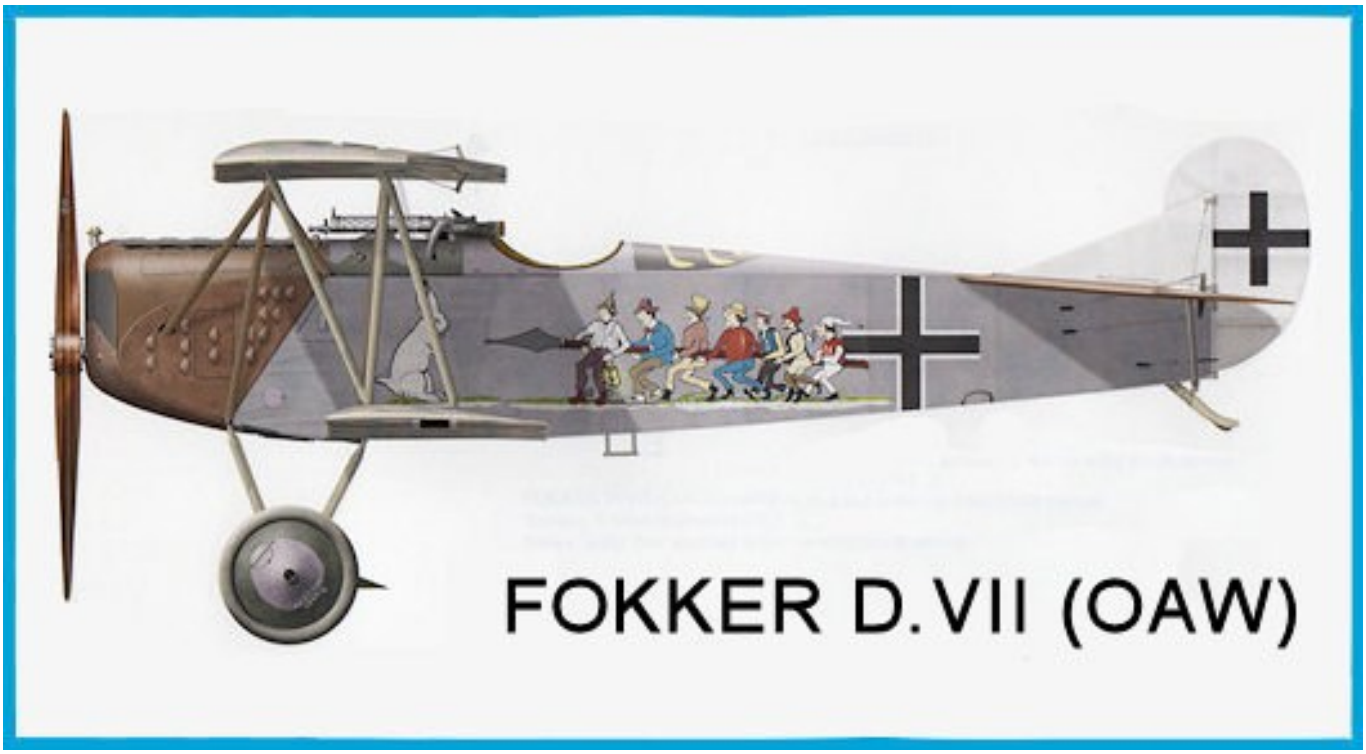

World War One Aircraft Models

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 in 2015 and now enjoy the challenge of building aircraft of World War One. Since posting photographs of my completed models online, I've been asked if I would create fully detailed 'build logs' for future builds.

I don't consider myself a 'master' of this hobby, but hope to be able to pass on what I have learned. As such, here is my build log, which covers the 'Wingnut Wings' 1:32 scale model of the Fokker D.VII 'Seven Swabians'.

Mike 'Sandbagger' Norris

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Completed: November 2025

CONTENTS

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 to the 'carpet monster'). 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 and gaming PC

AFTER MARKET

AFTER MARKET

Figure

‘Black Dog’ German fighter pilot WW1 N°3 (F32172).

Decals

‘Aviattic’ clear backed Seven Swabians (ATT32173) and (ATT32070).

Propeller

‘Proper Plane’ set - ‘Niendorf’ propeller and ‘Rexx’ exhaust pipe (PR-015-32006).

Weapons

‘Gaspatch’ 1:32nd scale Spandau 08/15 extended loading handle.

Wheels

‘Proper Plane’ 760x100 Gothania wheels (RW004) set.

Rigging accessories (as required)

‘Proper Plane’ 1/32nd scale resin turnbuckles (RD-005),
‘Proper Plane’ 1/32nd scale resin control cable turnbuckles (RD-018),
‘Albion Alloy’s’ Micro-tube (Brass or Nickel Silver, 0.4 or 0.5 mm diameters),
‘Steelon’ or ‘Stroft GTM’ Mono-Filament (0.08 and 0.12 mm diameter),
‘EZ’ stretch line (Black Fine).

Paints (as required)

‘Tamiya’ Acrylic, Humbrol Acrylic, ‘Mr. Metal Color’, ‘Alclad II’ Lacquers,
‘AK Interactive’ Primer (Grey AK758, White AK759), ’Tamiya’ Fine Surface Primer (Grey/White),
‘Mig’ A-Stand Aqua Gloss (A.Mig-2503), ‘MRP’ acrylic lacquers,
‘Mr. Surfacer’ 500/1000/1200/1500, ‘Mr. Finishing Surfacer’ 1500,
‘Windsor & Newton’ Griffin Alkyd oil paint.

Sundries (as required)

’Mr. Color’ Levelling Thinners 400, PVA Adhesive (e.g. ’MicroScale’ Micro Krystal Clear),
‘PlusModel’ lead wire, ‘MicroScale’ MicroSol/MicroSet decal solutions,
‘VMS Fleky’ CA adhesive (Slow and Thin), ‘Revell’ Contacta Professional cement,
‘Tamiya’ extra thin liquid cement, ‘Perfect Plastic Putty’, ‘White Spirits/Odourless Thinners’,
‘VMS’ Metal Prep 4K or ‘Mr. Metal’ Primer R, ‘Araldite’ two-part epoxy, ‘Black-It’ solution,
‘MFH’ 0.4 mm diameter flexible black tube (P-961), Copper wire various diameters,
‘Tamiya’ masking sheet and tapes (various widths), ‘Prismacolor’ Verithin pencils
‘Microscale’ Krystal Klear, ’UHU’ White Tack, ‘Tamiya’ masking tape (various widths),
‘Abteilung 502’ Liquid Mask, ‘De-Solv-It’ Sticky Stuff Remover.

Weathering mediums (as required)

‘Flory Models’ Clay washes or Pigments,
‘AK Interactive’ (Kerosene AK-2039, Oil AK-2019),
‘Tamiya’ Weathering Master sets,
‘Ammo MiG’ Acrylic Filter Medium Brown (A.MIG-0823),
‘AK Interactive’ Kerosene (AK2039), Engine Oil (AK2019) washes.

Display Base

‘Polak’ grass mat - Wild Meadow (4703).
‘Inperspective’ custom made Acrylic base and cover,
Information plaque from ‘TLS Engraving Ltd’.

THE PILOT

THE PILOT

References:

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

NOTE: *In the past there was some debate as to who actually flew this aircraft in Jasta 65. It was previously thought that this aircraft was flown by Gefreiter (Corporal) Wilhelm Scheutzel. However, it now seems that the pilot of this aircraft was in fact Vzfw Albert Bäder. Even so, confusion still remains over different similarly named pilots and their victories. Records show Albert Bäder, Alfred Bäder and Carl Bäder who between them served with Jastas 64 and 65. Given what little information is available, I chose to site Alfred Bäder as the pilot, not Scheutzel.*

Alfred Bäder was born the 20th of September 1893 in Tubingen, Wurtemburg (hence the association with the tale of the 'Seven Swabians'). He was briefly posted to Bavarian Armee Flugpark C before being assigned from Jastaschule 2 to Jasta 65 on the 30th of August 1918. He was lightly wounded on the 4th of September but remained with the Jasta. Some sources state he was credited with two aircraft victories, although other sources state he was credited with three aircraft victories and the destruction of an observation balloon.

2nd of October 1918 - Near Gercourt, a Salmson 2A2 of the 99th Aero Squadron flown by 1/Lt C.C Kahle (killed) and 1/Lt CE Spencer (wounded).

8th of November - Near Buzy, a second Salmson 2A2 (details not known).

OR

4th of September - Observation balloon.

12th of September - Breguet 14 (details not known).

29th of September - SPAD fighter (details not known).

2nd of November - SPAD fighter (details not known).

THE AIRCRAFT

THE AIRCRAFT

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

General:

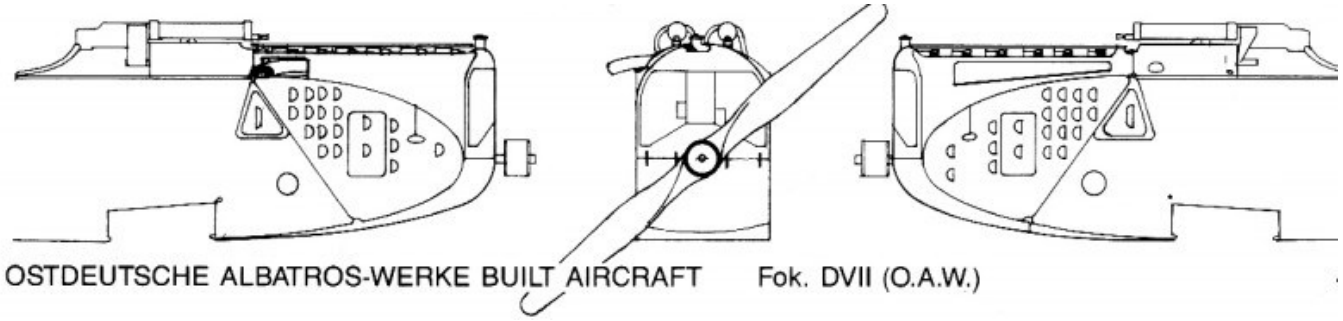
NOTE: *The following text is extracted from the 'Wingnut Wings' instruction manual.*

The legendary Fokker D.VII is widely considered the best German fighter aircraft to emerge from the Great War, it was certainly the most numerous and as such was the only aircraft specifically requested to be surrendered in the Allies armistice terms. In early 1918 the young Jasta pilots were mainly equipped with Albatros D.Va, Pfalz D.IIIa and the Fokker Dr.I Triplane, which were no match for the SE.5a, SPAD 13 and Sopwith Camels that they faced each day. Fokker's prototype D.V.VIIII (the V.II) impressed the front line pilots present at the First Fighter Trials in January-February 1918 so much that word soon started to leak out about a new Fokker that would once again return air superiority to the Germans. So great was the need for this promising new fighter that, in addition to production at Fokker, Albatros were ordered to manufacture it under license at their Johannisthal (Alb) and Ostdeutsche Albatros Werke (OAW) Schneidemuhl factories, incidentally building almost twice the number of D.VII as Fokker. In keeping with previous Fokker design practices the D.VII featured a welded steel tube fuselage and tailplane along with thick 'high lift' wings of conventional wood and wire construction.
A few early production machines were powered by the 180hp Daimler-Mercedes D.IIIa but most production aircraft were fitted with the 200hp D.IIIaü, although a small number received the new BMW IIIa 185ps (rated at 230hp by the British) 'altitude engine. Interestingly, although only show in a hand full of known photos, some late production Fokker D.VII were powered by the long outclassed 160hp Daimler-Mercedes D.III engine.
Initially supplied in small numbers to the most experienced pilots of the elite Jagdgeschwader 1 from late April 1918, the Fokker D.VII quickly started to make a name for itself and allied pilots suddenly found that they could no longer count on their superior performance at higher altitudes. In the middle of 1918 the Fokker D.VII was plagued with a series of often fatal mid-air fires variously attributed to overheating, fuel tank stress damage and the volatile incendiary ammunition used for 'balloon busting'. An immediate response to this was removing the top cowlings for improved cooling followed by modified side cowlings with louvers to ventilate the engine bay more efficiently. By the end of the Great War the Fokker D.VII was the main aircraft type equipping the German Jastas and despite the Daimler-Mercedes powered D.VII being very well received, it was the Fokker D.VII fitted with the coveted BMW IIIa 'altitude' engine that all Jasta pilots longed to fly.
Towards thee end of the war a number of D.VII were ordered for the Austro-Hungarian Luftfahrtruppe to be built by Fokker (225), Aviatik (255) and MAG (150). Following the Armistice the Fokker D.VII found its way into numerous countries air forces including Argentina, Belgium, Bulgaria, Czechoslovakia, Denmark, Finland, Hungary, Netherlands, Lithuania, Poland, Romania, Soviet Union, Sweden, Switzerland and the American USAS and USMC.

Specifications:

Wingspan - 28.54ft (8.7m)
Length - 22.8ft (6.95m)
Max weight - 1,940lbs (880kg)
Max speed - 124mph (200kph approximately).
Mac ceiling—22,600ft (6,900m approximately).
Engine - Daimler-Mercedes 180hp D.IIIa or 200hp D.IIIaü.
Weapons—Two 7.92mm LMG 08/15 'Spandau' machine guns.

It was generally accepted that aircraft built by OAW tended to be of better quality and performance than those from other manufacturers. Although all Fokker D.VII's were basically of the same construction, dimensions and performance, there were external differences that could be used to differentiate between the aircraft from the various manufacturers. One example for OAW manufactured Fokker D.VII's are the engine side access panels on the fuselage. These panels had different air vent louvres than other makes of the aircraft. The early to mid-production aircraft had small and separate louvres, whereas later production aircraft had less and longer louvres. The louvres for this particular aircraft are as shown below.

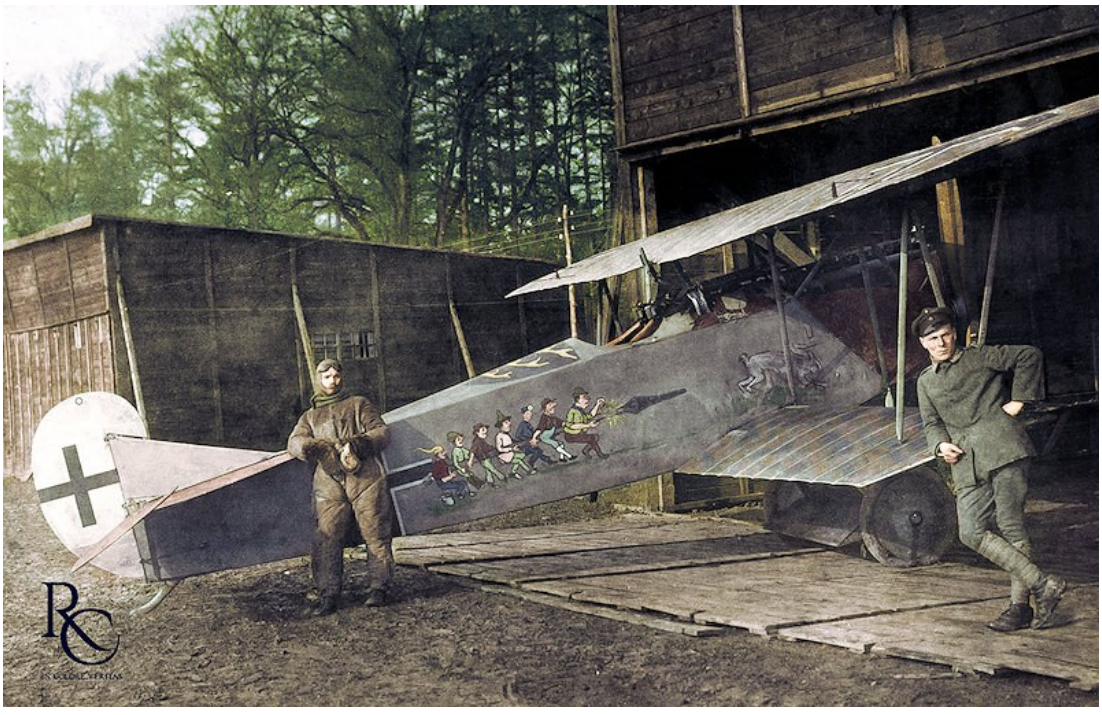


The aircraft being modelled is Fokker D.VII (OAW) 'Seven Swabians', Serial No: 4697/18 of Jasta 65, as flown by Alfred Bader.

This aircraft had a unique colour scheme which was based on the German fairy tale 'Seven Swabians'. The following text and colourised photograph were extracted from the blog 'Colonel J's' by Rue Candias.

https://german1914.com/ruis-renditions-german-pilot-alfred-bader/

Unfortunately somewhat degraded, this photo offers a clear view of what made this particular aircraft famous among modelers. A rendition of a scene taken from an old Medieval German fairy tale called "The Seven Swabians". In the tale, 7 Swabians decide to travel the world carrying with them a long spear for protection. Among other adventures, one day they meet a sleeping hare which they take for a monster. Mustering all their courage they charge the hare, but the latter easily escapes, whereupon they realize they were once again fooled. Apparently, the whole point of the tale is to make fun of the people from the old Duchy of Swabia. The aircraft has two distinct scenes painted on each side of the fuselage, one showing the Swabians seeing the hare and the one in this photo showing them charging the escaping animal. Behind the cockpit is the House of Württemberg Coat of Arms. Although models are usually painted in bright new colours, when this photo was shot this aircraft was clearly worn out with the lozenge camouflage on the wings barely visible and even a flat tire.

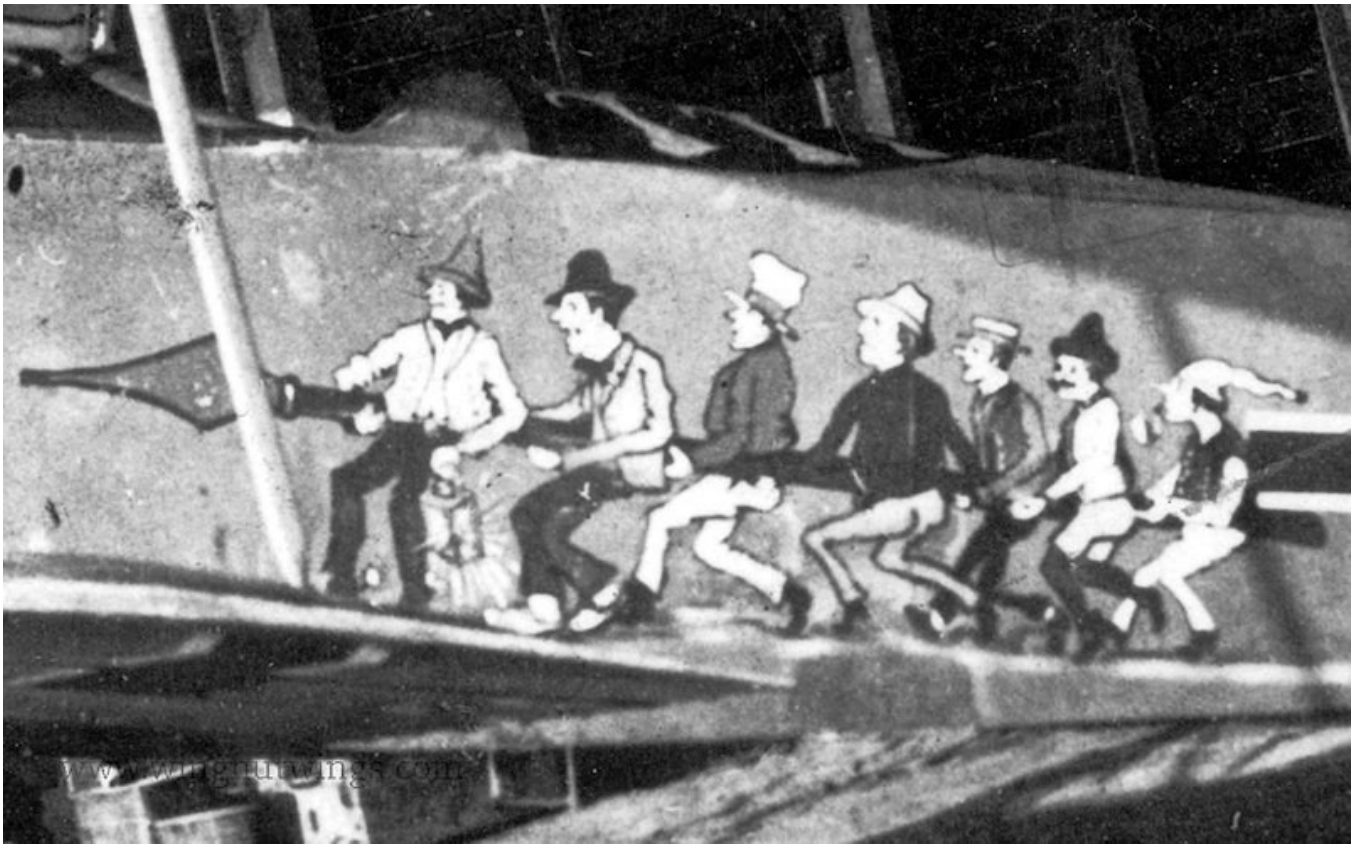


Another explanation of the 'Seven Swabians' fairy tale.

The Seven Swabians (*Die Sieben Schwaben*) is a German fairy tale, collected by The Brothers Grimm in the second volume edition of their *Kinder- und Hausmärchen* (1857) under the number KHM119. The term *Swabians* refers to people from the German region Swabia, though in Switzerland it refers to Germans in general.
Once upon a time there were Seven Swabians who travelled through the world. To be safe from danger they carried one long spear with them. One day in July they walk through a meadow just by nightfall and notice a hornet buzzing by. Unaware what they just heard the men start to panic, thinking it was a war drum. One of them tries to flee, jumps over a fence and then walks right on the teeth of a rake, whereupon the handle hits him in the face. He quickly begs for mercy and tells the invisible attacker that he'll surrender, whereupon his six friends do the same. Later, when they finally understand they were fooled they decide to keep this embarrassing anecdote a secret. To prevent the story from getting out they swear to not say anything about it until one of them should accidentally open his mouth. Later they encounter a hare sleeping in the sun. They take the animal for a monster and decide to attack it. After bracing themselves with all the courage they can get they strike out and the hare runs away, whereupon they realize they've once again been fooled. The septet travels onward until they reach the river Moselle. Unaware how to cross it they ask a man on the opposite side of the river for help.
Due to the distance and their language the man doesn't understand what they were saying and he asked them in the dialect of Trier: "Wat, Wat?" This causes the men to think that they have to wade through the water. As the first Swabian gets into the river he starts to sink into the mud. His hat is blown away to the opposite shore, next to a frog who croaks noises that sound like "wat, wat, wat". The six surviving Swabians think it's their friend telling them to wade across; they rush in the water and all drown.

The following photographs show the different 'Seven Swabians' markings on the fuselage sides.

NOTE: *A point of interest is the flare pistol mounted on the upper wing above the cockpit.*



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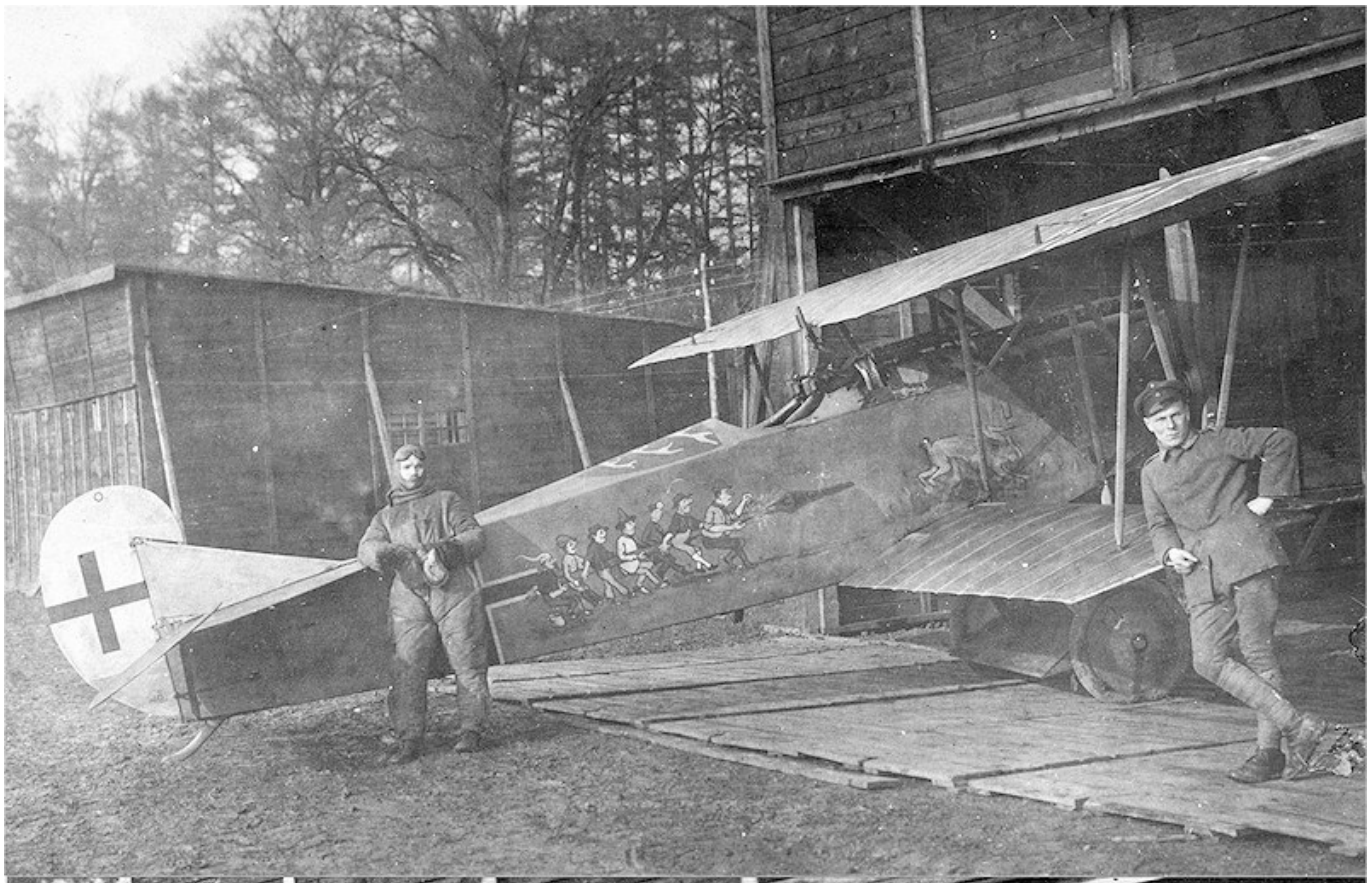
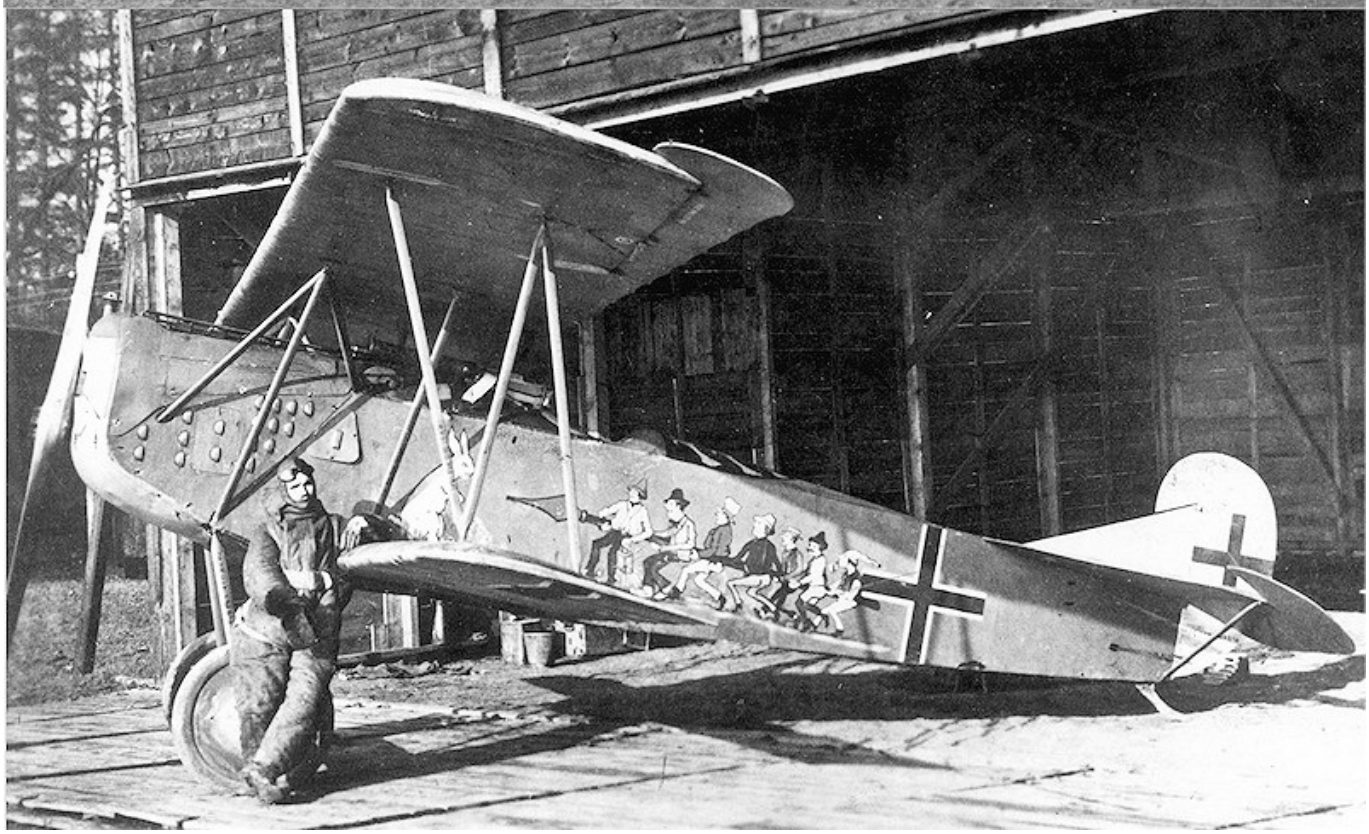




PART 1
MODEL DESCRIPTION

PART 1 - MODEL DESCRIPTION

('Wingnut Wings' - Fokker D.VII (OAW) - Kit No:32030)

General:

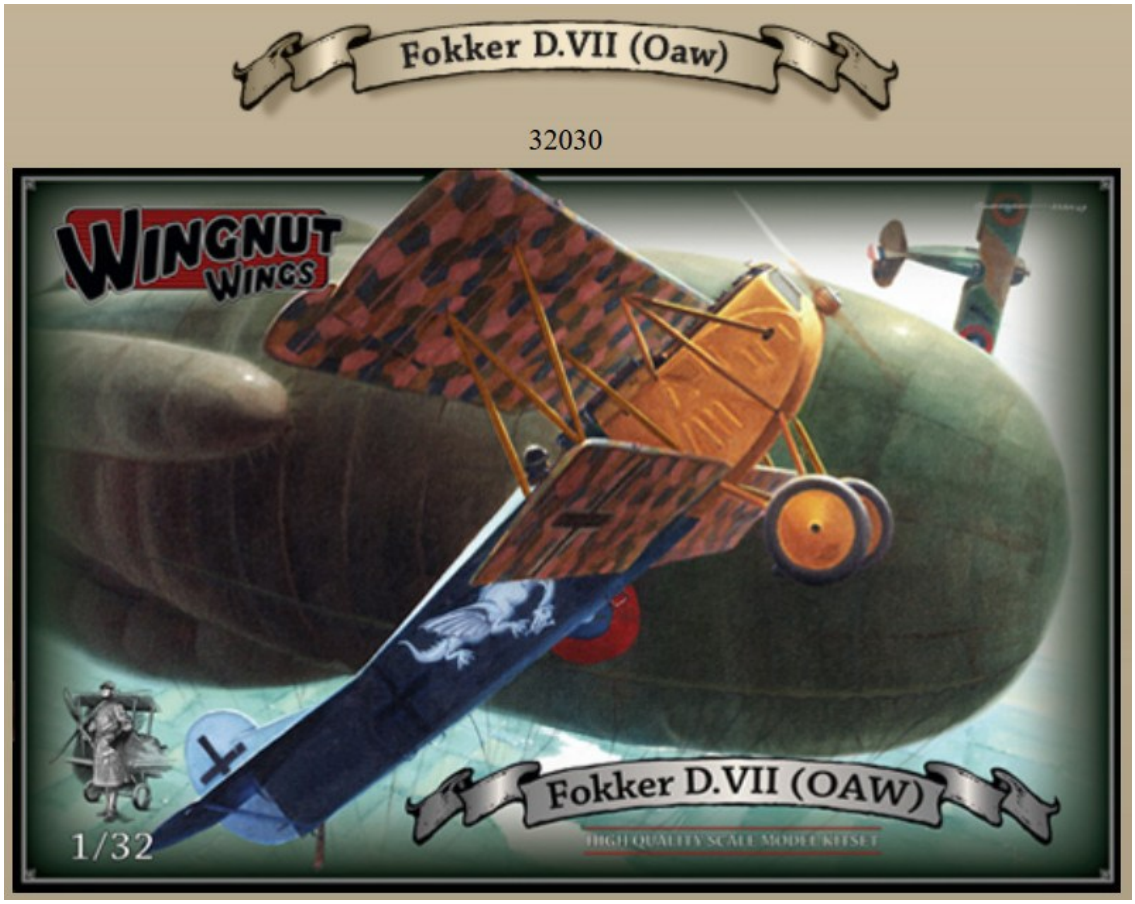
This kit is from 'Wingnut Wings' and built using the kit instructions with reference material and further researched illustrations and photographs. This particular model kit was released along with four other versions of the Fokker D.VII, although since 2019 the kits are no longer in production.

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. The kit supplied decal are not used as they are replaced by specific decals for this particular aircraft from 'Aviattic'.
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 this OAW built version of the aircraft, including various colour profiles of different colour schemes.

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

Normally here I would write a basic description of the model, noting any points of interest or flaws. However, there is a good review from Kevin Futter on the Large Scale Planes web site. Paste the link below into your internet browser to view the review.

https://www.largescaleplanes.com/reviews/review.php?rid=1061



PART 2
WOOD EFFECTS

PART 2 - WOOD EFFECTS

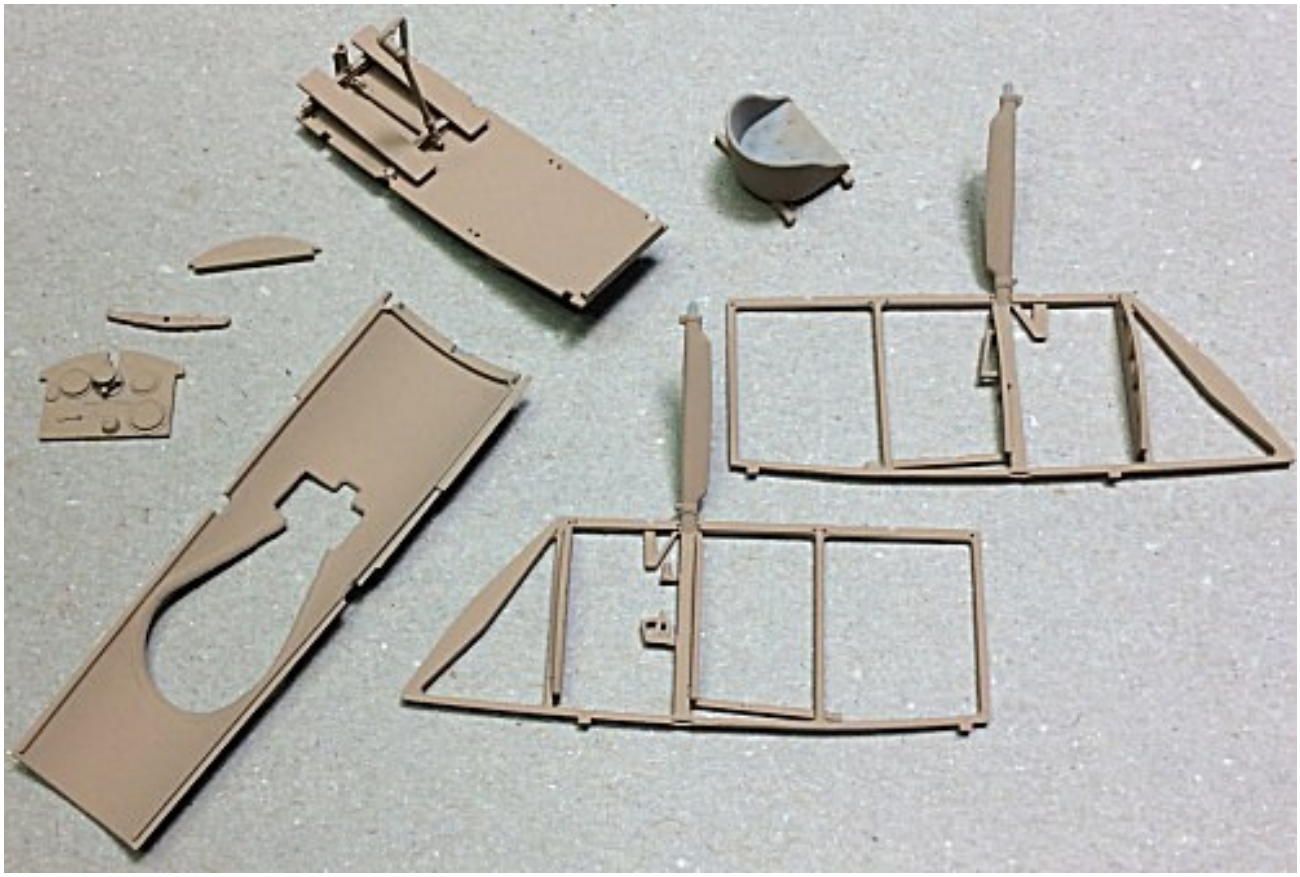
A basic technique:

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 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 'AK Interactive' Grey (AK758) or White (AK759) 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. Color' Levelling Thinner', which aids brush painting. For most wood effect, I airbrush 'Tamiya' Wooden Deck Tan (XF78) 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).



Wood effect - Method 1:

DecoArt Crafters Acrylic' paints:

For the next step I use 'DecoArt Crafters Acrylic' 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.

Wood effect - Method 2:

Windsor & Newton' Griffin (Alkyd) oil paints:

Mask off the area as required.

NOTE: *When airbrushing 'Tamiya' acrylic paints, I thin the paints using 'Mr. Color' Self-Levelling Thinners (400), which is commonly referred to as 'unicorn tears' or just 'MLT'.*

Airbrush the areas with 'Tamiya' Dark Yellow (XF60) or similar.

Brush a covering coat of the 'Windsor & Newton' Griffin Alkyd paint , such as Burnt Sienna**,** over the areas.

Leave the oil paint to settle for about ten minutes.

Decant a small amount of White Spirits or 'AMMO Mig' enamel odourless thinners (A.Mig-2019), into a suitable dish.

Dip a broad flat oil brush into the thinners then wipe the brush on a sheet of kitchen roll, which should not deposit any fibres in the oil paint.

Brush the oil paint over the area, in the desired direction of the wood grain, wiping the brush on the sheet of kitchen roll to remove residual oil paint.

Repeat dipping and wiping the brush in the thinners and brushing the oil paint until the desired density and finish is achieved.

Leave the oil paint to fully dry, which normally takes approximately 24 hours.

If desired and once the oil paint is fully dry, airbrush a semi-gloss clear coat, such as 'Tamiya' Semi-Gloss (X35) or similar, with a few drops of 'Tamiya' Clear Orange (X26) to give a varnished look to the finish.

Surface finish:

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

'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.
If using the 'Tamiya' Clear, I normally add 'Mr. Color' Levelling Thinners, which does improve airbrushing and avoids pooling.

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 clear 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.

PART 3
WEATHERING

PART 3 - WEATHERING

There are many different types of weathering mediums available now to modellers of aircraft, ships, vehicles and figures, in model of any type. These weathering mediums can be washes based on enamel, clay or ink. Weather pastels, applied by sponge' as well as oil paints of various sorts are also plentiful. Some modellers have even used water colour paints, and pencils. The following are the basic weathering mediums I tend to use on most of my models.

Flory Model clay washes:
The washes I tend to use are the 'Flory Models' Clay Wash 'Grime' and 'Dark Dirt', which come in various shades and consist of a suspended and 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 soft brush 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 an airbrushed semi-gloss clear coat, such as 'Tamiya' Semi-Gloss (X35) or similar. 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 difficult to remove or even to wash it off completely.

NOTE 1: The more glossy the applied sealing coat is, the more the chance there is that the applied 'Flory' clay wash will not spread fully, but rather form puddles or beads of wash. If this happens, add a few drops of ordinary **kitchen washing up liquid** to the clay wash. This will break the surface tension of the wash, allowing it spread fully.

NOTE 2: Always decant the amount of clay wash you need, rather than dipping the brush directly into the wash bottle. Dipping into the wash bottle can transfer contaminants from the brush into the wash, will cause the wash to become thick and unusable.

NOTE 3: When a sealing coat is applied over areas treated with clay wash weathering, the intensity of the applied wash tends to darken. This should be considered when removing the clay wash, otherwise the final effect may appear too dark.

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. If you don't achieve your desired effect, you can wash it all off and start again. I use a soft brush, which has been very slightly dampened, to brush off the clay wash. For smearing effects, a very slightly damp brush or absorbent paper should be used, but even then I dab them onto a dry piece of the paper, until it's almost dry. 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're 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 'damp' brush or wipe 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 brush and/or use a piece of damp absorbent paper 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 usually seal the surface with airbrushed 'Tamiya' Semi-Gloss (X35) or similar, which will seal in the applied clay wash.

NOTE 4: 'Flory' current range of washes are: Dark Dirt, Grime, Black, Light (white), Mud, Sand, Rust and Concrete. All of these washes can be used as-is or mixed to create many colour shades for weathering.

Chipping effects:

To give the effect of chipped and weathered paint/varnish to metal engine cowls and forward fuselage panels etc, chipping fluids can be used. To achieve this effect, first prime the areas with a suitable primer then airbrush the metallic finish desired. Once dry, a chipping fluid, such as 'AK Interactive' Medium Chipping fluid or 'Vallejo' chipping fluid is airbrushed over the painted areas. An alternative is to use a cheap hair spray. This forms a barrier which will allow the top coat to be chipped off. Finally the required top coat colour is applied.
Once fully dry, moisten the top coat with water, which softens the paint. Then with a cut down (stiff) brush and wood cocktail stick, gently teased 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 was achieved, I sealed the surfaces with an airbrushed coat of 'Tamiya' Semi-Gloss (X35).

'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.

Water colour pencils:

Water colour pencils can be used to add weathering detail. The colour s applied to the model part then brushed gently with a brush, slightly dampened with water. This dilutes the pencil marking, allowing it to be faded as desired. 'AK Interactive' produce these 'weathering' pencils, which are marketed specifically for the modeller, although other artist water colour pencils can be used, such as 'Derwent' Inktense 24 ink pencils.

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 pigment in the direction required, which will blend it in a thin layer.

The amount of pigment left showing depends on the effect you require. Always keep the brush wiped clean to avoid a build up of pigment and remoisten and wipe dry often. The more paint you drag, the less pigment is left showing. Blending different coloured pigments 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 oil paints can be too ‘gritty’ once leached of the oil, so I use ‘Abteilung 502’ oil paints thinned with ‘Tamiya’ Enamel thinners (X20).

PART 4
DECALS

PART 4 - DECALS

Kit supplied decals:

NOTE: *The following is applicable for decals on painted surfaces. 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 sealing coat of a clear coat of Tamiya' Clear (X22) or similar should be airbrushed over the first applied decals, to provide a barrier against the setting solutions.*

Ensure the painted surface is smooth and free from any surface imperfections.

Airbrush a clear gloss sealing coat, such as 'Mig' A-Stand Aqua Gloss (A.Mig-2503), 'Tamiya' Clear (X22) or similar to provide a smooth 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.*

Wet the area using a light coat of 'MicroScale' **MicroSet** solution.

Remove the decal from its backing sheet after it has released in 'warm' water.

Carefully move the decal into the correct position.

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. I then roll a dry cotton bud over he decal in the same manner. Finally, wearing cotton gloves, I apply slight pressure and slide my fingers across the decal to finally push the decal onto the surface.

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.*

Wet the decal surface with a light coat of 'MicroScale' **MicroSol** solution.

Leave the solution for several hours to fully dry and set the decal.

To 'knock back' the sheen of the decals and painted surfaces for applying weathering effects (refer to Part 3 of this build log), for example 'Flory' clay washes or oil paint, I airbrush a sealing coat 'Tamiya' Semi-Gloss (X35).

'Aviattic' decals:

The 'Aviattic' decals are different in both production techniques and application to those of the more traditional decal manufacturers. Traditional decals are normally created using processes such as silk screen printing and are pre-shaped for the particular model markings. When placed in warm water they will detach from the backing sheet and can then be slid onto the model surface and when they are correctly positioned, wiped with a semi-dry brush or cotton bud etc, to expel any water from under the decal. Once 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 seal and protect the decal. The 'Aviattic' decals are laser 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 before being finally applied. Also with most other decals, I've 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. In addition, unless the decals has been printed pre-shaped ('cookie cut'), the decals will need to be cut out from the sheet, so care is required to cut the decals accurately to avoid leaving gaps, especially at the edges, where the white base colour will show. That said, minor gaps may be able to be covered with weathering. For more information, refer to the 'Aviattic' instruction sheet supplied with the decals. Aviattic' decals are laser printed onto either 'clear' or 'white' backing, the 'clear' being dependent on the base coat you apply and the finished effect you desire. The decals are supplied with very clear instructions on their application, including when to add pre-shading to the base coat, where desired, before you apply the decals.

Application:

First airbrush the parts to have decals applied with a primer coat of such as 'AK Interactive' White (AK759) or Grey (AK758) or similar light colour for 'clear' backed decals or 'AK Interactive' Grey (AK758) for 'white' backed decals. Appropriate base colours can be applied over the primer coat under 'clear' backed decal.

NOTE: *'Silvering' is caused by air being trapped in the rough surface of the paint, such as on a matte (flat) finish, which after the decal is applied and dries, causes silver sheen patches showing in the decal ('silvering').*

Once dry, check the surfaces for any imperfections, such as trapped dust or raised areas of paint, which will cause 'silvering' under the decals. Any surface imperfections found should be carefully sanded or polished out.

Airbrush at one ore more sealing coats of a clear gloss coat such as ''Mig' A-Stand Aqua Gloss (A.Mig-2503), 'Tamiya' Gloss (X22) or similar over the painted surface to form a gloss surface for applying the decals.

Soak each decal in warm decal water for **approximately 5 seconds only**, then lay the decal on a non-absorbent surface to allow the decal to separate from it's backing sheet.

NOTE: *The surface should be pre-wet with warm water with. 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.*

Wet the surface of the model where the decal is to be applied.

Carefully slide the decal onto the wetted surface. Make sure the decal does not fold over on itself.

Align the decal to the shape of the model part.

Using a broad, soft brush, brush the decal from the centre outwards to remove any water from under the decal.

Adhere the decal to the model part surface by either pressure rolling over the decal with cotton buds or, as I do, by wearing lint free cotton gloves and rubbing the decal with your fingers.

Check to make sure the decal is in full contact with the surface of the model part and that there are no areas exhibiting 'silvering' (trapped air under the decal). If so, gently prick through the decal and apply water then press out the water to adhere the decal back onto the model part.

Also check that there are no lifted decal edges around the model part.

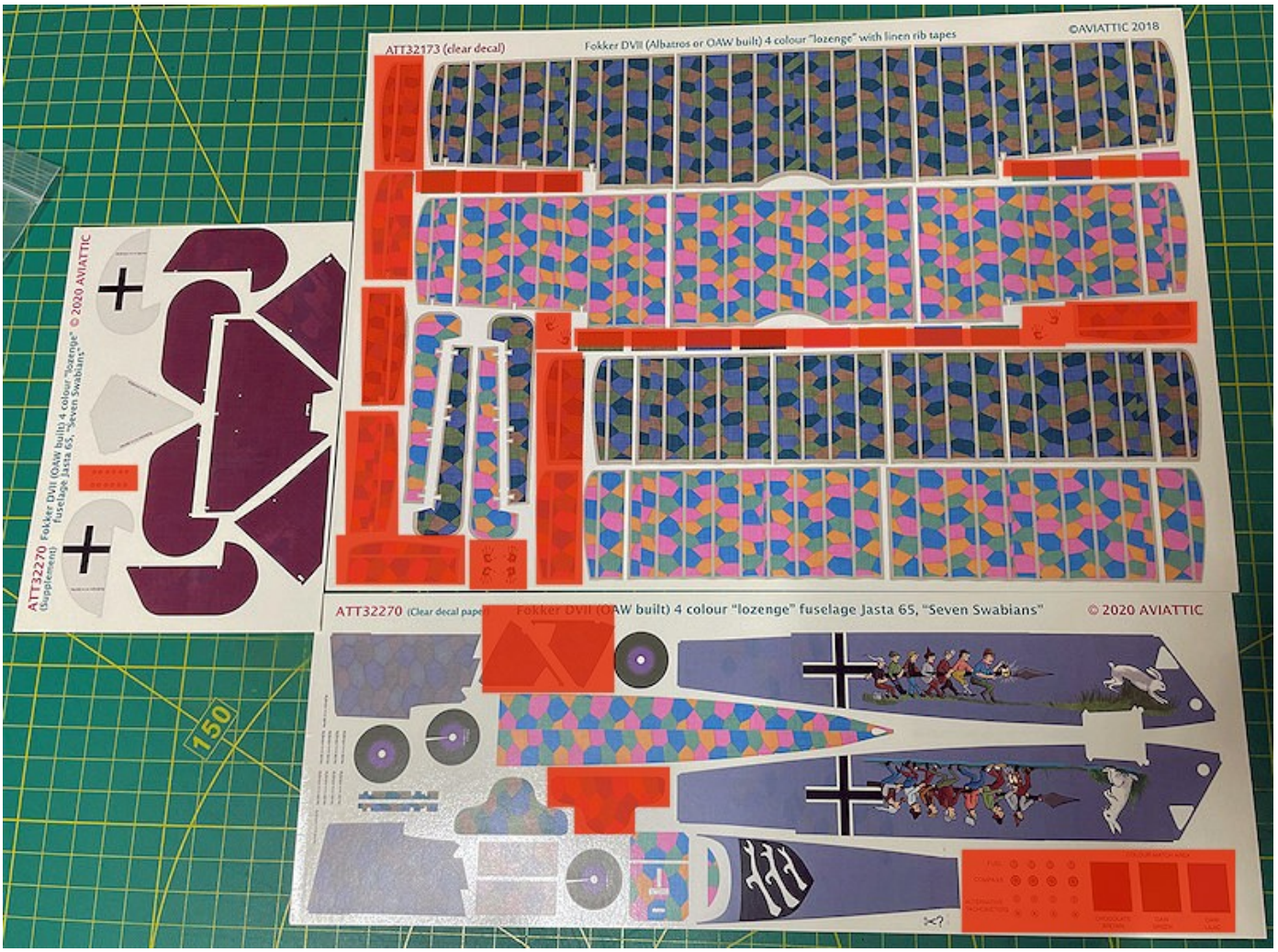
Allow the decal to fully set, preferably overnight. Where decals have been applied to large areas, gentle heating using a hair dryer can accelerate the decal setting time.

Where decals cover location holes or other openings, prick or cut through the decal into the hole or opening then lightly apply 'Tamiya' X20A thinners, which will soften and adhere the decal into the hole or opening. Using X20A can also conform decals around curves edges etc.

Protect and seal the decals by airbrushing a sealing coat over the decals. If more decals are to be added onto the applied decals a gloss sealing coat should be used. Otherwise a sealing coat of the desired finish can be applied, which should also be done once all of the required decals have been applied.

NOTE: *Some of the 'Aviattic' decals are not used, as some are spares, not applicable or not required for this particular model. Also the instrument decal required cutting out using hole punches, which are difficult to align correctly. The kit supplied instrument decals are used instead.*

Those 'Aviattic' decals not used are marked in RED in the following photograph.


ATT32173 (clear decal)
Fokker DVII (Albatros or OAW built) 4 colour "lozenge" with linen rib tapes
©AVIATTIC 2018
ATT32270 Fokker DVII (OAW built) 4 colour "lozenge" Fuselage Jasta 65, "Seven Swabians" © 2020 AVIATTIC
(Supplement)
ATT32270 (Clear decal paper)
Fokker DVII (OAW built) 4 colour "lozenge" fuselage Jasta 65, "Seven Swabians"
© 2020 AVIATTIC
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PART 5
RESIN

PART 5 - RESIN

This model contains aftermarket 3D printed parts, as opposed to the normal plastic used.

The reason for resin kit/parts is that in the past, using resin made it possible to produce much finer detail on kit parts than the plastic kit equivalents. Today, there are many producers of resin kits, particularly after market replacement parts. However, plastic kit manufacturers have come a long way now and kits, such as those from 'Wingnut Wings' and 'Copper State' are equal to, if not better than resin kits. Manufacturers of resin or 3D printed kits may make kits to order or have 'limited' runs, although aftermarket parts are usually readily available. Working with resin or 3D prints does present different challenges to the modeller, especially if it's the first time of building using resin.

The properties of resin differ radically to those of plastic kits. Below I have listed what I have found to be the primary differences for resin or 3D printed kits/parts from plastic (styrene) kits:

When resin kits are cast in their moulds or 3D printed, a cast release agent or residual print resin may be present on the surface of the kit/parts. These can prevent paint or adhesives from adhering to the surfaces. The easiest way to remove cast release agent is to carefully and fully wash all of the model parts in warm soapy water, using an old, soft tooth brush, then thoroughly rinse all of the parts and leave to dry. Alternatively wipe the parts with such as 'Tamiya' X20A thinners or with a commercially available Isopropyl Alcohol (90% or higher grade).

Cast or 3D printed resin, by its nature, is very brittle and can be damaged or broken easily, especially when handling small parts. This is particularly evident when separating the individual items from the resin cast or from the 3D printed support 'trees'. The best way to remove item is to cut them away with a fine toothed razor saw or single blade cutters, then clean off any residual stubs on the edges of the parts.

Once parts are removed from resin casts, they may have 'resin flash' around or amongst parts, especially small items. This is easily removed with a sharp scalpel blade. Heavier residue can be scraped, filed or sanded away. Print layer lines may be evident on 3D printed parts, which if possible should be sanded away.

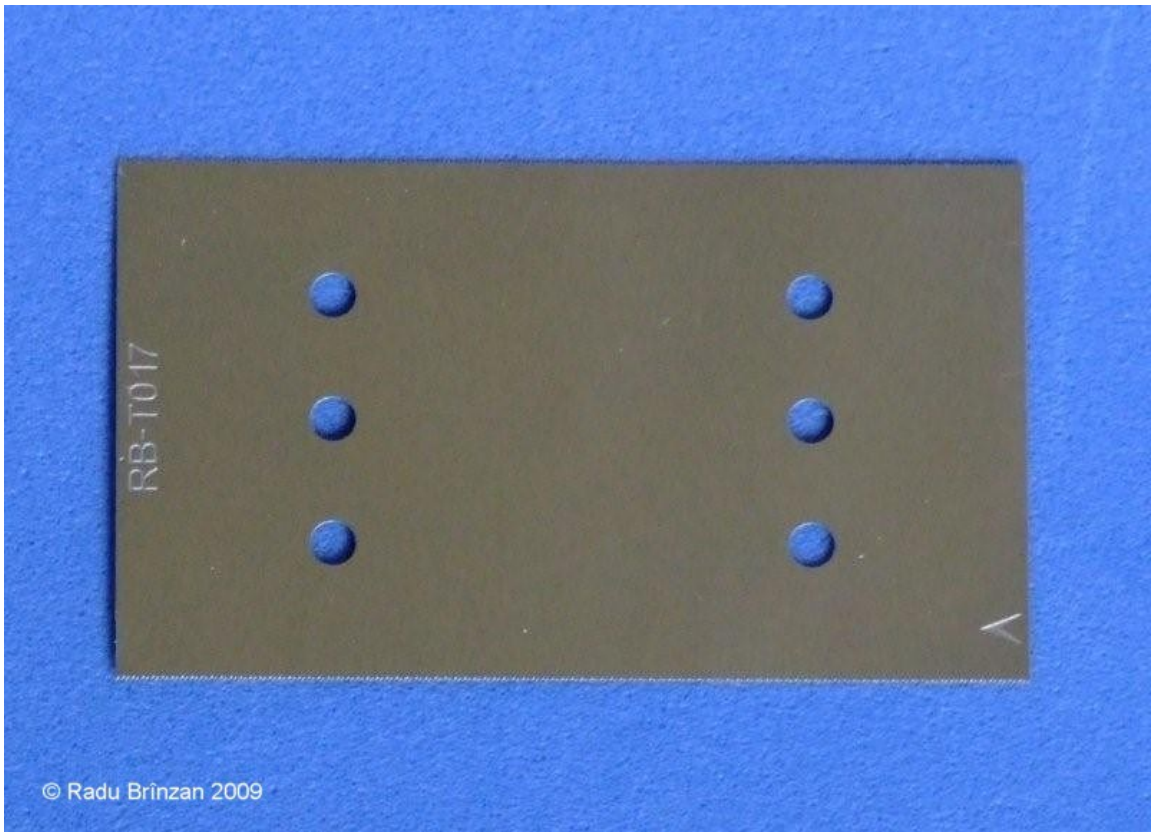
Plastic kits are assembled using solvent adhesives, which melt the surface where it is applied and 'weld' the joint together. Resin cast or 3D prints however will not react to this type of adhesive and can really only be glued using Cyanoacrylate (CA) adhesive. This adhesive reacts to moisture in the air and on the surface to be joined. As most people know, it will also bond skin to whatever it touches, if the skin has CA adhesive on it. Obviously extreme care needs to be exercised when assembling resin kits using CA adhesive. It's always a good idea to have CA release agent available to use if necessary. Good ventilation is also advisable as the fumes from CA adhesive are noticeable and can irritate the eyes and lungs.

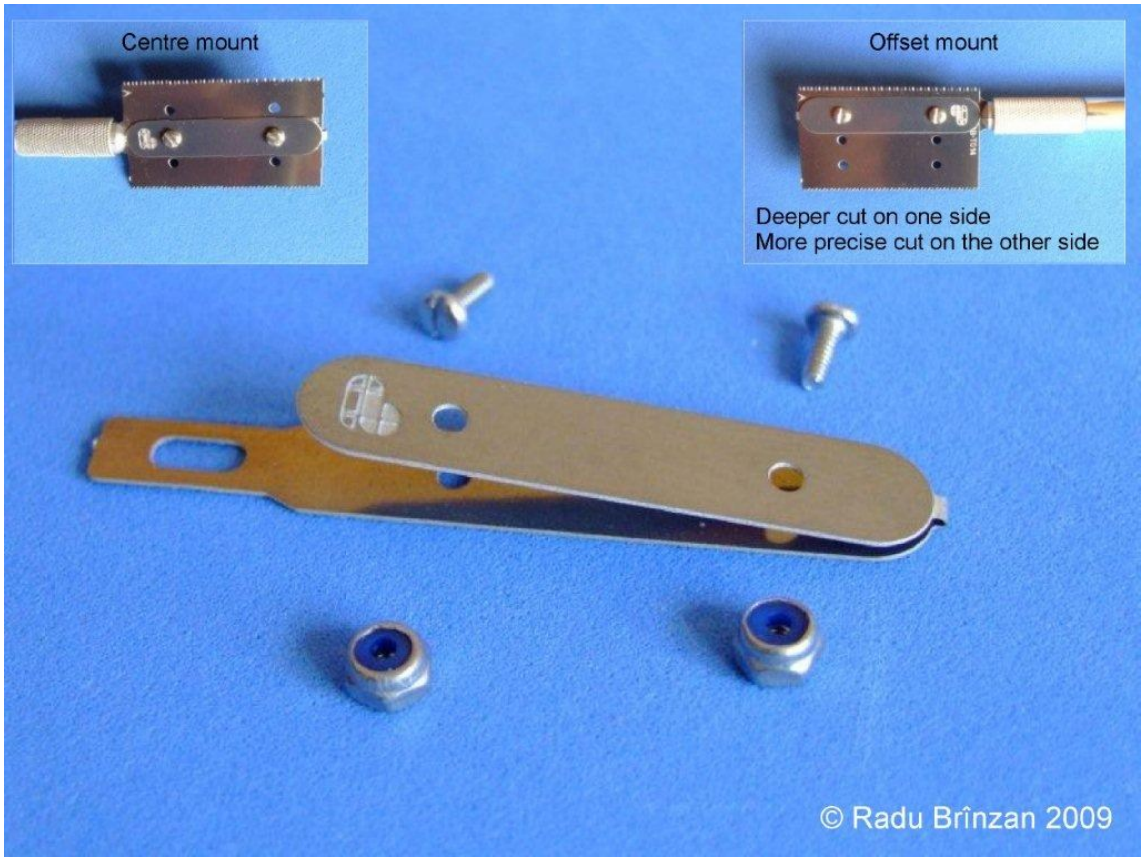
Cutting, sanding and drilling resin will create swarf and more importantly, resin dust. The dust is particular is dangerous, especially if inhaled. Therefore always vacuum the working area and yourself, regularly. If you have a face mask or filtered respirator and find you can wear it whilst working, then do so. Some modellers wet the working surface to trap dust, although this is a messy method. Resin can easily be drilled or scraped, but remember how brittle resin is when it is being handled.

It is not unusual to find imperfections in resin cast parts, such as surface blemishes, small 'blow' holes or ragged edges. This can be a problem, more so on some cast resin kits/parts. These imperfections can be rectified by sanding/polishing and/or filling with modelling putty, then sanding/ polishing.

Generally CA adhesive is supplied as 'instant bond' adhesive, but there are some manufacturers, such as 'VMS Fleky', that supply CA adhesive as standard, thin, slow and specific resin adhesive. Whichever adhesive is used you must ensure parts can be correctly positioned and aligned before applying the adhesive. Trying to separate mis-aligned parts once the adhesive sets will prove very difficult and may result in irreparable damage to the parts.

To separate resin parts from the thin moulding backing sheet, use sharp scissors or a scalpel blade. To separate larger parts from the moulding base block, use a fine modellers saw. The saw I use has a double sided and fine ’drag’ saw blade and with its holder, which was available from ’RB Productions’.





PART 6
RIGGING

PART 6 - RIGGING

References:
Albatros Productions - Windsock - Data file No.9 - Fokker D.VII (P.M. Grosz).
Kagero Publishing - Fokker D.VII The Lethal Weapon (Tomasz J. Kowalski and Marek Rys).
Wingnut Wings - Instruction manual (Kit No.32027).
Various online resources (e.g. Wikipedia and the Aerodrome forum).

General:

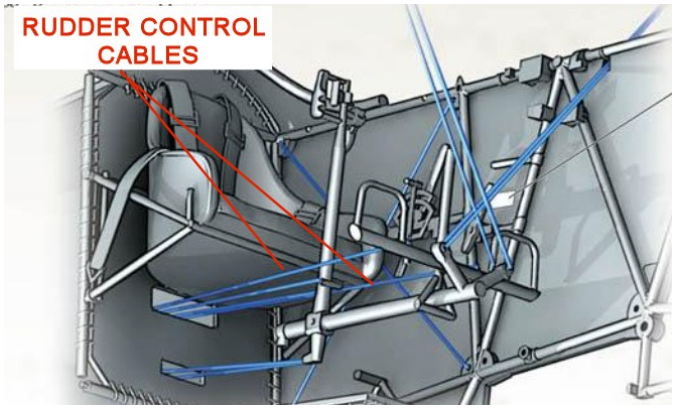
It's important to check where the various rigging attachment points are for this aircraft. Most models have these located on the model, but it's best to carry out research in reference books or research on line before drilling. Some modellers use micro drills manufactured for drilling printed circuit 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 then 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 the rigging can be planned for the model in the subsequent Parts of this build log.
For the primary rigging, such as flying and landing wires and cross bracing wires, I used 'Steelon' or 'Stroft GTM' mono-filament (fishing line) of 0.12 mm diameter and for flight controls and 0.08 mm for flight control cables. These are effectively transparent but do give a look of steel, without the need of painting or colouring with a gel pen. Any turnbuckles used are either sintered metal or resin and can be obtained from such as 'Gaspatch Models' or 'Proper Plane'.

NOTE: *The visible rigging on this model is limited. The Fokker D.VII was not typical of most fighters of WW1 in that it had no externally visible rigging, other than aileron, rudder and elevator control cables, landing gear crossed bracing wires and fin upper bracing wires. Internally, the cockpit had crossed bracing wires and aileron, rudder and elevator control cables.*

Control cables:

Rudder control cables:

Control cables were connected to the outer ends of the pilots rudder bar. These cables were routed rearwards through the linen wind shield behind the pilots seat and through to the rear sides of the fuselage.
The cables were routed out of the fuselage rear sides and were connected to the rudder control horns. Adjustable turnbuckles were fitted in the cables at the rudder control horns. As the pilot moved the rudder bar left or right, the cables would moved the rudder left or right, causing the aircraft to turn (yaw).

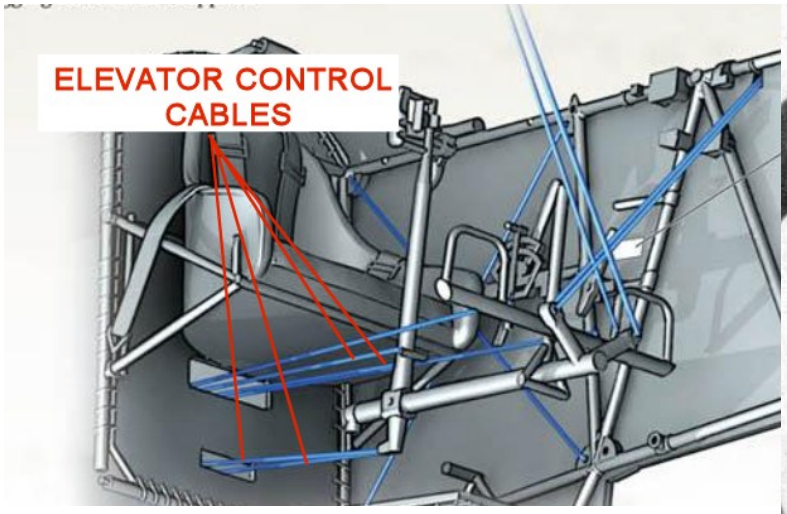


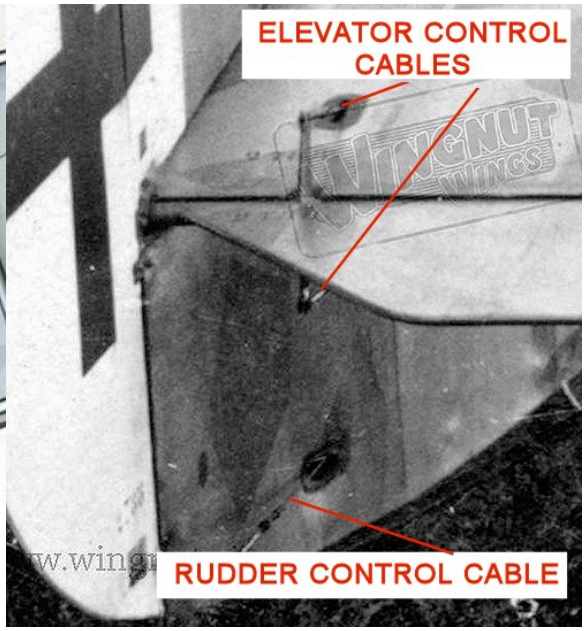
Elevator control cables:

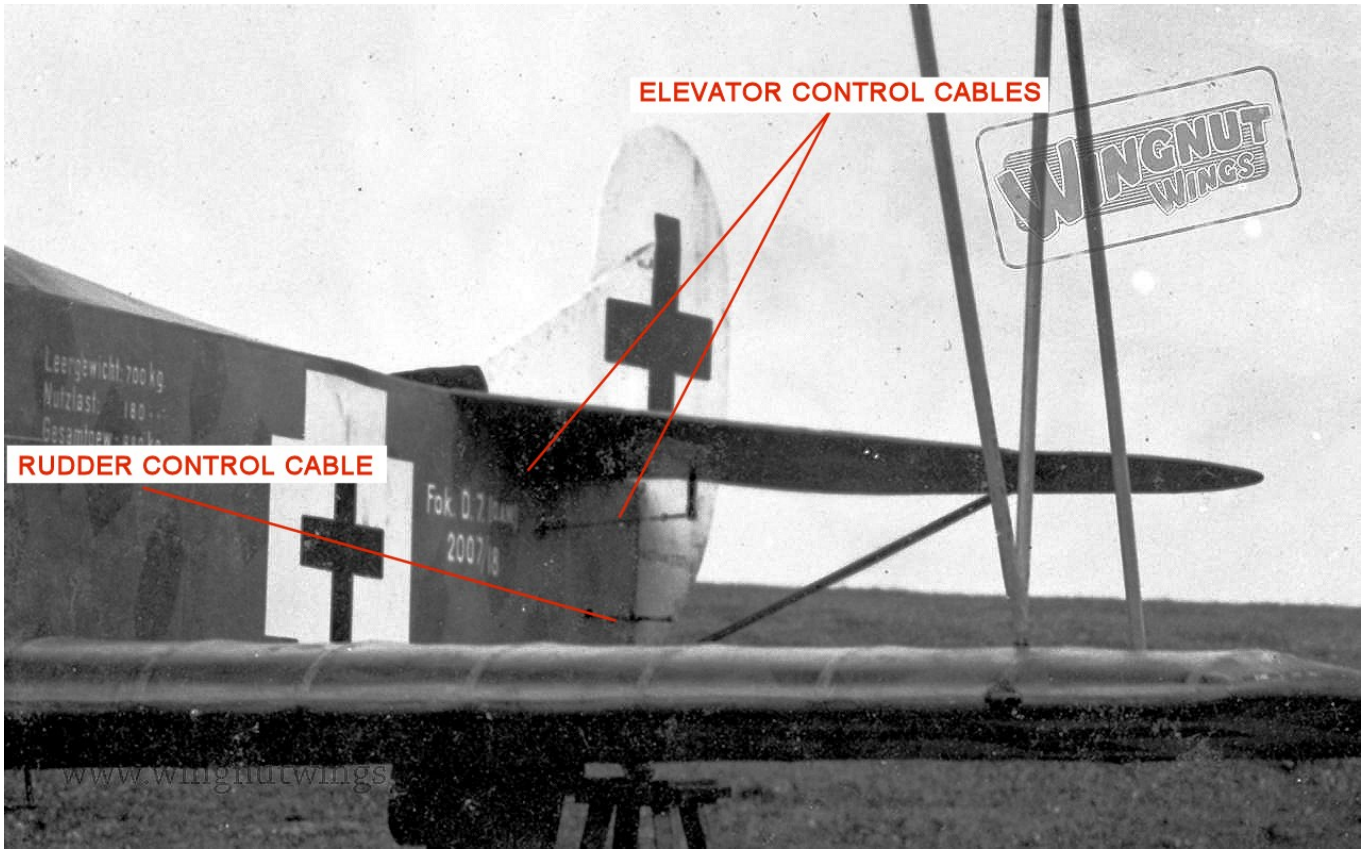
Pairs of single control cables were attached to the pilots control column at the bottom and mid-way. These cables were routed rearwards through the linen wind shield behind the pilots seat and through to the rear sides of the fuselage.

The cables were routed out of the fuselage rear sides and were connected to the upper and underside control horns on the elevator. Adjustable turnbuckles were fitted in the cables at the elevator control horns.

As the pilot pulled back or pushed forwards on the control column, the cables would move the elevator up or down, causing the aircraft to climb or dive (pitch).







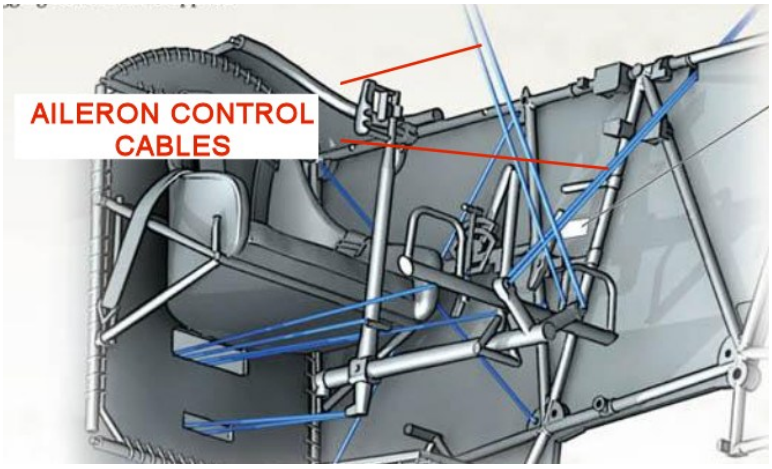
Aileron control cables:

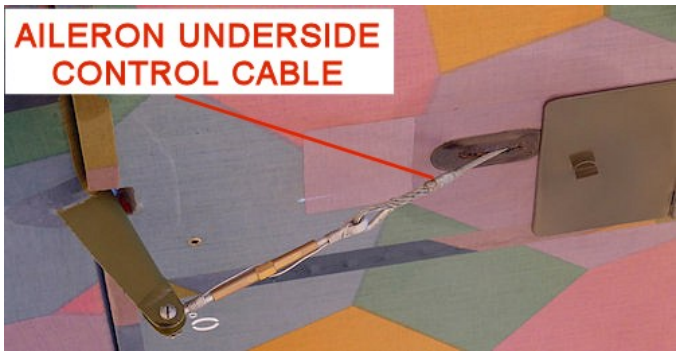
A torque bar was fitted to the bottom of the pilots control column. The forward end of the bar was fitted with angled out control levers, to which were attached twin aileron control cables.

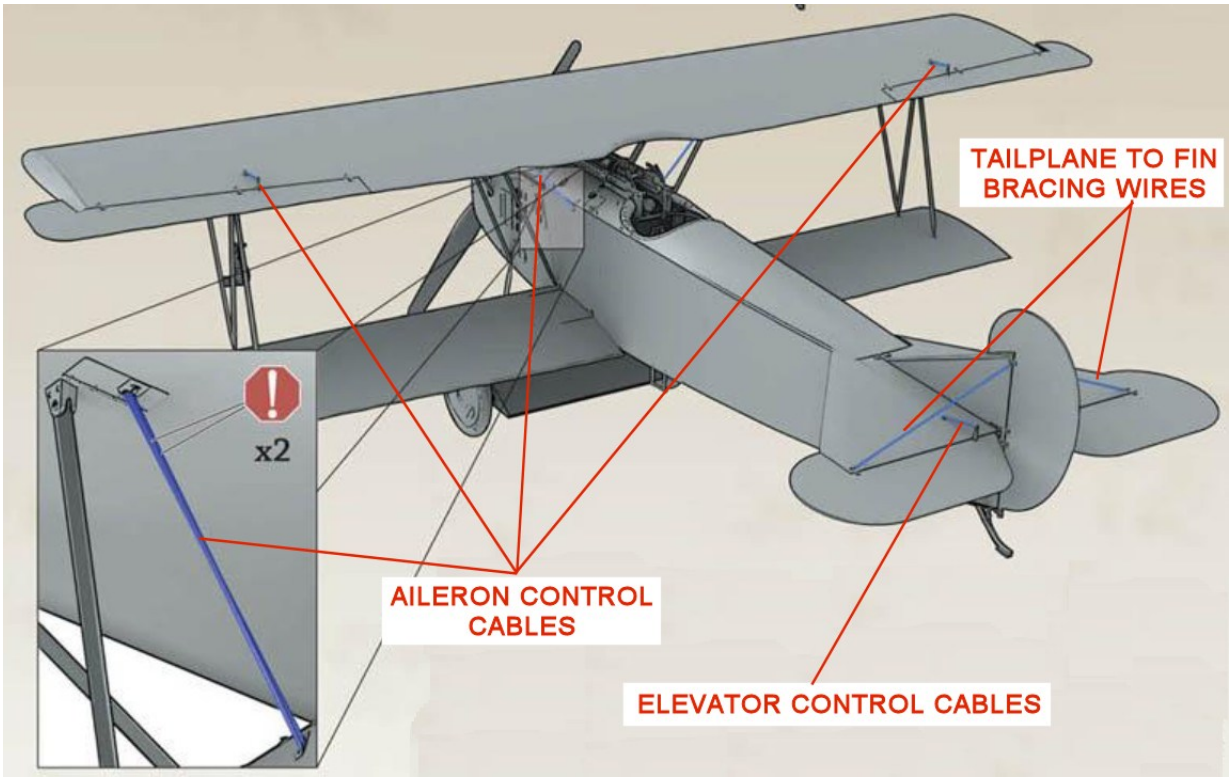
The cable pairs were crossed and routed diagonally up and out through the fuselage sides and up to the underside of the upper wing. The cables were routed outboard, internally within the upper wing and then out through the top and undersides of the wing to be connected to the upper and underside aileron control horns.

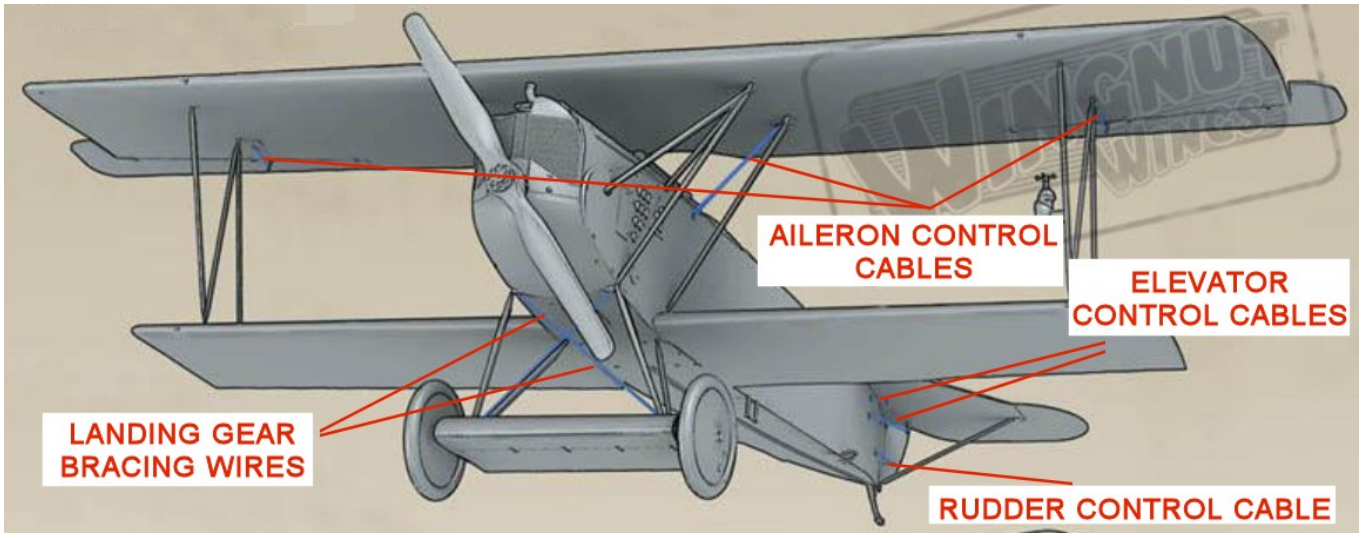
Adjustable turnbuckles were fitted in the cables at the aileron control horns and in the cables between the fuselage and upper wing.

As the pilot moved the control column left or right, the cables would lift the aileron on one side and lower the aileron on the opposite side, causing the aircraft to turn (roll).



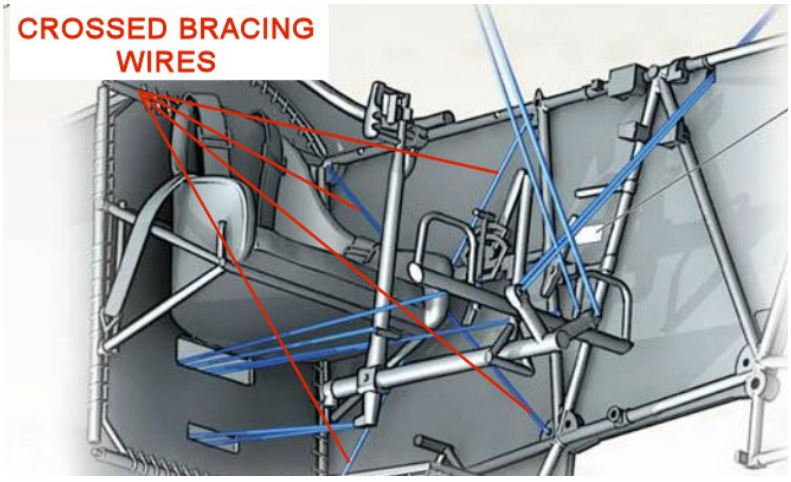






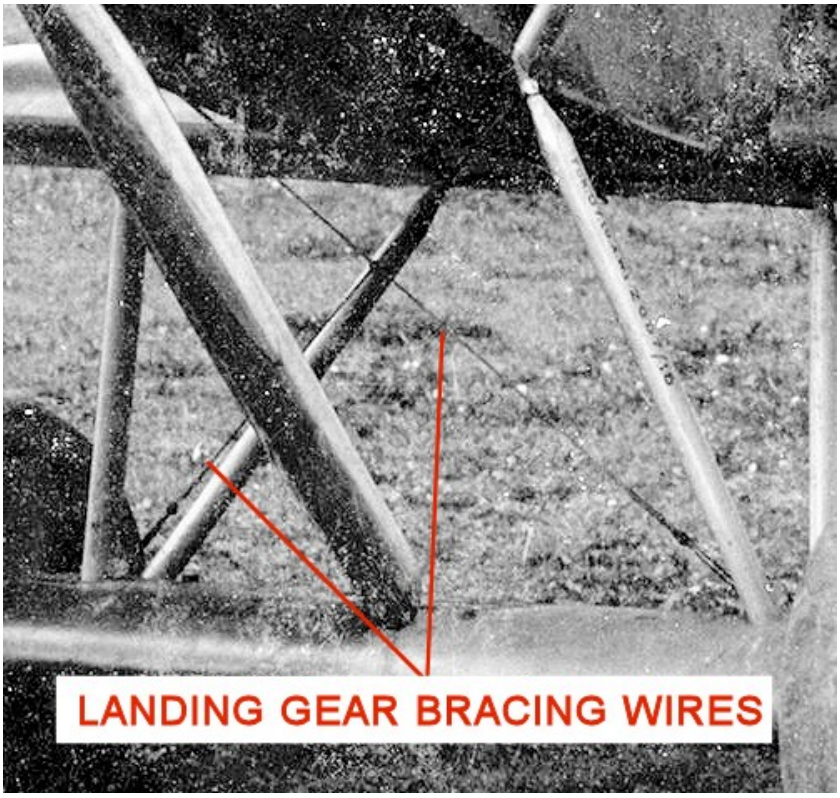
Cockpit side bracing wires:

Doubled bracing wires were fitted diagonally crossed between the corners of the cockpit side frames, adjacent to the pilots seat. Turnbuckles were fitted to one of the bracing wires, normally at the top for ease of access.



Landing gear bracing wires:

Single crossed bracing wires were fitted between top of the forward landing gear struts and the diagonally opposite ends of the axle fairing of the landing gear.
Adjustable turnbuckles were fitted in the cables at the axle fairing ends.



Tailplane to fin bracing wires:

Single bracing wires were fitted between the outboard, trailing edge of the tailplane and the top, trailing edge of the fin. Adjustable turnbuckles were fitted in the cables at the tailplane ends.

PART 7
ENGINE

PART 7 - ENGINE

References:

Albatros Productions - Windsock - Data file No.9 - Fokker D.VII (P.M. Grosz).
Kagero Publishing - Fokker D.VII The Lethal Weapon (Tomasz J. Kowalski and Marek Rys).
Wingnut Wings - Instruction manual (Kit No.32027).
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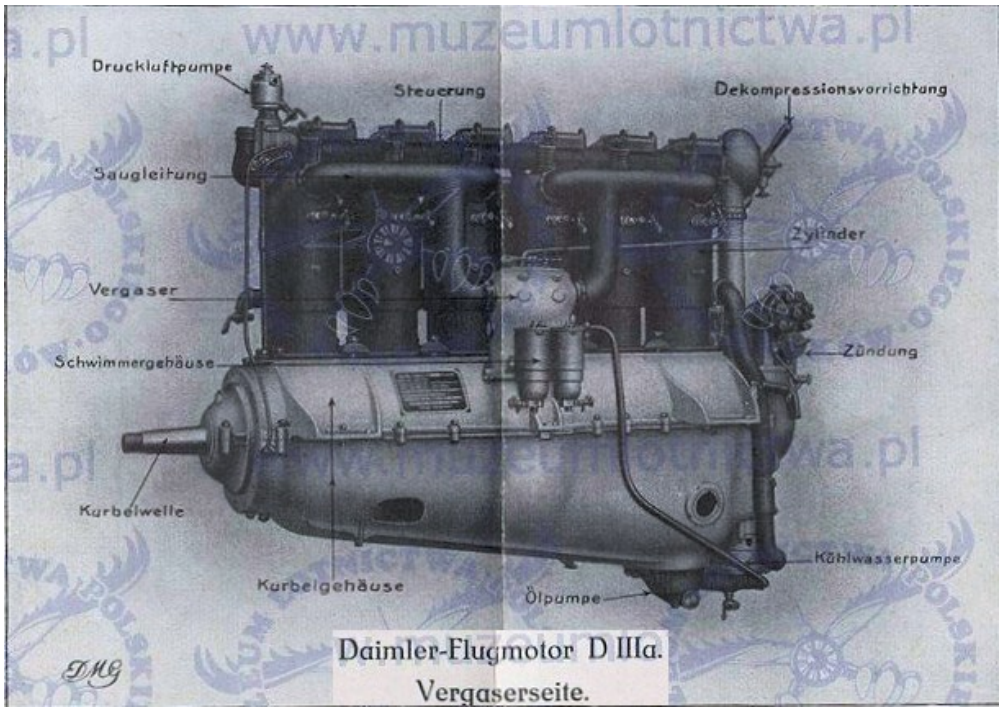
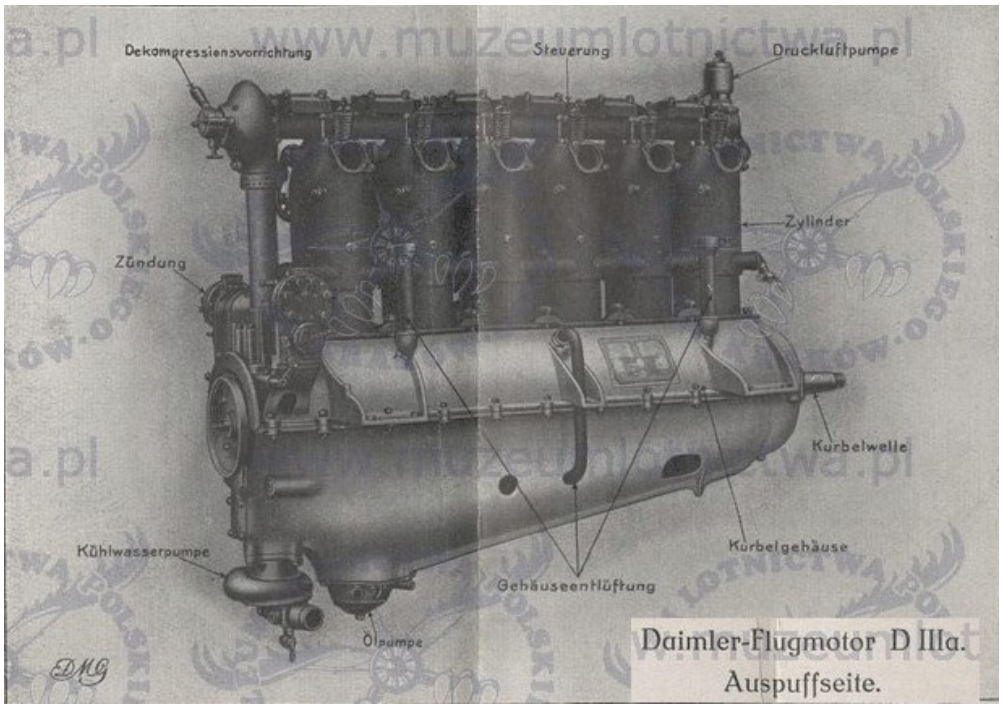




Preparation:

General:

Remove all of the parts as and when required from their runners.

File, sand or scrape away any mold seam lines or residual sprue gate stubs around the parts before any assembly is attempted.

Assembly:

NOTE: *The basic construction of the engine follows page 5 of the kit instruction manual.*

Cement the propeller shaft (E13) into its locating recesses in the engine sump (E31).

Cement the engine crankcase (E14) onto the sump.

Cement the two halves of the cylinder bank (E16, E25) together.

Cement the cylinder assembly on to the crank case.

Cement the half cover (E28) onto the front of the engine assembly.

Cement the two oil fillers (E17) into their locating holes in the crank case.

Cement the air pump (B20) on to its locating peg on the front of the camshaft.

Cement the magneto drive (E26) on to its locating shoulder and rear of the camshaft.

Cement the water pump (E32) into its location on the bottom, rear of the sump.

Cement the coolant pipe (E30) onto the water pump and rear cylinder.

Cement the fuel chambers (E22) on to the carburettor/intake manifold (E33).

Cement the two magnetos (E20) onto their locations at the base of the magneto drive.

Cement the decompression valve (E12) on to its location on the rear, top of the magneto drive.

Painting:

Airbrush the engine assembly and other parts with a black base coat, such as 'Mr. Finishing Surfacer' 1500 (Black) or similar.

Airbrush the following with 'Alclad' Duraluminium (ALC102) or similar:

The engine sump.

The engine rear plate and water pump.

Carburettor body only on the carburettor/intake manifold (E33).

Modifications:

The modifications to the basic engine include adding the spark plugs.

Spark plugs:

Using the pre-molded spark plug recesses in the engine cylinders as guides, drill holes of 0.5 mm diameter into each side of the cylinders.

Cut twelve short lengths of 0.5 mm diameter blackened tube, such as 'Albion Alloy's' MBT05 or NST05 or similar.

Cut twelve lengths of 'EZ' stretch line (Fine, Black).

Secure a line into each tube using thin CA adhesive.

Painting (continued):

NOTE: *If any previous airbrushing has created overspray, brush paint over the affected areas with the appropriate colour.*

Brush paint the following parts as detailed:

'Mr. Metal Color' Stainless Steel (213) - Valve levers and springs, camshaft, decompressor valve body, magneto drive shafts, air valve body.

'Mr. Metal Color' Super Iron 2 (203) - Rocker covers.

'Mr. Metal Color' Brass (219) - Air pump barrels, sump pipe filler caps, magneto cylinders, carburettor barrels

Tamiya' Hull Red (XF9) - Decompressor valve lever, magneto faces, ignition lead support tubes (E11, E15), exhaust outlet port gaskets.

Assembly (continued):

NOTE: *Make sure all paint or decal is removed from mating surfaces, locating pegs/shoulders etc before assembly.*

Cement the two ignition lead support tubes (E11, E15) into their locating holes/recesses in the front and rear engine cylinders.

Using thin CA adhesive, secure a spark plug tube into each of the pre-drilled holes in the engine cylinders, leaving approximately 2.0 mm protruding.

Modifications (continued):

Ignition Leads:

NOTE: *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 tube, fitted to the cylinders on that side. Each ignition lead exited from the support rail through a hole under the tube and close to the cylinder to which it was connected.*

Mark the centre of each of the six stub connectors around the edge of each magneto (not the centre stub).

Drill an ignition lead location hole into each stub, using a 0.3 mm diameter drill.

Cut twelve lengths of 'EZ' stretch line (Fine, Black).

Secure a line into each pre-drilled hole in the two magnetos, with thin CA adhesive.

NOTE: *The ignition lead support tubes (E11, E15) are to small in diameter to attach six ignition leads at their rear ends. Therefore the leads will need to be secured to each other at the ends of the tubes.*

Carefully loop each line to the end of the installed ignition lead support tubes.

Carefully cut to the required length then secure in position using thin CA adhesive.

Trim the length of the leads from each spark plug such that they can be looped down and under the support tubes.

Secure each line to the support rail using thin CA adhesive.

Assembly (continued):

NOTE: *Make sure all paint or decal is removed from mating surfaces, locating pegs/shoulders etc before assembly.*

Cement the coolant pipe (E21) into its locating hole in the left, top rear of the cylinder bank.

Cement the carburettor into its locating housing in the engine sump and into the locating holes in the engine cylinders.

Weathering:

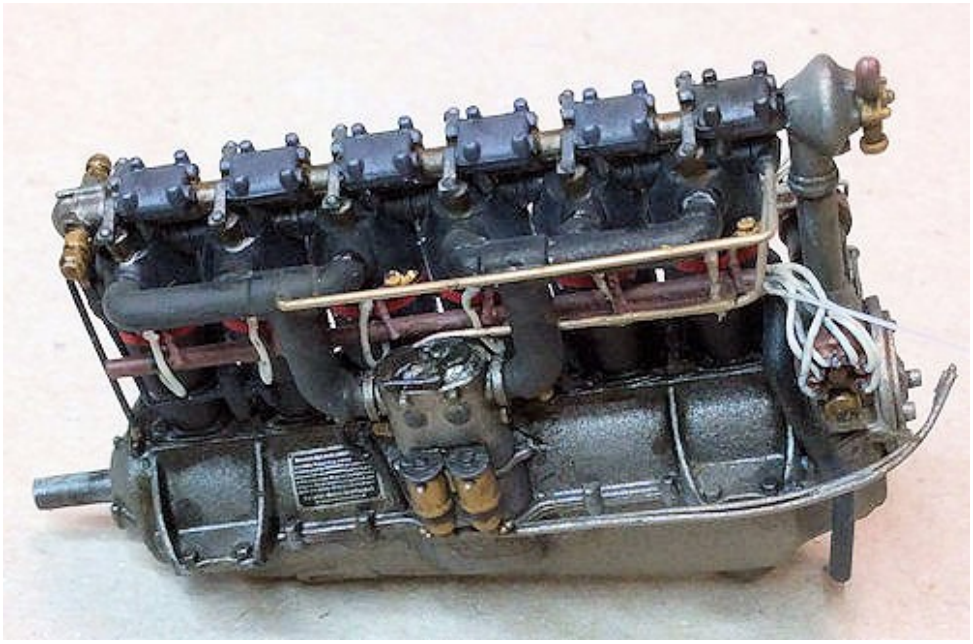
NOTE: *Refer to Part 3 (Weathering) - For general internal weathering I chose to use the 'Flory Models' Dark Dirt fine clay washes.*

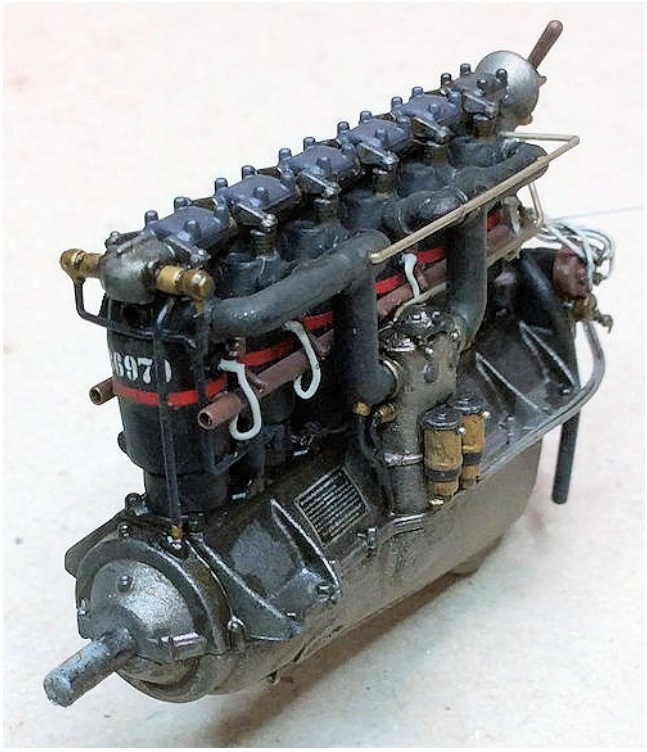
Brush 'Flory Models' Dart Dirt wash over the engine crankcase and sump.

Remove the wash to achieve the desired weathering effect.

Brush 'AK Interactive' Kerosene (AK2039) over the camshaft, rockers covers and valve lever/springs.

The following photographs are of the same engine. However, it was further modified for another model.





PART 8
PROPELLER

PART 8 - PROPELLER

For this model I chose not to use the kit supplied propeller, but instead a ‘Proper Plane’ two bladed wood laminated propeller in the ‘Proper Plane’ set - ‘Niendorf’ propeller and ‘Rexx’ exhaust pipe (PR-015-32006).

Make sure the wooden propeller is perfectly smooth and lightly sand if necessary.

Airbrush a sealing coat of clear gloss, such as ‘Tamiya’ Clear (X22) or similar, to provide a good surface for applying the decals.

Apply a kit supplied ‘Niendorf’ propeller logo decal (99) midway on the two propeller blades.

Airbrush a light sealing coat over the propeller, such ‘Tamiya’ Semi Clear (X35) or similar.

Carefully cut off the two supplied propeller bosses from their moulding block.

Sand the mounting faces to the correct thickness.

Brush paint the two propeller bosses with ‘Mr. Metal Colour’ Stainless Steel (213) and once dry, buff to a metallic sheen.

Position the front boss onto the propeller and secure in position using CA adhesive.

Position the rear boss onto the propeller and secure in position using CA adhesive.

Brush both boss with ‘AK Interactive’ Kerosene wash (AK2039).

Brush paint the rear of the engine propeller shaft with ‘Mr. Colour’ Stainless Steel (213).

Lightly sponge ‘Tamiya’ Weathering Master Set A (Sand) along the leading edges of the propeller to simulate dirt and impact wear.

PART 9
WHEELS

PART 9 - WHEELS

For this model I chose not to use all of the kit supplied parts for building the wheels, but instead used 3D printed parts from the 'Proper Plane' 760x100 Gothania wheels (RW004) set.

NOTE: *To use the 3D printed 'Proper Plane' wheel set, some of the kit supplied parts require modification.*

Remove a printed tyre, inner wheel cover and axle end from their support trees.

Sand away any support tree stubs from the edges of the parts.

Fully locate the inner wheel cover into the more shallow recess in the side of the tyre. The cover has two locating shoulders that fit into recesses in the recess of the tyre.

Apply thin CA adhesive around the inside of the tyre/cover to secure the two together.

Drill out the centre hole in the wheel cover to 2.5 mm diameter.

Check that the tyre/cover assembly fits fully onto the kit landing gear axle.

Reduce the thickness of the kit supplied wheel retainer (D16) until it can be fitted over the recess in the axle end to retain the trye/wheel assembly on the axle.

NOTE: *The following step is necessary to determine how much material needs to be removed from the inside, centre of the kit supplied outer cover to allow the cover to fully locate into the tyre.*

With the tyre/cover assembly temporarily located on the axle, test fit the kit supplied wheel outer cover (D3) into the outer and deeper recess of the tyre.

Using a curved scalpel blade or similar, scrape away material around the hole on the inner centre of the kit supplied wheel outer cover, until the cover fully locates into the tyre.

Point mark the centre of the pre-molded axle end in the wheel outer cover.

Using the point mark as a guide, drill out the hole in the pre-molded axle to 2.2 mm diameter.

At the outer surface of the wheel cover, insert the plain end of the 3D printed axle into the hole, leaving the axle just protruding from the cover.

Mark around the axle where it protrudes from the inner surface of the cover.

Hold the axle in a pin vice and file or sand away the axle down to the mark.

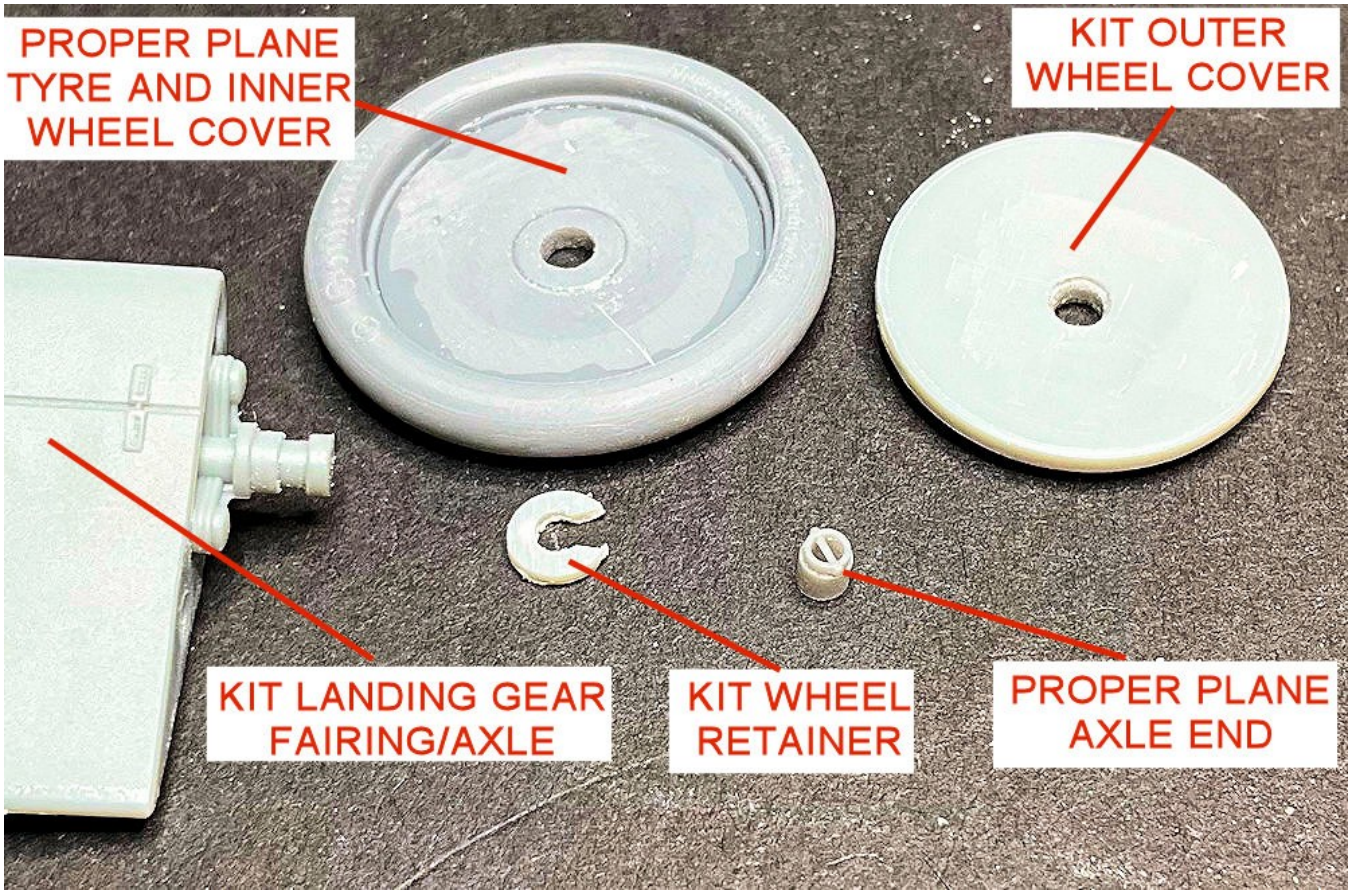
Test assemble the wheel:

Fully locate the tyre/inner cover assembly onto kit axle.

Fully locate the retainer over the axle to hold the tyre/cover assembly on the axle.

Fully locate the kit supplied outer cover into the tyre/cover assembly.

Insert the axle end into the outer cover.



Painting:

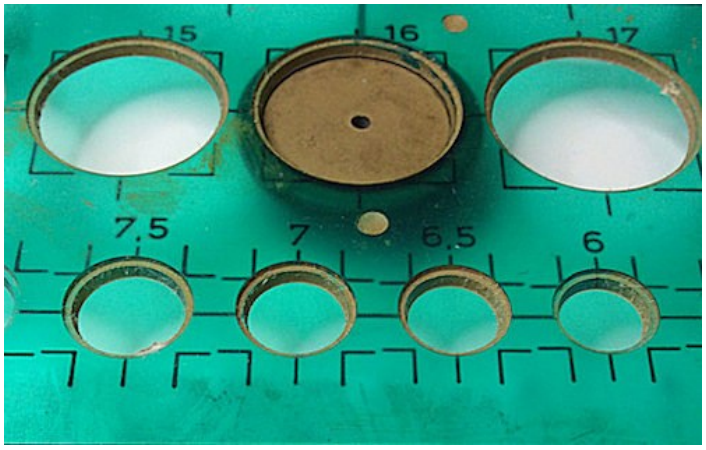
NOTE: *The wheels can be painted ready for fitting later in this build.*

Separate the various parts of the wheels.

Airbrush the ‘Proper Plane’ tyres/inner cover assemblies and the kit outer wheel cover with a grey primer, such as ‘AK Interactive’ Grey (758) or similar.

Airbrush the ‘Proper Plane’ tyres with ‘Tamiya’ IJN Grey (XF75) or similar.

NOTE: *To airbrush the internal face of the wheels without over spraying the surrounding tyres, I use a circle drawing tool (Linex 1217 T). I selected the correct size of hole and position the wheel face under the hole.*



Use the Linex 1217 T to cover the tyres and airbrush the inner and outer wheel covers with 'Tamiya' White (XF2) or similar.

Airbrush the wheel cover with a clear gloss coat, such as 'Mig' A-Stand Aqua Gloss (A.Mig-2503), 'Tamiya' Clear (X22) or similar to provide a smooth surface.

Decals:

NOTE: *Refer to Part 4 (Decals) of this build log for more information. The 'Aviattic' decals for the wheel covers are produced as 'clear' backed, meaning applied base coat colours will show through the decals after they have been applied.*

Carefully cut out the wheels decals from the 'Aviattic' decal sheet, including the narrow slit in the outer wheel cover decals.

Apply the outer wheel cover decals to the kit supplied outer wheel covers. The correct decals are the two that have a narrow slit, which allows the edges of the decal to join over the curved surface of the covers.

Apply the inner wheel cover decals to the inner cover on the 'Proper Plane' tyre/cover assemblies. These decals have no slit.

Once the decals are fully set, prick through the axle holes and **sparingly** apply 'Tamiya' X20A thinners to conform the decal into the axle holes.

Assembly:

The wheels parts will be assembled and fitted to the landing gear axle later in this build.

PART 10
WEAPONS

PART 10 - WEAPONS

NOTE: *The following needs to be carried out after the fuselage build is completed and painted Part 11 (Construction) of this build log.*

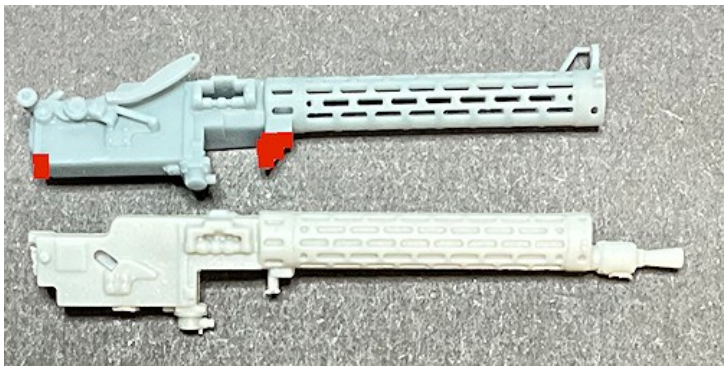
For this model I chose not to use the kit supplied weapons, but instead the 'Gaspatch' 1:32nd scale Spandau 08/15 extended loading handle set.

Preparation:

NOTE: *The 'Gaspatch' machine guns require minor modification to be able to fit the gun mountings on the model. Refer to Part 5 (Resin) of this build log for more information.*

Refer to the following photograph and carefully file away the areas of the machine gun indicated in RED.

Check fit the two machine guns to make sure that both machine guns locate onto the front and rear mountings on the fuselage. Also make sure they are horizontal on the fuselage and are parallel to each other when viewed from above and behind.



Painting:

Airbrush the two machine guns with a coat of gloss black, such as 'Tamiya' Gloss Black (X1) or similar.

Airbrush the two machine guns with 'Alclad' Gun Metal (ALC-120) or similar.

NOTE: *Dry brush by using a domed and soft brush, which has been dipped in the paint. Dab the brush on an absorbent paper to remove the liquid paint, leaving paint pigment on the brush.*

Dry brush the two machine guns with 'Mr. Color' Super Iron 2 (203) or similar, to create a worn metal effect.

NOTE: *The two crash pads for the rear of the breach blocks are fitted later in this build log in Part 11 (Construction).*

PART 11
CONSTRUCTION

PART 11 - CONSTRUCTION

References:

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).
Various online resources (such as Wikipedia and the Aerodrome forum).

NOTE: *There are a number of parts on the part runners that are **not required** for this particular model version. Those parts are highlighted on the runners as 'not required' on the parts call-outs page in the kit instruction manual. Therefore, make sure you **use only** the parts detailed in the instruction manual, **identified** by their **runner/part numbers**. Construction generally follows the applicable steps detailed in the relevant pages in the kit instruction manual. Any changes or modifications to the model/parts or their construction sequence are detailed.*

Preparation:

General:

Remove all of the parts as and when required from their runners.

File, sand or scrape away any mold seam lines or residual sprue gate stubs around the parts before any assembly is attempted.

NOTE: *Do not remove the cooling louvres from the fuselage nose side panels (J16, J17) as detailed on page 16 of the kit instruction manual.*

Cut away, as shown, the forward, vertical frame tubes from the two cockpit side frames (B10, B11).

Drill two holes of 2.5 mm diameter through the fuselage decking panel (H1) as detailed.

Assembly:

NOTE: *The basic construction of the **fuselage/cockpit** follows pages 4 to 8, 13, 15, 16 and 17 of the kit instruction manual.*

Cement the two halves of the ammunition empty belt box (A51, A52) together.

Cement the two halves of the ammunition container (A49, A50) together.

Cement the gun mount rail (A2) into its locating recesses in the top, rear of the ammunition container assembly.

Cement the ammunition empty belt box assembly onto the rear of the ammunition container assembly.

Cement the two halves of the fuel tank (A41, A42) together.

Cut, as shown, the two fuel fillers (A58, A60).

Cement the two cut fillers into their locating recess in the top of the fuel tank assembly.

Cement the fuel gauge (A8) into its locating holes in the top, rear of the fuel tank assembly.

Cement the throttle levers (A18) onto the top of the control column (A64).

Cement the rudder bar (A63) onto the cockpit floor panel (A37).

Cement the aileron torque tube (A57) into the bottom of the control column (A64).

Slide the aileron torque tube through the base of the rudder bar.

Cement the aileron torque tube onto the cockpit floor panel and base of the rudder bar, with the control column vertical.

Cement the aileron bell crank levers (A11) onto the front of the torque tube at the rudder bar end.

Cement the starter magneto (A29) onto it location on the pilots instrument panel (A40).

Cement the handle (A5) onto the starter magneto.

NOTE: *Decals - If preferred, paint the pilots seat, side supports and seat frame, then apply the relevant 'Aviattic' decals and finally assemble the pilots seat and seat frame. I chose to assemble, paint and apply the decals last, which is a less easy method.*

Cement the pilots seat (A38) onto the rear seat frame (A26).

Cement the two seat supports (B21, B22) onto the seat and rear seat frame.

Cement the pressure pump (A59) onto the cockpit right side frame B10).

Cement the throttle quadrant (A20) onto the cockpit left side frame (B11).

Cement the spark advance lever (A55) onto the cockpit left side frame (B11).

Cement the grease pump (A28) into the left side of the gun support frame (A16).

Cement the inner (A44) of the radiator into the rear of the radiator (A35).

Cement the inner panel (B18) into the fuselage underside panel (A25).

Cement the inner (B2) of the engine oil tank into the tank body (A6).

Painting:

Airbrush the following parts required for this particular aircraft, with a grey primer, such as 'Mr. Finishing Surfacer Grey (1500) or similar:

Cockpit floor assembly.
Pilots seat assembly.
Fuel tank assembly.
Gun support frame (A16).
Cockpit corner supports (D5 x 3).
Cockpit corner support/gauge (A33).
Engine tubular bearers (B6, B14, B15 and B17).
Inside forward panel of fuselage halves (B9 and B13).
Coolant pipe (B19).
Fuselage underside stitching strip (B3).
Fuselage nose panel (J11).
Fuselage decking panel (H1).
Fuselage nose side panels (J4, J5, J16 and J17).
Fuselage nose top panels (J10 and J14).

Airbrush the following with a black base coat, such as 'Mr. Finishing Surfacer' 1500 (Black) or similar:

Ammunition container/empty belt box assembly.
Firewall both sides (A46).
Inside face of fuselage underside panel (A25, B18).
Inside face of lower wing fill panel (A24).
Inside face of fuselage nose panel (J11).
Inside face of fuselage decking panel (H1).
Inside face of fuselage nose side panels (J4, J5, J16 and J17).
Inside face of fuselage nose top panels (J10 and J14).
Empty ammunition chutes (A12 and A13).
Engine oil tank assembly (B2, A6).
Compass (A62).

Airbrush the previously **black base coated** parts (**but not the Compass or engine oil tank**) with a light coat of 'Alclad' Duraluminium (ALC102) or similar.

Airbrush the fuel tank assembly with 'Tamiya' Dark Green (XF61) or similar.

Airbrush the engine oil tank assembly with 'Alclad' Pale Gold (ALC108) or similar.

Airbrush the following with 'Tamiya' Deck Tan (XF55) or similar:

Pilots seat frame (A26) and outer surface of pilots seat (A38).

Inside forward panel of fuselage halves (B9 and B13).

Airbrush the following with 'Tamiya' Grey Green (XF76) or similar:

Engine tubular bearers (B6, B14, B15 and B17).

Cockpit side frame assemblies.

Coolant pipe (B19).

Gun support frame (A16).

Airbrush the following with 'Tamiya' Dark Yellow (XF60) or similar:

Cockpit floor panel (A37).

Pilots seat cushion (A27).

Instrument panel (A40).

NOTE: *Sprayed over detail parts will be correctly brush painted later.*

Brush paint the following parts as detailed:

'Tamiya' Grey Green (XF76) - Inner surface of pilots seat, side seat supports, seat frame outer tubes, gun mount rail on ammunition container, fuel gauge frame on fuel tank, cockpit corner supports/gauge.

'Tamiya' Hull Red (XF9) - Handle on hand pressure pump on cockpit right side frame, throttle and spark advance handles on cockpit left side frame.

'Tamiya' Deck Tan (XF55) - Ammunition belts on ammunition container, top rear tubes on cockpit side frames, top panel on firewall both sides.

'Mr. Metal Color' Brass (219) - Three filler caps on fuel tank, hand pressure pump on cockpit right side frame, magneto switch and fuel selector levers on instrument panel, grease pump on the gun support frame, heads of the ammunition rounds.

'Mr. Metal Color' Copper (214) - Cases of the ammunition rounds.

'Mr. Metal Color' Stainless Steel (213) - Throttle and spark advance levers on cockpit left side frame, crank handle on starter magneto on instrument panel.

NOTE: *The wood or leather effect was created using 'Windsor & Newton' Griffin (Alkyd) oil paints. Refer to Part 2 (Wood Effects) of this build log for more information.*

Wood effect:

Use the chosen method to apply a wood effect. I followed Method 2 using Windsor & Newton' Griffin (Alkyd) **Burnt Sienna** oil paint:

Brush a covering coat of the **Burnt Sienna** oil paint over the cockpit floor panel and instrument panel. Remove the oil paint to achieve the desired wood effect then leave to fully dry.

Brush a covering coat of the **Raw Sienna** oil paint over the hand grips on the control column. Remove the oil paint to achieve the desired wood effect then leave to fully dry.

Leather effect:

Use the chosen method to apply a leather effect to the following areas. I followed Method 2 using Windsor & Newton' Griffin (Alkyd) **Burnt Sienna** and **Burnt Umber** oil paint:

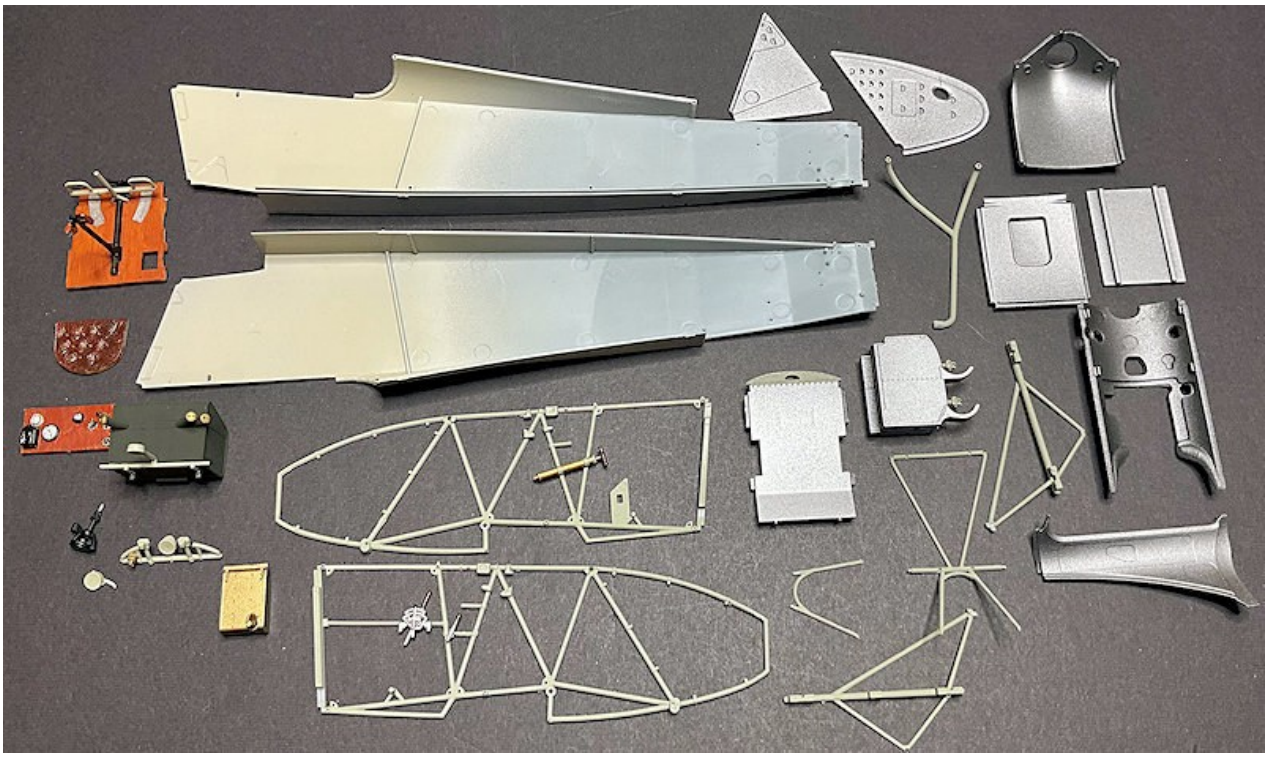
Pilots seat cushion - I applied the **Burnt Sienna** first, followed by stippled on **Burnt Umber** then left to fully dry.

Brush paint the following parts as detailed:

‘Mr. Metal Color’ Stainless Steel (213) - Foot skids on cockpit floor.

‘Tamiya’ Grey Green (XF76) - Rudder bar, frame around top panel on firewall.

‘Tamiya’ Rubber Black (XF85) - Control column, aileron torque tube, aileron control levers, starter magneto and two instruments on instrument panel.



Decals:

Preparation:

Airbrush one or more gloss clear coats, such as ‘Mig’ A-Stand Aqua Gloss (A.Mig-2503), ‘Tamiya’ Clear (X22) or similar over the following:

Compass top.

Fuel gauge on fuel tank.

Instrument panel - two instruments and four fuel selectors.

Instrument on gun mount rail.

Corner frame instrument.

Top, rear tubes on cockpit side frames.

Painted forward panels inside fuselage halves.

Pilots seat and seat frame.

Kit supplied decals:

NOTE: *Refer to Part 4 (Decals) of this build log. Refer to pages 5 and 6 of the kit instruction manual for locations of the applicable kit supplied decals.*

Apply the relevant decals onto the following:

Compass top.

Fuel gauge on fuel tank.

Instrument panel - two instruments and four fuel selectors.

Instrument on gun mount rail.

Corner frame instrument.

‘Aviattic’ decals:

NOTE: *Refer to Part 4 (Decals) of this build log. Some of the decals are not used - refer to Part 1 (Model Description). The ’Aviattic’ decals are not ‘cookie’ cut and therefore need to be carefully cut out from their backing sheet, including any non-decal carrier film in openings etc.*

Cockpit side frames:

Carefully cut out and around the two wrap around decals for the cockpit side frames.

Apply the decals around the top, rear tubing of the cockpit side frames.

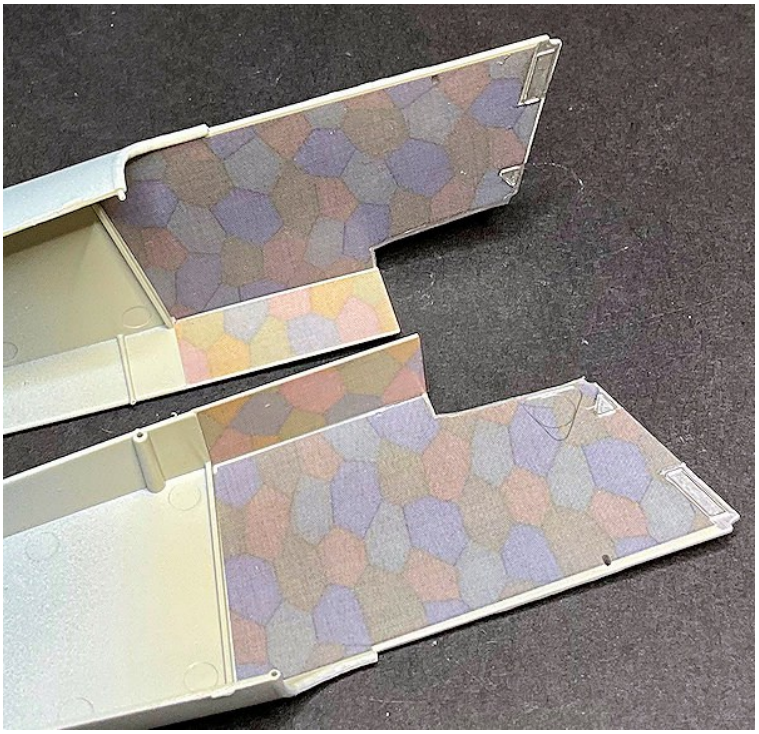
Fuselage halves:

Carefully cut out the two darker faded lozenge decals for the fuselage forward side panel area.

Apply the decals to the fuselage halves.

Carefully cut out the two lighter faded lozenge decals for the fuselage floor area.

Apply the decals to the fuselage halves.



Pilots seat:

NOTE: *The decal applied to the inner surface of the pilots seat is larger than required and will require trimming after application.*

Carefully out the darker lozenge decal for the pilots seat.

Apply the decal to the inner surface of the pilots seat.

Once the decal has set, carefully slice the overhanging edges of the decal in several places to allow the decal to fold over the seat edges.

NOTE: *Do not apply too much thinners or the decal will melt.*

Brush 'Tamiya' thinners (X20A) sparingly around the decal edges to conform the decal over the seat edges.

Once the decal has adhered to the seat edges, carefully cut and lift away any residual decal from the seat sides.

Brush the seat 'rim' edge with leather, such as 'AK Interactive' Brown Leather (AK3031) or similar.

Pilots seat frame:

NOTE: *The decals for the seat frame behind the pilots seat require cutting to fit behind the seat.*

Carefully cut out the three light lozenge decals for the pilots seat frame.

Apply the semi-circular decal to the top section of the seat frame.

Trim the larger decal for the lower section of the seat frame such that it can be slid fully up and behind the seat.

Apply the decal to the lower section of the seat frame.

Cut the smaller decal for the upper section of the seat frame in half.

Trim the cut edges as necessary such that they can be slid from the sides fully behind the seat.

Apply the two decals to the upper section of the seat frame.

Sealing:

To seal and protect all applied decals and provided a surface finish for weathering, airbrush a semi-matte clear coat, such as 'Tamiya' Semi-Gloss (X35) or similar over the applied decals.

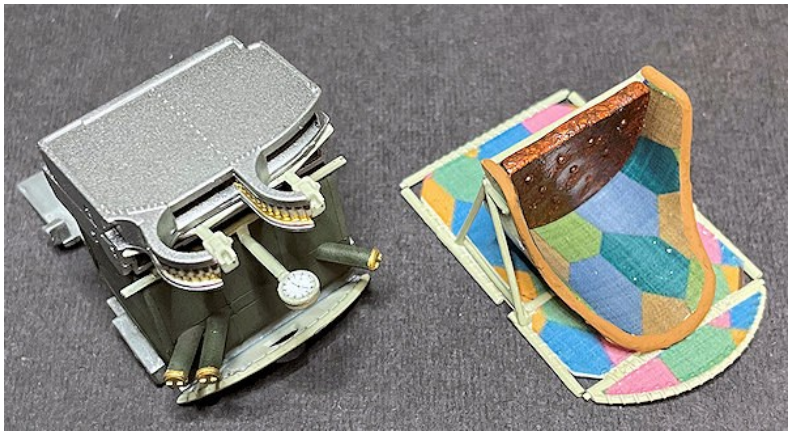
Assembly (continued):

NOTE: *Make sure all paint or decal is removed from mating surfaces, locating pegs/shoulders etc before assembly.*

Cement the pilots seat cushion into the pilots seat.

Cement the fuel tank assembly onto the engine firewall.

Cement the ammunition container/empty belt assembly onto the fuel tank.



Cockpit rigging:

NOTE: *Refer to Part 6 (Rigging) of this build log for more information.*

Rigging tensioning:

When completing lines of rigging (final rigging) using mono-filament and usually during the final rigging stage, some lines may be slightly slack. This can be remedied by the careful application of heat along the line.

Where many rigged lines are required, it's best to tighten any slack completed lines as you add them, as trying to tighten a line amidst others may cause damage to the other lines.

Take care not to linger at one area of a line with the heat source as this will melt the mono-filament causing the line to break.

Also take care not to touch any part of the model or any other rigging, as this will also cause damage through melting.

WARNING: *Care needs to be taken when using this method to tension line, as using a heat source is required.*

Carefully move a suitable heat source (I use a small electrical soldering iron) close to and along the slack line, keeping the heat source always moving. You will see the line tension as the applied heat takes effect, shrinking the line.

Blackening metal:

Nickel-Silver or Brass tube can be chemically blackened by immersion in solutions such as 'Black-It' or 'Ammo' (A.MIG-2021) or similar. Rinse and dry the blackened tubes to prevent powdering of the surfaces.

Cockpit bracing wires:

NOTE: *The rigging materials used are:*

'Albion Alloy's' Micro-tube Brass (MBT04) or Nickel-Silver NST04) of 0.4 mm diameter.

'Steelon' or 'Stroft GTM' Mono-Filament line of 0.0.08 mm diameter.

'Proper Plane' 1/48th scale resin turnbuckles (RD-005).

Cut a long length of line.

Roll cut two short lengths of blackened tube.

Pass the line through a tube.

Pass the line through an 'eye' end of a turnbuckle.

Loop the line back and through the tube.

Slide the tube up to, **but not touching**, the turnbuckle.

Secure the lines in the tube using thin CA adhesive.

Cut away residual line at the tube end.

Pass the free end of the line (from the cockpit side) through a rigging location in a corner of the cockpit side frame.

Pass the line across the outside of the side frame to the diagonally opposite rigging location.

Pass the line through the rigging location to the cockpit side of the frame.

Pass the line through the second tube.

Pass the line through the free 'eye' end of the turnbuckle.

Loop the line back and through the tube.

Cut away residual line at the tube end.

NOTE: *During the following step, do not overtighten the line as that will cause the cockpit side frame to distort.*

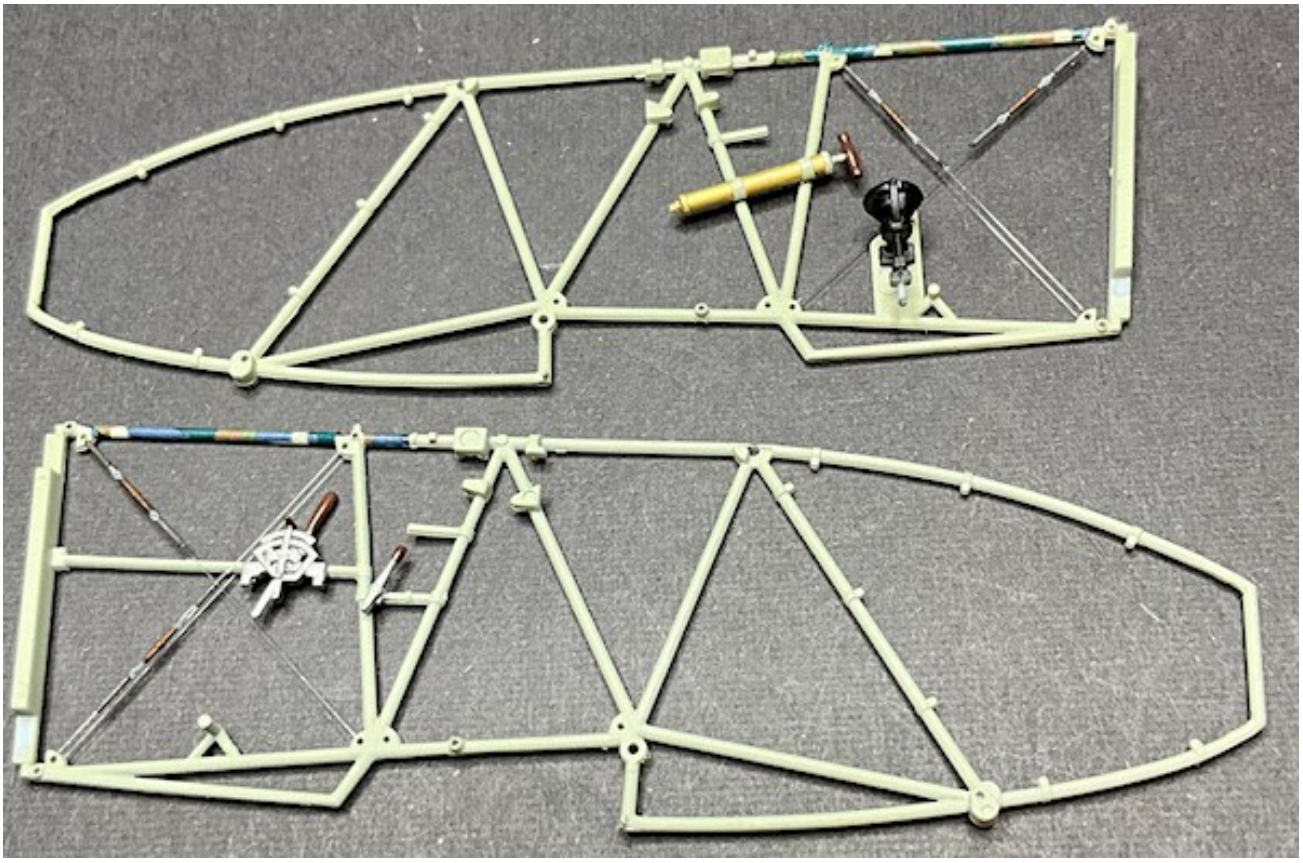
Keeping the line taut, slide the tube up to, **but not touching**, the turnbuckle.

Secure the lines in the tube using thin CA adhesive.

Brush paint the centre barrel of the turnbuckle with 'Mr. Metal Color' Copper (215) or similar.

Repeat the procedure to add the other bracing wire to the frame.

Repeat the procedure to add the two bracing wires to the other cockpit side frame.

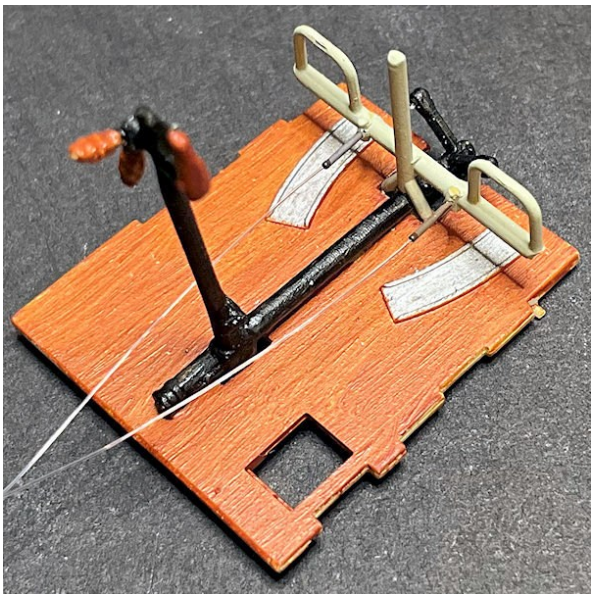


Rudder control cables:

NOTE: *The rigging materials used are:*

'Albion Alloy's' Micro-tube Brass (MBT04) or Nickel-Silver NST04) of 0.4 mm diameter.

'Steelon' or 'Stroft GTM' Mono-Filament line of 0.12 mm diameter.



Cut two long lengths of line.

Roll cut two short lengths of blackened tube.

Drill a hole of 0.2 mm diameter through each side of the rudder bar at the pre-molded rigging locations.

Pass the lines through the pre-drilled holes in the rudder bar.

Secure the lines in the rudder bar using thin CA adhesive.

Cut away residual line at the front edge of the rudder bar.

Slide a tube on to both lines.

With the tubes against the rudder bar, secure the lines in the tubes using thin CA adhesive.

Aileron control cables:

NOTE: *The rigging material used is 'Steelon' or 'Stroft GTM' Mono-Filament line of 0.12 mm diameter. The fitted lines must be long enough to span between the cockpit control levers and upper wing (when fitted).*

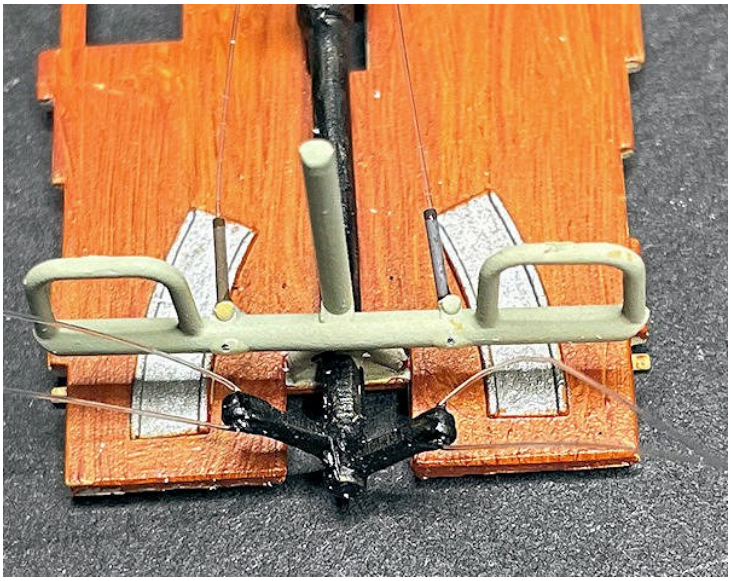
Cut two long lengths of line.

Drill a hole of 0.2 mm diameter through each end of the aileron control levers on the control column torque tube.

Pass the lines through the pre-drilled holes in the control levers.

Pull the ends of the lines to have equal length of line from the levers.

Secure the lines in the levers using thin CA adhesive.



Elevator control cables:

NOTE: *The rigging materials used are:*

'Albion Alloy's' Micro-tube Brass (MBT04) or Nickel-Silver NST04) of 0.4 mm diameter.

'Steelon' or 'Stroft GTM' Mono-Filament line of 0.12 mm diameter.

The bottom control lines are not fitted as they will not be seen on the completed model.

Cut a long length of line.

Roll cut two short lengths of blackened tube.

Drill a hole of 0.2 mm diameter through the pre-molded rigging location on the control column.

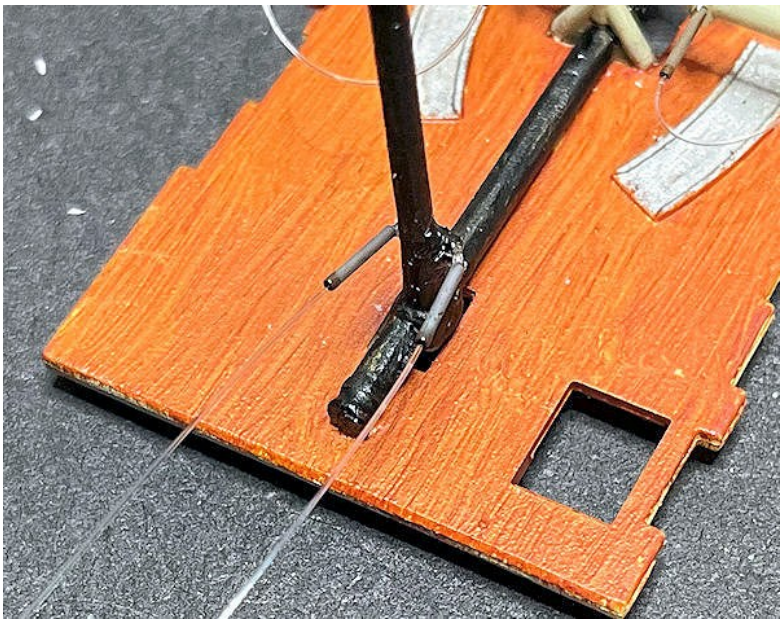
Pass the line through the pre-drilled hole.

Pull the ends of the lines to have equal length of line from the control column.

Secure the line in the control column using thin CA adhesive.

Slide a tube on to both lines.

With the tubes against the close to the control column, secure the lines in the tubes using thin CA adhesive.



Hand pressure pump pipe.

NOTE: *The pressure pump pipe is created using 0.3 mm diameter lead wire (PlusModel). This pump was used to pressurize the fuel tank to maintain fuel flow during aerobatics in combat.*

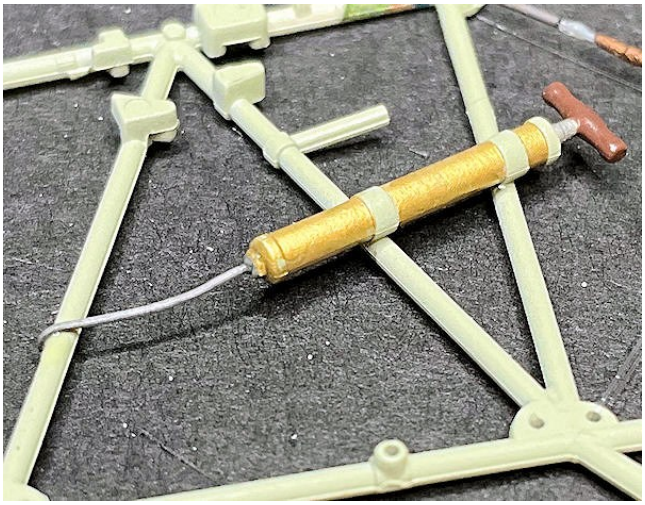
Drill a hole of 0.4 mm diameter into the centre of the pump outlet.

Cut a length of the lead wire.

Using thin CA adhesive, secure the wire in the pre-drilled hole.

Straighten the wire and secure it on to the cockpit side frame member, using thin CA adhesive.

Cut away residual wire at the frame member.



Machine gun trigger cables:

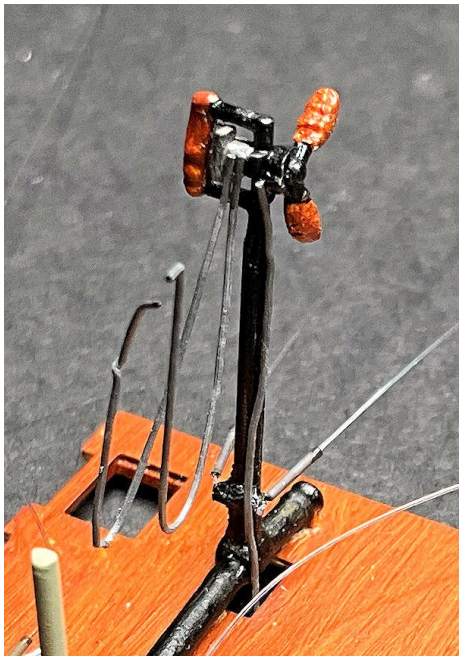
NOTE: *The gun trigger cables are created using 0.3 mm diameter lead wire (PlusModel). The two trigger cables were connected to the tigger pads on the control column and were looped down then up to the two machine guns.*

Cut two long lengths of the lead wire.

Bend one end of both wires to allow them to be positioned more easily on the control column.

Using thin CA adhesive, secure both wires on to the forward face of the gun trigger pads on the control column.

Carefully bend the wires upwards around a suitable round former (to positioning for final fitting).

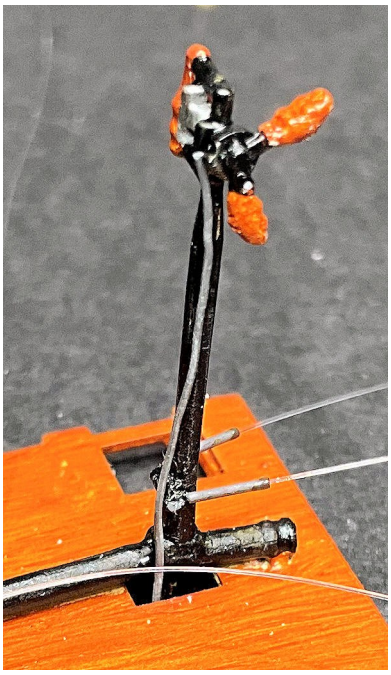


Engine control rods:

NOTE: *The control rods are created using blackened Nickel-Silver tube ('Albion Alloy's NST03), 0.3 mm diameter lead wire (PlusModel) and 'EZ Line' Black (Fine). The throttle and spark advance levers on the cockpit left side frame were connected to control rods. The hand throttle on the control column was connected to an operating cable which was routed down the control column and under the cockpit floor to the engine carburettor.*

Cut a length of the lead wire.

Using thin CA adhesive, secure one end of the wire to the front of the hand throttle control on the control column.



Pass the other end of the line down and through the control column opening in the control floor.

Using thin CA adhesive, secure the wire against the control column and underside of the cockpit floor.

Cut away residual wire at the underside of the cockpit floor.

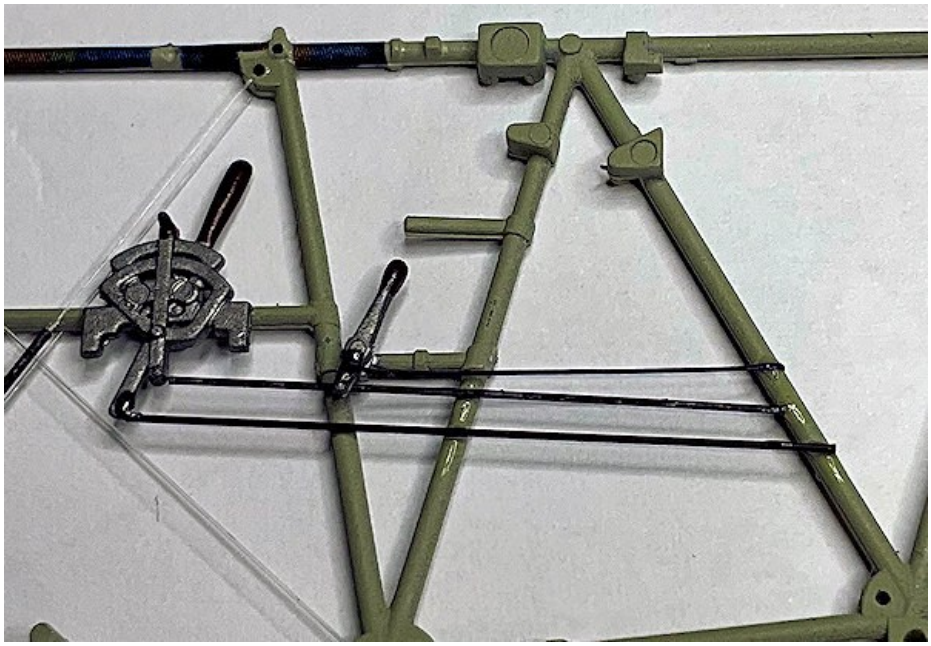
Cut two lengths of blackened tube to the required lengths.

Using thin CA adhesive, secure the two tubes between the ends of the throttle and mixture control levers and the angled member of the cockpit side frame.

Cut a length of 'EZ Line'.

Using thin CA adhesive, secure the line between the end of the spark advance control lever and the angled member of the cockpit side frame.

Cut away residual line at the member of the cockpit side frame.



Weathering:

NOTE: *Refer to Part 3 (Weathering) - For general internal weathering I chose to use the 'Flory Models' Dark Dirt or the Grime fine clay washes.*

Brush 'Flory Models' Dart Dirt or Grime fine clay washes, as desired, to the following parts:

Internal surfaces of the fuselage forward panels.

Cockpit floor assembly.

Pilots seat/seat frame assembly.

Fuel tank/ammunition containers/firewall assembly.

Cockpit side frame assemblies.

Engine oil tank.

Gun support frame.

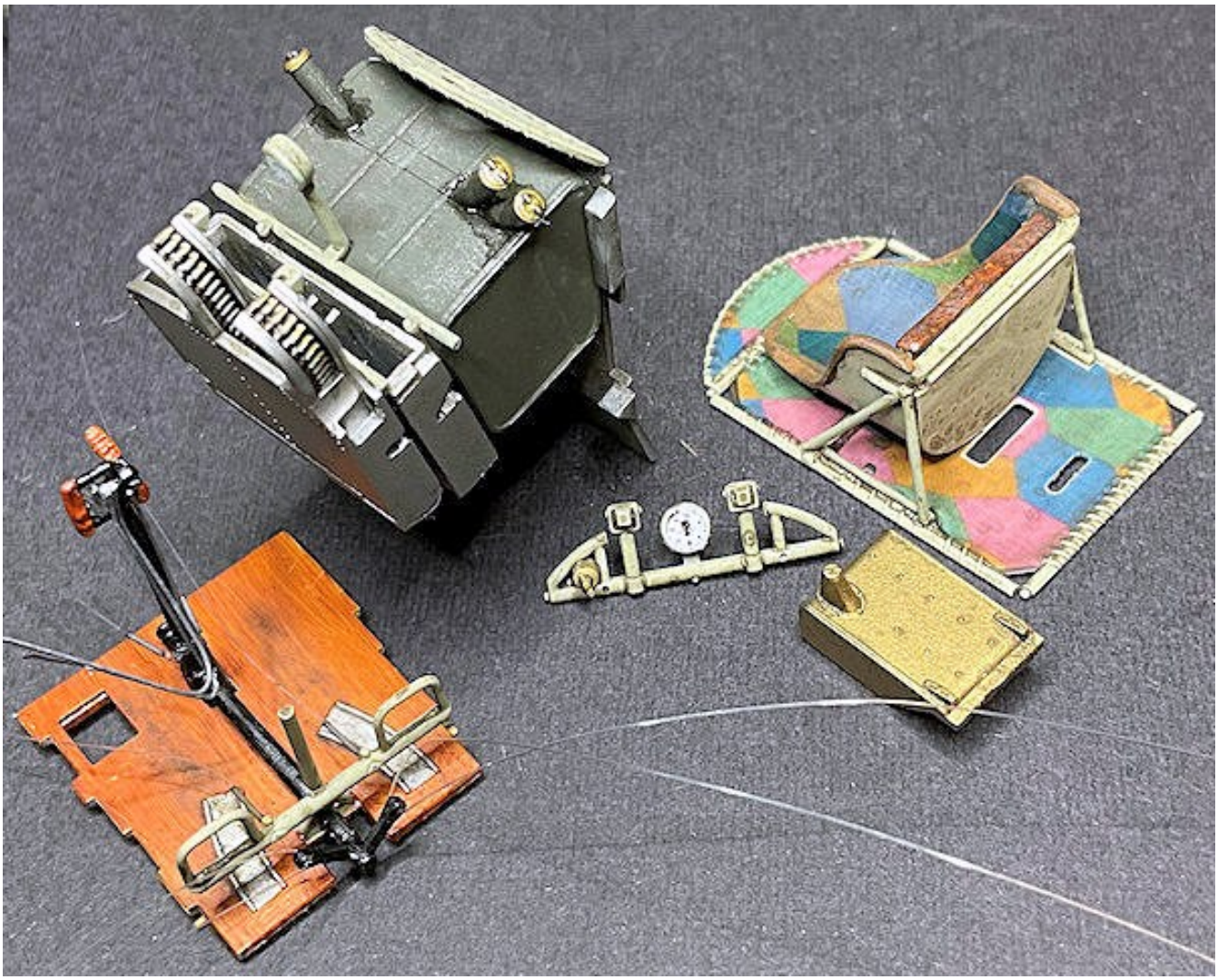
Inside painted surfaces of all fuselage nose and underside panels.

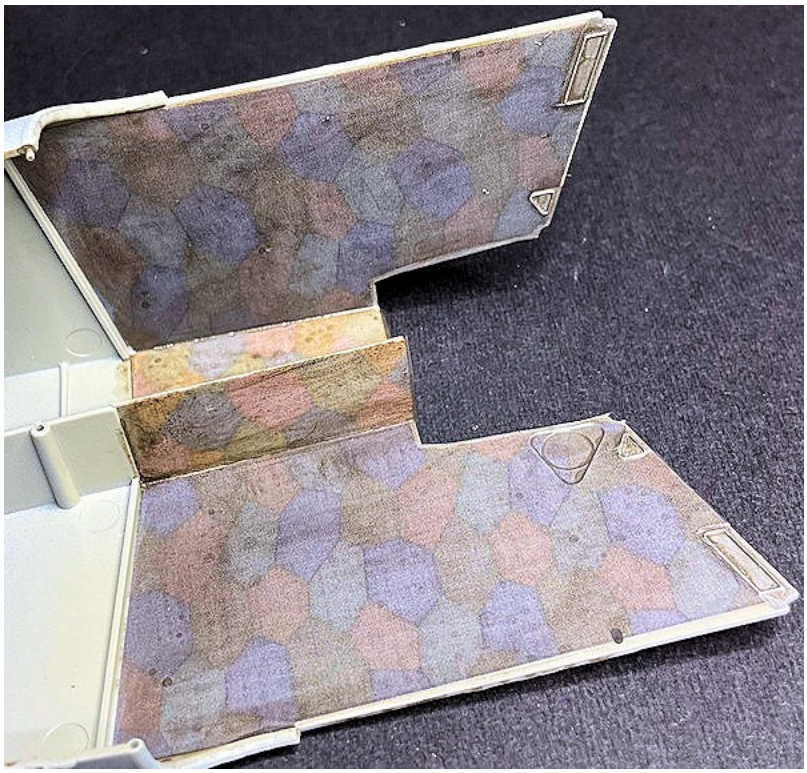
Remove the wash as needed to achieve the desired effect.

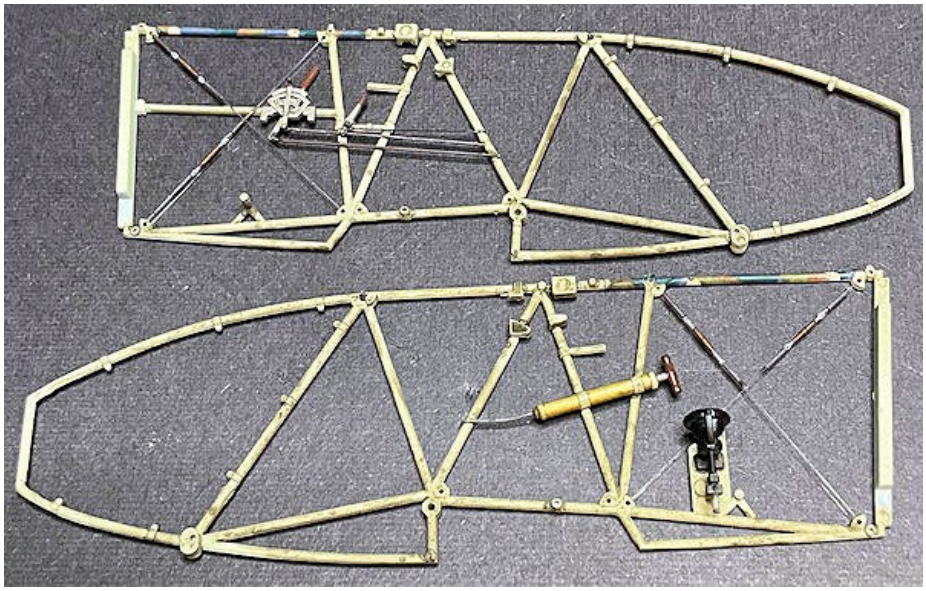
NOTE: *Dry brush by using a domed and soft brush, which has been dipped in the paint. Dab the brush on an absorbent paper to remove the liquid paint, leaving paint pigment on the brush.*

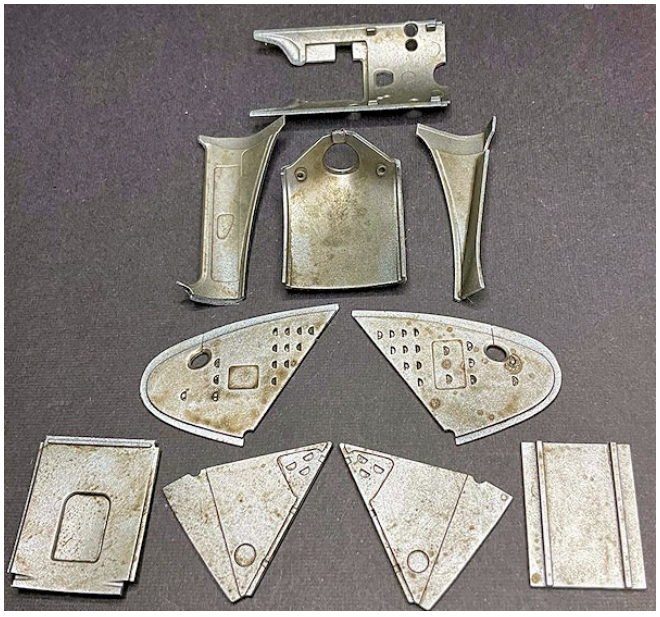
Dry brush the edges of the fuel tank with 'Mr. Color' Super Iron 2 (203) or similar, to create a worn paint effect.

Brush 'AK Interactive' Kerosene was around and on the three fuel tank fillers.









Assembly (continued):

NOTE: *Make sure all paint or decal is removed from mating surfaces, locating pegs/shoulders etc before assembly.*

Photo-etch seat harness:

NOTE: *The basic construction for the seat harness follows page 6 of the kit instruction manual.*

Remove the two lap straps (P5, P6) and harness (P4) from the kit supplied photo-etch sheet.

Remove and residual tags from the edges of the parts.

NOTE: *Annealing - Using a low heat source (e.g. cigarette lighter or candle flame), 'wave' the parts over the flame several times and watch for the parts to discolour.* ***Keep the flame moving*** *or the parts may* ***melt****. Doing this anneals the parts, making them easier to bend. Wipe off any soot from the parts.*

Anneal the two lap straps and harness.

Carefully bend the two lap straps such that they can be attached to the seat support frame and lay naturally over the seat edges on to the seat cushion.

Carefully bend the straps of the harness such that they can be attached behind the seat and lay naturally over the seat back on to the seat cushion.

Brush 'Mr. Metal' Primer R or similar etch primer over the straps and harness.

Brush paint the straps and harness with 'Tamiya' Dark Yellow (XF60) or similar.

Brush paint the metal fittings on the straps and harness with 'Mr. Metal Color' Stainless Steel (213) or similar.

Using thin CA adhesive, secure the two lap straps onto the pilots seat.

General:

NOTE: *The basic construction for the remainder of the model follows pages 4 to 6, 7, 8, 13, 15, 16 and 17 of the kit instruction manual. Make sure all paint or decal is removed from mating surfaces, locating pegs/ shoulders etc before assembly.*

Cement the pilots seat/frame assembly on to one of the cockpit side frame. The frame locates onto shoulders and has upper and lower locating pegs into the side frame.

Cement the opposite cockpit side frame onto the seat/frame assembly.

Cement the cockpit floor assembly between the cockpit side frames. The rear of the floor assembly locates onto two extended pegs on the side frames and the front edge pegs into locating holes in the side frames.

Pass the two ruder and two elevator control lines rearwards and through the opening in the seat support frame (under the pilots seat).

Keeping the lines taut, secure them to the rear of the seat frame using thin CA adhesive.

Cut away residual line at the seat frame.

NOTE: *During the following step, I needed to cut away the top of the vertical rudder bar tube, as it fouled the underside of the ammunition containers and prevented the assembly from fully locating into the cockpit side frames.*

Cement the firewall/ammunition containers assembly between the cockpit side frames. The ammunition containers have recesses that fit onto locating lugs on the side frames. The firewall has rectangular shoulders that locate onto the top, front of the side frame members and has triangular lugs that locate at the bottom of the side frame members.

Loop up the two added lead wires representing the gun trigger cables onto the rear face of the ammunition container.

Secure the wires in position using think CA adhesive.

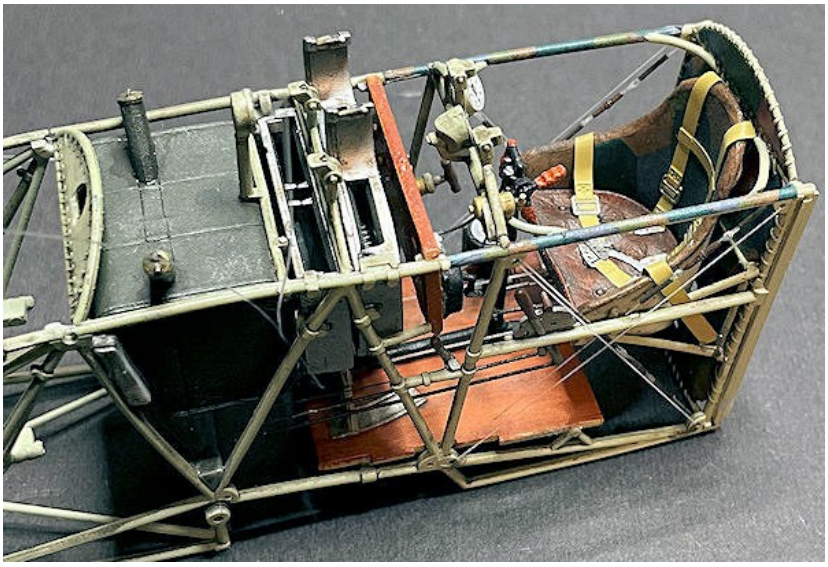
Cut away residual wire at the container.

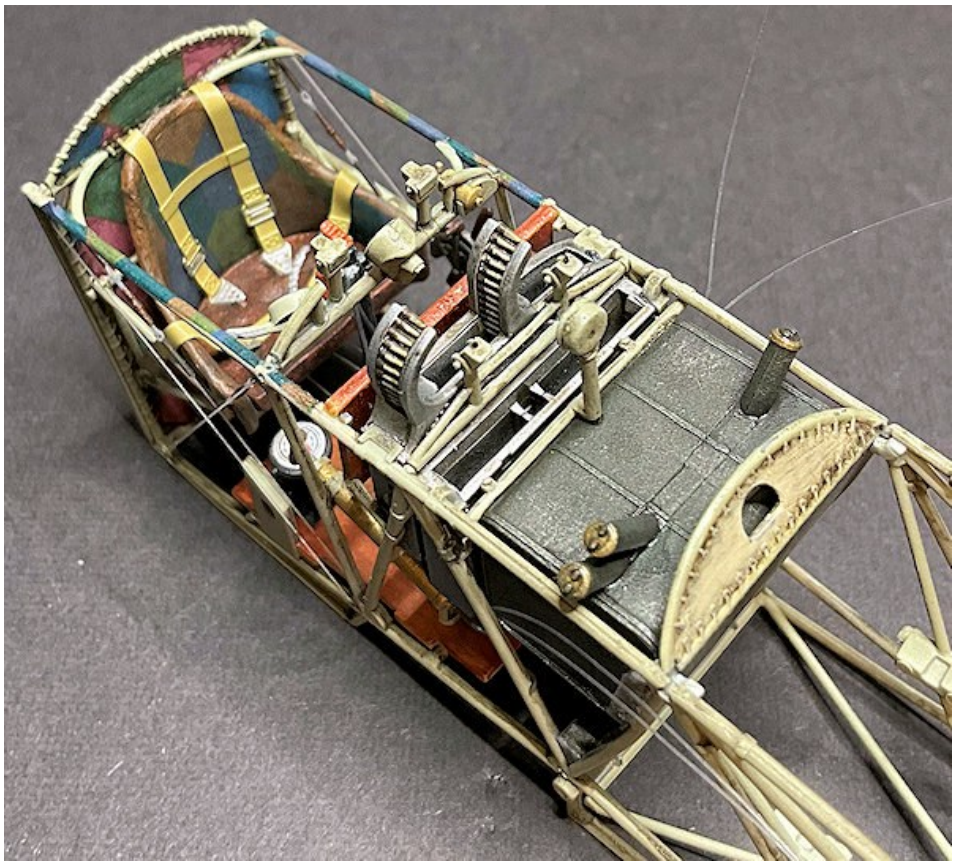
Cement the pilots instrument panel between the cockpit side frames. The top, outer edges locate onto the side frames and the bottom corners against the extended pegs on the side frames.

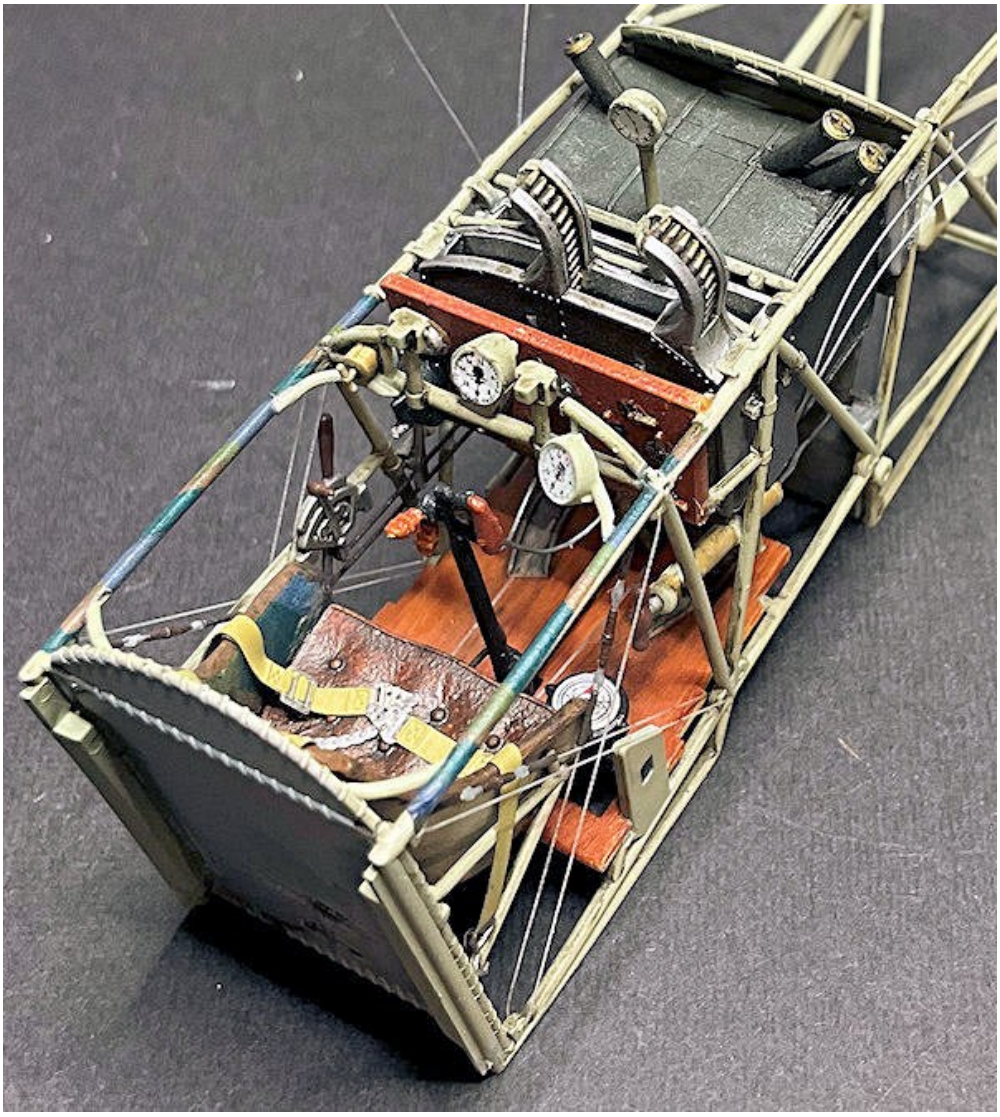
Cement the gun support frame between the cockpit side frames. Each end has pegs that locate into holes in the side frames.

Cement the four corner frames between the cockpit side frames and the gun support frame and seat support frame. I cemented the corner frame with the instrument to the front, right corner.

NOTE: To reduce the sheen of the painted surfaces and applied rigging, airbrush a semi-matte clear coat, such as ’Tamiya’ Semi-Gloss (X35) or similar over the cockpit assembly and fuselage decal panels.







Lay the cockpit assembly close to the fuselage left half.

Pass the two aileron control lines, attached to the right aileron control lever on the control column torque tube, diagonally up between the ammunition container/empty belt container and then under the top member of the cockpit left side frame.

Pass the lines through the control line slot in the top edge of the fuselage left half.

Keeping the lines taut, position the cockpit assembly onto the fuselage left half, with the rear of the pilots seat frame against its fuselage locating shoulder and the bottom member of the side frame against the fuselage floor.

Cement the cockpit assembly onto the fuselage half.

Lay the fuselage right half close to the left half assembly.

Pass the two aileron control lines, attached to the left aileron control lever on the control column torque tube, diagonally up between the ammunition container/empty belt container and then under the top member of the cockpit right side frame.

Pass the lines through the control line slot in the top edge of the fuselage right side.

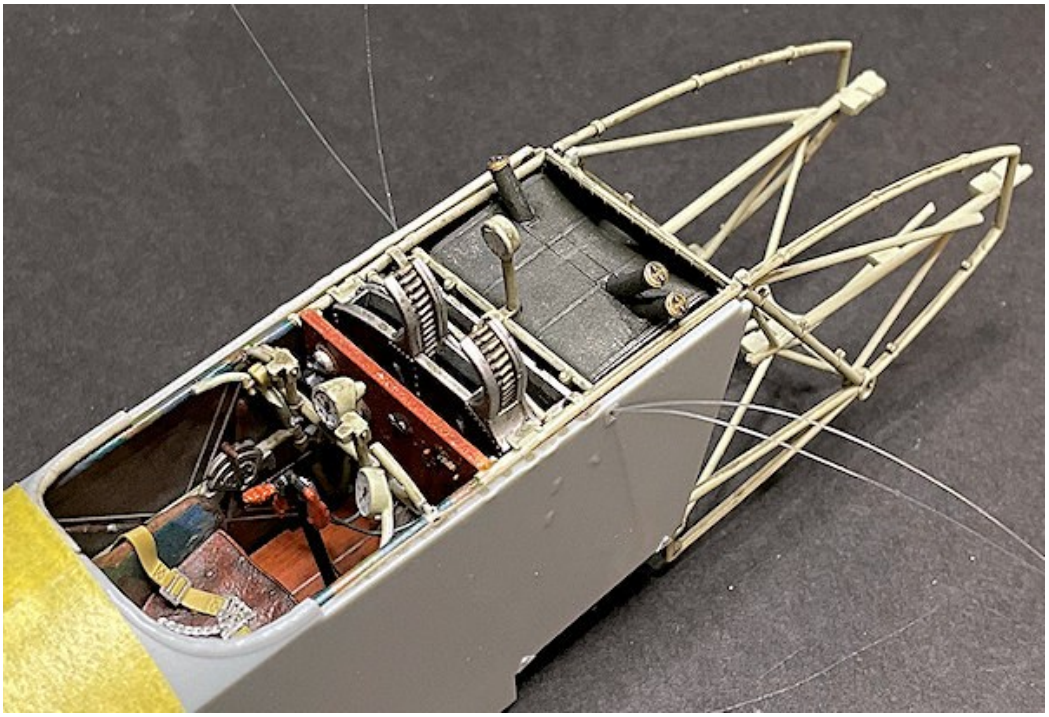
Apply cement to the rear right side of the pilots seat frame and bottom member of the right side frame.

Keeping the lines taut, fully locate the fuselage right half onto the fuselage left half assembly, making sure the fuselage halves are located correctly and fully joined.

Apply cement along the top seam joint of the fuselage and allow to set firm.

Apply cement along the fuselage underside seam them add the length of fuselage stitching (B3) into its recess in the fuselage, making sure it's fully seated and the two halves of the fuselage are fully joined.

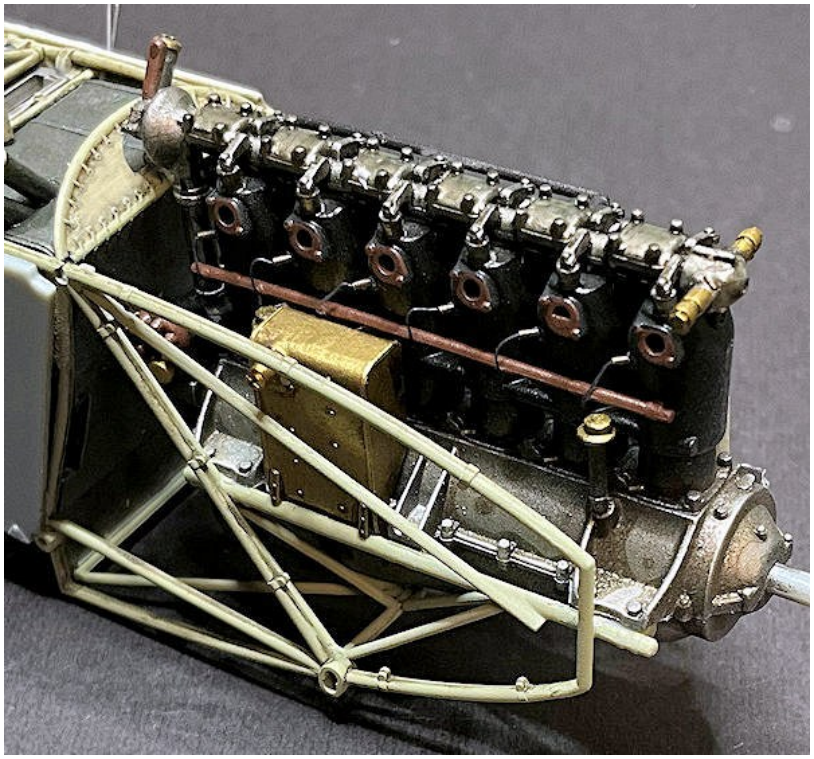
Cement the bottom, front corners of the forward fuselage panels to their locations on the cockpit side frames.

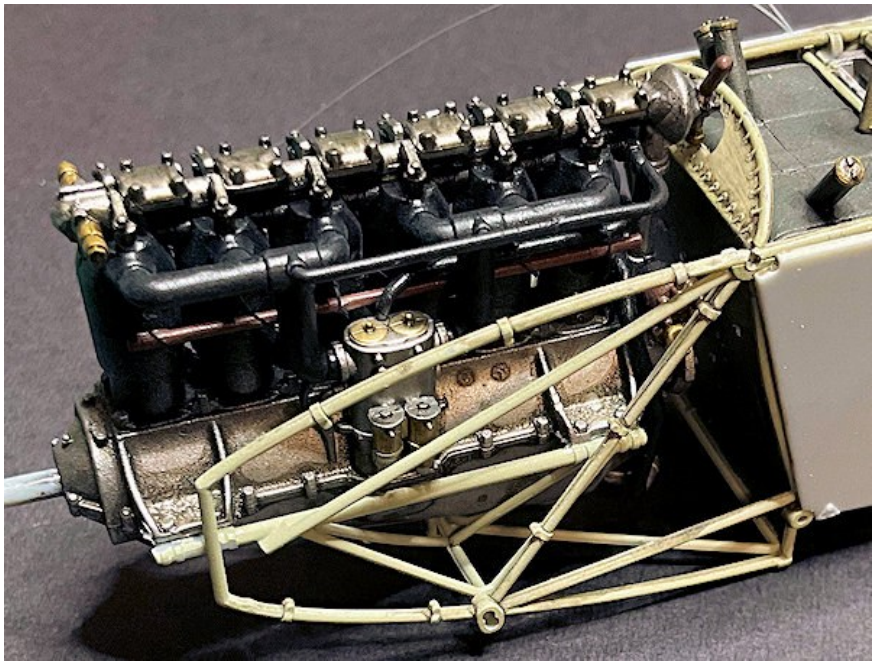


NOTE: *During the following step, make sure the four engine locating shoulders on the fuselage side frames are fully located against the engine and have not 'sprung' outwards.*

Cement the prepared engine assembly between the fuselage side frames and onto the engine bearer locations, making sure the engine seats fully onto the four bearer locations.

Cement the engine oil tank onto the right side of the engine crankcase with its bottom edge inside the fuselage side frame.





Remove from their spue gates and prepare the following:

Lower wings (H5, H3 and H4)
Tailplane (H2)
Elevator (H6)
Fin (A56).
Rudder (A21)
Upper wing halves (H1, H2)
Ailerons x 2 (D4)
Landing gear axle (A30)
Landing gear fairing halves (J8, J12).

Cement the two lower wing upper surfaces to the lower wing.

Cement the upper wing halves together.

Cement the landing gear axle into the underside fairing.

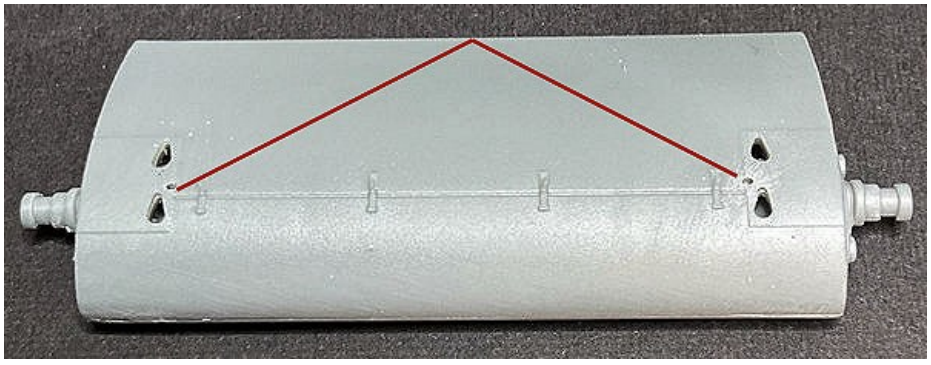
Cement the upper fairing to the lower fairing/axle assembly.

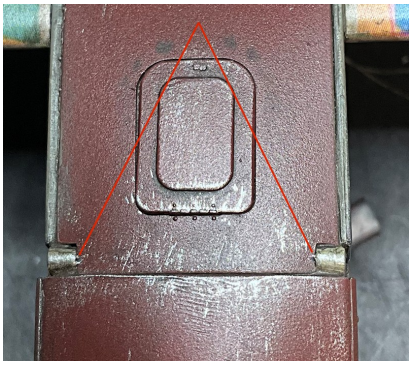
Cement the radiator assembly onto the fuselage forward, underside panel (J11).

Rigging locations:

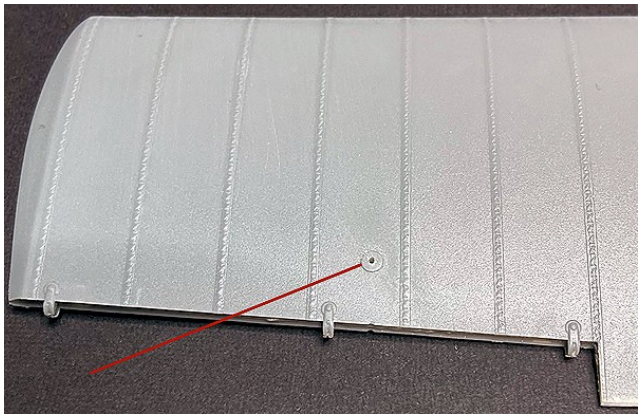
Note: *The following is best carried out at this stage of the model build. Refer to Part 6 (Rigging) of this build guide for more information.*

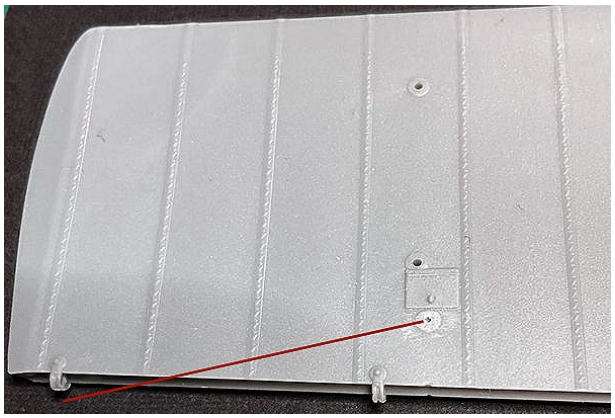
Using the pre-molded locations in the outboard top of the landing gear fairing as guides, drill a hole of 0.5 mm diameter through both sides of the upper half of the fairing and 0.3 mm diameter into the underside of the fuselage at the forward landing gear strut locations, at the approximate angle necessary to align with the rigging wire between the fairing and forward landing gear struts (when fitted).



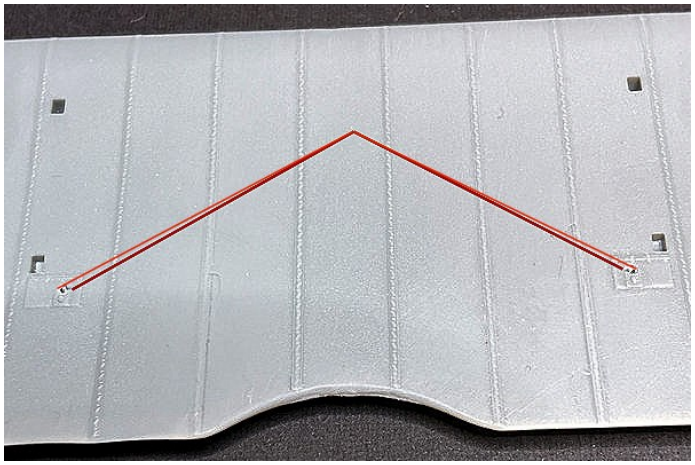


Using the pre-molded locations in the upper wing (outer aileron control cables) as guides, drill a hole of 0.5 mm diameter through both sides of the upper wing. Drill from top and undersides to align the holes through the wing.

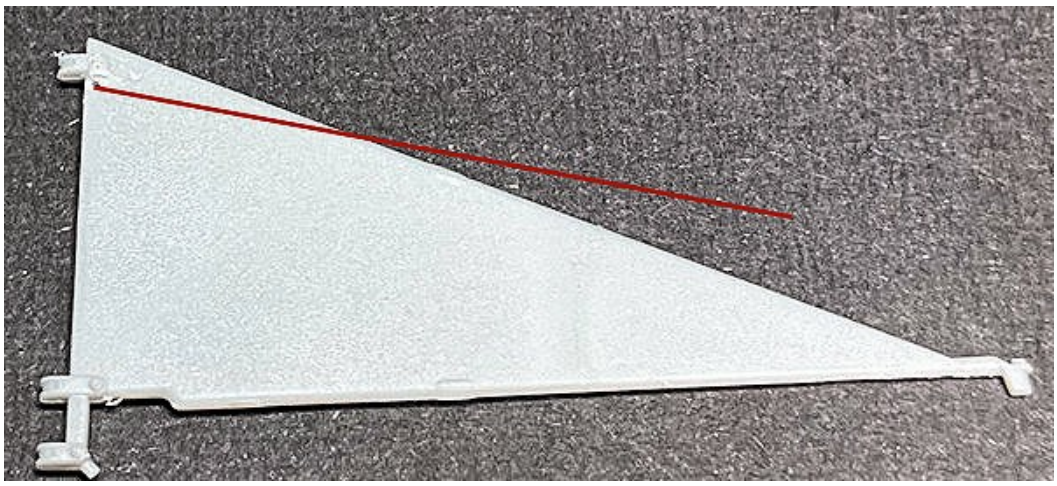




Using the pre-molded locations in the upper wing (inner aileron control cables) as guides, drill two holes of 0.3 mm diameter through both sides of the upper wing and at the approximate angle necessary to align with the cables from the fuselage sides (when upper wing fitted).



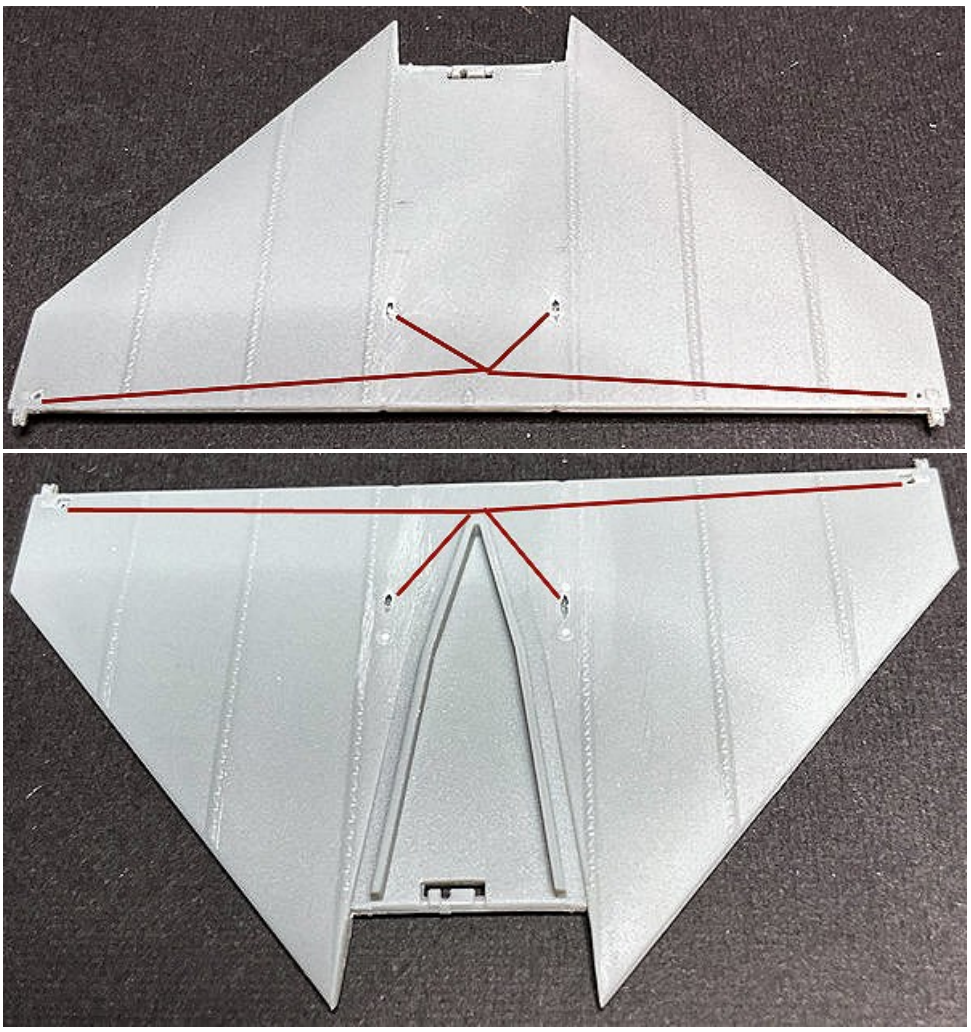
Using the pre-molded location in the top, rear of the fin as a guide, drill a hole of 0.5 mm diameter through the fin.



Using the pre-molded locations in the rear, sides of the fuselage as guides, drill a hole of 0.5 mm diameter through both sides of the fuselage and at the approximate angle necessary to align the control lines to the rudder and elevator control horns (when fitted).

Using the pre-molded locations in the outboard trailing edge of the tailplane as guides, drill a hole of 0.5 mm diameter through both sides of the tailplane.

Using the pre-molded locations in the top surface of the tailplane as guides, drill a hole of 0.6 mm diameter and at a shallow angle, forwards through the tailplane. The hole needs to align as close as possible to the pre-molded locations in the top and the underside of the tailplane.



Painting (continued):

Preparation:

Mask off the cooling matrix on both sides of the radiator.

Mask off the fuselage assembly as follows:

Open cockpit and forward area.

Engine bay area.

Underside opening for lower wing.

General:

NOTE: *The 'Aviattic' clear backed Seven Swabians (ATT32173) and (ATT32070) decal set to be applied are 'clear' backed (translucent). These decals should be applied over a light base colour to show them to their best effect.*

Airbrush the following with a white primer, such as 'AK Interactive' White (AK759) or spay can 'Tamiya' Fine White aerosol:

Fuselage external surfaces.

Upper wing.

Lower wing.

Ailerons.

Tailplane.

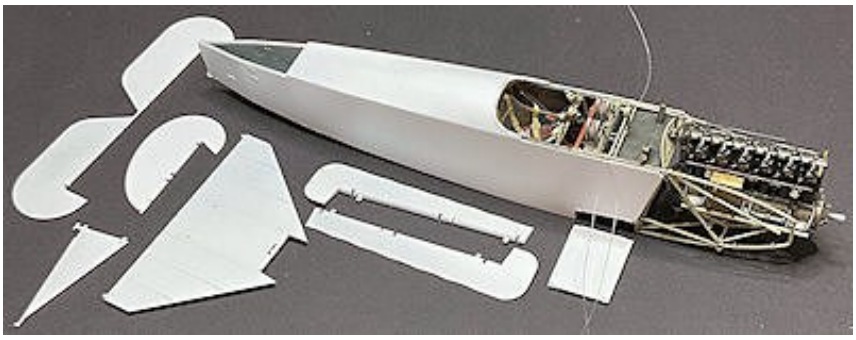
Elevator.

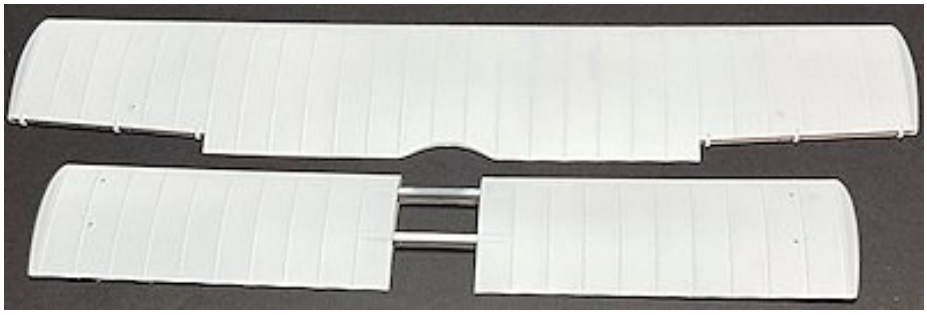
Fin.

Rudder.

Fuselage nose side panels (J4, J5).

Remove all masking from the fuselage assembly.





Airbrush the **external surfaces** of following with a grey primer, such as ‘AK Interactive’ Grey (AK758) or similar:

Fuselage nose panel/radiator (J11).

Fuselage underside panel (A25, B18).

Fuselage nose side panels (J16 and J17).

Fuselage nose top panels (J10 and J14).

Cabane struts (B4, B5, B8 and B12).

Landing gear fairing assembly.

Airbrush the **external surface** of the previous primed parts with ‘MRP’ Light Purple Brown (MRP-336).

Airbrush the following with a grey primer, such as ‘AK Interactive’ Grey (AK758) or similar:

Fuselage decking panel (H1).

Landing gear struts (A14, A15, A47 and A48).

‘Proper Plane’ 3D printed tyres and axle ends.

Tailplane support struts (B23 and B24).

Tail skid (A10).

Interplane struts x 2 (D2).

Instrument cowl (A61).

Lower wing fill panel (A24).

Airbrush the following as detailed:

‘Tamiya’ Grey Green (XF76) - Landing gear struts (A14, A15, A47 and A48), tailplane support struts (B23 and B24).

‘Tamiya’ Rubber Black (XF85) - ‘Proper Plane’ 3D printed axle ends.

‘Tamiya’ Grey Green (XF76) -Tail skid (A10), metal fittings ‘Mr. Metal Color’ Stainless Steel (213).

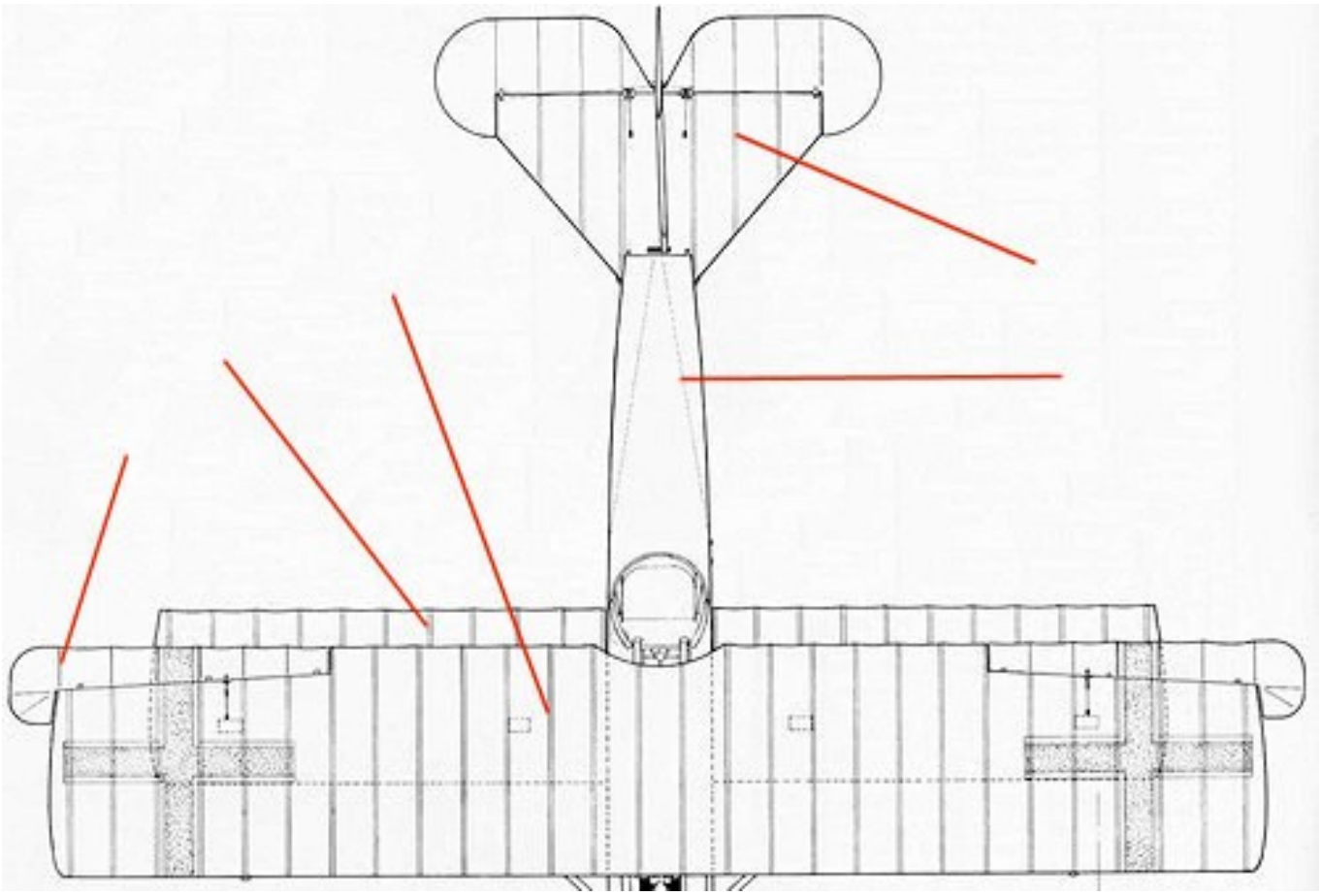
‘Tamiya’ IJN Grey (XF75) - Instrument cowl (A61), fuselage decking panel (H1), lower wing fill panel (A24).

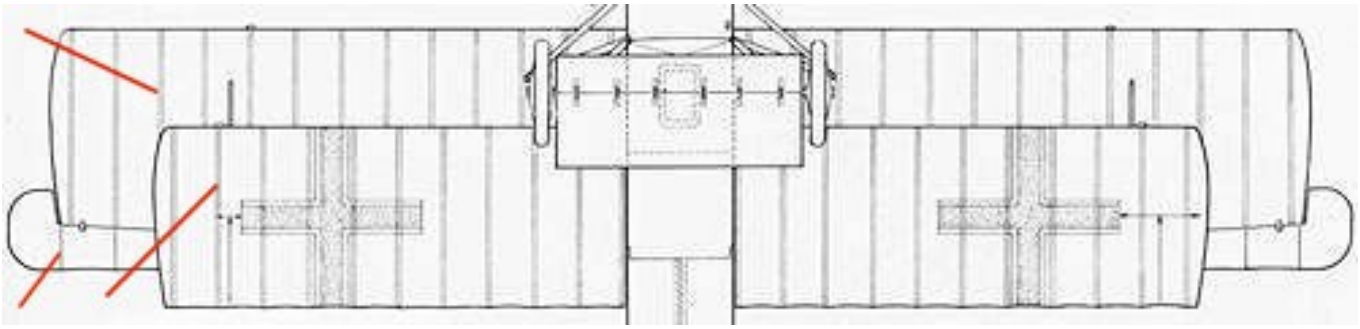
Mask off around the circular and triangular panels on the fuselage nose side panels (J4, J5) panels and the four aileron control access panels on the underside of the upper wing.

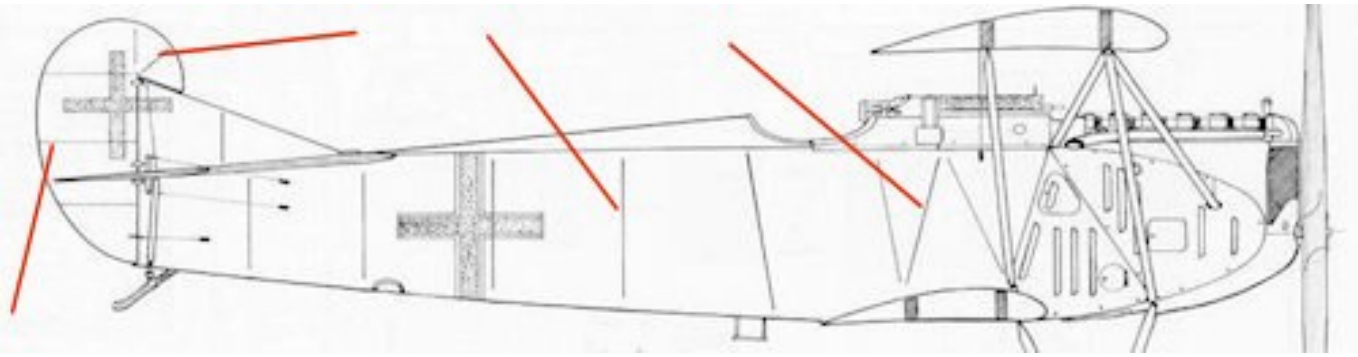
Airbrush the exposed panels with ‘Tamiya’ IJN Grey (XF75).

Remove the masking from the access panels and upper wing.

NOTE: *As the ‘Aviattic’ decals are translucent, pre-shading can be applied on the base coat and will show through the applied decal. The internal structure that would show slightly through the linen covering is marked RED in the following illustrations.*





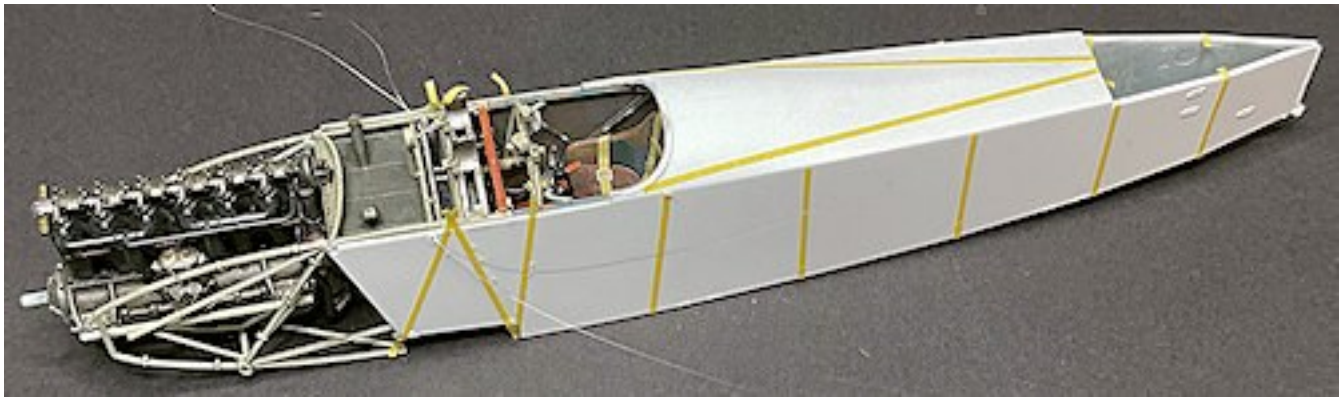


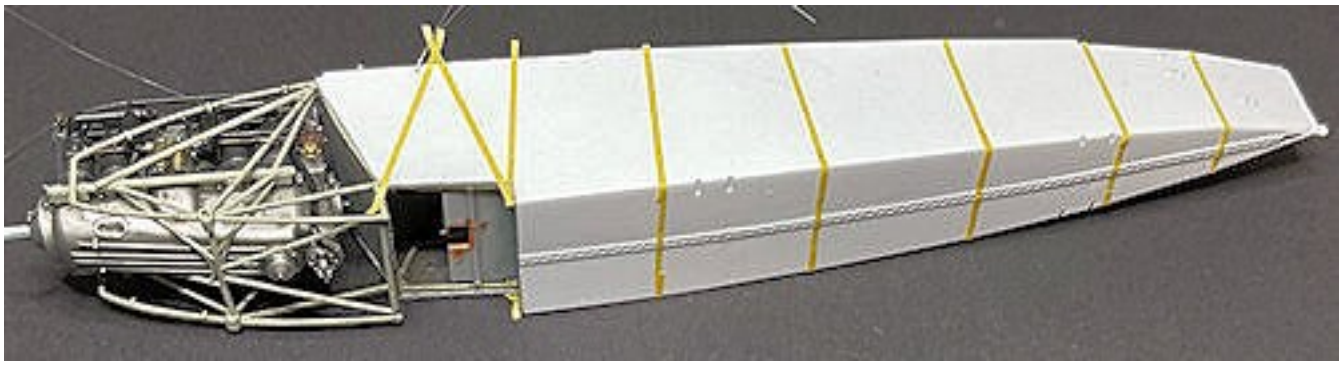
Refer to the following photographs and using 1.0 mm wide strips of masking tape, mask off the internal structure of the following:

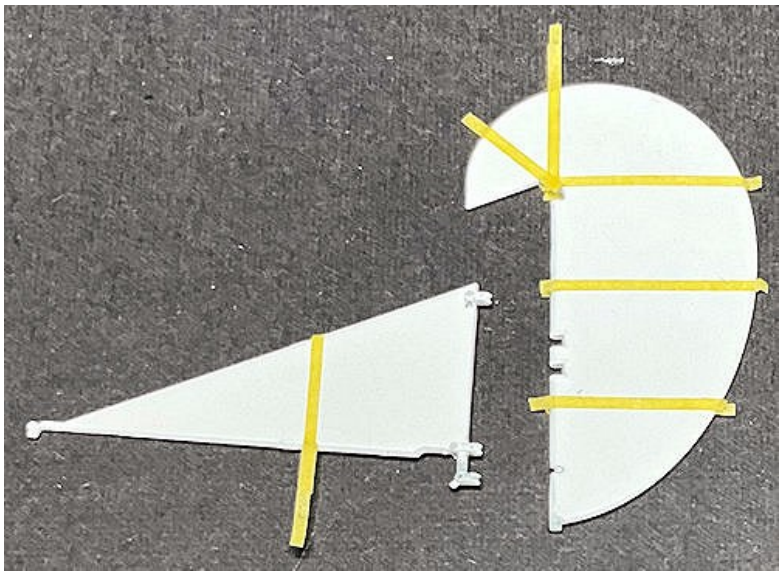
Fuselage.

Fin.

Rudder.





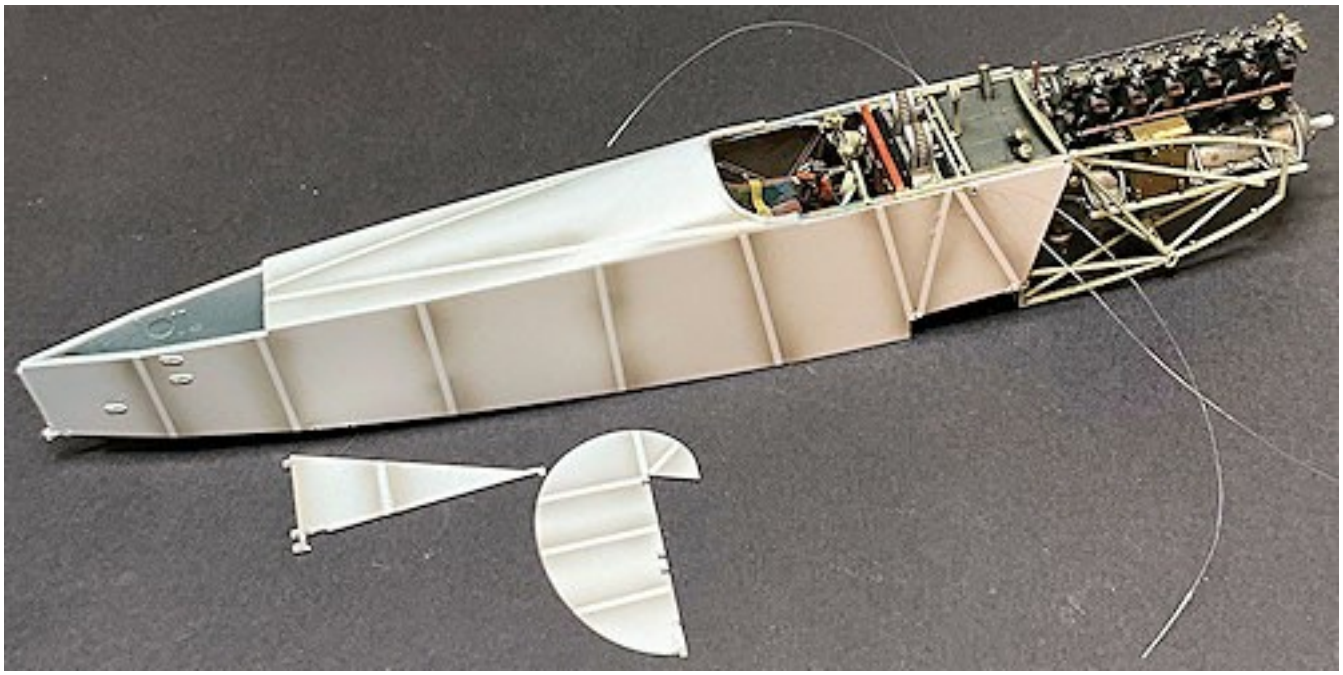


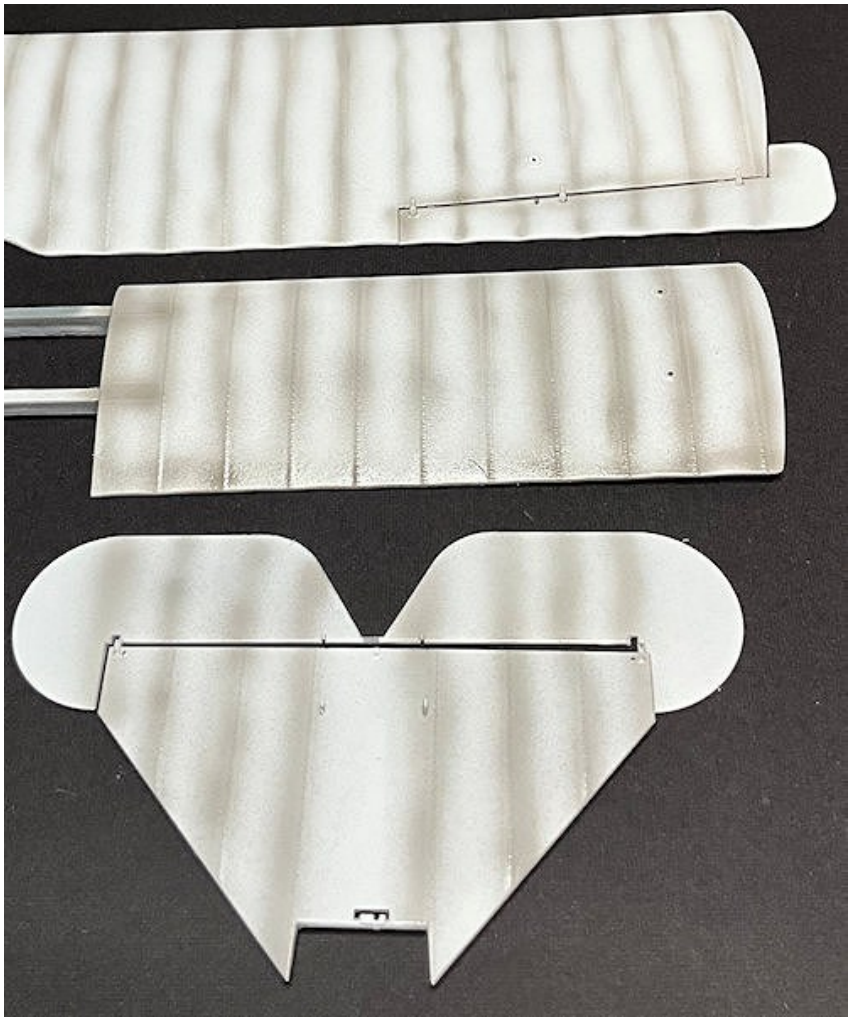
Lightly airbrush ‘Tamiya’ Smoke (X19) along the masking strips on the fuselage, fin and rudder.

Lightly airbrush ‘Tamiya’ Smoke (X19) along the pre-molded rib tapes on the upper and lower wings and continue across the temporarily fitted ailerons.

Lightly airbrush ‘Tamiya’ Smoke (X19) along the pre-molded rib tapes on the tailplane and continue across the temporarily fitted elevator.

Remove the masking tape strips from the fuselage, fin and rudder.





Decals (continued):

Preparation:

NOTE: *To provide a good surface for applying decals, a smooth base coat of clear gloss is best.*

Airbrush one or more gloss clear coats, such as 'Mig' A-Stand Aqua Gloss (A.Mig-2503), 'Tamiya' Clear (X22) or similar over the following:

Fuselage external surfaces.
Upper wing.
Lower wing.
Ailerons.
Tailplane.
Elevator.
Fin.
Rudder.
Fuselage nose side panels (J4, J5).
Wheel outer covers (kit part D3)
Wheel inner covers ('Proper Plane' 3D printed parts).

Make sure the glossed surface is smooth and free of surface imperfections, such as trapped dust, hair etc.

'Aviattic' decals:

NOTE: *Refer to Part 4 (Decals) of this build log. Some of the decals are not used - refer to Part 1 (Model Description). The 'Aviattic' decals are not 'cookie' cut and therefore need to be carefully cut out from their backing sheet, including any non-decal carrier film in openings and hinge locations etc, including the circular and triangular panels on the fuselage nose side panels (J4, J5).*

'Tamiya' X20A thinners can be used as an alternative decal setting solution for conforming decals. If used, the thinners should be applied sparingly by brush. Applying too much thinners can melt or damage the decal. The thinners can be used as follows:

Prick through any location recesses or holes and sparingly apply by brush 'Tamiya' X20A thinners.

Apply 'Tamiya' X20A thinners along any decal edges that need to conform to the model surface/ edges.

Upper wing - underside surface:

Carefully cut out and around the various sections of upper wing underside surface decals.

Once the decals have fully set and if possible, carefully cut around and remove the decal from over the four access panels on the wing underside, to reveal the previously painted panels.

Upper wing - top surface:

Carefully cut out and around the various sections of upper wing top surface decals.

Start by applying the larger centre section decal, then working outboard, apply the remaining decals.

Ailerons underside surface:

Carefully cut out and around the aileron underside surface decals.

Apply the decals to the underside of the two ailerons.

Carefully cut out and around the serial number strips.

Apply a serial number decal to the underside leading edge of both ailerons.

Ailerons upper surface:

Carefully cut out and around the aileron underside surface decals.

Apply the decals to the upper surfaces of the two ailerons.

Lower wing - underside surface:

Carefully cut out and around the various sections of lower wing underside surface decals.

Start by applying the larger inboard section decals, then working outboard, apply the remaining decals to the underside of both lower wings.

Top surface, trailing edge of tailplane (right sides).

Top surface, leading edge of elevator (right sides).

Lower wing - top surface:

Carefully cut out and around the various sections of lower wing top surface decals.

Start by applying the larger inboard section decals, then working outboard, apply the remaining decals to the top surface of both lower wings.

Fuselage upper surface:

Carefully cut out and around the fuselage top decal, including cutting away the rear end of the decal, as indicated by the cut line at the decal edges.

Apply the decal to the fuselage top surface.

Fuselage underside surface:

Carefully cut out and around the fuselage underside decal.

Apply the decal to the fuselage underside surface.

Fuselage sides:

Carefully cut out and around the fuselage side decals.

NOTE: *The fuselage nose side panels (J4, J5) are separate panels. I applied that part of the fuselage side decals separately from the main decals.* ***This was incorrect as the fuselage side decals should be applied complete once the panels have been fitted. Therefore disregard the following three steps.***

Position the front of the fuselage side decals over the previously painted nose side panels and draw a line along the rear edge onto the main side decal.

Cut along the marked line to separate the decal from the main side decal.

Apply the decals to the separate fuselage nose side panels (J4, J5).

Apply the main side decals to the fuselage sides.

Tailplane:

Carefully cut out and around the tailplane top and underside decals.

Apply the tailplane top surface decal.

Once the decal has fully set, apply the two underside decals.

Carefully cut out and around a serial number strips.

Apply the serial number decal to the top surface, trailing edge of tailplane (right sides).

Rudder sides:

Carefully cut out and around the rudder side decals.

Apply the decal to the rudder sides.

Carefully cut out and around two of the small RAF roundel decals.

Elevator:

Carefully cut out and around the elevator top and underside decals.

Apply the elevator top surface decals.

Once the decals have fully set, apply the two underside decals.

Carefully cut out and around a serial number strips.

Apply the serial number decal to the top surface, leading edge of elevator (right sides).

Fin:

Carefully cut out and around the fin decal.

NOTE: *During the following step there may be excess decal at the top edge of the fin. This can be cut away once the decal has fully set.*

Apply the decal to one side of the fin then over the top edge onto the opposite side of the fin, making sure the serial number are positioned at the bottom edge of the fin.

Serial number strips:

Carefully cut out and around six serial number strips.

Apply a serial number decal to the following struts:

Upper outside face of both landing gear forward struts A14 and A15.
Lower outside face of the centre struts of both cabane struts B8, B12.
Lower outside face of both cabane struts B4, B5.

Kit supplied decals:

NOTE: *Refer to Part 4 (Decals) of this build log.*

Apply the kit supplied decals as follows:

Upper wing crosses - 1, 2, 4 and 5.
Lower wing crosses - 7.

Extra decals:

NOTE: *The following decals were from my 'spares' collection.*

I applied the following decals:

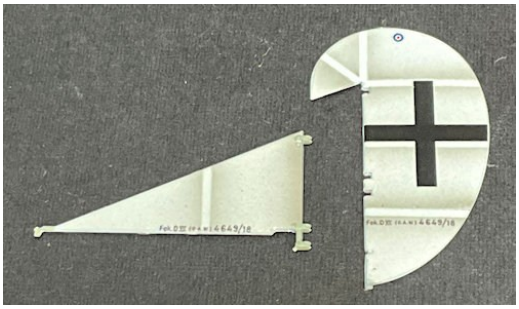
Leather surrounds (x6) for the fuselage outlets for the rudder and elevator control cables.
'No Lift' markings (x8) around the upper and lower wing tip edges.

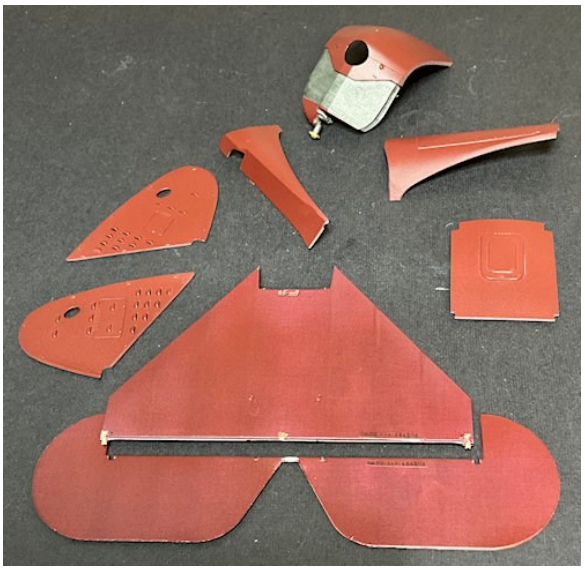
Blending the decal colour.

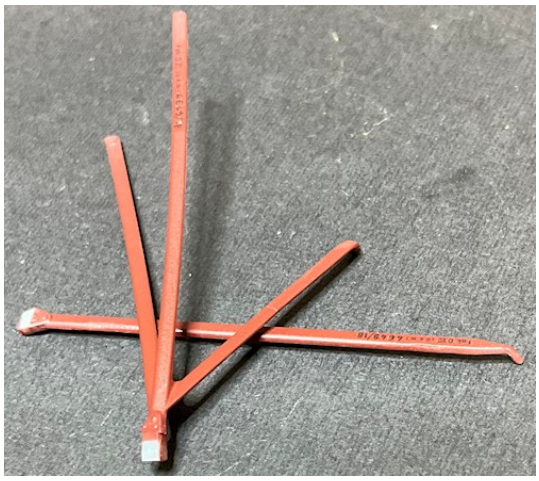
NOTE: *It's difficult to colour match the painted fuselage forward panels to the purple colour of the 'Aviattic' tailplane/elevator decals.*

If desired, very lightly airbrush the applied tailplane/elevator decals with the 'MRP' Light Purple Brown (MRP-336), which will help blend the decals with the colour of the panels.

To seal and protect all of the applied decals, airbrush a semi-matte clear coat, such as 'Tamiya' Semi-Gloss (X35) or similar over all applied decals.







Painting (continued):

Brush paint the pipes at the top of the radiator with ‘Mr. Metal Color’ Stainless Steel (213) or similar.

Brush paint the two foot plates on both lower wings with ‘Mr. Metal Color’ Stainless Steel (213) or similar.

Brush paint the filler cap on the radiator with ‘Mr. Metal Color’ Brass (219) or similar.

Brush paint the ’bungee’ type suspension cords at the ends of the landing gear axle with ’Tamiya’ Buff (XF57) or similar.

Brush paint the ends of the landing gear axle with ’Tamiya’ Flat Black (XF1) or similar.

Brush paint the rudder, ailerons and elevator control horns with ’Tamiya’ Flat Black (XF1) or similar.

Brush paint the cockpit surround padding with ‘AK Interactive’ Brown Leather (AK3031) or similar.

To seal and protect and to provide a good surface for weathering, airbrush a semi-matte clear coat, such as ‘Tamiya’ Semi-Gloss (X35) or similar over all painted surfaces.

Brush paint the bottom frame of the windscreen (C2) with ‘Mr. Metal Color’ Stainless Steel (213) or similar.

Assembly (continued):

NOTE: *Make sure all paint or decal is removed from mating surfaces, locating pegs/shoulders etc before assembly.*

Cement the radiator filler cap (A31) onto the radiator filler pipe.

Cement the two fuselage nose side panels (J4, J5) onto the sides of the fuselage forward frames, making sure the rear edge of the panels locates fully against the fuselage sides.

Cement the fuselage decking panel (H1) fully onto the top of the fuselage.

NOTE: *When fitting the lower wing into the fuselage, slightly flex the wing to avoid the wing roots from tearing into the applied fuselage decals.*

Cement the lower wing fully into the underside of the fuselage.

Cement the tailplane fully into the top, rear of the fuselage.

Cement the lower wing fill panel (A24) fully into the centre, underside of the lower wing.

NOTE: *At this stage of the build I chose not to fit the lower coolant pipe (B19) to the radiator as the pipe will not be visible when the forward access panels are fitted.*

Cement the fuselage nose panel (J11) fully onto the front of the fuselage. Note the various locations:

The top pipe on the radiator locates into the hole in the top of the engine front cylinder.

The front of the engine bearers locate into the two holes on the inside of the nose panel.

The inner bottom rear of the panel locates onto the underside of the fuselage side frames.

Cement the top, left access panel (J14) onto the top of the fuselage side frame and the outer edge of the radiator housing.

Cement the top, right access panel (J10) onto the top of the fuselage side frame and the outer edge of the radiator housing.

Cement the left side access panel (J16) onto the fuselage side frame, edge of the top left access panel and the outer edge of the fuselage nose panel.

Cement the right side access panel (J17) onto the fuselage side frame, edge of the top right access panel and the outer edge of the fuselage nose panel.

Cement the instrument cover (A61) over the protruding instrument gauge and onto the top surface of the fuselage decking panel.

Cement the two tailplane support struts into their locating holes in the bottom, rear of the fuselage and location points on the underside of the tailplane at the outboard trailing edge.

Cement the tailskid into its fuselage opening and against the underside rear of the fuselage.

NOTE: *The wheel parts were prepared earlier in Part 9 (Wheels) of this build log.*

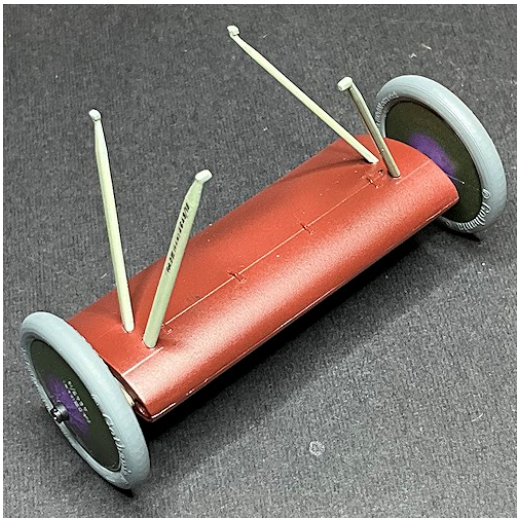
Fully locate the prepared tyre/inner cover assemblies onto kit axle ends.

Fully locate the prepared retainers over the axle ends to hold the tyre/cover assemblies on the axle.

Using thin CA adhesive, secure the tyre/cover assemblies on the axle ends, making sure the wheels are vertical when viewed from the front and parallel to the fuselage when viewed from above.

Fully locate the prepared kit supplied outer covers into the tyre/cover assemblies and secure in position using thin CA adhesive.

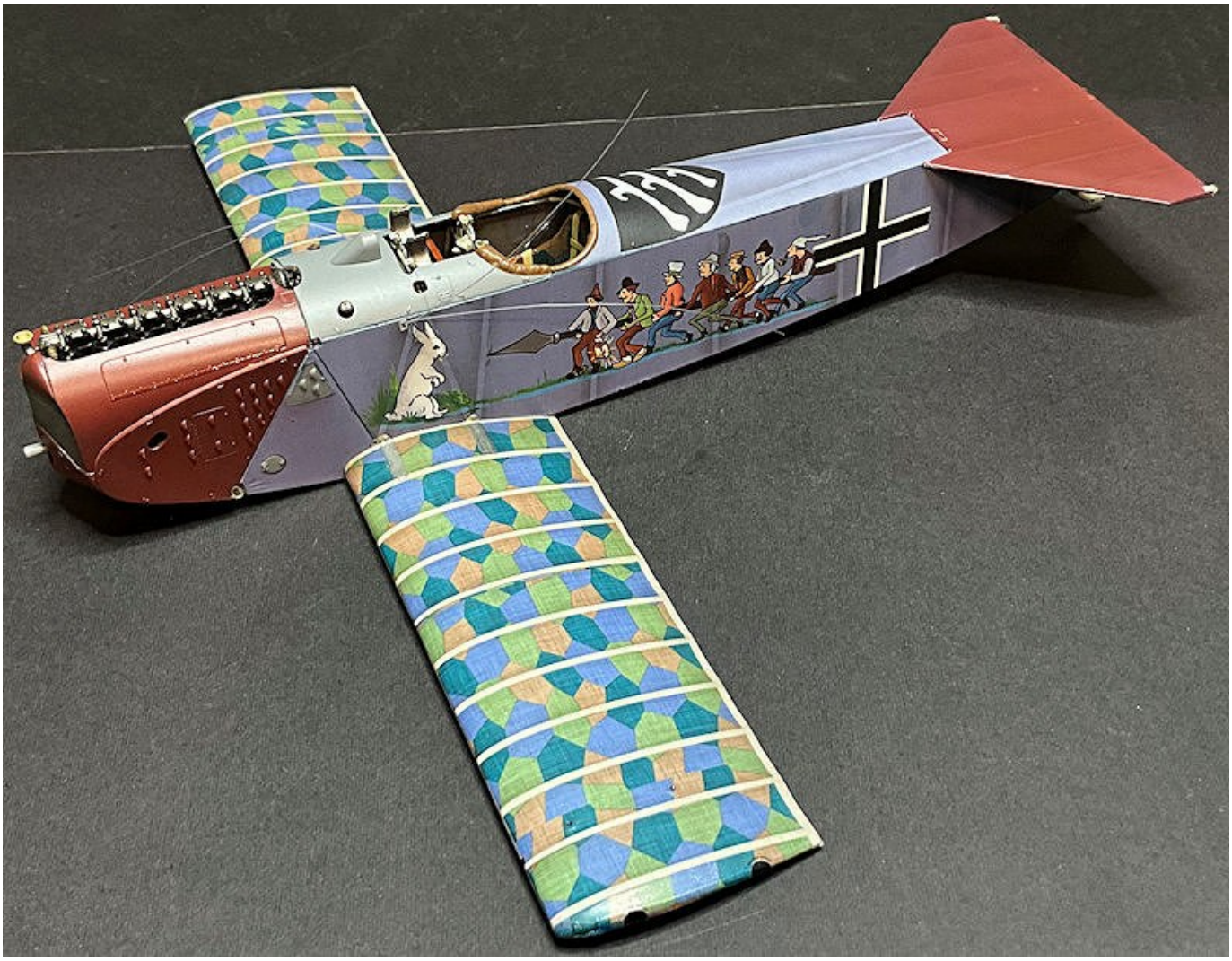
Insert the prepared axle ends into the outer covers and secure in position using thin CA adhesive.

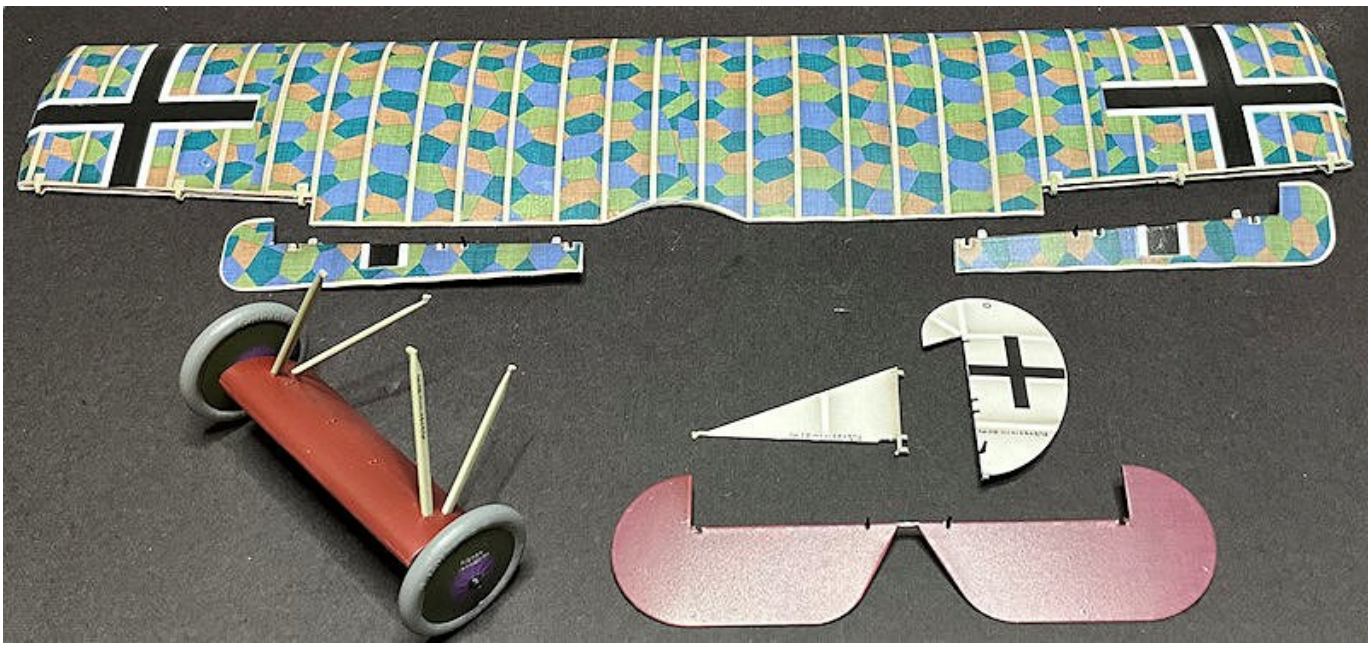


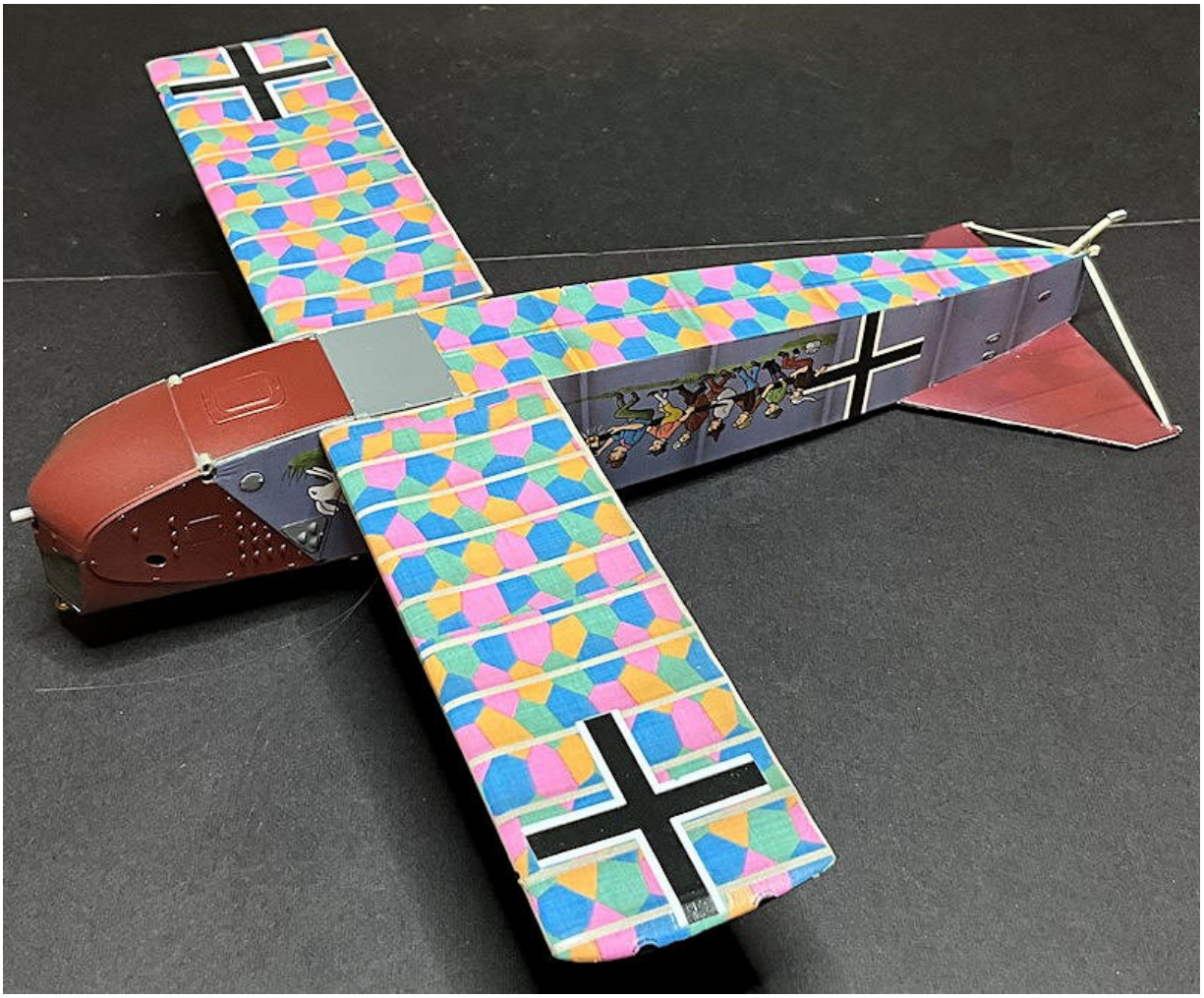
Cement the two aileron control horns (D18) into their locating recesses in the ailerons.

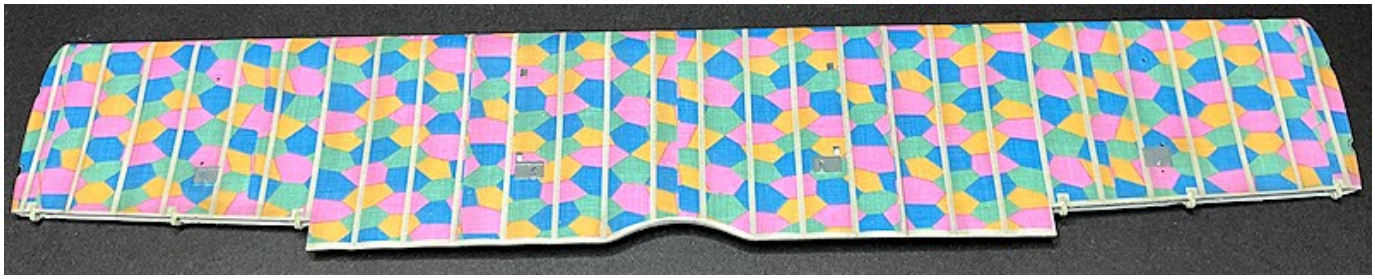
Cement the two elevator control horns (D17) into their locating recesses in the elevator.

Cement the rudder control horn (D17) into its locating recess in the rudder.









Weathering (continued):

General:

NOTE: *Refer to Part 3 (Weathering) - For general weathering I chose to use the 'Flory Models' Dark Dirt fine clay wash. The model should have* ***already*** *been airbrushed with a* ***semi-matte clear coat****, such as 'Tamiya' Semi-Gloss (X35) or similar over all applied decals.*

Brush 'Flory Models' Dark Dirt wash over the following:

Fuselage/lower wings.
Upper wing/Both ailerons.
Tailplane.
Elevator.
Rudder.
Fin.
Landing gear assembly.

Example of applied wash (before removal) on a Bristol Scout model

Remove the wash, as desired, from the parts to achieve your desired general weathered effect.

Seal and protect the applied weathering by airbrushing a light coat of semi-matte clear coat, such as 'Tamiya' Semi-Gloss (X35).

Mud splatter:

NOTE: *Refer to Part 3 (Weathering) - For mud splatter effect I chose to use the 'Flory Models' Grime fine clay wash.*

Wet a brush with the 'Flory' Grime wash and gently flick it over a wood tooth pick to create splatter on the undersides of the lower wings above and to the rear of the landing gear wheels, when fitted.

Remove the wash, as necessary, to create a natural spread of splatter (spreading wider towards the trailing edges of the lower wings.

Using a short headed brush, stipple the Grime wash:

Around the wheel tyres and inboard/outboard wheel covers.

Landing gear axle fairing.

Lower, rear edge of the rudder and tailskid.

Over the four metal tread plates at the roots of the lower wings.

Seal and protect the applied Grime wash airbrushing a light coat of semi-matte clear coat, such as 'Tamiya' Semi-Gloss (X35).

Sponge 'Tamiya' Weathering Master Set A (Mud) along:

Along the bottom edges of the fuselage.

Around the wheel tyres.

Fluid stains:

Lightly brush 'AK Interactive' Kerosene (AK2039) wash around the fuel tank and radiator filler caps on the forward, top of the fuselage and across the painted radiator front and rear cooling matrix.

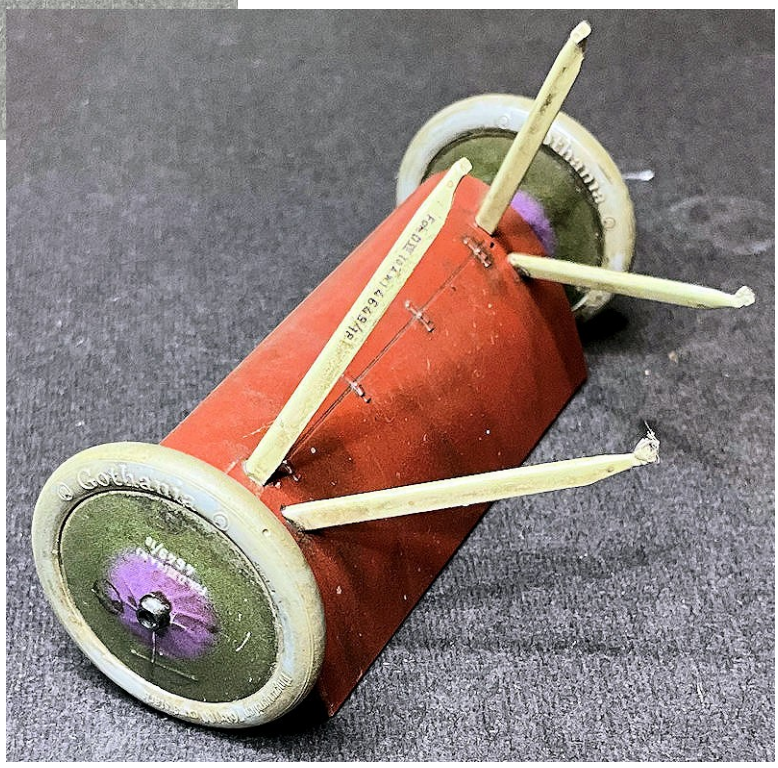
‘Bungee’ suspension cords:

Lightly brush ‘AK Interactive’ Kerosene wash (AK2039) across the bungee suspension cords at the axle ends of the landing gear.

Paint surface wear:

NOTE: *Dry brush by using a domed and soft brush, which has been dipped in the paint. Dab the brush on an absorbent paper to remove the liquid paint, leaving paint pigment on the brush.*

Dry brush over edges and cooling louvres on the engine access panels and the fuselage nose and the underside panels with ‘Mr. Color’ Super Iron 2 (203) or similar, to create a worn metal effect.



Assembly (continued):

NOTE: *The two machine guns were prepared earlier in Part 10 (Weapons) of this build log. When fitting the machine guns, make sure that both machine guns are horizontal on the fuselage and are vertical when viewed from the front and behind. Also that they are parallel to the fuselage and each other when viewed from above.*

Using thin CA adhesive, secure the two machine guns on the front and rear gun mounts and against the ammunition feed chutes.

Using thin CA adhesive, secure the empty ammunition chute (A12) onto the left machine gun and into its opening in the cockpit decking panel.

Using thin CA adhesive, secure the empty ammunition chute (A13) onto the right machine gun and down to the empty ammunition container.

Using thin CA adhesive, secure the crash pads supplied with the 'Gaspatch' set, onto the rear of the breach blocks.

Brush paint the crash pads with 'AK Interactive' Brown Leather (AK3031) or similar.

Remove the photo-etch guard (P3) from the kit supplied sheet and remove any edge tags.

Using thin CA adhesive, secure the two deflector rails (D7) along the flash guard and onto their locating 'pips'.

NOTE: *During the following step, I found that I needed to cut away the rear ends of the rails to allow them to fit under the muzzles of the two machine guns.*

Locate the flash guard onto the top of the camshaft between the tappet covers of the engine.

Carefully flex the photo-etch cross members over the camshaft to lower the two rails downwards, but keeping them horizontal.

Removed the flash guard.

Airbrush the flash guard with a coat of gloss black, such as 'Tamiya' Gloss Black (X1) or similar.

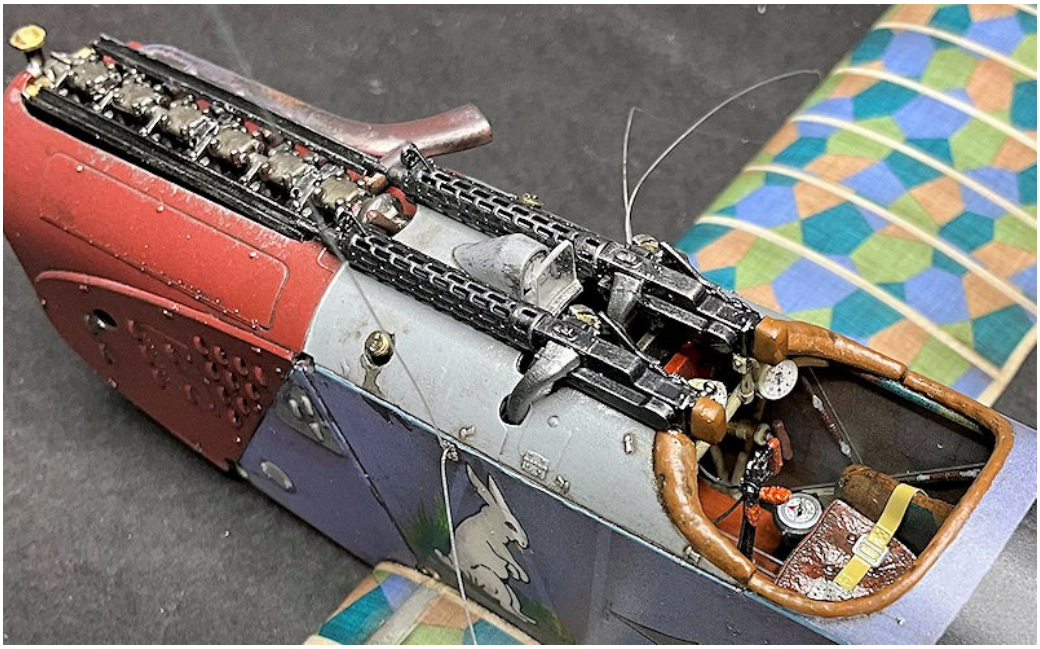
Airbrush the flash guard with 'Alclad' Gun Metal (ALC-120) or similar.

NOTE: *Dry brush by using a domed and soft brush, which has been dipped in the paint. Dab the brush on an absorbent paper to remove the liquid paint, leaving paint pigment on the brush.*

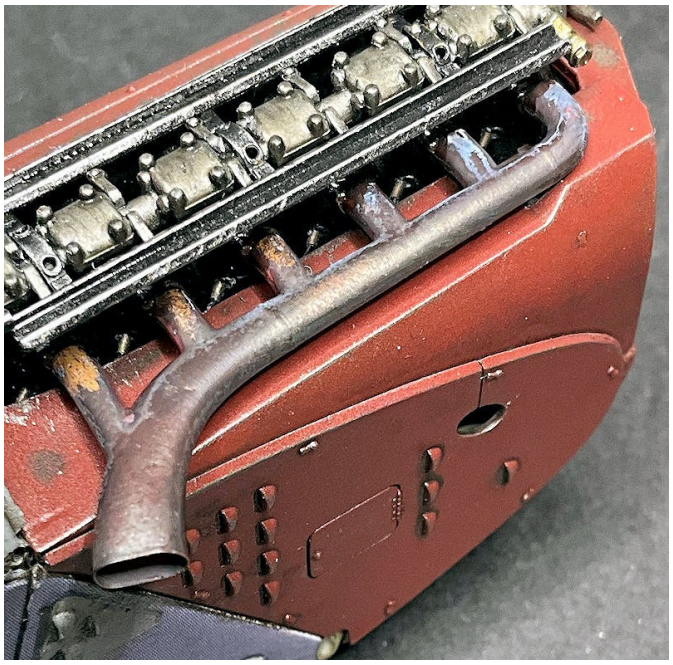
Dry brush the flash guard with 'Mr. Metal Color' Super Iron 2 (203) or similar, to create a worn metal effect.

Using thin CA adhesive, secure the flash guard in position on the engine.

Using a PVA adhesive (white glue), such as 'Microscale' Krystal Klear or similar, secure the windscreen between the two machine guns and onto the rear edge of the cockpit decking panel.

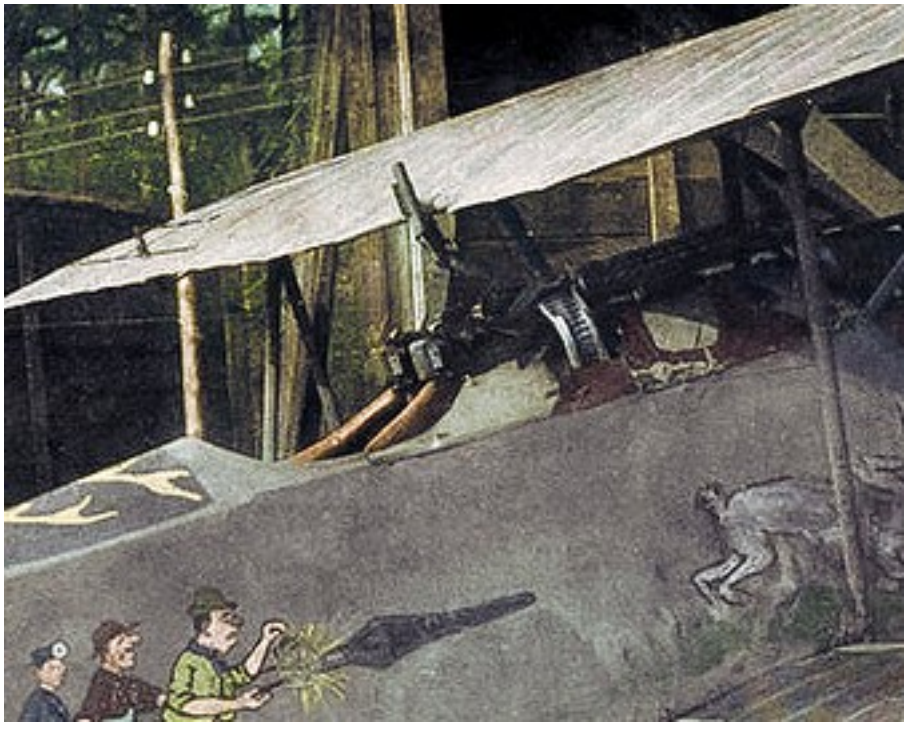


Using thin CA adhesive, secure the ‘REXx’ metal exhaust pipe, supplied in the ‘Proper Plane’ set (PR-015 -32006), under the right flash guard and against the exhaust ports on the top, right of the engine cylinders.

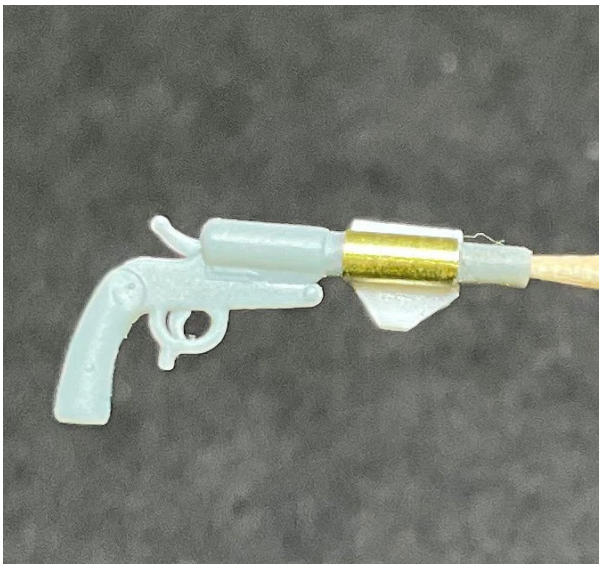


Modifications:

NOTE: *This particular aircraft had a flare pistol fitted. It seems the pistol was secured in a tubular holder, which was fitted to a pivoting plate in the trailing edge of the upper wing. As there are no details for exactly how this pistol mounting was constructed, some guesswork was used.*



To represent the flare pistol in its wing mounting, I first bent a length of 0.5 mm diameter Brass rod, such as that from ‘Albion Alloy’s’, around a round former with a diameter such that the created ring would fit over the trailing edge centre section of the upper wing. The ring was then cut and secured centrally on the wing using thin CA adhesive.
I then cut the support plate from 0.4 mm thick plastic card. A short length of 1.4 mm diameter Brass tube From ‘Albion Alloy’s’ (MBT14) was cut to the width of the support plate. A flare pistol from the kit, which needed slight sanding around the barrel, was then inserted into the tube. The tube was then secured onto the support plate using thin CA adhesive.



The flare pistol assembly was then airbrushed with a coat of gloss black, such as ’Tamiya’ Gloss Black (X1) or similar. The ring on the upper wing was similarly brush painted. The pistol was dry brushed with ‘Mr. Metal Color’ Super Iron 2 (203) or similar, to create a worn metal surface. The handle of the pistol was brush painted using ’Tamiya’ Hull Red (XF9).

The flare pistol will be fitted to the support ring on the upper wing later in this build log.

Pre-rigging:

NOTE: *Refer to Part 6 (Rigging) of this build guide for more information. During this stage of the build it’s best to pre-rig as much of the external rigging as possible. This makes it easier to final rig the model after assembly. The rigging location holes were drilled earlier in this build log.*

The materials used are:

‘Proper Plane’ 1/32nd scale resin turnbuckles (RD-005).

‘Proper Plane’ 1/32nd scale resin control cable turnbuckles (RD-018),

‘Albion Alloy’s’ Micro-tube (Brass 0.4 mm diameters).

‘Steelon’ or ‘Stroft GTM’ Mono-Filament (0.08 and 0.12 mm diameter) line.

Nickel-Silver or Brass tube can be chemically blackened by immersion in solutions such as ‘Black-It’ or ‘Ammo’ (A.MIG-2021) or similar. Rinse and dry the blackened tubes to prevent powdering of the surfaces.

Preparation:

Cut seventeen (17) long lengths of line.

Cut eight (10) short lengths of blackened Brass tube.

Prepare eight (6) RD-005 and two (2) RD-018 turnbuckles and brush paint the centre barrels with ‘Mr. Metal Color’ Copper (214).

Make sure all pre-drilled rigging location holes are clear of paint and decal.

Example for rigging turnbuckles:

Pass a line through a tube.

Pass one end of the line through the ‘eye’ end of a turnbuckle.

Loop the line back and through the tube.

Keeping both lines taut, slide the tube up to, **but not touching**, the turnbuckle.

Secure the lines in the tube using thin CA adhesive.

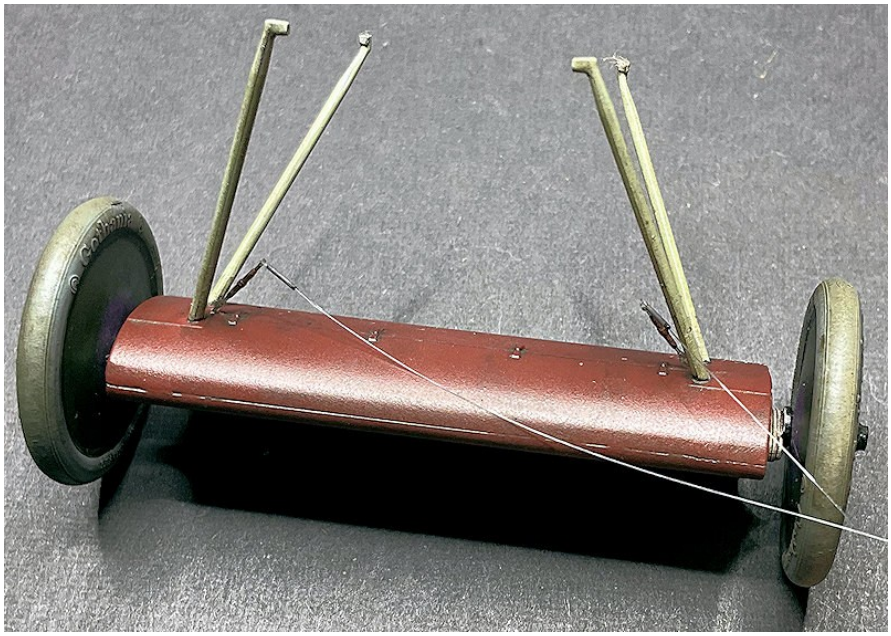
Cut away any residual line at the tube end.

Check that the line is free to move in the turnbuckle.

Landing gear bracing wires:

Using the previous example as a guide, attach a line to two ‘Proper Plane’ turnbuckles (RD-018).

Using thin CA adhesive, secure the tail a turnbuckle into the pre-drilled holes at each side of the landing gear fairing.



Fin bracing wires:

Using the previous example as a guide, attach a line to two ‘Proper Plane’ turnbuckles (RD-005).

Pass the free end of the line down through the pre-drilled holes in the outer, trailing edge of the tailplane.

With approximately 5 mm of line protruding, secure the line in the hole using thin CA adhesive.

Cut away any residual line from the underside of the tailplane.

Pass a line through the pre-drilled hole in the top of the fin trailing edge.

Position the line centrally in the fin and secure in position using thin CA adhesive.

Rudder control cables:

Pass a line into the pre-drilled rudder control cable holes in the both sides of the fuselage rear.

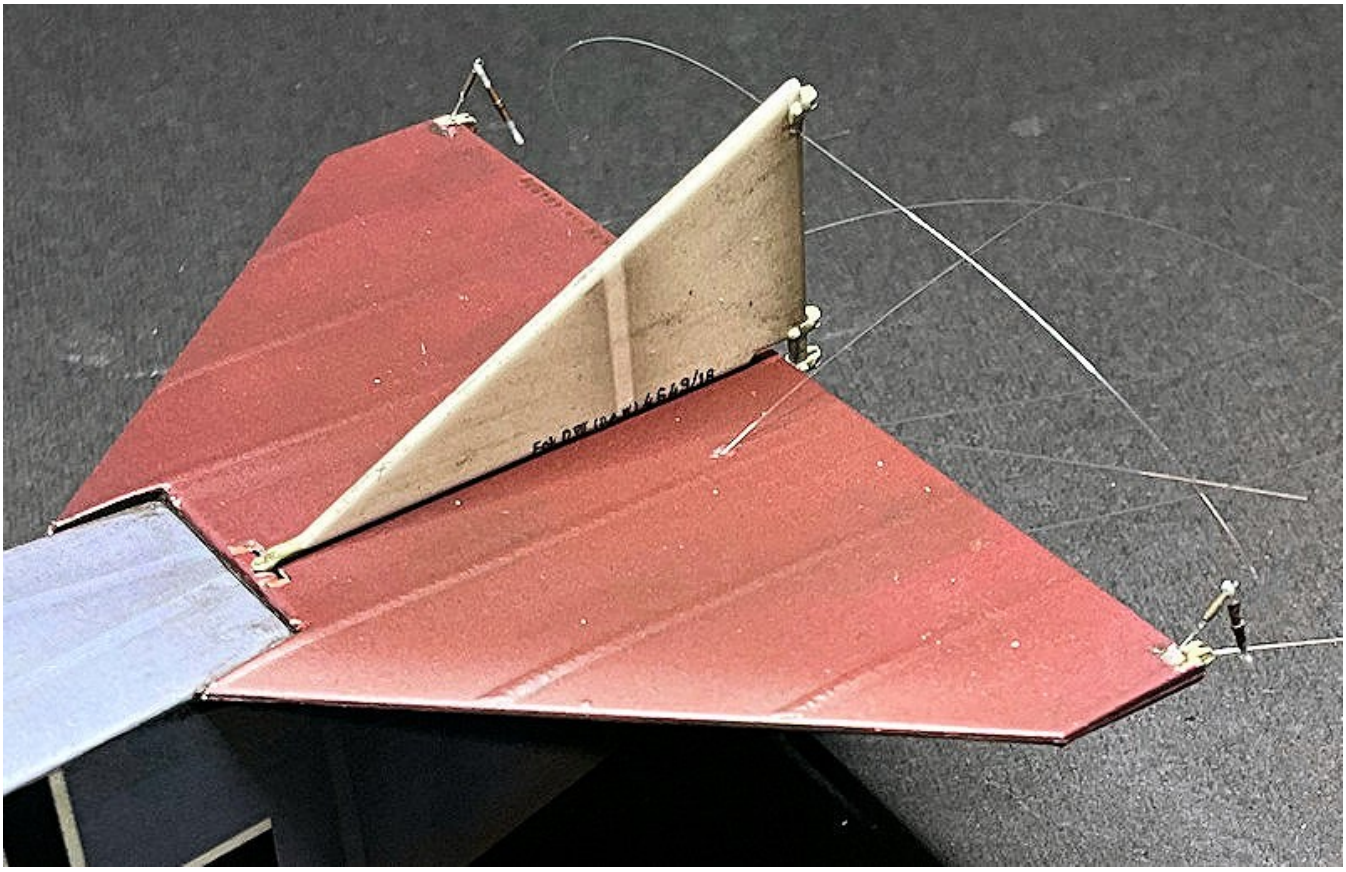
Using thin CA adhesive, secure the lines in the holes.

Elevator control cables.

Pass a line into the two pre-drilled elevator control cable holes in the both sides of the fuselage rear.

Using thin CA adhesive, secure the lines in the holes.

Pass the free end of the upper lines from the underside of the tailplane up and through the tailplane.



Aileron control cables:

Pass a line down through the pre-drilled aileron control cable holes in the upper wing.

Position the lines centrally in the wing and secure in position using thin CA adhesive.

Insert a line into each of the four pre-drilled aileron control cable holes in the underside of the upper wing.

Secure the lines in the holes using thin CA adhesive.

Using the previous example as a guide, attach a ‘Proper Plane’ turnbuckle (RD-005) to each of the four pre-rigged aileron control at the fuselage sides. The turnbuckles when fitted should be approximately 10 mm from the fuselage sides.

Assembly (continued):

NOTE: *Refer to Part 6 (Rigging) of this build log for more information.*

Rigging tensioning:

When completing lines of rigging (final rigging) using mono-filament and usually during the final rigging stage, some lines may be slightly slack. This can be remedied by the careful application of heat along the line.

Where many rigged lines are required, it's best to tighten any slack completed lines as you add them, as trying to tighten a line amidst others may cause damage to the other lines.

Take care not to linger at one area of a line with the heat source as this will melt the mono-filament causing the line to break.

Also take care not to touch any part of the model or any other rigging, as this will also cause damage through melting.

WARNING: *Care needs to be taken when using this method to tension line, as using a heat source is required.*

Carefully move a suitable heat source (I use a small electrical soldering iron) close to and along the slack line, keeping the heat source always moving. You will see the line tension as the applied heat takes effect, shrinking the line.

Blackening metal:

Nickel-Silver or Brass tube can be chemically blackened by immersion in solutions such as 'Black-It' or 'Ammo' (A.MIG-2021) or similar. Rinse and dry the blackened tubes to prevent powdering of the surfaces.

NOTE: *Make sure all paint or decal is removed from mating surfaces, locating pegs/shoulders etc before assembly.*

Landing gear assembly:

Cement the landing gear assembly into the underside of the fuselage. The forward struts locate into the bottom of the fuselage oval openings. The rear struts locate into its recesses in the forward corners of the fuselage underside panel.

NOTE: *The landing gear bracing wires are fitted now as they will strengthen the fragile landing gear struts and make the assembly more rigid and less prone to movement and possible damage.*

Trim the length of the two lines such that when diagonally crossed, they can be fully inserted into the pre-drilled holes in the underside of the fuselage.

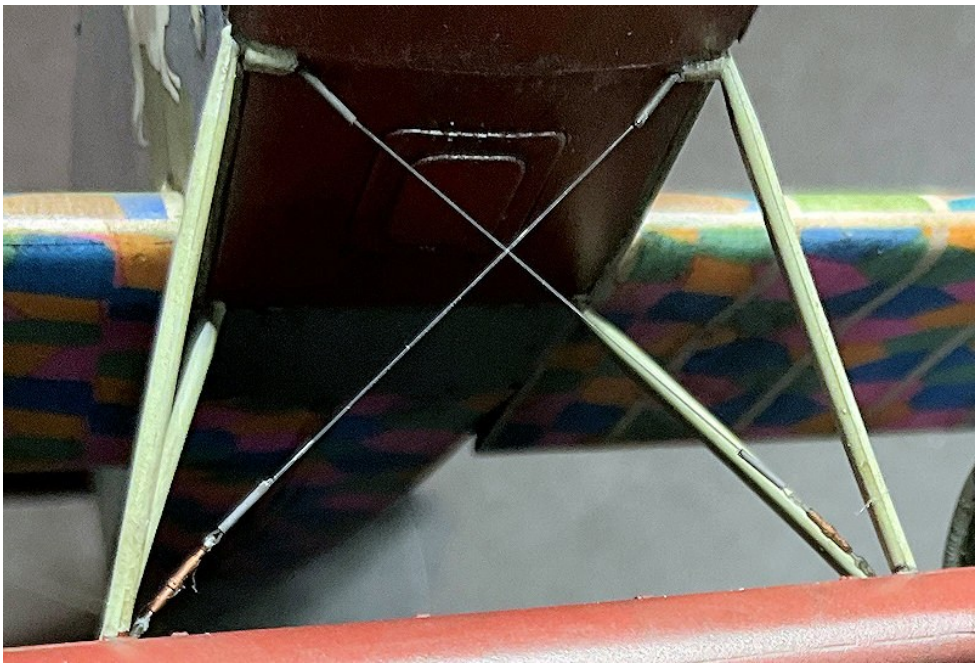
Cut two (2) short lengths of blackened Brass tube.

Slide a tube onto both pre-rigged bracing wires.

Keeping the tubes away from the ends of the lines, fully insert the lines into their pre-drilled holes.

Keeping the lines taut, secure the lines in their holes using thin CA adhesive.

Slide the tubes up to the fuselage and secure on the lines using thin CA adhesive.



Ailerons:

NOTE: *Tubes are used to represent the turnbuckles as there is not enough line to add turnbuckles.*

Cement the two ailerons fully into their locating recesses in the trailing edge of the upper wing.

Cut four (4) short lengths of blackened Brass tube.

NOTE: *The following procedure is used to attach both upper and underside aileron control lines to their control horns.*

Pass a pre-rigged aileron control line from the upper wing line through a tube.

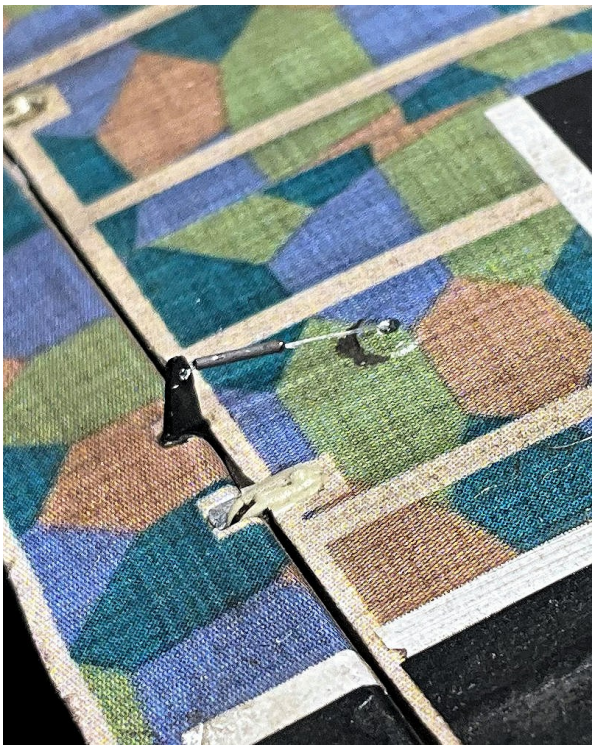
Pass the free end of the line through the pre-drilled hole in the end of the control horn.

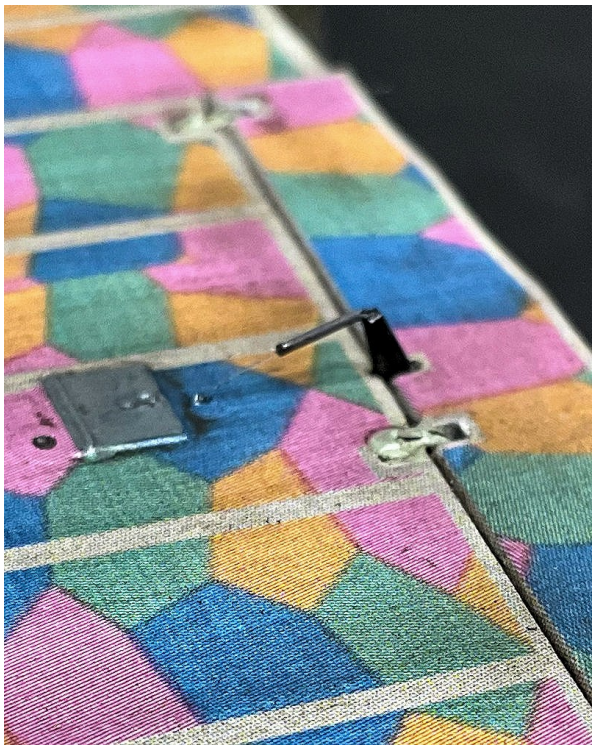
Loop the line back and through the tube.

Keeping both lines taut, slide the tube up to, **but not touching**, the control horn.

Secure the lines in the tube using thin CA adhesive.

Cut away any residual line at the tube end.





Tailplane bracing wires:

Cut four (4) short lengths of blackened Brass tube.

NOTE: *The following procedure is used to attach both sides of the bracing wire.*

Pass a pre-rigged bracing wire through two tubes.

Pass the free end of the line through the ‘eye’ end of the pre-rigged turnbuckle.

Loop the line back and through the tube.

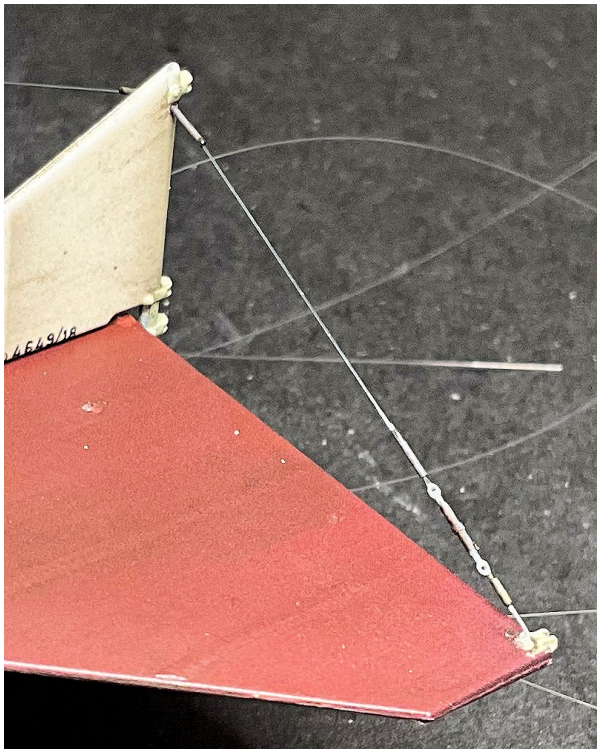
Keeping both lines taut, slide the tube up to, **but not touching**, the turnbuckle.

Secure the lines in the tube using thin CA adhesive.

Cut away any residual line at the tube end.

Slide the remaining tube up to the top of the fin.

Secure the tube to the line using thin CA adhesive.



Elevator control cables:

Cement the elevator onto its hinges on the trailing edge of the tailplane.

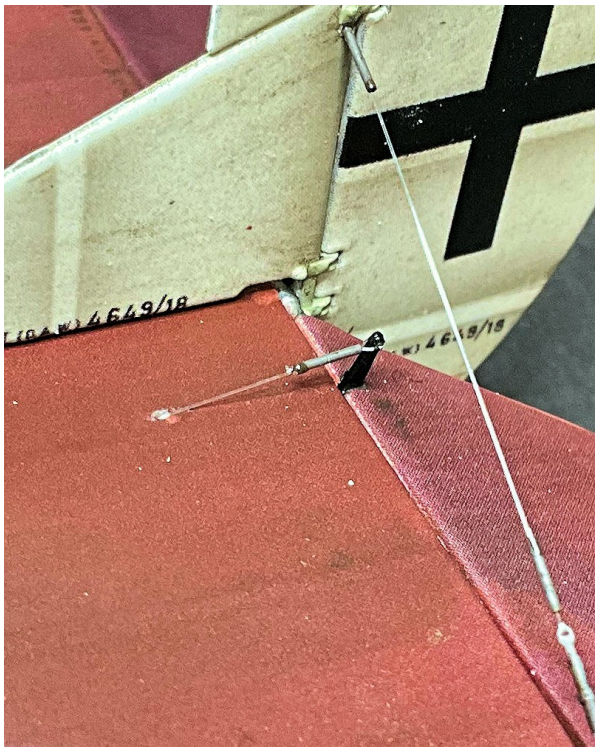
NOTE: *For the following step, make sure the upper elevator control cables are passed from the underside of the tailplane and through the pre-drilled holes in the tailplane.*

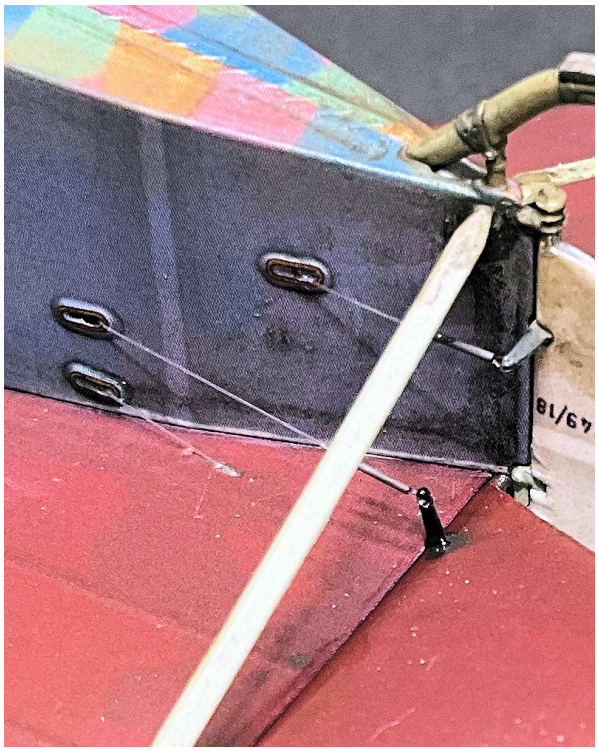
Apply the same procedure used to attach the aileron control cables and attached the two elevator control cables to both sides of the elevator control horn.

Rudder control cables:

Cement the rudder onto its hinges on the trailing edge of the fin.

Apply the same procedure used to attach the aileron control cables and attached the rudder control cables to both sides of the rudder control horn.





Cement the left tripod cabane strut (B12) fully into the left side of the fuselage:

The forward strut locates through the hole in the side access panel.

The centre struts locates in the recess and above the landing gear forward strut.

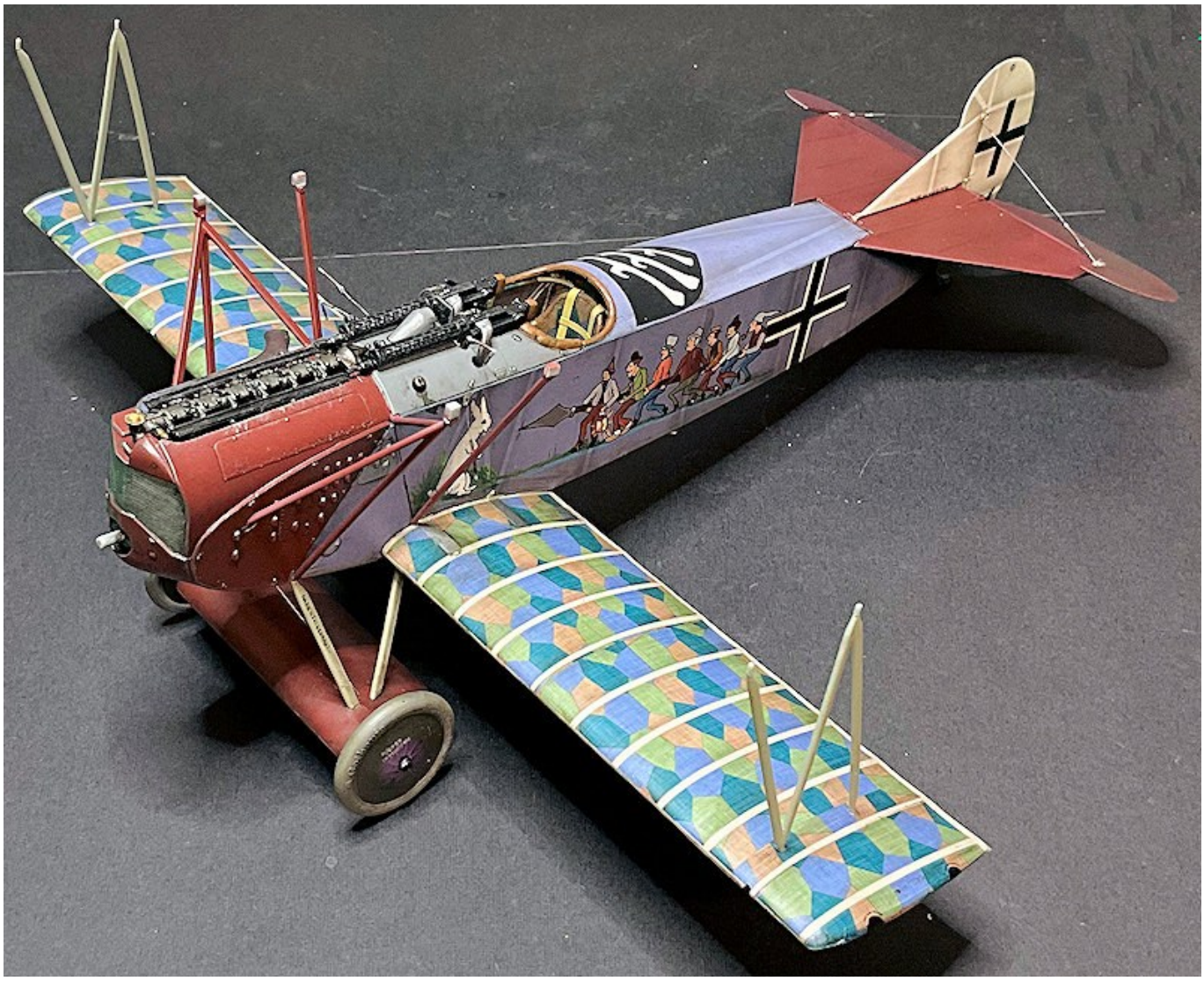
The rear stut locates into its hole in the top edge of the fuselage, at the rear corner of the engine top access panel.

Cement the left rear cabane strut (B4) into its locating hole at the bottom of the fuselage left side, at the lower wing root. The top rear edge of the strut should be approximately 22 mm from the front edge of the top of the tripod strut.

Cement the right tripod cabane strut (B8) fully into the right side of the fuselage. The struts locate as was previously described.

Cement the right rear cabane strut (B4) into its locating hole at the bottom of the fuselage right side, as previously described.

Cement the left and right interplane struts (D2) into their locating holes in the lower wings, making sure the struts are vertical on the wings.



Using thin CA adhesive, secure the flare pistol onto the added mounting ring on the centre section of the upper wing. The pistol should be mounted vertically on the wing. The bottom of the mounting plate for the pistol should be secured to the left side of the mounting ring.

Fully locate the upper wing onto the four cabane and two interplane struts.

Cement the upper wing to the struts (‘Tamiya’ extra thin liquid cement).

NOTE: *The following procedure applies to all four aileron control cables (fuselage to upper wing).*

Cut a short length of blackened Brass tube.

Slide the tube onto one of the pre-rigged aileron control lines from the underside of the upper wing.

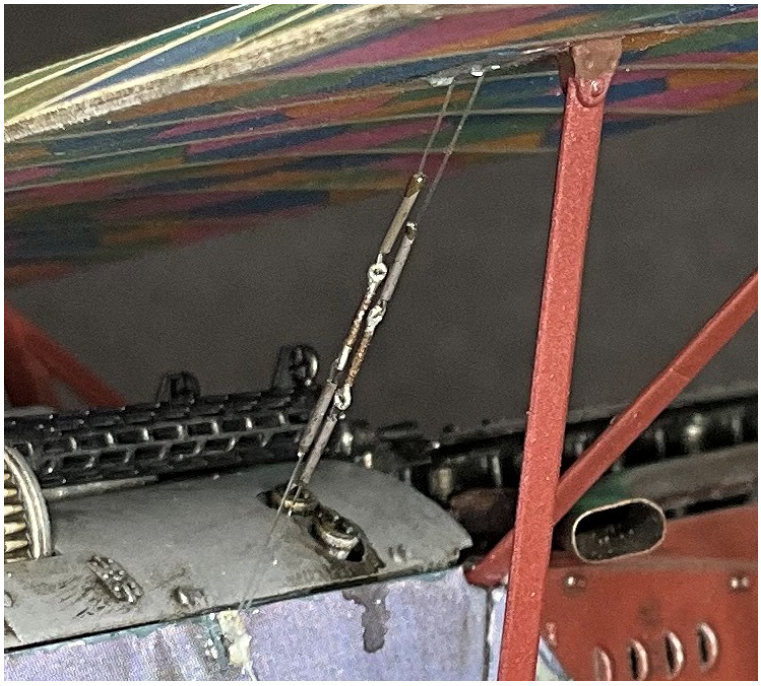
Pass the free end of the line through the ‘eye’ end of a pre-rigged line from the fuselage side.

Loop the line back and through the tube.

Keeping the line taut, slide the tube up to, **but not** touching, the turnbuckle whilst taking up any slack in the line.

Secure the line in the tube using thin CA adhesive.

Cut away any residual line at the tube end.



Cement the two grab handles (D14) and pilots foot step (A9) onto their pre-molded locating recesses in the lower edge of the fuselage sides.

Brush paint the handles and step with ‘Tamiya’ Grey-Green (XF76) or similar.

Using CA adhesive, secure the propeller, in the desired position, on the engine propeller shaft.

Rigging finish:

NOTE: *During the following step, protect the windscreen from any airbrush overspray.*

To reduce the sheen and transparency of the mono-filament used to rig the model, lightly airbrush the rigging with a semi-matte clear coat, such as 'Tamiya' Semi-Gloss (X35) or similar.

PART 12
FIGURE

PART 12 - FIGURE

The figure used with this model is the 'Black Dog' German fighter pilot WW1 N°3 (F32172). The figure is supplied as a complete body, head and left hand

Preparation:

Cut and sand away the casting bases on the bottom of the figure, hand and head.

Drill a hole of 0.8 mm diameter vertically up into one of the legs, making sure to keep the drill central to avoid drilling through the side of the leg.

Drill a hole of 0.6 mm diameter vertically up into the neck of the head.

Cut a length of 0.5 mm and 0.8 mm diameter Brass rod, such as that from 'Albion Alloy's' or similar.

Using thin CA adhesive secure the 0.8 mm rod fully into the pre-drilled hole in the leg. This will be used for painting the figure and for mounting the figure into the display base.

Using thin CA adhesive secure the 0.5 mm rod fully into the pre-drilled hole in the head. This will be used for painting the head before fitting it to the body.

Using thin CA adhesive secure the hand fully into its location recesses in the left arm of the body.

Painting:

Airbrush the figure and head with a grey primer, such as 'Mr. Surfacer' Grey 1500 or similar.

NOTE: *When brush painting with 'AK Interactive' acrylic paints, I add a small amount of 'AK Interactive' acrylic thinners (AK712) to keep the paint fluid, otherwise I find it doesn't brush well onto the primed surface. The shadows and the highlights were brushed on while the base coats were still wet, which allows blending the paint, rather than ending up with stark contrasts.*

Airbrush the figure and head with a grey primer, such as 'AK Interactive' Grey (AK758) or similar.

Brush paint the figure and head as follows:

Fug boots: British Uniform (AK3091) with Brown Leather (AK3031) crease shadows.

Flying overalls: German Uniform Base (AK3091) with Black Uniform Base (AK3002) crease shadows.

Fur lined boots, gloves and collar: Brown Leather (AK3031) with British Uniform Light (AK3082) highlights.

Helmet/Straps: Brown Leather (AK3031).

Buttons/buckles/goggle lenses: 'Mr. Metal Color' Stainless Steel (213).

Flesh: Base flesh (AK3011) with Light flesh (AK3012) highlights.

Assembly:

Remove the rod from the head and using thin CA adhesive secure the head into the body of the figure.

Weathering:

Lightly sponge 'Tamiya' Weathering Master Set A (Mud) over the shoes.

Lightly sponge 'Tamiya' Weathering Master Set D (Oil Stain) over the pockets and elbows of the flying coat.

PART 13
DISPLAY BASE

PART 13 - DISPLAY BASE

The display case in made from piano black and clear acrylic sheet of 3mm thickness. The Base plinth is 5 mm thick. The shoulder around the plinth is for locating the clear cover and is a second thickness on top of the base plate.

This case was purpose built by Paul Moss, who has a retail outlet on Ebay - www.inperspextive.com

The grass mat used was a 'Polak'- Wild Meadow (4703).

The information plaque was engraved by 'TLS Engraving Ltd'.

Grass mat:

The plastic backing sheet was removed from the grass mat, which was then cut to the desired shape. The mat was laid onto the display base and positioned to ensure the model would clear the display top when located. A soft pencil was used to lightly trace the outline of the mat on the display base. Inside the marked area was scuffed using sand paper, to provide a grip surface for the adhesive. PVA (white glue) adhesive was then applied to the scuffed area and the grass mat was then laid back onto the base, aligned to the pencil outline and gently pushed down to make proper contact. The grass mat was covered with a sheet of paper and several heavy books were then stacked onto the paper, to press the grass mat fully in contact with the display base. The books and paper were removed after several hours, when the edges of the grass mat were checked for contact (apply more PVA adhesive if not). The grass were gently brushed to remove any flatness.

Aircraft model:

The aircraft was not fixed to the display base, but left as 'free standing'. Although this may not be as secure as fixing the model to the display base, it does mean the model will not be subjected to shock loading when being moved around, as it might be if fixed on the display. However, the location of the wheels and tail skids were scored through the grass mat to give the model a more firmer location.

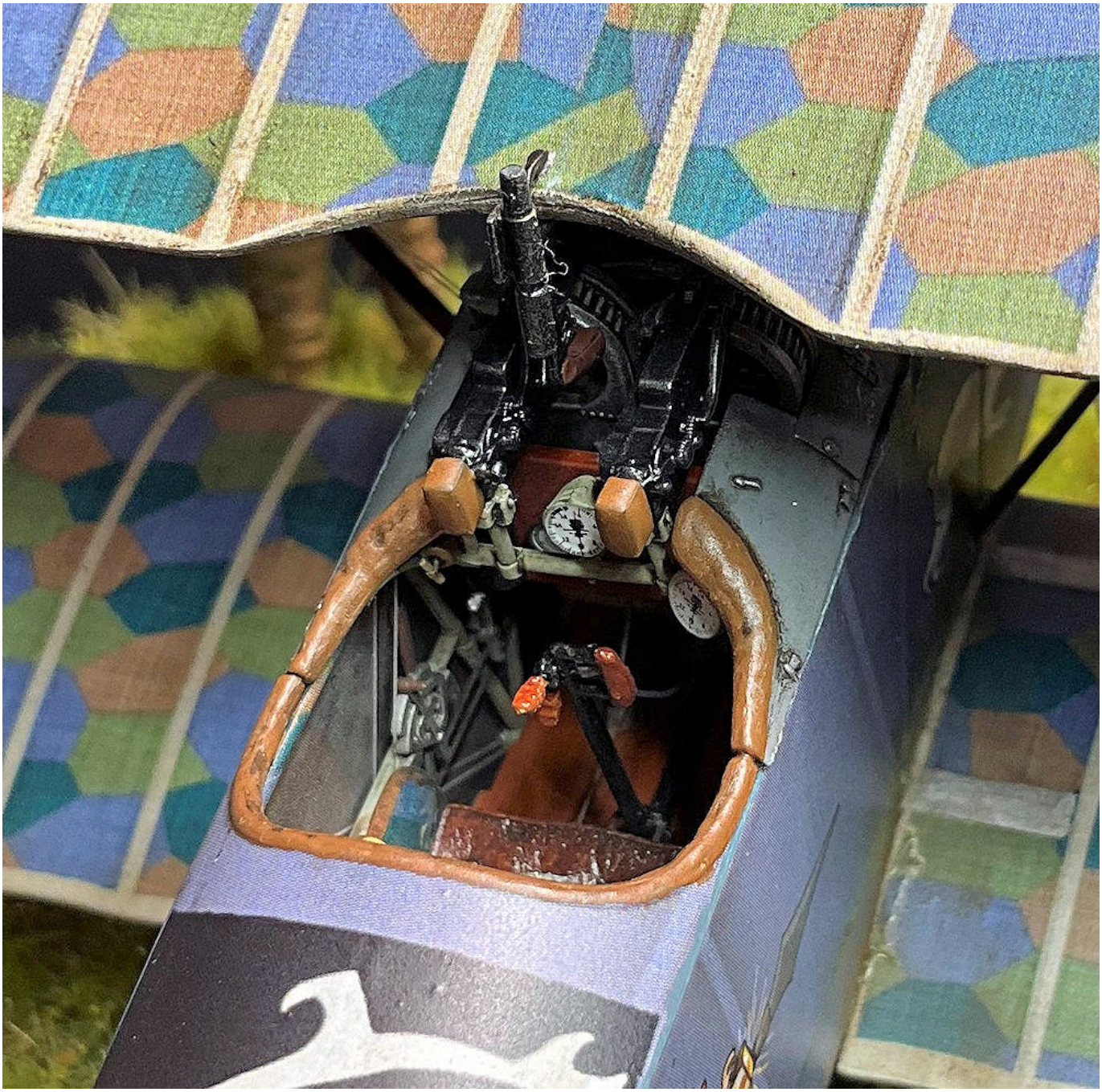
Figure:

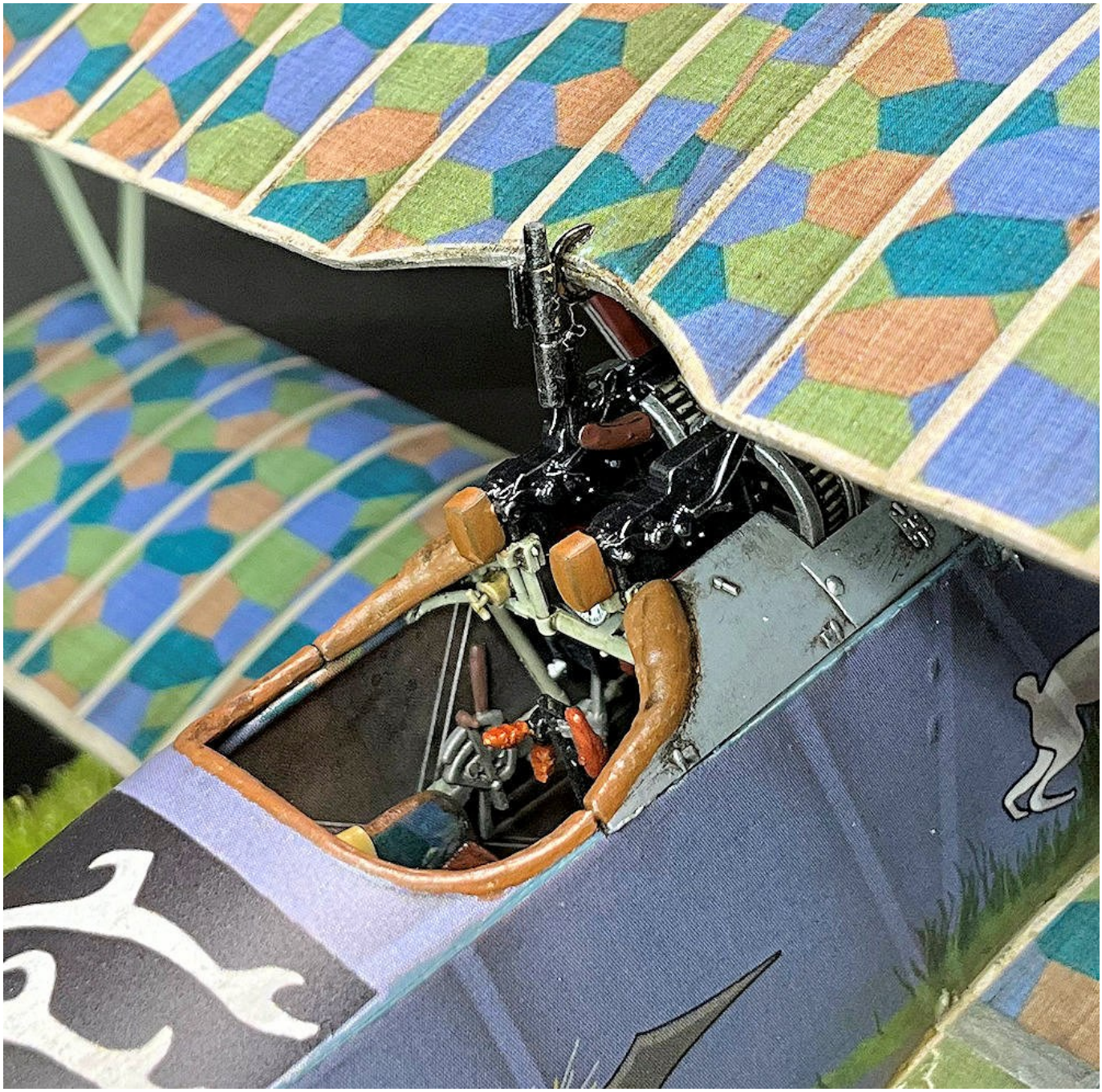
With the model positioned on the grass mat, the figure wase positioned on the base in its final position and the location of the pin in the leg of the figure was marked on the grass mat. A hole of 1.0 mm was drilled through the grass mat and into (not through) the base plinth. PVA or thin CA adhesive was then applied to the pin of the figure, which was then carefully seated into the drilled hole. Light pressure was applied to the figure to ensure it was fully located into the base.

Information plaque:

The acrylic stand for the information plaque was scuffed with sand paper on its bottom surface. It was then position in the left corner of the display base and its outline lightly scored with a pointed scriber. The area inside the scribed outline was scuffed with sand paper. An adhesive, such as a contact or two-part epoxy adhesive was applied to the scuffed surfaces and the stand positioned onto the scribed outline on the display base. Once the adhesive had fully set, the information plaque was secured onto the stand, using the self-adhesive tape on the rear face of the plaque.

PART 14
COMPLETED MODEL PHOTOGRAPHS





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