipes

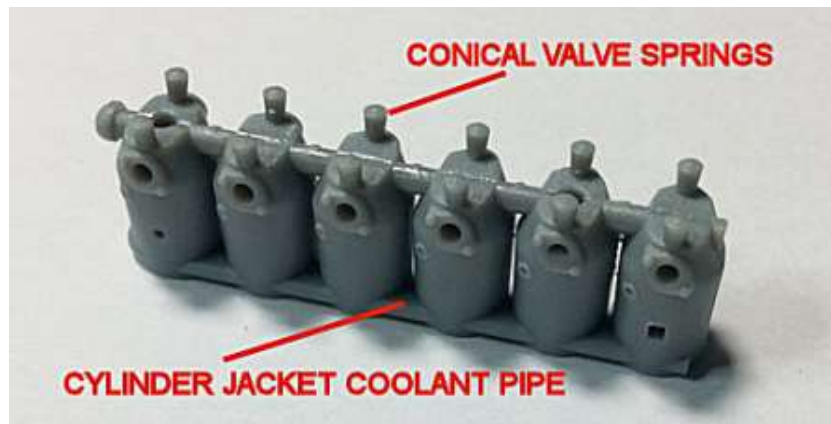
NOTE: In the following step the propeller shaft is fixed in position as the fitted propeller is not intended to be rotated.

1. Cement the propeller shaft (E13) into the engine sump (E31)
2. Cement the crank case (E14) and front cover (E28) to the sump (E31).
3. Cement the cylinder halves (E16, E25) together.

Modifications:

Cylinder jacket coolant pipe:

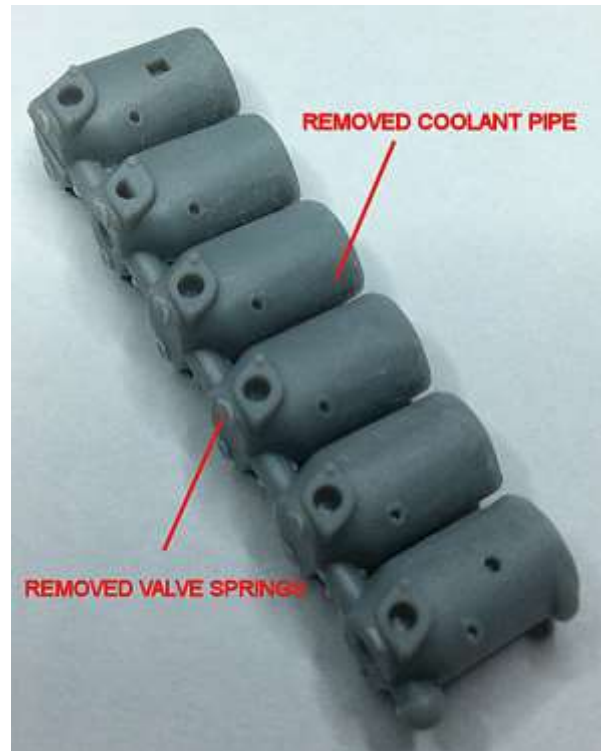
The cooling of the engine cylinders was carried out by cooled water from the radiator being fed by pipes to the water pump (E32), located on the bottom, rear of the sump (E31). This water was pumped through a pipe (E30) and through interconnected stub pipes at the bottom of each of the cylinders. The water was then pumped up through the cylinders jackets and then out through the interconnected stub pipes at the top of each cylinder, from where it returned front of the engine and back to the radiator for cooling. On the kit part (E25) the pre-molded coolant pipe for the cylinder jackets looks unrealistic, as it extends through and between the separate cylinders, presumably to form a solid fixing base for the cylinder block.



4. Starting at one end of the cylinder block, carefully cut between the two cylinders, then carefully cut away the remnants of the pipe on both cylinders.

NOTE: As you cut away the pre-molded pipe along the cylinder block, **take great care not to flex the assembly**, as the only part holding the cylinders together will be the interconnected stub pipes at the top. Flex the assembly too much and the stub pipes will break.

5. Repeat this along the cylinder block until the pre-molded stub pipes on all cylinders has been removed.



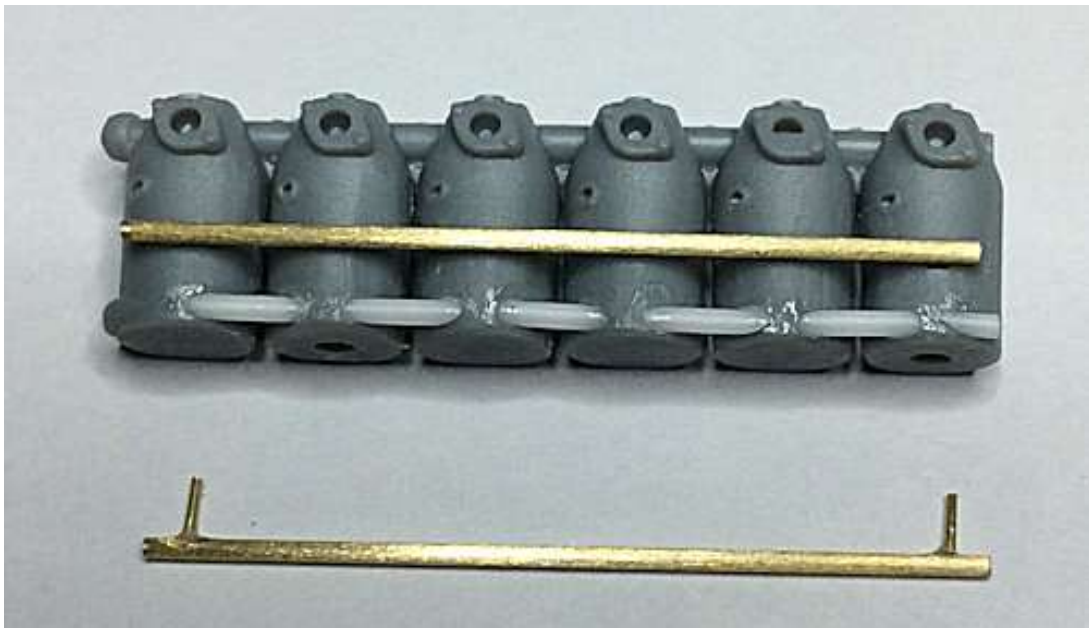
6. Cut six short lengths of 0.85 mm diameter plastic rod, with a chamfer at each end, such that each fits snugly between a pair of cylinders and leaving a gap between the ends.
7. Cement each new 'stub pipe' in position of the cylinders.
8. Cut one short 'stub' with a square end and cement it in line and on the forward side of the front cylinder.



Ignition lead support rail:

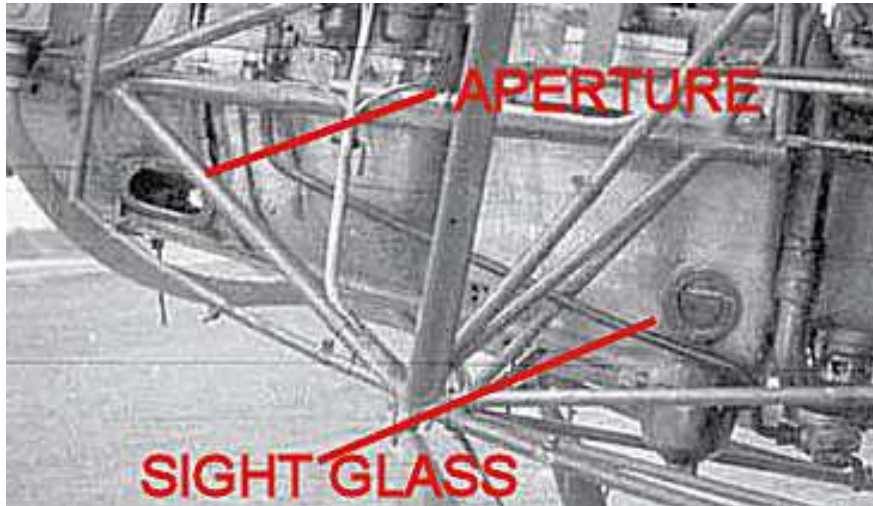
A magneto was located on each side at the rear of the engine. These were driven by the engine through a split drive shaft. Attached to each magneto were six ignition leads, which were routed through support tube attached to each side of the cylinder block. Each cylinder ignition lead exited the support tube through an aperture and was then attached to the cylinder spark plug (two per cylinder). The pre-molded support tubes supplied in the kit seem under sized, so they will be replaced with micro-tube.

9. Cut two lengths of 'Albion Alloys' 0.8 mm diameter micro-tube (MBT08) to the same length of kit part E11 and E15.
10. Using a pencil, mark the cut tubes at the location of the two attachment pegs on E11 and E15.
11. Using a straight scalpel blade, lightly score the tubes at the pencil marks then use the point to twist into the scores to penetrate that side of the tube.
12. Use a 0.4 mm diameter drill to open out the hole through that side of the tube only.
13. Cut short lengths of 'Albion Alloys' 0.4 mm diameter micro-tube (MBT04).
14. Insert the cut tubes into the drilled holes and secure in position using CA adhesive. Make sure the tubes are aligned with each other and are vertical to the 0.8 mm tube.
15. Drill out the two location points on each side of the cylinders using a 0.5 mm diameter drill for attaching the rails to the cylinder block.



Engine sump apertures and oil reservoir sight glass:

The sump of the engine was essentially a 'dry' sump, as the oil reservoir was in a separate and sealed compartment at the rear and lowest part of the sump. The oil was drawn from this reservoir by the oil pump (located at the rear of the engine) and distributed through the engine. The oil drained into the reservoir to be recirculated. The forward part of the engine sump was open, as could be seen through the open apertures and the front of the sump. An oil contents sight glass was located on the sides of the oil reservoir at the rear of the sump. The kit supplies a separate oil tank that was installed on later Fokker D.VIIs, but it seems not on Albatros built aircraft?



16. Using an appropriate sized drill, drill out the pre-molded apertures towards the front of the sump. If necessary you can smooth out the edges by applying cement, which will melt out most imperfections.
17. If possible, cut two 2.5 mm diameter discs from 0.2 mm thick plastic card.
18. Cement a disc to both sides of the sump, above the sump housing.

NOTE: To represent the sight glass, PVA adhesive will be used later in the engine build.
19. Drill out the centre of each disc using a 2.0 mm diameter drill.



Intake manifold lock rings:

To enhance the engine detail I replaced the engines pre-molded locking rings for the fuel inlet manifold with the 'Taurus Models' engine intake manifold lock rings (3211).

20. On the inlet manifold (E4) cut off the locating stub on the two end pipes.
21. Mark the centre in each manifold stub on the cylinder block half (E16).
22. Pilot drill the centres using a small drive (e.g. 0.8 mm diameter).

23. Carefully drill out the holes to just under 2.0 mm diameter.
24. Cut the eight resin lock rings away from the 'Taurus' set.
25. Dry fit the cylinder block onto its locators on the engine block (E14).
26. Insert a resin locking ring into each of the drilled holes in the cylinder half (E16).
27. Test fit the inlet manifold (E4) into its location in the engine block (E14).
28. File or sand the remaining manifold stubs on the cylinder block half (E16) to just proud of the cylinder heads, so that each pipe of the inlet manifold sits correctly in the lock rings.



29. Cut the two intake manifold pipe away from kit part E4.
30. Carefully drill out the pipe locations to just under 2.0 mm diameter.
31. Insert a resin locking ring into each of the drilled holes in part E4.
32. Test fit the inlet manifold pipes into the lock rings in E4.



Spark plugs:

The kit does not have spark plugs to fit to the six cylinders (two per cylinder), however the cylinders do have a pre-molded location hole for the spark plugs. To represent the spark plugs and to allow 'PlusModel' 0.2 mm diameter wire to be attached as the ignition lead, I chose to make the spark plugs from brass micro-tube.

33. Drill out the twelve spark plug locations using a 0.9 mm diameter drill.
34. Cut a short length of 'Albion Alloys' 0.8 mm diameter tube (MBT2M), which has a 0.4 mm bore.
35. Cut a short length of 'Albion Alloys' 0.4 mm diameter tube (MBT04).
36. Insert the cut tube into the installed 0.8 mm leaving approximately 1.5 mm exposed.
37. Slide onto the 0.4 mm tube a 0.79 mm (0.31") Aluminium nut (1281-A) from 'RB Motion', so that it rests against the 0.8 mm tube
38. Secure the tube and nut in position using thin CA adhesive.
39. Repeat this procedure to create the required twelve spark plugs, which will be fitted later in the engine build.

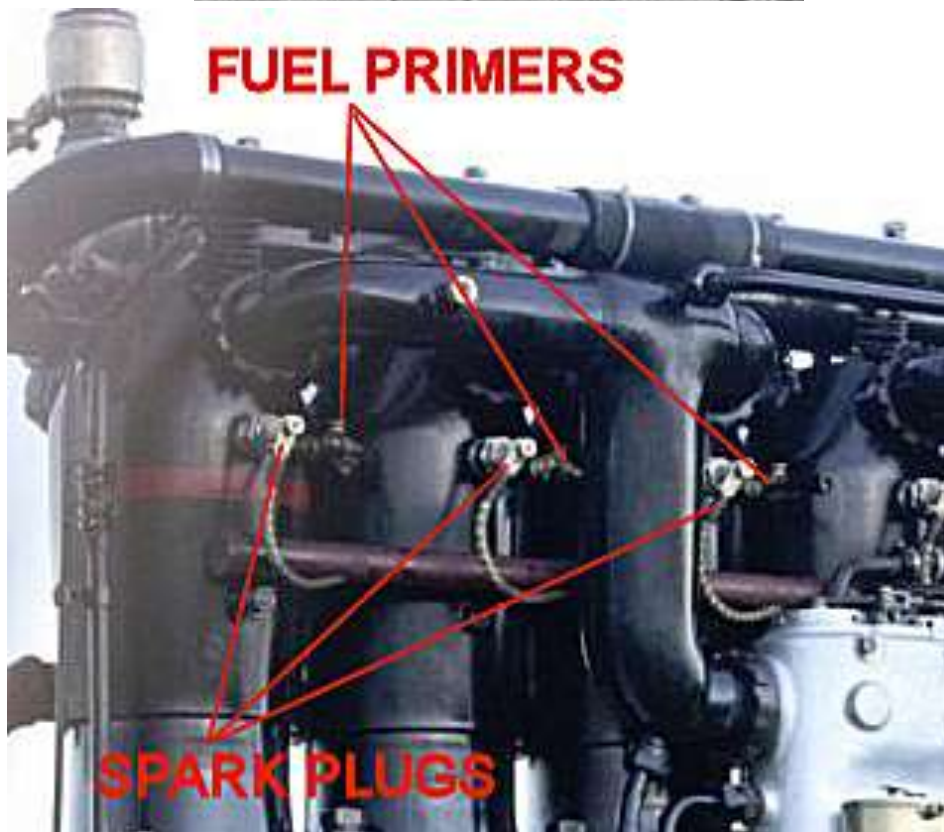
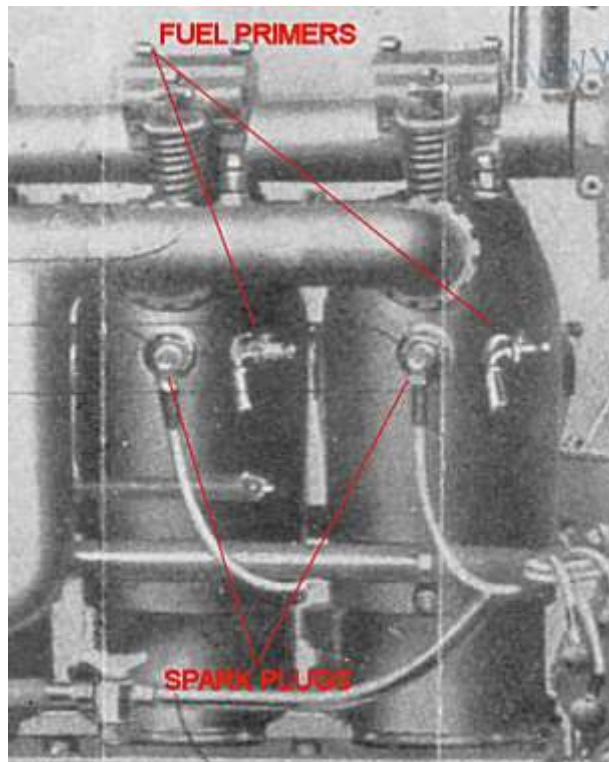


Fuel priming cups:

Fuel priming cups were commonly fitted to inline engine to prime the cylinders with fuel before an engine was started. Sometimes a primer was installed into each end of the fuel inlet manifold.



However primers were more often fitted to each cylinder, adjacent to its spark plug (see below). Although the kit cylinder block half E16 does appear to have 'seating' for fuel primers, if fitted, none are actually supplied with the kit. The fuel primers used were from the 'Taurus Models' engine fuel priming cups (3219) set.



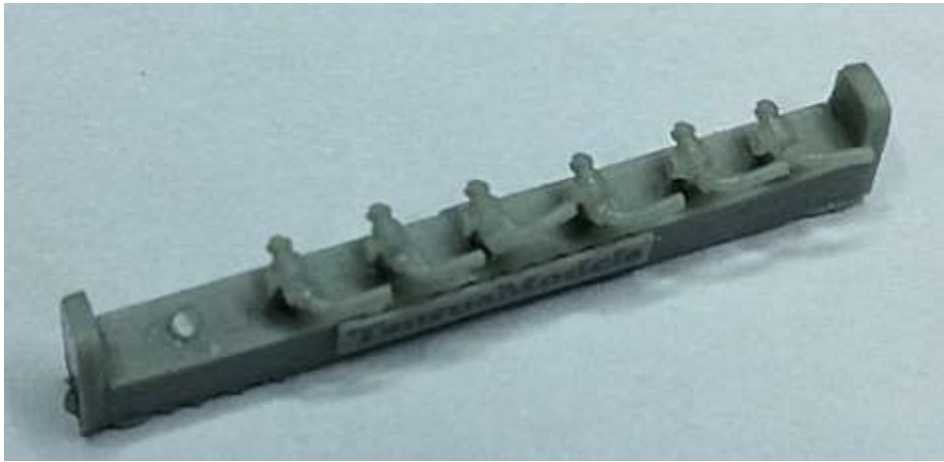
40. From the 'Taurus' set, cut away six levers (part 2).

NOTE: During the next step, make sure you position the levers in the fuel primers in the 'closed' position.

41. Using CA adhesive, attach each lever to a fuel primer (part 1).

42. At the pre-molded 'seating' on the cylinder half (E16), drill a hole of 0.8 mm diameter.

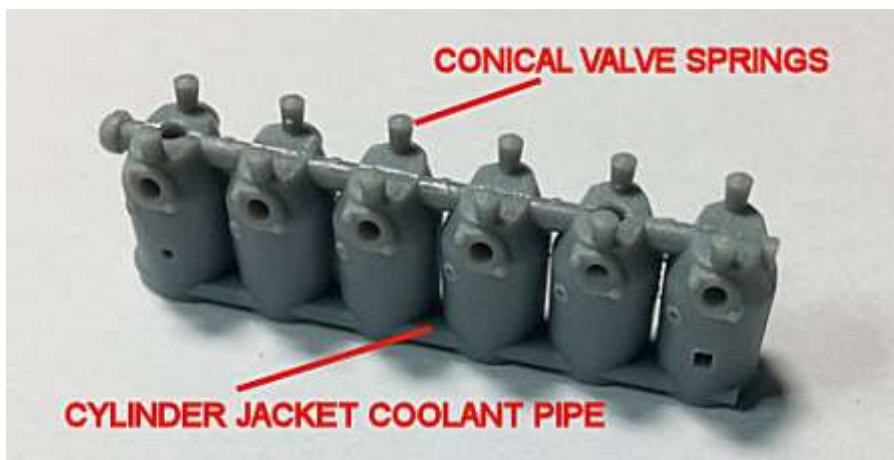
NOTE: The fuel primers will be fitted later in the engine build.



Complete timing gear - conical valve springs:

The intention was to replace the entire engine valve gear with that from the 'Taurus Models' engine complete timing gear. However the parts supplied in the kit are of good quality and scale, apart from the conical valve springs, which are pre-molded into the cylinder heads and appear to be vertical and not tapered. The actual valve springs were conical and angles slightly outboard. The springs supplied in the 'Taurus' set are more accurate, so were used to replace the kit springs. The rest of the 'Taurus' set was not used.

43. Cut away the twelve pre-molded valve springs from the top of the cylinders. Leave a slight witness mark as a guide for installing the 'Taurus' valve springs later in engine build.



Engine build continued:

44. Prime the engine parts with Grey (AK-758), except the engine sump (E31). Prime that with 'Alclad' Black Base (ALC-305).
45. Paint the base colour for the engine components as follows:
 - 'Alclad' Duraluminium (ALC-102) - Engine Sump (E31), Coolant pipe (B19). Generator drive (E36 if being used), Generator drive (E8 if being used), magneto drive (E26).
 - 'Alclad' Pale Gold (ALC-108) - Carburettor (E22), Air Pump top (E29), decompression valve (E12).
 - 'Alclad' Exhaust Manifold (ALC-123) - Camshaft (E27), Fuel manifold halves (E4), 'Taurus' fuel primers (3219), manifold locking rings (3211) and conical valve springs (part of 3209).

'Tamiya' Hull Red (XF9) - created ignition lead support rails.

'Tamiya' Rubber Black (XF85) - Cylinder head assembly (E16, E25), Oil filler pipes (E17, E18), magnetos (E19, E20), coolant pipe (E30), pipe (E42).

'Tamiya' Green (XF13) - Generator body (E43 if being used).

NOTE: *The engine for this build is the Daimler-Mercedes D.IIIa (180 hp) so the red band on the cylinders can be disregarded (200 hp D.III aü engine only).*

46. Minor engine detail painting was carried out using, as required (refer to the illustration on page 10 of the kit instruction manual): *'Mr. Colour' Stainless Steel (213) and Brass (219), 'Tamiya' Flat Earth (XF52), White (XF2).*

47. Cement the following items:

De-compression valve (E12) onto its locator on the magneto drive (E26).

Cylinder block assembly (E16, E25) onto the crank case (E14).

Camshaft (E27) onto the cylinder block (E16, E25).

Air valve (E29) onto the camshaft (E27).

Magnetos (E19, E20) onto the drive (E26).

Generator drive housing (6) onto the rear of the engine.

Generator (E43) onto the crank case (E14) with the drive shaft into the hole in the drive housing (E36).

Fuel manifold housing (part of E4) into its location on the crank case (E14).

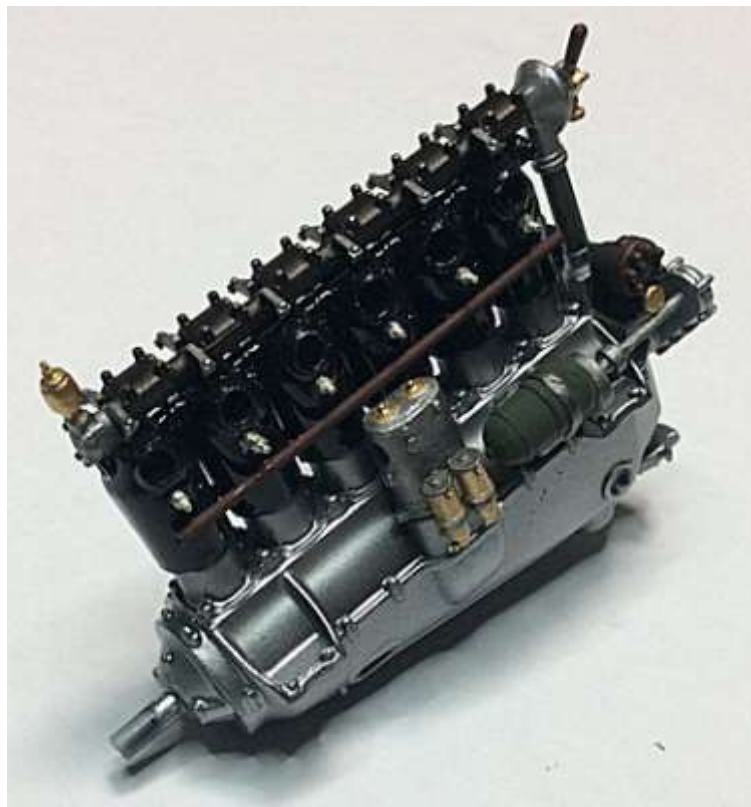
Carburettor (E22) into its location on the fuel manifold housing (part of E4).

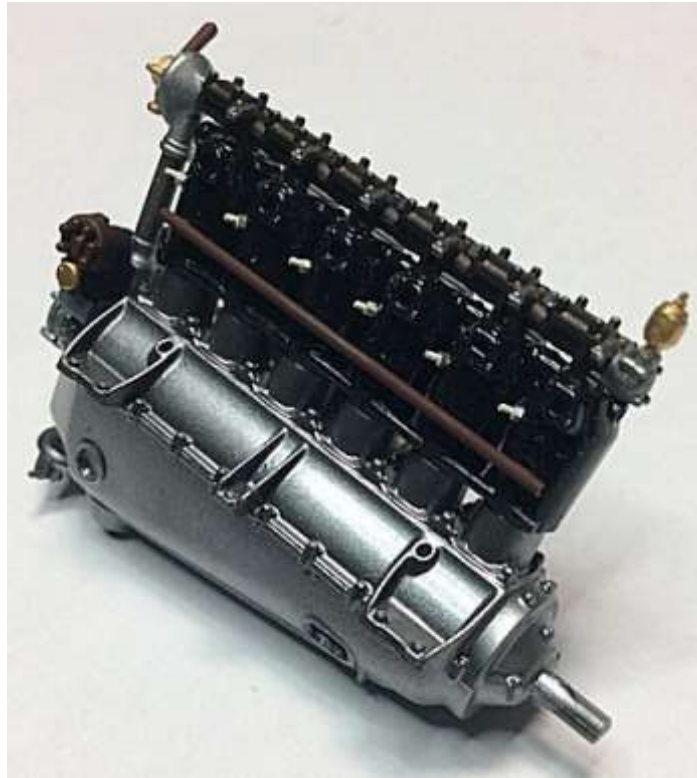
48. Using CA adhesive secure the following in position:

The two created ignition lead support rails.

The twelve created spark plugs.

49. Using PVA adhesive, fill the holes made in each side of the sump for the two oil sight glasses.





Ignition Leads:

Each cylinder spark plug (two per cylinder - one each side) was supplied with electrical power from the magnetos (one per side). The six ignition leads from each magneto were routed through the support rail, fitted to the cylinders on that side. Each ignition lead exited from the support rail through a hole underneath the rail and close to the cylinder to which it was connected.



50. Locate each created spark plug into a cylinder and secure using thin CA adhesive.
51. Mark the centre of each of the six stub connectors around the edge of each magneto (not the centre stub).
NOTE: *The tube used for the support rail is 0.8 mm diameter with a 0.6 mm internal bore. This means that six grouped lead wires of 0.3 mm diameter will not fit inside the tube. Therefore once no more lead wires can be inserted, the remainder must be secured to the outside of those already fitted.*
52. Drill an ignition lead location hole into each stub, using a 0.3 mm diameter drill.
53. Cut 24 lengths of 'PlusModel' 0.2 mm diameter lead wire (or similar).
54. Secure a lead wire into each pre-drilled hole in the two magnetos, with thin CA adhesive.
55. Carefully bend and route each lead wire to the end of the installed support rail.
56. Carefully cut to the required length then insert as many lead wires as possible into the end of the support rail, grouping the remainder around those. Secure with thin CA adhesive.
57. Make sure the 0.2 mm hole in the end of each created spark plug is clear of primer or paint.
58. Insert a cut lead wire into each spark plug and secure using thin CA adhesive.
59. Route each lead wire down and loop it under the support rail. Secure it under the support rail using thin CA adhesive.
60. Brush paint the 'leads' with the colour of your choice - I use either dark yellow, red or black.

Build continued:

NOTE: *The cylinder fuel primers were only fitted to the left side of each cylinder.*

61. Make sure that the 'seating' on each cylinder (rearwards from the spark plugs) are clear of primer and paint.
62. Cement each fuel primer onto its 'seating' on the cylinder. Make sure the handle is orientated to the 'CLOSED' position (refer to the 'Taurus' instruction sheet).
63. Cement the pipe (E21) between the fuel manifold housing and the small housing on the end of the coolant pipe at the top rear of the cylinders. If this will not fit, replace it with one made from lead wire or similar.
64. Cement the coolant pipe (E30) to the water pump and connection at the cylinder pipe (on the rear cylinder).
65. Cement the two oil filler pipes (E17, E18) into their locations on the right side of the crank-case.
66. Dry fit the three rear 'Taurus' locking rings (for the inlet pipes of the fuel manifold) into their pre-drilled holes in the top of the three rear cylinders (left side).
67. Dry fit a 'Taurus' locking ring into the pre-drilled hole in the rear facing side of the fuel manifold housing.

68. Dry fit the fuel manifold pipe half (cut away from the housing) between the locking rings in the manifold housing and cylinder heads.
69. Make sure it is all aligned correctly then cement the locking rings and pipe in position.
70. Repeat this procedure for the forward locking rings and fuel manifold pipe.

NOTE: Make sure you separate the 'OPEN' valve springs from the 'CLOSED' valve springs (refer to the 'Taurus' instruction chit).

71. Cut away the 'Taurus' valve springs from the base.

NOTE: Make sure you fit the valve springs in their correct locations (refer to the 'Taurus' instruction chit).

72. On each valve spring, trim off the extended valve stem at the top (widest diameter) of the valve spring.

NOTE: The conical valves springs are not fitted vertically, but angle outboard at the top.



73. Offer up each valve spring in turn and cut the bottom at a shallow angle, trimming the height until it fits between the cylinder head and its tappet lever.
74. Secure each valve spring in its position using CA adhesive.

Additional pipes and valve:

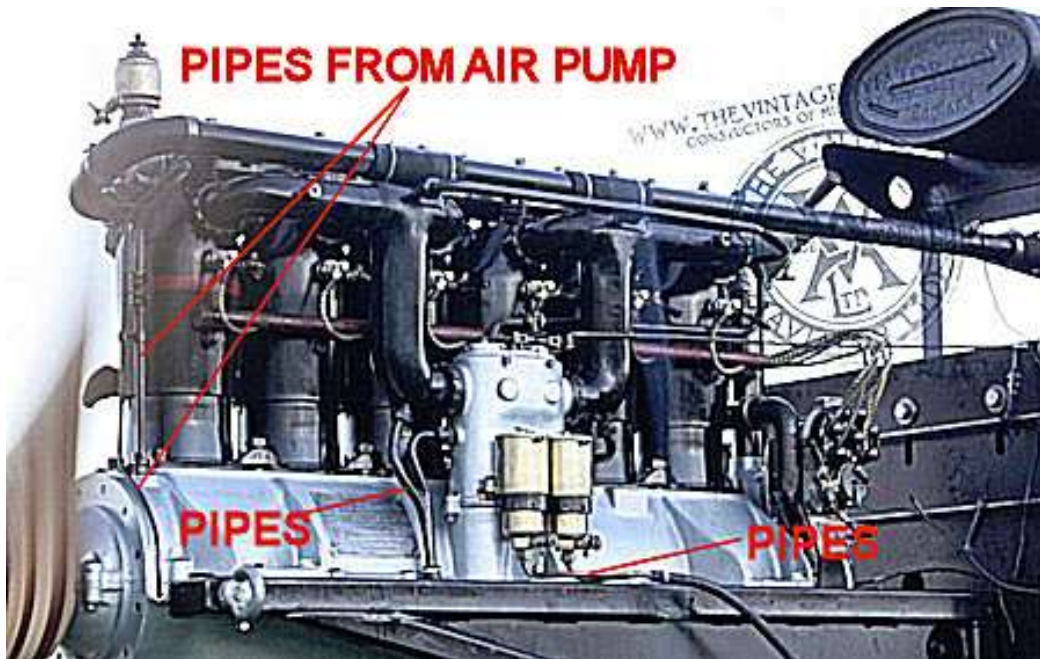
Although the kit supplied engine is well detailed, there is still room to improve its appearance by adding various external pipes not supplied in the kit. These additional pipes are:

Oil pipe fitted centrally of the right side of the crankcase, between the two oil fillers pipes (E17, E18).

Two pipes between the left side of the air pump mounting and the left side of the crank case.

Fuel manifold housing to the sump mounted water pump (200 hp engine only?).

Two pipes forward from the fuel manifold housing/pipe (200 hp engine only).



75. Between the centre reinforcing webs on the right side of the crank case, drill a 0.8 mm diameter hole at an angle and through the side of the crank case.
76. Cut and bend a short length of 'PlusModel' 0.7 mm diameter lead wire to form the loop of the pipe.
77. Insert one end of the pipe into the drilled hole with the other end resting on the base of the crank case. Secure in position using CA adhesive.



78. In the left side of the base for the air pump, drill two holes of 0.4 mm diameter.
79. On the front, top of the crank case, drill two holes of 0.4 mm diameter.
80. Cut two lengths of 0.375 mm diameter copper wire.
81. Bend the copper wire to shape to fit in the drilled holes.
82. Secure the two pipes in the holes using CA adhesive.

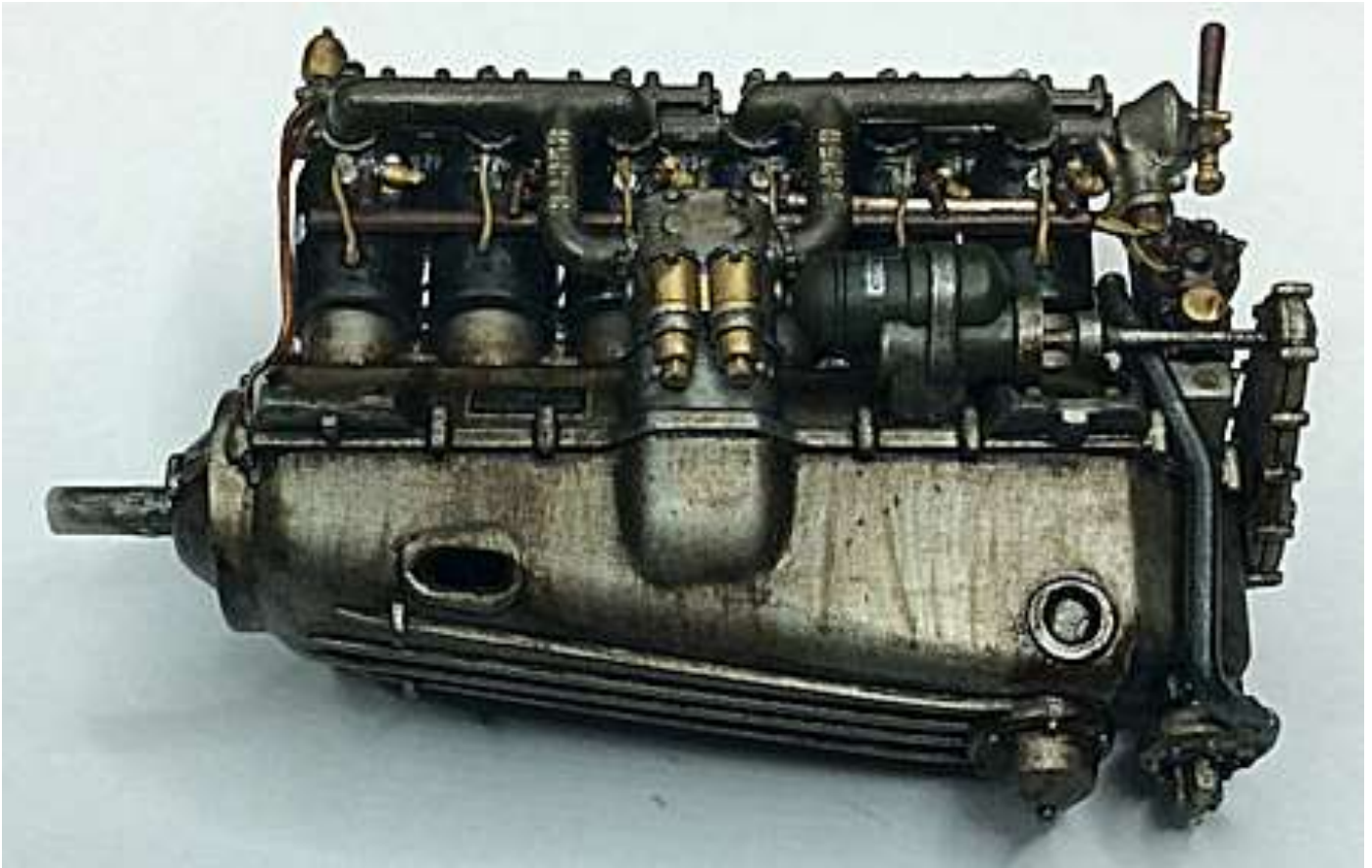


NOTE: The red stripe decals (85, 86) supplied with the kit denote engines with over compressed cylinder/piston designs. These engines carried the annotation ü (meaning 'über' - over compressed). This particular model has the Daimler-Mercedes 180 hp D.IIIa engine and without the ü annotation is assumed to be of standard design and therefore not requiring the red stripe decals 85 and 86.

83. Following the kit instructions, apply decals 6, 7, 95, 96, 97 and 98.
84. Apply decal solvent, such as 'MicroSol', to conform the decal. Leave the solution to fully dry.
85. Airbrush the entire engine using 'Alclad' Semi-Matt lacquer (ALC-312).
86. Refer to Part 3 of this build log and apply the 'Flory' clay wash of your choice - I used Dark Dirt.
87. Seal the weathering by airbrushing with 'Alclad' Semi-Matt (ALC-312).
88. If required, apply other staining effects by using 'MiG' oil brushes then blending with a brush very lightly dampened with 'MiG' odourless enamel thinners.
89. Fuel and oil stains can also be applied using 'AK Interactive' washes, such as engine oil (AK 2019), kerosene (AK 2039) or engine wash (AK2033).







Engine controls and instruments:

The engine controls and instruments supplied as part of the kit consist only of operating levers or instruments etc. If the engine controls and cables are to be added then they will need to be scratch built. The following are added to the cockpit area in Part 8 of this build log:

1. Throttle and mixture controls
2. Spark advance control
3. Hand throttle cables.

Controls required at the engine are as follows:

1. Throttle and mixture control
2. Ignition control (magneto)
3. Tachometer drive cable to cockpit instrument.

As this particular model will have all fuselage panels fitted, there will be very limited viewing of the controls at the engine itself, being fitted at the bottom left side of the engine crank case. As such they have not been added to this model, but will be on the accompanying Fokker D.VII, which will be 'fully exposed'.

PART 7 - PROPELLER

For this build I chose to replace the kit supplied propellers with wood laminated, hand made 'Heine' propeller from 'Proper Plane' (32-003), which is supplied with resin mounting plates (refer to Part 1 of this build log). The propeller comes pre-varnished and has a smooth surface.

1. Drill out the mounting hole in the propeller and the **rear** resin mounting plate to 2.0 mm diameter (to fit the propeller shaft on the engine).
2. Airbrush the propeller with several light coats of 'Tamiya' Clear Orange (X26), thinned with 'Tamiya' X20A thinners.
3. Airbrush a very light coat of 'Tamiya' Hull Red (XF9), thinned with 'Tamiya' X20A thinners.
4. Apply the kit supplied 'Heine' decals (87).
5. Seal the propeller using 'Alclad' Light Sheen lacquer (ALC-311).
6. If desired, lightly sponge brush weathering to the leading edges and tips of the propeller using 'Tamiya' Weathering Master Set B (Rust).

NOTE: *Be careful when working with resin as resin dust or particles are harmful if they are inhaled or ingested.*

7. Using a model saw, carefully cut away the front and rear mounting plates from the molding block.
8. Clean up the back of each mounting plate by holding down the front face with a finger and 'slide' them over the sanding surface.
9. Prime the mounting plates using Grey (AK-758).
10. Brush paint the mounting plates with 'Mr. Metal' Stainless Steel (213).
11. Once dry, buff the surfaces to a metallic finish.

NOTE: *When attaching the rear mounting plate to the propeller, make sure the drilled holes are aligned to allow the assembly to fit on the engine propeller shaft.*

12. Attach the mounting plates to the propeller hub using CA adhesive.
13. If desired, apply 'AK Interactive' Kerosene wash (AK 2039) to the mounting plates.



PART 8 - COCKPIT AND FUSELAGE

NOTE 1: *At this stage any modifications in Part 1 of this build log should have been completed.*

NOTE 2: *References to 'B' in the text indicate colour **scheme B** on page 25 of the instruction manual, which is the scheme and aircraft version being modelled for this build.*

NOTE 3: *Throughout this build, an airbrush is used for applying primer, paint and sealing coats, unless specified otherwise (e.g. Brush).*

NOTE 4: *Throughout this build, the Primers used will be 'AK Interactive' primer and micro-filler (AK-758 Grey) or (AK-759 White) and the paints used will be 'Tamiya' acrylics. Any different will be specified.*

Forward cockpit area - preparation:

1. Working from instruction manual pages 4 and 5 - Clean up all common parts and those for 'B' (disregard the seat belts P4 as these are being replaced).
2. Cement together:
 - The two halves of the ammunition tank (A49, A50).
 - The two halves of the fuel tank (A41, A42).
 - The two halves of the empty ammunition belt container (A51, A52)
 - Cockpit right side frame (B10) and fuel pressure pump (A59).
 - Cockpit left side frame (B11) and throttle/mixture control (A20) and spark advance lever (A55).
3. Cut away the two filler caps (A58 and A60) as per the instruction manual.
4. Cement the two filler caps (A58 and A60) into the slot on the fuel tank.

NOTE: *During the next step, remember to position the control column to suit the position of the elevator and ailerons, if they are to be animated. If not the control column should be vertical and central to the torsion bar.*
5. Cement the control column(A64) to the torsion bar (A57).
6. Cement the hand throttle (A18) to the control column.
7. Prime all parts (Grey AK-758), except the forward side of the seat frame (A26), the inside of the pilots seat (A38) and the top stitched area of the firewall (A46), which should be primed using the White (AK-759), as these parts are to have decals applied.
8. Airbrush the cockpit floor (A37) with Deck Tan (XF55).
9. Airbrush the rudder bar (A63), seat frames (B22), fuel gauge and frame (A8), gun support frame (A2), tubular frame of the fabric seat back (A26), left side frame (B11), right side frame (B10) using Grey Green (XF76).
10. Airbrush the control column (A64), torsion bar (A57), hand throttle (A18) and aileron bell crank levers (A11) using Rubber Black (XF85).
11. Airbrush the handles of the control column hand throttle and grip, spark advance lever, pressure pump with Hull Red (XF9) mixed with Desert Yellow (XF59).
12. Airbrush the assembled ammunition tank (A49, A50), ammunition empty belt container (A51,A52), firewall (A46), pilot seat outside surface (A38) and fuel tank assembly (A41, A42, A58, A60) using 'Alclad' Gloss Black base (ALC-305).

13. Once dry, Airbrush the assembled ammunition tank (A49, A50), ammunition empty belt container (A51,A52), firewall (A46), pilot seat outside surface (A38), fuel tank assembly (A41, A42, A58, A60) and throttle/mixture control (A20) using 'Alclad' Duraluminium (ALC-102).
-

NOTE: Refer to Part 3 of this build log - Chipping can be made by using the hairspray or chipping fluid method or by 'dry' chipping away the top paint coat to expose the metal finish underneath. If using the hairspray or chipping fluid method, carry out steps 14 to 16. If not carry out steps 17 and 18.

Hairspray or chipping fluid method:

14. Lightly spray hair lacquer or chipping fluid over the assembled fuel tank assembly (A41, A42, A58, A60). Once dry apply a second coat if first coat coverage was in doubt.
15. Once dry, Airbrush the assembled fuel tank assembly (A41, A42, A58, A60) with Dark Green (XF61).
16. When dry, apply water to the top coat (XF61) of the fuel tank assembly, then using a wood tooth pick or similar and a short brush, carefully chip and/or scrape away the paint to reveal the Duraluminium undercoat.

Dry chipping:

17. Once dry, Airbrush the assembled fuel tank assembly (A41, A42, A58, A60) with Dark Green (XF61).
 18. Once dry, carefully use a wood tooth pick or the edge of a curved scalpel blade and chip and/or scrape away the top coat (XF61) paint to reveal the Duraluminium undercoat.
-

19. Brush paint the pilots seat cushion (A27) with 'Tamiya' Hull Red (XF9).
20. Brush paint the three filler caps (A58, A60), the ammunition rounds (ammunition tank (A49, A50) and pressure pump (A59) with 'Mr. Colour' Brass (219).
21. Brush paint the ammunition belts using Deck Tan (XF55).
22. Apply a gloss sealing coat onto the face of the fuel gauge (A8) and compass (A62), the white side of the seat frame (A26) and the white top of the forward bulkhead (A46).
23. The decals for the forward surface of the seat frame (A26), the top of the firewall (A46), and the lozenge seat covering (inside only) are taken from the 'Aviatic' sheet ATT32164. These deals are of the 'clear' type which is why the base coat for decal areas should be white or possibly tan. Apply the decals by reference to the 'Aviatic' instructions and Part 4 of this build log. *Remember - each decal must be carefully cut from the sheet as the decal carrier film covers the entire sheet.*
23. Apply the fuel gauge decal (111) to the gauge on part A8 and (109) to the compass (A62).
24. Wood effect: The cockpit floor (A37) was wood. The wood effect for the cockpit floor can be created either by the use of decals or by painting with oil paint. I chose oil painting (refer to Part 2 of this build).

Rear cockpit area - preparation:

26. Working from instruction manual pages 6 to 9 (disregard the seat belts P4 as these are being replaced).
27. Airbrush the instrument panel (A40) with Deck Tan (XF55).
28. Wood effect: The instrument panel (A40) was wood. The wood effect for the instrument panel can be created either by the use of decals or by painting with oil paint. I chose oil painting (refer to Part 2 of this build).
29. Brush paint the magneto starter (A29), handle (A5), two instrument surrounds (A40), gun supports (A2, A16) using Rubber Black (XF85).
30. Brush paint back of grease pump (A28), left side frame (B11), right side frame (B10), three corner braces (D5), engine support frames (B6, B14, B15, B17) and altimeter (A32) using Grey Green (XF76).
31. Brush paint the instrument panel switches and grease pump (A28) with 'Mr. Colour' Brass (219).
32. Apply a gloss sealing coat over the instrument panel (A40), instrument face on part A16 and body of grease pump (A28).
33. Cement the magneto starter (A29) to the instrument panel (A40).
34. Cement the grease pump (A28) to part A16.
35. Apply the decals to the instrument panel (113 to 115, 117, 118 to 120), grease pump (112), instrument on part A16 and altimeter (A32).
36. Cement handle (A5) onto the magneto starter (A29).
37. Brush paint the foot skid plates on the cockpit floor (A37) using 'Mr. Colour' Stainless Steel (213).

Weathering:

At this stage the various parts can be weathered prior to assembly.

NOTE: *The surface of the model needs to have a good surface for applying 'Flory' clay wash. A semi-matte finish will allow the clay wash to grip on the surface but allow removal as required. A matte (flat) surface will retain too much of the wash and a gloss surface won't allow the wash to grip.*

38. Airbrush those parts you wish to weather with a sealing coat of a coat of either 'Alclad' Light Sheen (ALC-311) lacquer or 'Tamiya' Semi-Gloss Clear (X35).
39. Refer to Part 3 of this build log and apply the 'Flory' clay wash of your choice.
40. Once the required finish has been achieved, reseal the weathered surfaces by airbrushing 'Alclad' Light Sheen (ALC-311).

41. **Flight controls:**

Refer to the Wingnut Wings instruction manual page 8 for the general rigging illustration.

NOTE: *Photographs of aircraft taken at the time prove difficult to determine if there were any turnbuckle adjusters fitted to the cables at the rudder, elevator or ailerons. Photographs of some reproduction aircraft show turnbuckles fitted so it's really up to individual modellers to decide to fit these turnbuckles or not. However turnbuckle adjusters were fitted to each cable under the pilots seat (not required on this model as they will not be visible). The various cables at the rudder, elevator and ailerons will be fitted later in this build.*

41A. **Rudder:**

The rudder was controlled by a single cable attached to each side of the rudder bar. The cables were routed rearwards to be connected to each side of the rudder control horn.

NOTE: *Inboard from each foot guard on the rudder bar is a pre-molded attachment for a control cable.*

1. At the attachment locations, drill a hole of 0.2 mm diameter through the rudder bar (front to rear).
2. Pass a long length of 'Stroft' 0.08 mm diameter mono-filament through each hole and secure using thin CA adhesive.
3. Cut away any line protruding from the front of the rudder bar.
4. Slide a cut length of 'Albion Alloys' 0.4 mm diameter Nickel-Silver tube (NST04) onto each line and secure close to, but not touching, the rudder bar, using thin CA adhesive.



41B. **Elevator:**

The elevator was controlled by four cables. Two were attached to the bottom of the control column and routed rearwards to be connected to the control horns on the underside of the elevator. A second pair of cables were attached slightly higher on the control column and were routed rearwards and connected to the control horns on the top of the elevator.

NOTE: Towards the bottom of the control column are the attachments for the two 'twin' operating cables. One is a small pre-molded 'cross bar' and the other a 'lug' at the very bottom of the control column.

1. At both locations, drill a hole of 0.2 mm diameter through the control column (side to side).
2. Pass a long length of 'Stroft' 0.08 mm diameter mono-filament through each hole.
3. Slide a cut length of 'Albion Alloys' 0.4 mm diameter Nickel-Silver tube (NST04) onto each line.
4. Gently pull the pairs of lines away from the control column (towards the short end of the torque tube).
5. Position the tubes close to, but not touching the control column, and secure them and the lines together using thin CA adhesive. Make sure the lines are free to move in the control column.



41C. **Ailerons:**

NOTE: The aileron control cables were routed from the bell crank and between the fuel tank and empty ammunition belt container to the fuselage apertures. This needs to be accounted for when building and rigging the flight controls.

The ailerons on each side of the upper wing were connected by twin cables to the aileron bell crank (A11) on the forward end of the control column torsion bar (A57). Each pair of aileron control cables were attached to the opposite side of the bell crank lever and exited through apertures on the sides of the fuselage and up to the underside of the upper wing at the rear cabane strut attachment.



NOTE: *The following explanation of the aileron control cable routing is partly based on supposition, due to a lack of information.*

Fitted on the rear of the upper wing rear spar and forward of the aileron on that side, were twin control cable pulleys. Each pair of control cables were routed from the cockpit bell-crank, through the opposite fuselage sides and into the underside of the upper wing. One cable from each side of the bell-crank was routed around one of the twin aileron pulleys, then rearwards to a control horn on the aileron. *The other bell-crank cables were routed around pulleys in the upper wing centre section then outboard and around the second aileron pulley and rearwards to the other aileron control horn.*

As the control column was moved to the left or right, the control cables would pull on the relevant aileron control horn to move the aileron in the correct direction, whilst the other aileron control cable was 'relaxed' to allow aileron movement. For example, moving the control column left would raise the left aileron and lower the right aileron, forcing the wing to bank to the left.

1. At the end of each of the two aileron bell-crank levers, drill a hole of 0.2 mm diameter through the levers (front to rear).
2. Pass a long length of 'Stroft' 0.08 mm diameter mono-filament through each hole.
3. Slide a cut length of 'Albion Alloys' 0.4 mm diameter Nickel-Silver tube (NST04) onto each line.
4. Position the tubes close to, but not touching the ends of the bell-crank and secure them and the lines together using thin CA adhesive. Make sure the lines are free to move in the bell-crank.

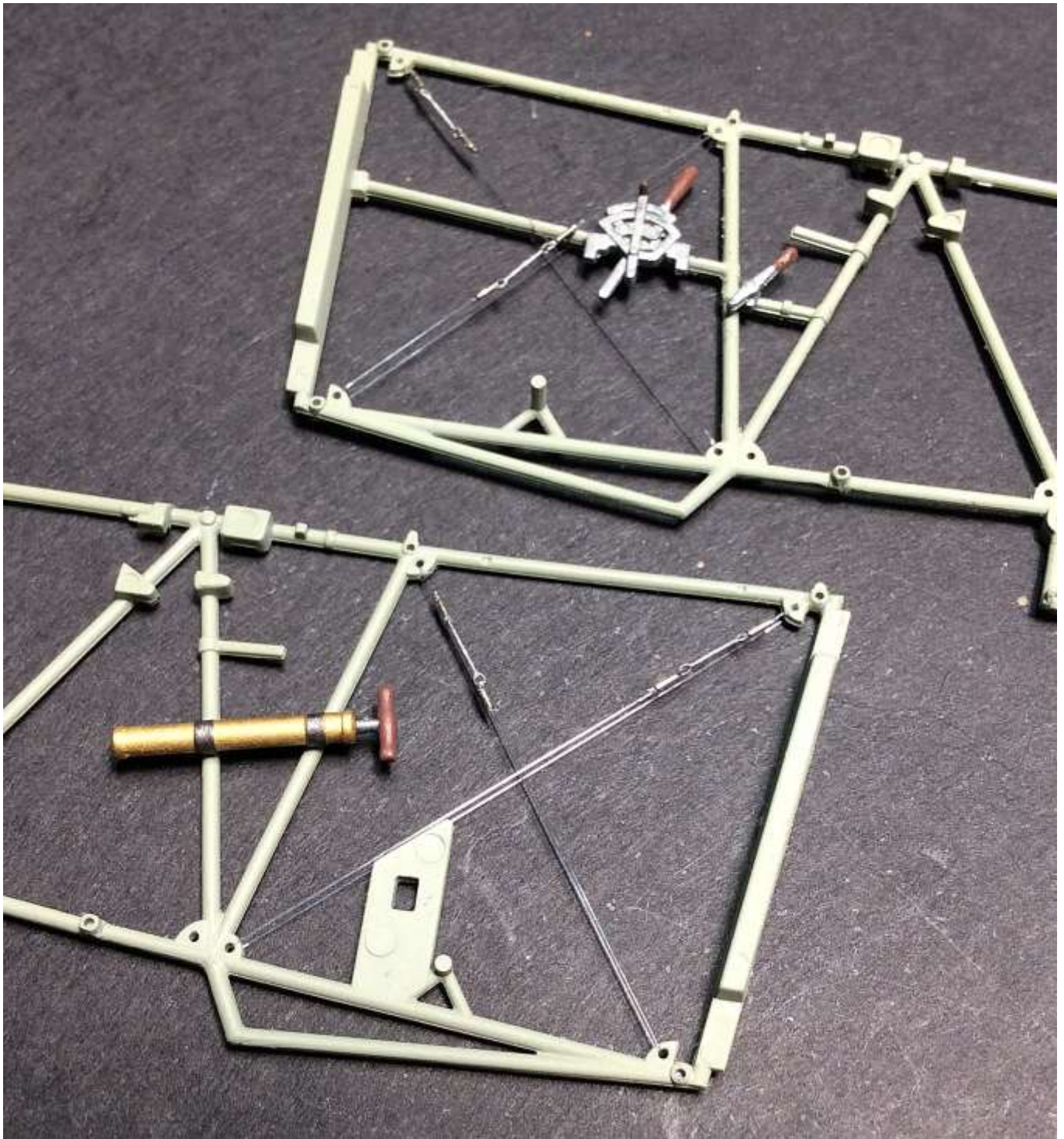
NOTE: *The external turnbuckles will be fitted later (refer to Part 10 of this build log).*



41D. **Cockpit side frames - cross bracing:**

Cross bracing wires were fitted to the fuselage structure and visible inside the fuselage. However the only wires that will be visible once the fuselage is 'closed up' will be the pair of twin bracing wires that cross each other in the bay of the fuselage frame bay adjacent to the pilots seat. Each of these cables were fitted with a turnbuckle adjuster.

1. Slide a cut length of 'Albion Alloys' 0.4 mm diameter Nickel-Silver tube (NST04) onto a long length of 'Stroft' 0.08 mm diameter mono-filament.
2. Pass one end of the line through an 'eye' at the end of a 'GasPatch' 1:48th scale turnbuckle (Type C).
3. Pass the line back through the tube and position the tube close to, but not touching the turnbuckle.
4. Secure the tube on the line using thin CA adhesive.
5. Pass the free end of the line through diagonally opposite corner anchors in the rear most frame bay of the cockpit left side frame (B11).
6. Slide a cut length of 'Albion Alloys' 0.4 mm diameter Nickel-Silver tube (NST04) onto a the free end of the line.
7. Pass the free end of the line through the remaining 'eye' at the end of the turnbuckle.
8. Pass the line back through the tube.
9. Carefully pull the line to take out slack in the line.
10. Position the tube close to, but not touching the turnbuckle.
11. Secure the tube on the line using thin CA adhesive.
12. Cut away any of the exposed free end of line.
13. Repeat this procedure for the other cross bracing line in the frame bay.
14. Repeat this procedure for the same frame bay in the cockpit right side frame (B10).



41E. Cockpit floor - cross bracing:

Cross bracing wires were fitted diagonally between the bottom of the cockpit side frames. However the only wires that will be visible once the fuselage is 'closed up' will be the pair of twin bracing wires that cross each other below the pilot's seat. Each of these cables were fitted with a turnbuckle adjuster. The cockpit side frames (B10, B11) supplied in the kit have pre-molded holes for these bracing wires.

NOTE: *These wires are created in the same way as those for the side bracing wires (Step 4D), but can only be fitted once the cockpit assembly is built and before adding to the fuselage.*

41F. Tail skid:

I found nothing to indicate that the Fokker D.VII was fitted with a steerable tail skid.

Cockpit assembly:

42. Apply a gloss sealing coat to the faces of the various cockpit instruments.
43. Cement handle (A5) to the magneto starter (A29).
44. Cement the seat cushion (A27) to the pilots seat (A38).
45. Cement the two seat support frames (B21, B22) to the seat/support frame.
46. Cement the gun support (A2) to the assembled ammunition tank.
47. Cement the fuel gauge to the assembled fuel tank.
48. Cement together the firewall (A46), fuel tank assembly, ammunition tanks

Seat lap straps:

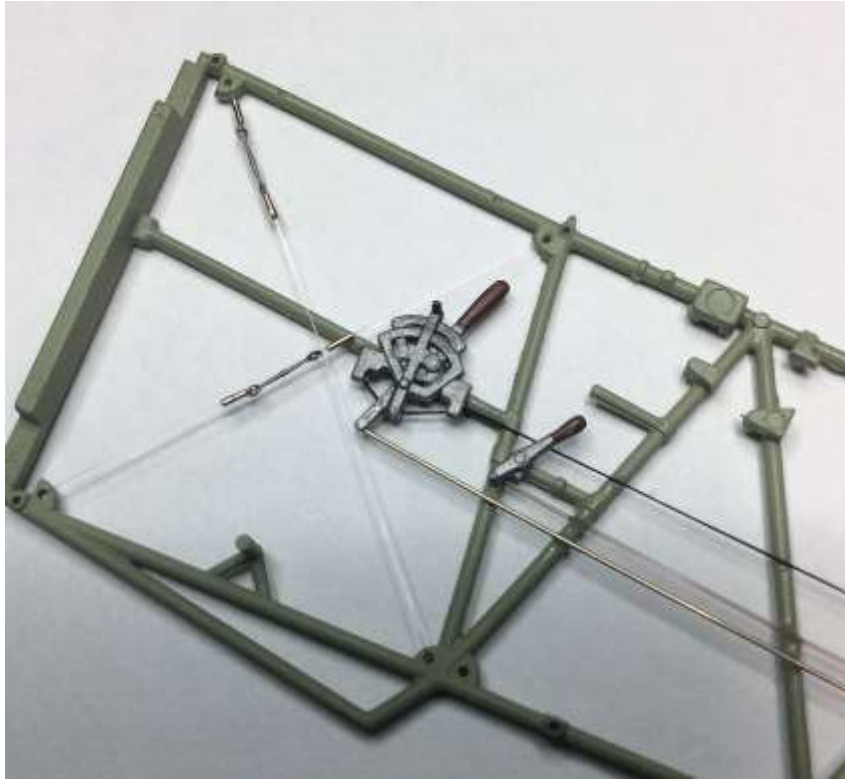
The method of attaching the pilots lap straps for this model does not require all of the items supplied with the 'HGW Models' Fokker D.VII double sided seat belts (132302). Only one strap each side, with its end fitting were attached to the seat at each side of the seat cushion, using thin CA adhesive.



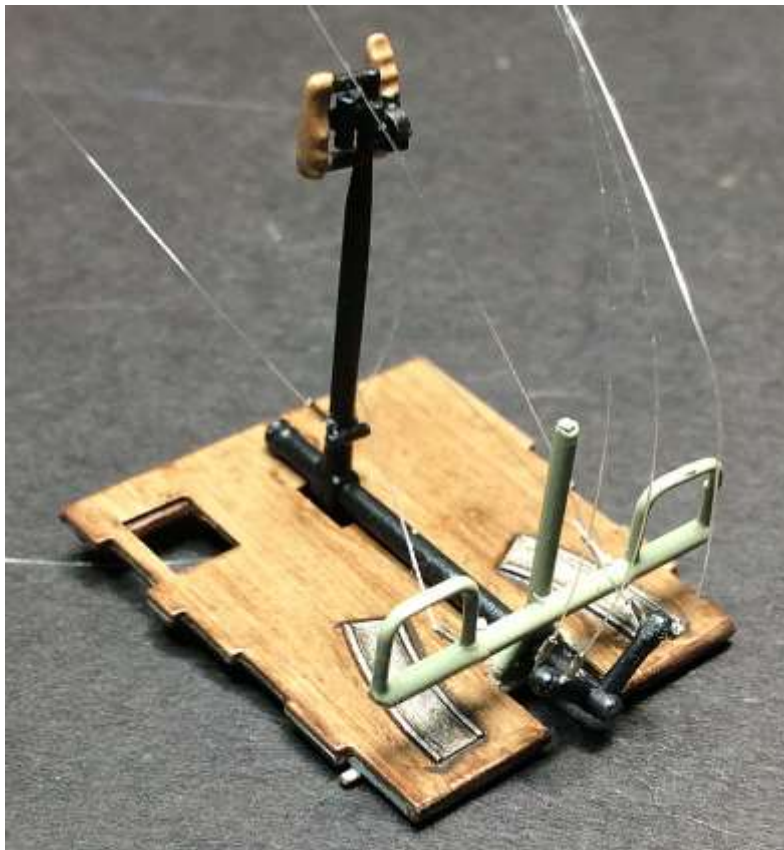
50. Drill the 4.5 mm diameter hole in fuselage half B13 for the access panel (K1).
51. Cement the access panel K1 into the hole in fuselage half B13).
52. Prime the inside of the fuselage halves (B9, B13) using the White (AK-759)
53. The decals for the fuselage cockpit sides and floor are 'faded' lozenge and taken from the 'Aviatic' sheet ATT32164. These decals are of the 'clear' type which is why the base coat for decal areas should be white. Apply the decals by reference to the 'Aviatic' instructions and Part 4 of this build log. *Remember - each decal must be carefully cut from the sheet as the decal carrier film covers the entire sheet.*
54. Airbrush a decal sealing coat of 'Alclad' Light Sheen (ALC-311).
55. Refer to Part 3 of this build log and apply the 'Flory' clay wash of your choice.
56. Seal the weathering by airbrushing with 'Alclad' Light Sheen (ALC-311).



57. Engine controls - these were cut and secured to the side frame using thin CA adhesive.
Throttle lever - 'Albion Alloys' 0.4 mm diameter Nickel-Silver tube (NST04).
Mixture control cable - 'Infini Model' Medium Aero Black Rigging 0.135 mm.
Spark advance - 'Dawa' Hyper Sensor 0.28 mm mono-filament.



58. Cement the control column assembly (A18, A57) and rudder bar (A63) to the cockpit floor (A37).
59. Cement the aileron bell-crank assembly (A11) to the front of the torsion bar (A57).



60. Brush paint the centre section of the turnbuckles on the cockpit side frame rigging, using 'Mr. Colour' Brass (219).

Fuel pressure pump:

The hand operated fuel pressure pump was connected to the fuel tank by a pipe.

61. Scuff, by sanding, the surface of a length of 0.375 mm diameter copper wire.
62. Drill a 0.4 mm diameter hole into the end of the installed hand pressure pump (A59).
63. Cut the copper wire to length and secure in the pump and against the cockpit side frame, using thin CA adhesive.



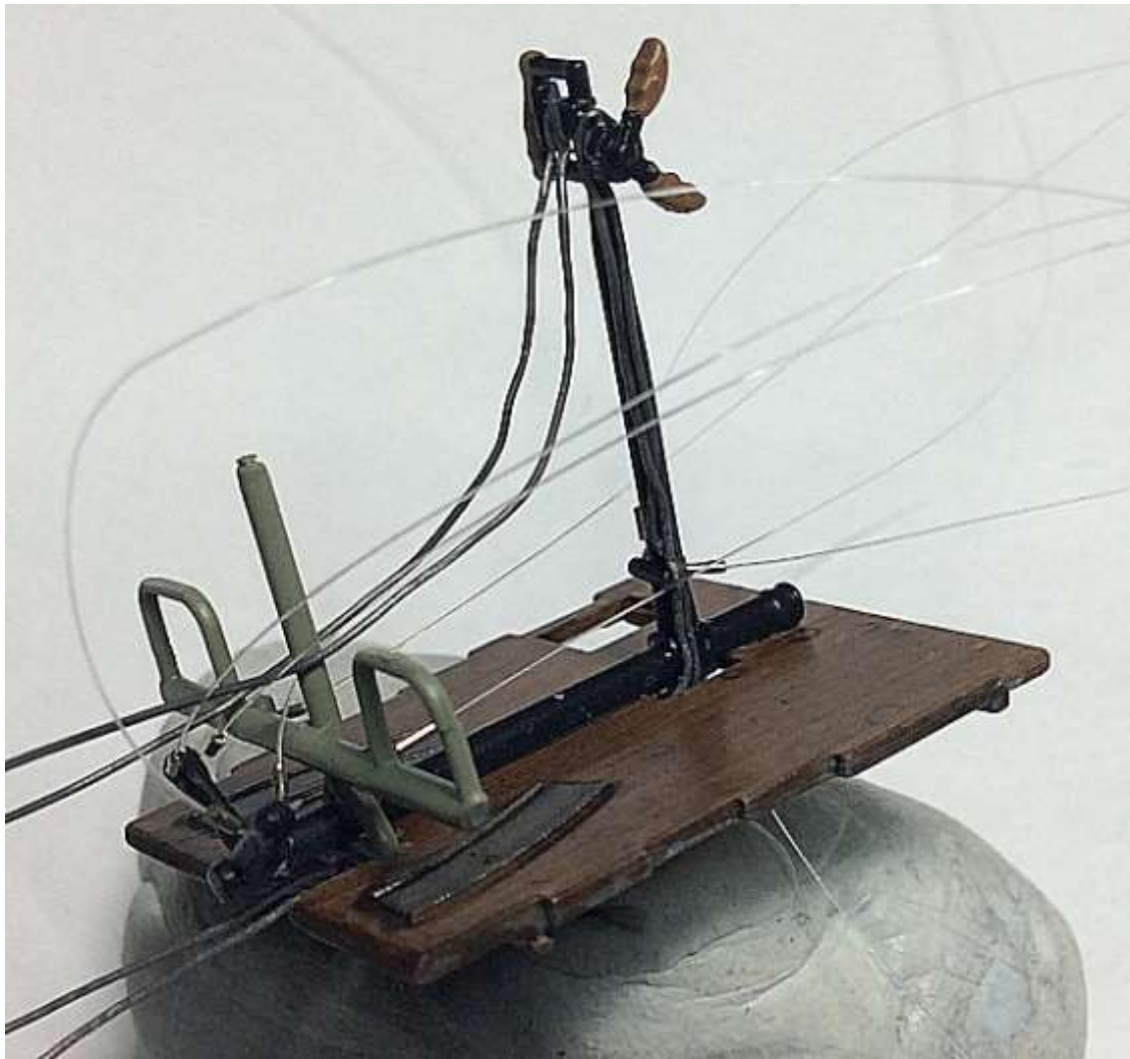
Gun firing and hand throttle cables:

There were four operating cables attached to the control column, two for the hand operated throttle and one trigger operating cable for each of the two machine guns. The hand throttle cables were routed down the control column and under the cockpit floor, forwards to the engine. The two gun trigger cables hung forwards from the control column and were routed under then up the back of the instrument panel, running forwards to the synchronisation gear at the top, rear of the engine.

64. Pass two lengths of 'PlusModel' lead wire (0.3 mm) up through the aperture for the control column in the cockpit floor.
65. Secure the ends of the lead wires to the hand throttle on the control column, using thin CA adhesive.
66. Keeping the lead wires together, secure them down the control column using thin CA adhesive.
67. Pass the lead wires forward and secure them to the underside of the cockpit floor, using thin CA adhesive.

NOTE: *The fitting of the gun trigger cables will be completed once the cockpit has been assembled.*

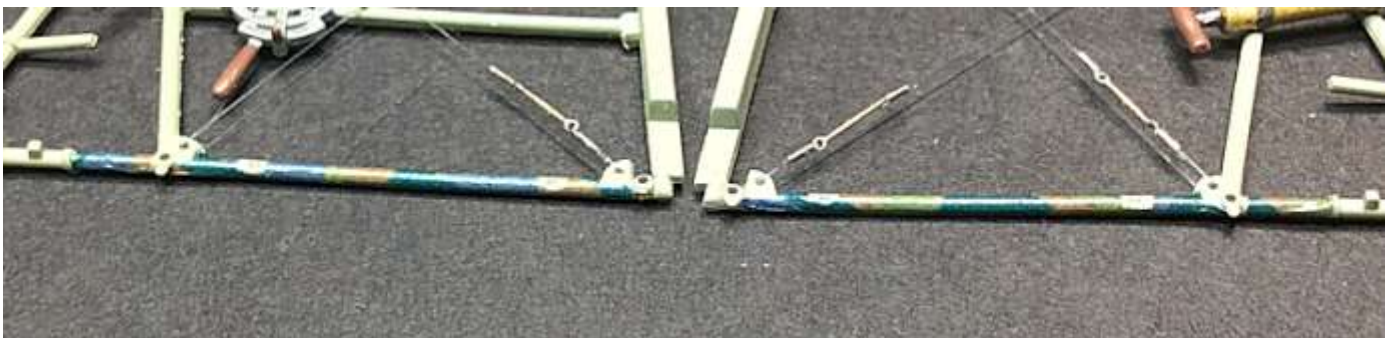
68. Secure the ends of two more 'PlusModel' lead wires (0.3 mm) to the gun triggers on the control column, using thin CA adhesive.



Cockpit build continued:

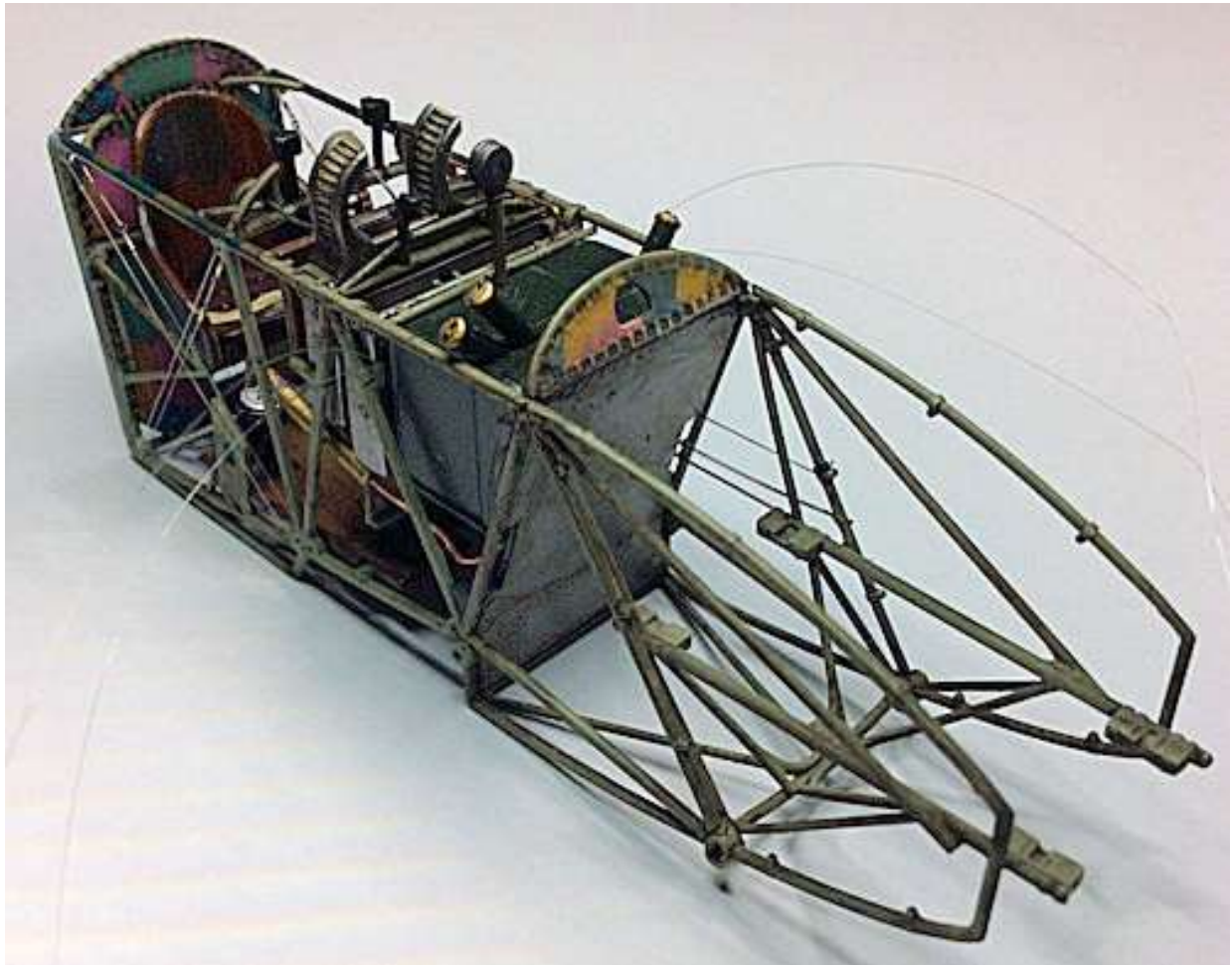
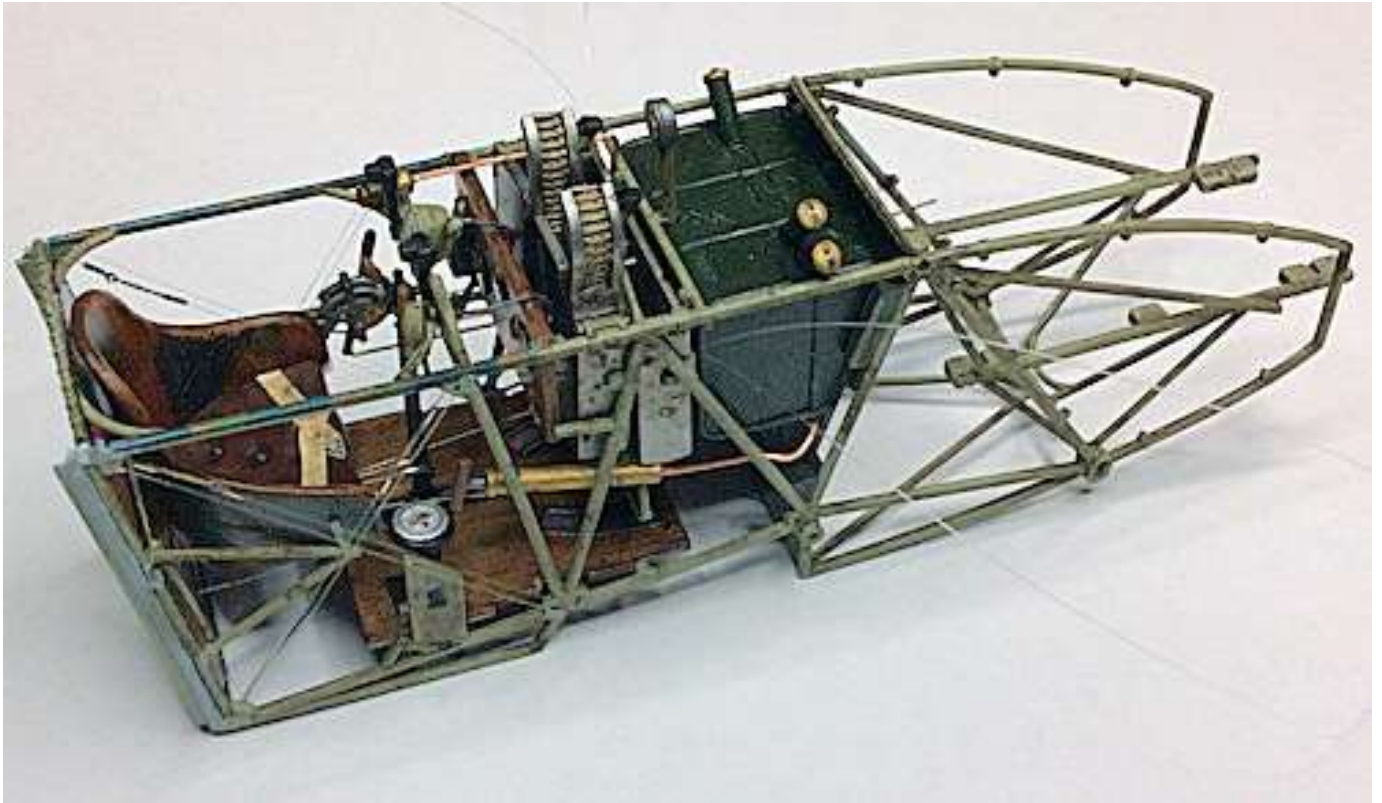
NOTE: Before assembling, dry fit all of the parts and clear out any primer or paint in the parts assembly points. This will ensure the parts fit together correctly and that the fuselage will 'close up' fully without open seam joints.

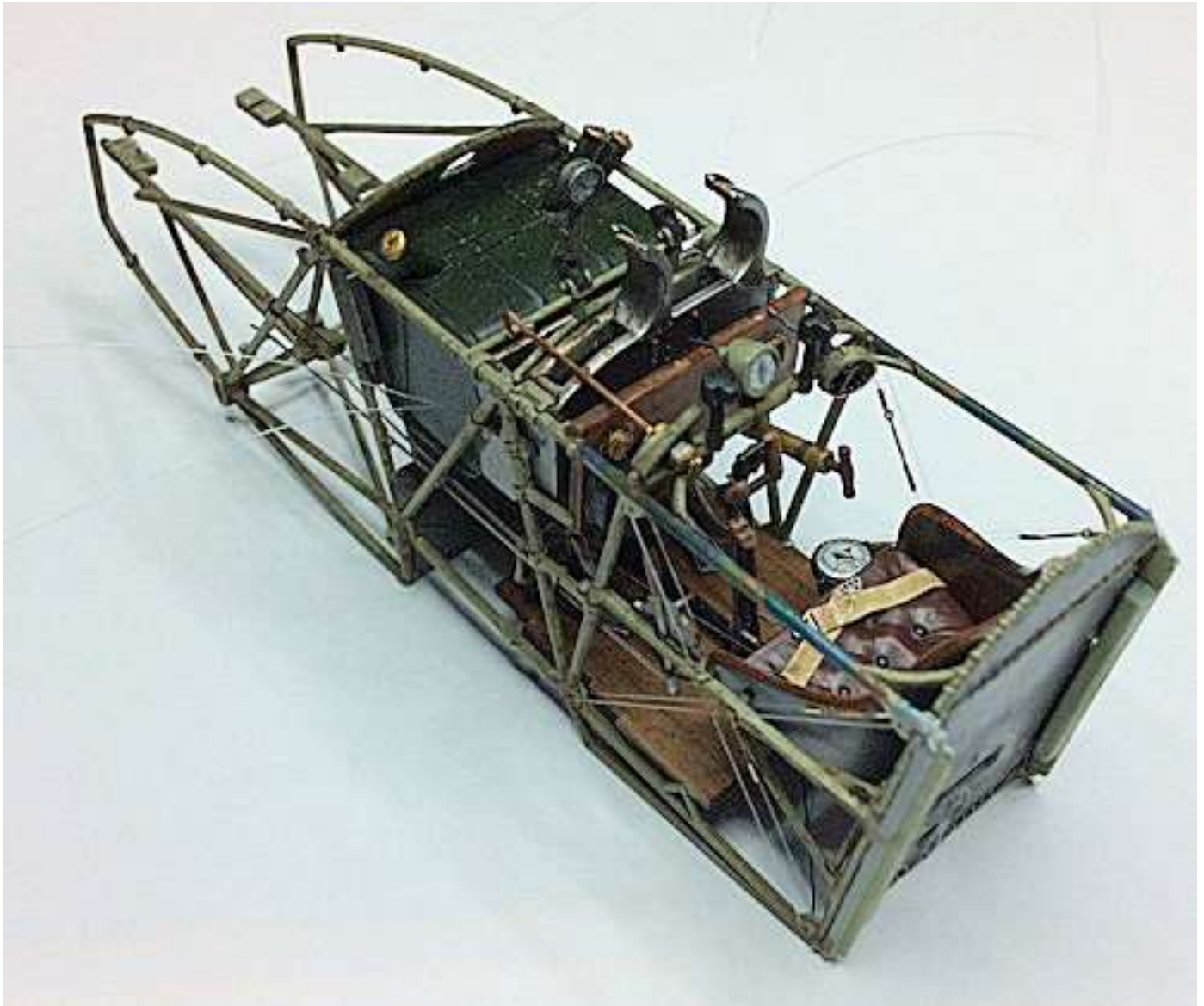
69. Prime the engine bearer frames (B6, B14, B15, B17) with Grey (AK-758).
70. Airbrush the engine bearer frames (B6, B14, B15, B17) using Grey Green (XF76).
71. The decals for top rails of the cockpit side frames are taken from the 'Aviatic' sheet ATT32164. These decals are of the 'clear' type which is why the base coat for decal areas should be white. However the areas to have these decals is so small that the pre-applied Grey Green (XF76) will be OK. Apply the decals by reference to the 'Aviatic' instructions and Part 4 of this build log. *Remember - each decal must be carefully cut from the sheet as the decal carrier film covers the entire sheet.*
72. Airbrush a sealing coat of 'Alclad' Light Sheen (ALC-311) over the applied decals.



73. Cement the seat/bulkhead assembly onto the cockpit left side frame.
NOTE: *During cockpit assembly, make sure the various control lines and the four lead wires are routed correctly so as not to be trapped in the assembly.*
74. Cement the cockpit floor to the cockpit left side frame.
75. Cement the forward bulkhead, fuel tank, ammunition containers assembly onto the cockpit right side frame.
76. Cement the two cockpit sides and cockpit assemblies together, making sure all locations are correctly positioned.
77. Pass the rudder and elevator control lines through their respective apertures in the seat rear bulkhead, gently pull them taut and secure to the rear face of the bulkhead, using CA adhesive. Trim off the free ends.
78. Straighten then secure the two lead wires for the hand throttle to the rear side of the forward bulkhead, using CA adhesive. Trim off the free ends.
79. Loop the two lead wires for the trigger cables down then up against the rear face of the ammunition empty rounds container and secure in position using CA adhesive. Trim off the free ends.
80. Cement the compass onto its mounting on the cockpit right side frame.
81. Rout the pairs of aileron operating lines across to the opposite side of the cockpit and between the fuel tank and ammunition container. The lines must exit from under the cockpit side frame top rails. (for routing through the pre-molded apertures in the cockpit sides).
82. Cement the instrument panel in position between the cockpit side frames.
83. Cut eight lengths of 'T Force' XPS Match Sinking line (0.148 mm) or similar and pass each through the pre-molded location holes and diagonally, to cross between the two cockpit side frames under the cockpit floor. Cross bracing should be between the side frames under the pilots seat and the bay forward from that.
84. Drill a 0.5 mm diameter hole in the back of the grease pump (A28) located on the gun mounting frame (A16).
85. Cut a length of 0.375 mm copper wire and secure it into the drilled hole using CA adhesive. Bend the end of the wire 90 degrees to finish at the gap at the rear of the fuel tank.
86. Cement the gun mounting frame (A16) into its location holes in the cockpit side frames.
87. Secure the copper wire to the top edge of the ammunition tank using CA adhesive.
88. Attach a length of 'PlusModel' lead wire (0.3 mm) to the rear of the instrument on the gun mounting frame with CA adhesive.
89. Route the free end of the lead wire down the back of the instrument panel.
90. Cement the two engine bearer frames (B14, B15) to the cockpit side frames.
91. Cement the engine bearer frame (B17) to the bottom of the forward bulkhead and cockpit side frames.
92. Cement the engine bearer frame (B6) to the engine bearer frame.
93. Cement the three corner braces (D5) at the rear and left side of the cockpit side frames.
94. Cement the altimeter (A32) to the right, front of the cockpit side frame.
95. Attach a length of 'PlusModel' lead wire (0.3 mm) to the rear of the altimeter on the gun mounting frame with CA adhesive.
96. Route the free end of the lead wire down the back of the instrument panel.
97. If required, refer to Part 3 of this build log and apply the 'Flory' clay wash of your choice.

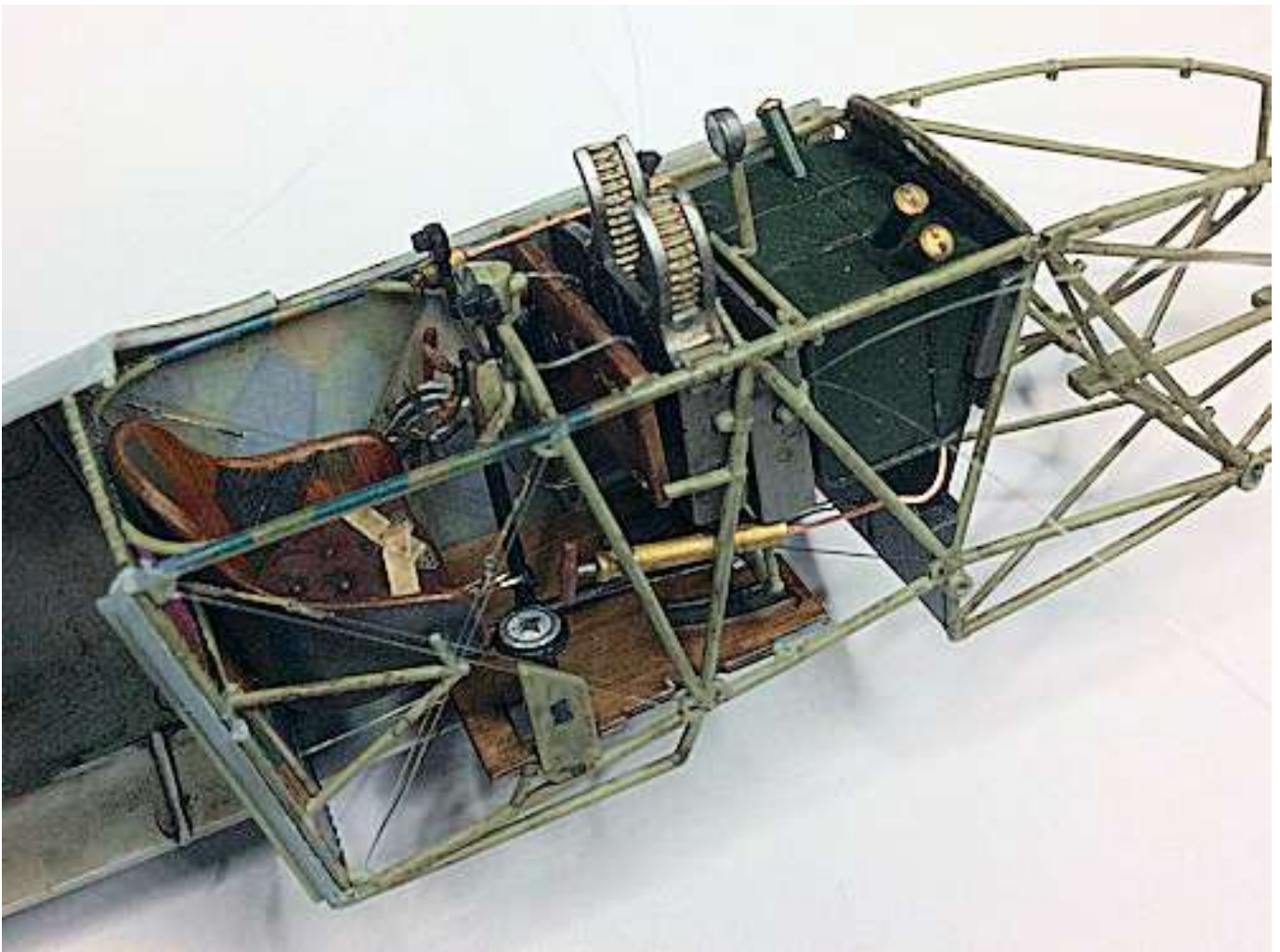
98. Once the required finish has been achieved, reseal the weathered surfaces by airbrushing 'Alclad' Light Sheen (ALC-311).
99. If necessary, apply a gloss coat to the instrument faces (if dulled by previously airbrushing sealing coats).





NOTE: *In order to complete the cockpit the pilots shoulder straps need to be fitted. However they must be fitted after the linen 'wind break' has been installed behind the pilots head, and this can only be done after the cockpit is fitted into the fuselage.*

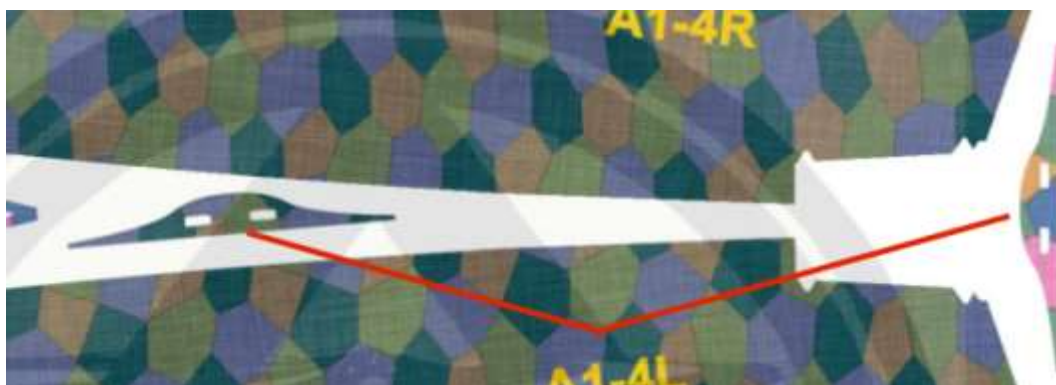
100. Make sure the aileron cable aperture on each fuselage half is clear of paint or the applied 'Aviatic' internal lozenge decal.
101. 'Dry' test fit the cockpit assembly between the fuselage halves. Make sure that the mating surfaces of the fuselage halves have no gaps and also that the cockpit structure is not put under pressure when joining the fuselage halves. Carry out adjustments, if required, by scrapping or sanding the area causing problems.
102. Pass the pair of right aileron lines through the left fuselage aperture. Remember that these lines cross in the cockpit and exit through the opposite fuselage side.
103. Cement the rear of the cockpit assembly into the left fuselage half. Pull gently on the two aileron lines to make sure they are not trapped.



104. Pass the pair of left aileron lines through the right fuselage aperture. Remember that these lines cross in the cockpit and exit through the opposite fuselage side.
105. Cement the right fuselage half to the left fuselage half and cockpit assembly. Pull gently on the two aileron lines to make sure they are not trapped. Also make sure the fuselage halves joints have no gaps.
106. Cement the under fuselage stitching strip (B3) into the recess.

NOTE: *Once the fuselage halves have been cemented together and the joints have fully set, the pilots shoulder harness and wind break can be added (information in Part 1 of this build log).*

107. Carefully cut around the chosen (two types) of lozenge baffle decal on the 'Aviatic' ATT32164 sheet.

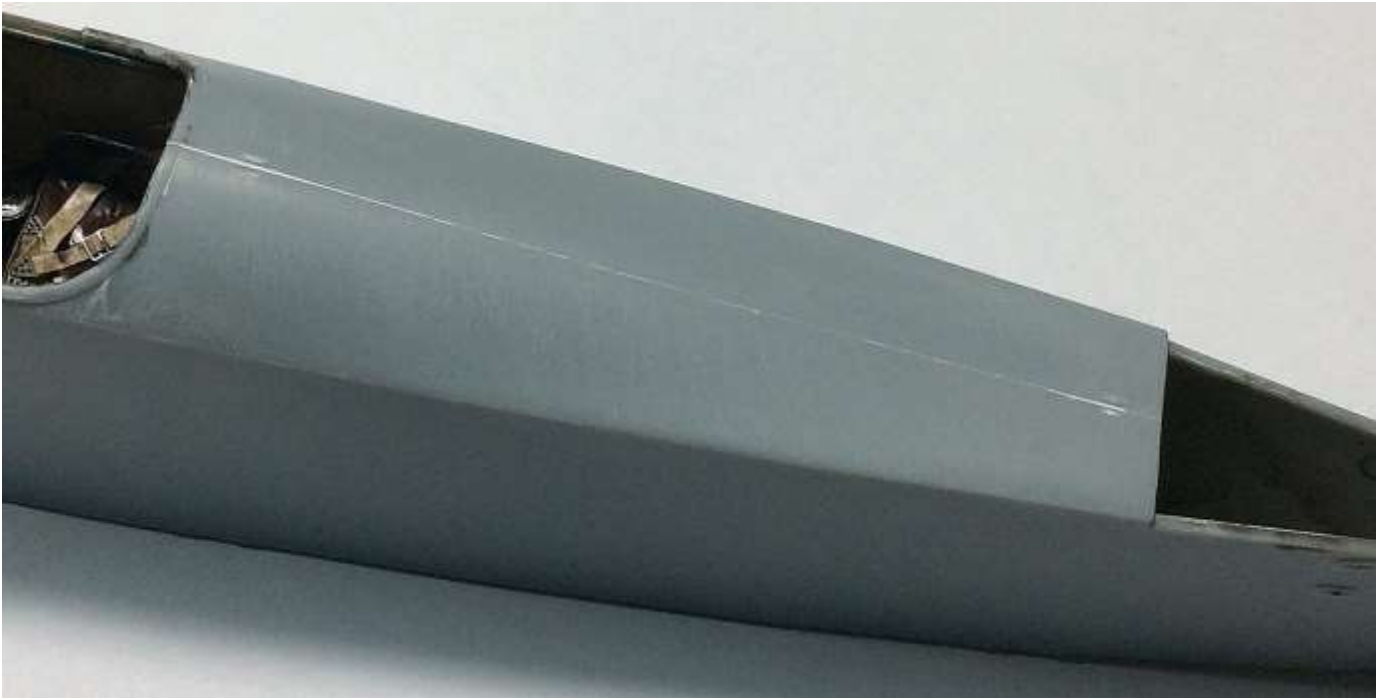


108. Cut out the two rectangular harness slots in the decal.
109. Use the decal as a template and trace the outline of the decal onto a sheet of 0.2 mm thick plastic card.
110. Carefully cut around the traced outline, including the slots, on the plastic card.
111. Carefully curve the plastic 'baffle' to the width of the cockpit behind the pilots seat.
112. 'Dry' fit the plastic 'baffle' behind the pilots seat and resting on the two rear corner frames. Adjust as required, the shape of the baffle, until a good fit is achieved.
113. Place a drop of CA adhesive on each corner frame and in the top centre of the seat bulk head.
114. Locate the plastic 'baffle' in position and on the CA adhesive.
115. Once the CA adhesive has set, apply the decal by reference to the 'Aviatic' instructions and Part 4 of this build log.
116. Airbrush a sealing coat of 'Alclad' Light Sheen (ALC-311) over the applied decal.
117. Refer to Part 3 of this build log and apply the 'Flory' clay wash of your choice.
118. Seal the weathering by airbrushing with 'Alclad' Light Sheen (ALC-311).
NOTE: *During the next step, cut away the two central joining strips, as the straps of the harness need to pass through the slots in the 'baffle'.*
119. Create the shoulder harness, following the instructions in the 'HGW Models' Fokker D.VII set (132302).
120. Test fit the harness to ensure the straps position correctly and adjust the harness as necessary.
121. Secure the harness in position using CA adhesive.

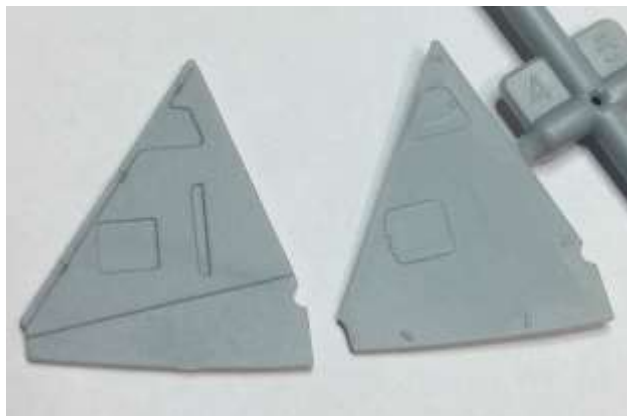


NOTE: Cemented joints can, during curing, cause the styrene to sink slightly causing either gaps or a ridge in the joint. The same can occur after applying filling putty, which can 'shrink back' during curing.

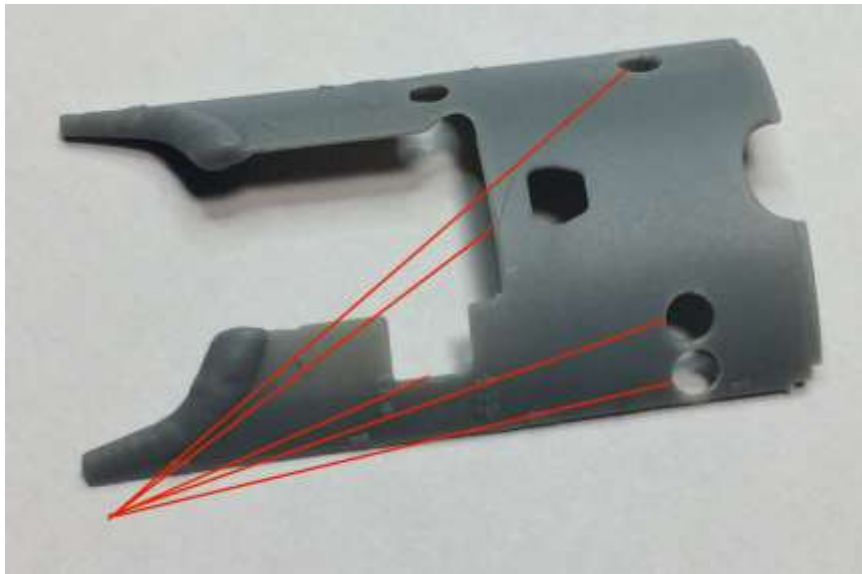
122. Check the fuselage upper joint seam for any gaps and if necessary, fill with a modelling putty, such as 'Perfect Plastic Putty' or similar.
123. Once any applied putty has fully cured, sand the seam smooth, following the contours of the fuselage.
124. Airbrush the joint with primer (AK-758 or 759) and once dry check the joint for gaps and sink marks. Sand back and re-apply filler/primer until a smooth and good joint is achieved.



125. Scrape or sand off the vertical louvre on panel K4 and K5 (not required for this build version).



126. **NOTE:** The cockpit coaming (H1) may need some slight adjustments in order for it to fit over the cockpit detail and onto the fuselage. I found that that the three filler cap holes needed to be enlarged and the cut-out for the right ammunition feed chute needed to be increased down the panel side. Also the edge of the coaming to the rear of the fuel gauge aperture needed to be filed away.



127. Drill out the three holes (guides pre-molded) in the chin cowl (K10).



128. Prime the following parts with 'Alclad' gloss black base (ALC-305) and once dry, Airbrush with 'Alclad' Duraluminium (ALC-102):
- Radiator assembly (A35, A44)
 - Coolant pipe (B19)
 - Chin cowl (K10)
 - Under cowl (A25, B18)
 - Cockpit coaming panel (H1)
 - Forward fuselage panels (K4, K5, K19, K21)
 - Lower wing panel (A24).
129. **Chipping methods:** Chipping effects, such as paint or dope chips, can be created using either of the following techniques.

Chipping - Hairspray:

Lightly spray hair lacquer or chipping fluid over the following parts. Once dry apply a second coat if first coat coverage was in doubt.

- Radiator surround (mask *the grill*) (A44)
- Chin cowl (K10) (*outer surface only*)
- Under cowl (A25, B18) (*outer surface only*)
- Forward fuselage panels (K4, K5, K19, K21) (*outer surface only*)
- Lower wing panel (A24).

Once dry, Airbrush the following parts with 'Tamiya' White (XF2) with a small amount of Buff (XF57), which will 'knock back' the brightness of the white colour.

- Radiator surround (*preferably mask the grill*) (A44)
- Chin cowl (K10) (*outer surface only*)
- Under cowl (A25, B18) (*outer surface only*)
- Forward fuselage panels (K4, K5, K19, K21) (*outer surface only*).

Airbrush the outer surface of the cockpit coaming panel (H1) with Dark Green (XF61).

Airbrush the lower wing panel (A24) with Grey Green (XF76).

When dry, apply water to the top coat (XF2/XF57), then using a wood tooth pick or similar and a short brush, carefully chip and/or scrape away the paint to reveal the Duraluminium undercoat to your desired effect.

Chipping - dry chipping:

Once dry, Airbrush the following parts with 'Tamiya' White (XF2) with a small amount of Buff (XF57), which will 'knock back' the brightness of the white colour.

- Radiator surround (*preferably mask the grill*) (A44)
- Chin cowl (K10) (*outer surface only*)
- Under cowl (A25, B18) (*outer surface only*)
- Forward fuselage panels (K4, K5, K19, K21) (*outer surface only*).

Using a wood tooth pick or similar, carefully chip and/or scrape away the paint to reveal the Duraluminium undercoat to your desired effect.

PART 9 - WEAPONS

This aircraft was fitted with two synchronized Spandau LMG 08/15 machine guns, which were belt fed from an ammunition box, located below the guns. The guns supplied with the kit are solid and do not represent the open structure of the guns cooling jacket and barrel.

Therefore I decided to replace them with the 'Gaspatch' Spandau 08/15 extended loading handle (18-32128), which have finely cast detail, but need to be handled very carefully as resin is brittle and therefore easy to break if handled roughly. As the ammunition belts and feed chutes for the two machine guns are supplied with the kit, these items from the 'GasPatch' set were no used. The barrel and head protection were fitted to each machine gun in accordance with the kit instructions.



NOTE 1: The two 'GasPatch' replacement machine guns must be test fitted to the cockpit decking, ensuring they both fit and align correctly to the kit mountings etc. Some minor modifications will be required to achieve this.

NOTE 2: The 'GasPatch' machine guns can easily be damaged or broken during handling, so care needs to be taken, especially with the perforated cooling jackets and where they attach to the breech block.

NOTE 3: Make sure the cockpit coaming panel (H1) has been test fitted and adjusted during Part 8 of this build log.

1. Dry fit the cockpit coaming panel (H1) onto the fuselage. Make sure that the panel is in full contact with the fuselage sides.
2. Insert the 'GasPatch' gun barrel through the hole in the front of the gun cooling jacket so the barrel end locates in the breech block and the anti-flash muzzle is located in the cooling jacket. Secure in position using CA adhesive.
3. Carefully cut away the bottom of the forward gun mounting and bottom rear corner of the breech block.



4. Drill a hole of 0.5 mm diameter into the synchronisation cable attachment point under the breech block. The attachment point may need to be cut away as it's possible it may break while it's being drilled.
5. Test fit each machine gun and make sure the guns locate correctly onto the front and rear gun mountings.
6. Attach the head protection pads to the rear of the breech blocks, using CA adhesive.
7. Again, test fit each machine gun and make sure the guns locate correctly onto the front and rear gun mountings and that the head protection pads do not interfere with the fit. Adjust as required.
8. Remove the cockpit coaming panel from the fuselage.
9. Insert a length of 'PlusModel' 0.4 mm diameter lead wire into the pre-drilled hole under the breech block and secure with CA adhesive.



10. Airbrush prime the gun assemblies using Grey (AK-758).
11. Paint the guns using 'Alclad' Gun Metal (ALC-120).
12. Paint the guns with a light, misting coat, using 'Alclad' Steel (ALC-112).
13. Apply 'AK Interactive' Kerosene wash (AK 2039) over the guns.
14. Dry brush 'around the muzzle areas.
15. Paint 'Tamiya' Rubber Black (XF85) over the added synchronisation cables.
16. Paint the head protectors with 'Humbrol' leather (62) with a small amount of 'Tamiya' Hull Red (XF9).



PART 10 - MODEL CONSTRUCTION

NOTE 1: *At this stage any modifications in Part 1 of this build log should have been completed and the fuselage assembly should have been completed in Part 8 of this build log.*

NOTE 2: *References to 'B' in the text indicate colour **scheme B** on page 25 of the instruction manual, which is the scheme and aircraft version being modelled for this build.*

NOTE 3: *Throughout this build, an airbrush is used for applying primer, paint and sealing coats, unless specified otherwise (e.g. Brush).*

NOTE 4: *Throughout this build, the Primers used will be 'AK Interactive' primer and micro-filler (AK-758 Grey) or (AK-759 White) and the paints used will be 'Tamiya' acrylics. Any different will be specified.*

1. Cement the two sides (F1 and F2) of the upper wing together.
2. Cement the two top sides (H3 and H4) of the lower wing onto the lower wing H5.
3. Cut the ends of the axle fairing for this particular model - refer to page 18 in the instruction manual. Using a model saw cut the ends from one half of the axle fairing, then dry fit the two fairing halves together and use the cut fairing as a guide for the cutting the ends of other half.
4. Cement the control horns into their locations on the Rudder, and Elevator (D17) and the Ailerons (D18).
5. Cement panel B18 into panel A25.
6. Paint the outer surface of the cockpit coaming panel (H1), lower wing panel (A24), fuel gauge cover (A62) and underside of the undercarriage fairing (K7) with Dark Green (XF61).
7. Paint the wheel tyres with primer Grey (AK-758).
8. Cement the tail plane onto the rear of the fuselage.
9. Carefully mask off the engine bay area and cockpit openings of the fuselage.
10. Prime the following parts using White (AK-759):
Fuselage, Upper wing assembly, Lower wing assembly, Wheel covers (both sides), Undercarriage fairing (top surface only), Fin, Tail plane, Rudder, Elevator, Ailerons.
11. Remove the fuselage masking.

Pre-shading:

When using the 'Aviatic' semi-transparent linen decals, try to represent the internal structures and grime showing through the linen covered elevator, wings and ailerons. Also to show joints in panels etc. To achieve this effect pre-shade the primed parts before applying the decals.

Make sure the white primed surface is smooth and free from any imperfections.

I use the 'Flory Models' Weather/Polish sticks (Green/White). Lightly rubbing the green coloured side first across the surface removes minor imperfections. Then using the white coloured side will polish the surface smooth. The amount of pre-shading depends on the type of 'Aviatic' decals used. Lighter decals, such as single colour (e.g. CDL) only require 'light' pre-shading. More dense coloured decals, such as Lozenge require more pre-shading to show through the decal. Pre-shading can be applied using different methods. Clay washes or airbrushed paint are two methods I tend to use. *For this model I chose to use the airbrushing paint method.*

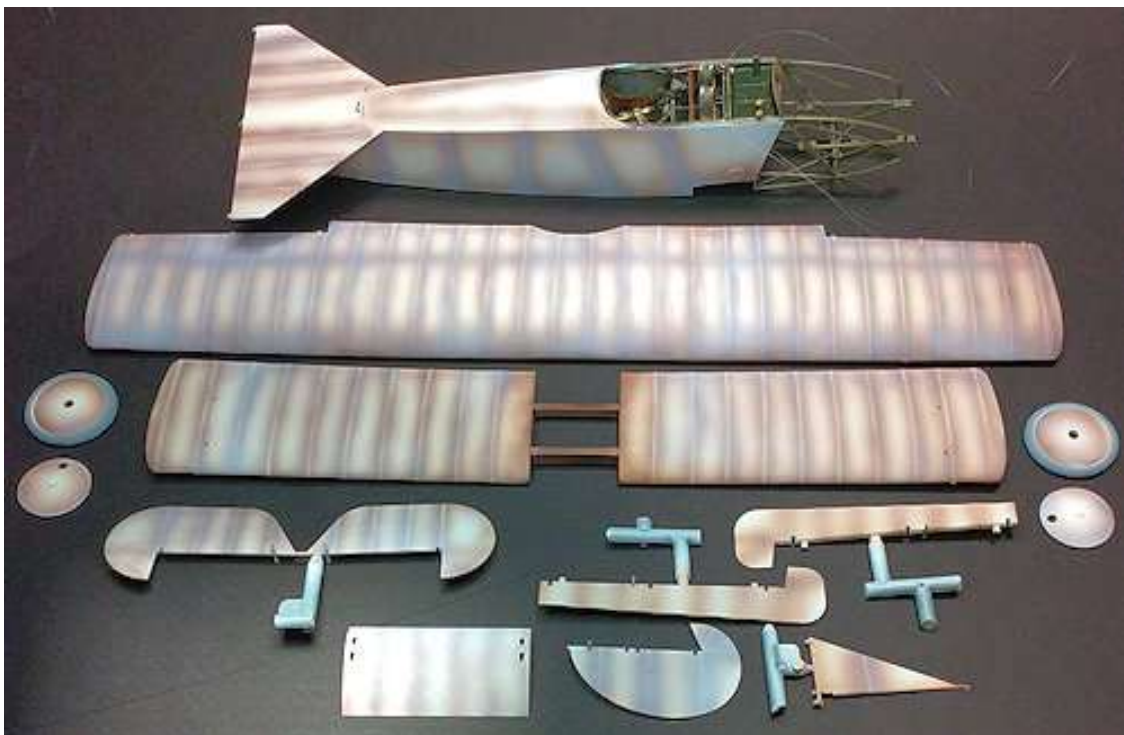
Clay Washes: Mask the wing ribs/formers. Apply by brush 'Flory Model' fine clay wash (Grime) across the entire surfaces to have decals. Once this has dried, use a soft tissue dampened with water, to rub off most of the clay wash from between the ribs or formers. The more water used, the more clay wash will be removed. The intention is the pre-shading shows through the decals.

Airbrushing paint:

12. Ascertain where you want the pre-shading to show through the decals. On this model it would be ribs for the wings and ailerons, tail plane, elevator, rudder, fin and undercarriage top fairing, with formers for the fuselage.

NOTE: *The 'Aviatic' lozenge decals being used have the wing ribs pre-coloured, so the masking of the wing ribs (as would be done if painting the wings) is not strictly necessary. I've masked the ribs only to aid as a guide for the decals.*

13. Mask the ribs and formers using the 1 mm masking strips from the 'My Finery' slit masking sheets (GT53 : 480).
14. Airbrush paint, using very light coats, of a suitable colour, such as 'MRP' Dark Wood (MRP 262). Apply the paint along each rib and former and along the leading edge of the upper wing and further back for the rear wing spar.
15. Remove the masking tapes.
16. If necessary, airbrush a light coat of the white (AK-759) primer over painted areas to tone down the pre-shading.



17. To prepare for painting the tail area, mask off the fuselage at the front edge of the tail plane.
18. Paint the tail plane, fin, rudder, elevator and the forward fuselage panels K4, K5, K10, K19, K21, A25/B18, A36 (outside faces only) with 'Tamiya' White (XF2) mixed with a small amount of Buff (XF57), as this will 'knock back' the starkness of the white. *Apply light coats over the tail area, fin, rudder and elevator until the applied pre-shading shows through as desired.*

19. Remove all masking.
20. Make sure the decal surfaces are smooth and clear of surface defects, then airbrush those areas of the model that require decals with a gloss sealing coat.

NOTE 1: *It is best to apply the 'Aviatic' decals at this stage, before the wings and fairing area components are fitted. The decals used were Aviatic' linen effect - Fokker D.VII (Alb) 4 colour lozenge (ATT32164), (ATT32170) and (ATT32171).*

NOTE 2: *From the three 'Aviatic' decal sheets, cut out the following only:
(ATT32164) - the four fuselage and wheel cover decals.
(ATT32170) - the two upper wing and aileron decal sets.
(ATT32171) - the two lower wing lozenge decal sets.*

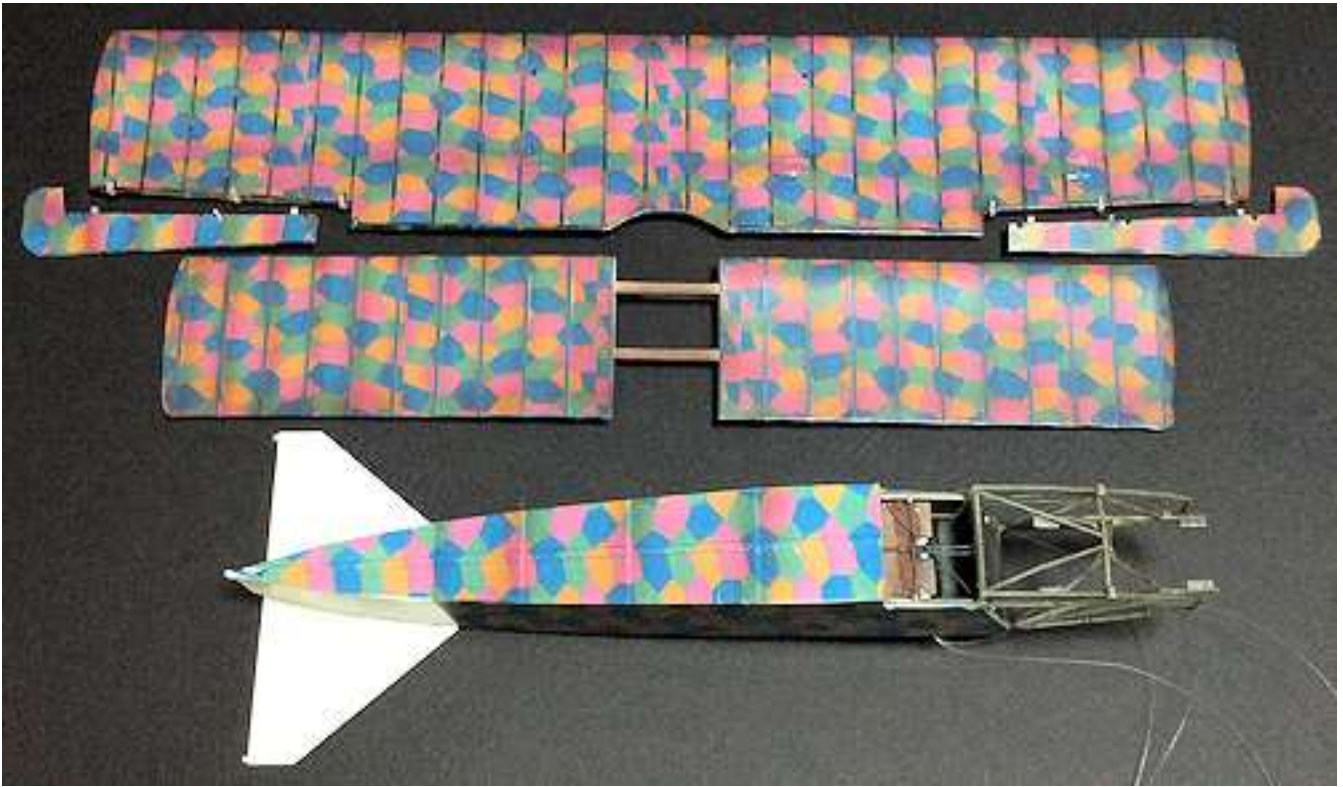
NOTE 3: *Remember to cut away the fuselage side decals at the tail plane leading edge and cut a slit at the fuselage forward top edges, to allow the twin aileron lines through.*

NOTE 4: *The undercarriage fairing had six equally spaced ribs running from front to back. To create the lozenge covering for the top of the fairing, strips will need to be cut from a suitable 'spare' lozenge on sheet ATT32170.*

21. Refer to Part 4 of this build log and apply the appropriate 'Aviatic' lozenge decals to the upper and lower surfaces of the two wings, ailerons, upper surface of the undercarriage fairing, wheel covers and the fuselage.
22. 'Aviatic' decals:

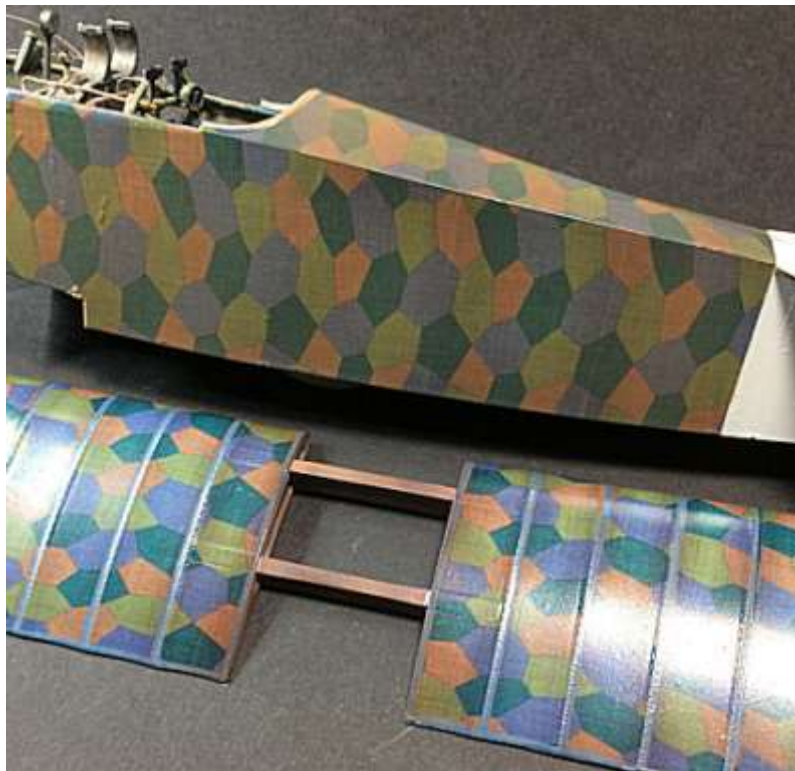
Any edges of the dried 'Aviatic' decals that need to be removed can be done by lightly sanding the edges off. Care is needed to ensure you don't sand through into the painted surface under the decals. Decal edges that lift can be conformed back onto the models surface by brushing with a decal setting solution, such as 'MicroSol' or if this doesn't work, with care, 'Tamiya' X20A thinners applied sparingly at the lifted edges. This will soften the lifted decals and allow them to settle back.





NOTE: *The fuselage and wheel cover lozenges on this aircraft had an application of a 'brown glaze' applied. The 'Wingnut Wings' instruction manual specifies this as being a mix of 'Tamiya' Clear (X22) and Flat Earth (XF52) at the ratio of 10:1. Clear X22 is a gloss coating, which is not the final desired finish. However, the kit decals still need to be applied and will be coated with an appropriate finish once all decals have been added.*

23. Mix the 'brown glaze' and add approximately 25% of 'Mr. Colour' Self Levelling Thinners, which includes a retarder to help level the coating.
24. Airbrush a light 'mist' coat over the fuselage and wheel cover lozenge. Allow the coating to start drying then check the opacity and if necessary, spray again until the desired finish is achieved.



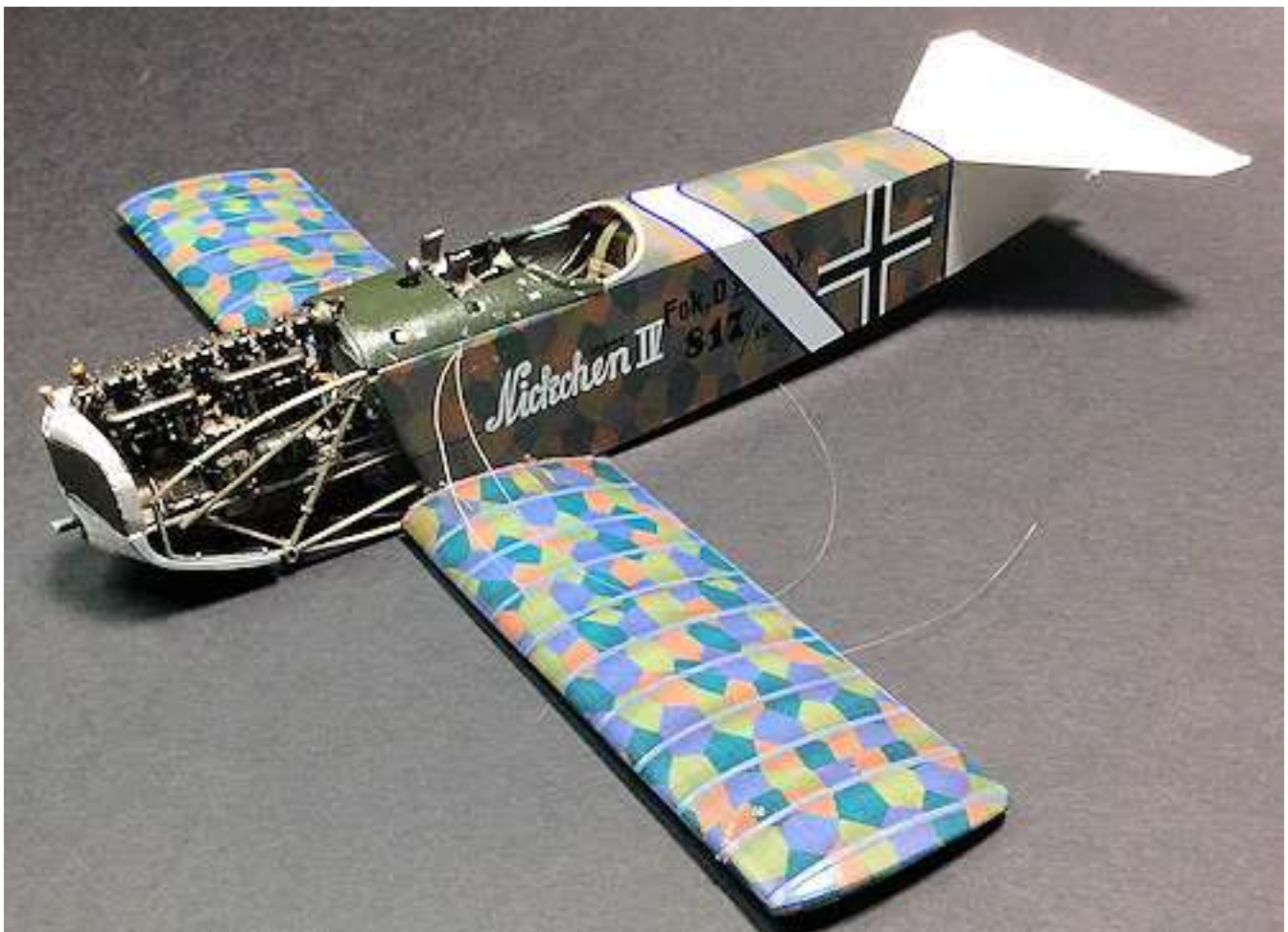
NOTE: When applying the kit decals, make sure you study the decal illustrations throughout the instruction manual. Some decal information is on the build instructions, photographs, the relevant decal illustration and some are cross-referred between decal illustrations.

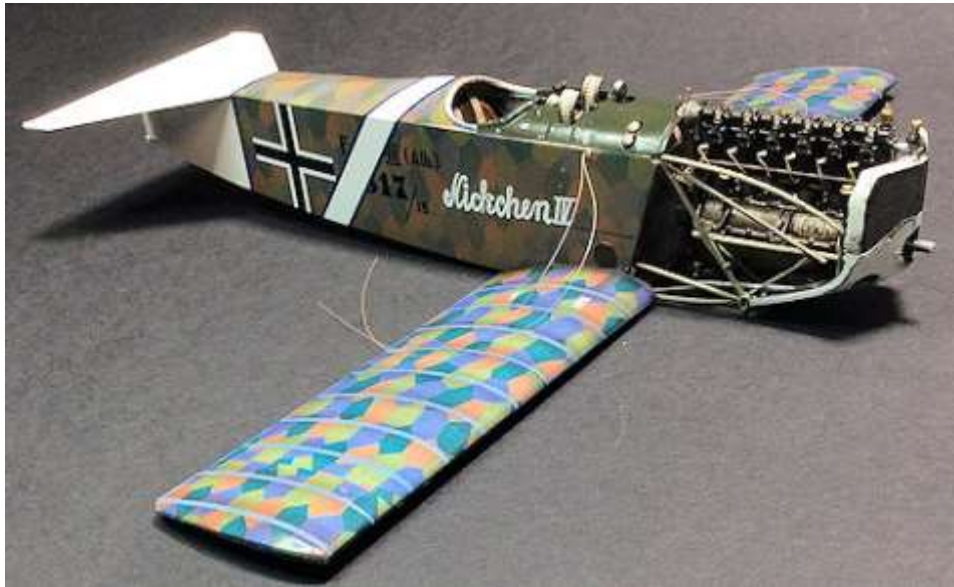
25. Refer to Part 4 of this build log and apply the kit supplied decals.



26. Brush paint the foot plates on the lower wing spars with 'Mr. Colour' Iron (212).
27. Cement the cockpit coaming (H1) onto the fuselage.
28. Cement the engine assembly onto the engine bearer locations.
29. Cement the rear of the radiator (A44) into the radiator body (A35).
30. Cut out the two radiator photo-etch grills from the 'RB Productions' Fokker D.VII radiators (RB-P32031). The grills required are the same part numbers as the kit parts.
31. Carefully bend the grills at the 'fold' lines until they conform to the shape of the radiator.
32. Secure the grills (one at a time) onto the radiator assembly using PVA adhesive. Clamp each grill in position until the adhesive has set.

33. Brush paint the radiator filler pipe and the two bottom pipe outlets with 'Mr. Colour' Stainless Steel (213).
34. Cement the filler pipe cap (A19) onto the radiator filler pipe.
35. Cement the coolant pipe (B19) to the two radiator outlets.
36. Weather the radiator assembly by chipping and applying 'AK Interactive' Kerosene wash (AK 2039) as desired.
NOTE: *Dry fit the lower wing into the fuselage recess and sand or scrape the wing spars and wing root mating faces to make a good and full fit into the recess.*
37. Cement the lower wing assembly into the fuselage recess.
38. Cement the under fuselage panel (A24) into the lower wing recess across the two wing spars.
NOTE: *The small coolant return pipe on the radiator header tank fits into the hole at the top of the engines front cylinder. The end of the branched coolant pipe locates against the water pump and the bottom, rear of the engine sump. The inner edges of the nose cowl locate against the bottom of the engine bearer frames.*
39. Cement the underside panel (A18, A25) onto the engine bearers.
40. Cement the radiator assembly, with coolant pipe, onto the engine bearer frames.





41. Dry fit the four forward panels (**B** - K4, K5, K19, K21) to the engine bearer frames to make sure the panels are a good fit and aligned. If the panels do not align or butt against each other smoothly, sand or scrape the inside edges of the panels until they do. Make sure the panels are against the top curved bar of the frames.
42. Weather the panels by appropriate chipping and applying 'AK Interactive' Kerosene wash (AK 2039) as desired.
43. Cement the panels (**B** - K4, K5, K19, K21) to the engine bearer frames.

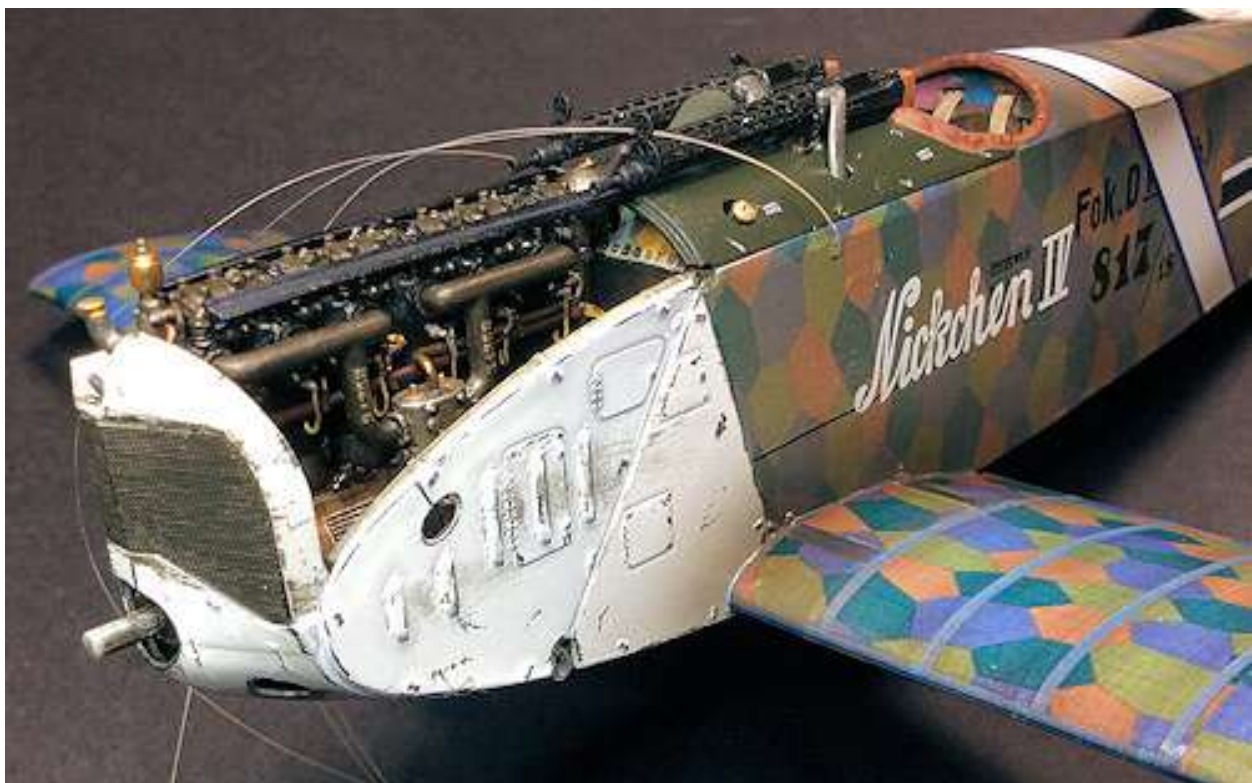


44. Brush paint the padding around the cockpit using 'Humbrol' Leather (62), highlighted with 'Tamiya' Hull Red (XF9).
45. Choose the windscreen to be used (C1 or C2) and brush paint the bottom attachment bar 'Tamiya' Dark Green (XF61).
46. Cement the fuel gauge cover (A61) onto the cockpit coaming to cover the gauge.
47. Position the synchronisation cables of each machine gun to routed forwards over the fuel tank then cement the guns to their mountings (A2, A17).
48. Dry fit the two empty ammunition belt chutes and adjust as necessary to achieve a good fit.

49. Brush paint the two chutes using 'Mr. Metal' Stainless Steel (213) and once dry, buff to a metallic finish.
50. Cement the two empty ammunition belt chutes in position.
51. Attach the two flash guards (D7) to the location holes in the photo-etch flash guard (P3), using CA adhesive.
52. Locate the assembled flash guard onto the camshaft cover mounting bolts and gently bend the two flash guard rails slightly downwards.
53. Prime then paint the flash guard with 'Alclad' Gunmetal (ALC-120). Once dry, apply a slight steel sheen by dry brushing with 'Mr. Colour' Stainless Steel (213).
54. Attach the flash guard to the camshaft cover mounting bolts, using CA adhesive.
55. Prime all remaining model parts (Wing struts, tail plane struts, undercarriage struts, tail skid) with Grey (AK-758).

NOTE: *The Wingnut instructions give the option of painting the various struts either dark blue or black, as the colour on the monochrome photographs taken of this aircraft at the time could be either. I chose to use dark blue, to match the colour of the edges of the fuselage bands.*

56. Paint the undercarriage struts (A14, A15, A47, A48), the wing struts (D2 x2, B4, B5, B8, B12) and the tail plane struts (B23, B24) with a mix of 'Tamiya' Flat Blue (XF8) and Rubber Black (XF85) to match the colour of the decal edges to the fuselage bands.
57. Thin 'Tamiya' Smoke (X19) with X20A thinners and airbrush over the lower wing root/fuselage joins and around the edges of the ailerons and adjacent edges on the upper wing, the same for the tail plane and elevator, rudder and fin. Also along the top and the bottom edges of the fuselage. This is to create a shadow (Occlusion) at these areas, indicating grime from the airflow.



58. Using 'Tamiya' Grey Green (XF76) brush paint the control horns for the rudder, elevator (D17) and ailerons (D18).
59. Brush paint the wood axle supports using 'Tamiya' Deck Brown (XF79).
60. Brush paint the axle Bungee suspension cords using 'Tamiya' Buff (XF57).
61. Cement the axle (A30) to the bottom half (K7) of the axle fairing. When fitted the axle should lay flat against the bottom half.
62. Cement the top half (K11) of the axle fairing onto the bottom half and axle assembly.
63. Weather the axle Bungee suspension cords using 'AK Interactive' Kerosene wash (AK 2039).
64. Cement the modified wheels (refer to Part 1 of this build log) to the axle.
65. Holes for the external rigging should have been drilled at Part 1 of this build log. However application of the decals will have covered some of these holes, so the holes need 'cleared out' through the decals using the same drill used to drill the holes.
These are at:
Undercarriage fairing - cross bracing.
Panel A25 - cross bracing.
Aileron access point on underside of upper wing - control cables.
Aileron access into top and underside surfaces of upper wing - control cables.
Tail plane tips - bracing.
Fin - bracing to tail plane.
Tail plane - elevator control cables (top and underside).
Fuselage rear - elevator and rudder control cables.
Control horns - rudder, elevator, ailerons.
66. Do the same for the wing and tail plane strut location holes, using an appropriate size drill.
67. Before further construct work is carried out, it's best to pre-install the various rigging lines to the model parts. These are:
Rudder - each side of the rudder to the rear fuselage openings.
Elevator - two on top and underside of the elevator to the rear fuselage openings.
Aileron - ailerons to top and underside of upper wing.
Aileron - fuselage top edges to underside of upper wing next to rear struts.
Undercarriage cross bracing - top of front struts to outer of axle fairing.
68. Rudder:
Cut a length of 0.08 mm diameter 'Stroff' mono-filament and six short lengths of 0.4 mm diameter micro-tube (Albion Alloy's NST04). Thread one end of the line through a cut tube, then through one end of a 'Gaspatch' type 'C' turnbuckle (1:48 scale). Loop the line back through the tube then slide the tube close to, but not touching, the turnbuckle. Secure the tube to the line using thin CA adhesive, but make sure the line is free to move and not stuck to the turnbuckle. Cut away the excess 'tag' of line at the tube. Repeat this at the opposite end of the turnbuckle to create an attached line to each end. Create two such lines.

Thread the free end of one line through a cut tube, then through one of the holes in the control horn. Loop the line back through the tube then slide the tube close to, but not touching, the control horn. Secure the tube to the line, using thin CA adhesive, but make sure the line is free to move and not stuck to the control horn. Cut away the excess 'tag' of line at the tube. Repeat this to create an attached line to the other side of the control horn. Later the free ends of the two lines will be inserted into the fuselage.

69. Elevator:

Ten cut 0.4 mm tubes are required. Repeat the above procedure to create a control line attached to the bottom end of each of the elevator control horns. Due to there not being enough space for these turnbuckle lines between the tail plane and top control horns, the line from the turnbuckle should be passed through the pre-drilled hole in the control horn without a cut tube, and secured in position using CA adhesive.



70. Ailerons:

Ailerons to wing cables:

Cut a length of 0.08 mm diameter 'Stroft' mono-filament and four short lengths of 0.4 mm diameter micro-tube (Albion Alloy's NST04). Thread one end of the line through a cut tube, then through one end of an aileron control horn. Loop the line back through the tube then slide the tube close to, but not touching, the control horn.

Secure the tube to the line using thin CA adhesive, but make sure the line is free to move and not stuck to the control horn. Cut away the excess 'tag' of line at the tube. Repeat this at the opposite end of the control horn then do the same for the other aileron. Later the free ends of the lines will be inserted into the upper wing locations.



Ailerons - Fuselage cables to upper wing:

NOTE: During the following step the end position for the turnbuckles on each pair of lines should be midway between the fuselage and underside of the top wing. The turnbuckles should be staggered and not next to each other.

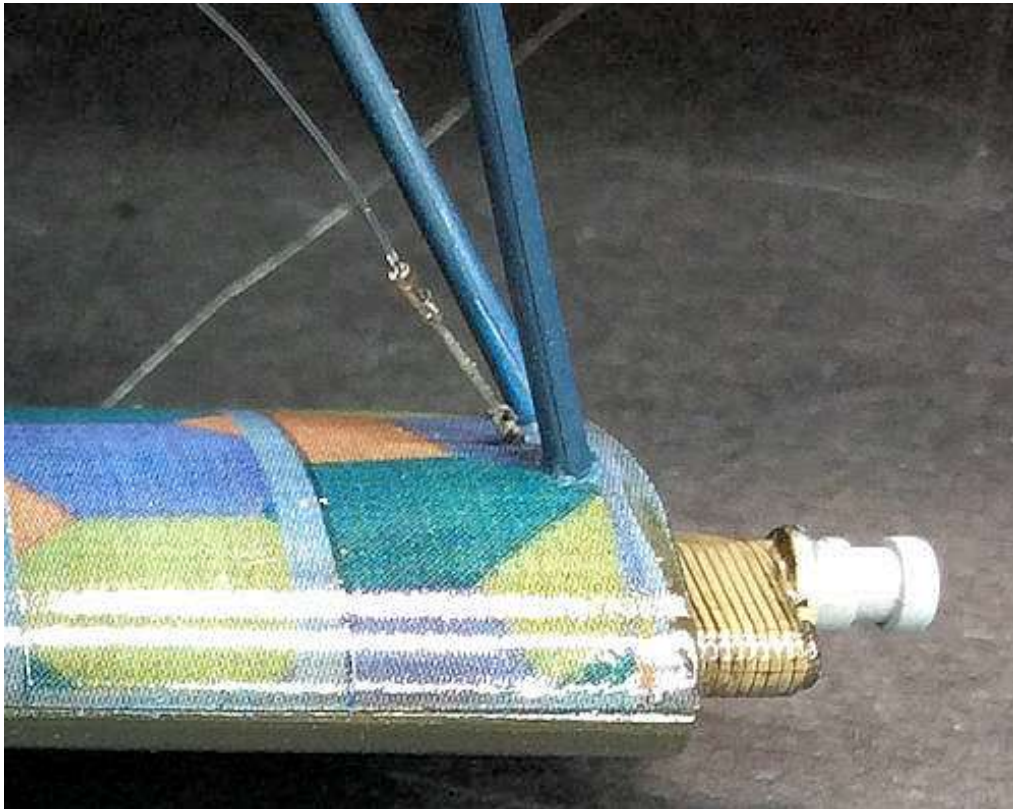
For each of the four aileron cables (two per fuselage side), thread one end of the line through a cut 0.4 mm tube, then through the 'eye' end of a 'Gaspatch' 1:48th scale turnbuckle (Type C). Loop the line back through the tube then slide the tube close to, not touching, the turnbuckle. Secure the tube to the line using thin CA adhesive, but make sure the line is free to move and not stuck to the turnbuckle. Cut away the excess 'tag' of line at the tube. Repeat this at the opposite end of the turnbuckle to create single rigging lines with a turnbuckle in each. Later the lines will be attached to the top wing.



71. Undercarriage cross bracing:

Cut a length of 0.12 mm diameter 'Steelon' mono-filament and four short lengths of 0.5 mm diameter micro-tube (Albion Alloy's NST05). Thread one end of the line through a cut tube, then through the 'eye' end of a 'Gaspatch' 1:48th scale turnbuckle (Type A). Loop the line back through the tube then slide the tube close to, not touching, the turnbuckle. Secure the tube to the line using thin CA adhesive, but make sure the line is free to move and not stuck to the turnbuckle. Cut away the excess 'tag' of line at the tube. Repeat this to create a second bracing line. Using CA adhesive, secure the turnbuckles into the pre-drilled holes in the undercarriage fairing. Later the free ends of the lines will be inserted into the panel A25 pre-drilled holes.

72. Cement the four undercarriage struts (A14, A15, A47, A48) into their relevant locations in the undercarriage fairing.



73. Cement the two tail plane support struts (B23, B24) to the fuselage and tail plane.
74. Cement the elevator to the tail plane. To animate the elevator, attach it at a slight angle.
75. Cement the fin to the tail plane.
76. Cement the rudder to the fin and fuselage. To animate the rudder, attach it at a slight angle.
77. Cement the ailerons to the upper wing and, if desired, at a slight and opposite angle to each other.
78. Cement the undercarriage assembly to the fuselage.

Final rigging:

Before completing the build of the model it's best to final rig the rudder, the elevator, the undercarriage and the ailerons controls.

79. Rudder:

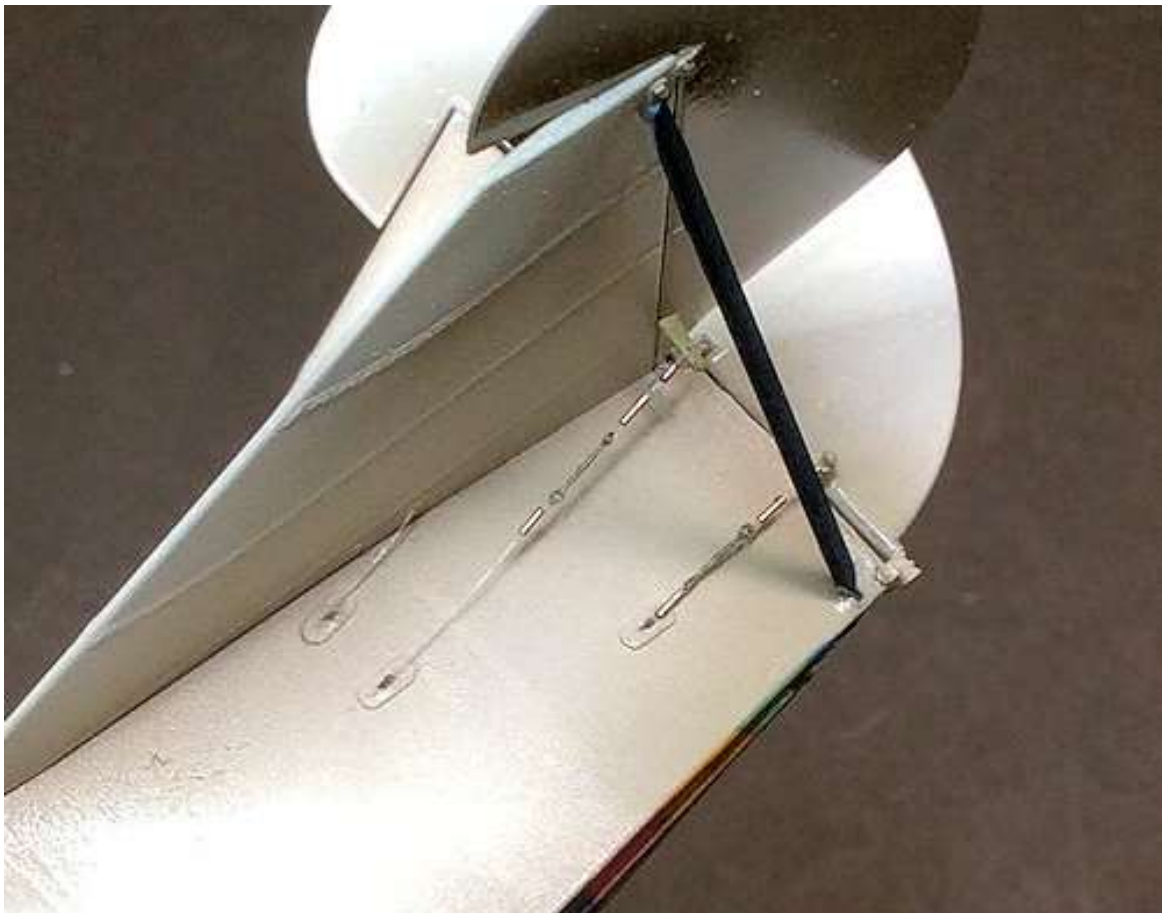
Gently pull each of the two rudder control lines to straighten out the turnbuckle and cut tubes. Cut the free end of the lines such that enough is left to insert into the pre-drilled fuselage openings for the rudder (the lower openings at the bottom rear of the fuselage). Insert the line into the opening and add a drop of CA adhesive, then using a sharp wood cocktail stick, push the line into the opening, keeping the line in tension. Slightly twist the cocktail stick to prevent it sticking.

80. Elevator:

NOTE: *The top elevator control lines need to be added as two separate lines on each side of the tail plane, as in reality these lines passed through the tail plane.*

Top control lines: Gently pull each of the two top elevator control lines to straighten out the turnbuckle and cut tubes. Cut the free end of the lines such that enough is left to insert into the pre-drilled openings in the upper surface of the tail plane. Cut a length of 0.08 mm 'Stroff' mono-filament and using the same technique, add the other half of the control line between the opening on the underside of the tail plane and the fuselage opening (top side of fuselage rear).

Bottom control lines: Gently pull each of the two bottom elevator control lines to straighten out the turnbuckle and cut tubes. Cut the free end of the lines such that enough is left to insert into the pre-drilled openings in the middle side of the fuselage rear. Insert the line into the opening and add a drop of CA adhesive, then using a sharp wood cocktail stick, push the line into the opening, keeping the line in tension. Slightly twist the cocktail stick to prevent it sticking.



81. Undercarriage:

Cut two short lengths of 'Albion Alloy's' 0.4 mm diameter Nickel-Silver tube (NST04). Slide a cut tube onto each of the pre-installed cross bracing lines. Cut the free end of each line such that it can be inserted into the pre-drilled holes at the forward corners of panel A25 under the fuselage. Insert the line into the opening and add a drop of CA adhesive, then using a sharp wood cocktail stick, push the line into the hole, keeping the line in tension. Slightly twist the cocktail stick to prevent it sticking. Once the line is secure, slide the cut tubes up the line to touch panel A25 then secure in position using CA adhesive.



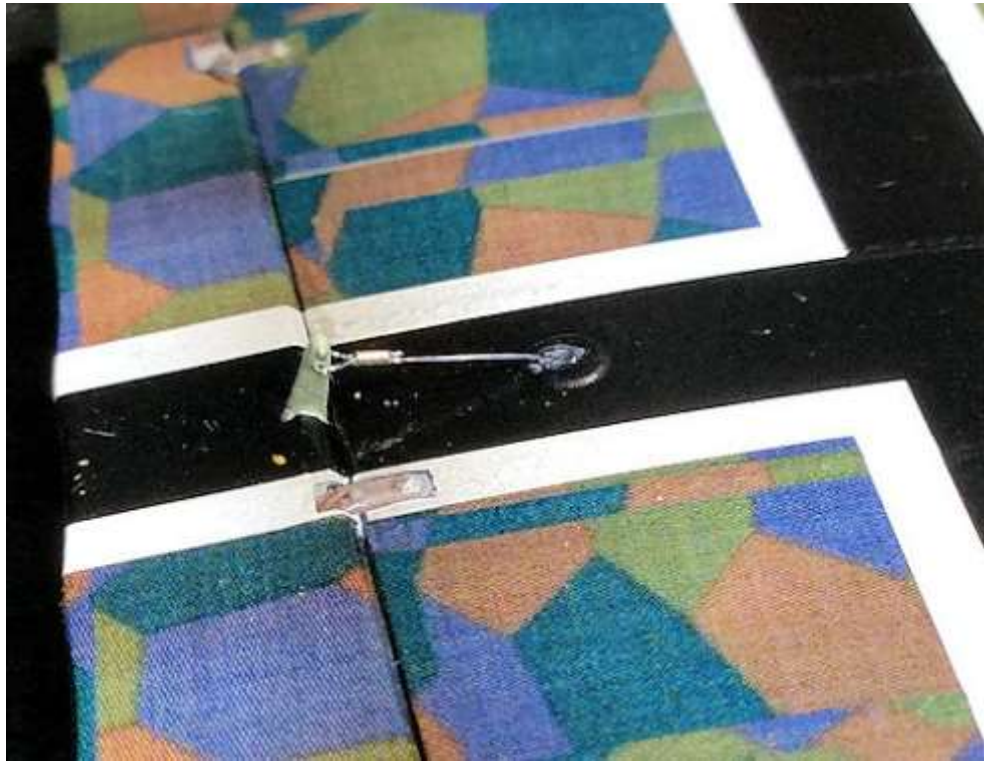
82. Ailerons:

Ailerons to wing cables:

Gently pull each of the four aileron control lines to straighten out the cut tubes. Cut the free end of the lines such that enough is left to insert into the pre-drilled holes in the upper wing surface (top and underside). Insert the line into the hole and add a drop of CA adhesive, then using a sharp wood cocktail stick, push the line into the opening, keeping the line in tension. Slightly twist the cocktail stick to prevent it sticking.

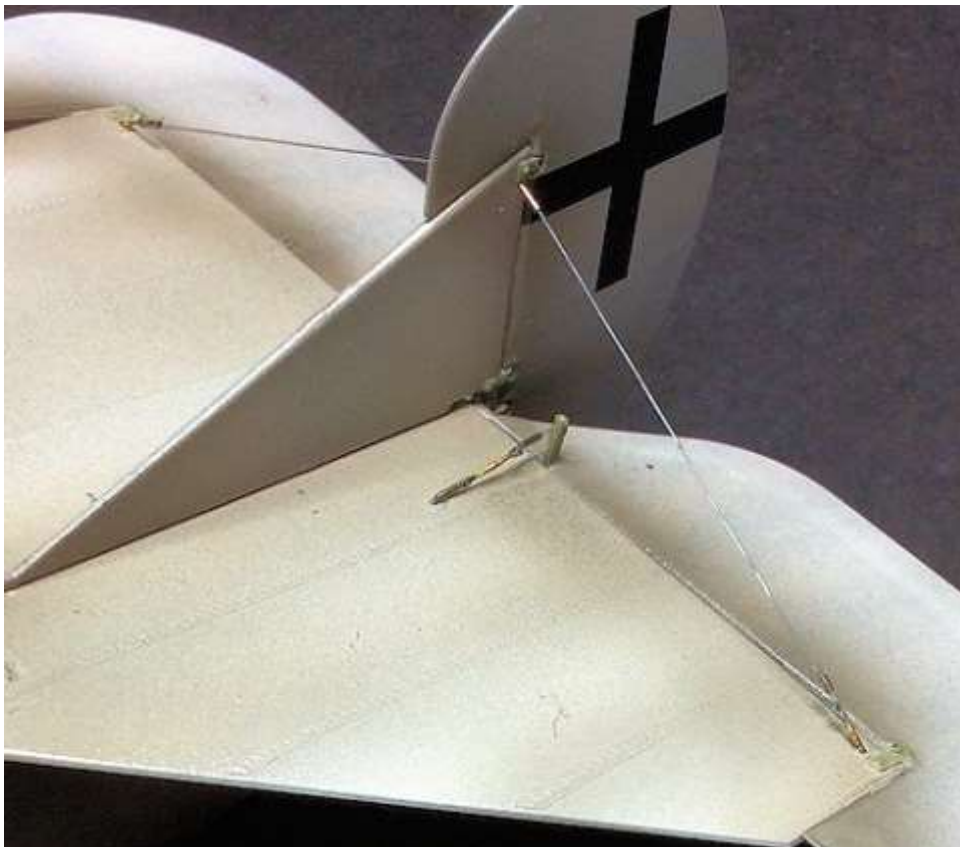
Ailerons - Fuselage cables to upper wing:

The twin cables at each side of the fuselage will be attached after the top wing has been fitted.



83. Tail plane bracing:

1. Cut two short lengths of 'Albion Alloy's' 0.5 mm diameter Nickel-Silver tube (NST04) and two of 0.5 mm brass tube (MBT05).
2. The turnbuckles are 'GasPatch' 1:48th scale (Open End type).
3. Cut a long length of 'Steelon' 0.12 mm diameter mono-filament.
4. Thread one end of the line through a cut 0.5 mm tube, then through the 'eye' end of a turnbuckle .
5. Loop the line back through the tube then slide the tube close to, not touching, the turnbuckle.
6. Secure the tube to the line using thin CA adhesive, but make sure the line is free to move and not stuck to the turnbuckle.
7. Cut away the excess 'tag' of line at the tube.
8. Insert the tail of the turnbuckle into the pre-drilled hole in the tip of the tail plane upper surface.
9. Secure the turnbuckle, to align with the top, rear of the fin, using CA adhesive.
10. Slide a 0.4 mm cut tube onto the line then pass the line through the pre-drilled hole at the top, rear of the fin.
11. Slide a 0.4 mm cut tube onto the line then through a cut 0.5 mm tube, then through the 'eye' end of the opposite turnbuckle.
12. Loop the line back through the tube.
13. Insert the tail of the turnbuckle into the pre-drilled hole in the tip of the tail plane upper surface. Secure it using CA adhesive.
14. Keeping the line taut, slide the tube close to, not touching, the turnbuckle.
15. Secure the tube to the line using thin CA adhesive, but make sure the line is free to move and not stuck to the turnbuckle.
16. Cut away the excess 'tag' of line at the tube.
17. Slide the two 0.4 mm cut tubes up to touch the fin and secure with CA adhesive.



84. **WARNING:** *In the next step take care not to touch or get too close to the rigging lines or the model. Touching the model will melt the surface. Touching, getting too close or stopping in one location for too long may melt and snap the rigging line.*

NOTE: *The twin aileron lines from the fuselage can only be tightened once they are attached to the top wing.*

After rigging there may be some evidence of slight slackness in the various lines. If so this can be rectified by carefully moving a heat source, such as from a small electrical soldering iron, close to (but not too close) and along the slack line. The heat will cause the line to shrink and therefore tighten.

85. Thin 'Tamiya' Smoke (X19) with X20A thinners and airbrush thin, light coats over any areas you feel needs to be highlighted, such as done earlier at the wing roots. For example along the wing ribs and around the edges of flight control surfaces etc.
86. Paint the tail skid (A10) with wood effect (refer to Part 2 of this build log).
87. Using 'Tamiya' Grey Green (XF76) brush paint:
Two lifting handles (D14).
Metal parts of the tail skid (A10).
Foot step (A9).
88. Attach the tail skid (A10) into the bottom, rear of the fuselage.
89. Brush paint the centre portion of each turnbuckle with 'Mr. Colour' Brass (219).
90. For applying weathering and to seal the applied decals and model parts, airbrush a coat of either 'Alclad' Light Sheen (ALC-311) lacquer or 'Tamiya' Semi-Gloss Clear (X35). This will give slightly more 'grip' for any applied weathering mediums, such as 'Flory' clay washes or oil paints etc.

Weathering:

NOTE: *Applying weathering mediums, such as clay washes and oil paints, to the model should not affect the painted or decal surfaces as these were sealed previously.*

1. Brush 'Flory Models' Dark Dirt fine clay wash (refer to Part 3 - Weathering for more information) over all external surfaces of the model.
2. Allow the clay wash to dry, usually within an hour dependent on the ambient temperature.





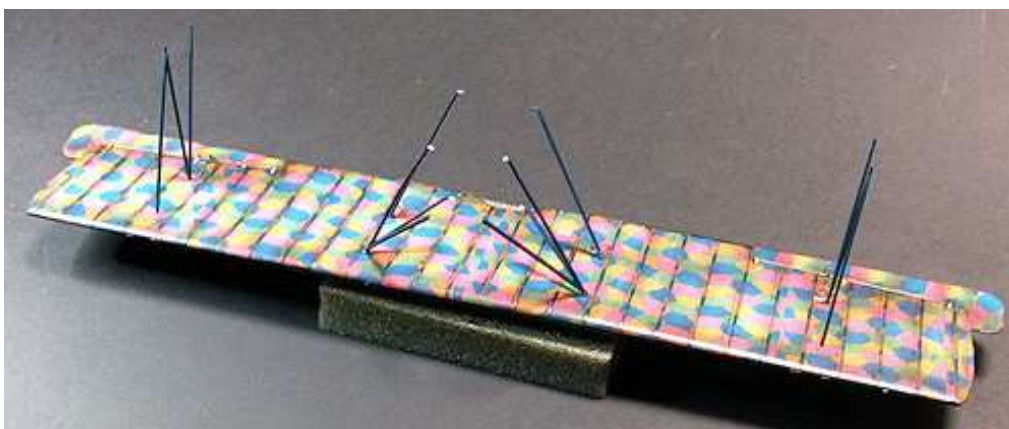
3. Using standard kitchen roll absorbent tissue, very slightly dampen with water and rub away the clay wash as required to achieve the grimy look you are after. If the clay wash does not wipe out easily, moisten the tissue more. As the parts were pre-shaded the effects of this wash should be subtle, just to add slightly to the pre-shading and to add weathering to the various areas of the model.
91. Re-seal the applied weathering with an airbrushed coat of either 'Alclad' Light Sheen (ALC-311) lacquer or 'Tamiya' Semi-Gloss Clear (X35).







92. Attach the windscreen to the cockpit coaming using PVA adhesive (CA adhesive may fog the clear part).
93. Cement in position:
 - Two lifting handles (D14).
 - Metal parts of the tail skid (A10).
 - Foot step (A9).
94. Using appropriate size drills, clear any primer, paint or sealing coat from the wing strut location holes in the fuselage, lower wing upper surface and upper wing lower surface, to make sure the location lugs on the struts are a good fit.
95. If desired, apply final weathering effects, which can be created by:
 1. Sponge brushing 'Tamiya' Weathering Master Mud (Set A) and/or Rust (Set B) along the wing leading edges, fuselage edges, foot step and lifting handles etc.
 2. Applying 'AK Interactive' wash Kerosene (AK2039) and/or Engine Oil (AK2019) to the engine apertures on the forward access panels and from the filler caps.
 3. Refer to Part 3 of this build log - Applying oil paint using the 'dot and wipe' technique using appropriate coloured 'Abteilung 502' oil paints and 'Tamiya' enamel thinners (X20) or the 'MiG' oil brushes Dust (3516), Ochre (3515) or Dark Brown (3512) and enamel 'MiG' enamel odourless thinners (2019).
96. Cement the wing struts (D2, B4, B5, B8, B12) into their locations in the underside upper wing. Make sure the outer struts (D2) are vertical and fitted with the struts 'V' towards the trailing edge of the upper wing.



97. Carefully position the upper wing over the fuselage and manoeuvre the various struts into their respective locations in the fuselage and lower wing, *making sure the two forward struts are passed through the openings in the forward side panels first.*

NOTE: *The ends of the two forward struts that pass through the side panel openings, should rest on the engine bearer frame. These may be difficult to cement onto the frames, so an alternative is to apply cement where the struts contact the panel openings.*

98. Once all struts are fully located, cement them in position.

99. Aileron control cables - final rigging:

NOTE: *With the upper wing fitted and the twin aileron control cables pre-rigged into the fuselage, the control cables can now be attached to the underside of the upper wing.*

1. Gently pull each aileron control cable taut and cut to leave enough to be inserted into the pre-drilled holes in the underside of the upper wing.
2. Keeping each pair of cables taut, insert the free ends into their respective holes and secure using CA adhesive.

WARNING: *In the next step take care not to touch or get too close to the rigging lines or the model. Touching the model will melt the surface. Touching, getting too close or stopping in one location for too long may melt and snap the rigging line.*

3. After rigging there may be some evidence of slight slackness in the various lines. If so this can be rectified by carefully moving a heat source, such as from a small electrical soldering iron, close to (but not too close) and along the slack line. The heat will cause the line to shrink and therefore tighten.



100. Cement the exhaust (B25) into its location holes in the right side of the engine cylinder head.
101. Attach the propeller onto the engine propeller shaft using CA adhesive.



NOTE 1: *The kit supplied external Anemometer (E34, E41, decal 116) is optional, as not all aircraft had this instrument fitted. I chose not to fit this item.*

NOTE 2: *The location of fitted Anemometers were varied, as can be seen on the following photographs, being fitted to either of the forward struts. However, it does appear they were always fitted to the left outboard wing struts.*

Fitted to forward strut



Fitted to middle strut



PART 11 - FIGURES AND ACCESSORIES

The two figures I chose to use for this model were the 'Blackdog Models' German Photographer with camera (F32008) and the 'Aviatic' Legend Series - Anthony Fokker (ATTL-02).

NOTE 1: *Take care when handling resin parts as resin is brittle and small or thin parts can easily be broken.*

NOTE 2: *Be careful when working with resin as resin dust or particles are harmful if they are inhaled or ingested.*

NOTE 3: *The casting of many resin items can leave small 'blow' holes and other types of imperfections. Figures may not be cast that well with gaps behind the joints and there may be casting seams that need to be removed.*

Preparation figures:

NOTE: *The left hand of the Anthony Fokker figure was replaced with a more suitable hand from the 'Hornet' range.*

1. Before assembly, cut away the resin casting blocks and remove imperfections and seam lines by scraping with a sharp scalpel blade.
2. Wash the figure parts in warm water with washing up liquid added and then thoroughly dry the parts. This will remove any residual 'release agent' used during casting of the figures, which if not removed, may cause problems when applying paint to the figures.

NOTE: Resin parts need to be assembled using CA adhesive, as normal plastic model cement will not bond the parts together

3. Secure the figures arms, heads and hands onto the bodies using CA adhesive.
4. Carefully drill a hole of 0.8mm diameter up into one leg of each figure.
5. Cut a two lengths of 0.8mm diameter rod from a standard office paper clip.
6. Insert the cut rods into the holes drilled in the figure legs and secure in place using thin CA adhesive. These rods will serve to hold the figure in a pin vice whilst being painted and also to secure the figures to the finished display base.
7. Fill any 'blow' holes, gaps or imperfections using a modelling putty, such as 'Deluxe Materials' Perfect Plastic Putty.

Preparation camera:

8. Clean up the parts for the 'Blackdog' camera.
9. Drill a hole of 0.5 mm diameter into the top of the three bottom camera legs.
10. Drill a hole of 0.5 mm diameter into the base of the three top camera legs.
11. Cut three short lengths of 0.5 mm brass rod or tube.
12. Insert a rod into the drilled hole in each camera bottom leg and secure using CA adhesive.
13. Insert the pin of each leg into the drilled hole on the top legs and secure using CA adhesive

14. Dry fit the camera front onto the camera base.
15. Sand the end of the camera bellows until it fit between the camera back and front.
16. Secure the camera bellows and front to the camera base, using CA adhesive.
17. Secure the three camera legs to the underside of the camera base, using CA adhesive. The legs should be angled slightly outwards at the bottom.
18. Check for any gaps etc and fill with modelling putty then, when cured, sand smooth.
19. Prime the two assembled figures and the camera using Grey (AK-758).



Anthony Fokker:

The figure was base coated using Grey (AK-758).

Jacket, waistcoat, trousers:

Base coat - Mix of 'Tamiya' Royal Light Grey (XF80), Flat Earth (XF52) - 90% to 10%

Top coat - dry brush using 'Tamiya' Sky Grey (XF19)

Stitching - applied using water coloured pencils

Final coat - very thinned mix of 'Tamiya' Royal Light Grey (XF80), Flat Earth (XF52).

Puttees - 'Tamiya' Royal Light Grey (XF80) with Rubber Black (XF85) highlights.

Buttons - 'Mr. Colour' Brass (219) mix with Copper (215).

Shoes - 'Tamiya' flat brown (XF10) - highlights with Hull Red (XF9).

Shirt - 'AK Interactive' Faded White (AK3029).

Tie - 'Tamiya' Flat Red (XF7) with drop of Rubber Black (XF85).

Watch chain - 'Mr. Colour' Brass (219).

Flying helmet, goggles - 'Humbrol' Leather (62) with highlights of 'Tamiya' Hull Red (XF9).

Goggles lenses - 'Mr. Colour' Stainless Steel (213) and 'Tamiya' Clear Gloss (X22).

Flesh - 'Model Colour' Skin tone (017), Burnt Red (034), Beige Red (036)

Model Fokker D.VII:

Fuselage - 'Tamiya' Deck Brown (XF79).

Wings - Base coat 'Tamiya' Dark Yellow (XF60) - wing ribs Buff (XF57).

Tyres, engine - 'Tamiya' Rubber Black (XF85).

Struts - 'Tamiya' Dark Yellow (XF60).

Radiator - 'Mr. Colour' Stainless Steel (213).

NOTE: *The model Fokker D.VII is attached to the figures left hand using CA adhesive.*



Photographer:

The figure was base coated using 'AK Interactive' WW1 German uniform base (AK3091).

Jacket - 'AK Interactive' WW1 German uniform light (AK3092) - shadows mix with AK3091.

Trousers and Puttees - Shadows with 'AK Interactive' WW1 German uniform shadow (AK3093).

Shoes - 'Tamiya' flat brown (XF10) - highlights with Hull Red (XF9).

Collar and cuffs - 'Tamiya' rubber black (XF85).

Jacket, trouser piping - 'Tamiya' Flat Red (XF7)

Collar and cuff piping - 'AK Interactive' Faded White (AK3029)

Flesh - 'Model Colour' Skin tone (017), Burnt Red (034), Beige Red (036)

Hair - 'Tamiya' Desert Yellow (XF59), highlights Yellow ink pencil

'Blue Max' medal - 'Mr. Colour' Brass (219), 'Tamiya' Flat Blue (XF8)

'Iron Cross' medal - 'Tamiya' Rubber Black (XF85)

Other medal - 'Mr. Colour' Stainless Steel (213)

Camera shutter mechanism (in hand) - 'Tamiya' Hull Red (XF9)

Operating cord - 'PlusModel' 0.4 mm lead wire - 'Tamiya' rubber black (XF85).



Camera:

NOTE: *The operating cable for the camera will be added from the figure of the photographer.*

1. Paint the camera, except the lower of the three tripod legs, with a base coat of 'Tamiya' Deck Tan (XF78).
2. Paint the wood work with 'DecoArt' Burnt Sienna water based oil paint (refer to Part 2 of this build log).
3. Paint the upper portion of the three tripod legs and the camera lens with 'Mr. Colour' Brass (219).
4. Paint the lower portion of the three tripod legs and camera 'slide' with 'Mr. Colour' Stainless Steel (213) .
4. Paint the camera bellows with 'Tamiya' Rubber Black (XF85).
5. Once dry, airbrush a coat of either 'Alclad' Light Sheen (ALC-311) lacquer or 'Tamiya' Semi-Gloss Clear (X35).



PART 12 - DISPLAY BASE

The display case is made from 6mm thick Piano Black Acrylic sheet and the transparent top is fabricated from 3mm thick Clear Acrylic sheet, which was by an on-line manufacturer:

Web Site - Ebay retailer - 'Inperspective'

The name plaque was also made by an on-line retailer:

Web Site - <https://theengravingshop.co.uk>

The intention is to create a photo-shoot taking place with the Fokker D.VII parked on an outcrop of concrete hard standing, which is surrounded by grass. Anthony Fokker, the Dutch aircraft designer, is stood posing by the aircraft and a service photographer is poised, ready to take an 'iconic' photograph of the designer by one of his more famous designs.

The grass mats ('Model Scene' grass mat x2 - Wetlands light F010) are large enough to cover the display base width, but not to cover the whole base. Therefore two mats may be required. Firstly a piece of the 'Coastal Kits' 1:32 Scale 'Abandoned Airfield' display mat was cut to fit diagonally across the base from a corner. This was fixed to the display base using a contact adhesive.

The grass mat was then cut to fit around the out crop with the front left corner cut out to allow the information plaque mount to be adhered to the display base. Also the edges of the mat were cut away to allow for adding a dirt edge.

NOTE: If too much water is applied onto the grass mat and/or too much adhesive is applied to the base, the adhesive may not set fully or show through the grass mat and possibly still be visible once the adhesive has fully dried.

The underside of the mats were moistened with water. The display base surface was scuffed with sandpaper to provide a good key for the adhesive. The base then had PVA adhesive spread thinly and the cut mats were then positioned on the adhesive and positioned. Light pressure was applied to ensure the mat was in contact with the adhesive. Kitchen wrap (e.g. Clingfilm) was then laid over the grass mats and heavy books laid onto the wrap, to ensure the mats were in full contact with the adhesive. The books and wrap were removed once the adhesive had fully set.

To add variation to the grass mat, small clumps of 'Mini-Nature' two colour grass tufts (737-22S) can be secured in place with PVA adhesive. Additionally the mat can be lightly dry-brushed with 'Tamiya' Dark Yellow (XF60) to enhance the effect of dry grass.

Finally the dirt edges between the concrete out crop and surrounding grass was created by applying Plaster of Paris and adding detail, such as small stones and sprinkled sharp sand. Once set, brush paint with 'Tamiya' Flat Brown (XF10) and once dry lightly dry brush with Tamiya Dark Yellow (XF60) to add colour variation.

The position of the figures was marked and a 1.0 mm diameter hole was drilled through the grass mat and into the acrylic base. The metal leg pins on each figure were trimmed to length then CA adhesive was applied, after which the figures were inserted into the drilled holes and held until the adhesive had set.

A length of lead wire was secured to the camera lens using CA adhesive then the positions of the three tripod legs were marked on the grass mat. A slight indent was made at the three leg location after which the tripod was secured in position using PVA adhesive.

The lead wire, representing the camera mans shutter control, was cut to length and secured onto the controller in his left hand.

The information plaque was fixed, using contact adhesive, to the mount, which was then fixed to the display base using contact adhesive.

The aircraft would normally be secured to the display base by inserting metal pins into the bottom of the wheels then fixing those pins into holes drilled in the display base. This is because my completed models are displayed in their cases on shelving, which is secured to the walls at an angle to allow better viewing.

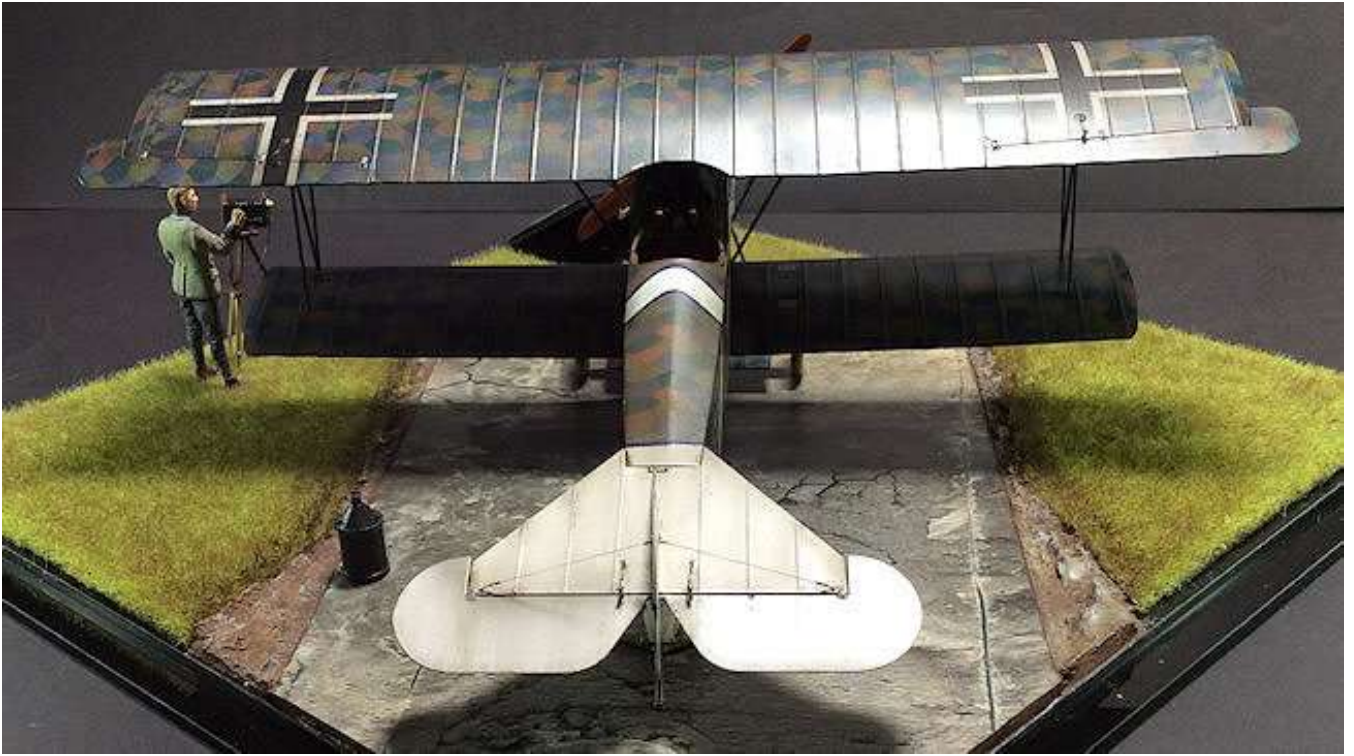


As the wheels on this model are of real rubber, inserting metal pins is not practicable. Therefore this model is displayed on horizontal shelving and the model sat, unsecured, on its display base.

THE COMPLETED MODEL PHOTOGRAPHS

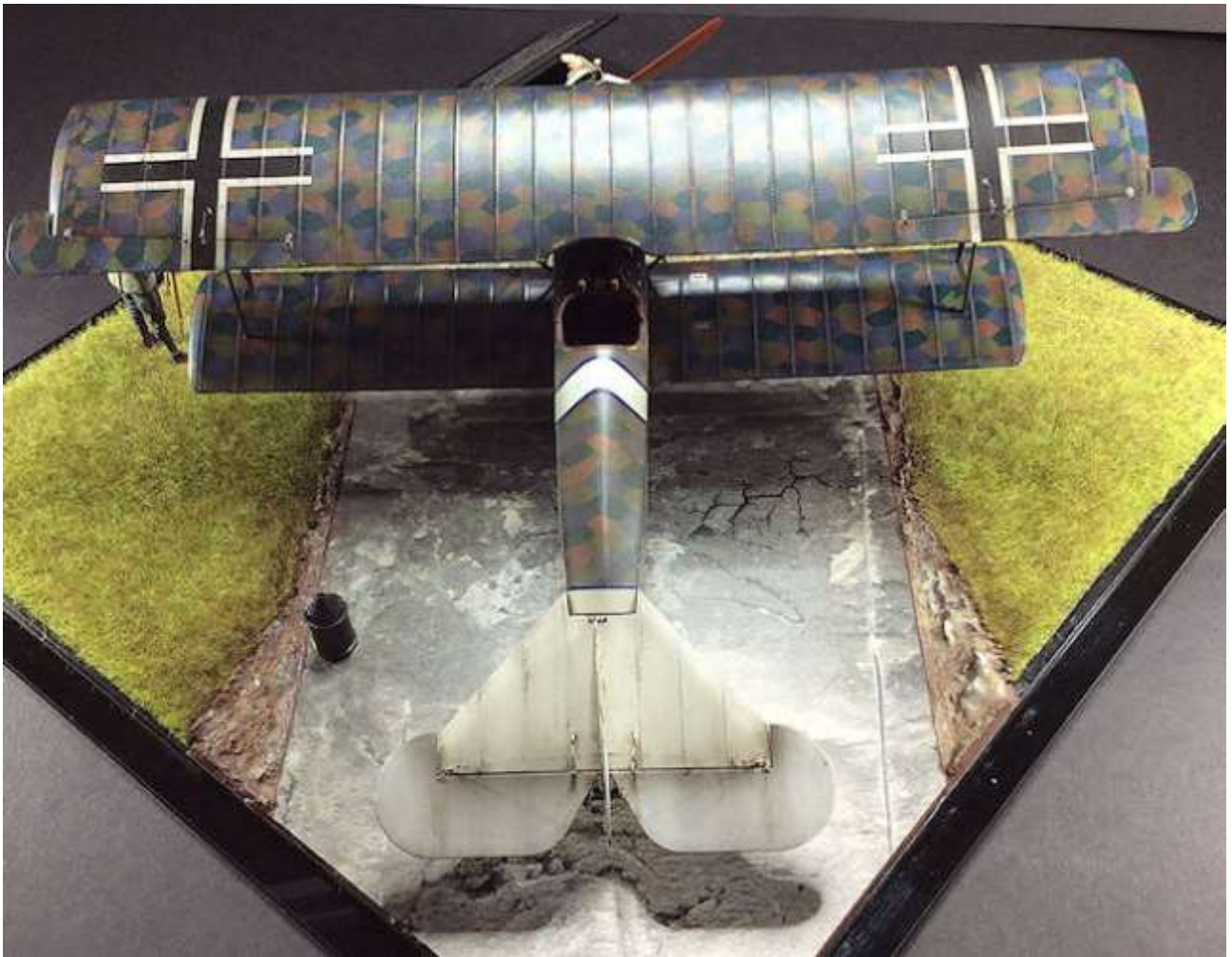














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