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. As most modelers, I got involved in the world of construction kits at an early age, but stopped for most of my service career and for some years afterwards.
I started modeling again a few years ago and now enjoy the challenge of building aircraft of World War One. Since posting photographs of my completed models online, various modelers have asked if I would create 'build logs' for my future builds, which is what I now do for each build.
I don't consider myself a 'master' of this craft, but hope to be able to pass on what I have learned. As such, here is my build log, which covers the 1:32 scale model of the Salmson 2-A2 by 'Wingnut Wings'.

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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). I think it's important to have the tools etc you need ready to hand and other, non-essential stuff tucked out of the way until needed. I'm lucky in that I have my 'man cave', which is sorted into a modelling area, airbrush spray booth in addition to my work station PC, games PC and games console.

Sorted

AFTER MARKET

AFTER MARKET

Figures

‘Copper State Models’ German Personnel set (F32-005),
‘Copper State Models’ German ground crewman No.1 (F32-012),
‘Copper State Models’ French mechanic (F32-046) (head only),
‘Copper State Models’ Lafayette flying ace (F32-033), ‘Hornet’ 1:32nd scale heads (H3204).

Decals

‘Aviattic’ Linen Weave effect (ATT32236),
‘Aviattic’ CDL light (ATT32045),
‘Airscale’ generic WW1 decals (AS32-WW1) (as required),
‘DACO Products’ setting solution (Strong, Medium or Light) (as required),
‘MicroScale’ MicroSol/MicroSet (as required).

Propeller

‘ProperPlane’ Salmson propeller (wood laminated).

Weapons

‘GasPatch’ - 1/32nd scale Vickers Mk.1 (18-32126),
‘GasPatch’ - 1/32nd scale ‘Darne’ Lewis (13-32054).

Rigging accessories (as required)

‘GasPatch Elite Accessories’ metal turnbuckles 1/48 and 1/32 scale (as required),
‘Albion Alloy’s’ Micro-tube (Brass or Nickel Silver - various diameters).
‘Steelon’ mono-filament 0.12 mm diameter‘,
‘Stroft’ mono-filament 0.08, 0.12 mm diameter,
‘SeaKnight’ Blade blue mono-filament 0.10 or 0.12 mm diameter.

Sundries (as required)

‘Araldite’ two part epoxy adhesive, Paints (‘Tamiya’ Acrylic, Humbrol Acrylic,
‘Mr. Metal Colour’, ‘AK Interactive’ Primer and micro-filler (Grey AK758, White AK759),
’AK Interactive’ Filters (Wood AK-261) and figure paints, Kerosene AK-2039, Oil AK-2019
and Wash AK-2033), ‘Alclad II’ Lacquers, ‘Alclad’ Aqua Gloss 600, ‘Mr. Colour’ Levelling
Thinners, ‘Vallejo’ Model Colour, PVA Adhesive (e.g. ‘MicroScale’ Kristal Klear),
‘VMS Fleky’ CA adhesive (Standard and Thin) and Metal Prep 4K, ‘Mr. Colour’ Metal Primer R ,
‘Bostik’ Blue or UHU White Tack, ‘AV’ Masilla Plastica (401) putty, ‘White Spirits’,
‘De-Lux Materials’ Perfect Plastic Putty, Sanding and/or Polishing sticks from ‘Flory Models’,
‘Humbrol’ Maskol, ‘UHU’ White Tack, ‘Milliput’ two part putty‘, ‘Vallejo’ Still Water (26.230),
‘Mr. Surfacer 500, 1000,1200’, ‘DecoArt Crafters Acrylic’ (water based) paints,
‘Artool’ Ultra Mask sheets, ’Plastruct’ styrene rod, ‘Mr. Surfacer’ primer and filler 500 to 1200,
‘Hataka’ lacquer paints, ‘Tamiya’ liquid cement, ‘PlusModel’ lead wire,
‘ANYZ’ 0.5 mm silver braided line (AN011), ‘Plastic Magic’ liquid cement, ‘Prismacolor’ Verithin
Argent Metallique 753, ‘Blacken-It’ solution ‘Bare-Metal’ Matte Aluminium foil,
‘MFH’ black 0.4 mm flexible tube (P-961), ‘EZ’ stetch line (fine or heavy black),
‘Xtradecal’ Black parallel stripes (XPS1), ‘Revell’ Contacta Professional cement (39604),
‘Citadel’ paints range.

Weathering mediums (as required)

‘Flory’ Clay washes, Flory Pigments, AK Interactive engine washes,
‘Tamiya’ Weathering Master (Set C, D and E), ‘Derwent’ Inktense 24 ink pencils.

Display Base

Etched Plaque (name plate),
‘Inperspective’ custom made Acrylic base and cover,
‘Model Scene’ Summer meadow (F517).

THE AIRCRAFT

THE AIRCRAFT

General:

References:
'Wingnut Wings' instructions data.
'Windsock' Data file No.109 - Salmson 2-A2 (by Jon S. Guttman).
'Flying Machine Press' - Salmson Aircraft of WW1 (by Colin A. Owers, Jon S. Guttman and James J. Davilla).
'Wikipedia - online resource.

During WW1 the Salmson factory built aircraft engines, generally 9 and later 18 cylinder water-cooled radial engines developed from the Swiss Canton-Unné design. The company's first aircraft was the Salmson-Moineau S.M.1, an unusual but not successful design that saw limited production.
The Salmson 2 design came about due to the need to replace the Sopwith 1½ Strutter and the Dorand A.R. reconnaissance aircraft being used in the reconnaissance roles. Salmson had built the 1½ Strutter under license and the Salmson 2, while an original design, had more in common with the Sopwith. The aircraft was of conventional construction with a two-bay biplane configuration, powered by the company's own 230 hp (170 kW) Salmson 9Z water-cooled radial engine. Some minor control problems were quickly resolved in early testing, but the main defect of the Salmson 2, shared with the contemporary Airco DH.4, was that the pilot and gunner were widely separated, making communication difficult. Production was ordered after trials on 29 April 1917, and deliveries were made starting in the October of that year. Around 3,200 Salmson 2s of various types were built in France, 2,200 by Salmson and the remainder by Lactécoère, Hanriot, and Desfontaines. The United States Air Service also took delivery of 700 of the aircraft.

General characteristics:

Crew: 2
Length: 8.5 m (27 ft 11 in)
Wingspan: 11.75 m (38 ft 7 in)
Height: 2.9 m (9 ft 6 in)
Wing area: 37.27 m^2 (401.2 sq ft)
Empty weight: 780 kg (1,720 lb)
Gross weight: 1,290 kg (2,844 lb)
Powerplant: Salmson 9Za 9-cylinder water-cooled radial piston engine, 172 kW (231 hp)
Propellers: 2-bladed fixed-pitch propeller, probably manufactured by 'Regy'

Performance:

Maximum speed: 188 km/h (117 mph, 102 kn) at sea level
Range: 500 km (310 mi, 270 n/mi)
Service ceiling: 6,250 m (20,510 ft)
Time to altitude: 2,000 m (6,562 ft) in 7 minutes 13 seconds[2]

Armament:

One forward synchronized 0.303 in Vickers machine gun and two rear, ring-mounted 0.303 in Lewis machine guns.

Specific:

This model represents the Salmson 2-A2, Serial number 381, of Escadrille SAL 28 during 1918. The Salmson 2-A2 were introduced into SAL 28 in early 1918, after which the unit operated during the battles of Picardie and Saint-Mihel. SAL 28 was disbanded in July 1919. This aircraft has the T.S.F (telegraphie sans fil) marking indicating the aircraft is fitted with wireless

During its existence, the elephant unit marking on SAL 28 aircraft was represented in several different styles. Below are photographs showing the marking, as represented on this model, with a photograph of one of the marking variations.

PART 1
MODEL DESCRIPTION

PART 1 - MODEL DESCRIPTION

('Wingnut Wings' - Kit No:32038)

Normally here I would write a basic description of the model, noting any points of interest or flaws. However, there is a good review of the kit online. Paste the link below into your internet browser to view the review.

www.hyperscale.com/2014/reviews/kits/wingnutwings32038reviewrb_1.htm

Observations:

As is usual, most models, when research is done, can be modified or enhanced to better represent the particular aircraft. The following are my initial observations of the kit before building it.

Differences:

There appears to be some possible errors in the 'Wingnut Wings' instruction manual. These will be described and corrected during the build.

I chose to have a groundcrew figure in the rear observers cockpit of the aircraft, with the aircraft camera being lifted by up by a second groundcrew figure, rather than being fitted inside the rear cockpit. Also a groundcrew figure working on the engine with an officer looking on.

Forward fuselage and engine detail will be exposed by removed panels on the left side of the aircraft.

The engines requires ignition leads from the two magnetos to the cylinder spark plugs.

PART 2
WOOD EFFECTS
(General)

PART 2 - WOOD EFFECTS (General)

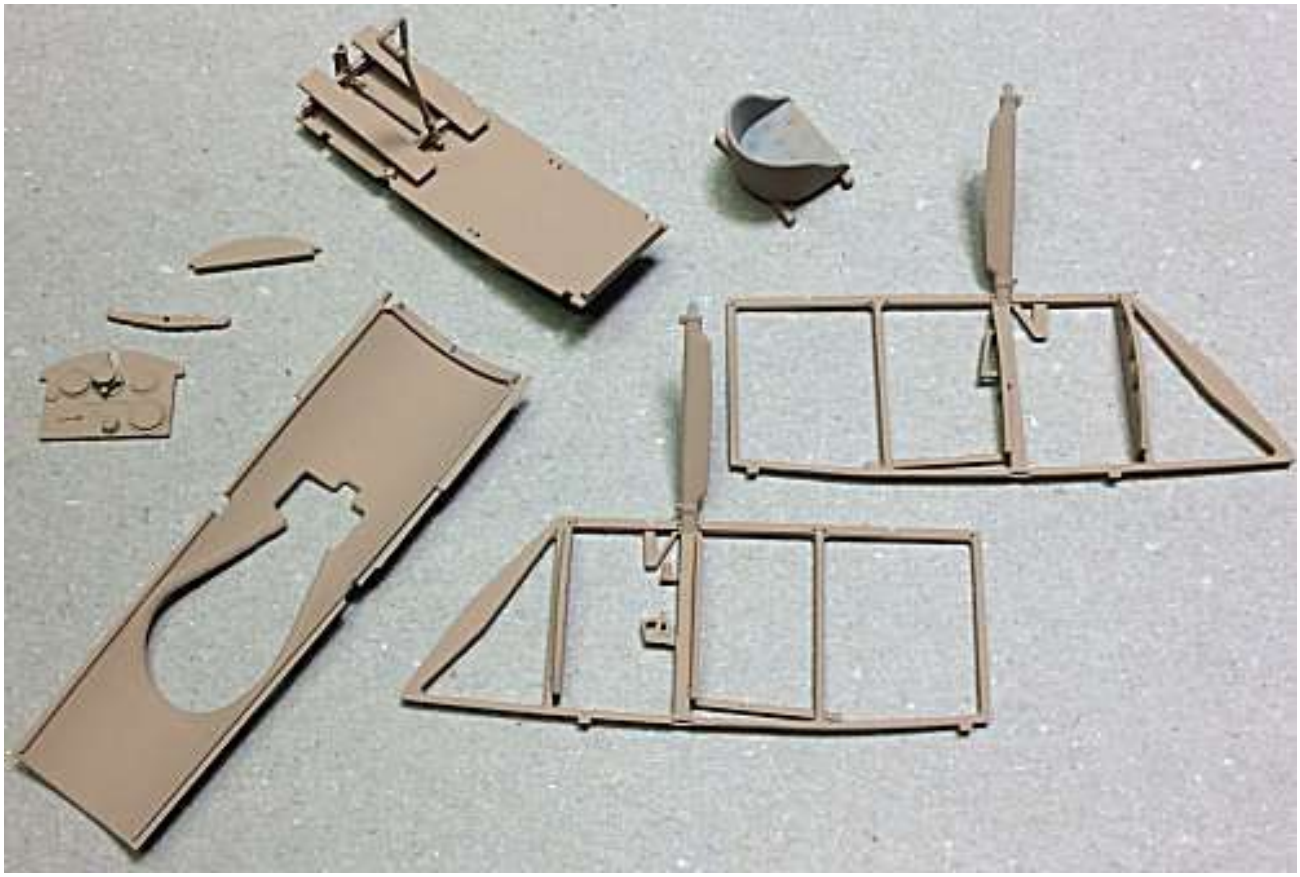
A basic technique:

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

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

To start, apply a suitable base colour. For most painting I use an airbrush and only resort to brush painting when dealing with small items, when I add a few drops of 'Mr. Colour' Levelling Thinner', which aids brush painting. For most wood effect, I use 'Tamiya' 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).



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.

<u>Below is an example of the Burnt Umber oil paint applied to a cockpit side frame.</u>

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 add 'Mr. Colour' Levelling Thinners, which does improve airbrushing and avoids pooling. Otherwise I use 'Alclad' Light Sheen (ALC-311).

Although it's a lacquer, I've found that it will accept 'Tamiya' 'Clear' coloured Acrylics without any separation, which can happen with other paints. The 'Alclad' lacquers dry fast and provide a good sealing layer over the painted surfaces. When using 'Alclad' sealing coats, the golden rule is to allow the various painted surfaces to dry fully before applying 'Alclad' lacquers.

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

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

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

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

PART 3
WEATHERING
(General)

PART 3 - WEATHERING (General)

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. The kitchen roll can be used dry or very slightly dampened. If dampened, the dried clay is re-activated and the clay wash can be more easily be removed or worked as required.

First I seal the surface with an airbrushed semi-matte clear coat, such as 'Alclad' Light Sheen (ALC-311), which dries quickly. A gloss coat tends to stop the clay wash 'gripping' the surface when it is applied and it can run off or just puddle. A more 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 can 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.

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 mixed to create many colour shades for different weathering finishes.

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. Use a soft brush or absorbent kitchen roll, which are dry or ***very slightly*** dampened, to brush or wipe off the clay wash in the direction of airflow over the model. Even then, dab them onto a dry piece of the paper, until they are almost dry. Any wetter and you'll find that you are removing too much of the clay wash. If that happens you can re-apply the wash and start again. 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 within 30 minutes. Then very lightly brush and/or use a piece of damp absorbent paper to remove as much you want until you get the desired effect. Once finished, run the brush under a tap to rinse out any residual clay pigments. Finally, seal the surface with your chosen clear coat, which will seal in the applied clay wash.

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 'Alclad' Light Sheen (ALC-311).

'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 quality oil paints can be too ‘gritty’ when leached of oil, so I use ’Abteilung 502’ oil paints and ‘Tamiya’ Enamel thinners (X20).

PART 4
DECALS
(General)

PART 4 - DECALS (General)

Standard decals:

NOTE: *The following is **applicable only** for decals on a **painted surface**. If decals are to be placed on top of **previously applied decals**, the decal setting solutions may 'eat' into the previous decals. In this case a sealing coat of either 'Alclad' Gloss (ALC-310), 'Alclad' Aqua Gloss (ALC-600), Tamiya' Clear (X22) or 'similar should be airbrushed over the first decals, to provide a barrier against the setting solutions.*

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

Airbrush a sealing coat of 'Alclad' Gloss (ALC-310), 'Alclad' Aqua Gloss (ALC-600), 'Tamiya' Clear (X22) or 'Johnson' Pledge Floor Care finish, 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.

Apply the decal after it has soaked in 'warm' water enough to start to loosen the decals from its carrier backing.

Carefully move the decal into the correct position.

Carefully press out any residual water from the decal by either pressing with a tissue or by gently rolling over the decal with a cotton bud.

NOTE: *'MicroSol' solution will soften the decal to allow it to conform fully to the painted surface. The solution usually causes the decal to wrinkle, but this is normal as the decal semi-dissolves to the surface. Once the solution has been applied, never try to disturb the decal as it will tear. Leave the solution for several hours to do its job, after which the decal will return to a smooth surface, but conformed fully to the painted surface.*

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.

Once fully dry and set, airbrush a sealing coat over the decal, dependant of your desired finish. I tend to use either 'Alclad' Light Sheen (ALC-311) lacquer or 'Tamiya' Semi Gloss (X35).

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 use a dry cotton bud 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.

Once the decals have been applied I airbrush a sealing coat of either 'Alclad' Clear Coat Gloss (ALC-310) lacquer), 'Alclad' Aqua Gloss (ALC-600), 'Tamiya' Clear (X22) or 'Johnson' Pledge Floor Care finish over areas of decals where more decals are to be applied.

Once the decals have been applied and are dry I airbrush a final sealing coat of 'Alclad' Light Sheen (ALC-311) or 'Tamiya' Semi-Matt (XF35) over the decals.

To 'knock back' the sheen for applying weathering effects (refer to Part 3 of this build log), for example 'Flory' clay washes or oil paint, I airbrush a sealing coat 'Alclad' Light Sheen (ALC-311) mixed with Flat (ALC-314) at a 3 to 2 ratio.

‘Aviattic’ linen effect 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.

However, ‘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, the decals 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. For this model I chose to use the ‘clear’ decals, in order to show the linen effect more visibly.

Application:

As the decal is to be applied over a coloured base coat (green, brown etc), first airbrush a primer coat of ’AK Interactive’ primer and micro-filler White (AK759) or Gey (AK758) or similar on all of the surfaces to have the decals applied.

NOTE: *‘Silvering’ is caused by air being trapped in the rough surface of the paint, such as on a matte 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 the required base colours to the model surfaces.

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 least two light sealing coats of either ‘Alclad’ Clear Coat Gloss (ALC-310) lacquer, ’Alclad’ Aqua Gloss (ALC-600), ‘Tamiya’ Clear (X22) or ‘Johnson’ Pledge Floor Care finish (similar to ‘Future’), all of which will form a gloss surface for applying the decals.

NOTE: *The surface must be pre-wet with like 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.*

Soak each decal in warm water for approximately 20 seconds.

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 ant 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 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.

PART 5
RIGGING
(General)

PART 5 - RIGGING (General)

General:

The first thing to check is that you have already drilled out the rigging attachment points. Most models have these located on the model, but it's best to carry out research in reference books or research on line before drilling. Some modellers use micro drills manufactured for drilling printed circuit boards etc and these drill bits sometimes have identifying coloured collars fitted to the drill shanks. I have found that care needs to be taken when using these drills, as they are sharp and instead of easing their way into the plastic of the model, they tend to bite in and effectively 'cork screw' their way in, which causes jamming and lots of broken drills. This is not only expensive but can leave broken drill bits in the model, which are virtually impossible to extract. An alternative is to use High Speed Steel (HSS) drill bits, which are cheaper and have less 'bite' when in use, although again, they are very fragile and can very easily be broken.

Some modellers drill through the wings etc of the model and rig by pulling through the rigging line/EZ thread etc, gluing in position and then rubbing down the exposed line 'tag' and 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 and all necessary holes pre-drilled, the rigging can start. For the primary rigging, such as flying and landing wires and flight control cables I use mono-filament (fishing line) of 0.08 and 0.12 mm diameter. These are effectively transparent but do give a look of steel, without the need of painting or colouring with a gel pen. The turnbuckles used can be either sintered metal or resin and obtained from 'Gaspatch Models'. Although the newer resin turnbuckles are better detailed, they are resin and therefore can break is stressed in the wrong direction. If in doubt, use the metal versions, which are much stronger.

The basic aircraft external rigging is shown in the following illustrations, adapted from the 'Wingnut Wings' instruction manual, page 16. The French Salmson 2-A2 aircraft were rigged with round, wire wound wires with adjustable turnbuckles, unlike the aircraft flown by the American squadrons, as those aircraft used flat the RFC/RAF type aerodynamic wire.

The kit rigging points will be made using 'GasPatch' turnbuckles and anchor points.

The rigging materials to be used are:

'Stroft GTM' 0.08 mm diameter mono-filament (flight control cables)

'Stroft GTM' 0.12 mm diameter mono-filament (general rigging)

'GasPatch' 1:48th and 1?32nd scale metal turnbuckles and anchor points (as required).

NOTE: *Most metal tube can be chemically blackened by immersion is solutions, such as Blacken-It' or similar.*

'Albion Alloys' 0.4 mm (NST04) and 0.5 mm (MBT05) diameter 'blackened' tube.

NOTE: ***The following photographs from the 'Wingnut Wings' web site outline the various rigging used on this aircraft and where the adjustable turnbuckles were fitted. These are intended to supplement the rigging diagram on page 16 of the instruction manual, including the correction sheet issued to reposition the four cabane side bracing wires into the underside of the upper wing.***

Some French aircraft had the structural rigging painted to protect it from the elements. In most cases the colour was French blue. However, control cables were left as natural metal finish.

Tail unit:

Fin bracing:

The fin was braced with twin wires, which were attached and routed between the top of the fin, the left and right tailplane and the underside of the rear of the fuselage.

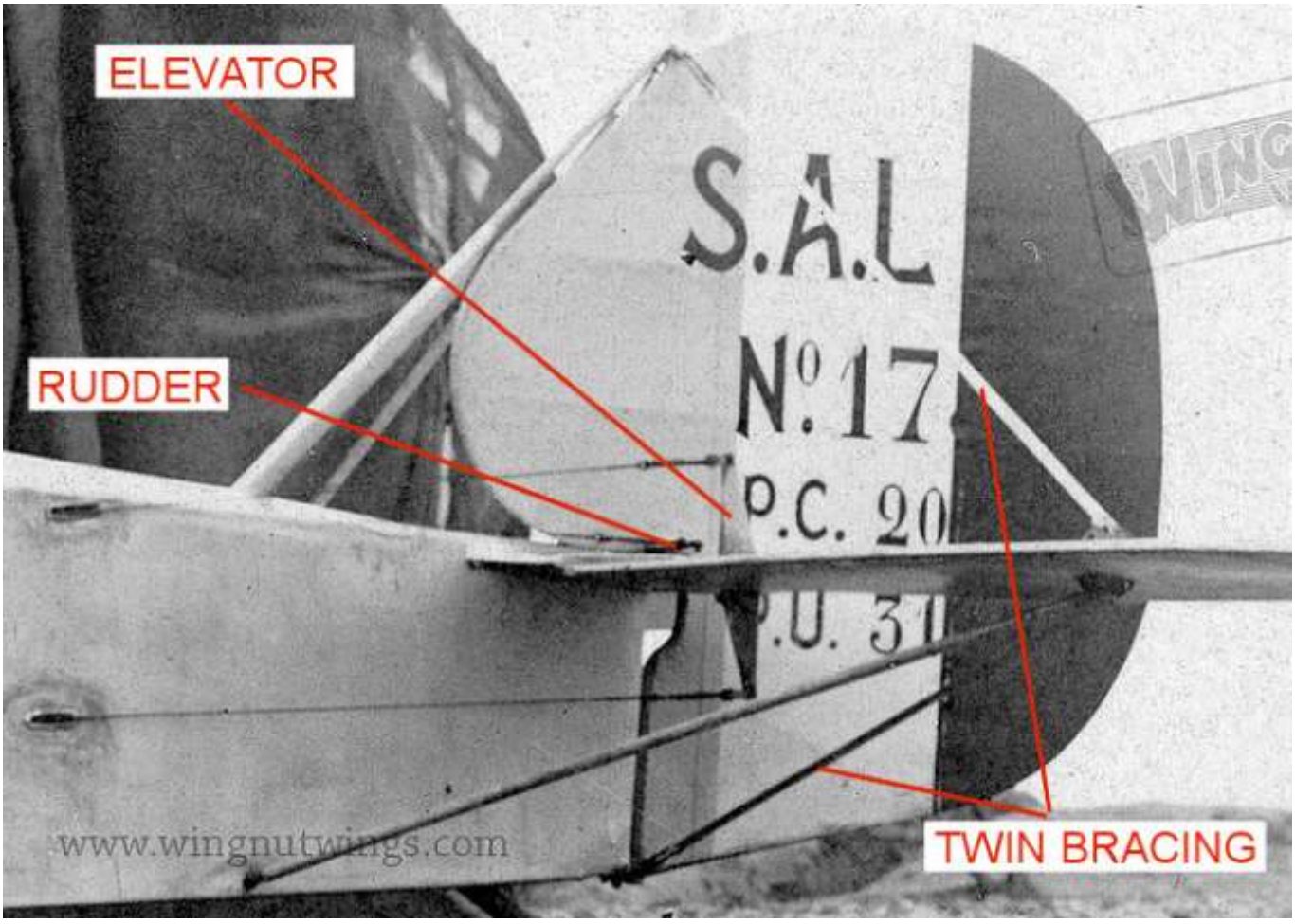
Each of the four pairs of wires were held together with inserts, which were wrapped with lined to cover the wires. It's unclear where turnbuckles were fitted to these wires, but probably at the top of the fin and possibly underside of the fuselage.

Elevator control:

The elevator was operated by upper and lower cables that exited the fuselage through ports in the sides of the fuselage and were attached to the top and bottom of a control horn on both sides of the elevator. Turnbuckles were attached to the cables at the ends of the control horns. As the pilot moved the control column forwards or rearwards, the attached cables moved the elevator up or down to cause the aircraft to pitch up or down (climb or dive).

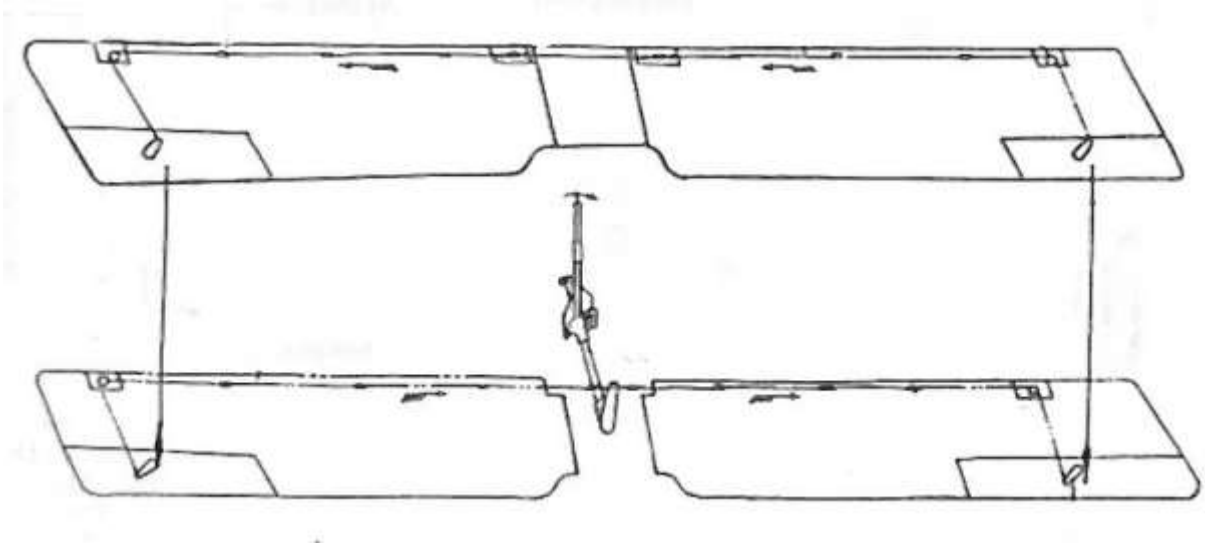
Rudder control:

The rudder was operated by two cables that exited the fuselage through ports in the rear, top of fuselage and were attached to the ends a control horn on the rudder post. Turnbuckles were attached to the cables at the ends of the control horns. As the pilot moved the control column left or right, the attached cables moved the rudder left or right to cause the aircraft to yaw left or right.



Aileron control:

The ailerons on the upper and lower wings were operated by cables that were routed from the cockpit control column and internally through the structure of the lower wings. These cables exited the wings and were attached to the ends of the lower aileron control horns and were then routed through the ailerons to interconnect underside of the upper ailerons. A separate interconnecting cable was routed through the internal structure of the upper wing to exit and be attached to the ends on the upper aileron control horns. Turnbuckles were fitted to the cables above the lower ailerons. As the pilot moved the control column left, the cables moved the ailerons on left wings up and on the right wings down, causing the aircraft to roll to the left (bank). Moving the control column to right had the opposite effect.

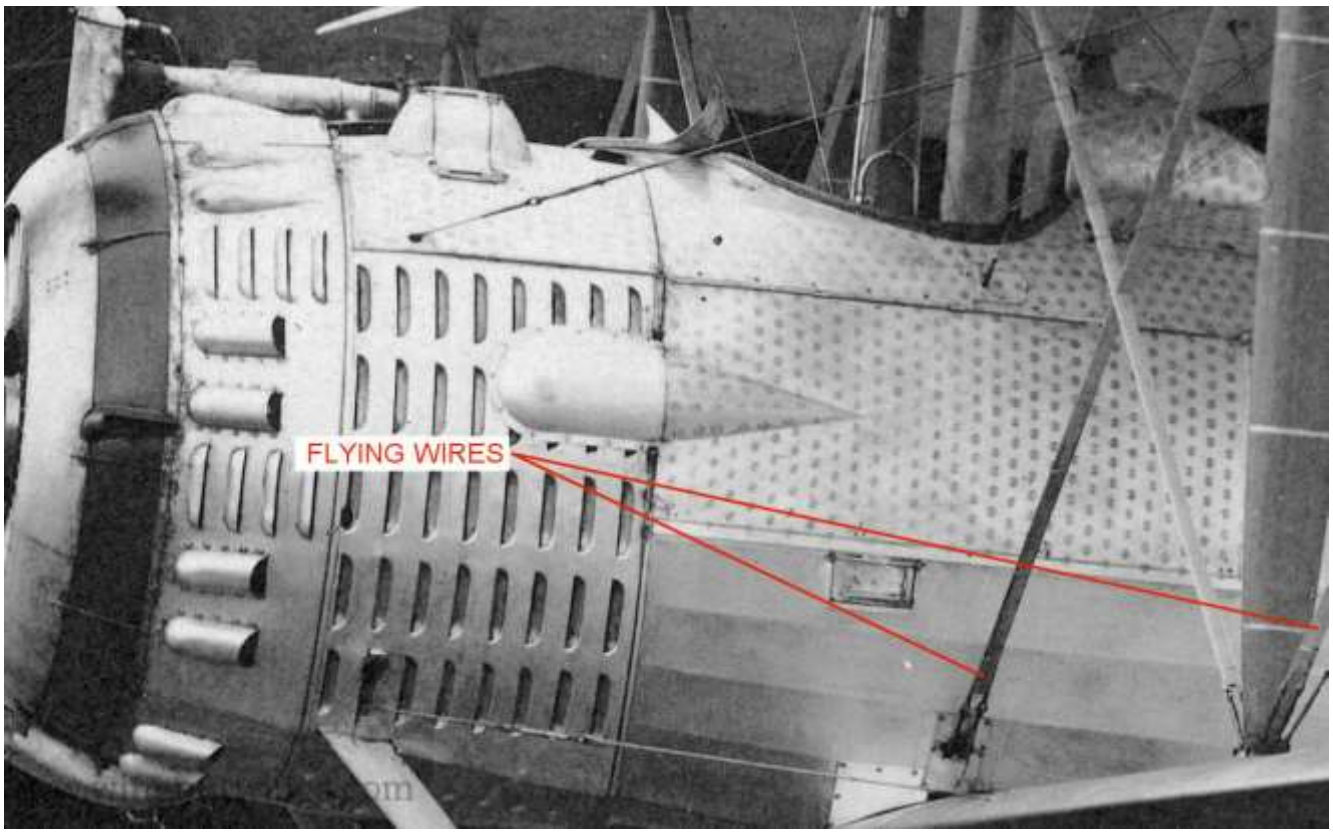


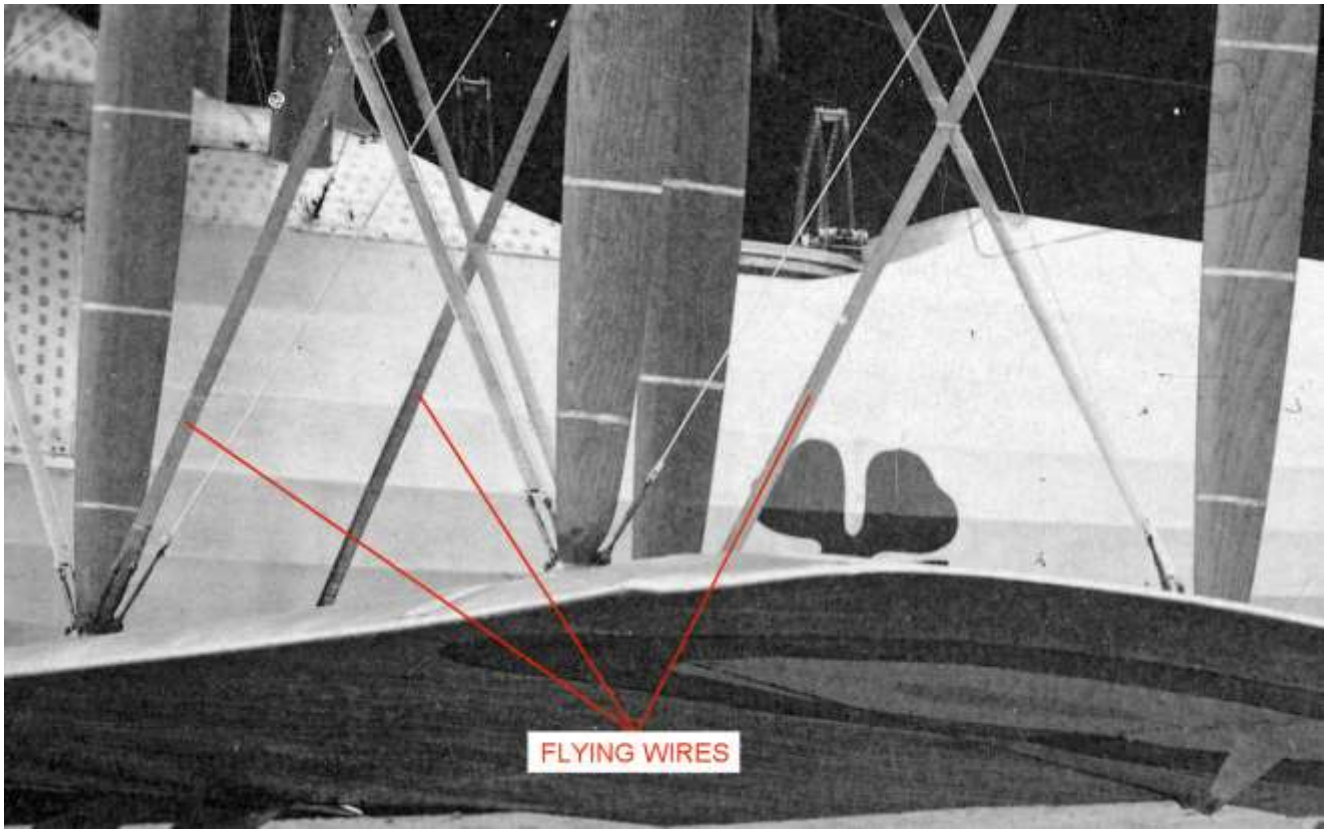
Landing gear:

The landing gear was braced with two pairs of crossed wires that spanned between inboard, top of the forward and centre struts and the front and rear, outer ends of the axle fairing. A single wire was also attached to the underside of the fuselage, between the centre crossed bracing wires and the centre of the axle fairing. Turnbuckles were fitted to the tops of the two pairs of crossed wires and at the axle fairing for the single wire.

Flying wires:

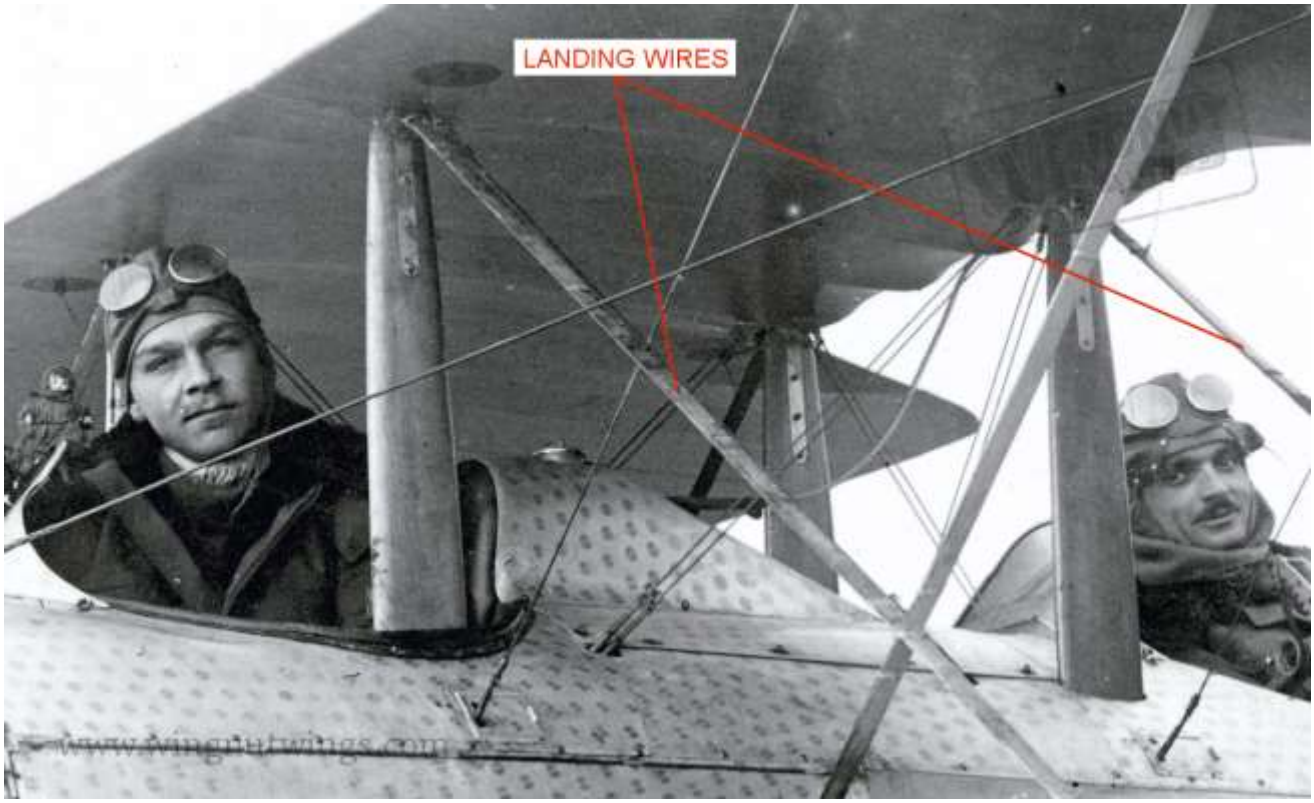
Twin flying wires were attached between the fuselage/lower wing roots and the underside of the upper wing at the top of the front and rear inboard interplane struts. They were also attached between the upper surface of the lower wings at the front and rear interplane struts and the underside of the upper wing at the top of the front and rear outboard interplane struts. A total of four pairs of flying wires were fitted at the left and right side of the wings. Each of the pairs of wires were held together with wood insert strips, which were linen wrapped to cover the wires. Turnbuckles were fitted to each of the wires at the lower ends, at the fuselage and lower wings.

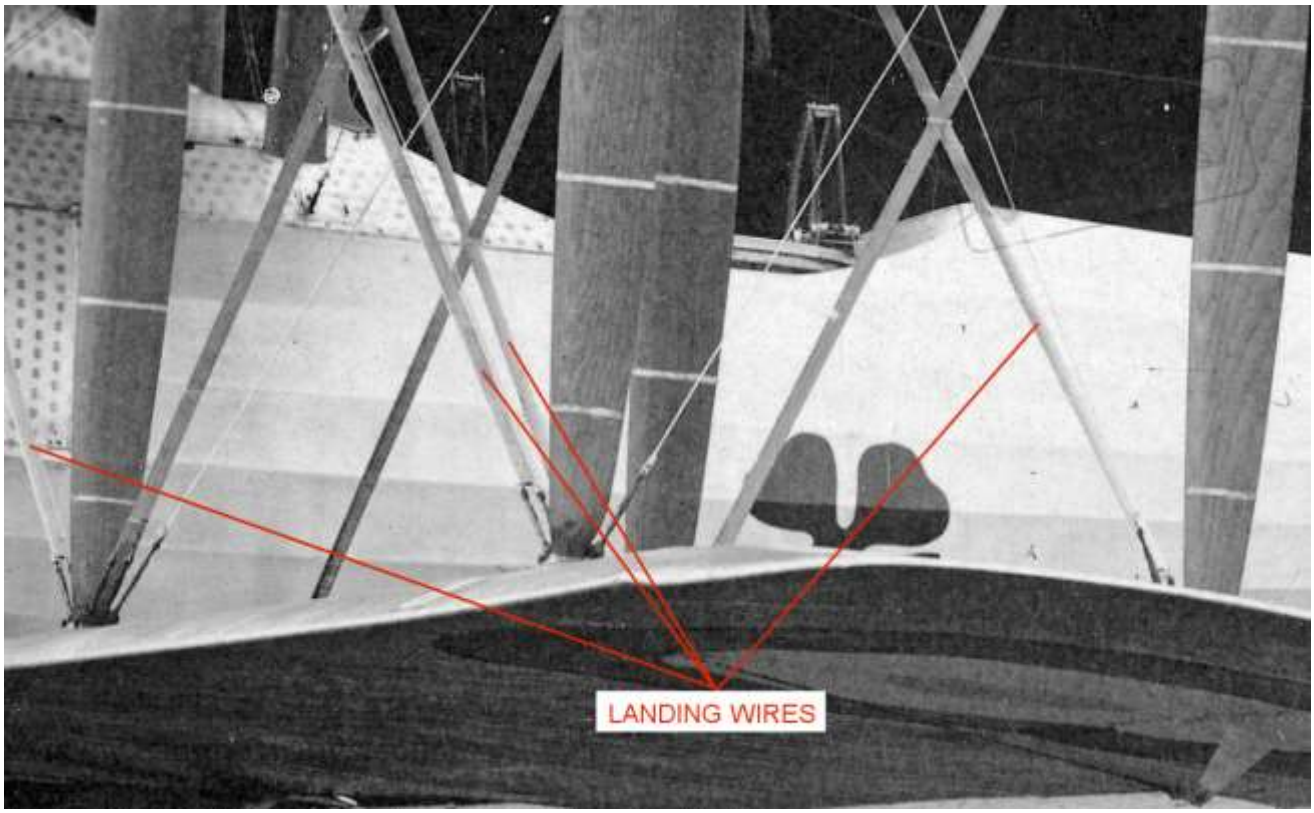




Landing wires:

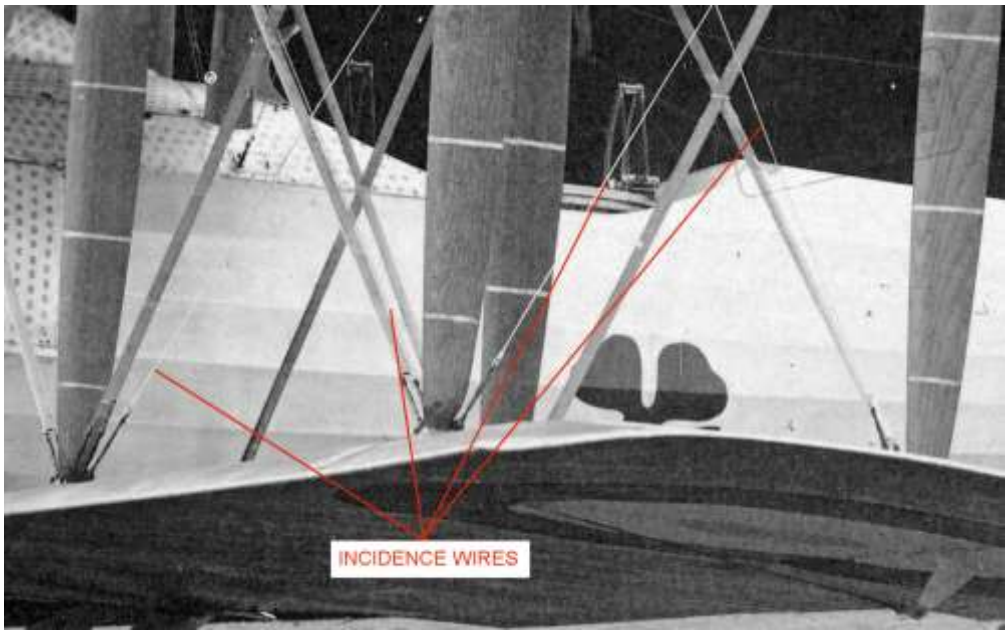
Twin flying wires were attached between the underside of the upper wing at the top of the front and rear cabane struts inboard interplane struts and the top surface of the lower wings at the bottom of the front and rear inboard interplane struts. They were also attached between the top surface of the lower wings at the bottom of the front and rear interplane struts and the underside of the upper wing at the top of the front and rear outboard interplane struts. A total of four pairs of flying wires were fitted at the left and right side of the wings. Each of the pairs of wires were held together with wood insert strips, which were linen wrapped to cover the wires. Turnbuckles were fitted to each of the wires at the lower ends at the lower wings.





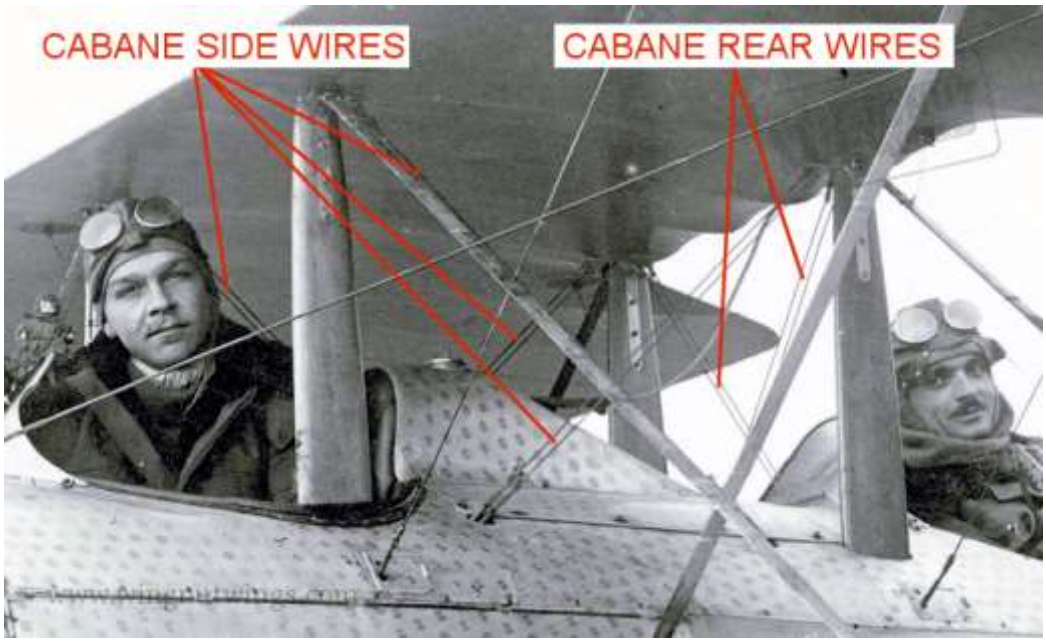
Incidence wires:

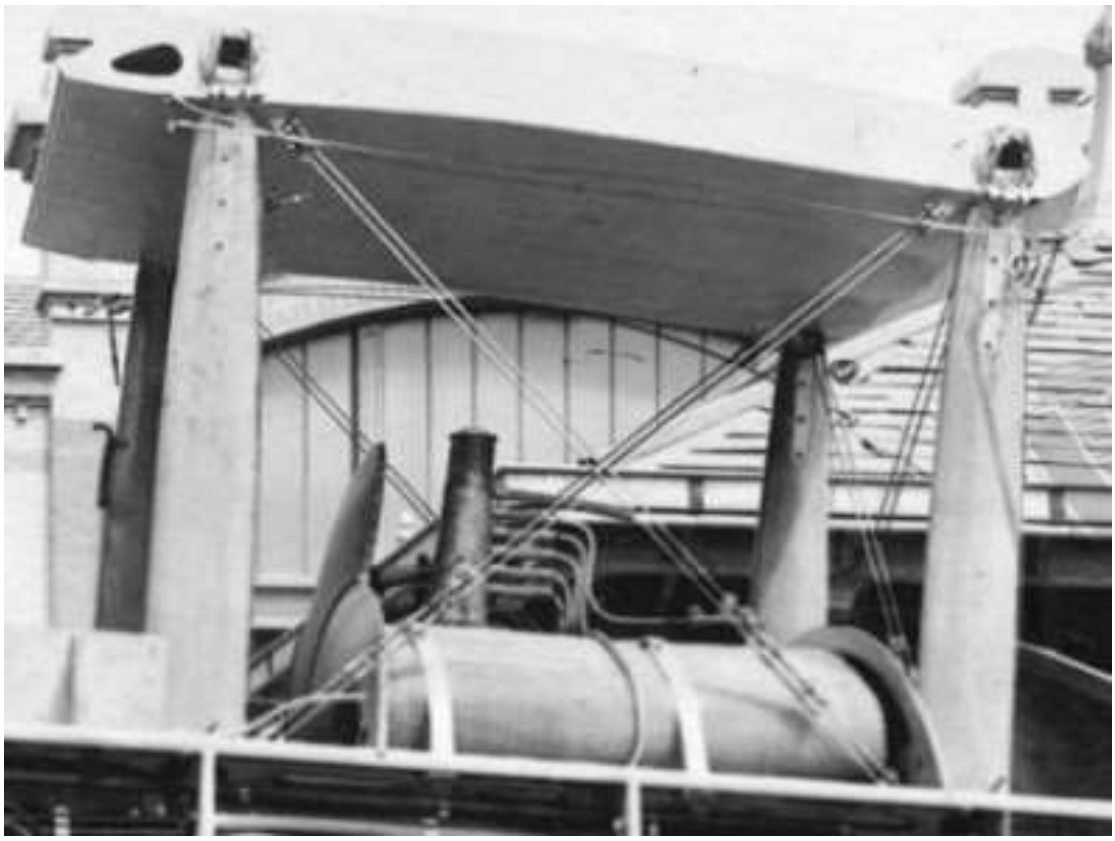
Each of the four pairs of interplane struts had crossed incidence wires fitted. These were single wires that spanned between the top surface of the lower wings and the underside of the upper wing. They were attached behind the forward struts and forward from the rear struts. Turnbuckles were fitted at the lower wing end of the wires.



Cabane strut bracing:

Twin and crossed bracing wires were fitted between the front and rear cabane struts. One pair were attached to the underside of the upper wing, at the rear of the top of the front cabane struts and attachment points in the fuselage, forward from the bottom of the rear cabane struts. The second pair were attached to the underside of the upper wing, forward from the top of the rear cabane struts and attachment points in the fuselage, rearward from the bottom of the front cabane struts. Turnbuckles were fitted to the wires at their lower ends at the fuselage. Twin and crossed bracing wires were also fitted between the two rear cabane struts. These were attached to the underside of the upper wing, inboard from the top of the rear cabane struts and attachment points in the fuselage, forward from the observers windscreen. Turnbuckles were fitted to these wires but inside the fuselage and therefore not visible.

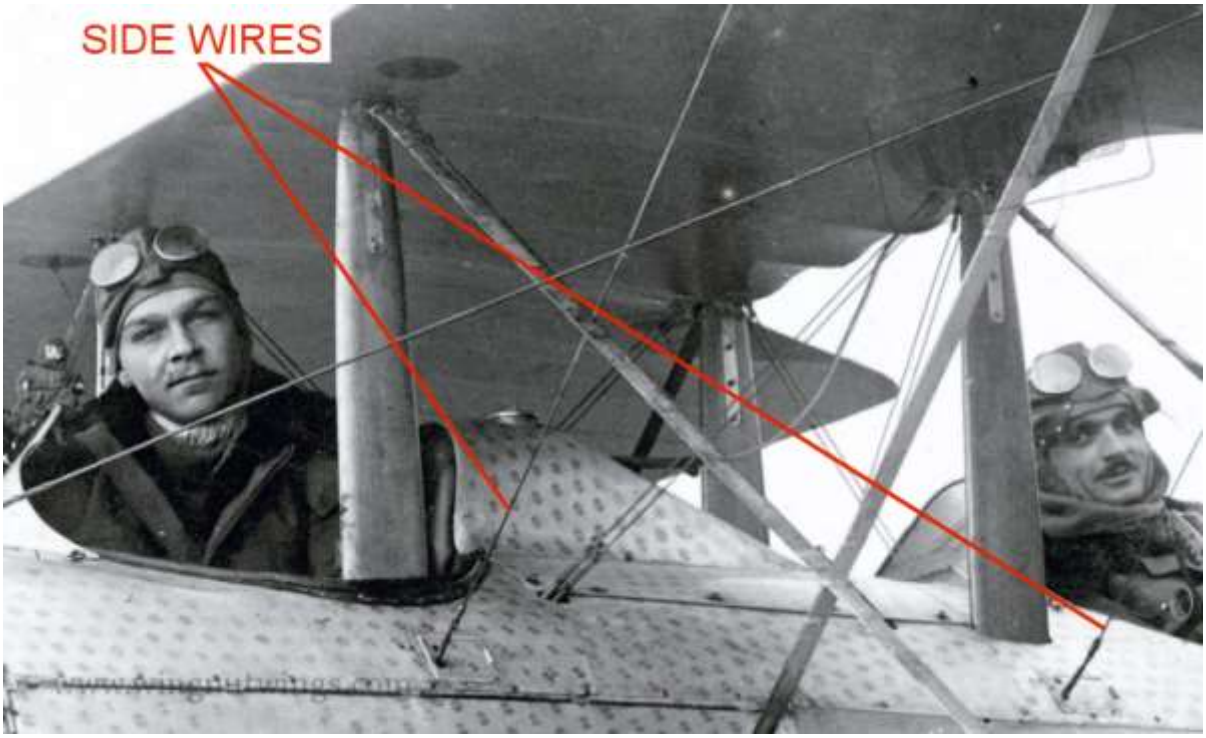




Side bracing:

NOTE: *A correction page was released by 'Wingnut Wings', which corrects the attachment positioning of the four side bracing wires at the underside of the upper wing. The following includes this correction.*

Two side wires were fitted to both sides of the aircraft. These wire exited the fuselage below the front and rear cabane struts and were attached to the underside of the upper wing and three wing ribs outboard from the tops of the cabane struts. Turnbuckles were fitted to the wires at the fuselage attachment points.

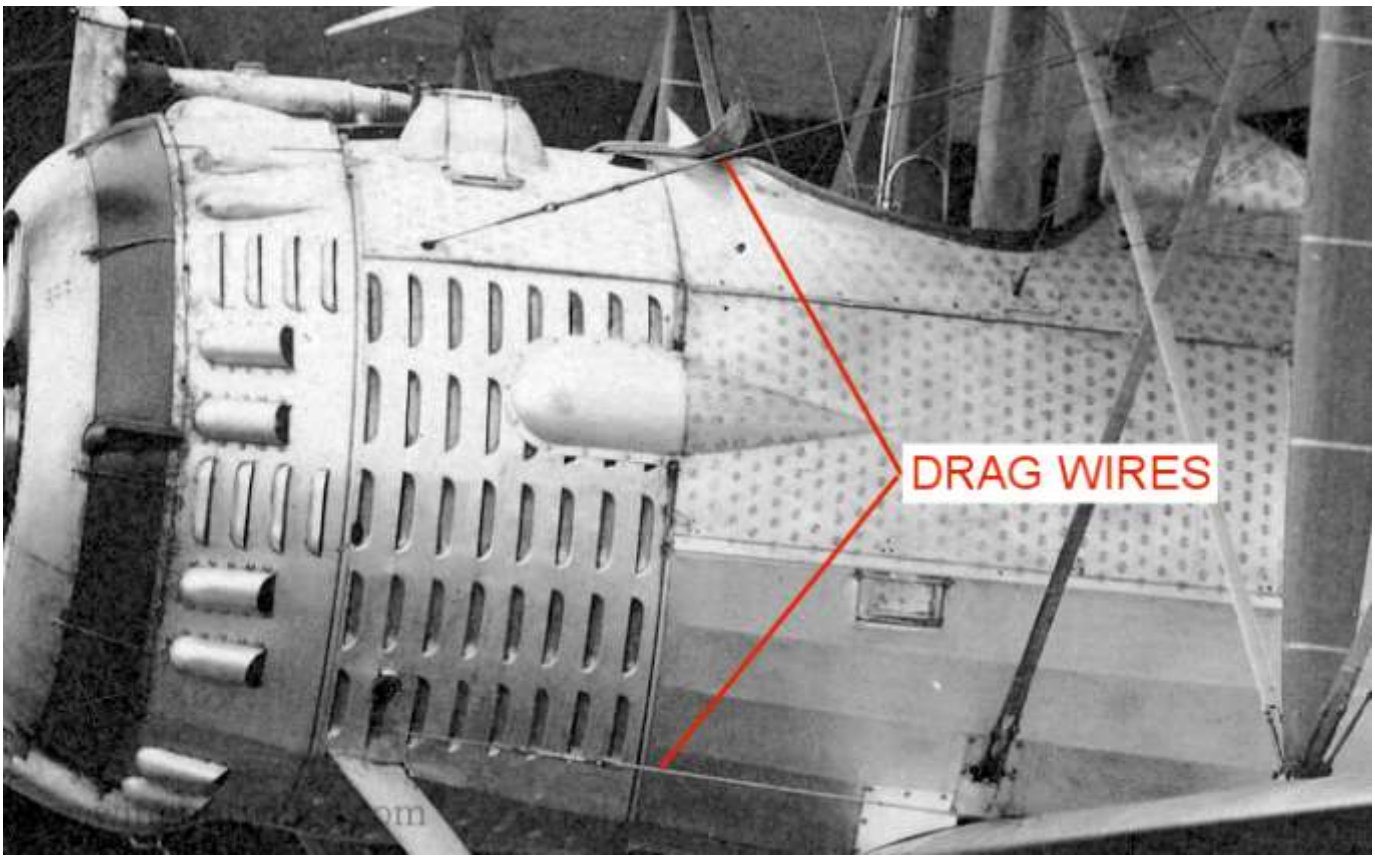


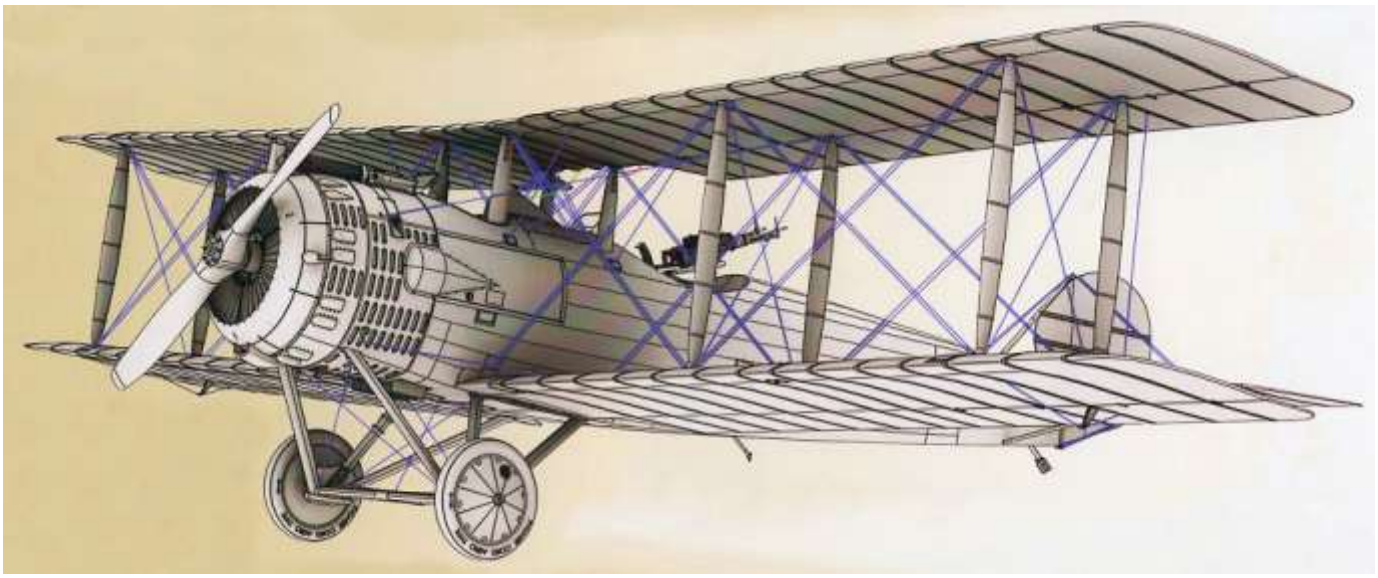
Drag wires:

Two drag wires were fitted to both sides of the aircraft. The top wires were attached between the upper area of the engine side access panels and the underside of the upper wing, at the top of the rear, inboard interplane strut.

The bottom wires were attached between the lower area of the engine side access panels and the leading edge of lower wings, two wing rib tapes from the fuselage.

Turnbuckles were fitted to the wires a short distance from the engine access panels.



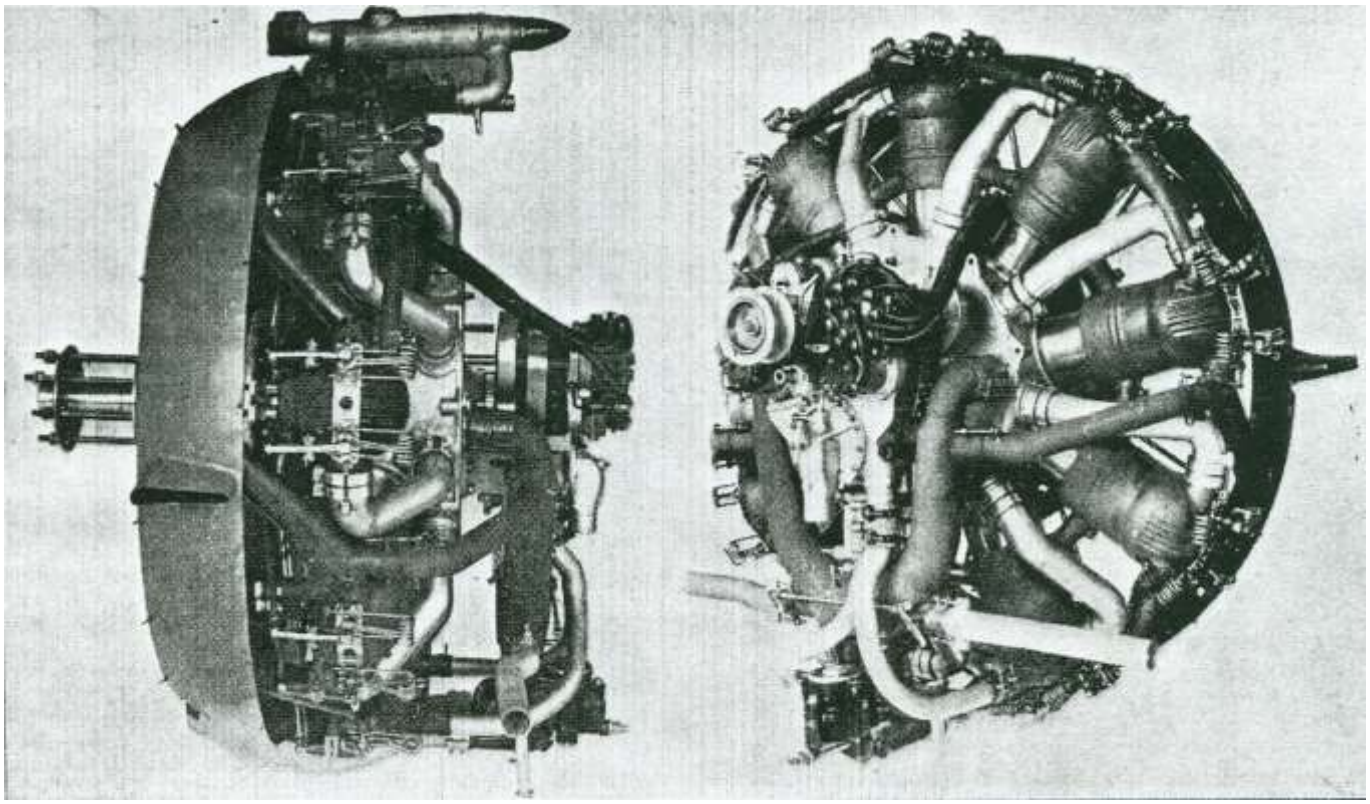


PART 6
ENGINE

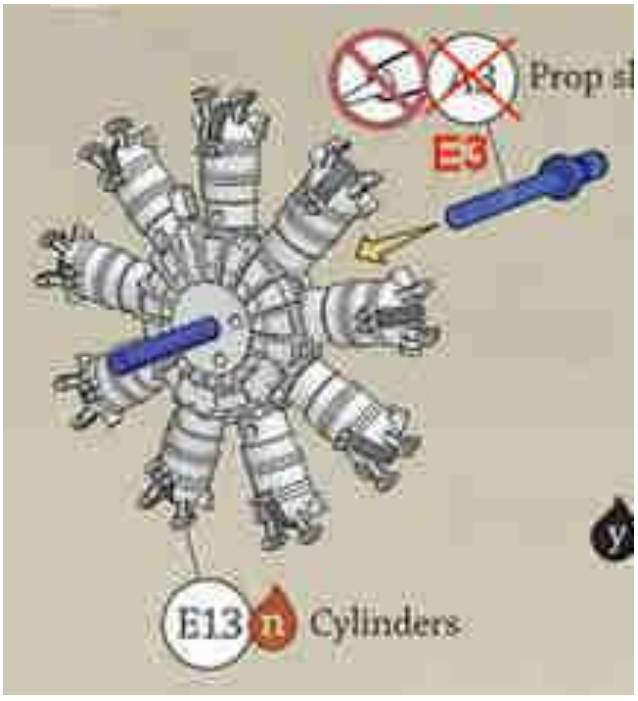
PART 6 - ENGINE

NOTE: *The 'Wingnut Wings' instruction manual is reference throughout this build. When removing any kit parts from their sprues, always remove any residual sprue tags and mould seams. Take care when removing the smaller or more fragile parts from their sprues. Too much cutting pressure can cause deformation, breakage or stress marks in the parts.*

The Salmson 2-A2 was powered by an advanced designed engine for the period, being a water cooled 260hp Salmson 9z radial (not rotary) engine, as shown below.



NOTE: *Page 7 of the 'Wingnut Wings' instruction manual calls out the part number of the propeller shaft as A3. This is not correct as the part call out should be E3.*



NOTE: *Page 7 of the 'Wingnut Wings' instruction manual calls out the part number of the magnetos as E2. This is not correct and the part call out should be E5.*

Preparation:

NOTE: *This model will have the radiator shutters open (kit part A21). Therefore kit part A20 is not required.*

Remove from their sprues the kit parts detailed on pages 7 and 8 of the 'Wingnut Wings' Instruction manual.

Remove any residual sprue tags from the parts.

Test assemble the engine parts to make sure all of the parts fit correctly.

Pre-assembly:

Cement the two halves of the mounting plate (D5) together.

Cement the propeller shaft (E3) into the engine half (E13).

Cement the engine half (E1) onto the engine half (E13).

Painting:

Airbrush all parts and assemblies with a grey primer, such as 'AK Interactive' Grey (AK758) or similar.

Airbrush the following parts with a gloss black, such as 'Tamiya' Gloss Black (X1) or similar:

> Engine assembly, Support tube E7, push rods E2, front hub A39, intake manifold E11, pipes E6 and E14, magneto assembly E5, radiator A12, exhaust pipes E10, the cowl/ exhaust ring G26 and stub pipes D12.

Airbrush the following parts with aluminium, such as 'Alclad' Duraluminium (ALC-102) or similar:

> Push rods E2, front hub A39, intake manifold E11, magneto assembly E5 and the inside surface of the cowl and exhaust ring G26.

Airbrush the upper section of the nine engine cylinders with ‘Alclad’ Copper (ALC-110) or similar.

Airbrush the radiator A12 with gun metal colour, such as ‘Alclad’ Gun Metal (ALC-120) or similar.

Airbrush the mounting plate D5 and pipe assembly E9 with ‘Tamiya’ Medium Blue (XF18) or similar.

Airbrush the outer surface of the cowl/exhaust ring G26, stub pipes D12 and the three exhaust pipes (E10) with ‘Alclad’ Exhaust Manifold (ALC-123) or similar.

Airbrush the radiator shutter assembly (A21) with the following ratio of ‘Tamiya’ paint mix:

NATO Brown (XF68) - 10 drops
Flat Aluminium (XF16) - 2 drops
Sky Grey (XF19) - 1 drop.

Brush paint the base of the nine engine cylinders, the cylinder valve levers/springs and the engine crankcase with ’Mr. Metal Colour’ Stainless Steel (213) or similar.

Brush paint the eighteen spark plugs with ’Tamiya’ Deck Tan (XF55) or similar.

Brush paint the two magnetos on E5, the pipes E6 and E14, the two pipe hose connectors on the magneto assembly E5 and the nine interconnecting pipes between the engine cylinders with ’Tamiya’ Rubber Black (XF85) or similar.

Brush paint the faces of the two magnetos with ’Tamiya’ Hull Red (XF9) or similar and the lower switch housings ‘Mr. Metal Colour’ Brass (219) or similar.

Once the paint on the parts has fully cured and set, test fit each of the engine parts. Make sure each part can be fully located without any undue force necessary. If any part resists being located and fitted, sand or drill out any interfering paint and primer until a full and interference free fit is achieved.

Assembly:

Cement the ring support tube to the front of the engine.

Cement the intake manifold to the rear of the engine.

Cement the mounting plate to the rear of the engine.

Cement the pipe assembly to the rear of the engine.

Cement the magneto assembly to the rear of the engine.

Cement the pipes E6 and E14 into their recesses in the top, rear of the top five engine cylinders.

Ignition leads:

NOTE: *The engines requires ignition leads from the two magnetos to the pre-moulded cylinder spark plugs. The following is my assumption of the routing of the ignition leads.*

Nine individual ignition leads were attached to each of the two magnetos, located on the rear of the engine. The leads from each of the magnetos were grouped together and routed around the sides of the top engine cylinder and then into a circular support tube, mounted on the front of the engine. The leads were routed around the inside of the support tube and each cylinders pair of ignition leads were routed out and up to the two spark plugs in the top of the cylinders.

Leads at spark plugs:

NOTE: *The pre-moulded clamps around the ring support tube E7 will align with the centre line of the cylinders when the ring support tube is fitted.*

Magneto leads:

Cut nine long lengths of ‘EZ’ stetch line (fine black).

Twist together the one end of the nine lines over a length of 30 mm.

Secure together the twisted lines by slightly tensioning the twisted lines then dip the twist in a blob of thin CA adhesive. The adhesive will track along the twisted lines.

Test locate the lines by passing the grouped end through the mounting plate and past the outside bottom of the induction pipe for the top engine cylinder (viewed from the rear of the engine), such that the end contacts the rear of the ring support tube.

Trim the end of the grouped lines such that the beginning of the separate nine lines is positioned over the top rail of the mounting plate.

Using thin CA adhesive, secure the grouped end of the lines onto the rear face of the ring support tube and the mounting plate.

Attach each line in turn to the left magneto by applying thin CA adhesive to a stub on the face of the magneto, then loop a line onto the adhesive.

Cut away the excess line at the edge of the magneto face.

Repeat the procedure to fit an ignition lead assembly for the opposite magneto, passing the grouped end through the mounting plate and past the outside bottom of the cylinder induction pipe to the right of the top engine cylinder.

Spark plug leads:

Cut a length of ‘MFH’ black 0.4 mm flexible tube (P-961).

NOTE: *The ring support tube has pre-moulded attachment clamps located at the centre line of each cylinder.*

Trim the length of the tube such that it fits between the outside edge of a pre-moulded attachment clamp on the ring the ring support tube and the tip of the spark plug in the front, top of an engine cylinder.

Using thin CA adhesive, secure one end of the tube onto the outside edge of the ring support tube, to one side of the pre-moulded ring clamp on the support ring.

Secure the other end of the tube to the tip of the spark plug.

Repeat to secure a tube at the other side of the pre-moulded ring clamp.

Repeat the procedure to attach a tube to both sides of the remaining eight pre-moulded ring clamps on the support ring.

Weathering:

Airbrush the engine assembly with a semi-matte clear coat, such as 'Alclad' Light Sheen (ALC-311) or similar.

Refer to Part 3 (Weathering) of this build log - I applied 'Flory Models' Dark Dirt wash over the engine assembly.

Once the desired weathering effect is achieved, airbrush the weathered surfaces with a semi-matte clear coat, such as 'Alclad' Light Sheen (ALC-311) or similar. This will seal the weathering effect.

Assembly (continued):

Cement the push rod assembly onto the front of the engine.

Cement or use thin CA adhesive to secure the ends of each push rod to its operating valve gear on the top of the engine cylinders.

Cement the crankcase hub into the recess in the rear of the radiator.

NOTE: *I found the recesses in the rim of the radiator had to be slightly chamfered, in order for the pipes to fit correctly.*

Cement the three exhaust pipes into their locations around the rim of the radiator.

Cement the radiator shutter assembly onto the front of the radiator.

Test fit the radiator assembly into the cowl/exhaust ring, locating its three recesses onto the three locating lugs.

Cement the radiator assembly into the cowl/exhaust ring.

Cement the two stub pipes D12 into their locations on the cowl/exhaust ring.

Test fit the engine assembly into the rear of the radiator.

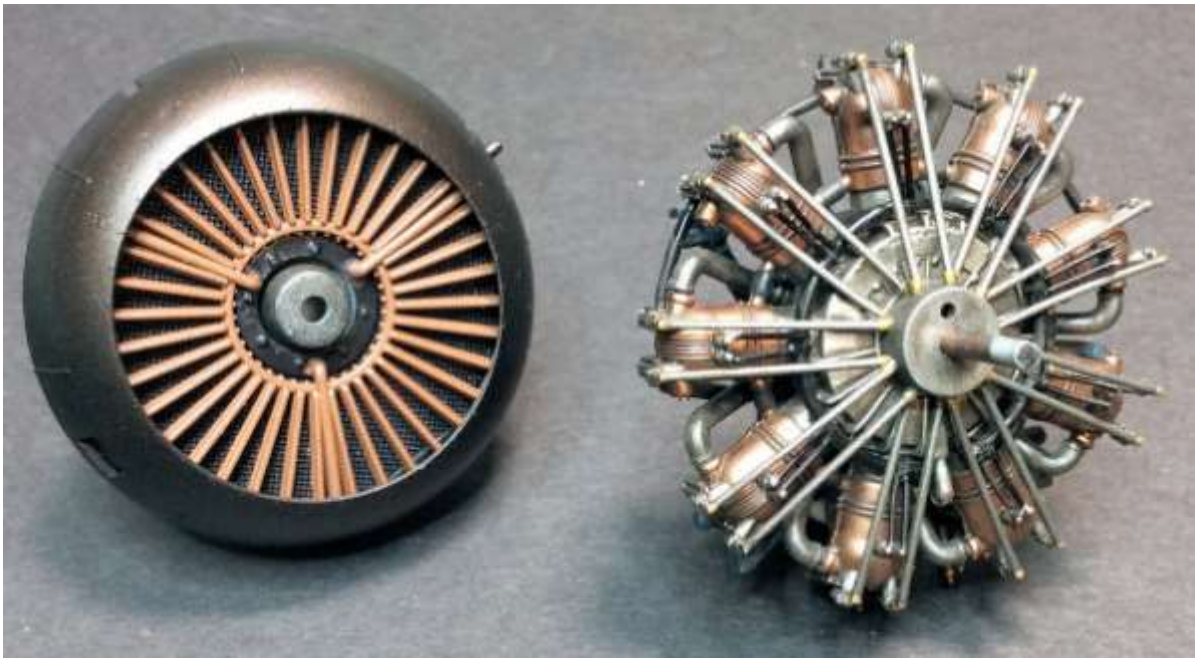
NOTE: *The engine assembly will be finally fitted later in this build.*

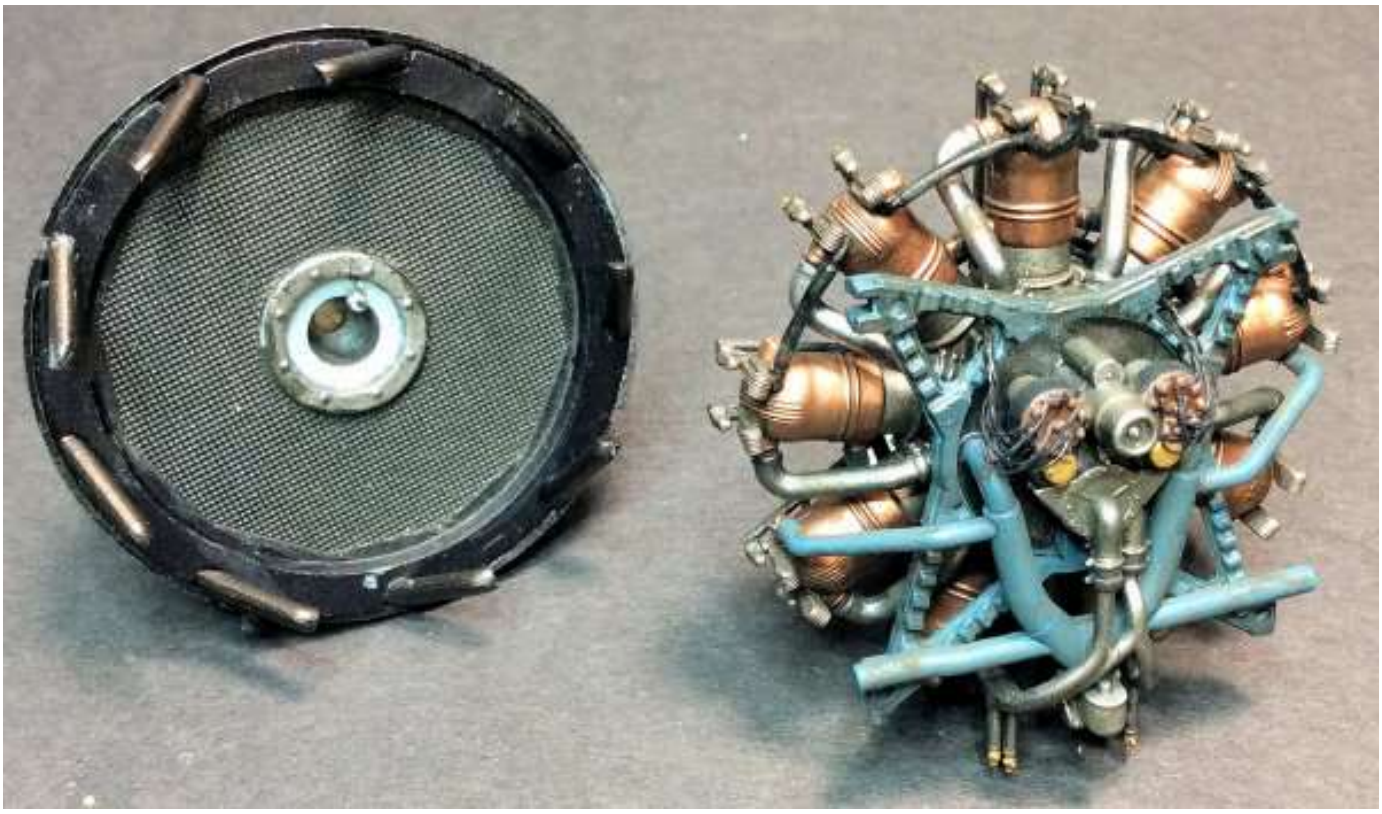
Remove the engine assembly from the rear of the radiator.

NOTE: *Weathering applied to radiator shutters after the following photographs were taken.*

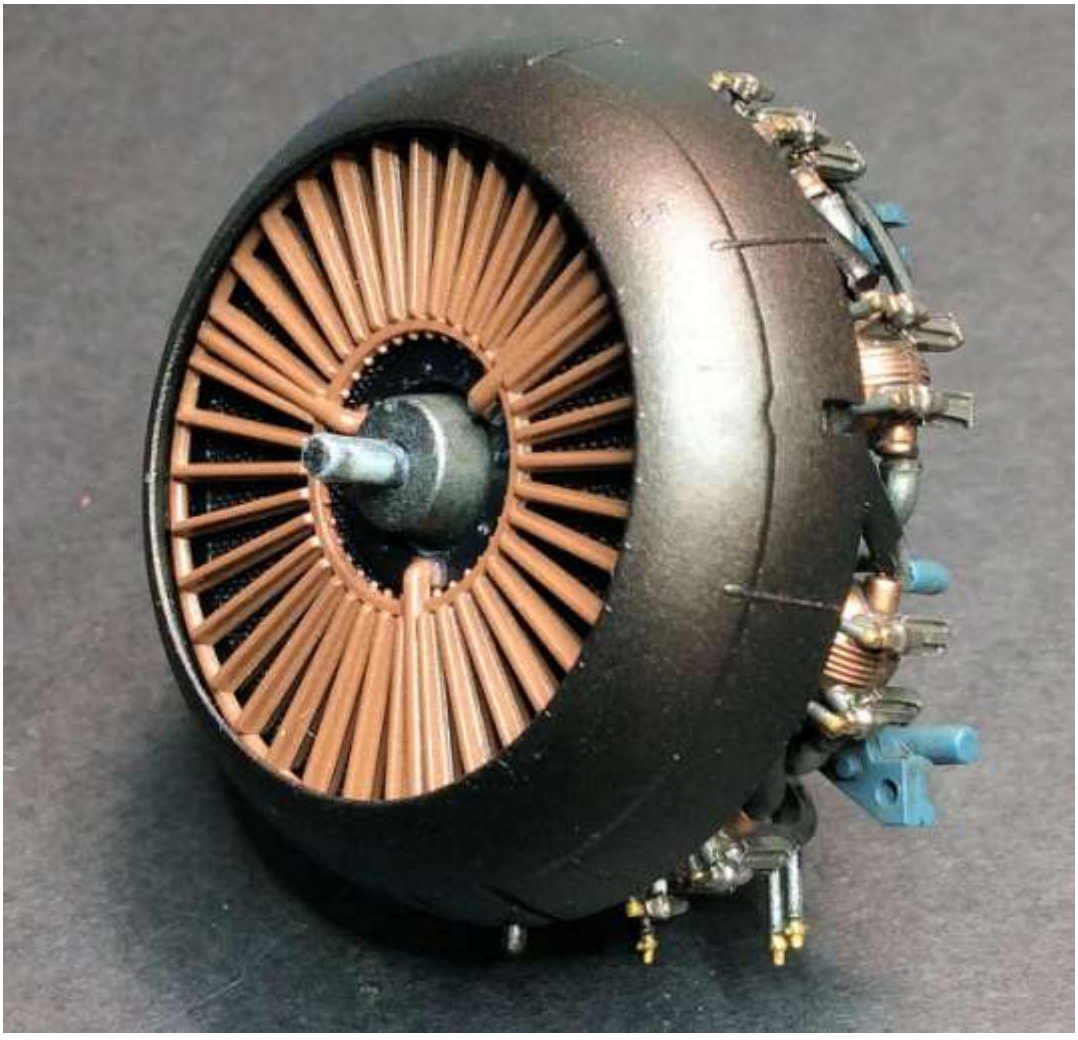
Sponge 'Tamiya' Weathering Master Set C (Gun Metal) over the radiator shutters.

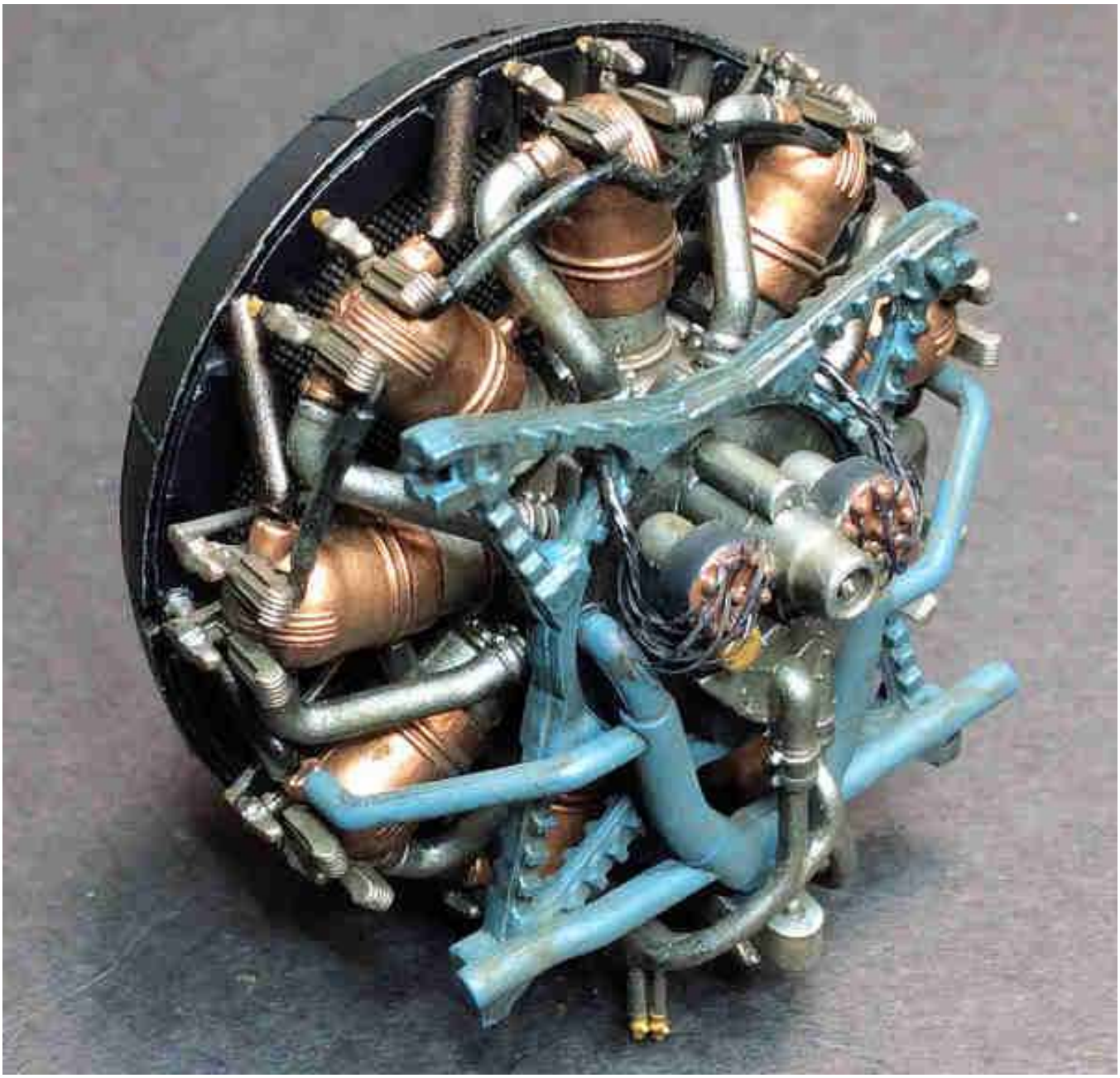
Cement the exhaust/cowl ring onto the front of the engine assembly.





NOTE: *The two exhaust stubs D12 are not shown fitted in the following photographs.*





PART 7
PROPELLER

PART 7 - PROPELLER

NOTE: *For this build I chose to replace the kit supplied propeller with wood laminated propeller 'Salmson propeller from Alex at 'Proper Plane'. These propellers are supplied pre-varnished and supplied with resin propeller boss plates.*

Propeller:

NOTEL: *Make sure you recognize the front and rear of the propeller to ensure it is fitted on the engine propeller shaft in the correct orientation..*

Airbrush the front of the propeller blades with a gloss clear coat, such as 'Alclad' Aqua Gloss 600 or similar.

Apply the two kit supplied decals to the propeller gloss coated blades, as shown in the illustration on page 20 of the instruction manual.

Airbrush the propellor with a semi-matte clear coat, such as 'Alclad' Light Sheen (ALC311) or similar.

Carefully saw off the two propeller boss plates from the resin mould block.

Carefully sand the cut faces of the boss plates to reduce them to the thickness of the cast boss plates. Use a finger to 'drag' sand the each boss over a flat piece of suitable sand paper, checking regularly to ensure the sanded faces are flat and equal thickness around the boss plates.

Airbrush the two boss plates with a steel colour, such as 'Alclad' Steel (ALC112) or similar.

Secure the rear and front boss plates centrally onto the hub of the propeller, using thin CA adhesive.

The propeller will be fitted later in this build.

PART 8
FUSELAGE

PART 8 - FUSELAGE

NOTE: *The 'Wingnut Wings' instruction manual is reference throughout this build. When removing any kit parts from their sprues, always remove any residual sprue tags and mould seams. Take care when removing the smaller or more fragile parts from their sprues. Too much cutting pressure can cause deformation, breakage or stress marks in the parts.*

Preparation:

Remove from their sprues the kit parts detailed on pages 3 and 4 of the 'Wingnut Wings' instruction manual and the two fuselage halves (F2 and F6) and top decking panel (F7). Take care when removing the clear parts from Sprue C, as cutting too close to the parts can cause stress marks.

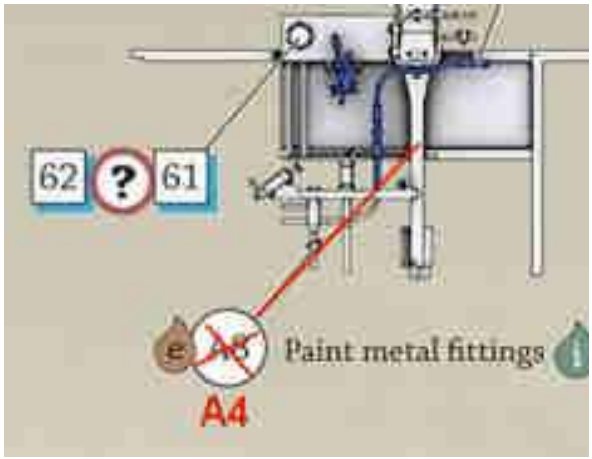
Remove any residual sprue tags from the parts.

Remove from the photo-etch sheet the seat harness straps and fuselage grill.

Remove any residual photo-etch tags from the seat harness straps and fuselage grill. I used a diamond photo-etch file.

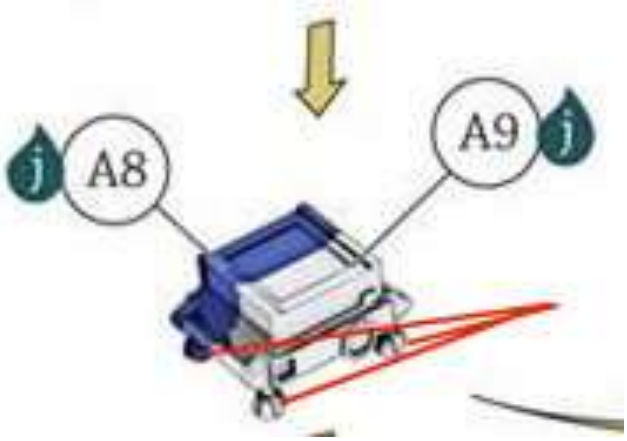
Side frame:

NOTE: *Page 4 of the instruction manual, at the upper left, calls out part A8. This is not correct as part A8 is a camera part. I believe this should call out part A4, which is that cockpit side frame and which is not called out.*



Camera top:

Page 4 of the instruction manual, at the lower left, calls out parts A8 and A9 for the camera. These parts are shown with round protrusions at the corners.



I believe these should be removed as they are mould stubs and not part of the camera. This assumption is based on the following photograph.

Camera mounting:

NOTE: *I intend to have the camera being passed up to the observer in the aircraft by a member of the groundcrew. Therefore the support frame on the camera needs to be removed and the empty support frame in the rear cockpit represented by plastic rod.*

Assemble the camera parts as shown in page 4 of the instructions, but do not fit the clear part C2 yet.

Using the camera assembly as a length guide, cut the two longer support struts from 0.85 mm square plastic rod, such as that from 'Plastruct' or similar. These will be fitted in the fuselage later in this build.

Using the camera assembly as a length guide, cut the two shorter support struts from 0.85 mm square plastic rod, such as that from 'Plastruct' or similar. These will be fitted in the fuselage later in this build.

Carefully cut away the support frame from the camera, then sand the camera sides to remove any witness marks.

Camera opening:

For this model, the opening under the fuselage should be cut out at the forward location (refer to page 6 in the instruction manual).

Radio wire holes:

For this model, the hole for the radio wire through the cockpit floor and the underside of the fuselage should be at the forward location (refer to page 6 in the instruction manual).

Mark a point on the top of the cockpit floor (G4) aligned with the forward, centre of the radio wire wheel on frame (A16) of the cockpit floor assembly.

At the point mark, drill a hole of 0.6 mm diameter through the cockpit floor.

Temporarily attach the side frame (A4) onto its locations points on the right side of the cockpit floor (G4) assembly.

Locate the assembly onto the right fuselage half.

Pass a needle vertically through the pre-drilled hole in the cockpit floor and twist the needle into the fuselage to create a point mark.

Remove the cockpit floor assembly and detach the cockpit side frame.

At the point mark, drill a hole of 1.0 mm diameter vertically through the fuselage.

Pre-assembly:

Cement frames (A17, A24, A16 and A6) in position on the cockpit floor (G4). Frames A6 and A16 are located in their slots under the floor.

NOTE: *Some parts or assemblies will be fitted only after they have been painted.*

Cement box photo plates box (D15) onto its location on cockpit side frame (A4).

Cement the two halves of the fuel tank (A18 and A23) together. Once set, file or sand away the join seam line to blend the two halves together.

Cement the instrument face (A51), compass (A38) and pump handle (A56) onto their locations on the firewall (G2).

Cement radiator shutter levers (A54) and (A55) together.

Cement the fuel/air lever (A53) onto its location on the cockpit side frame (A3).

Cement the radio wire wheel cover (A52) onto the frame (A16).

Cement the two side frames (D4) into the location slots in the cockpit side frames (A3 and A4).

NOTE: *The observers seat will be fitted in the down, stowed position.*

Cement the seat leg (A25) onto the underside of the observers seat (A27).

Cement the rudder shutter controls (A54 and A55) onto its location on the cockpit side frame (A4).

Using thin CA adhesive, secure the photo-etch grill (P9) into it location on the cockpit floor (G4).

Pre-painting:

Airbrush all parts and assemblies, including the inside surfaces of the two fuselage halves, and top decking panel, with a grey primer, such as ‘AK Interactive’ Grey (AK758) or similar.

NOTE: *Refer to pages 2, 3 and 6 and the colour illustrations on page 5 of the instruction manual for information on the painted details and areas of the internal fuselage and cockpit.*

Airbrush the following parts with ‘Tamiya’ Medium Blue (XF18) or similar:

Rudder pedal assembly and support rod (A10 and A28).
Photo etch grill (P9).
Control column (A33).
Wireless (A69).
Fuel tank assembly (A18 and A23).
Camera (A13, A11, A8 and A9).
Radiator shutter levers (A55 and A54).
Generator strut (A34).

Airbrush the following parts with ‘Tamiya’ Deck Tan (XF55) or similar:

Inner surface of the fuselage halves (F6) and top decking panel (F7).
Pilot seat (G25) and base (A26).
Observer seat with leg (A27 and A25).
Cockpit side frames including the cabane struts (A4 and A3).
Instrument panel around the firewall/footwell (G2).
Ammunition magazine container (A19).
Cockpit floor (G4) and fitted frames (A17, A24, A16 and A6).
The four cut plastic rod struts for the camera support frame.

Airbrush the following parts with ‘Tamiya’ Rubber Black (XF85) or similar:

Battery (A36).
Signal lamp (A58)

Brush paint the camera handles with ‘Tamiya’ Hull Red (XF9) or similar.

Brush paint the Pulsameter (C4) with ‘Mr. Metal Colour’ Brass (219) or similar. Make sure you leave the tube glass clear. If desired, paint the bottom half of the tube glass with ‘Tamiya’ Clear Yellow (X24) to represent oil in the tube glass.

Mask off the forward area of the cockpit floor from forward frame (A16).

Mask off the instrument panel (both sides) around the firewall/footwell (G2).

Airbrush the exposed areas with ’Alclad’ Duraluminium (ALC-102) or similar.

Remove all masking.

If necessary, brush paint the side and cross frames at Duraluminium painted forward cockpit floor with ‘Tamiya’ Deck Tan (XF55) or similar.

Brush paint the support beams on the bottom of the fuel tank assembly (A18 and A23) with ‘Tamiya’ Deck Tan (XF55) or similar.

NOTE: *Refer to Part 2 (Wood effects) of this build log for information. The areas to have wood effect are those shown on the colour illustrations on page 5 of the instruction manual.*

I brushed ‘DecoArt Crafters Acrylic’ Burnt Umber’ over the previously painted ’Tamiya’ Deck Tan (XF55) surfaces.

Carefully brush paint ‘Tamiya’ Red Brown (XF64) along each of the longerons on the inside of the fuselage halves.

Airbrush the wood effect surfaces with a semi-matte clear coat, such as ‘Alclad’ Light Sheen (ALC-311) or similar.

Detail painting:

Brush paint the following cockpit detail as follows:

Metal fittings - 'Tamiya' Medium Blue (XF18).

Pilot's seat - 'AK Interactive' Brown Leather (AK3031) with 'Mr. Metal Colour' Stainless Steel rod control rod/levers.

Observers seat - 'AK Interactive' Brown Leather (AK3031) and British Uniform (AK3081) with 'Mr. Metal Colour' Stainless Steel rod.

Ammunition drums - 'Mr. Metal Colour' Iron 212).

Cockpit side frame A3 and A4 oil tank and control panel- 'Tamiya' Medium Blue (XF18) and Red (XF7).

Cockpit side trim wheel- 'Mr. Metal Colour' Stainless Steel (213) and 'Tamiya' Desert Yellow (XF59).

Cockpit side frame A4 hand pump and stop cocks - 'Mr Metal Colour' Brass (219).

Signal lamp - 'Mr. Metal Colour' Stainless Steel (213).

Wireless - 'Mr. Metal Colour' Copper (215) and 'Tamiya' Rubber Black (XF85) and White (XF2).

NOTE: *Before continuing with painting the wireless set, the clear part cover must be fitted.*

Secure the clear part wireless cover (C3) onto the wireless using PVA adhesive.

NOTE: The top, front panel of the wireless cover should be left clear (not painted).

Wireless front cover - 'Tamiya' Medium Blue (XF18) and 'Tamiya' Rubber Black (XF85) and 'Mr Metal Colour' Brass (219).

NOTE: *In the following step, **do not** airbrush the **wireless** as that will fog the clear part.*

Airbrush the painted parts with a semi-matte clear coat, such as 'Alclad' Light Sheen (ALC -311) or similar.

Decals:

NOTE: *Refer to the pages 3 and 4 in the instruction manual for placement of the various cockpit decals.*

Brush 'Tamiya' Gloss (X22) or similar onto the faces of the components that require decals.

Apply the decals following the instruction manual.

Weathering:

Airbrush the cockpit parts and the inside of the two fuselage halves with a semi-matte clear coat, such as 'Alclad' Light Sheen (ALC-311) or similar.

Refer to Part 3 (Weathering) of this build log - I applied 'Flory Models' Dark Dirt wash over parts.

Once the desired weathering effect is achieved, airbrush the weathered surfaces with a semi-matte clear coat, such as 'Alclad' Light Sheen (ALC-311) or similar. This will seal the weathering effect.

Decal finish:

Brush 'Tamiya' Gloss (X22) or similar onto the faces of the instrument decals.

Pilot's Seat harness:

NOTE: *The model kit supplies two different seat harnesses. I chose to use the separate lap and shoulder strap version. The shoulder staps are intended to fit over the mounting for the pilot's seat.*

Cement the pilot's seat back (G25) onto the seat base (A26).

Locate the shoulder straps onto the rear mounting for the pilot's seat, then bend the straps up and over the seat back and down onto the seat cushion.

Locate the two lap straps onto the front seat support beam, then bend the straps up and onto the seat cushion.

Remove the three straps, keeping them in their bent shapes.

Brush the three straps with a photo-etch paint preparation solution, such as 'Mr. Metal Primer R' or similar.

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

Brush paint the strap metal fittings with 'Mr. Metal Colour' Stainless Steel (213) or similar.

Using thin CA adhesive, secure the two lap straps onto the front seat support strut and onto the seat cushion.

Using thin CA adhesive, secure the shoulder straps onto the rear seat mounting and onto the onto the seat cushion.

Assembly:

Cement the signal lamp (A58) into its base on the cockpit floor (G4).

Cement the battery (A36) into its base on the cockpit floor (G4).

Cement the pulsameter (C4) into its location on the firewall/footwell (G2). Make sure the clear glass tube is facing upwards.

Cement pipe (A37) into its location of cockpit side frame (A4).

Cement the wireless in position on the cockpit floor (G4) on the right side of the observers floor and forward from the pre-drilled hole for the wireless wire.

Cement the fuel tank assembly (A18 and A23) onto the cockpit floor (G4).

Internal pre-rigging:

NOTE: *At this stage of the build it's easier to internally rig the cockpit area before the fuselage is 'closed up'.*

Rudder control cables:

Drill a hole of 0.3 mm diameter through the two pre-moulded lugs on the rudder bar.

Cut two long lengths of 'Stroft' 0.12 mm diameter mono-filament (fishing line) or similar.

Pass the line through a pre-drilled hole in the rudder bar.

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

Pass a short and blackened 0.4 mm diameter Brass tube, such as that from 'Albion Alloy's' MBT04 or similar, onto the line from the pilot's seat side.

Move the tube up to the rudder bar.

Secure the tube onto the line using thin CA adhesive.

Repeat to attach a line to the opposite side of the rudder bar.

Elevator control cables:

Drill a hole of 0.3 mm diameter through each end of the two control horns on each end of the control rod located under the pilot's seat.

Cut four long lengths of ‘Stroft’ 0.08 mm diameter mono-filament (fishing line) or similar.

Pass a line through a short and blackened 0.4 mm diameter Brass tube, such as that from ‘Albion Alloy’s’ MBT04 or similar.

Pass the line through a pre-drilled hole in one end of an elevator control horn.

Loop the line back and through the tube.

Move the tube up to, **but not touching**, the control horn.

Secure the lines in the tube using thin CA adhesive.

Trim away any residual line and the end of the tube.

Repeat to attach a line to the opposite end of the control horn and to both ends of the opposite control horn.

Assembly (continued):

NOTE: *During the following steps, make sure all of the mating surfaces are clear of primer and paint.*

Cement the pilot’s seat assembly onto the front of the fuel tank assembly (A18 and A23).

Cement the control column (A33) in position as follows:

The rear of the torsion bar into its location hole in the cockpit floor (G4) under the pilot’s seat.

The front of the torsion bar onto the centre of the recess in the floor cross strut.

The top of the lever on the rear of the upper elevator control rod onto the operating rod under the pilot’s seat.

Cement the rudder bar (A28) into its location recess in the cockpit floor (G4).

Cement the control rod (A10) between the rear of the rudder bar (A28) and the top, front of the torsion bar.

Check fit the two cockpit sides frames (A3 and A4) onto the cockpit floor assembly, making sure they fully locate.

Cement the two cockpit sides frames (A3 and A4) onto the cockpit floor assembly, making sure they fully locate.

Cement the ammunition container (A19) into its locating holes in the top, rear of frame A17.

NOTE: *For this model the observers seat is fitted in the down, stowed position.*

Cement the observers seat assembly into its locating recesses between cockpit frames A17 and A24.

Cement the two created cross struts for the camera support across their recesses in the cockpit side frames.

Cement the two camera support struts between the fitted cross struts, making sure they are the size of the camera apart and equally spaced above the camera cut out in the bottom of the fuselage.

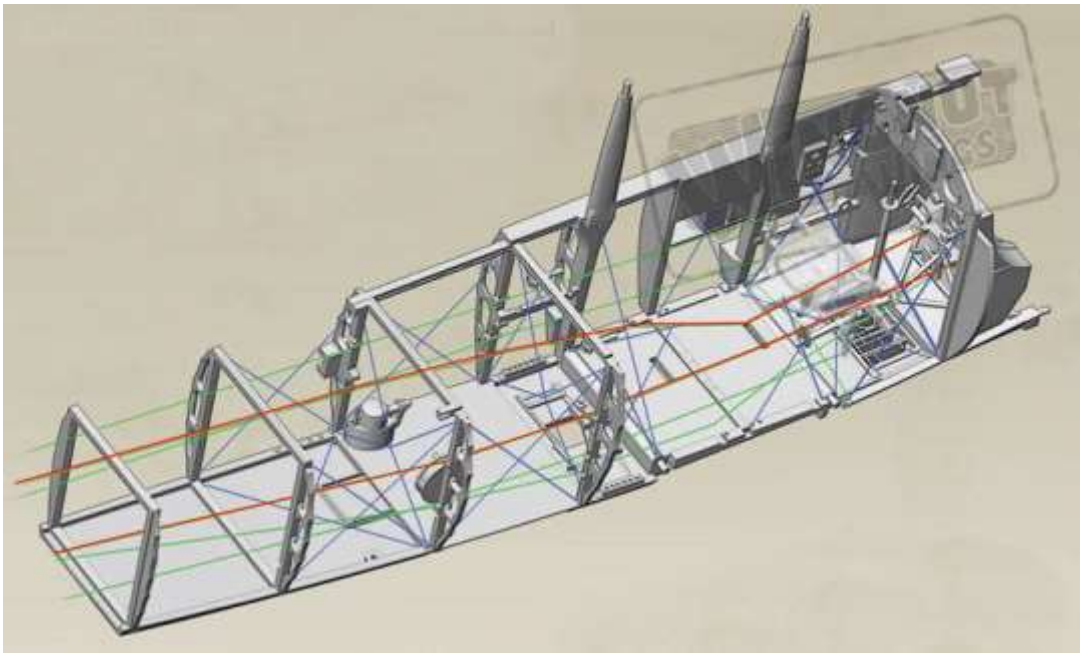
Internal rigging:

NOTE: *For guidance on the routing of the various control cables and bracing wires fitted in the cockpit and fuselage, refer to the following illustrations, based on the ‘Wingnut Wings’ rigging illustrations. You may find that due to how you have constructed your cockpit and its frames and components, some variation to the rigging illustration may be necessary.*

When fitting the lines, do not apply too much tension to the lines, as this may cause parts to break or distort cockpit frames in either shape or alignment. I chose not to fit the lines to the rear most cockpit frame, as that frame is unsupported and easily mis-aligned. Also lines to that frame will not be seen once the fuselage is 'closed up'.

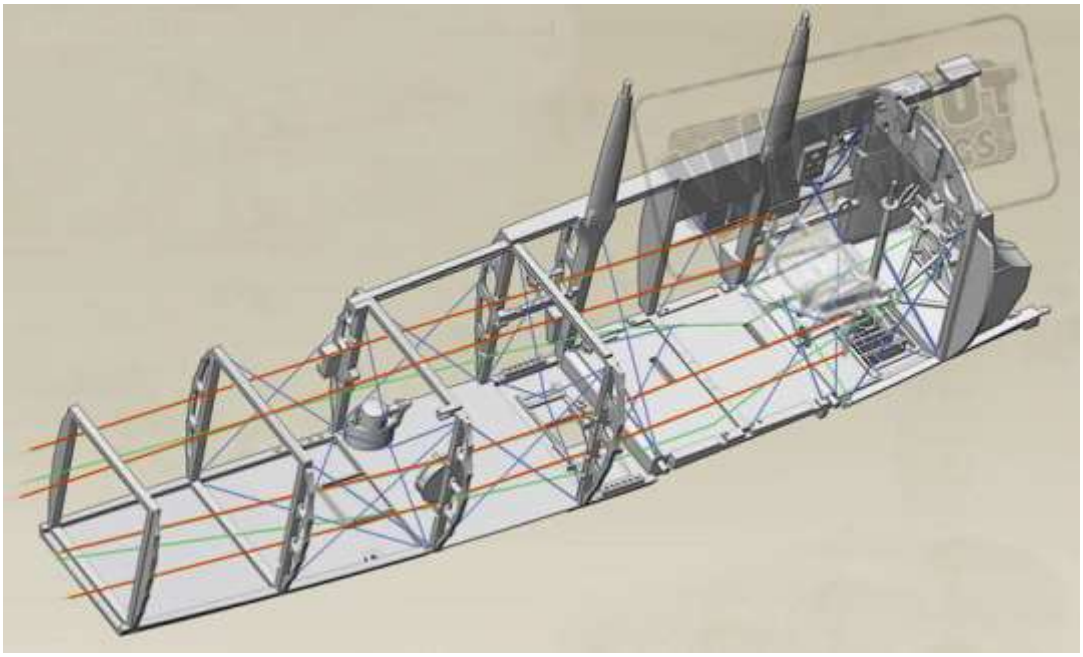
Rudder control cables:

Following the rigging illustration, route the two rudder control cables (already fitted to the installed rudder bar) under the pilot's seat and under or around the fuel tank and through the cockpit frames. Using thin CA adhesive, secure the lines in position at each point, making sure the lines are kept taut and the lines at each side of the cockpit assembly are aligned to each other. Cut away any residual line at the rear of the last cockpit frame.

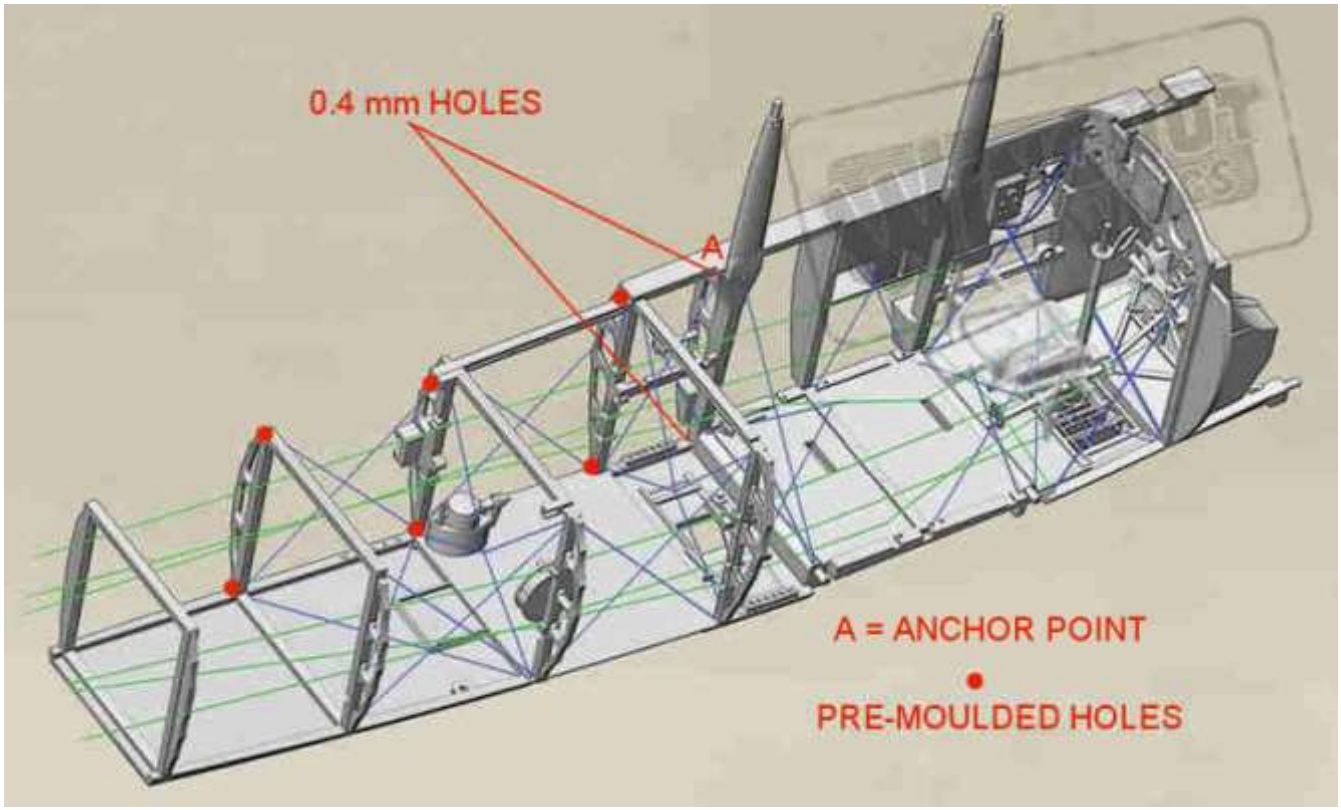


Elevator control cables:

Following the rigging illustration, route the two elevator control cables (already fitted to the control horns at each side of the pilot's seat) under the pilot's seat and around the fuel tank and through cockpit frames. Using thin CA adhesive, secure the lines in position at each point, making sure the lines are kept taut and the lines at each side of the cockpit assembly are aligned to each other. Cut away any residual line at the rear of the last cockpit frame.



Side bracing wires:



NOTE: *Once the fuselage has been 'closed up' very little, if anything, will be seen of the cockpit or fuel tank areas. Therefore I chose not the fit bracing wires in those areas and fit them only to the camera bay and rearwards areas.*

Drill a hole of 0.4 mm diameter through the pre-moulded location points in the rear struts at the following illustrated locations.

Cut a long length of 0.08 mm diameter mono-filament, such as that from 'Stroft' or similar.

Pass a short and blackened 0.4 mm diameter Brass tube, such as that from 'Albion Alloy's' MBT04 or similar, onto the line.

Pass the line through the 'eye' end of a 'GasPatch' 1:48th scale Anchor Point, then loop the line back through the tube.

Move the tube up to, **but not touching**, the 'eye' of the Anchor Point.

Secure the tube onto the line using thin CA adhesive.

Cut away any residual line at the tube end.

Using thin CA adhesive, secure the tail of the Anchor Point into the pre-drilled through the side frame, behind the rear wing strut.

Slide two blackened 0.4 mm diameter Brass tube, such as that from 'Albion Alloy's' MBT04 or similar, onto the line.

Route the end of the line diagonally down and through the pre-moulded hole at next rearward cockpit frame.

Slide two blackened 0.4 mm diameter Brass tube, such as that from 'Albion Alloy's' MBT04 or similar, onto the line.

Route the end of the line diagonally up and through the pre-moulded hole at next rearward cockpit frame.

Slide two blackened 0.4 mm diameter Brass tube, such as that from ‘Albion Alloy’s’ MBT04 or similar, onto the line.

Route the end of the line diagonally down and through the pre-moulded hole at next rearward cockpit frame.

NOTE: *During the next steps do not apply too much tension on the line as this will pull the cockpit frames out of alignment.*

Gently tension the line then apply thin CA adhesive to the last line hole, to secure the line in that frame.

Slide each tube on the line into the corner of their cockpit frames and secure in position using thin CA adhesive.

Cut away the residual line at the rear of the last cockpit frame.

Cut a long length of 0.08 mm diameter mono-filament, such as that from ‘Stroft’ or similar.

Secure the line in the pre-drilled hole behind the base of the rear wing strut.

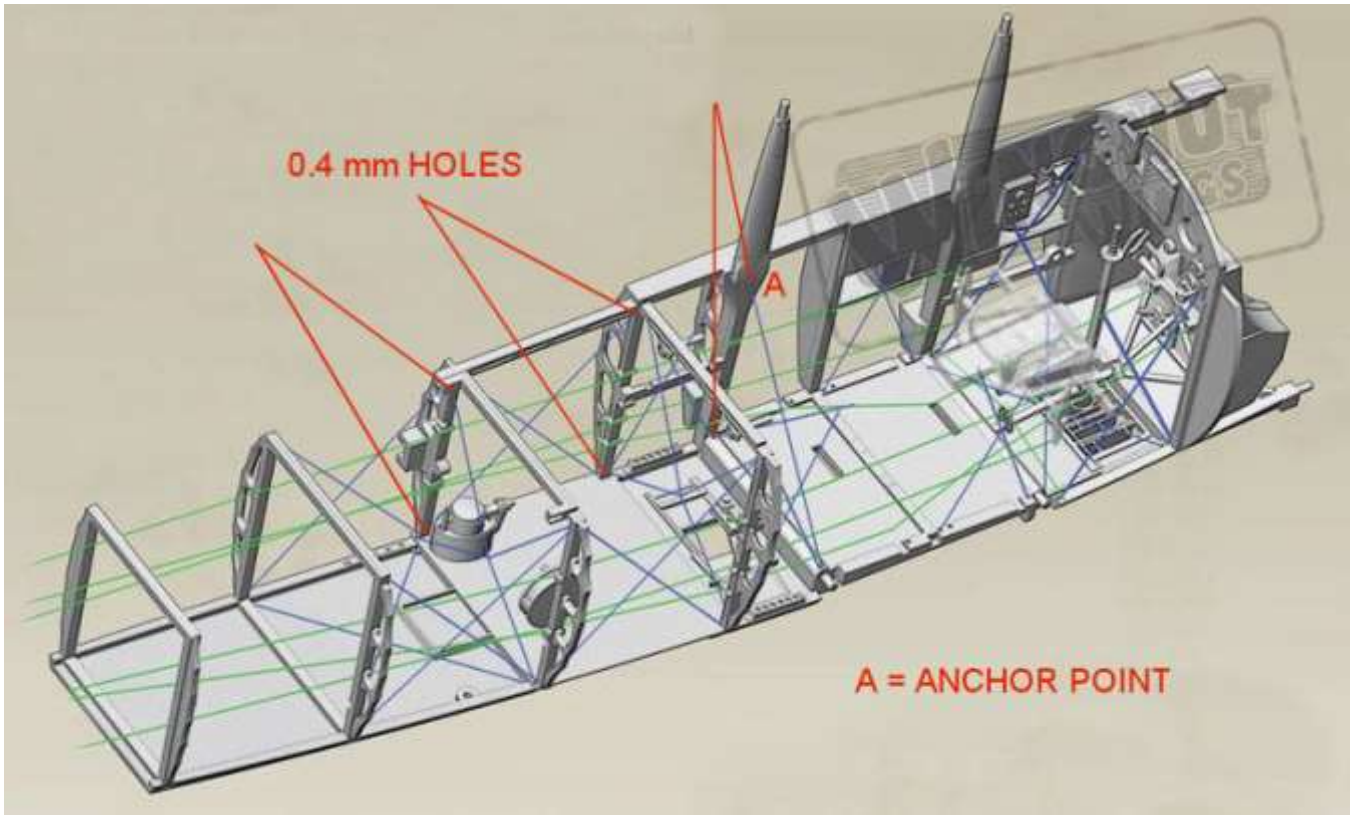
Slide two blackened 0.4 mm diameter Brass tube, such as that from ‘Albion Alloy’s’ MBT04 or similar, onto the line.

Route the end of the line diagonally up and through the pre-moulded hole at next rearward cockpit frame.

Continue as before to fit the second bracing wire to the cockpit frames, which should now be diagonally crossed wires between the three cockpit side frames.

Repeat the above procedures to add cross bracing wires to the opposite cockpit side frames.

Cross bracing wires - wing struts:



Drill a hole of 0.4 mm diameter into the rear wing strut and through the cockpit side frames at the above illustration locations.

Cut a long length of 0.08 mm diameter mono-filament, such as that from ‘Stroft’ or similar.

Pass a short and blackened 0.4 mm diameter Brass tube, such as that from ‘Albion Alloy’s’ MBT04 or similar, onto the line.

Pass the line through the ‘eye’ end of a ‘GasPatch’ 1:48th scale Anchor Point, then loop the line back through the tube.

Move the tube up to, **but not touching**, the ‘eye’ of the Anchor Point.

Secure the tube onto the line using thin CA adhesive.

Cut away any residual line at the tube end.

Using thin CA adhesive, secure the tail of the Anchor Point into the pre-drilled in the rear wing strut.

Slide two blackened 0.4 mm diameter Brass tube, such as that from ‘Albion Alloy’s’ MBT04 or similar, onto the line.

Route the end of the line diagonally down and through the pre-drilled hole in the cockpit floor cross member.

NOTE: *During the next step do not apply too much tension on the line as this will pull the cockpit frames out of alignment.*

Gently tension the line then apply thin CA adhesive to the last line hole, to secure the line in the hole.

Cut away any residual line at the underside of the hole.

Repeat to add the opposite cross bracing wire from the opposite wing strut.

Slide each tube on the line into the corner of their cockpit frames and secure in position using thin CA adhesive.

Cross bracing wires - rear frames:

Cut a long length of 0.08 mm diameter mono-filament, such as that from ‘Stroft’ or similar.

Pass the line through a pre-drilled hole in the next frame rearward.

Use thin CA adhesive to secure the line in the hole.

Slide two blackened 0.4 mm diameter Brass tube, such as that from ‘Albion Alloy’s’ MBT04 or similar, onto the line.

Route the end of the line diagonally across and through the pre-drilled hole in the opposite cockpit side frame.

NOTE: *During the next step do not apply too much tension on the line as this will pull the cockpit frames out of alignment.*

Gently tension the line then apply thin CA adhesive to the hole, to secure the line in the hole.

Cut away any residual line at the underside of the hole.

Repeat to add the opposite cross bracing wire from the opposite wing strut.

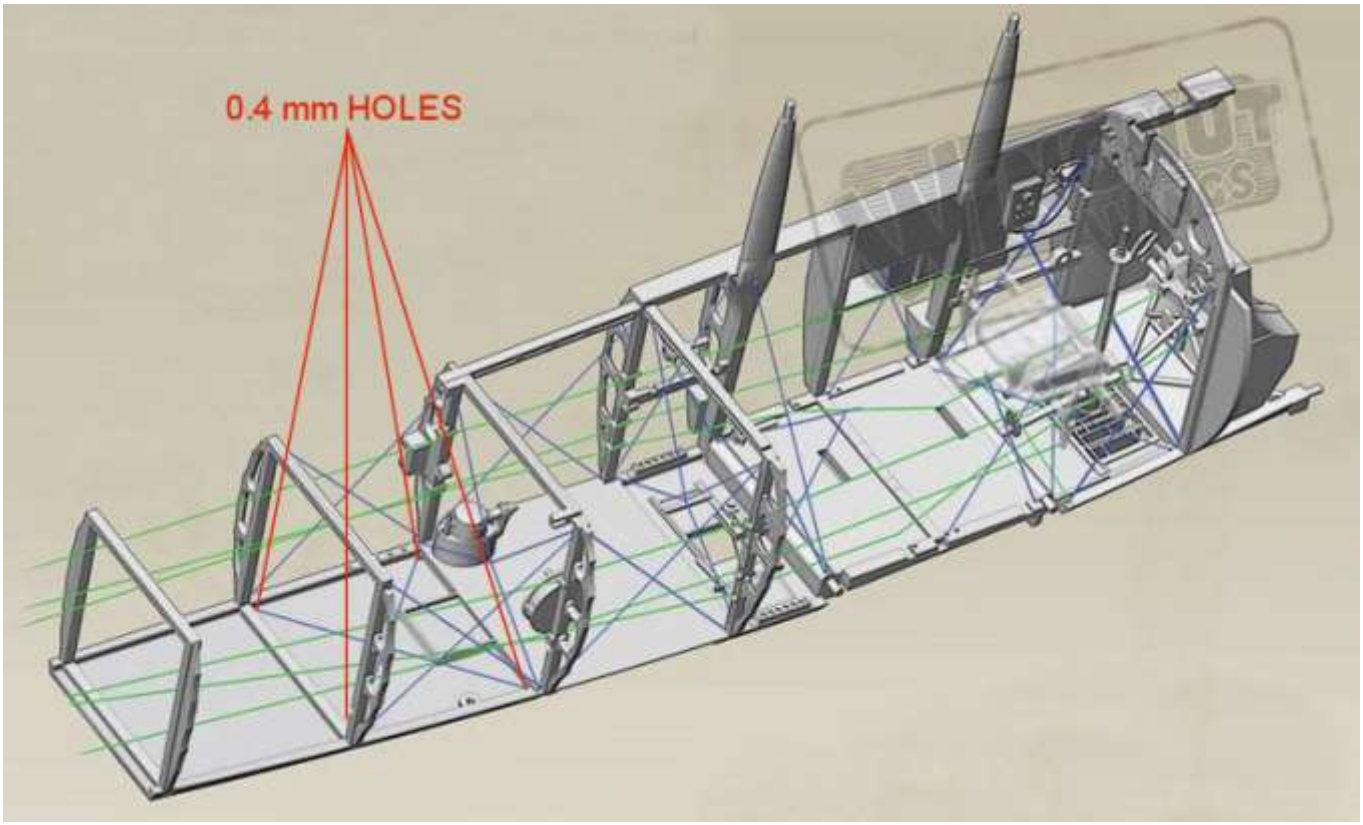
Slide each tube on the line into the corner of their cockpit frames and secure in position using thin CA adhesive.

NOTE: *The two rear frames do not have crossed bracing wires fitted.*

Repeat the procedure to add cross bracing wires to the next rearward frame.

Cross bracing wires - floor:

NOTE: *The only floor cross bracing that will be visible is that shown in the following illustration.*



Drill a hole of 0.4 mm diameter into the cockpit floor panel at the above illustration locations.

Cut a long length of 0.08 mm diameter mono-filament, such as that from ‘Stroft’ or similar.

Pass the line through a pre-drilled hole in the corner of the floor panel.

Using thin CA adhesive, secure the line in the hole.

Slide two blackened 0.4 mm diameter Brass tube, such as that from ‘Albion Alloy’s’ MBT04 or similar, onto the line.

Route the end of the line diagonally across and through the pre-drilled hole in the opposite corner of the floor panel.

Tension the line then apply thin CA adhesive to the hole, to secure the line in the hole.

Cut away any residual line at the underside of the hole.

Repeat to add the opposite cross bracing wire for the floor panel.

Slide each tube on the line into the corner of the floor panel and secure in position using thin CA adhesive.

Rigging finish:

Airbrush the applied rigging with a semi-matte clear coat, such as ‘Alclad’ Light Sheen (ALC-311) or similar. This will reduce the surface glare and give the rigging a more visible finish.

Assembly (continued):

Make sure there is no paint or primer on the two mounting lugs and associated recesses for locating the cockpit assembly into the two fuselage halves.

Test fit the cockpit assembly separately into the two fuselage halves, making sure it fully locates.

Test fit the cockpit assembly into the 'closed up' fuselage halves, making sure it fully locates and there are no gaps in the seams and associated mating surfaces.

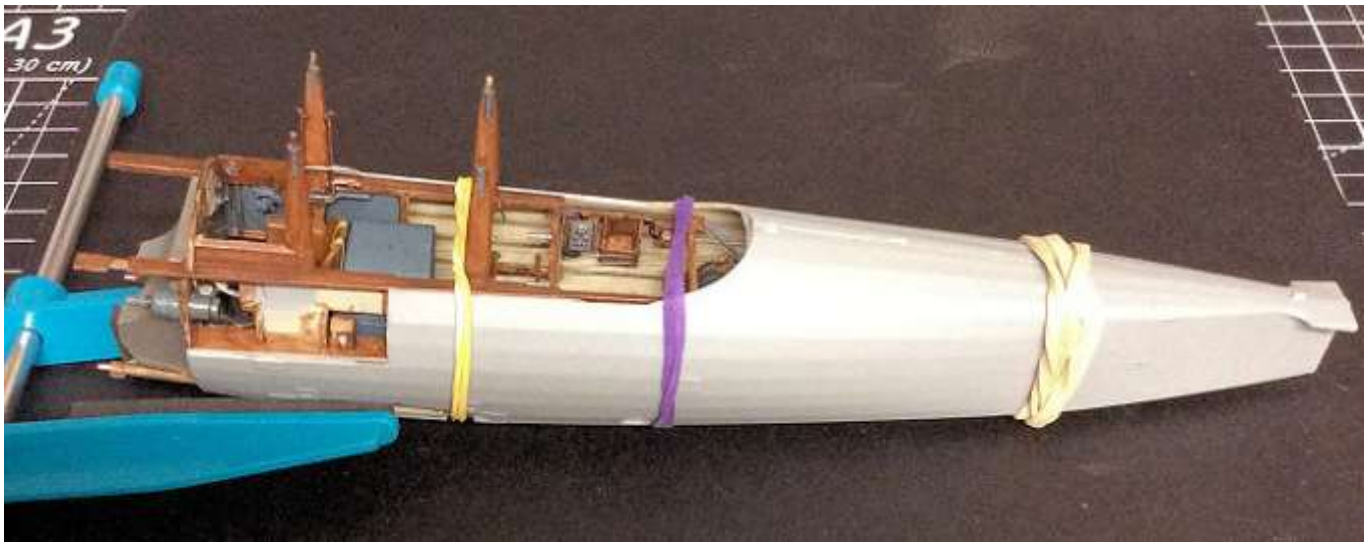
Cement the cockpit assembly into the fuselage right half.

Apply cement to the locating lugs on the fuselage left half and the associated cockpit lugs.

Locate the fuselage left half onto the fuselage right half and cockpit assembly.

NOTE: *After the next step, leave the fuselage assembly for several days to allow the cement to fully set and harden. This will reduce the chance of 'ghost seams' appearing later in the model build.*

Apply cement along the fuselage joint seam and associated mating surfaces. If necessary, hold the fuselage assembly together with clamps and or elastic bands until the cemented joints have fully set.



Once the applied cement has fully set and hardened, sand the cemented fuselage joints to blend them to the surrounding areas. If necessary, any remaining indentations can be filled using 'Mr. Surfacer' Primer and Filler 500, 1000 or 1200 or similar, then re-sand the seams to achieve a smooth and defect free joint.

Locate the top coaming panel over the four wing struts and cement it onto the fuselage, making sure it locates fully against the fuselage.

If necessary, fill any gaps with either a model putty filler or 'Mr. Surfacer' 500, 1000 or 12000 then once fully set, carefully sand the filled joints to blend them with the surrounding areas, but without removing any surface detail.

Temporarily locate the engine assembly onto its two lower locating rods on the lower engine bearer frames and its two upper slotted brackets around the two upper engine bearer frames.

NOTE: *The following step is necessary to ensure that all off the engine bay access panels to be fitted will locate fully against the front of the fuselage, to each other and to the rear edge of the exhaust/cowl ring. The engine panels used for this model are G3, 9, 10, 11, 12, 14, 15, 20, 21 and F4. This model will have the left side of the engine exposed. Therefore, access panels G14, G15 and G21will not be fitted to the model, but be displayed separately.*

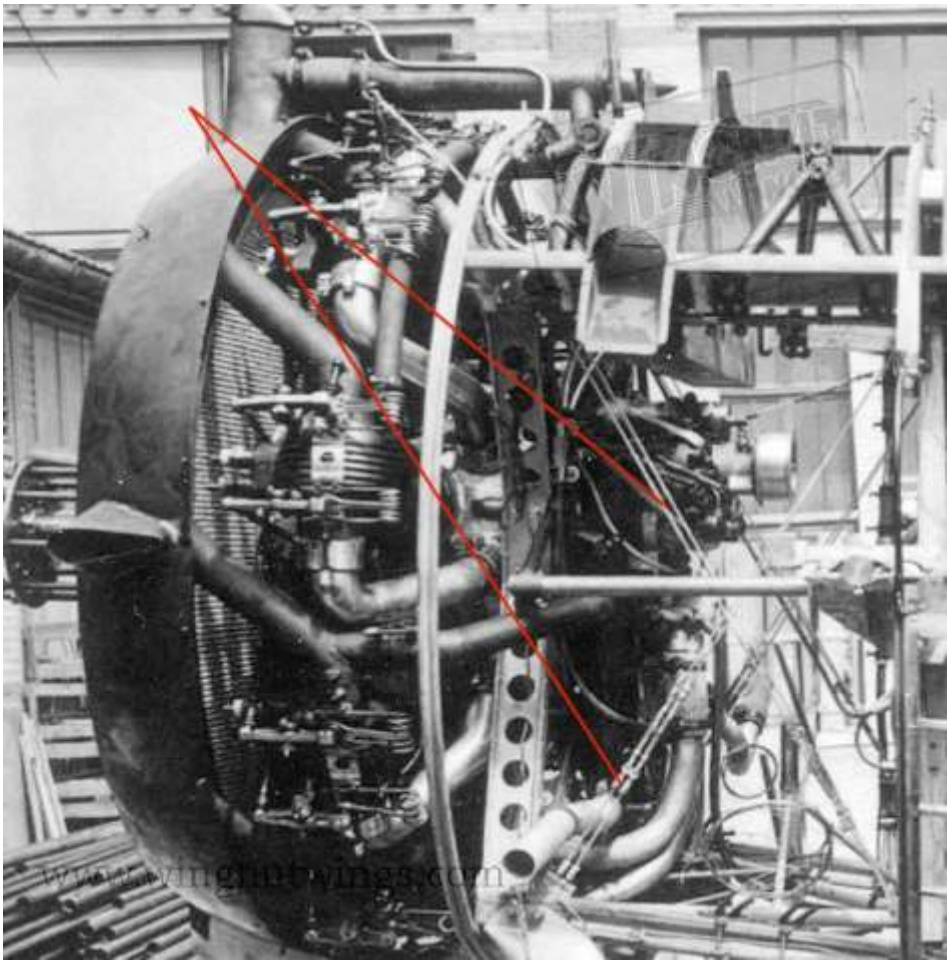
Remove from their sprues the required access panels and air scoop A2 then remove any residual sprue tags.

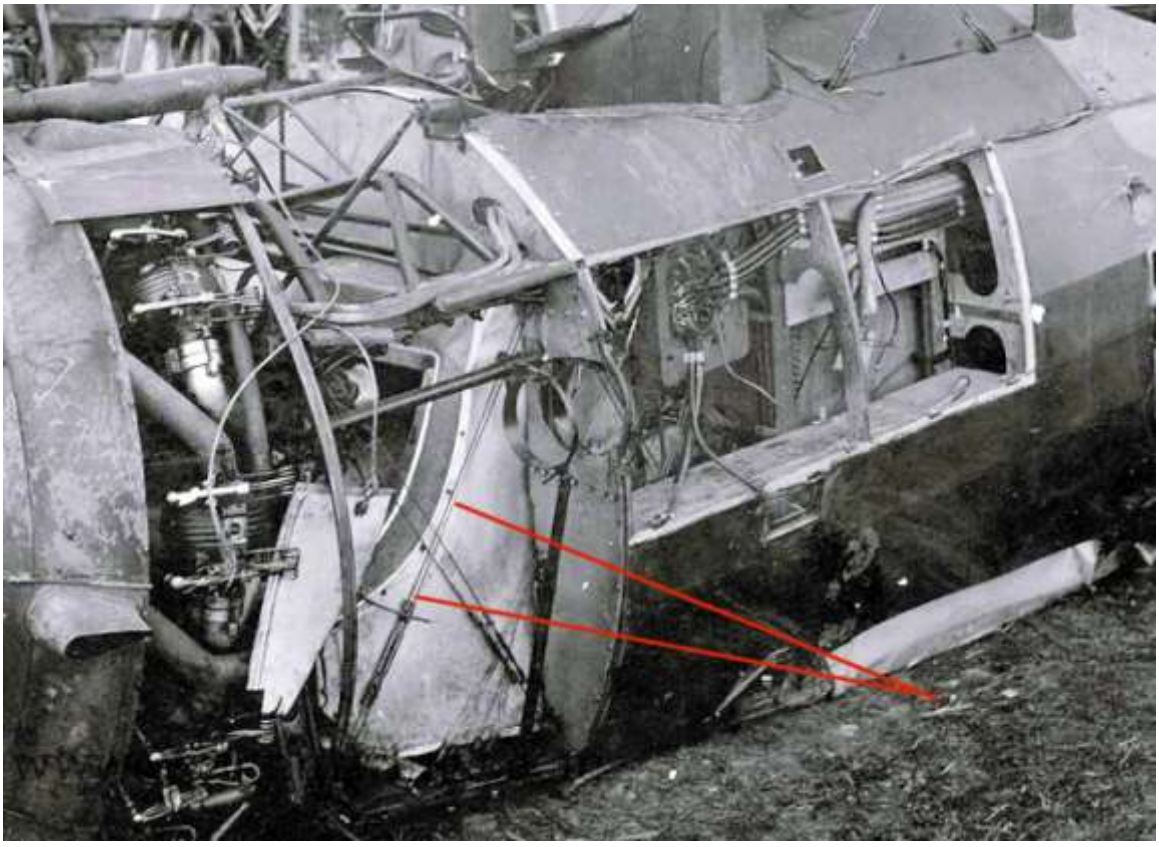
Test fit each engine access panel around the fitted engine and fuselage front, to ensure they locate fully and correctly.

Cement the engine assembly in position on the fuselage.

Engine bay cross bracing:

NOTE: *Twin and crossed bracing wires were fitted across the corners of the upper and lower support beams for the engine bearer frame.*





The left side of the engine is to be exposed, so only the bracing wires on that side will be fitted. As the right side of the engine bay will be covered by its access panels, its bracing wires will not be seen.

Use a 0.2 mm diameter to drill two aligned holes across and through the front of the upper and lower engine support beams and at the rear of the upper support beam. The rear of the lower support beam should already have a pre-moulded hole.

Cut a length of 0.08 mm diameter mono-filament, such as that from ‘Stroft’ or similar.

Slide a blackened 0.4 mm diameter Brass tube, such as that from ‘Albion Alloy’s’ MBT04 or similar, onto the line.

Pass the line through an ‘eye’ end of a ’GasPatch’ turnbuckle (Type C), then loop the line back and through the tube.

Slide the tube up to, **but not touching**, the ‘eye’ end of the turnbuckle.

Secure the lines in the tube using thin CA adhesive at the tube end farthest from the turnbuckle (to avoid the adhesive contacting the turnbuckle).

Cut away any residual line at the end of the tube.

Repeat the procedure to add a line to the opposite end of the turnbuckle.

Repeat the procedure to create thee more turnbuckle lines.

Pass two lines through the pre-drilled holes in the top, front of the lower engine bearer.

Pull the lines through the bearer to position the blackened tubes close to, **but not touching**, the bearer.

Secure the two lines at the underside of the engine bearer, using thin CA adhesive.

Cut away any residual line at the underside of the engine bearer.

Slide a blackened 0.4 mm diameter Brass tube, such as that from ‘Albion Alloy’s’ MBT04 or similar, onto the opposite lines.

Pass the opposite lines diagonally up and across to the two pre-drilled holes at the rear of the upper engine bearer.

Pass the two lines up and through their associated pre-drilled holes in the engine bearer.

Keeping the lines taut, secure them at the upper surface of the engine bearer, using thin CA adhesive.

Slide the added tubes up to the underside of the engine bearer and secure in position on the lines, using thin CA adhesive.

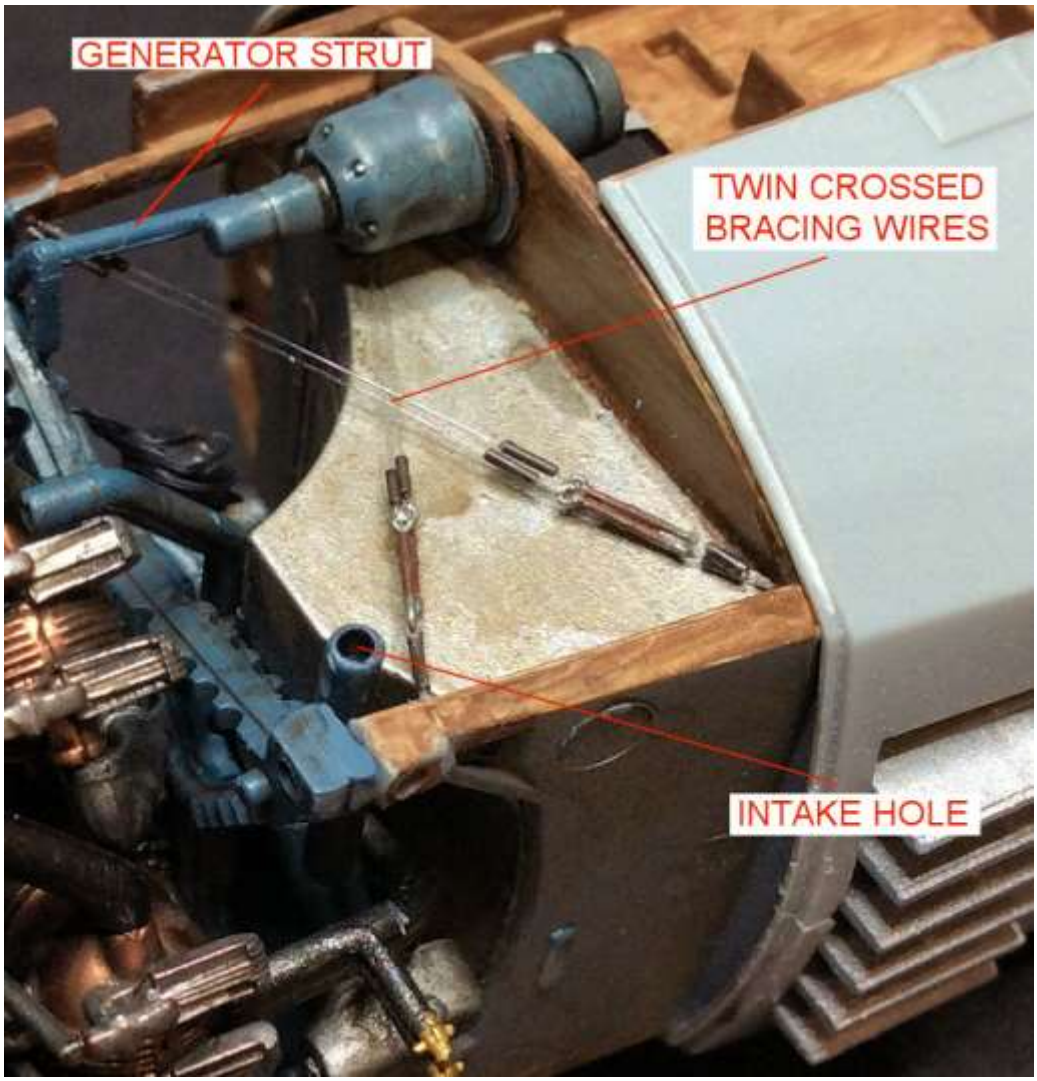
Cut away any residual line at the upper surface of the engine bearer.

Repeat the procedure to add the two diagonally opposite bracing wires, but by first securing the lines into the pre-moulded hole at the rear of the lower engine bearer.

Brush paint the centre barrel of the turnbuckles with ‘Tamiya’ Hull Red (XF9) or similar.

Generator strut:

Cement the generator strut (kit part A34) into its locating hole in the engine frame, behind the body of the generator. The fork at the front of the strut is cemented onto the engine support frame.



Machine gun test fit.

NOTE: *The kit supplied single Vickers machine gun is replaced with a 1:32nd scale Vickers Mk.1 (18-32126). Therefore the gun recess in access panel F4 with G3 needs to be slightly modified. Take care when handling the 'GasPatch' machine gun as the material its made of is brittle and easily broken.*

Temporarily join panels F4 and G3 together to form the gun mounting recess.

File or sand away the two mounting lugs on the underside of the breech block of the machine gun.

Test locate the machine gun in the mounting recess and remove material from the panels and/or machine gun to achieve a full and vertical fit in the mounting recess.

Painting (continued):

NOTE: *The following are the paints I chose to apply to the forward engine panels shown on the instruction manual illustrations on pages 19 and 20:*

P1 = 'Tamiya' Olive Green (XF58) mixed with White (XF2) at a 3:1 ratio.

S = 'Tamiya' mix of Dark Yellow (XF60) with White (XF2) at a ratio of 1:1

U = 'Tamiya' NATO Brown (XF68)

NOTE: *The engine panels used for this model are G3, 9, 10, 11, 12, 14, 15, 20, 21 and F4. This model will have the left side of the engine exposed. Therefore, access panels G14, G15 and G21 will not be fitted to the model, but be displayed separately.*

Airbrush the inside surfaces of the panels with a gloss black, such as 'Tamiya' (X18) or similar.

Airbrush the inside surfaces of the panels with 'Alclad' Duraluminium (ALC-102) or similar.

Airbrush the outside surface of panels G3, G14, G15, G21 and left half of F4 with **U**.

Airbrush the outside surface of panels G10, G11 and air scoop A2 with paint mix **S**.

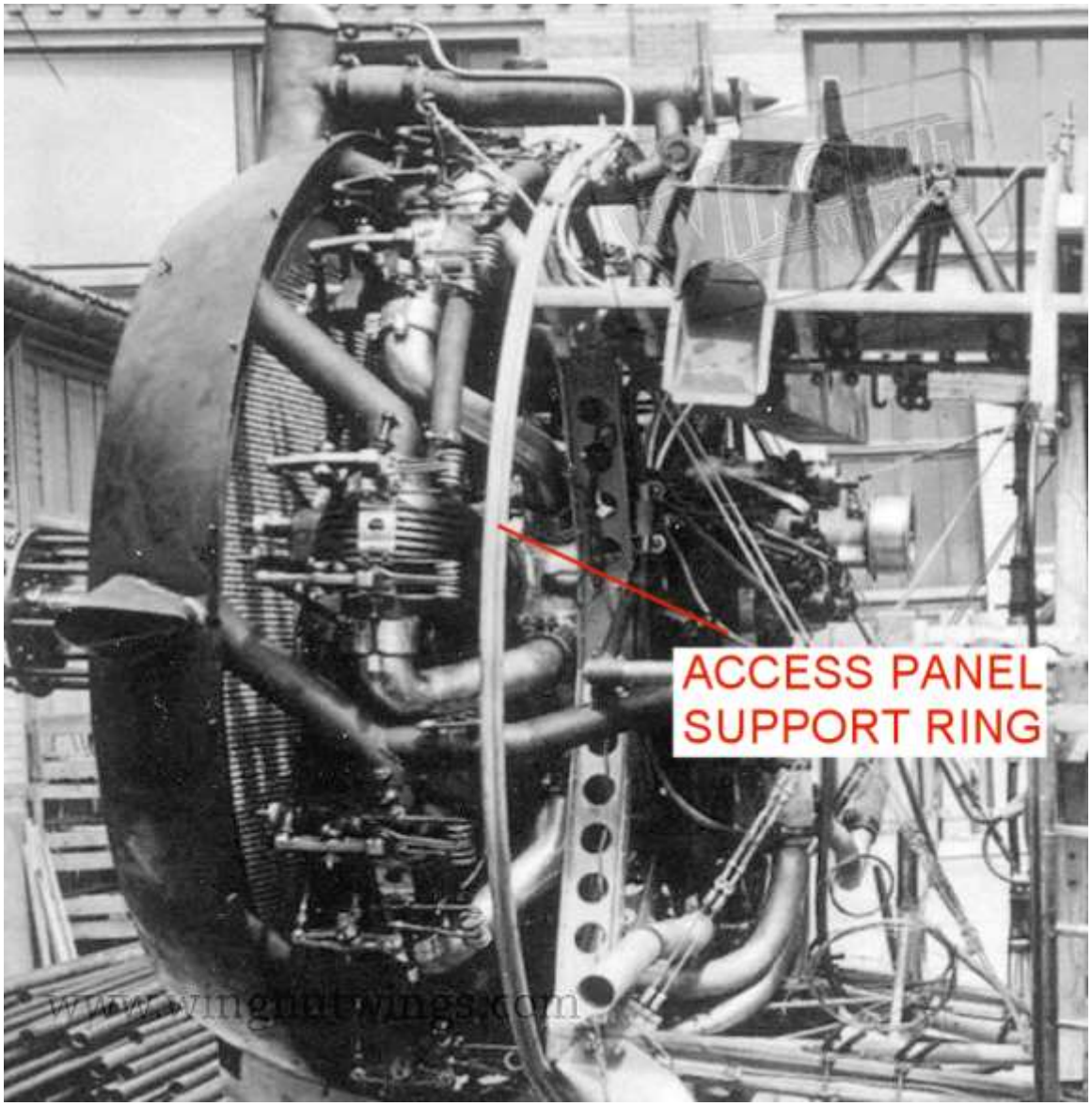
Airbrush the outside surface of panels G9, 12, 20 and right half of F4 with paint mix **P**.

Assembly (continued):

Cement engine access panels G3, 9, 10, 11, 12, 20 and F4 in position between the engine assembly and front of the fuselage.

Access panel support ring:

NOTE: *The engine access panels were supported and possibly attached to, a flat metal ring. This ring was attached to the front, outer edges of the upper and lower engine bearers and supported the rear of the front access panels and the front of the rear access panels.*



Cut a long strip of 0.2 mm thick plastic card approximately 1.0 mm wide.

Airbrush both sides of the strip with ‘Tamiya’ Gloss Black (X18) or similar.

Airbrush both sides of the strip with ‘Alclad’ Duraluminium (ALC-102) or similar.

Fit one end of the strip between the front, top of the lower right engine bearer and engine access panel G11.

Bend the strip to form a curve (aligned with the radiator cowl/exhaust ring) such that the end can be inserted between the front, top of the upper engine bearer and panel G3. Trim the length of the strip as necessary.

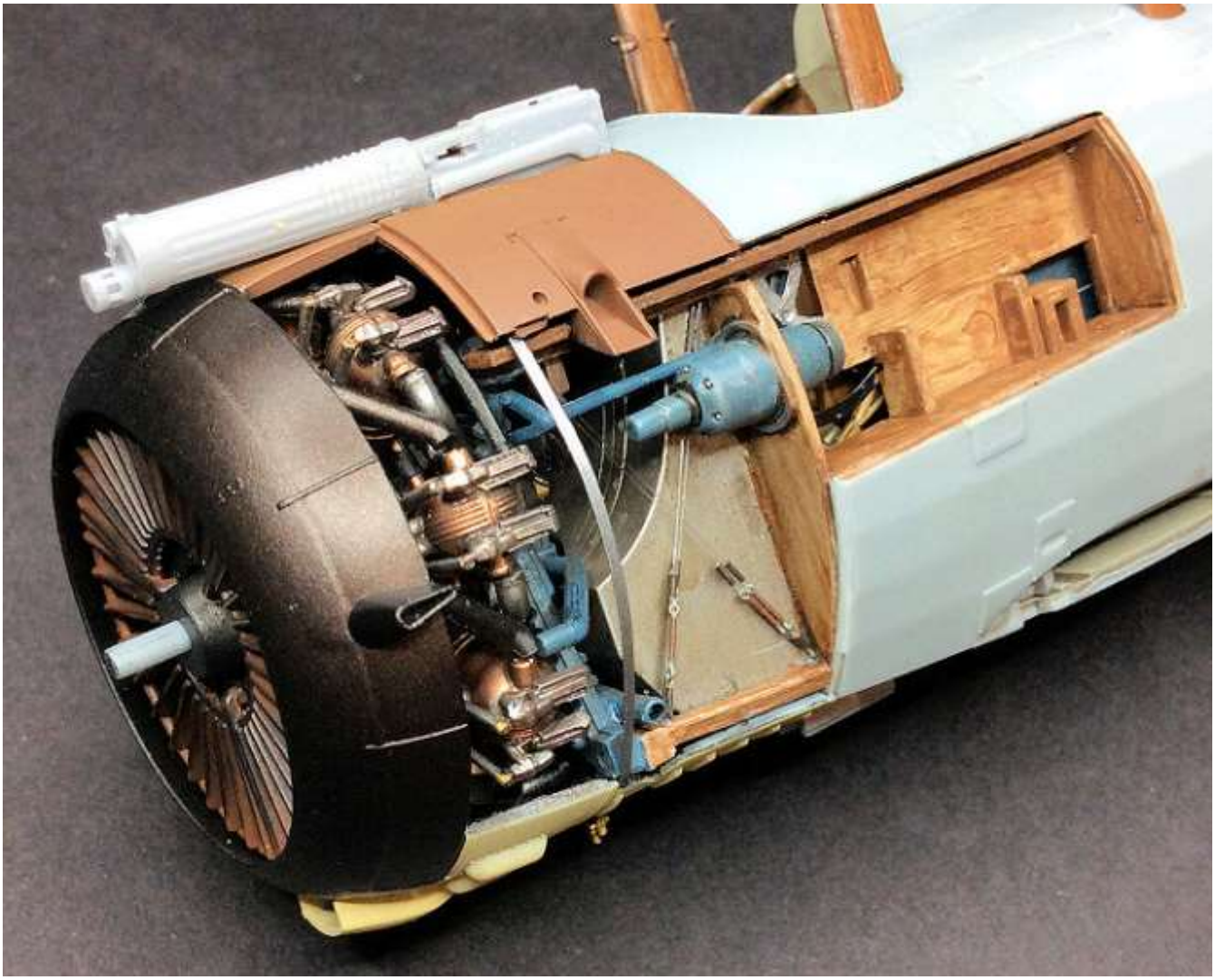
Cement the two ends of the strip to secure the strip in position.

Carburettor intake:

NOTE: *The pipes representing the carburettor air intakes on both sides of the engine are solid moulded.*

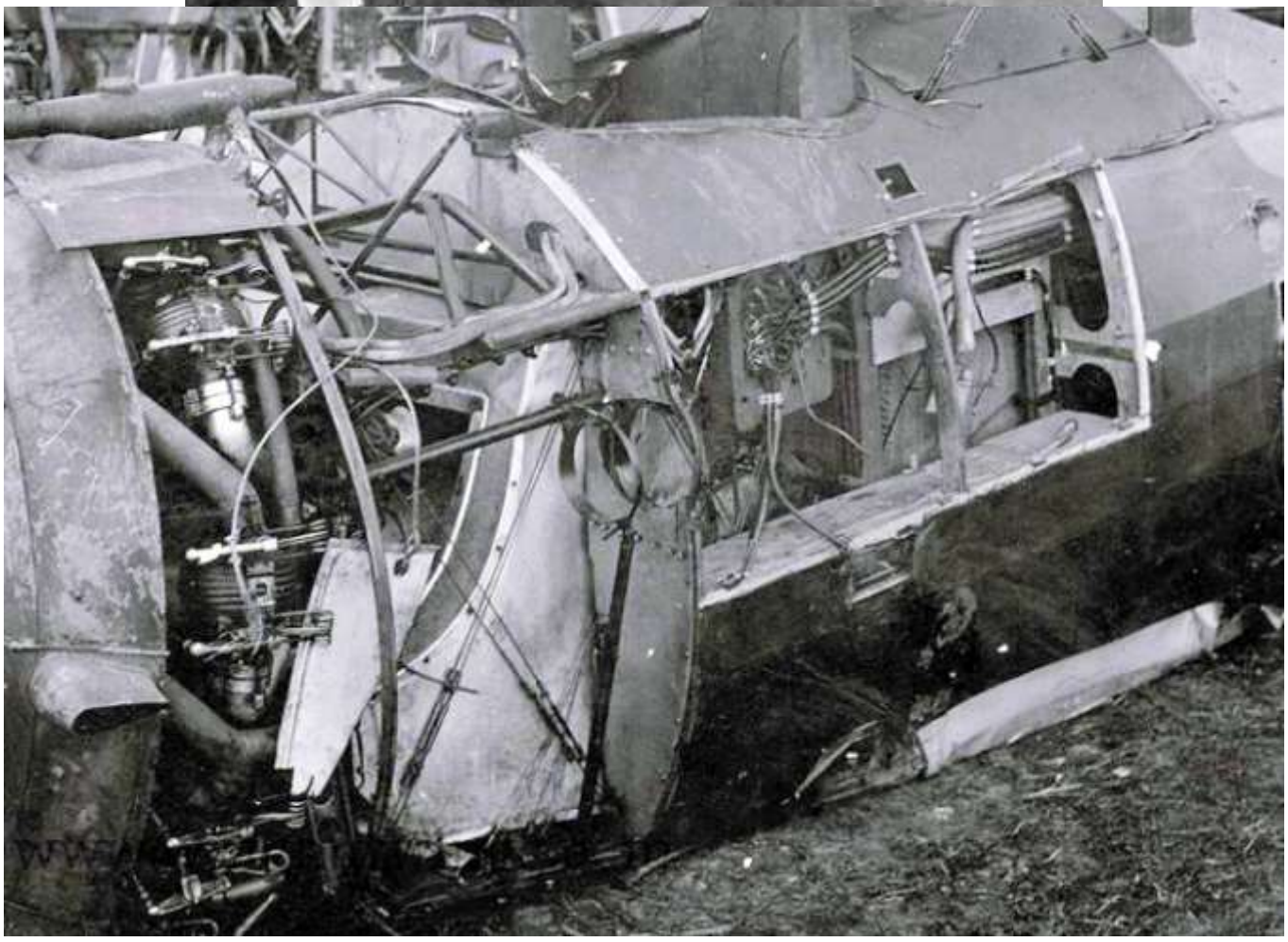
Carefully drill out the pipe using up to a 0.9 mm diameter drill. Only the left side is drilled as the right side pipe will be covered by the access panel.

Brush paint the inside of the pipe with ‘Tamiya’ Rubber Black (XF85) or similar (refer to the following photograph).



Fuselage bay detail:

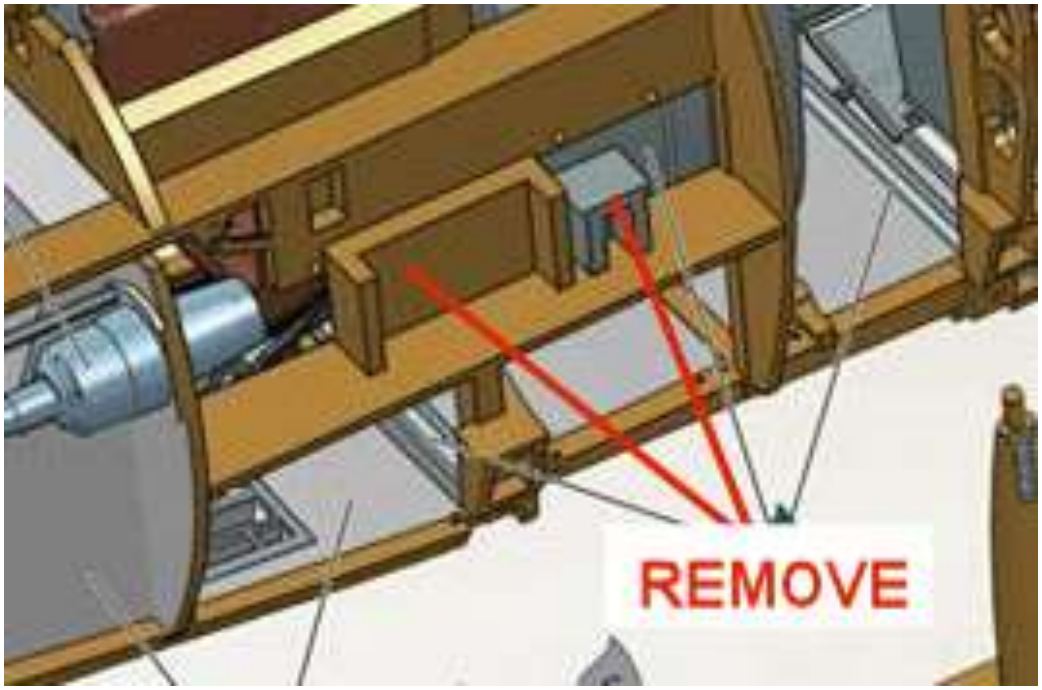
NOTE: *This model will not have the left side access panels G14, G15 and G21 fitted as the intention is to show the internal detail in those areas. The following photographs show the detail in the fuselage bay area under side panel G14, which is not represented on the outside of the kit cockpit frame A3. To add that detail requires the modification of that area, which will include the removal of pre-moulded detail.*
The following modifications are only required if the area under access panel G14 is to be left exposed and visible. If not, the panel should be fitted.

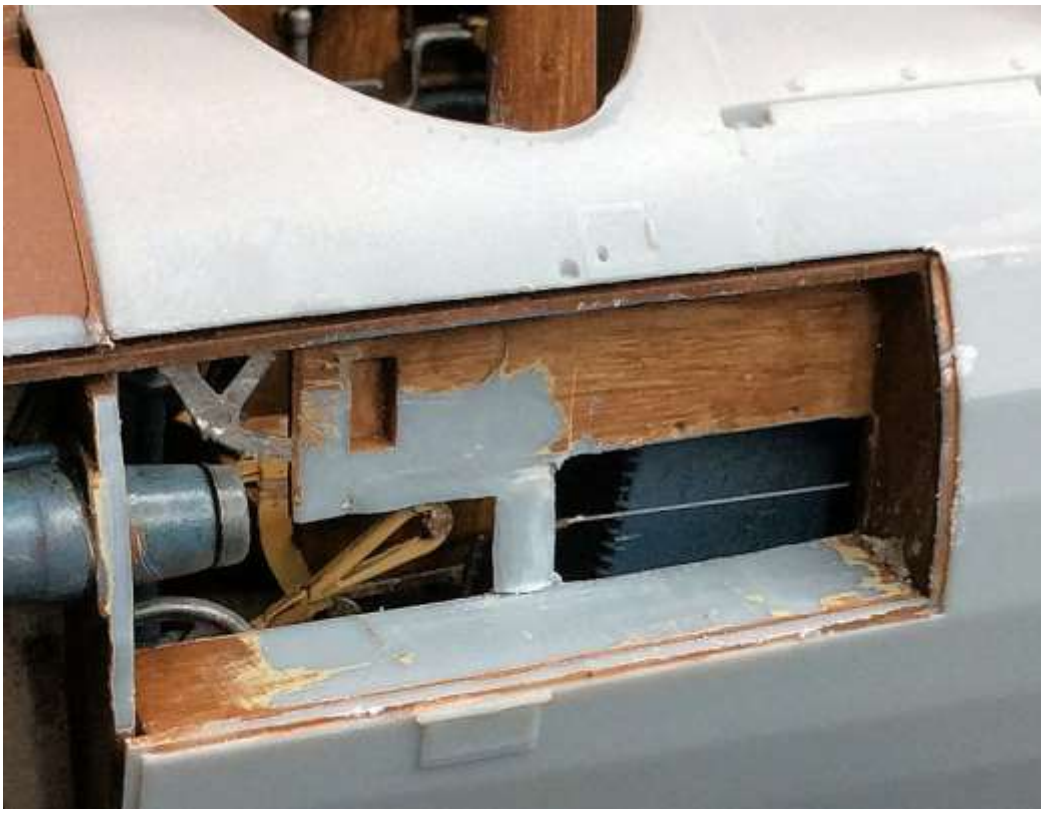


Preparation:

NOTE: *When removing the pre-moulded detail, applying too much pressure may break or damage the fuselage parts. Also, make sure internal detail, such as control cables and other components are not cut.*

Using a modelling tools, such as a fine toothed saw, snips and blades, carefully saw, cut or slice away the pre-moulded detail shown in red in the following illustration, leaving just the vertical 'strut' between the top and bottom panels.





NOTE: *Refer to the previous photographs.*

Mark out the two openings through the fuselage frame at the rear of the area then using a 0.8 mm diameter drill, dill out the shapes, taking care not to drill too far into the cockpit area.

Terminal block:

To represent the electrical terminal block, I used a modified first aid box from my ‘spares’ box. However, it can also be made by cementing together plastic appropriately thick plastic card.

Cement the terminal box onto the wall of the bat, just to the rear of the throttle quadrant.

Painting:

Brush paint the wood areas of the bay with ‘Tamiya’ Deck Tan (XF55) or similar.

Brush paint the terminal box with ‘Tamiya’ Rubber Black (XF85) or similar.

NOTE: *Refer to Part 2 (Wood effects) of this build log for information.*

Apply wood effect to the bay area, including the added rib. I brushed ‘DecoArt Crafters Acrylic’ Burnt Umber’ over the previously painted ’Tamiya’ Deck Tan (XF55) surfaces.

Electrical conduits:

NOTE: *The electrical conduits are made using ‘MFH’ black 0.4 mm flexible tube (P-961). The conduits, pipes and electrical wires are only intended to represent of those on the actual aircraft, as details of their installation are not available, apart from the previous photographs, which are those of aircraft that have crashed or are being built.*

Cut nine lengths of tube.

Using the following photograph as a guide, secure each tube in position using thin CA adhesive.

Pipes:

NOTE: *The pipes are made using ‘ANYZ’ 0.5 mm silver braided line (AN011).*

Cut two lengths of braided line.

Using the following photograph as a guide, secure each braided line in position using thin CA adhesive. Also apply adhesive along the line, which will matte the silver material as well as hold them securely together.

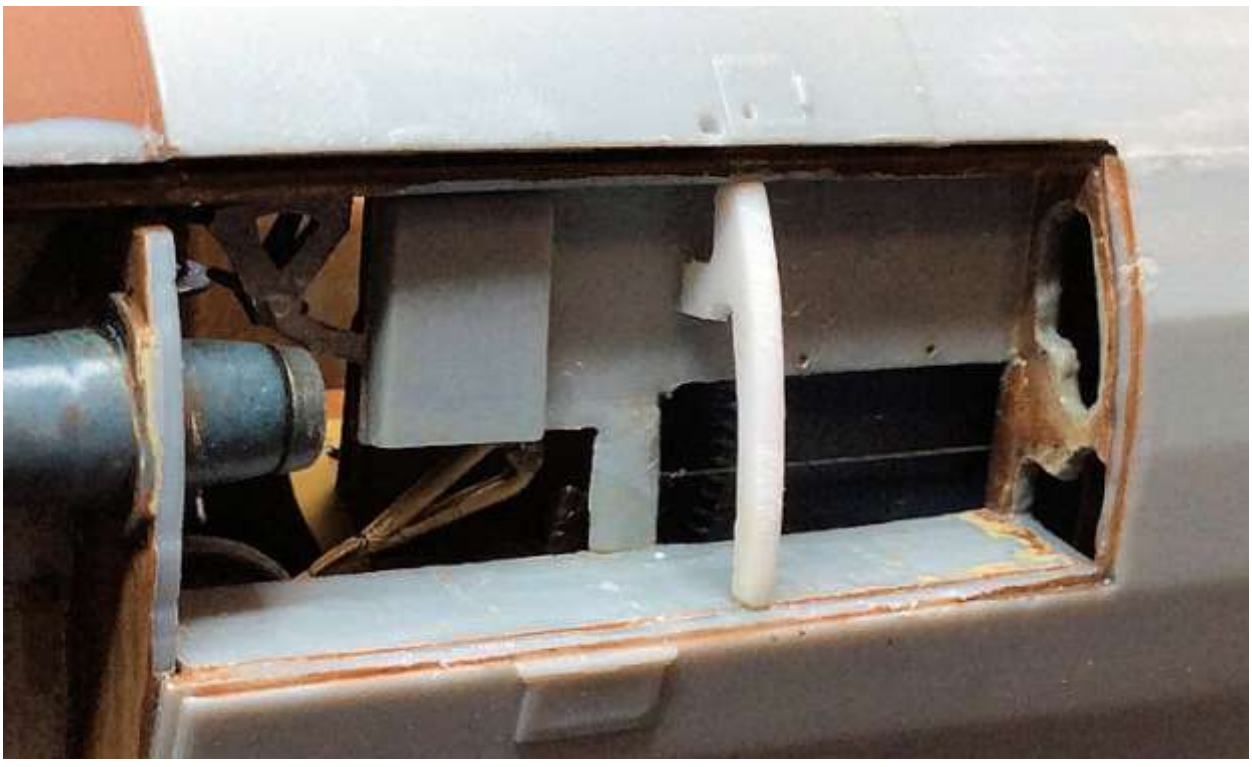
Using a sharp, straight edge blade and round needle file, shape the two openings.

If necessary, apply liquid cement around the cut-outs, which will smooth out any slight surface imperfections.

Fuselage rib:

From 1.0 mm thick plastic card, cut and file/sand the shape of the frame rib that is located vertically below the pre-mould square rigging plate above, on the fuselage. Make sure the outer profile of the rib matches that of the curve of the fuselage and it is a positive (not loose) fit between the upper and lower beams of the bay.

Cement the rib in position in the bay.



Electrical wires:

NOTE: *The electrical wires are made using 'Plus Model' lead wire. These electrical wires are only a representation of those on the actual aircraft, as details of their installation are not available, apart from the previous photographs, which are those of aircraft that have crashed or are being built.*

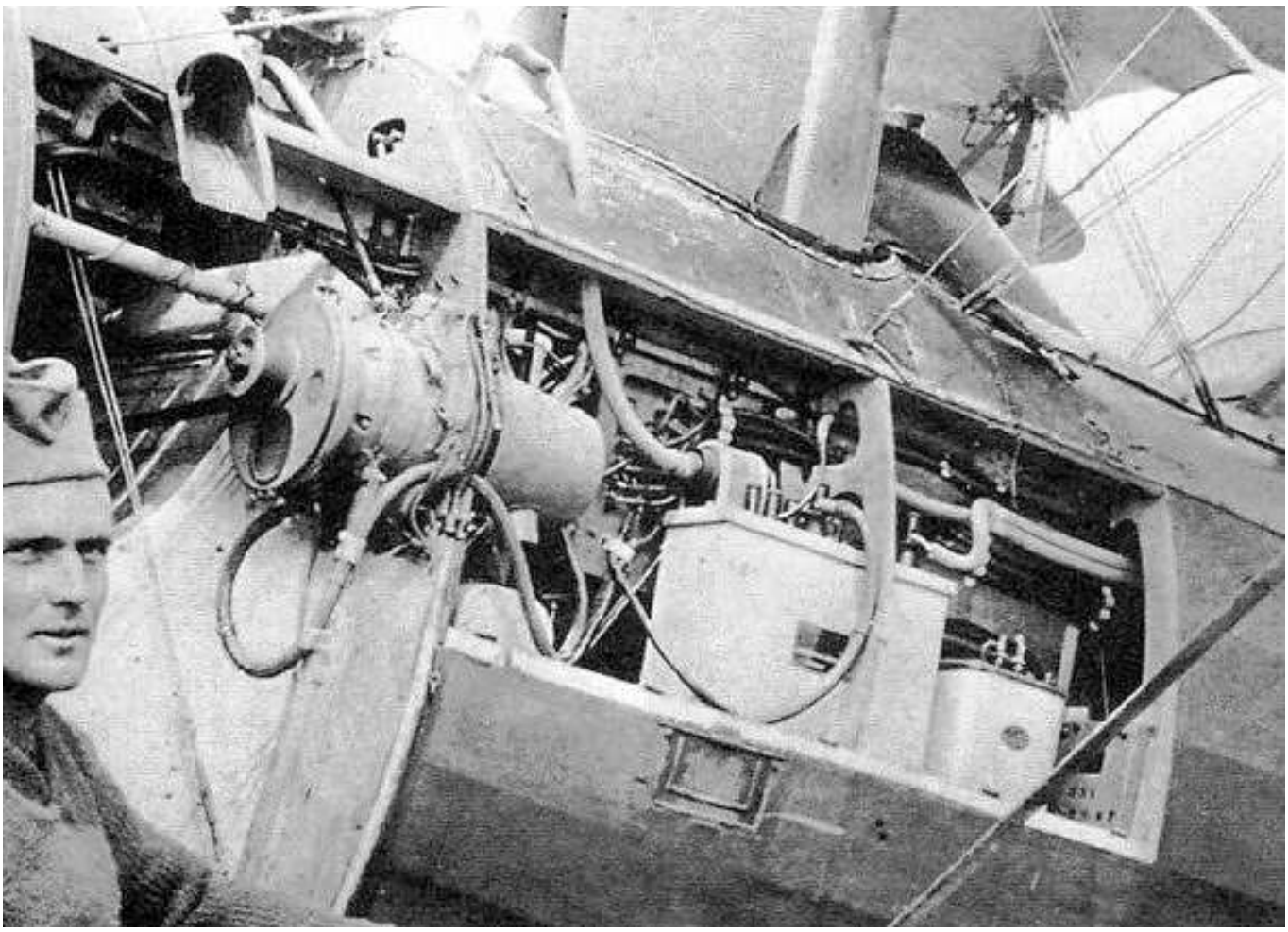
Cut short lengths of 'PlusModel' 0.3 mm diameter lead wire or similar.

Using thin CA adhesive, secure each wire onto the terminal box and aligned to the various conduits, to represent the exposed wires.

Carefully apply 'Mr. Colour' Brass (219) or similar to the ends of the lead wires to represent their terminal connections.

Batteries:

NOTE: *The following photograph shows an American design, belt driven Type 3 US generator, which I assume was not the generator fitted to the French aircraft. However, to the rear of the generator are possibly aircraft batteries (the observers wireless gear has its own battery). These appear to be connected to the terminal box, which has similar connecting electrical conduits and wiring to the French aircraft shown in the previous photographs. Therefore I chose to represent these 'batteries' and their associated cables, although accurate replication is not possible.*



Drill a hole of 0.8 mm diameter through the bulkhead and below the generator and up into the underside of the generator, forward from the bulkhead..

To represent the two ‘batteries’ I used modified radios from my spares box and a small section of round sprue, filed flat on both sides. These could be made from plastic card or similar.

Cement the modified sprue onto the forward, top of the larger ‘battery’.

Drill a hole of 0.8 mm diameter into the front of the added sprue and into the top, rear of the larger ’battery’.

Drill a hole of 0.8 mm diameter up and through the underside of the upper engine bearer beam.

Drill two holes of 0.6 mm diameter into the top of the smaller ‘battery’.

Airbrush the two ‘batteries’ with a grey primer, such as ‘AK Interactive’ Grey (AK-758) or similar.

Airbrush the two ‘batteries’ with ‘Tamiya’ Medium Sea Grey (XF83) or similar.

Brush paint the added sprue on the larger ‘battery’ and the top of the smaller ‘battery’ with ‘Mr. Colour’ Stainless Steel (213) or similar.

Cement the two ‘batteries’ onto the lower engine bearer beam (see following photograph).

Cut two lengths of ‘MFH’ black 0.4 mm flexible tube (P-961).

Pass one tube through the pre-drilled hole in the bulkhead and up into the pre-drilled hole in the underside of the generator.

Secure the tube into the generator and bulkhead using thin CA adhesive.

Cut the other end of the tube such that it can be secured onto the terminal box, then secure in position using thin CA adhesive.

Using thin CA adhesive, secure the other cut tube to the terminal box, then loop it down then up and secure it to the rear of the added sprue.

Cut a length of ‘ANYZ’ 0.5 mm silver braided line (AN011) and using thin CA adhesive, secure one end of the line into the pre-drilled hole in the front of the added sprue.

Cut the other end of the line so it can be inserted into the pre-drilled hole in the underside of the upper engine bearer beam, then secure it into the hole using thin CA adhesive.

Cut the previously fitted lower line in the rear of the bay so it can be inserted into the pre-drilled hole in the rear, top of the larger ‘battery’, then secure it into the hole using thin CA adhesive.

Cut the two previously fitted tubes in the rear of the bay so they can be inserted into the two pre-drilled holes in the top of the smaller ‘battery’, then secure them into the holes using thin CA adhesive.

Brush a clear gloss coat, such as ‘Tamiya’ Gloss (X22) or similar over the faces of the two ‘batteries’.

NOTE: *The decals used were from my ‘spares’ box of built ‘Wingnut Wings’ models.*

Apply the decals to the faces of the two ‘batteries’ (see following photograph).

Apply a short length of 5 mm wide ‘Xtradecal’ Black parallel stripes (XPS1) around the added sprue, to represent its clamping band.

NOTE: *The Generator was belt driven from a pulley wheel on the rear of the engine.*

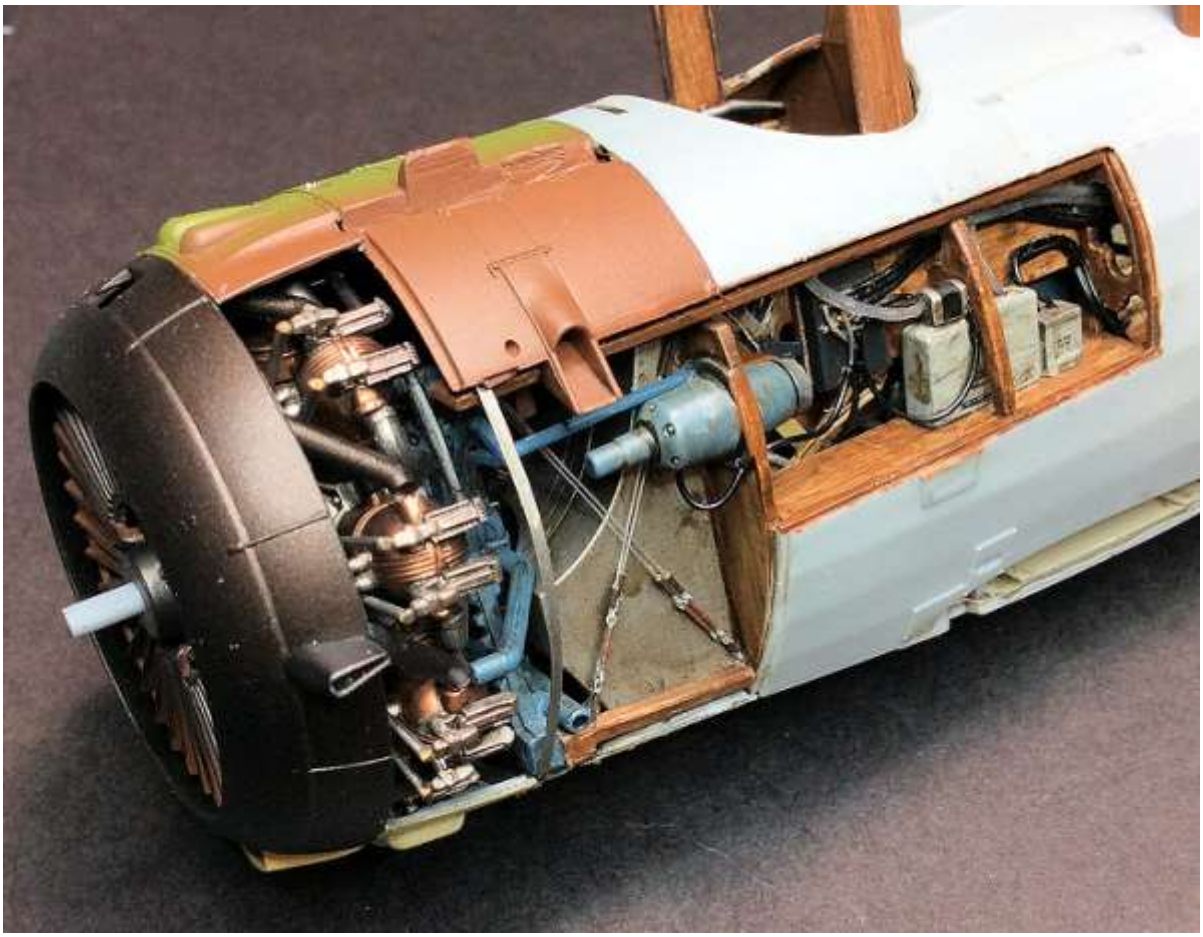
To represent the generator drive belt, I cut a strip of photo-etch 1.0 mm wide, then annealed it (softened over a flame). It was then bent around a 1.8 mm diameter drill to form a semi-circle.

It was then brush painted with ‘Tamiya; Rubber Black (XF18). Once dry it was secured in position around the forward shaft of the generator, with the two ends onto the round ‘pulley’ on the rear of the engine (not shown on the following photographs).

Airbrush a semi-matte clear coat, such as ‘Alclad’ Light Sheen (ALC-311) or similar, over the entire modified bay and it components.

Refer to Part 3 (Weathering) of this build log - I applied ‘Flory Models’ Dark Dirt wash over the modified bay and its components.

Airbrush a semi-matte clear coat, such as ‘Alclad’ Light Sheen (ALC-311) or similar, over the entire modified bay and it components, to seal the applied weathering.



PART 9
WEAPONS

PART 9 - WEAPONS

Although the kit supplied machine guns are of good quality, I chose to replace the kit supplied weapons with a 'GasPatch' 1/32nd scale Vickers Mk.1 (18-32126) and 'Darne' Lewis (13-32054) machine guns.

Observer's machine guns:

Preparation:

NOTE: *If the kit supplied machine guns are to be used, refer to the instructions on page 15 of the instruction manual. If the 'GasPatch' 'Darne' Lewis are to be used, the ammunition collection bags are not required.*

Using thin CA adhesive, secure the ammunition drums onto their location pegs on the top of the weapons breech blocks.

Drill a hole of 0.4 mm diameter through the semi-circular lug on the bottom of the breech blocks on both weapons.

Drill a hole of 0.4 mm diameter through the top of the swivel

NOTE: *As the observers Lewis machine guns are replaced with 'GasPatch' weapons, some of the kit supplied parts are not required.*

Remove the kit photo-etch parts (P6) from the sheet and remove any photo-etch tags.

Follow the instructions on page 15 of the instruction manual to bend the two (P6) parts to form the elevation frames.

Remove following kit parts from their spues and remove any sprue tags:

Mounting tube (A15).

TO-3 'Tourelle' Scarf Ring (A5) (mis-identified as A15).

Swivel (A29).

Clip (not cement) the mounting tube (A15) into its mounting lugs on the Scarf ring (A5).

Cement the Swivel (A29) into its location hole on the mounting tube (A15), making sure it is aligned centrally with the curved top facing away from the mounting tube.

Pass the two photo-etch elevation frames (P6) over the mounting tube and in front of the circular lugs.

Secure the bent in bottom tags of the frames into their location recesses on the Scarf ring, using thin CA adhesive. Make sure the curve of the frames are facing in the correct direction.

Slide the mounting tube up to the top of the elevation frames and secure the in position using thin CA adhesive.

Apply cement to secure the mounting tube in its mounting lugs on the Scarf ring.

NOTE: *During the following steps, make sure the two machine guns are correctly aligned to each other when viewed from the front, rear and from above.*

Cut a length of 0.4 mm diameter Nickel-Silver rod, such as 'Albion Alloy's' NSR04 or similar.

Pass the rod through the pre-drilled hole in the top of the Swivel (A29).

Locate a machine gun onto both sides of the rod.

Check the position of the two machine guns - they should be aligned and parallel to each other and equidistant from the Swivel (A29).

Remove the two machine guns from the rod.

Drill a hole of 0.35 mm diameter diagonally through the ends of the handles (corner to corner when the guns are mounted). These holes will be used to represent the crossed bracing between the handles.

Painting:

Airbrush all parts with a Grey primer, such as 'AK Interactive' Grey (AK758) or similar.

Airbrush the Scarf ring and mounting tube assembly with 'Tamiya' Medium Blue XF18 or similar.

Lightly dry brush a worn metal effect around the Scarf ring, with such as 'Mr. Colour' Super Metallic - Super Iron (203) or similar.

Paint the two Lewis machine guns as follows:

Two Lewis machine guns and ammunition drums:

Airbrush prime the weapons with a gloss black primer, such as 'Tamiya' Gloss Black (X18) or similar.

Lightly airbrush the weapons with 'Alclad' Gunmetal (ALC-120) or similar.

Lightly dry brush a worn metal effect over the weapons, with such as 'Mr. Colour' Super Metallic - Super Iron (203) or similar.

Using 'Tamiya' weathering master Set B (Soot), lightly sponge around the gun muzzle.

Brush paint the two grip handles and barrel support on both weapons with 'Tamiya' Hull Red (XF9) or similar.

Brush paint the leather handles on the two ammunition drum with 'AK Interactive' Brown Leather (AK3031) or similar.

NOTE: *Final assembly of the weapons to the model will be carried out later in this build.*

Pilot's machine gun:

Preparation:

There is no preparation required for the pilot's Vickers machine guns.

Painting:

Paint the pilot's Vickers machine gun as follows:

Airbrush prime the weapon with a gloss black primer, such as 'Tamiya' Gloss Black (X18) or similar.

Lightly airbrush the weapon with 'Alclad' Gunmetal (ALC-120) or similar.

Lightly dry brush a worn metal effect over the weapon. I dry brushed 'Mr. Colour' Super Metallic - Super Iron (203).

Brush paint the ammunition ports on either side of the breech blocks with a mix of 'Mr. Colour' Bronze (215).

Using 'Tamiya' weathering master Set B (Soot), lightly sponge around the gun muzzle.

PART 10
CONSTRUCTION

PART 10 - CONSTRUCTION

NOTE: *The 'Wingnut Wings' instruction manual is reference throughout this build. When removing any kit parts from their sprues, always remove any residual sprue tags and mould seams. Take care when removing the smaller or more fragile parts from their sprues. Too much cutting pressure can cause deformation, breakage or stress marks in the parts.*

When cementing large kit parts, I use 'Revell' Contacta Professional cement (39604). This cement is a thicker liquid cement, which takes longer to fully set, but does provide a stronger bond between larger kit parts.

Preparation:

Lower wings:

NOTE: *The two braces (D6) for the lower wings will be fitted later in the build, after the linen decal has been applied. Also the two aileron control horns (D8).*

Remove the lower wings (B1 and B2) and the two ailerons (G5 and G28) from their sprues and remove any residual sprue tags.

Test fit the lower wings into their fuselage slots, making sure they fully locate.

Test fit the two ailerons onto their locating stubs on the lower wings.

Sand the top, leading edge of the two ailerons to form a slight curve.

Using 'Contacta', cement the two lower wings into their fuselage location slots.

Upper wings:

NOTE: *The two aileron control horns (D7) for the upper wing will be fitted later in the build, after the linen decal has been applied.*

Remove the upper wings (B3 and B4), the centre section halves (G6 and G22) and the two ailerons (G1 and G23) from their sprues and remove any residual sprue tags.

Cement the two centre section halves together.

Test fit the upper wings into their location slots in the centre section, making sure they fully locate.

Test fit the two ailerons onto their locating stubs on the upper wings.

Sand the top, leading edge of the two ailerons to form a slight curve.

Using 'Contacta', cement the two upper wings into their location slots in the centre section.

Interplane struts:

NOTE: *The eight interplane struts will be fitted later in the build, after they have been painted and the linen decal has been applied to the wings.*

Remove the eight interplane struts (D19) from their sprues and remove any residual sprue tags.

NOTE: *The ends of the interplane struts are different. The straight locating lug fits into the upper wing.*

Test fit the interplane struts into their location holes in the top surface of the lower wing and the underside of the upper wing, making sure they fully locate.

Tailplane:

NOTE: *The rudder, three support struts and photo-etch bracket will be fitted later in the build, after they have been painted and the linen decal has been applied.*

Remove the tailplane (F3), two elevator control horns (D14), rudder (F5), rudder control horn (A44), two tailplane support struts (D9) and fin support strut (A50) from their sprues and remove any residual sprue tags.

Remove the photo-etch bracket (P4) from its sheet and remove any residual photo-etch tags.

NOTE: *The tailplane only fits into its fuselage one way, with the cut-out to the left side.*

Test fit the tailplane into its location slot in the rear of the fuselage. Some material may need to be removed from the slot if there is any mis-alignment between the fuselage halves.

NOTE: *Take care when fitting the rudder into the fuselage as the locating peg can be stressed or broken off.*

Test fit the rudder into its location slot in the rear of the fuselage, with its locating peg into the hole in the top of the fuselage.

Rigging preparation:

NOTE: *At this stage of the build, it's best to pre-rig as much of the rigging as possible. Doing this will help when final rigging the built model. For information on the rugging of this aircraft, refer to Part 5 (Rigging) of this build log.*

Fin bracing:

Drill a hole of 0.4 mm diameter through each of the four pre-moulded recesses in the tailplane (F3).

NOTE: *The attachment holes for the fin twin bracing wires is pre-moulded at the bottom of the rudder.*

Elevator control:

NOTE: *The fuselage exit ports for the elevator control cables are already pre-moulded through the fuselage sides.*

Cut away the 'ball' fitting at the ends of the two elevator control horns (D14).

Drill a hole of 0.3 mm diameter through each end of the two elevator control horns.

Rudder control:

Cut away the 'ball' fitting at the ends of the rudder control horn (A44).

Drill a hole of 0.3 mm diameter through each end of the rudder control horns.

NOTE: *The fuselage exit ports for the rudder control cables are not pre-moulded through the top, rear of the fuselage.*

Using the pre-moulded recesses for the two exit ports in the top, rear of the fuselage, as a guide, drill a line of 0.3 mm diameter holes.

Using a straight edge scalpel blade, carefully cut through the pre-drilled holes then along the sides to create the two cable exit slots.

Aileron control:

Cut away the 'ball' fitting at the ends of the four aileron control horns (D7 and D8).

Drill a hole of 0.3 mm diameter through each end of the four aileron control horns.

Drill a hole of 0.4 mm diameter through the pre-moulded recesses in the two lower ailerons (G5 and G28) and through the two upper ailerons in the same position.

Drill a hole of 0.3 mm diameter, at a shallow angle, into the pre-moulded recesses on the underside of the lower wing.

Drill a hole of 0.3 mm diameter, at a shallow angle, into the pre-moulded recesses on top surface of the upper wing.

Landing gear:

Drill a hole of 0.3 mm diameter through the pre-moulded recesses in the inboard, top of the centre and forward landing gear struts (G24 and G27).

Drill a hole of 0.3 mm diameter through the pre-moulded recesses in the four stub axles and the centre recess of the axle fairing (A45).

Flying wires:

NOTE: *Temporarily insert an interplane strut into its location hole in the lower wing and use its top as a angle guide for drilling. The following steps apply to both sides of the model.*

On the lower wing/fuselage join, at the four pre-moulded rigging recesses, drill holes of 0.3 mm diameter through the fuselage and at the correct angle to align with the top of the inboard front and rear interplane struts.

On the lower wing at the four pre-moulded rigging recesses outboard from the bottom of the front and rear interplane struts, drill holes of 0.3 mm diameter into, **but not through**, the lower wing and at the correct angle to align with the top of the outboard front and rear interplane struts.

Repeat the steps above to the underside of the upper wing at the associated pre-moulded rigging recesses.

Landing wires:

NOTE: *Temporarily insert an interplane strut into it lower wing location hole and use its top as a angle guide for drilling. The following steps apply to both sides of the model.*

On the underside of the upper wing, at the four pre-moulded rigging recesses outboard from the cabane struts, drill holes of 0.3 mm into, **but not through**, the upper wing and at the correct angle to align with the bottom of the inboard front and rear interplane struts.

On the underside of the upper wing, at the four pre-moulded rigging recesses outboard from the top of the inboard front and rear interplane struts, drill holes of 0.3 mm diameter into, **but not through**, the upper wing and at the correct angle to align with the bottom of the outboard front and rear interplane struts.

Repeat the steps above to the top surface of the lower wings at the associated pre-moulded rigging recesses.

Incidence wires:

NOTE: *Temporarily insert an interplane strut into it lower wing location hole and use its top as a angle guide for drilling. The following steps apply to the four interplane struts on both sides of the model.*

On the underside of the upper wing, at the four pre-moulded rigging recesses between the interplane strut location holes, drill holes of 0.3 mm into, **but not through**, the upper wing and at the correct angle to cross and align with the bottom of the interplane struts.

On the top surface of the lower wings, at the four pre-moulded rigging recesses between the interplane strut location holes, drill holes of 0.3 mm into, **but not through**, the lower wings and at the correct angle to cross and align with the top of the interplane struts.

Side bracing:

On the underside of the upper wing, at the four pre-moulded rigging recesses (rectangular plates), drill holes of 0.3 mm at the correct angle to align with the rigging recesses in top, sides of the fuselage.

On the top, sides of the fuselage at the four pre-moulded rigging recesses (rectangular pates), drill holes of 0.3 mm at the correct angle to align with the pre-drilled rigging holes in the underside of the upper wing.

Right upper drag wires:

The top of the forward, right side engine access panel that is fitted, has no pre-moulded rigging recess. Drill a hole of 0.3 mm at the same position on the panel as for the left access panel and at the correct angle to align with the underside of the upper wing, at the pre-moulded rigging recess at the top of the right rear, inboard interplane strut.

On the right underside of the upper wing at the pre-moulded rigging recesses at the rear, inboard interplane strut, drill a hole of 0.3 mm at the correct angle to align with the pre-drilled hole in the engine access panel.

Right lower drag wires:

Drill a hole of 0.3 mm diameter into the leading edge of the right, lower wing at the pre-moulded indent (two wing ribs from the fuselage) and aligned to the front of the fuselage.

Drill a hole of 0.3 mm diameter through the bottom, right engine access panel and midway down the rear edge of the half louvre below the carburettor air intake.

Left upper drag wires:

On the top of the forward, left side engine access panel is a pre-moulded rigging recess. Drill a hole of 0.3 mm at the correct angle to align with the pre-moulded rigging recess at the top of the left rear, inboard interplane strut.

On the left underside of the upper wing at the pre-moulded rigging recesses at the rear, inboard interplane strut, drill a hole of 0.3 mm at the correct angle to align with the pre-drilled hole in the engine access panel.

Left lower drag wires:

Drill a hole of 0.3 mm diameter into the leading edge of the left, lower wing at the pre-moulded indent (two wing ribs from the fuselage) and aligned to the front of the fuselage.

NOTE: *On this model the left side engine access panel will not be fitted.*

Drill a hole of 0.3 mm diameter into the outside of the lower engine support beam at the same position as the rigging hole in the opposite access panel.

Cabane strut side wires:

Drill a hole of 0.3 mm diameter into each of the four pre-moulded rigging recesses on each side of the top of the fuselage, between the cabane struts. Drill each pair of holes to align with the top of the opposite cabane strut.

On the underside of the upper wing at the eight pre-moulded rigging recesses, drill a hole of 0.3 mm diameter vertically into, **but not through**, the upper wing.

Cabane strut rear wires:

Drill a hole of 0.3 mm diameter into each of the four pre-moulded rigging recesses on each side of the top of the fuselage, between the two rear cabane struts. Drill each pair of holes to align with the top of the opposite cabane strut.

On the underside of the upper wing at the four pre-moulded rigging recesses, drill a hole of 0.3 mm diameter vertically into, **but not through**, the upper wing.

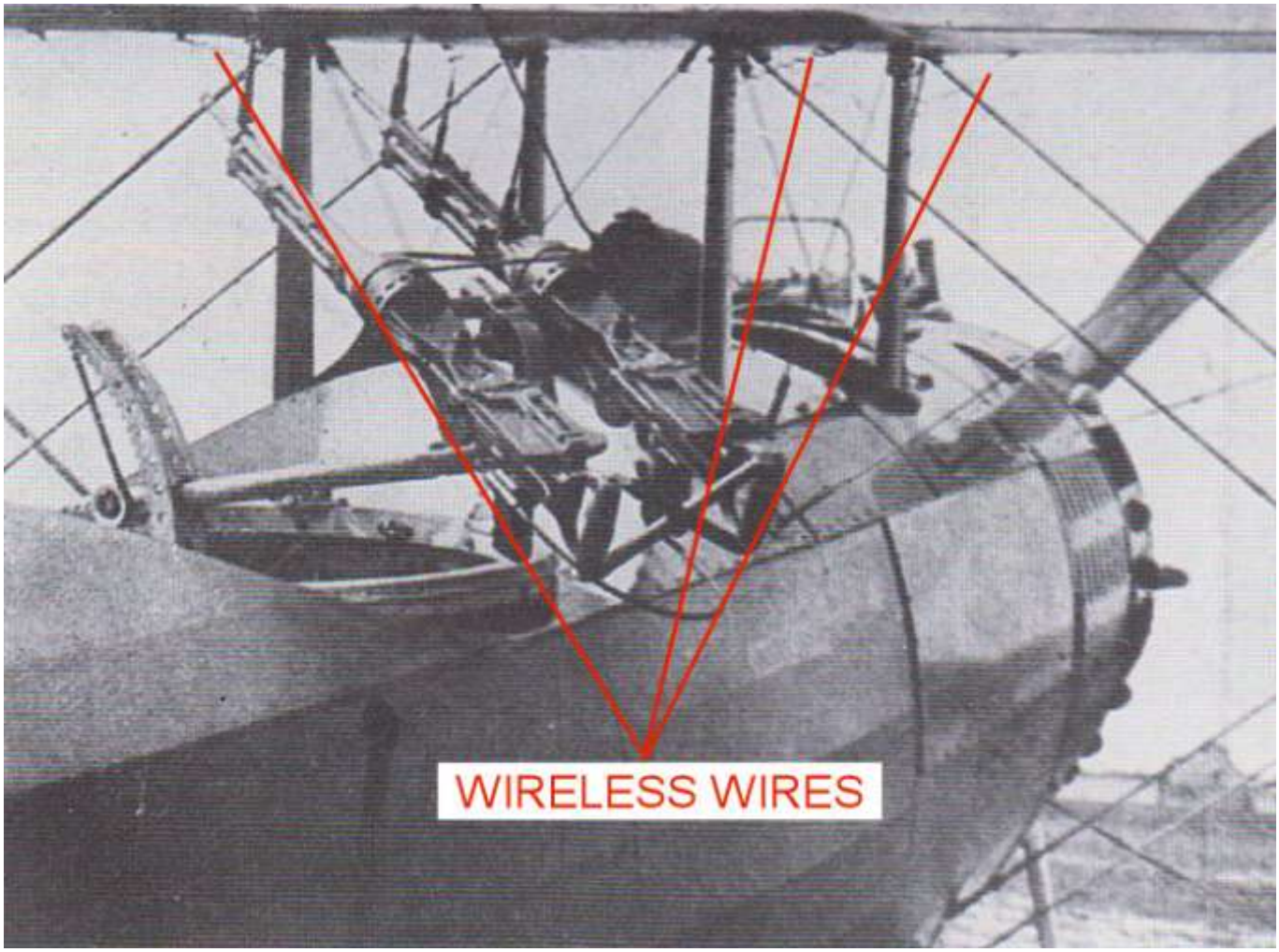
Fuel tank breather pipe:

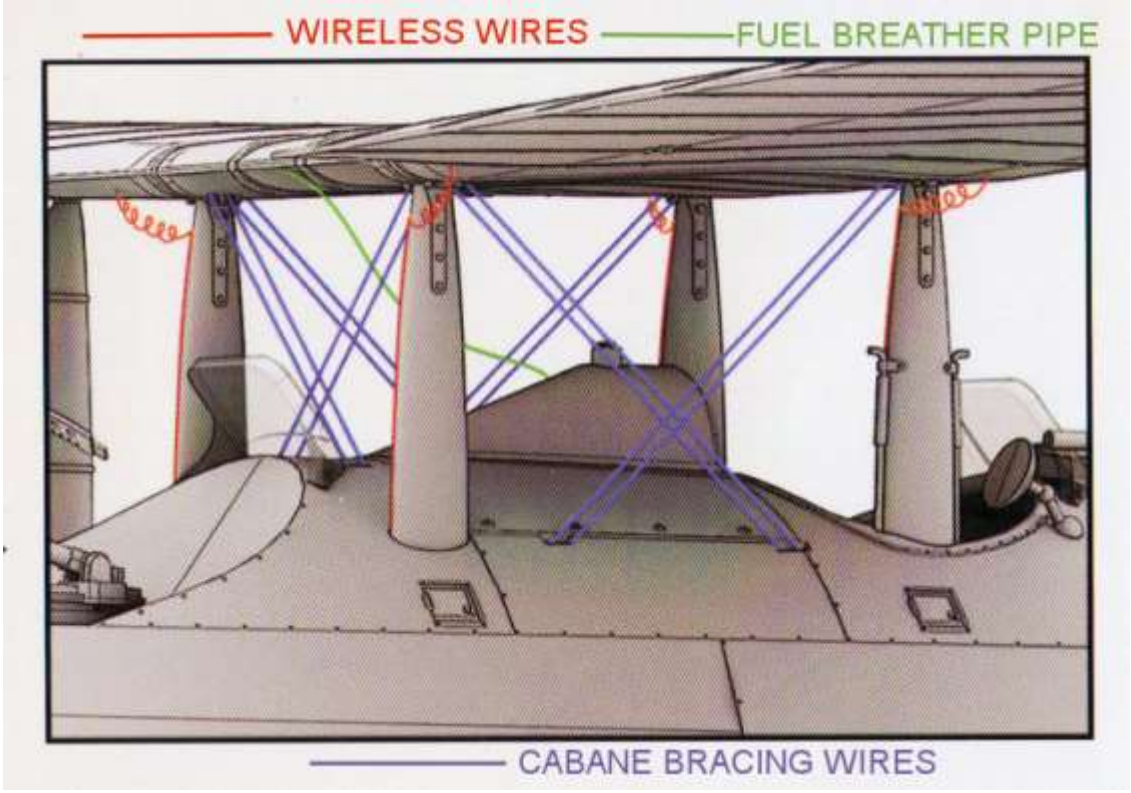
Drill a hole of 0.5 mm diameter and at a rearward angle, into the pre-moulded recess in the top of the fairing in front of the observers cockpit.

Wireless wires:

NOTE: *This particular aircraft carried the marking 'T.S.F' (Telegraphie Sans Fil), meaning it was equipped with wireless. As can be seen on the following photograph, a wire was fitted up each of the four cabane struts with the wires attached to the underside of the upper wing. The following is to prepare for the installation of the four wireless wires, as the kit upper wing and cabane struts do not represent them.*

Drill a hole of 0.3 mm diameter into, **but not through**, the underside of the upper wing and out-board from the four cabane struts. Make sure the drilled holes are located such that when fitted, the wireless wires do not conflict with the twin, front and rear landing wires (when fitted).





Painting:

NOTE: *As most of the external colours are of a light shade, I chose to prime the surfaces with a white primer. Due to the two open cockpits, exposed engine and fuselage detail and the four cabane struts, I chose to mask then brush paint those areas later.*

Carefully and fully mask off the two open cockpits, exposed engine and fuselage detail and the four cabane struts to protect them from airbrush overspray.

Airbrush a white primer, such as 'AK Interactive' White (AK759) or similar over:

> The fuselage and lower wings assembly, the upper wing, the four ailerons, the tailplane and the rudder.

NOTE: *The following order of painting applies the lighter colours first followed by the darker colours. Doing this avoids 'show through' of darker colours through the lighter colours. The following are the paints I chose to apply, being either 'Tamiya' acrylic paint colours or 'Hataka' lacquer paint. The 'colours follow those shown on the instruction manual illustrations on pages 19 and 20:*

G = 'Hataka' Orange Line (C121 Jaune Sahara).
H = 'Tamiya' Rubber Black (XF85).
K = 'Hataka' Orange Line (C126 Sable Desert IR).
O = 'Hataka' Orange Line (CO93 Green FS34258).
P = 'Tamiya' Olive Green (XF58) mixed with Flat Yellow (XF3) at a 3:1 ratio.
S = 'Tamiya' mix of Dark Yellow (XF60) with White (XF2) to a ratio of 1:1.
T = 'Tamiya' NATO Brown (XF68) mixed with Buff (XF57) to a 3:1 ratio.
U = 'Tamiya' NATO Brown (XF68).
V = 'Hataka' Orange Line (C020 Light Green RLM82) mix with (C093 Green FS34258) to a ratio of 2:1.
W = 'Tamiya' Field Grey (XF65).

When airbrushing the paints, start with a light coat, which will dry and seal the against the edges of applied masking. Once the applied paint has dried, airbrush a heavier coat to create the full colour required.

Airbrush the general areas of the **'O'** colour on the fuselage, top surfaces of the upper and lower wings and upper, left aileron, as shown on the colour illustrations.

Once the previously applied paint colour **'O'** has fully dried and set, mask off the paint and its edges to create the shape outlines for the colour ***'K'.***

Airbrush the general areas of the **'K'** colour on the right, rear of the fuselage and the top surfaces of the upper and lower wings, as shown on the colour illustrations.

Remove all masking.

Once the previously applied paint colour **'K'** has fully dried and set, mask off the paints and their edges to create the shape outlines for the colour **'V'**.

Airbrush the general areas of the **'V'** colour on the fuselage, the top surfaces of the upper and lower wings, the right lower and left upper ailerons, as shown on the colour illustrations.

Remove all masking.

Once the previously applied paint colour **'V'** has fully dried and set, mask off the paints and their edges to create the shape outlines for the colour **'T'**.

Airbrush the general areas of the **'T'** colour on the fuselage, the top surface of the lower wings and the tailplane, as shown on the colour illustrations.

Remove all masking.

Once the previously applied paint colour **'T'** has fully dried and set, mask off the paints and their edges to create the shape outlines for the colour **'H'**.

Airbrush the general areas of the **'H'** colour on the top surface of the upper and lower wings and the tailplane, as shown on the colour illustrations.

Remove all masking.

Once the previously applied paint colour **'H'** has fully dried and set, mask off the fuselage sides, the central panel between the landing gear struts and if necessary the top surfaces of the upper and lower wings and the tailplane, to create the shape outlines for the underside colour **'G'**.

Airbrush the general areas of the **'G'** colour on the underside of the fuselage, the upper and lower wings, all four ailerons and the tailplane, as shown on the colour illustrations.

Remove all masking.

Brush paint the wing leading panels with the **'P'** and **'W'** colours, as shown on page 20 of the instructions.

Brush paint the centre underside panel of the fuselage between the landing gear and the bottom section of the forward intake ring with the colour **'S'**.

Mask off the forward fuselage as required and brush paint the left top of the decking panel and the forward intake ring with colour **'U'**.

Mask off the forward fuselage as required and brush paint the right top of the decking panel, side panel and the forward intake ring with colour 'Tamiya' Olive Green (XF58) mixed with White (XF2) at a 3:1 ratio.

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

Linen effect decals:

NOTE: *At this stage of the build the **'Aviattic' Linen Weave effect (ATT32236) decals** should be applied. **For this model three or more sheets of the decal paper will be required**.*

Airbrush a gloss clear coat, such as 'Alclad' Aqua Gloss 600 or similar, over both sides of the tailplane, upper wing and lower wings and the fuselage. Do not gloss coat the top decking panel (between the four cabane struts), the forward access panels around the engine and the under-side centre panel between the landing gear struts. These areas were either metal or wood and were not covered with linen.

Check the surfaces are smooth and free from any imperfections that could prevent the decals from fully conforming. If found, carefully sand to remove the imperfections then airbrush the clear coat over that area.

Upper wing - underside

NOTE: *The 'Aviattic' decal is supplied as a single A4 sheet. The decal is not 'cookie' cut to suit a particular aircraft. Therefore each decal required must be cut to shape. Also, cut away the white border around the decal side of the sheet, to avoid this showing on the cut out decals.*

Create a template by tracing the shape of the upper wing using tracing paper. As the wing is large, it's best to cut the template into three sections. This reduces the overall size of the decals, making them easier to apply.

Place the templates on the rear (blank) side of the decal sheet ('Aviattic' aged varnish CDL (ATT32094) and 'lightly' draw the outlines onto the decal sheet. Do not press too hard when drawing the outlines as it can appear on the decal side of the sheet.

Using the traced outlines, cut out the shape of the decals.

Test position the decals on the model surface and check that they are the correct size and do not overlap at an edges of the wing.

NOTE: *To help conform the decals to the surfaces, add an amount of PVA (white glue) adhesive to the decal water and mix it thoroughly.*

Soak the decals in warm water for approximately 20 seconds.

Wet the surface where the decals are to be applied.

Slide one decal onto the wing surface and remove the decal backing paper.

Slide the decal into position then use a broad, soft brush to brush out water from under the decal.

Use soft tissue paper or cotton buds, to expel any residual water from under and around the decal. However, for this I wear lint free cotton gloves to press out residual decal water.

Slide the other decals into position then remove residual decal water from under the decals. Make sure the join between the two decals **do not overlap** as this will double the decal and the subsequent join will be noticeable.

If necessary, use 'MicroScale' MicroSol or similar to conform the decal around sharp edges and into location holes etc. If necessary, 'Tamiya' X20A thinners brushed very sparingly will conform stubborn areas, but applying too much will melt the decal.

Allow the decals to fully dry and set then, if necessary, carefully sand or cut away with a straight scalpel blade, any overhang of decal around the edges of the wing.

Lower wing - undersides

Use the same procedure and decal type to apply the decals to the undersides of the lower wings.

These decals should stop at the fuselage.

Use the same procedure to apply decal to the undersides of the lower wing ailerons.

Tailplane and elevators - undersides

Use the same procedure and decal type to apply the decals to the undersides of the tailplane and elevators.

Upper wing - top surface

Use the same procedure to apply the decals to the top surfaces of the upper wing and the upper wing ailerons.

Lower wing - top surfaces

Use the same procedure and decal type to apply decals to the top surfaces of the lower wings and the lower wing ailerons

Tailplane and elevators - top surfaces

Use the same procedure and decal type to apply the decals to the undersides of the tailplane and elevators.

Bottom of fuselage

NOTE: *The linen covering on the underside of the fuselage was between the rear end of the fuselage and the rear of the underside panel between the landing gear struts.*

Use the same procedure and decal type to apply the decals to the underside of the fuselage.

Sides of fuselage

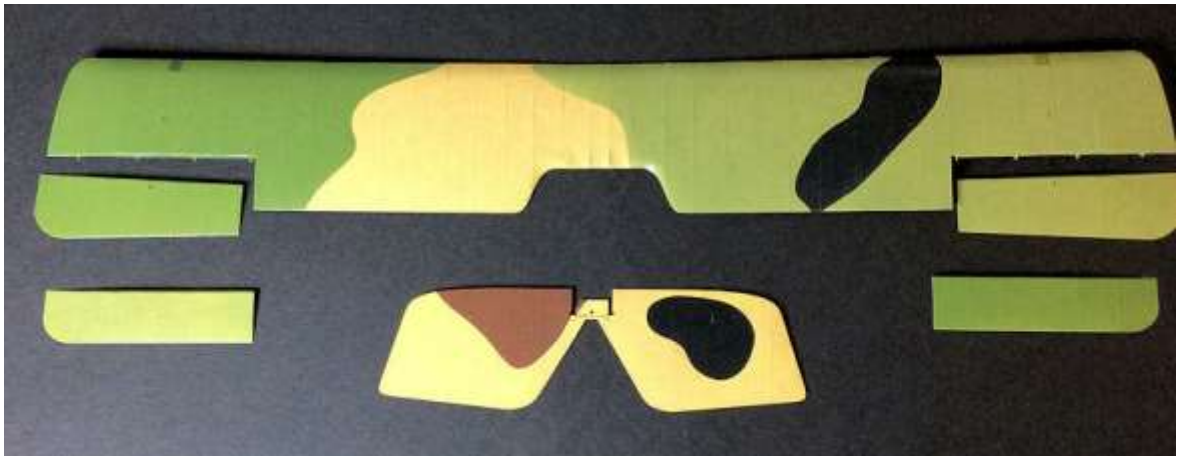
NOTE: *The linen covering on the fuselage sides does **not include** the top, forward side panels, the top decking panel and the inner surfaces of the observers cockpit.*

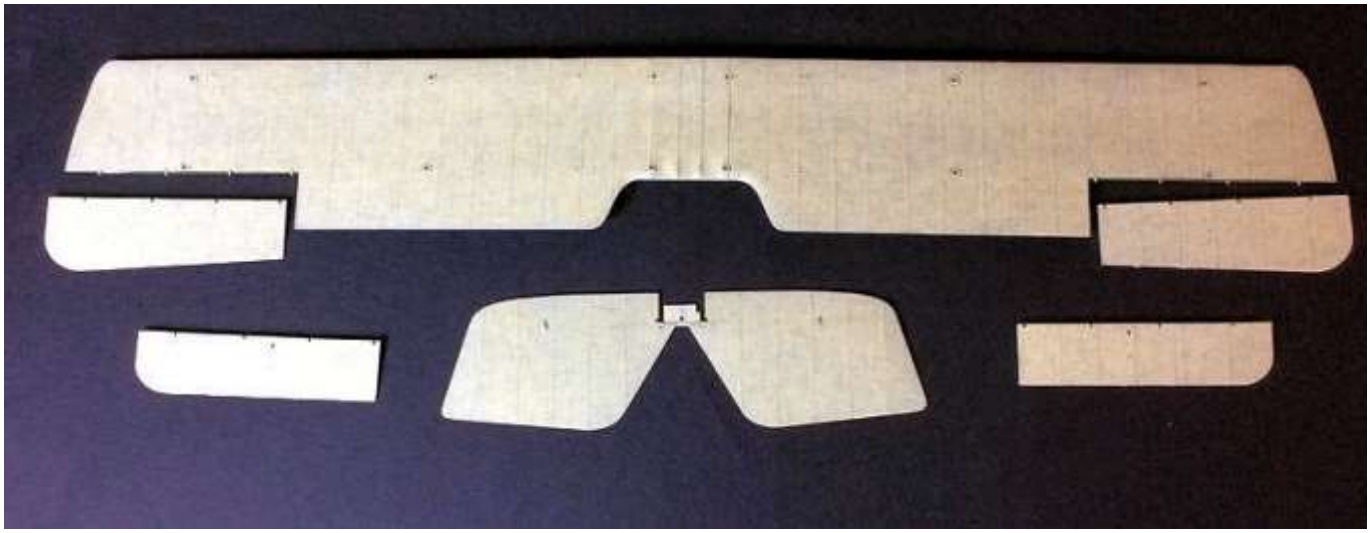
Use the same procedure and decal type to apply the decals to the sides of the fuselage. I cut the decals to align with the bottom edges of the fuselage and the pre-moulded longerons, from the bottom edge of the observers cockpit to the rear of the fuselage.

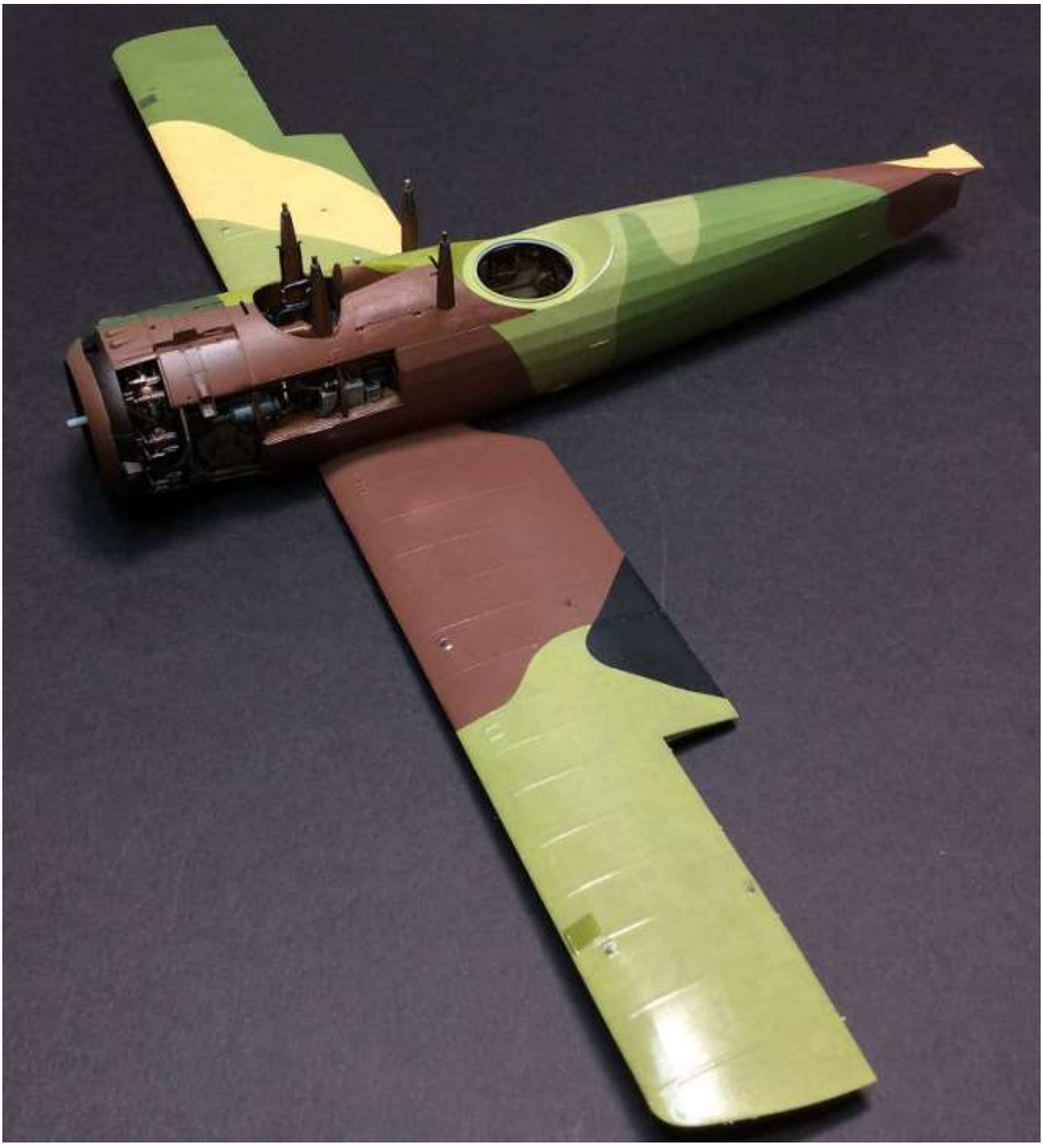
Top rear of fuselage

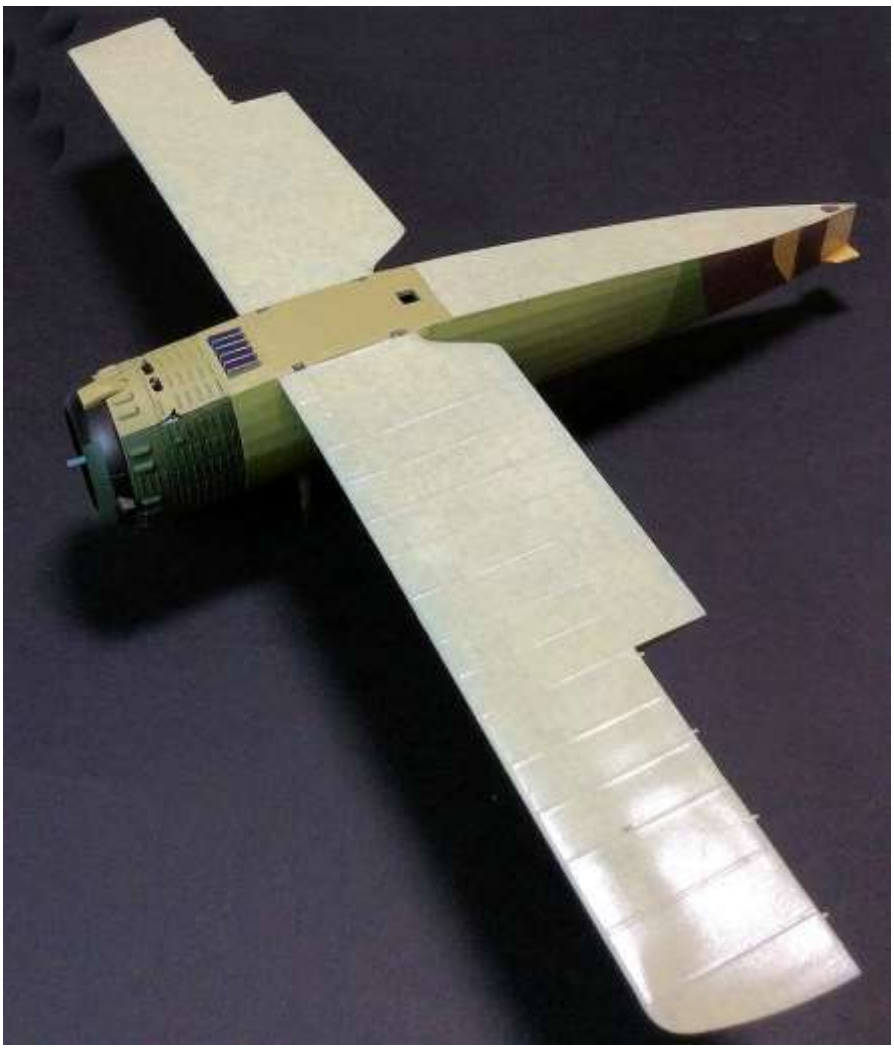
NOTE: *The linen covering on the top, rear of the fuselage is from around the edges of the observers cockpit to the rear of the fuselage, spanning between the previously applied fuselage side decals.*

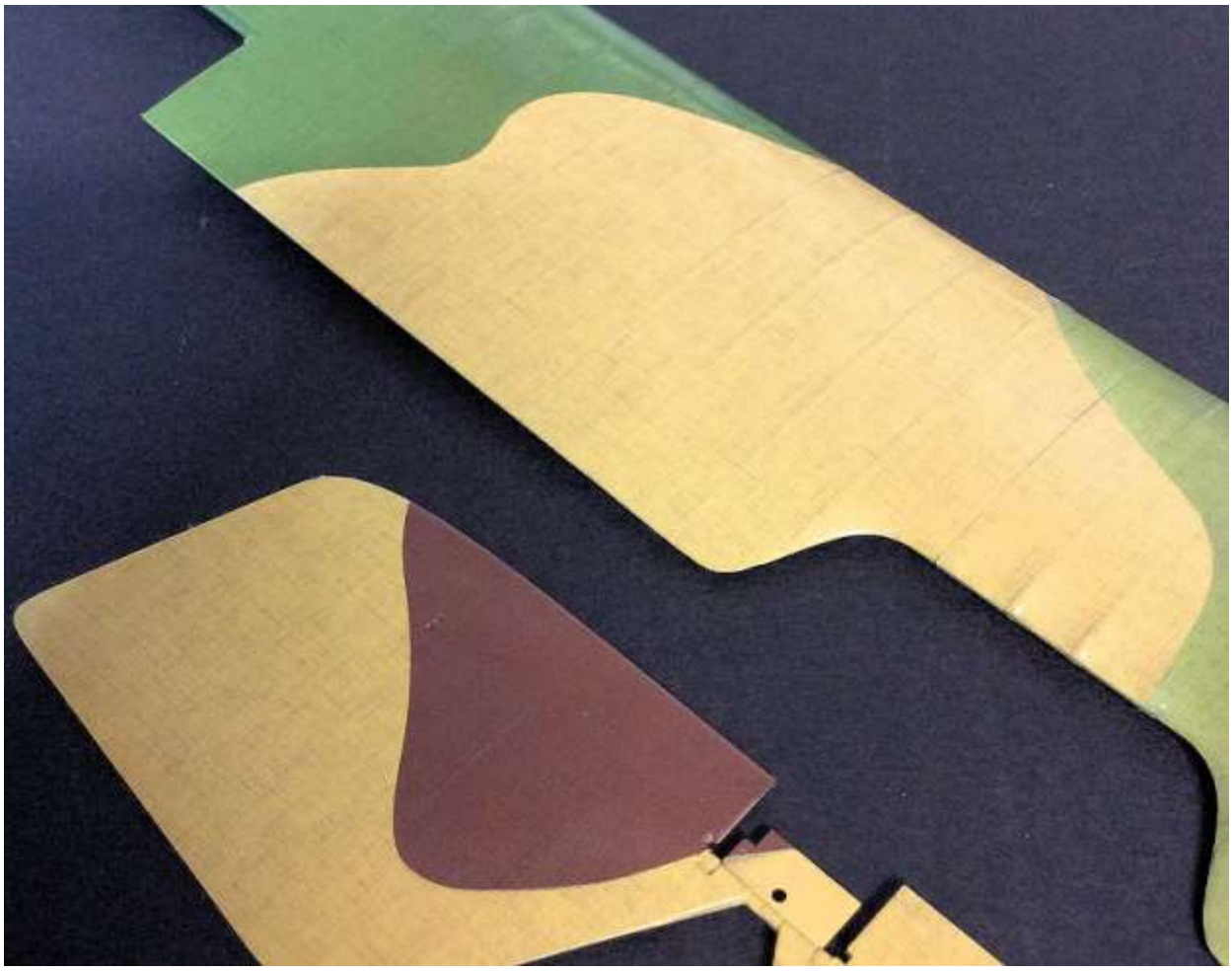
Use the same procedure and decal type to apply the decals to the top, rear of the fuselage.

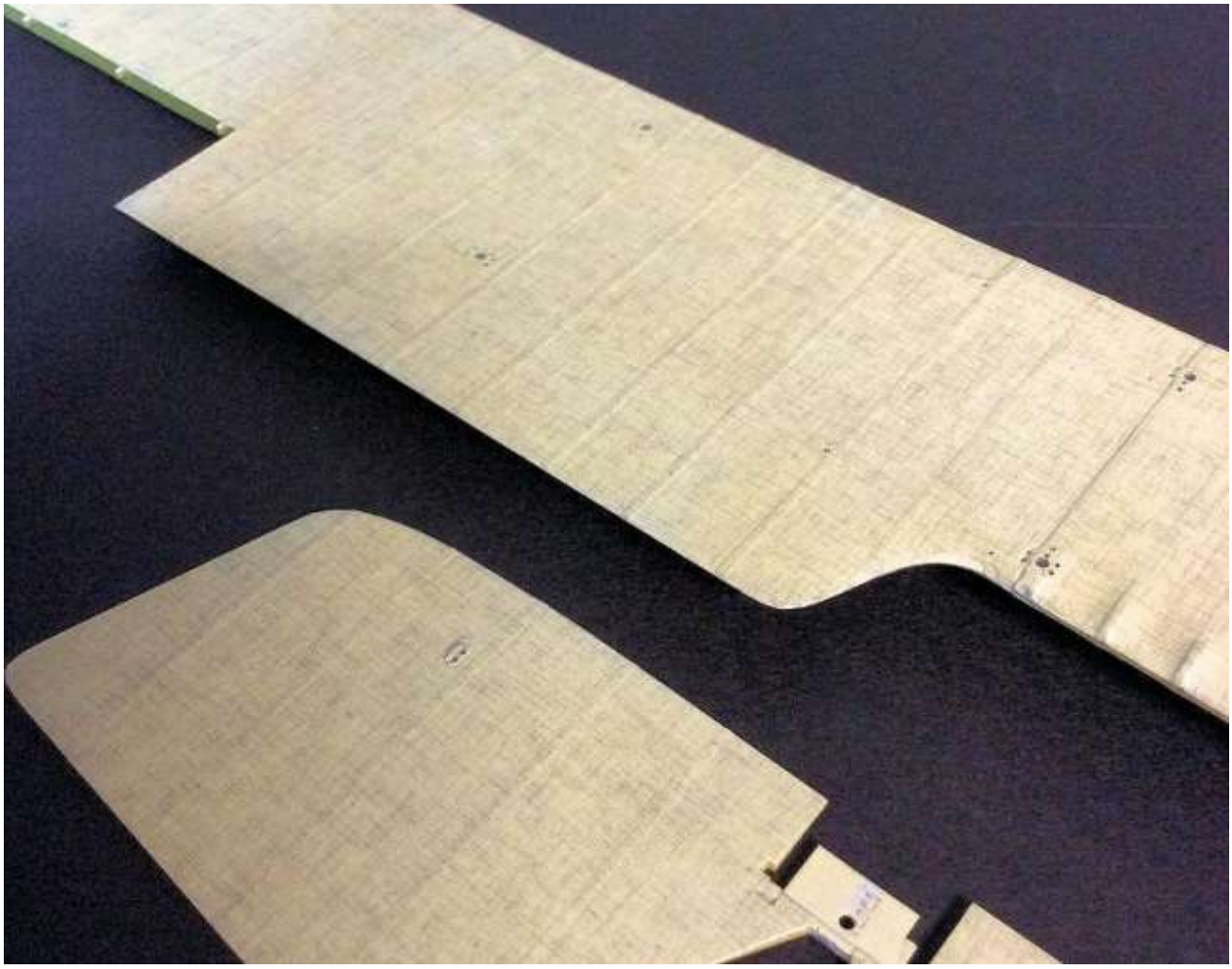


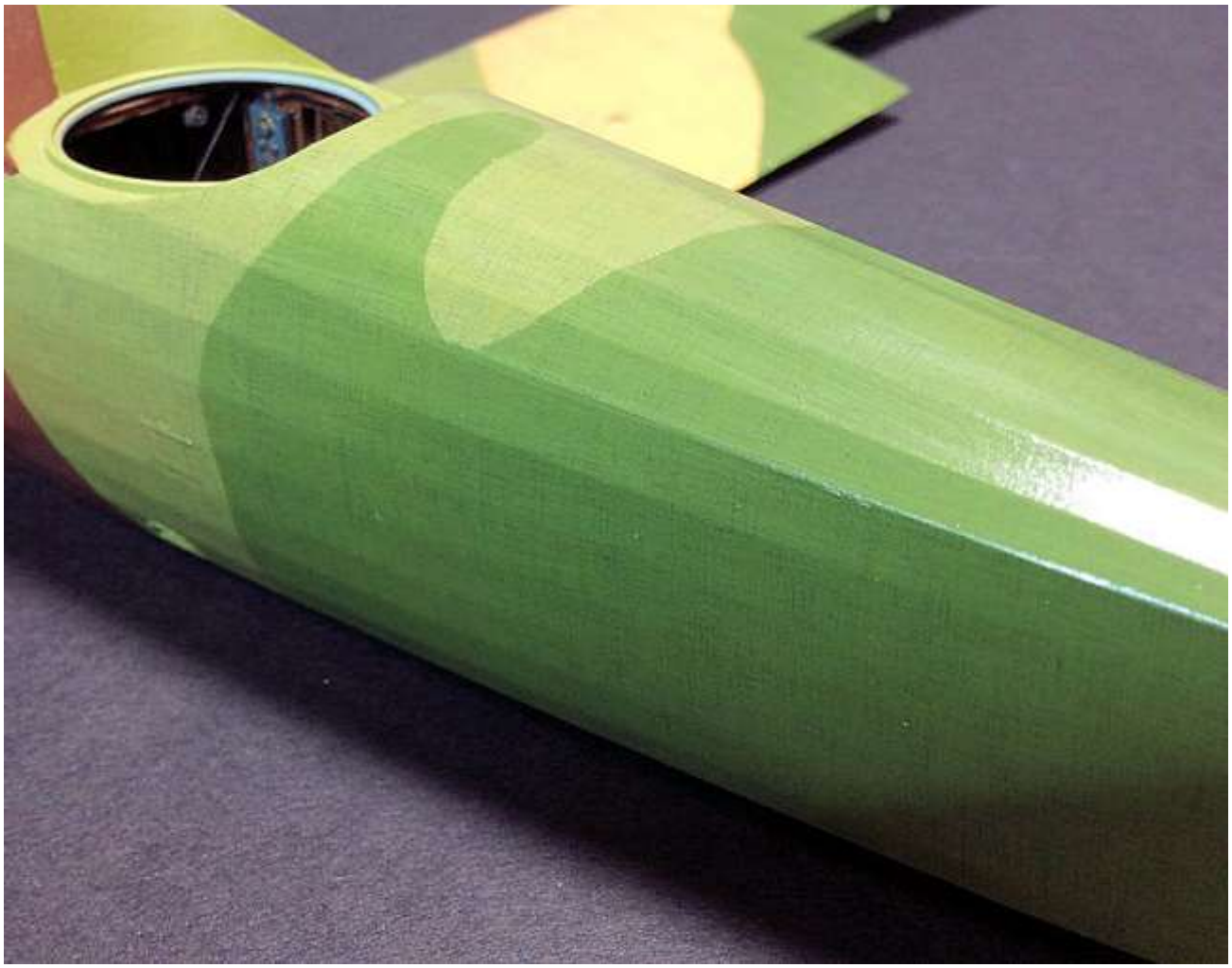


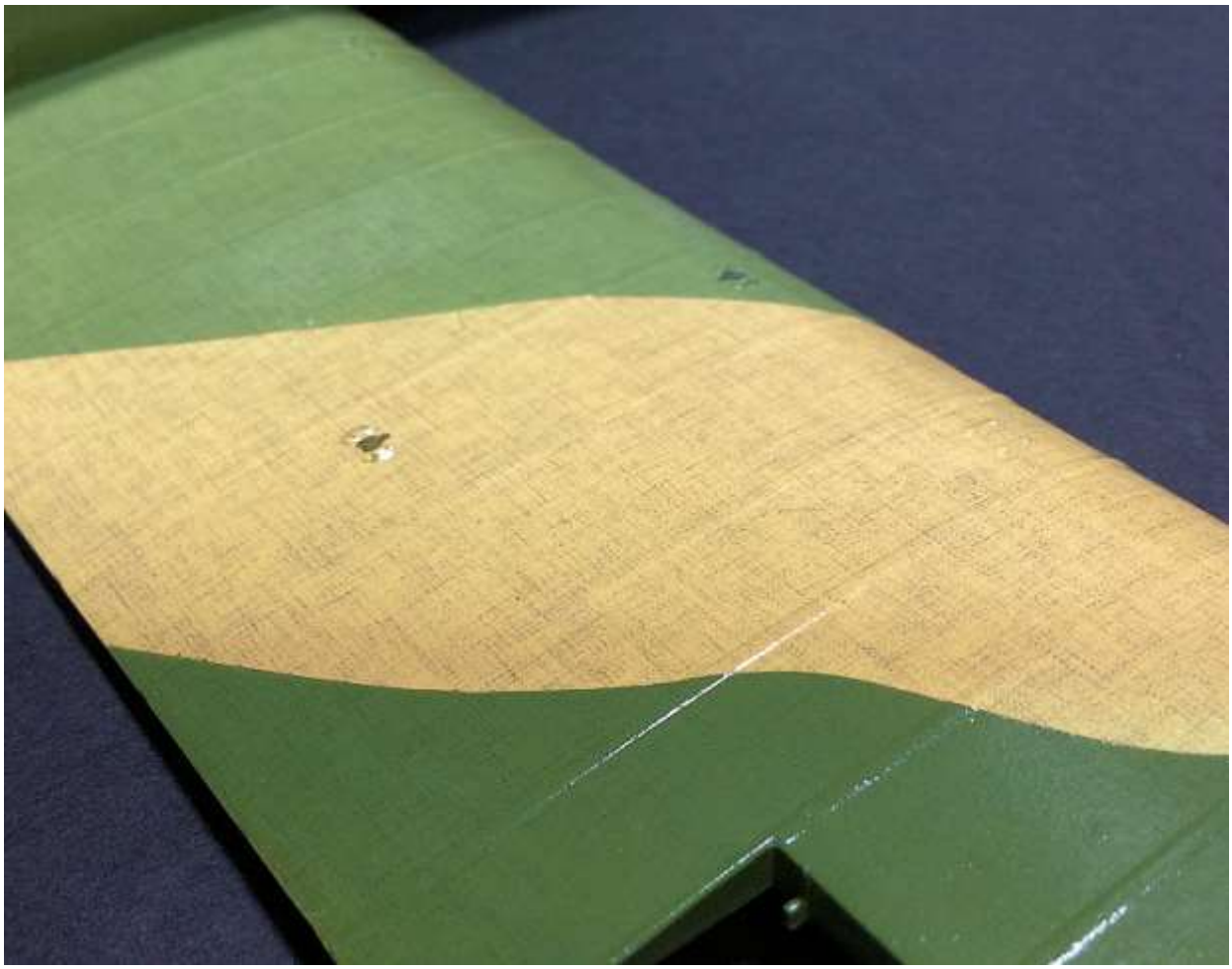










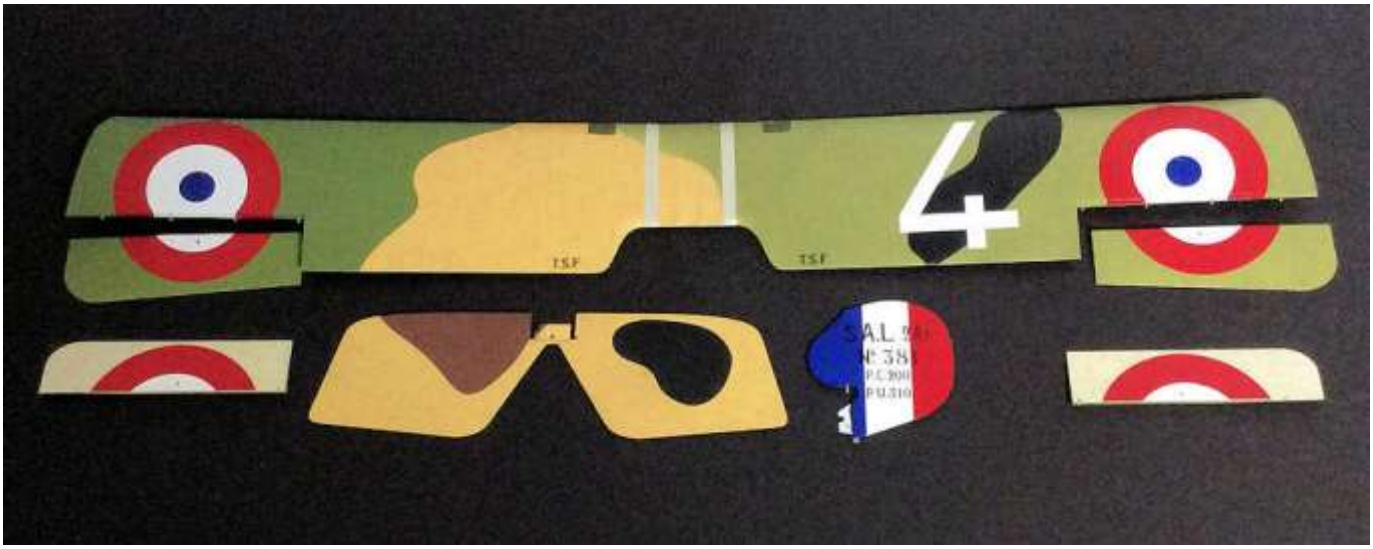


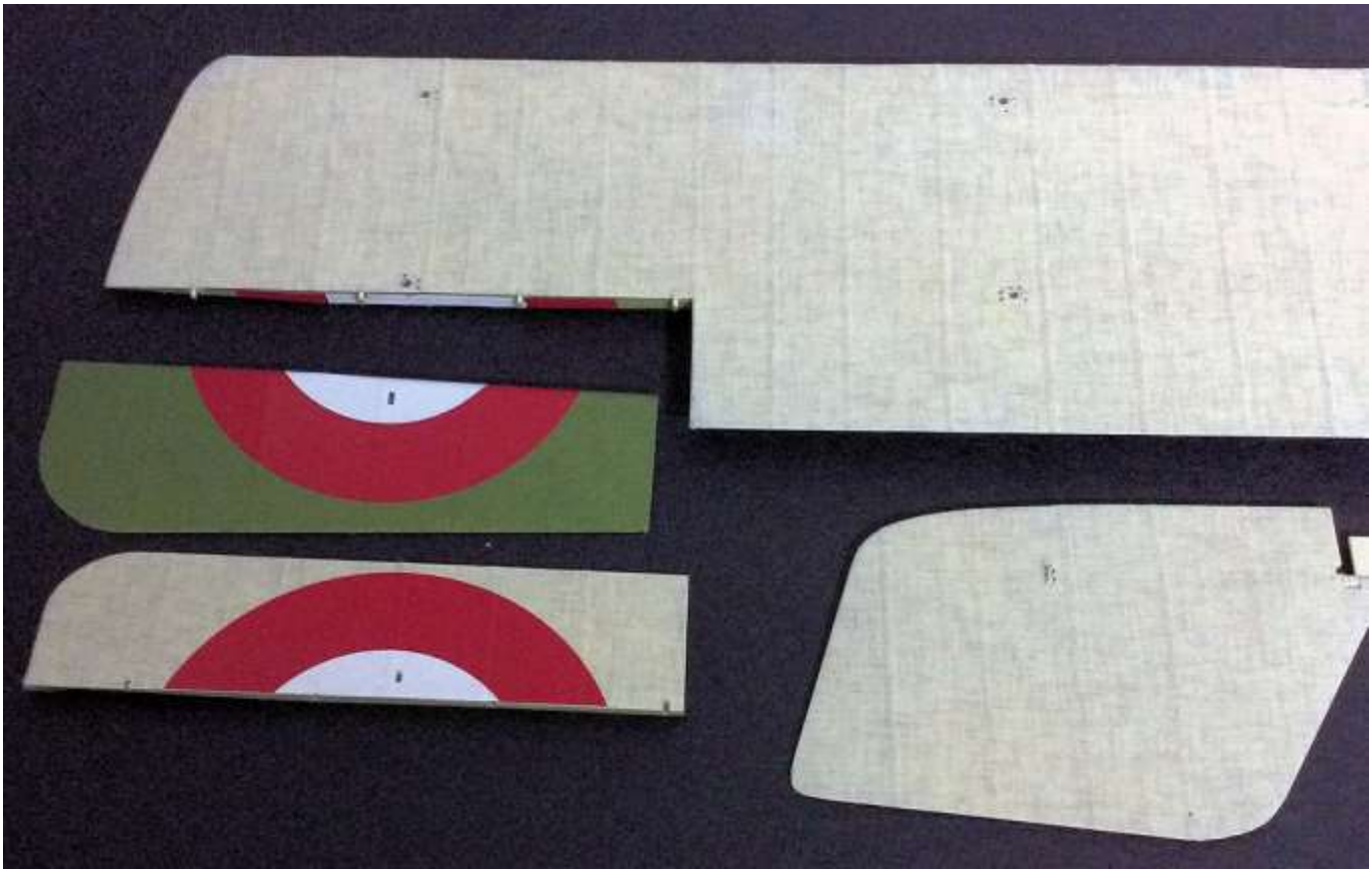
Kit decals:

NOTE: *The location of the kit supplied decals are detailed on page 20 of the instruction manual, with some of the decal locations for the left side detailed on the top side view on page 19. The kit supplies some decals that are not required for this particular scheme. The instructions state that the ailerons for the upper wing were not painted as the ailerons were replacements. However, I felt that the markings looked incomplete without them, so I've applied those decals.*

To provide a gloss surface on the rudder for applying those decals, airbrush the sides of the rudder with a gloss clear coat, such as 'Alclad' Aqua Gloss 600 or similar

If necessary, refer to Part 4 (Decals) of this build log - Apply the kit supplied decals to the upper wing, fuselage assembly and the rudder.



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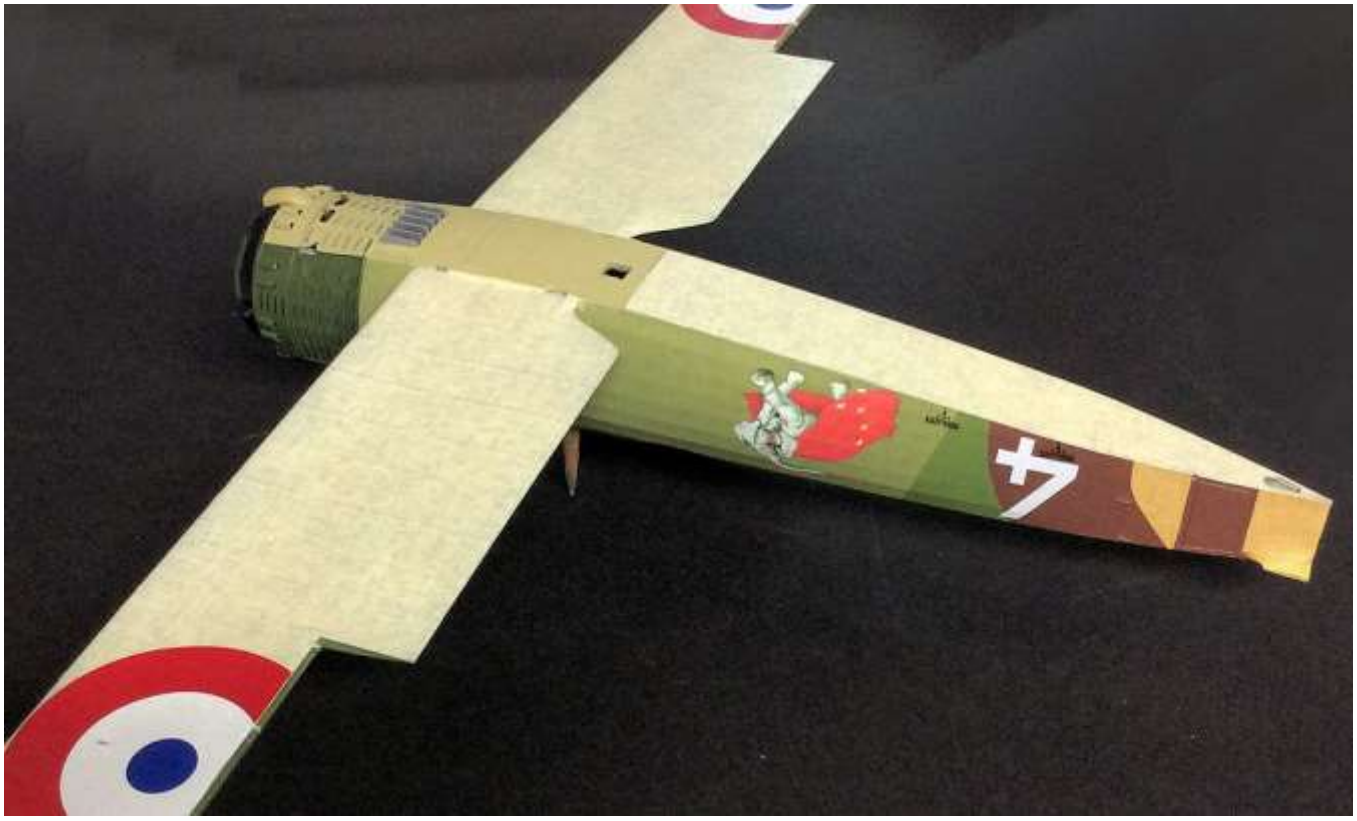

7

Weathering:

Note: *To provide a key surface for applying the weathering effects, the surface needs to have a semi-matte clear coat applied.*

Airbrush the sides of the upper wing, fuselage/lower wings assembly and the rudder with a semi-matte clear coat, such as 'Alclad' Light Sheen (ALC-311) or similar.

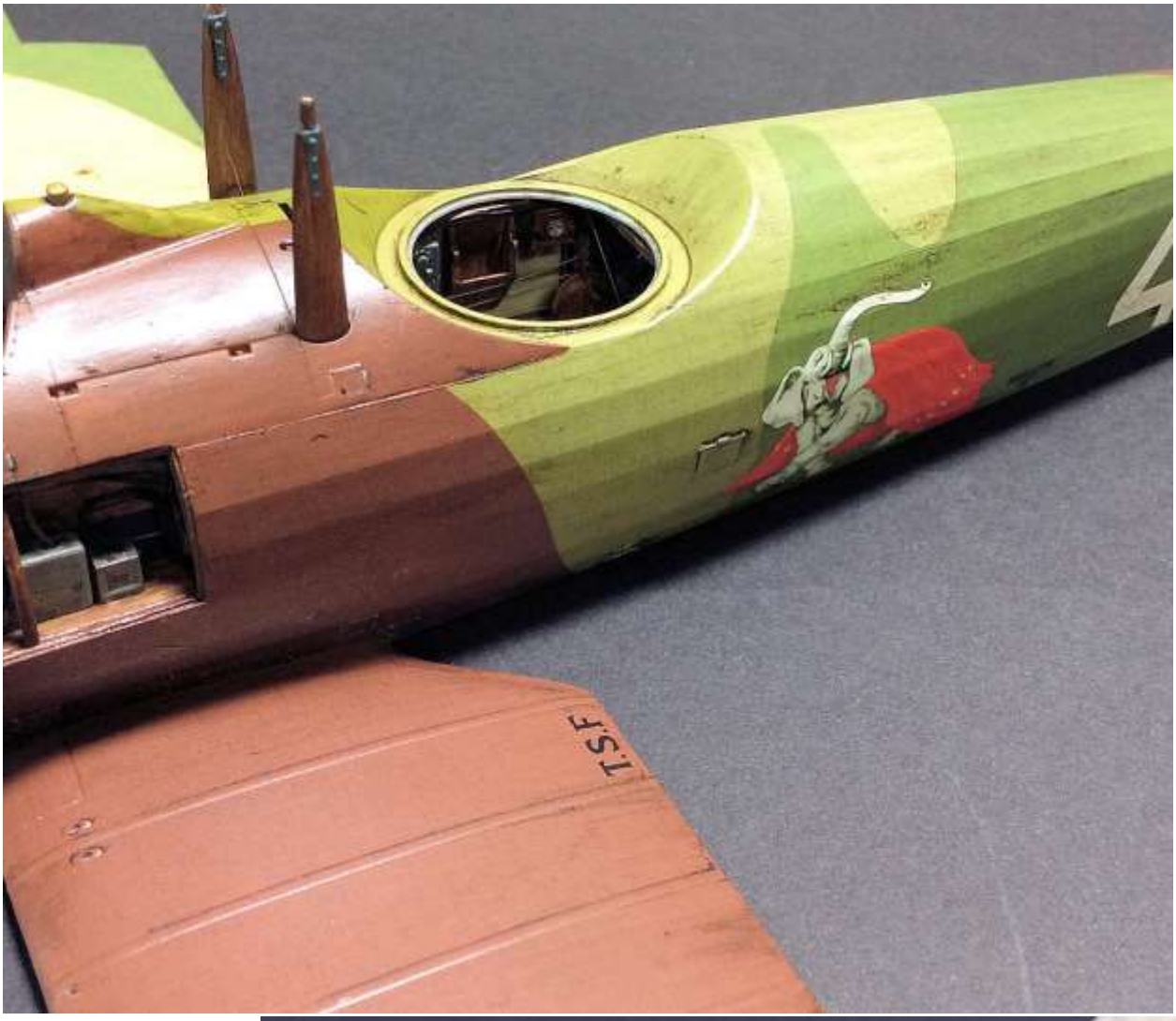
If necessary, refer to Part 3 (Weathering) of this build log - Apply the desired weathering Medium - I used 'Flory Models' Dark Dirt fine clay wash.

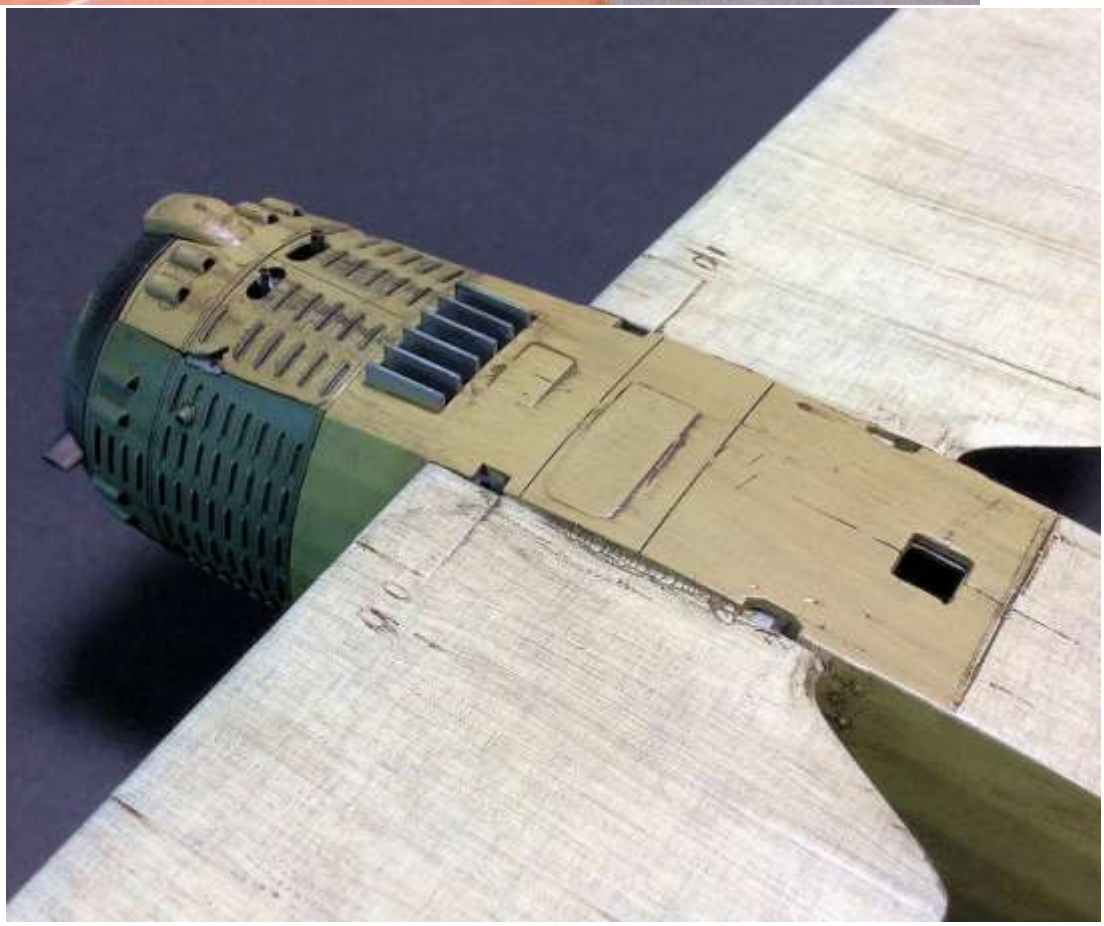
Once the desired weathering effects have been achieved, seal the weathering with a semi-matte clear coat, such as 'Alclad' Light Sheen (ALC-311) or similar.

NOTE: *Dry brushing requires the use of a soft, broad brush, dipped into the paint then brushed over absorbent paper to remove all of the paint, leaving just enough paint pigment for brushing across the parts.*

If desired, dry brush a worn metal effect over the engine metal access panels. I dry brushed ' Mr. Colour' Super Metallic - Super Iron (203).

If desired, oil or fuel stains can be sparingly applied around filler caps etc, using 'AK Interactive' Kerosene (AK2039) or Engine Oil (AK2019).


T.S.F

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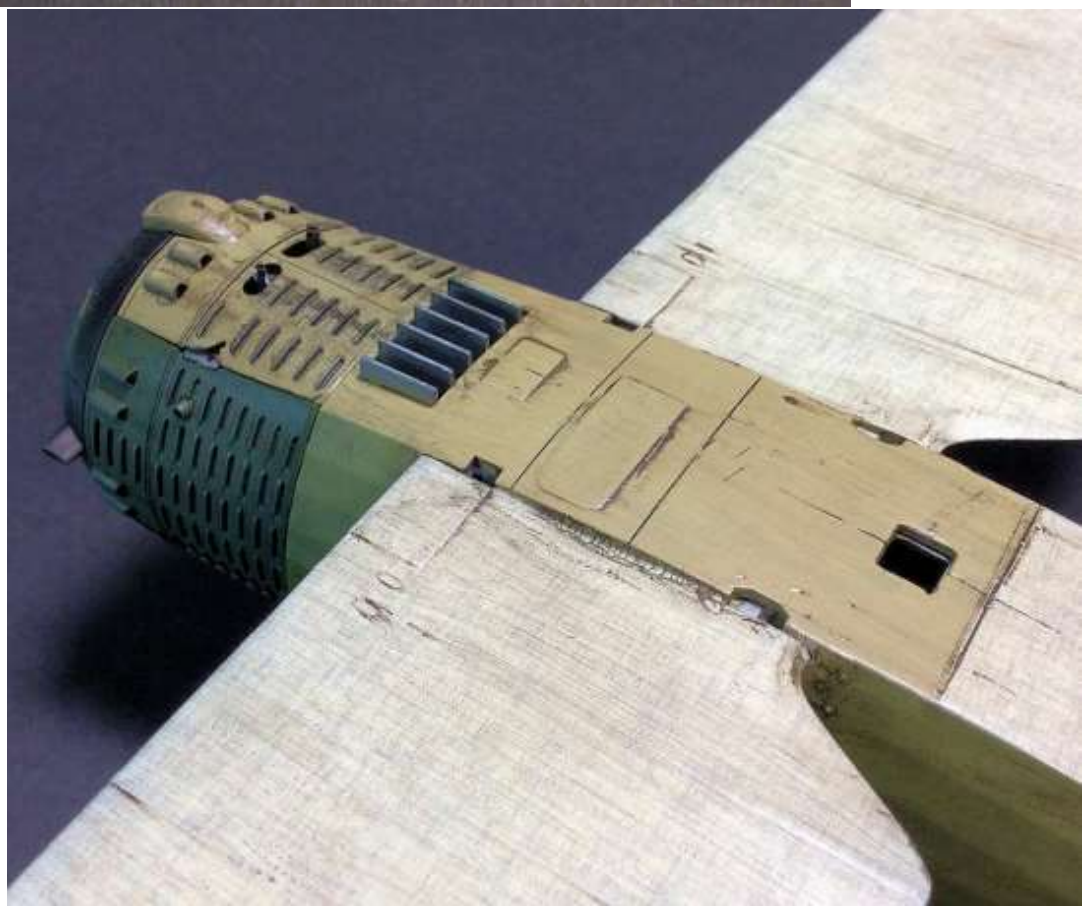


Painting (continued):

Remove all other required kit parts from their sprues and scrape or sand away any mould flash and seam lines.

Airbrush all parts with a grey primer, such as 'AK Interactive' Grey (AK758) or similar.

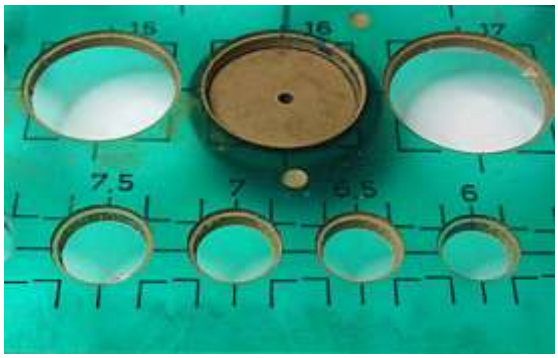
Wheels:

NOTE: *Before painting,* ***check the wheel types****. The kit supplies two wheel types but only four decals for 'Palmer Cord Aero Tyre'. One pair of tyres are marked as 'Palmer Cord Aero Tyre' and the other as weighted wheels with 'Persan Aero Standard' tyres. As such, make sure you select the correct pair and if required, use the 'Palmer' decals for those tyres .*

Airbrush the tyres of the two wheels with 'Tamiya' Neutral Grey (XF53) or similar.

NOTE: *To airbrush the faces 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 faces under the hole.*

Example of the 'Linex 1217 T is use



Airbrush the two wheels covers and two outer covers colour **G** = 'Hataka' Orange Line (C121 Jaune Sahara) or similar.

Brush paint the outer axle ends and the inner hub plates with 'Mr. Colour' Stainless Steel (213) or similar.

Airbrush the wheels with a gloss sealer (e.g. 'Alclad' Aqua Gloss - ALC-600) or similar.

Aviattic' decals - templates:

NOTE: *The decals used for the wheel covers are cut from the linen effect sheet - 'Aviattic' Linen Weave effect (ATT32236). To cut these circular decals I used a 'Thinnerline' circle cutter.*

Use the wheel covers as a guide and cut appropriately sized discs from the CDL decal sheet.

Cut a shallow triangle on the outer wheel cover decals, with the tip of the triangle in the centre of the cover. This is required to allow the decal to sit correctly in the outer cover, which is not flat.

Apply the cut linen effect decals to the inner wheel and outer covers of each wheel.

NOTE: *Ensure the tyre decals (112) are applied over the pre-moulded wording on the tyres.*

Apply the kit supplied decals for the tyre manufacturer around the edge of the tyres and over the raised wording moulded in the tyre itself.

Airbrush the wheel parts with 'Alclad' Light Sheen (ALC-311) or similar.

The wheels will be assembled and weathered later in this build.

Landing gear:

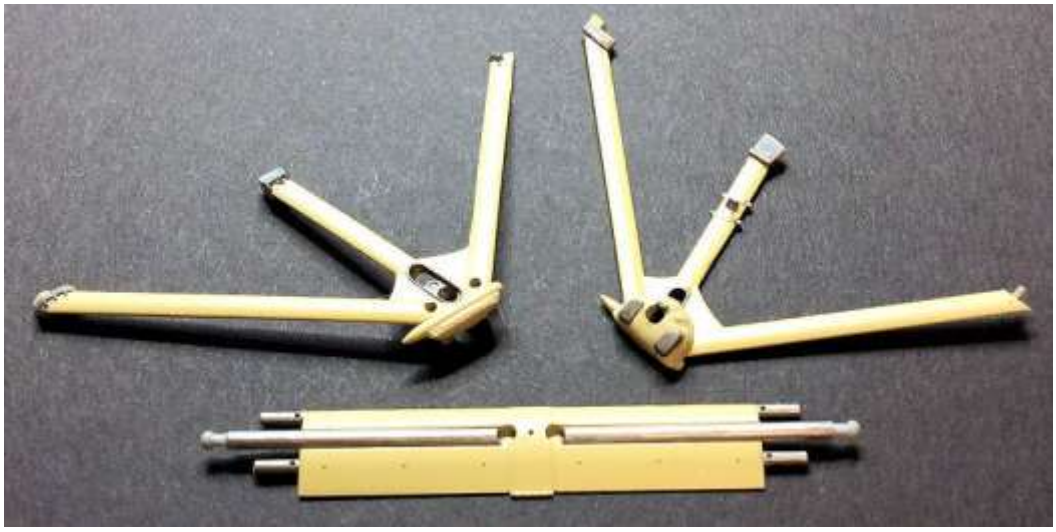
Airbrush the axle fairing and the two landing gear struts with colour **S = '**Tamiya' mix of Dark Yellow (XF60) with White (XF2) to a ratio of 1:1 or similar.

Brush paint the axle and metal fittings on the two struts with 'Mr. Colour' Stainless Steel (213) or similar.

Brush paint the covers over the 'bungee' suspension cords on the two struts with 'Tamiya' Deck Tan (XF55) or similar.

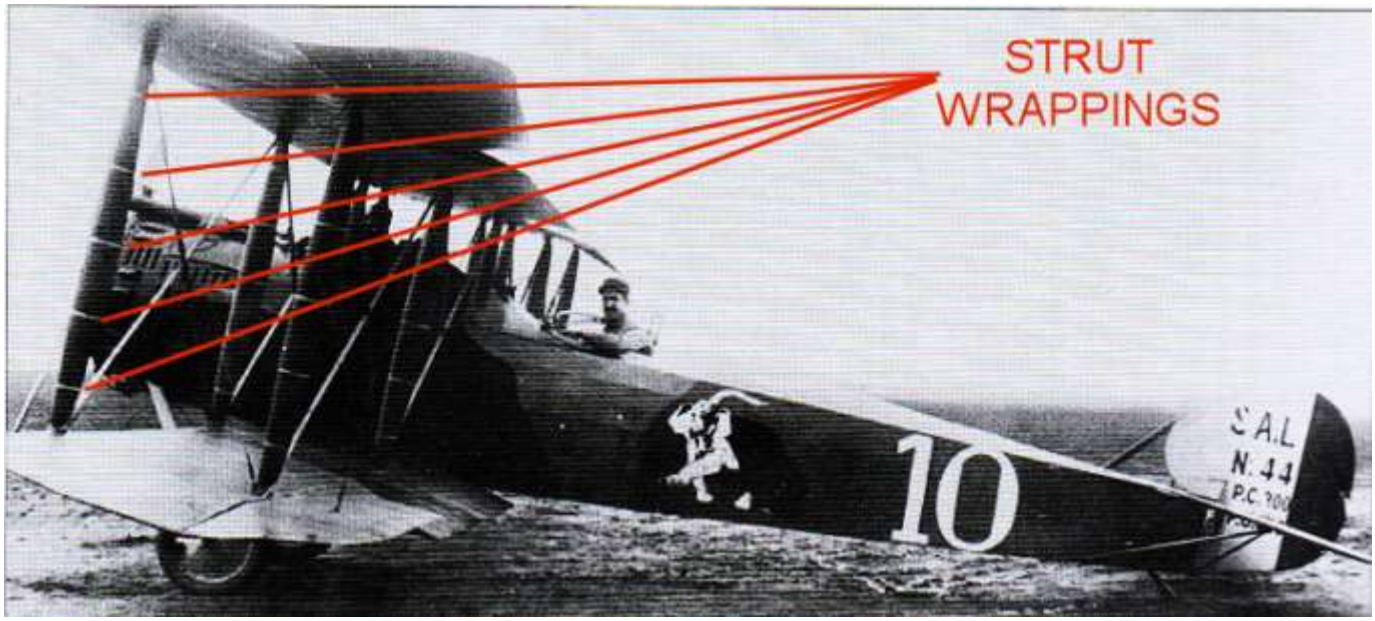
Airbrush the landing gear parts with 'Alclad' Light Sheen (ALC-311) or similar.

The landing gear parts will be assembled and weathered later in this build.



Interplane struts:

NOTE: *Each interplane strut had wrapped fabric strips applied, to help prevent the wood struts from splitting. These are represented by the 1.0 mm wide strip decal from the 'Xtradecal Parallel Strips (XPS2) sheet.*



Airbrush the eight interplane struts with 'Tamiya' Deck Tan (XF55) or similar.

NOTE: *Refer to Part 2 (Wood effects) of this build log for information.*

Apply the desired wood effect over the eight interplane struts. I used 'DecoArt Crafters Acrylic' Burnt Umber' over the struts.

Airbrush seal the applied wood effects with a semi-matte clear coat, such as 'Alclad' Light Sheen (ALC311) or similar.

Airbrush a clear gloss coat, such as 'Alclad' Aqua Gloss 600 or similar.

Cut lengths of the 1.0 mm wide white strips from the 'Xtradecal Parallel Strips (XPS2) sheet. The strips should be long enough to just overlap the edges of the struts.

Working on **one side only** of each strut, apply each decal strip around the strut, using the pre-moulded details as a guide.

Press out residual decal water and check each applied strip is still aligned correctly to the pre-moulded details.

Apply a decal softener, such as 'MicroScale' MicroSol or similar to conform the decals fully to the struts.

Repeat the procedure to apply strips on the opposite sides of the struts, making sure the strips are correctly aligned to the pre-moulded details and previously applied strips.

Seal the decals on the struts by airbrushing a semi-matte clear coat, such as 'Alclad' Light sheen (ALC311) or similar.

The eight interplane struts will be fitted and weathered later in this build.

External pre-rigging:

NOTE: *For this model I used 'GasPatch' 1:48th scale metal turnbuckles and anchor points, as I think they are more in-scale for 1:32nd scale models. However, the extensive external rigging for this aircraft requires many turnbuckles and anchor points. For example, around sixty anchor points alone will be required.*
This can be expensive, so as an alternative, 0.2 mm diameter copper wire can be twisted around a suitable diameter drill to form anchor points. The tails of the can then be secured into the pre-drilled rigging holes to act as anchor points.

Preparation:

When preparing 'GasPatch' metal turnbuckles and anchor points, make sure that once snapped off the casting block, the residual cast tag on the end of the 'eyes' is filed away using a diamond file or similar.

Carefully run a 0.2 mm diameter drill through the 'eyes' to remove any residual cast metal.

Clear any decal or paint from the pre-drilled rigging holes in the underside of the upper wing, top surface of the lower wings and the fuselage.

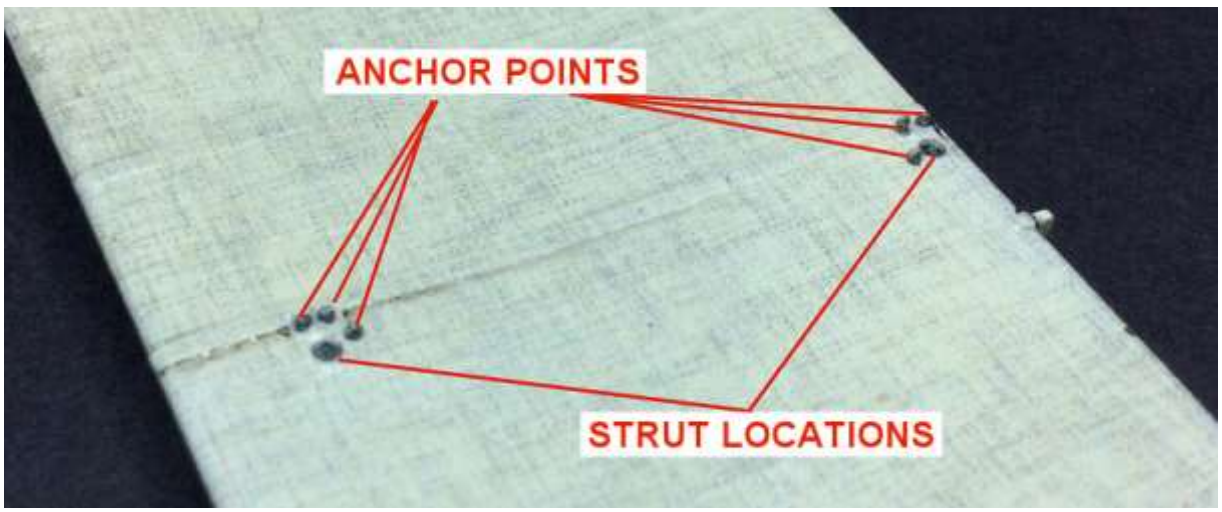
Anchor points:

Using the following photographs as a guide, secure an anchor point into each pre-drilled hole in the underside of the upper wing with CA adhesive.

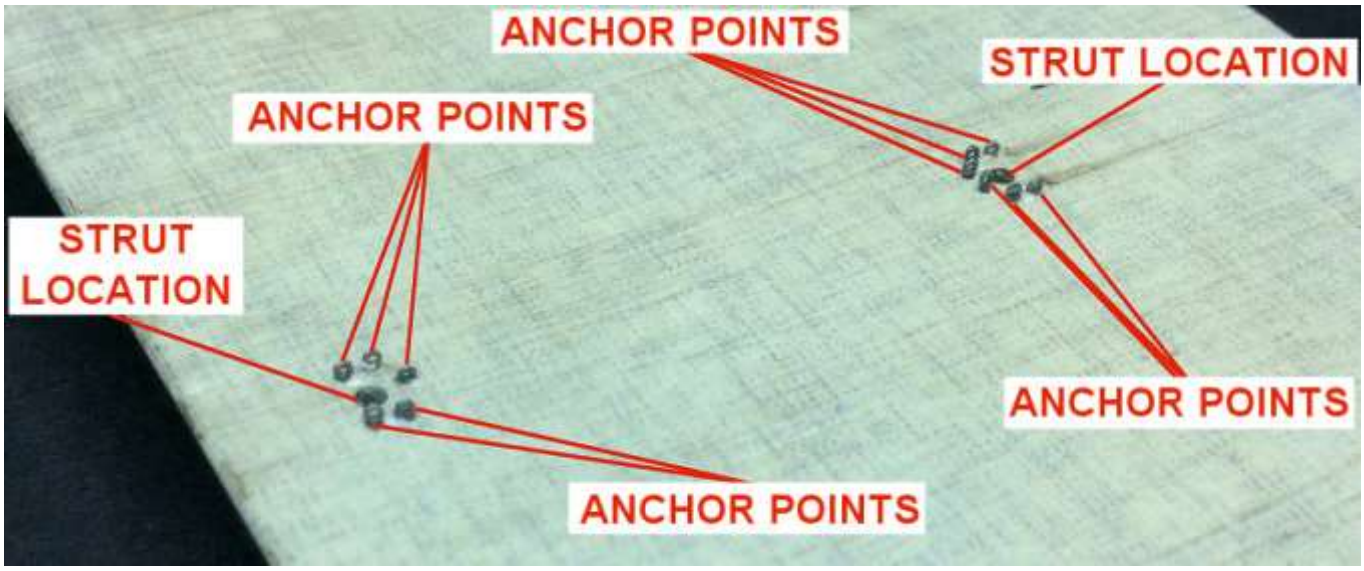
Check each 'eye' end is clear of adhesive and if necessary, clear by using a 0.2 mm drill.

Test fit interplane struts to ensure they are clear of the fitted anchor points.

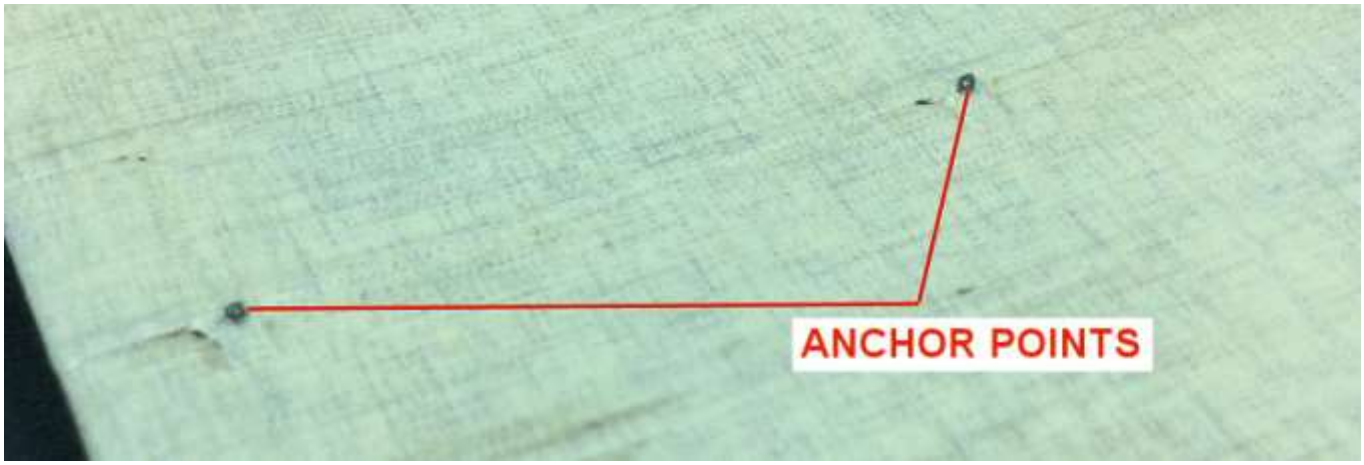
Outer interplane struts



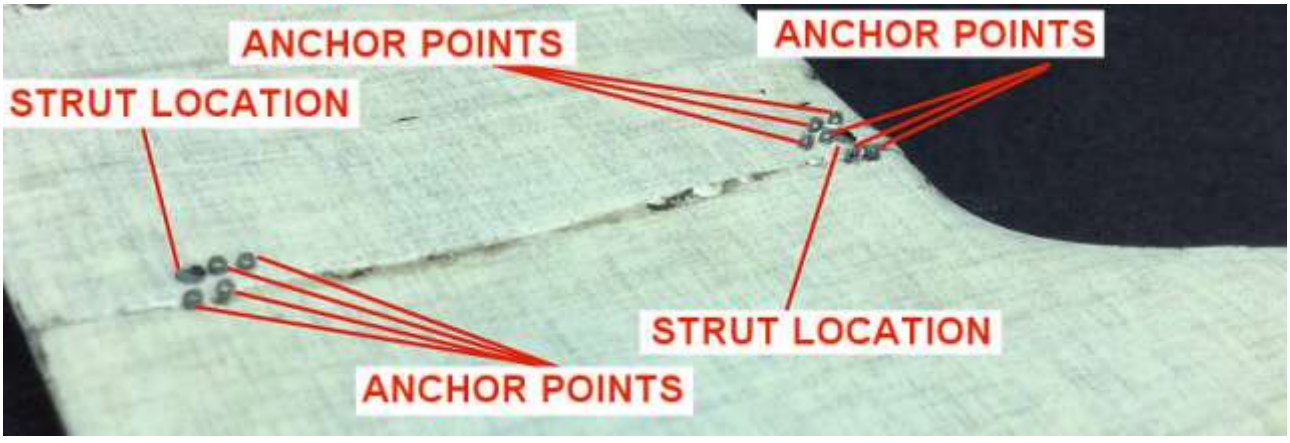
Inner interplane struts



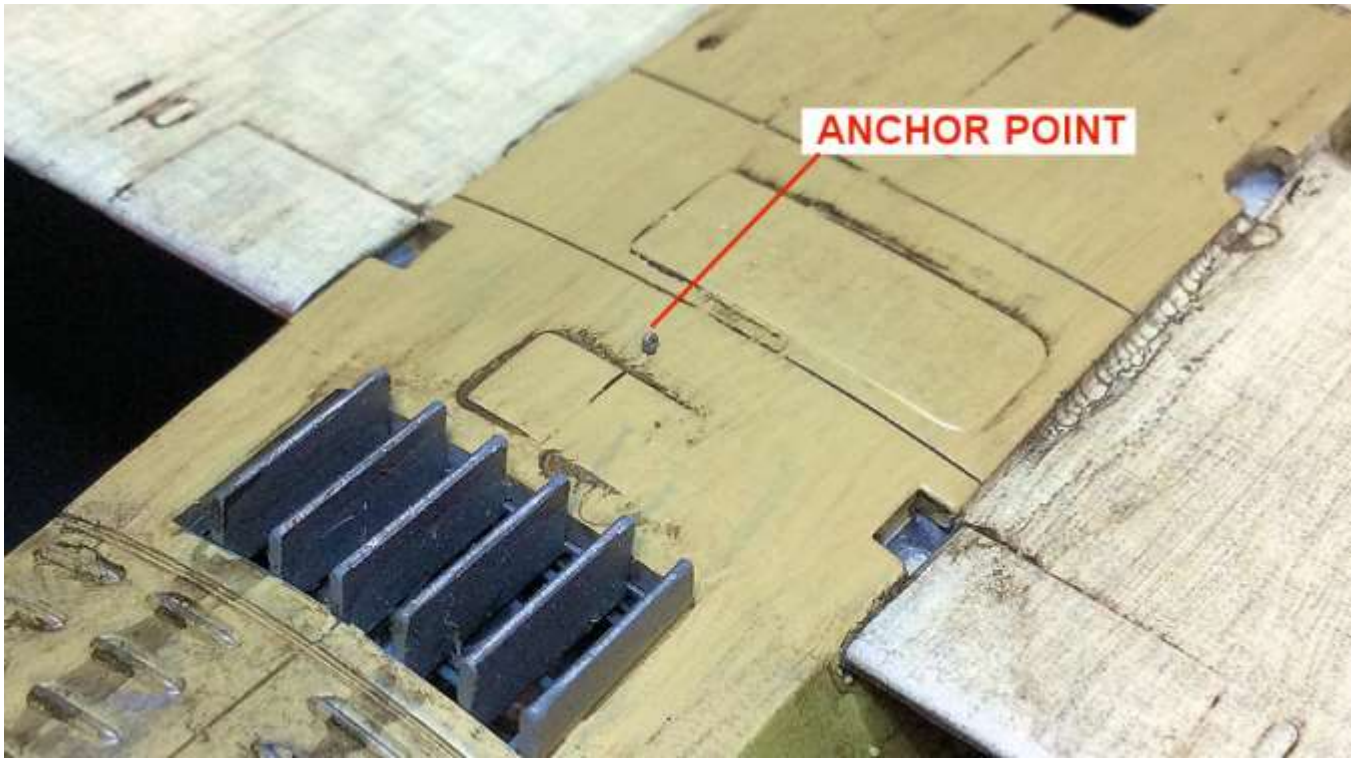
Drag wires

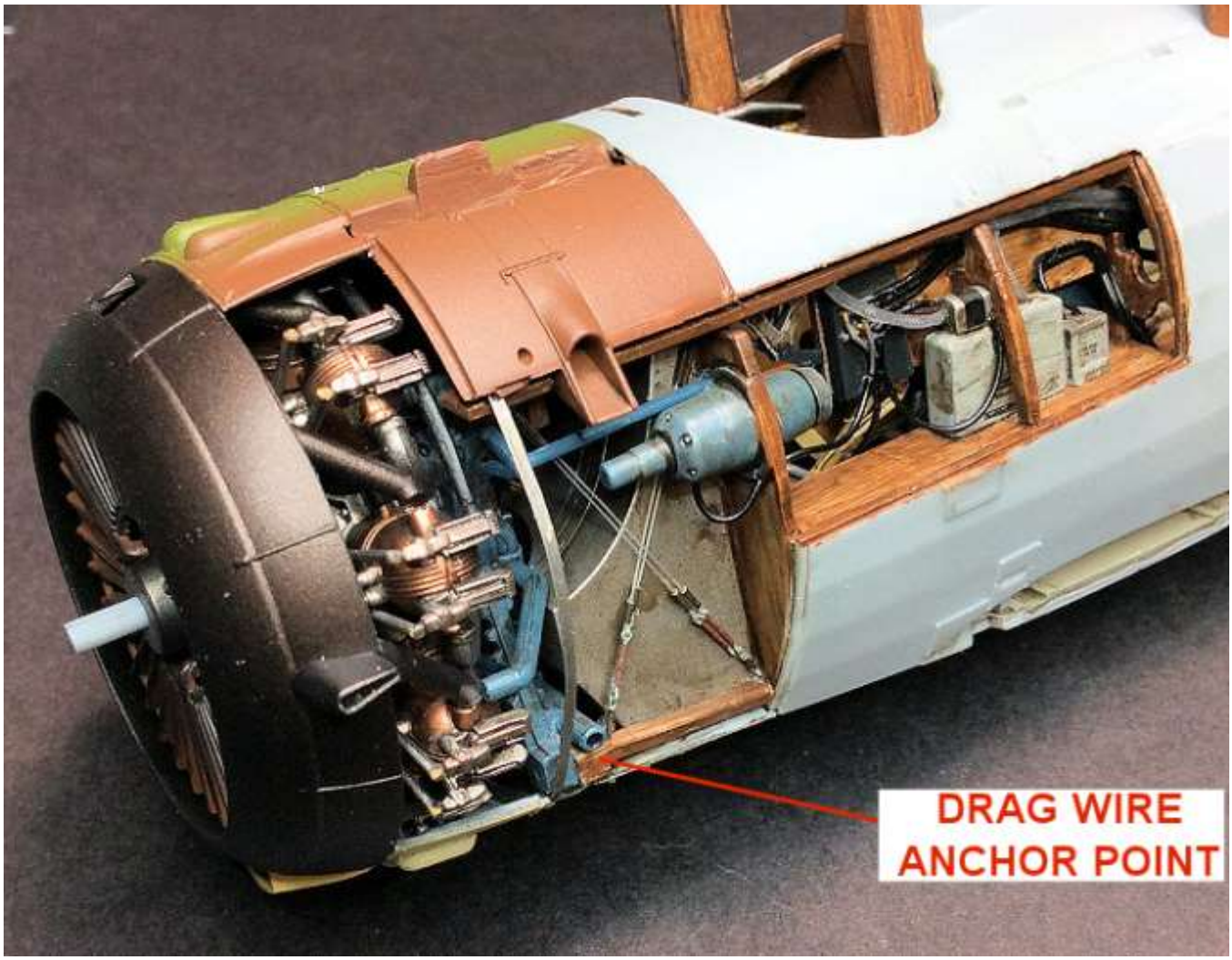


Cabane struts



Fuselage underside





Rigging wires:

NOTE: *All required rigging wires are best prepared and pre-rigged at this stage of the build. This make it easier to final rig the wires after the upper wing is fitted.*
Photographs of this aircraft type (see below) show that some had strip inserts fitted between the twin flying and landing wires, whilst others did not. It was also common for French aircraft to have blue coloured rigging and metal fittings.

The easiest method to rig the model is not to have the strip inserts fitted.

Stretch 'EZ' blue coloured line can be used for rigging, although this gives no structural strength to the model.

A stronger rigging option is to use mono-filament (fishing line), but this would need to be coloured blue. Instead of colouring the line after the rigging is fitted, it is better to use blue coloured mono-filament, which can be purchased from fishing tackle web sites or stores.

Some French aircraft had the structural rigging painted to protect it from the elements. In most cases the colour was French blue. However, control cables were left as natural metal finish.

Pre-rigging examples:

NOTE: *I chose to use 'SeaKnight' Blade blue line of 0.10 and/or 0.12 mm diameter. This line in mono-filament and is pre-coloured blue for salt water fishing. The turnbuckles used are the 'GasPatch' 1:48th scale Type A, Type C and One Ended.*

Turnbuckles:

NOTE: *The anchor points should already have been secured in position on the upper wing and the fuselage underside.*

TIP: *When cutting these metal turnbuckles from their cast block, use metal side cutters. Cut across the cast block and against the bottom leg of the turnbuckles. This will snap away the turnbuckles from the cast block. If you try to cut each turnbuckle at the bottom legs, you will cut through the leg, leaving it too short to be adequately secured into the model.*

Cut a short length of 0.5 mm diameter Brass tube, such as that from 'Albion Alloys' (MBT05) or similar.

Deburr the tube by running a 0.3 mm diameter drill through the tube.

Slide the cut tubes onto a length of 0.3 mm diameter wire then paint them with 'Tamiya' Medium Blue (XF18). Once dry, remove the tubes from the wire.

NOTE: *Always cut the length of line **much longer** than needed to span between its attachment points.*

Pass the 'SeaKnight' Blade blue line of 0.12 mm diameter through the tube, then trough the 'eye of the anchor point.

Pass the line back and through the tube.

Slide the tube up to, **but not touching**, the 'eye' of the anchor point.

Secure the lines to the tube end away from the anchor point, using thin CA adhesive.

Cut away any residual tag of line at the tube end.

NOTE: *The centre barrel of the turnbuckle and the tube will be painted later in this build.*

Example of Type A turnbuckle

Anchor points:

Cut a short length of 0.5 mm diameter Brass tube, such as that from ‘Albion Alloys’ (MBT05) or similar.

Deburr the tube by running a 0.3 mm diameter drill through the tube.

Pass the ‘SeaKnight’ Blade blue line of 0.12 mm diameter through the tube, then through the ‘eye of the turnbuckle.

Pass the line back and through the tube.

Slide the tube up to, **but not touching**, the ‘eye’ of the turnbuckle.

Secure the lines to the tube end away from the turnbuckle, using thin CA adhesive.

Cut away any residual tag of line at the tube end.

Landing gear:

Pre-rigging landing gear struts:

Cut five lengths of ‘SeaKnight’ Blade blue 0.12 mm diameter line.

Pre-rig four lines using the ‘GasPatch’ 1:48th scale turnbuckles (Type C).

Pre-rig one line using the ‘GasPatch’ 1:48th scale turnbuckles (Type A).

Cut four lengths of clear ‘Steelon’ mono-filament 0.12 mm diameter‘ line.

NOTE: *The following steps apply to the four pre-rigged Type A turnbuckle lines.*

Pass the clear line through the empty ‘eye’ end of the turnbuckles Type C.

Pass both ends of the line through the pre-drilled hole in the landing gear struts.

Pull the lines to position the turnbuckle close to, **but not touching**, the strut.

Secure the lines to the strut using thin CA adhesive.

Cut away any residual line at the strut.

Using thin CA adhesive, secure the tail of the Type A turnbuckle into the pre-drilled hole in the top, centre of the axle fairing.

Landing gear - fit:

Fully locate the axle and side bars into the two landing gear struts.

Fully locate the three attachment points for each of the landing gear struts, into their locations in the underside of the fuselage.

Make sure the struts are fully located then apply cement to secure the struts into the fuselage.

Apply cement to secure the axle and side bars into the landing gear struts.

Cement the two wheels, with the ring clamps, onto the axle ends.

Cement the two outer wheel covers onto the wheels.

Final rigging:

Cut four short lengths of 0.4 mm diameter Brass tube, such as that from ‘Albion Alloys’ (MBT04) or similar and then paint the tubes.

Deburr the tubes by running a 0.2 mm diameter drill through the tubes.

Slide the tubes onto a length of 0.2 mm diameter wire and paint them with ‘Tamiya’ Medium Blue (XF18) or similar.

Once dry, remove the tubes from the wire.

Pass each of the four blue lines through a cut tube.

Pass a rear blue line down and across to the pre-drilled hole in the axle opposite rear side bar.

Repeat the procedure for the opposite rear line.

Pass a forward blue line down and across to the pre-drilled hole in the axle opposite front side bar.

Repeat the procedure for the opposite forward line.

Pull each of the four lines to tension it, making sure the cut tube is clear of the side bar.

Secure the line in the side bar hole, using thin CA adhesive.

Slide the cut tubes onto the top of the side bars and secure in position using thin CA adhesive.

Cut a short length of 0.5 mm diameter Brass tube, such as that from ‘Albion Alloys’ (MBT05) or similar and then paint the tubes.

Deburr the tube by running a 0.3 mm diameter drill through the tube.

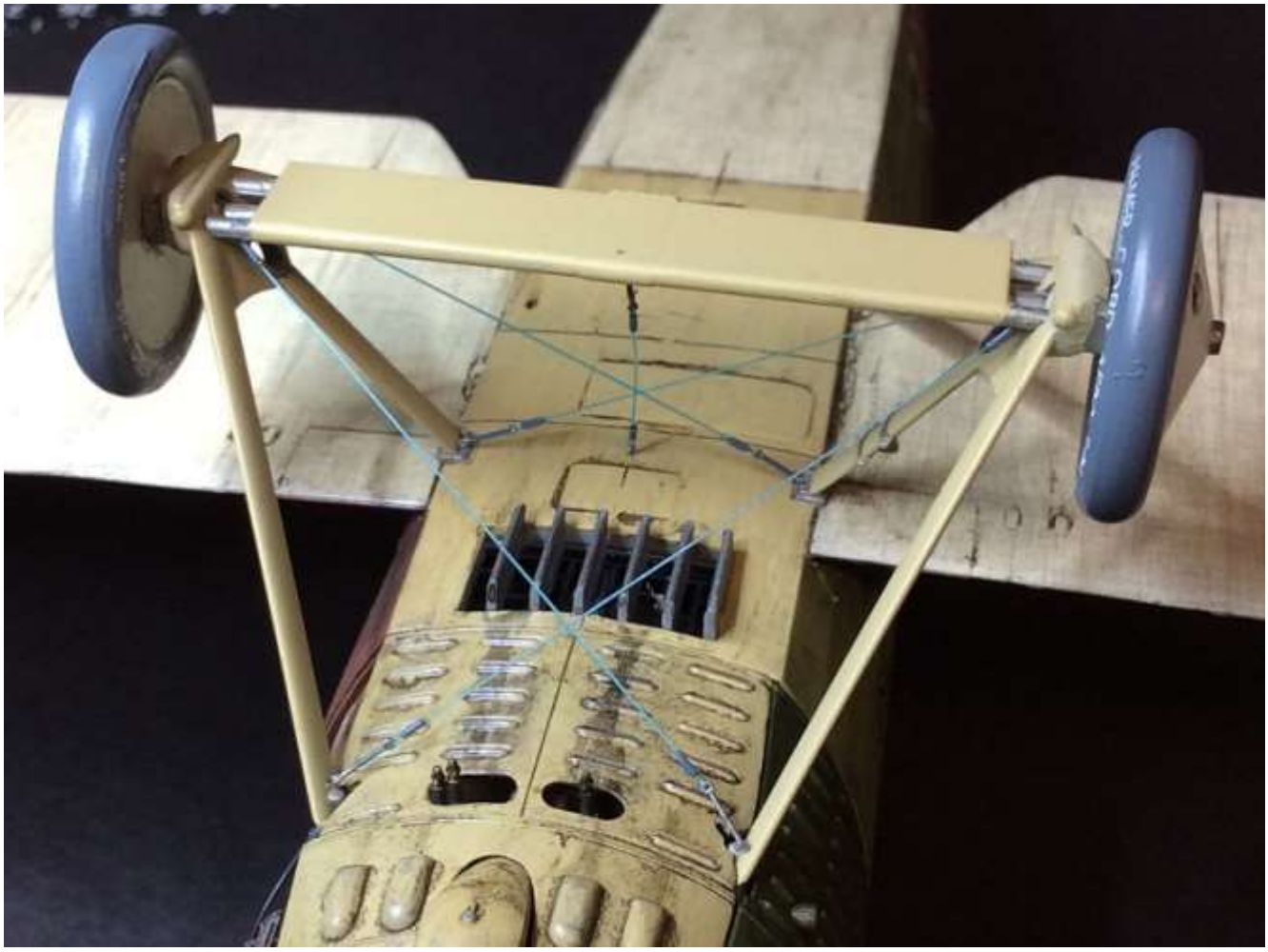
Pass the blue line from the centre of the axel fairing through the cut tube the through the ‘eye’ of the anchor point on the underside of the fuselage.

Pass the line back through the tube.

Pull the line to tension it then slide the tube up to, **but not touching**, the ‘eye’ of the anchor point.

Secure the lines to the tube end away from the anchor point, using thin CA adhesive.

Cut away any residual tag of line at the tube end.



Cabane side bracing:

Cut sixteen short lengths of 0.5 mm diameter Brass tube, such as that from ‘Albion Alloy’s’ (MBT05) or similar.

Deburr the tubes by running a 0.3 mm diameter drill through the tubes.

Slide the tubes onto a length of 0.2 mm diameter wire and paint them with ‘Tamiya’ Medium Blue (XF18) or similar.

Once dry, remove the tubes from the wire.

Pass a long length of ‘SeaKnight’ Blade blue line of 0.12 mm diameter through each tube, then through the ‘eye of a ‘GasPatch 1:48th scale turnbuckle Type A.

Pass the lines back and through the tubes.

Slide the tubes up to, **but not touching**, the ‘eye’ of the turnbuckles.

Secure the lines to the tube end away from the turnbuckles, using thin CA adhesive.

Cut away any residual tags of line at the tube ends.

Pass the free end of each line through a short painted length of 0.5 mm diameter Brass tube, such as that from ‘Albion Alloys’ (MBT05).

Pass the eight lines through the ’eyes’ of the eight pre-fitted anchor points in the underside of the upper wing, between the front and rear cabane strut location holes.

Slide the tubes up to, **but not touching**, the ‘eye’ of the turnbuckles.

NOTE: *At this stage, do not tighten or secure the lone and tubes to the anchor points. The line need to be left loose for final fitting once the upper wing is fitted.*

Use a strip of de-tacked masking tape to temporarily hold the lines clear of the cabane strut location holes. This will also prevent the loose loops of line from detaching from the anchor points.

Cabane rear bracing:

Cut four short lengths of 0.5 mm diameter Brass tube, such as that from ‘Albion Alloys’ (MBT05) or similar.

Deburr the tubes by running a 0.3 mm diameter drill through the tube.

Slide the tubes onto a length of 0.2 mm diameter wire and paint them with ‘Tamiya’ Medium Blue (XF18) or similar.

Once dry, remove the tubes from the wire.

Pass a long length of ‘SeaKnight’ Blade blue line of 0.12 mm diameter through each tube.

Pass the lines through the ‘eye of the four pre-fitted anchor points on the underside of the upper wing, inboard from the rear cabane strut location holes.

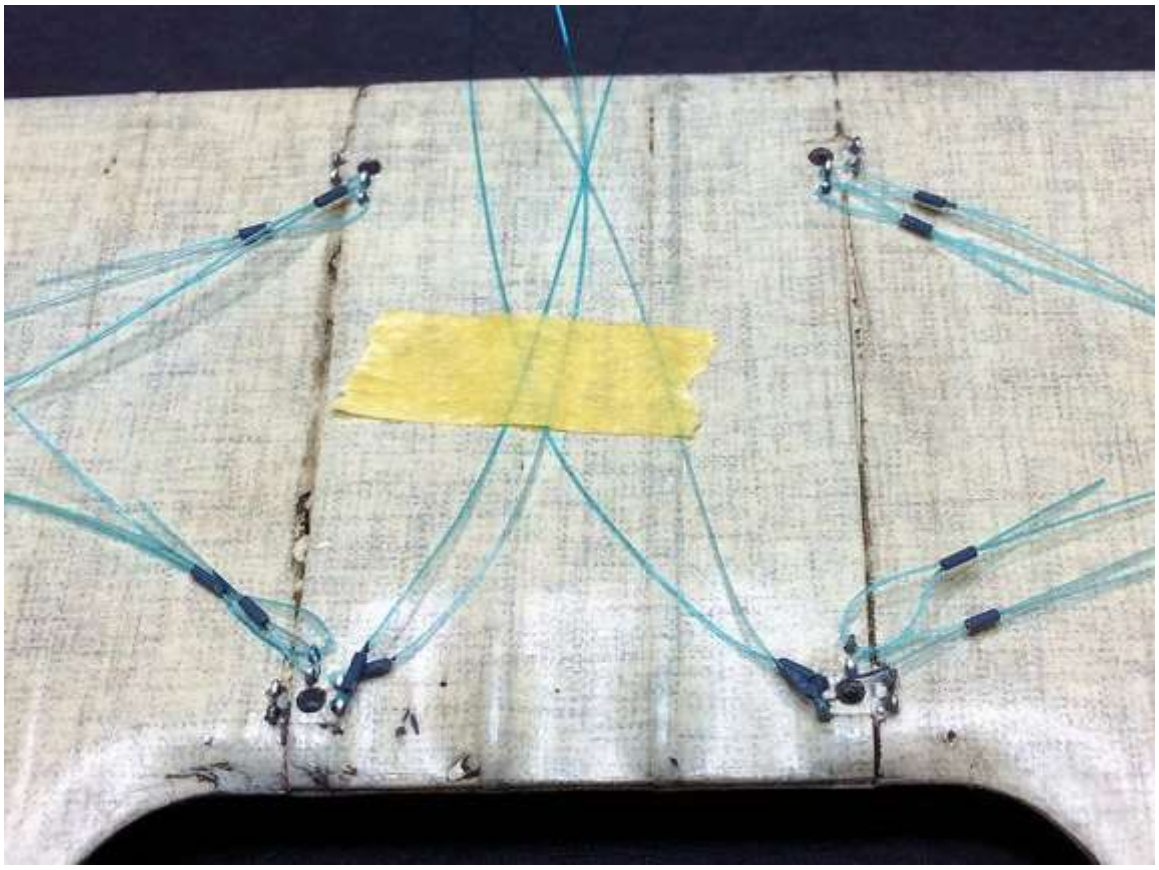
Pass the lines back and through the tubes.

Slide the tubes up to, **but not touching**, the ‘eye’ of the anchor points.

Secure the lines to the tube ends away from the anchor points, using thin CA adhesive.

Cut away any residual tags of line at the tube ends.

Use a strip of de-tacked masking tape to temporarily hold the lines clear of strut location holes. This will also prevent the loose loops of line from detaching from the anchor points.



Flying wires:

Cut thirty two short lengths of 0.5 mm diameter Brass tube, such as that from ‘Albion Alloy’s’ (MBT05) or similar.

Deburr the tubes by running a 0.3 mm diameter drill through the tubes.

Slide the tubes onto a length of 0.2 mm diameter wire and paint them with ‘Tamiya’ Medium Blue (XF18) or similar.

Once dry, remove the tubes from the wire.

Cut sixteen long lengths of ‘SeaKnight’ Blade blue line of 0.12 mm diameter line.

Pass each length of line through a painted tube, then through the ‘eye’ of a ‘GasPatch’ 1:48th scale turnbuckle Type A.

Pass the lines back and through the tubes.

Slide the tubes up to, **but not touching**, the ‘eye’ of the turnbuckles.

Secure the lines to the tube end away from the turnbuckles, using thin CA adhesive.

Cut away any residual tags of line at the tube ends.

Pass the free end of each line through a painted tube.

Pass each line through the ’eyes’ of the sixteen pre-fitted anchor points in the underside of the upper wing. The pairs of anchor points are inboard from the four interplane strut location holes on both sides of the wing.

Slide the tubes up to, **but not touching**, the ‘eye’ of the turnbuckles.

NOTE: *At this stage, do not tighten or secure the line and tubes to the anchor points. The line need to be left loose for final fitting once the upper wing is fitted.*

Use a strip of de-tacked masking tape to temporarily hold the lines clear of strut location holes. This will also prevent the loose loops of line from detaching from the anchor points.

Landing wires:

Cut thirty two short lengths of 0.5 mm diameter Brass tube, such as that from ‘Albion Alloy’s’ (MBT05) or similar.

Deburr the tubes by running a 0.3 mm diameter drill through the tubes.

Slide the tubes onto a length of 0.2 mm diameter wire and paint them with ‘Tamiya’ Medium Blue (XF18) or similar.

Once dry, remove the tubes from the wire.

Cut sixteen long lengths of ‘SeaKnight’ Blade blue line of 0.12 mm diameter line.

Pass each length of line through a painted tube, then through the ‘eye’ of a ‘GasPatch’ 1:48th scale turnbuckle Type A.

Pass the lines back and through the tubes.

Slide the tubes up to, **but not touching**, the ‘eye’ of the turnbuckles.

Secure the lines to the tube end away from the turnbuckles, using thin CA adhesive.

Cut away any residual tags of line at the tube ends.

Pass the free end of each line through a painted tube.

Pass each line through the ’eyes’ of the sixteen pre-fitted anchor points in the underside of the upper wing. The pairs of anchor points are outboard from the cabane strut location holes and the inner interplane struts, on both sides of the wing.

Slide the tubes up to, **but not touching**, the ‘eye’ of the turnbuckles.

NOTE: *At this stage, do not tighten or secure the line and tubes to the anchor points. The line need to be left loose for final fitting once the upper wing is fitted.*

Use a strip of de-tacked masking tape to temporarily hold the lines clear of strut location holes. This will also prevent the loose loops of line from detaching from the anchor points.

Incidence wires:

Cut sixteen short lengths of 0.5 mm diameter Brass tube, such as that from ‘Albion Alloy’s’ (MBT05) or similar.

Deburr the tubes by running a 0.3 mm diameter drill through the tubes.

Slide the tubes onto a length of 0.2 mm diameter wire and paint them with ‘Tamiya’ Medium Blue (XF18) or similar.

Once dry, remove the tubes from the wire.

Cut eight long lengths of ‘SeaKnight’ Blade blue line of 0.12 mm diameter line.

Pass each length of line through a painted tube, then through the ‘eye’ of a ‘GasPatch’ 1:48th scale turnbuckle Type A.

Pass the lines back and through the tubes.

Slide the tubes up to, **but not touching**, the ‘eye’ of the turnbuckles.

Secure the lines to the tube end away from the turnbuckles, using thin CA adhesive.

Cut away any residual tags of line at the tube ends.

Pass the free end of each line through a painted tube.

Pass each line through the ’eyes’ of the eight pre-fitted anchor points in the underside of the upper wing. The single anchor points are rear of the front interplane struts and forward from the rear interplane struts, on both sides of the wing.

Slide the tubes up to, **but not touching**, the ‘eye’ of the turnbuckles.

NOTE: *At this stage, do not tighten or secure the line and tubes to the anchor points. The line need to be left loose for final fitting once the upper wing is fitted.*

Use a strip of de-tacked masking tape to temporarily hold the lines clear of strut location holes. This will also prevent the loose loops of line from detaching from the anchor points.

Side bracing wires:

Cut four short lengths of 0.5 mm diameter Brass tube, such as that from ‘Albion Alloy’s’ (MBT05) or similar.

Deburr the tubes by running a 0.3 mm diameter drill through the tubes.

Slide the tubes onto a length of 0.2 mm diameter wire and paint them with ‘Tamiya’ Medium Blue (XF18) or similar.

Once dry, remove the tubes from the wire.

Cut four long lengths of ‘SeaKnight’ Blade blue line of 0.12 mm diameter line.

Pass each length of line through a painted tube, then through the ‘eye’ of a ‘GasPatch’ 1:48th scale turnbuckle One Ended.

Pass the lines back and through the tubes.

Slide the tubes up to, **but not touching**, the ‘eye’ of the turnbuckles.

Secure the lines to the tube end away from the turnbuckles, using thin CA adhesive.

Cut away any residual tags of line at the tube ends.

Pass the free end of each line through a painted tube.

Pass each line through the ’eyes’ of the four pre-fitted anchor points in the underside of the upper wing. The single anchor points are two wing ribs outboard from the cabane strut location holes, on both sides of the wing.

Slide the tubes up to, **but not touching**, the ‘eye’ of the turnbuckles.

NOTE: *At this stage, do not tighten or secure the line and tubes to the anchor points. The line need to be left loose for final fitting once the upper wing is fitted.*

Use a strip of de-tacked masking tape to temporarily hold the lines clear of the strut location holes. This will also prevent the loose loops of line from detaching from the anchor points.

Drag wires:

Cut ten short lengths of 0.5 mm diameter Brass tube, such as that from ‘Albion Alloy’s’ (MBT05) or similar.

Deburr the tubes by running a 0.3 mm diameter drill through the tubes.

Slide the tubes onto a length of 0.2 mm diameter wire and paint them with ‘Tamiya’ Medium Blue (XF18) or similar.

Once dry, remove the tubes from the wire.

Cut eight long lengths of ‘SeaKnight’ Blade blue line of 0.12 mm diameter line.

Pass a length of line through a painted tube, then through the ‘eye’ of a ‘GasPatch’ 1:48th scale turnbuckle Type C.

Pass the line back and through the tube.

Slide the tube up to, **but not touching**, the ‘eye’ of the turnbuckle.

Secure the lines to the tube end away from the turnbuckles, using thin CA adhesive.

Cut away any residual tags of line at the tube ends.

Repeat the procedure to add another line to the opposite end of the turnbuckle.

Repeat to create a second turnbuckle line.

Pass the free end of a line from the two turnbuckles through a painted tube.

Pass the lines through the ’eye’ of the pre-fitted anchor points in the underside of the upper wing.

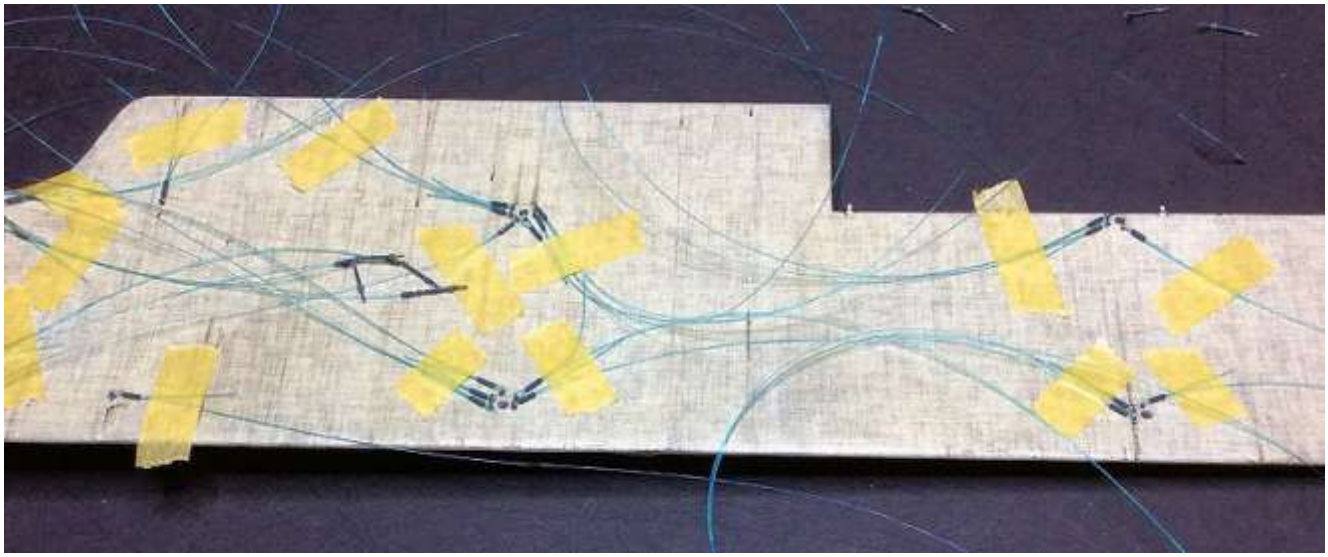
The single anchor points are inboard from the rear interplane stut location holes, on both sides of the wing.

Slide the tubes up to, **but not touching**, the ‘eye’ of the turnbuckles.

NOTE: *At this stage, do not tighten or secure the line and tubes to the anchor points. The line need to be left loose for final fitting once the upper wing is fitted.*

Use a strip of de-tacked masking tape to temporarily hold the lines clear of the strut location holes. This will also prevent the loose loops of line from detaching from the anchor points.

NOTE: *The lower drag wires will be fitted later in this build.*



Control horns:

Rudder:

Using thin CA adhesive, secure a ‘GasPatch turnbuckle (One Ended type) onto the pre-drilled holes in the ends of the rudder control horn.

Brush paint the control horn and barrels of the turnbuckles with ‘Tamiya’ Medium Blue (XF18) or similar.

Cut two short lengths of 0.4 mm diameter Brass tube, such as that from ‘Albion Alloy’s’ (MBT04) or similar.

Deburr the tubes by running a 0.2 mm diameter drill through the tubes.

Slide the tubes onto a length of 0.2 mm diameter wire and paint them with ‘Tamiya’ Rubber Black (XF85) or similar.

Once dry, remove the tubes from the wire.

Cut two long lengths of ‘Stroft’ mono-filament of 0.08 mm diameter.

Pass each line through a painted tube, then through the ‘eye’ of each turnbuckle.

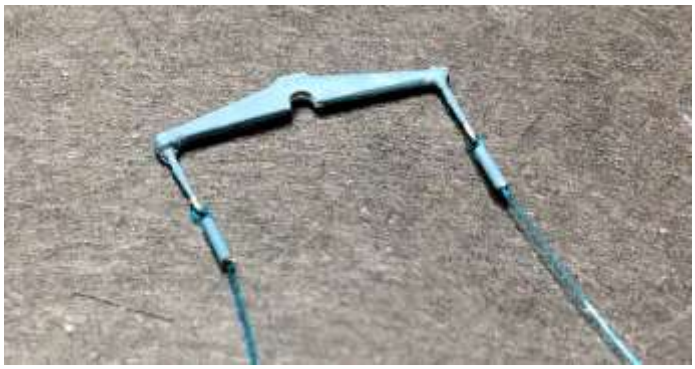
Pass the lines back and through the tubes.

Slide the tubes up to, **but not touching**, the ‘eye’ of the turnbuckles.

Secure the lines to the tube end away from the turnbuckles, using thin CA adhesive.

Cut away any residual tags of line at the tube ends.

This photograph shows blue line and tubes fitted, which have since been replaced.



Elevator:

Using thin CA adhesive, secure a ‘GasPatch turnbuckle (One Ended type) onto the pre-drilled holes in the ends of the two elevator control horns.

Brush paint the control horns and barrels of the turnbuckles with ‘Tamiya’ Medium Blue (XF18) or similar.

Cut four short lengths of 0.4 mm diameter Brass tube, such as that from ‘Albion Alloy’s’ (MBT04) or similar.

Deburr the tubes by running a 0.2 mm diameter drill through the tubes.

Slide the tubes onto a length of 0.2 mm diameter wire and paint them with ‘Tamiya’ Rubber Black (XF85) or similar.

Once dry, remove the tubes from the wire.

Cut four long lengths of ‘Stroft’ mono-filament of 0.08 mm diameter.

Pass each line through a painted tube, then through the ‘eye’ of each turnbuckle.

Pass the lines back and through the tubes.

Slide the tubes up to, **but not touching**, the ‘eye’ of the turnbuckles.

Secure the lines to the tube end away from the turnbuckles, using thin CA adhesive.

Cut away any residual tags of line at the tube ends.

This photograph shows blue line and tubes fitted, which have since been replaced.

Ailerons:

Cut eight short lengths of 0.4 mm diameter Brass tube, such as that from ‘Albion Alloy’s’ (MBT04) or similar.

Deburr the tubes by running a 0.2 mm diameter drill through the tubes.

Slide the tubes onto a length of 0.2 mm diameter wire and paint them with ‘Tamiya’ Rubber Black (XF85) or similar.

Once dry, remove the tubes from the wire.

Cut four long lengths of ‘Stroft’ mono-filament of 0.08 mm diameter.

Pass each line through a painted tube, then through the pre-drilled holes in the ends of the two control horns.

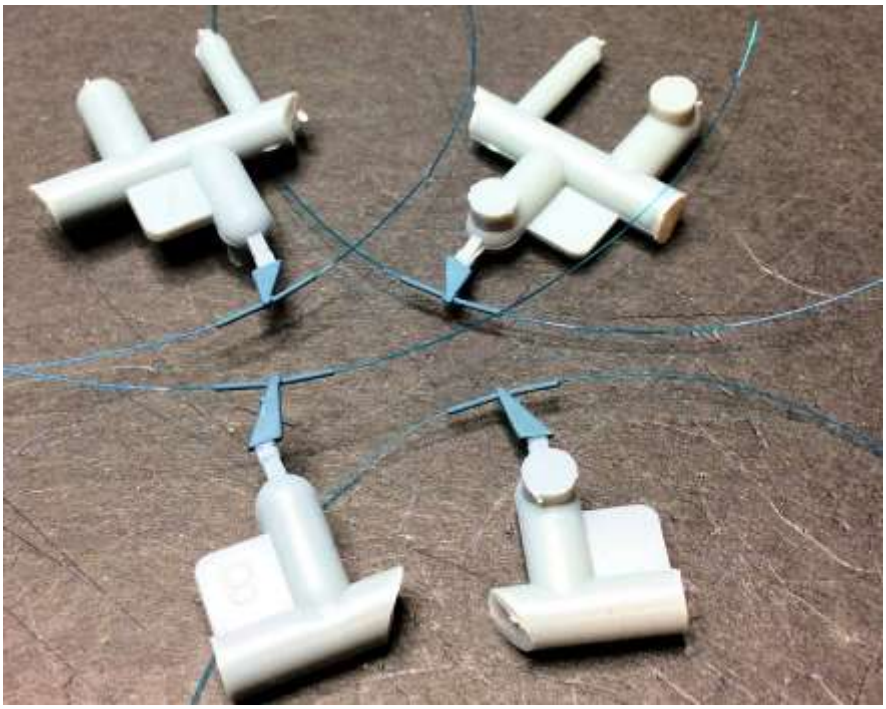
Slide a tube onto both ends of the line and close to, **but not touching**, the ends of the control horns.

Secure the lines to the tube end away from the turnbuckles, using thin CA adhesive.

Brush paint the control horns and barrels of the turnbuckles with ‘Tamiya’ Medium Blue (XF18) or similar.

NOTE: *The aileron control lines will be final fitted later in this build.*

This photograph shows blue line and tubes fitted, which have since been replaced.



Tail unit:

NOTE: *As the tail unit comprises of the rudder, tail plane, support struts and twin bracing wires, building this area of the model is best left to later in the build. This will prevent damaging the tail unit whilst working on other areas of the model.*

Upper wing - fit:

Make sure the pre-drilled rigging holes in the upper surface of the lower wing are clear of decal and paint. If necessary, clear the holes using a 0.3 mm diameter drill.

Make sure the interplane strut location holes in the underside of the upper wing are clear of decal and paint. If necessary, clear the holes using a suitably sized drill.

Make sure the interplane strut location holes in the upper surface of the lower wing are clear of decal and paint. If necessary, clear the holes using a suitably sized drill.

Make sure the locating stubs on both ends of the eight interplane struts and at the top of the four cabane struts are clear of paint.

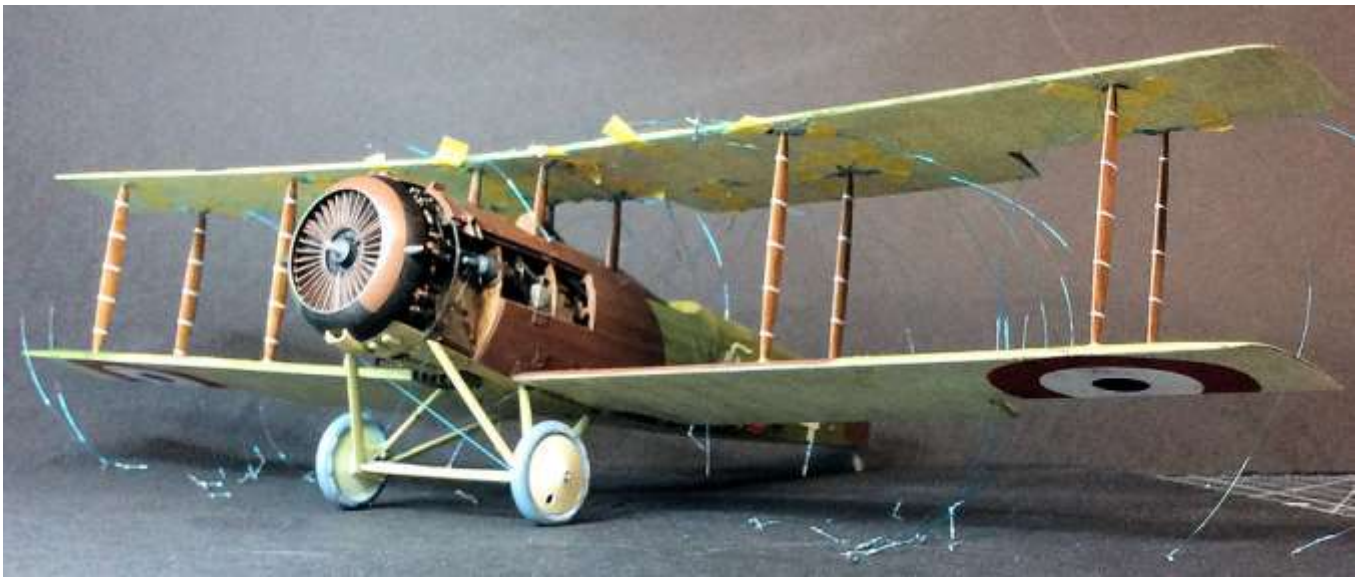
Test fit the eight interplane struts into their locating holes in the upper and lower wings.

Cement the eight interplane struts into their locating holes in the underside of the upper wing. Make sure the struts are positioned vertically in the wing.

Carefully locate the upper wing onto the four cabane struts and into the eight interplane strut locating holes. Make sure the struts are fully located.

Apply cement around the strut locating holes to secure the upper wing in position. If necessary use elastic bands around the upper and lower wings to keep the struts fully located while the cement sets.

Check that the upper and lower wings are aligned when viewed from above and the sides.



Final rigging:

Rigging - final tensioning:

Invariably after rigging has been completed, some lines may be too slack. This can be remedied by careful application of heat along the line, but should only be carried out once all rigging has been completed. Only then will you be able to see which lines require additional tensioning.

NOTE: *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.

Final rigging:

NOTE: *The following sequence of final rigging the wings should give the best access possible for rigging the various lines.*

Cabane struts - side bracing:

NOTE: *When removing the masking tape and handling the lines, make sure the line and tube at the anchor points does not detach from the anchor points. It helps to make sure the end tag of line from the tube is as far as possible from the tube and anchor point.*

Remove the masking tape (from one pair of lines at a time) holding the cabane side bracing lines to the underside of the upper wing.

Work on one pair, of the four pairs of lines, at a time and locate the tangs of the turnbuckles into their diagonally opposite pre-drilled holes in the fuselage. Make sure the turnbuckles of each line are aligned to their anchor points and are located into the correct pre-drilled hole in the fuselage (lines parallel to each other and not crossed).

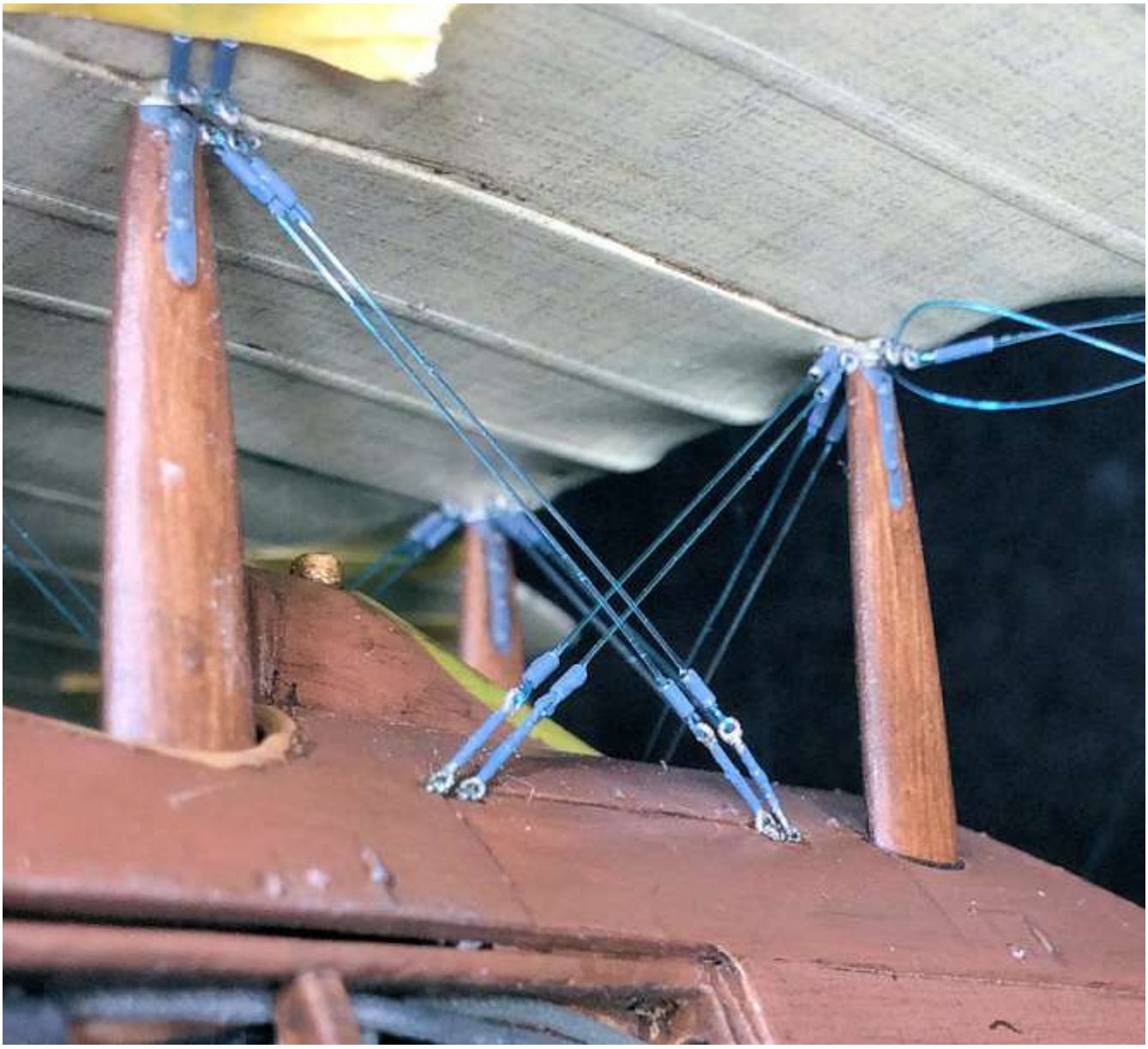
Secure the turnbuckles in position using thin CA adhesive.

Gently pull on the end tag of line from each tube to tension the line and then slide the tubes up to, **but not touching**, the anchor points.

Secure the lines and tubes in position using thin CA adhesive.

NOTE: *During the following step, take care not to cut the tensioned line or any adjacent of the pre-rigged lines.*

Using a sharp, straight edge scalpel blade or similar, carefully cut away the end tag of line at the end of the tube.



Cabane struts - rear bracing:

NOTE: *When removing the masking tape and handling the lines, make sure the line and tube at the anchor points does not detach from the anchor points. It helps to make sure the end tag of line from the tube is as far as possible from the tube and anchor point.*

Remove the masking tape (from one pair of lines at a time) holding the cabane rear bracing lines to the underside of the upper wing.

Work on one pair, of the two pairs of line, at a time and locate the free ends of the front and rear lines into their respective pre-drilled holes on the opposite side of the fuselage. Make sure the two lines are parallel to each other and not crossed.

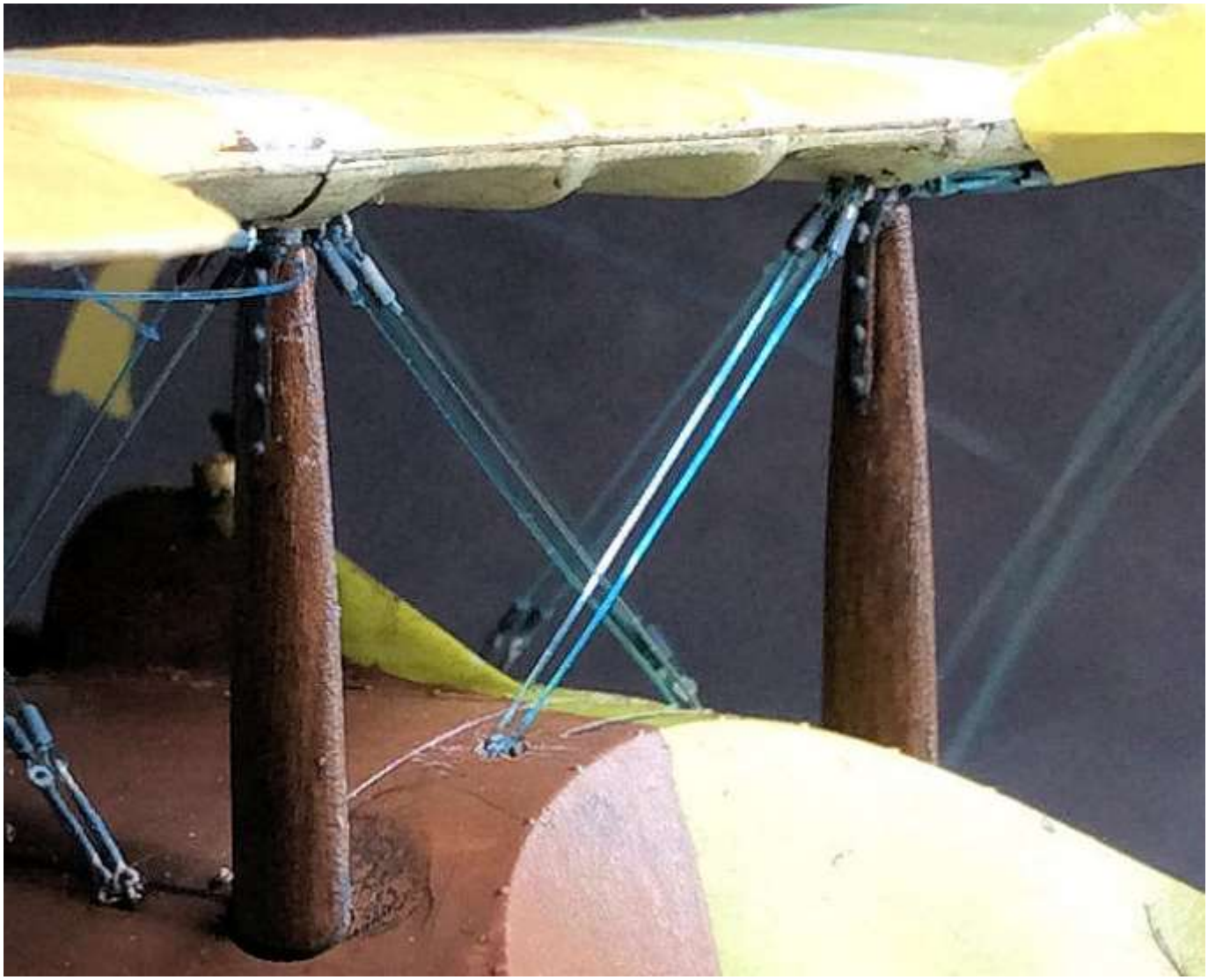
Carefully grip the ends of the two lines with tweezers from inside the rear cockpit.

Pull on the lines to tension them.

Secure the lines in their holes using thin CA adhesive.

NOTE: *During the following step, take care not to damage any parts inside the rear cockpit.*

Using a sharp, straight edge scalpel blade or similar, carefully cut away the line from inside the rear cockpit.



Interplane incidence wires:

NOTE: *When removing the masking tape and handling the lines, make sure the line and tube at the anchor points does not detach from the anchor points. It helps to make sure the end tag of line from the tube is as far as possible from the tube and anchor point.*

Remove the masking tape (from one pair of lines at a time) holding the incidence lines for the interplane struts, to the underside of the upper wing.

Work on one pair, of the four pairs of lines, at a time and locate the tangs of the turnbuckles into their diagonally opposite pre-drilled holes in the top surface of the lower wings. Make sure the turnbuckles of each line are aligned to their diagonally opposite anchor points.

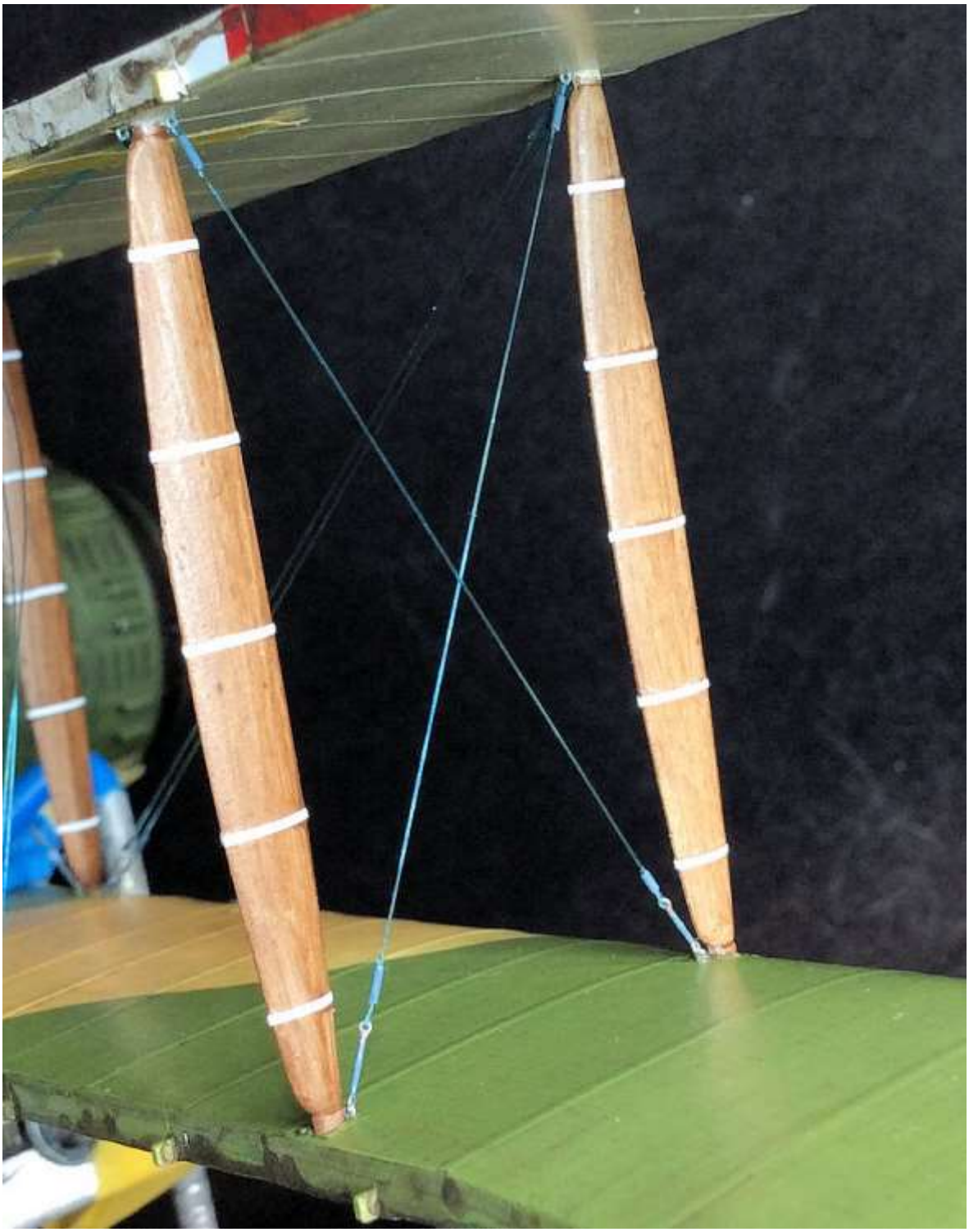
Secure the turnbuckles in position using thin CA adhesive.

Gently pull on the end tag of line from each tube to tension the line and then slide the tubes up to, **but not touching**, the anchor points on the underside of the upper wing.

Secure the lines and tubes in position using thin CA adhesive.

NOTE: *During the following step, take care not to cut the tensioned line.*

Using a sharp, straight edge scalpel blade or similar, carefully cut away the end tag of line at the end of the tube.



Flying wires:

NOTE: *When removing the masking tape and handling the lines, make sure the line and tube at the anchor points does not detach from the anchor points. It helps to make sure the end tag of line from the tube is as far as possible from the tube and anchor point.*

Remove the masking tape (from one pair of lines at a time) holding the flying lines to the underside of the upper wing.

NOTE: *On both sides of the aircraft, the front and rear flying wires are attached from the bottom of the fuselage up to inboard from the top of the inboard interplane struts and outboard from the bottom of the inboard interplane struts to inboard from the top of the outboard struts.*

Work on one pair, of the four pairs of lines, at a time and locate the tangs of the turnbuckles into their diagonally opposite pre-drilled holes in the top surface of the lower wings. Make sure the turnbuckles of each line are aligned to their diagonally opposite anchor points.

Secure the turnbuckles in position using thin CA adhesive.

Gently pull on the end tag of line from each anchor point on the underside of the top wing to tension the line. Then slide the tubes up to, **but not touching**, the anchor points on the underside of the upper wing.

Secure the lines and tubes in position using thin CA adhesive.

NOTE: *During the following step, take care not to cut the tensioned line.*

Using a sharp, straight edge scalpel blade or similar, carefully cut away the end tag of line at the end of the tube.

Landing wires:

NOTE: *When removing the masking tape and handling the lines, make sure the line and tube at the anchor points does not detach from the anchor points. It helps to make sure the end tag of line from the tube is as far as possible from the tube and anchor point.*

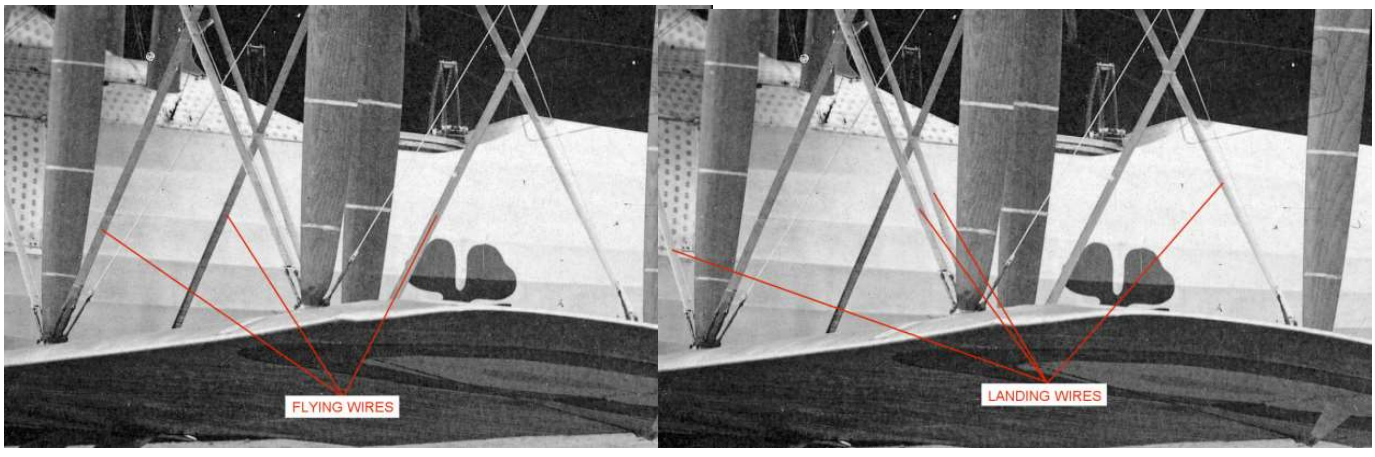
Remove the masking tape (from one pair of lines at a time) holding the landing wires to the underside of the upper wing.

NOTE: *On both sides of the aircraft, the front and rear landing wires are attached from outboard of the top of the fuselage cabane struts down to inboard from the bottom of the inboard interplane struts and outboard from the top of the inboard interplane struts to inboard from the bottom of the outboard struts.*

To final rig the eight pairs of landing wires, follow the same procedure used to final rig the flying wires.

Rigging wires - inserts:

On many of these aircraft, strip wood inserts were fitted between the twin flying, landing and fin bracing wires to reduce vibration and flexing of the wires. The strips were wrapped in linen to secure the wires and strips together. The colour of the linen wrapping is difficult to determine, but I chose CDL coloured decal as being most likely, leaving the rigging wires French blue as that used for the rigging wires and metal fittings and as seen on the various and notable colour profiles.



NOTE: *Representing the infill strips between the four pairs of flying, landing and fin bracing wires is probably best carried out by the more experienced modeller. If in doubt it's best not to attempt this and instead leave the wires without infills, as with some of these aircraft. The infills for this model will be represented by using the 'Aviattic' CDL light (ATT32045) decal.*

For each pair of flying and landing wires, measure and note the length between the tubes at the ends of the wires and the distance between the wires.

NOTE: *Due to possible variations in length and distance between the various pairs of wires, it's best to the cut decal strips for each pair of wires. It appears the inserts fitted between the pairs of wires may have been in two separate strips, the ends of which were met where the landing and flying wires crossed.*

Using the 'Aviattic' CDL light (ATT32045) decal, cut strips of decal to the lengths for each pair of wires.

The width of the strips should be just less the twice the span between each pair of wires.

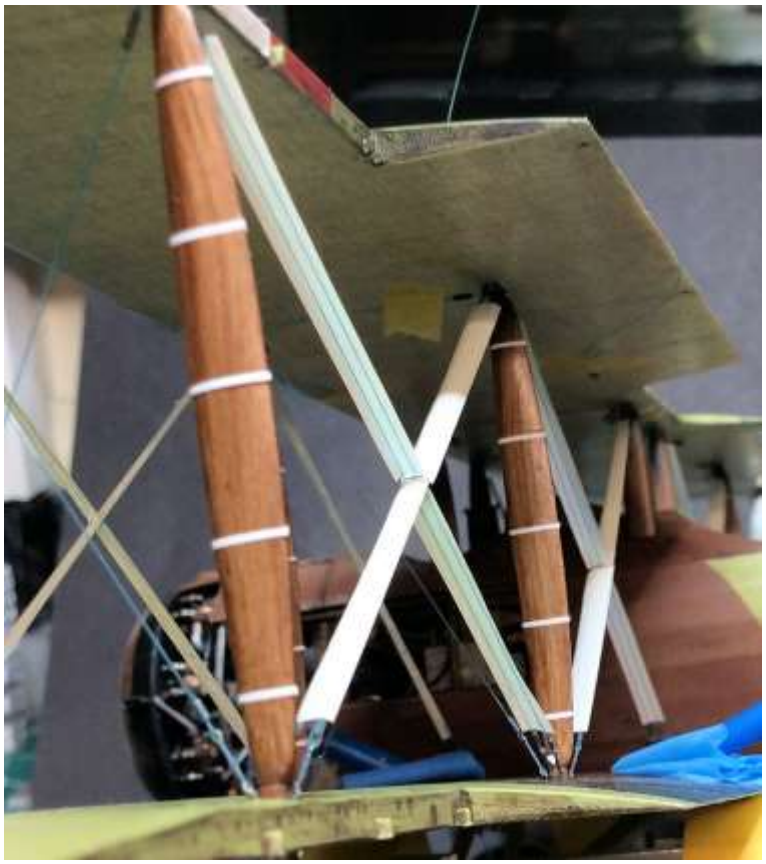
The length of the strips should be that between the tubes at the turnbuckles or anchor points and where the flying and landing wires cross each other, creating upper and lower strips.

NOTE: *It is best **not to warm** the decal water, as this will keep the detached decal strips more rigid for positioning on the wires and stop the decal from prematurely curling around the wires.*

Working with one strip at a time, position the decals onto the top surface of the pair of wires.

Position the strips centrally onto the top of the wires, making sure the overlapping sides of the strips are parallel to both of the wires. Wetting a brush and gently stroking it along the underside of the wires and decal strips helps to lessen the initial grip of the decal adhesive, making it easier to position the decal.

Let the decal strips to start to dry in position, as this will allow the decal adhesive to grip better onto the wires and help prevent the wires from being drawn together when the thinners is Applied, which will cause the decals to shrink as they tighten around the wires.

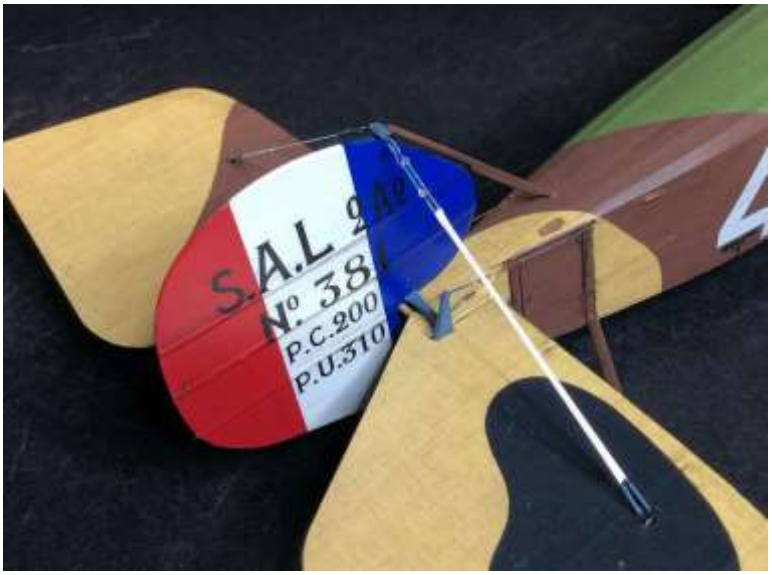


NOTE: *Using 'DACO Products' decal setter (Strong) will cause the decal to conform better around the pairs of wires and is more effective than standard decal setting solutions for these 'Aviattic' decals. Also due to the long length of the lines, they will be drawn together if a too aggressive solution is used and shrinks the decal too much whilst setting. Do not keep brushing over the decal after the DACO has been applied, as this may cause damage to be decal.*

Gently and sparingly brush 'DACO' along the top of the decal, making sure to keep the decal positioned correctly.

As the decal starts to conform to the wires, sparingly brush more DACO around and under the edges to cause the decal to fold around then under the wires. The edges of the decal can, if necessary, be guided by the brush to conform under the wires. This should give a full decal coverage on both sides of the wires.

Repeat this procedure to fully apply the decal strips to the remaining flying and landing wires.



NOTE: *Due to shrinkage of the decal, there may be decal depression between the wires, which would not be correct as the infills formed an aerodynamic fill between the wires. This depression can be lessened by painting the rigging, which will also cover any 'blue line' seen through the decal.*

Take care not to inadvertently 'flick' primer or paint onto the model surfaces whilst painting the rigging wires.

Once all of the decals have fully set and dried, brush a grey primer, such as 'Mr. Surfacer 500 or 1000 surface primer or similar, over the both sides of each decal strip.

Once dry, brush colour **'G'** ('Hataka' Orange Line -C121 Jaune Sahara) over both sides of each decal strip.

To weather the flying and landing wires, you may wish to brush earth coloured pigment powder, such as 'Flory Models' pigment, along the leading edges and both sides of the infill strips.

Side wires:

Using thin CA adhesive, secure the tail of the pre-rigged turnbuckles (type One Ended) on the two sides wires into their pre-drilled location holes in the outer edge of the fuselage top decking panel. Make sure they are angled correctly to their anchor points in the underside of the upper wing.

Remove the masking tape holding the lines at the anchor points on the underside of the upper wing.

Gently pull on the end tag of line from each anchor point on the underside of the top wing to tension the lines. Then slide the tubes up to, **but not touching**, the anchor points on the underside of the upper wing.

Keeping the lines taut, secure the lines and tubes in position using thin CA adhesive.

NOTE: *During the following step, take care not to cut any rigging lines already fitted.*

Using a sharp, straight edge scalpel blade or similar, carefully cut away the end tag of line at the end of the tube.

Drag wires:

Upper drag wires:

Pass the free end of each upper drag wire through it's pre-drilled hole in the lower edge of the upper engine side access panels.

Leave 5 mm of line exposed between the access panels and the first tube of the turnbuckle.

Secure the lines in their holes using thin CA adhesive.

Remove the masking tape holding the lines at their anchor points on the underside of the upper wing.

Gently pull on the end tag of line from each anchor point on the underside of the top wing to tension the lines. Then slide the tubes up to, **but not touching**, the anchor points on the underside of the upper wing. Make sure the turnbuckle assembly is aligned correctly.

Keeping the lines taut, secure the lines and tubes in position using thin CA adhesive.

NOTE: *During the following step, take care not to cut any rigging lines already fitted.*

Using a sharp, straight edge scalpel blade or similar, carefully cut away the end tag of line at the end of the tube.

Lower drag wires:

NOTE: *The two lower drag were prepared previously, but not fitted.*

Right drag wire:

Insert a free end of one of the lines into the pre-drilled hole at the bottom of the right side engine access panel.

Trim the length of that line such that when fully inserted there is 5 mm of exposed line to the turnbuckle tube.

Secure the line in the hole using CA adhesive.

Trim the length of the other line such that it can be held taut with that end fully inserted into the pre-drilled hole in the leading edge of the lower right wing.

Keeping the line taut, secure the line into the pre-drilled hole, using thin CA adhesive.

Left drag wire:

Slide a short length of 0.5 mm diameter Brass tube, such as that from ‘Albion Alloy’s’ or similar, onto one of the lines.

Pass the line through the pre-fitted anchor point in the lower engine bearer frame.

Gently pull on the end tag of line at the anchor point to tension the line. Then slide the tube up to, **but not touching**, the anchor point.

Secure the line in the tube, using CA adhesive.

Using a sharp, straight edge scalpel blade or similar, carefully cut away the end tag of line at the end of the tube.

Tail unit:

NOTE: *Now that the wing rigging is complete, the tail unit parts can be assembled and rigged. Some French aircraft had the structural rigging painted to protect it from the elements. In most cases the colour was French blue.* ***However, control cables were left as natural metal finish****.*

Assembly:

Cement the two pre-rigged elevator control horns (D14) into their recesses in the tail plane.

Cement the pre-rigged rudder control horn (A44) into its recess in the rudder.

Using thin CA adhesive, secure the photo-etch rigging plate (P4) into the slot in the top end of the fin support strut (A50)

Test locate the fin support strut between the indent in the rear, top of the fuselage and the locating stub on the top of the fin. Bend the photo-etch plate to achieve the correct fit.

Paint the plate with 'Tamiya' Medium Blue (XF18) or similar.

Brush paint the two tail plane support struts (D9) and fin support strut (A50) with 'Tamiya' NATO Brown (XF68) or similar.

Make sure all paint and primer is removed from the locating tabs on the rudder and tail plane.

Cement the tail plane into its locating slot in the rear of the fuselage.

Cement the rudder into its locating hole and slot in the rear of the fuselage. Locate the stub first the move the rudder down in an arc to fully engage the locating tab.

Control cables:

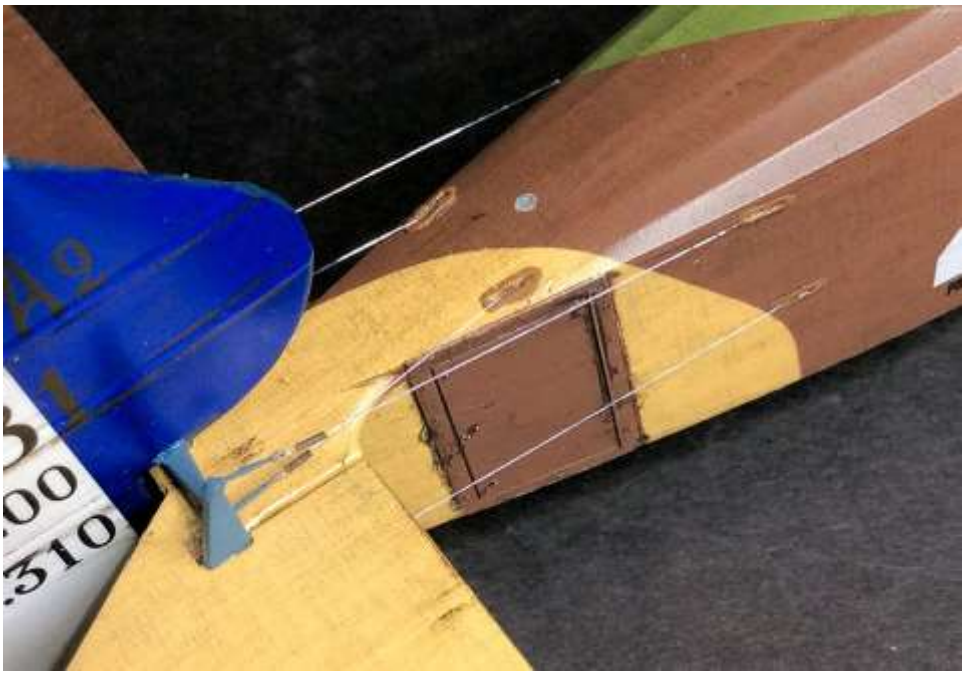
NOTE: *The pre-rigged rudder and elevator control cables can now be final rigged.*

Pass the free ends of the two rudder control lines through their exit ports in the top, rear of the fuselage.

Using pointed tweezers, hold the lines taut at the exit ports and apply thin CA adhesive.

Once the adhesive starts to set release the tweezers and if necessary, push the line further into the exit ports to tension the lines.

Repeat the procedure for each of the four elevator control lines.



Pre-rigging:

Cut four short lengths of 0.4 mm diameter tube, such as ‘Albion Alloy’s’ (MBT04) or similar.

Deburr the bore of the tubes using a 0.2 mm diameter drill.

Paint the tubes with ‘Tamiya’ Medium Blue (XF18) or similar.

Cut two long lengths of ‘Stroft’ 0.08 mm diameter mono-filament.

Pass the end of each line through the ‘eye’ of a ‘GasPatch’ 1:48th scale turnbuckle Type C.

Slide a tube onto each line.

Pass the line ends back through the tubes.

Slide to tubes up to, **but not touching**, the ‘’eye’ of the turnbuckle.

Secure the lines in the tubes using thin CA adhesive.

Cut away the residual tag of line at the tube end away from the turnbuckle.

Pass the free ends of the lines up and through the holes on one side of the photo-etch plate in the top end of the fin support strut.

Pass the lines over the plate and down through the opposite two holes.

Repeat the initial procedure to attach a Type C turnbuckle to the free ends of the two lines and make sure the four tubes are not touching the rigging plate.

This should create two turnbuckles hanging from both sides of the rigging plate.

Assembly (continued):

Secure the fin support strut to the fuselage, using cement and the rigging plate to the fin stub, using thin CA adhesive

Final rigging:

Cut sixteen short lengths of 0.4 mm diameter tube, such as ‘Albion Alloy’s’ (MBT04) or similar.

Deburr the bore of the tubes using a 0.2 mm diameter drill.

Paint the tubes with ‘Tamiya’ Medium Blue (XF18) or similar.

Cut two very long lengths of ‘Stroft’ 0.08 mm diameter mono-filament.

Pass the end of each line through the remaining ‘eye’ of one pair of the turnbuckles on one side of the rigging plate.

Slide a tube onto each line.

Pass the line ends back through the tubes.

Slide to tubes up to, **but not touching**, the ‘’eye’ of the turnbuckle.

Secure the lines in the tubes using thin CA adhesive.

Cut away the residual tag of line at the tube end away from the turnbuckle.

Slide a tube onto each line.

Pass the free ends of the lines across and down through the two pre-drilled holes in the tail plane on that side.

Gently pull to tension the lines and secure the lines and tubes (at the tail plane) in position using thin CA adhesive.

Turn the aircraft onto it's back.

Slide two tubes onto each line.

Pass the free ends of the lines across and down through the two pre-moulded holes at the bottom of the rudder.

Gently pull to tension the lines and secure the lines and tubes (at the tail plane and rudder) in position using thin CA adhesive.

Cut away the residual tag of line at the tube ends.

Slide two tubes onto each line.

Pass the free ends of the lines across and up through the two pre-drilled holes in the opposite side of the tail plane.

Gently pull to tension the lines and secure the lines and tubes (at the tail plane and rudder) in position using thin CA adhesive.

Turn the aircraft over.

Slide two tubes onto each line.

Pass the lines up and through the remaining 'eyes' of the turnbuckles on that side of the fin.

Pass the line ends back through the tubes.

Slide to tubes up to, **but not touching**, the 'eye' of the turnbuckles.

Gently pull to tension the lines and secure the lines and tubes (at the tail plane and turnbuckle) in position using thin CA adhesive.

Cut away the residual tag of line at the tube ends.

<u>Assembly complete:</u>

Locate the two tail plane support struts into their recesses at the bottom, rear edge of the fuselage and against the forward rigging line on the underside of the tail plane.

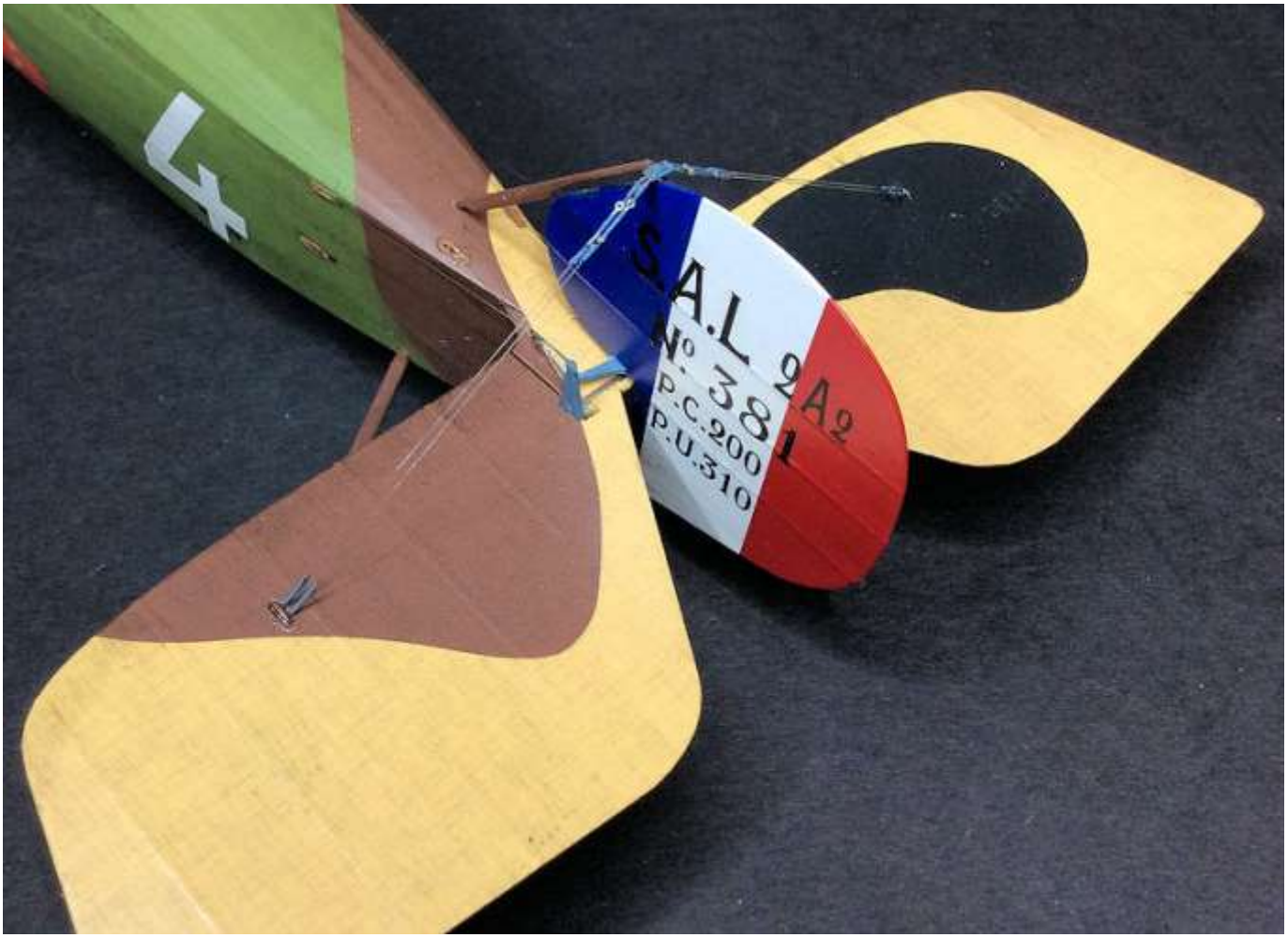
Secure the two struts in position, using thin CA adhesive.

Cement the tail skid into its location in the rear, underside of the fuselage.

Brush paint the tail skid with 'Tamiya' NATO Brown (XF68) or similar.

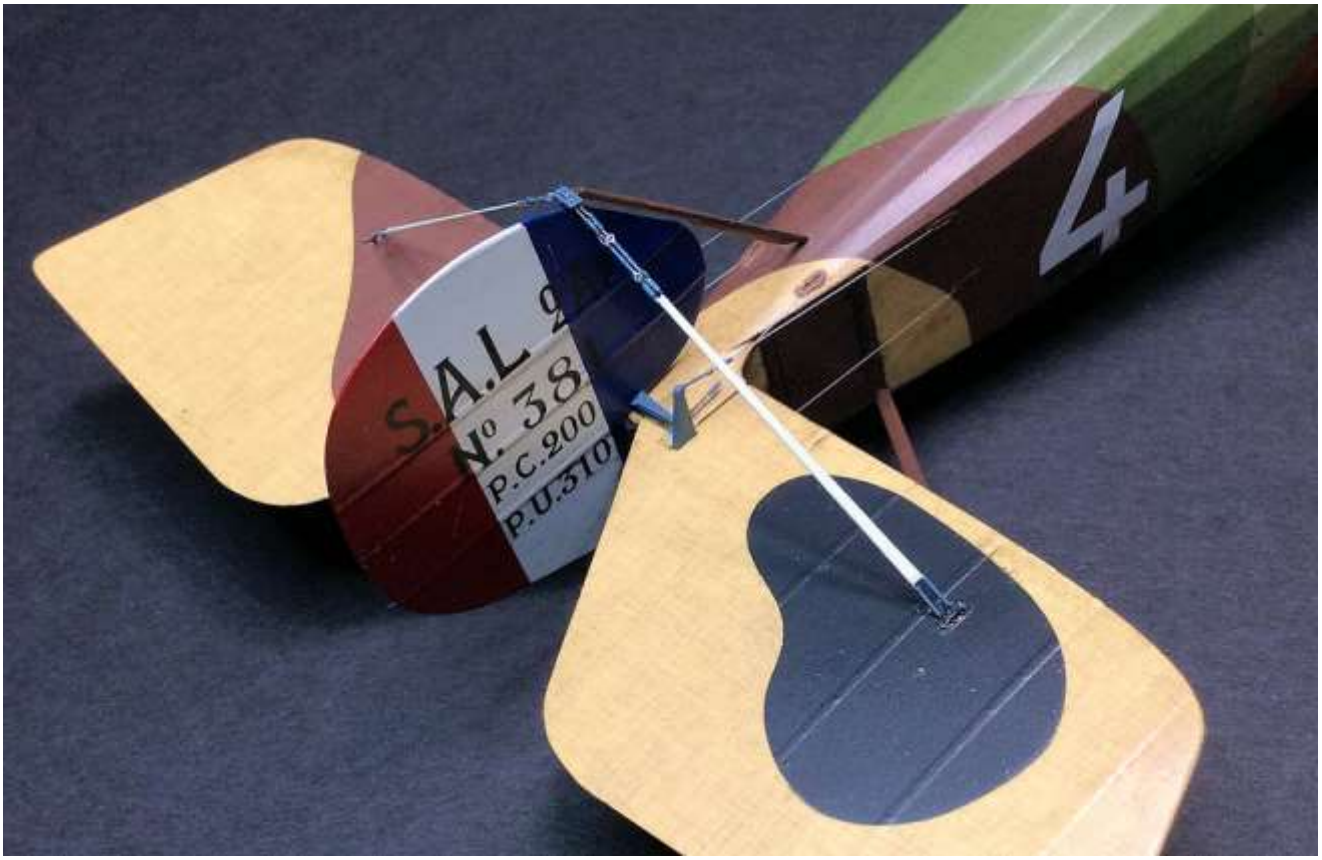
Brush paint the skid with 'Mr. Colour' Stainless Steel (213) or similar.

Carefully brush paint the rudder and elevator control cable exit ports in the fuselage with 'AK Interactive' Brown Leather (AK3031) or similar.



Wire infills:

To add the infill strips to the four pairs of fin bracing wires, follow the same procedure as used for the flying and landing wires.



Rigging surface finish:

Airbrush a light coat of clear semi-matte, such as 'Alclad' Light Sheen (ALC311) or similar over all of the rigged wires. This will seal and tone down the colour of exposed blue rigging wires.

Fuel tank breather tube:

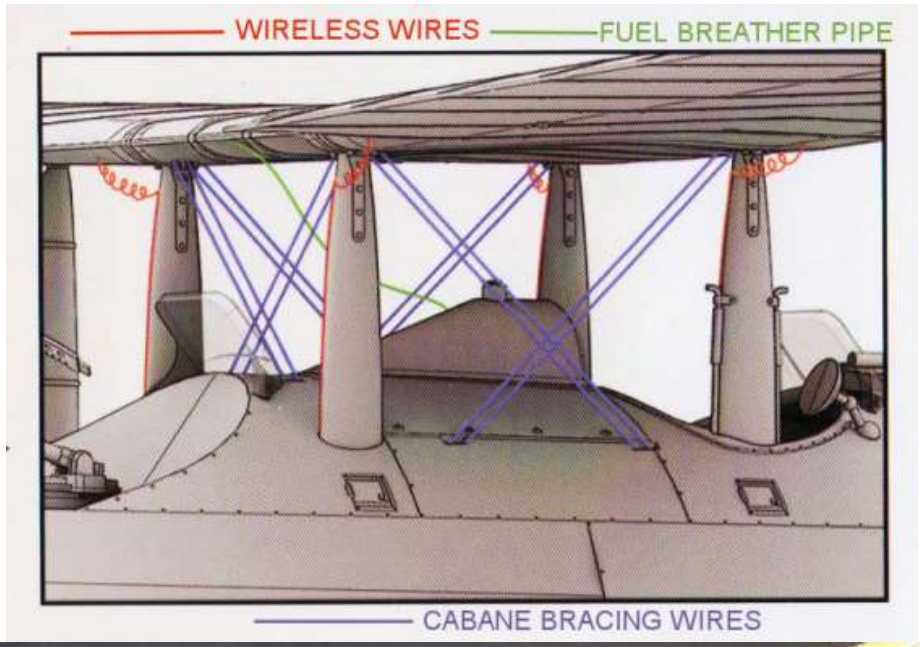
Cut a length of 'MFH' black 0.4 mm flexible tube (P-961).

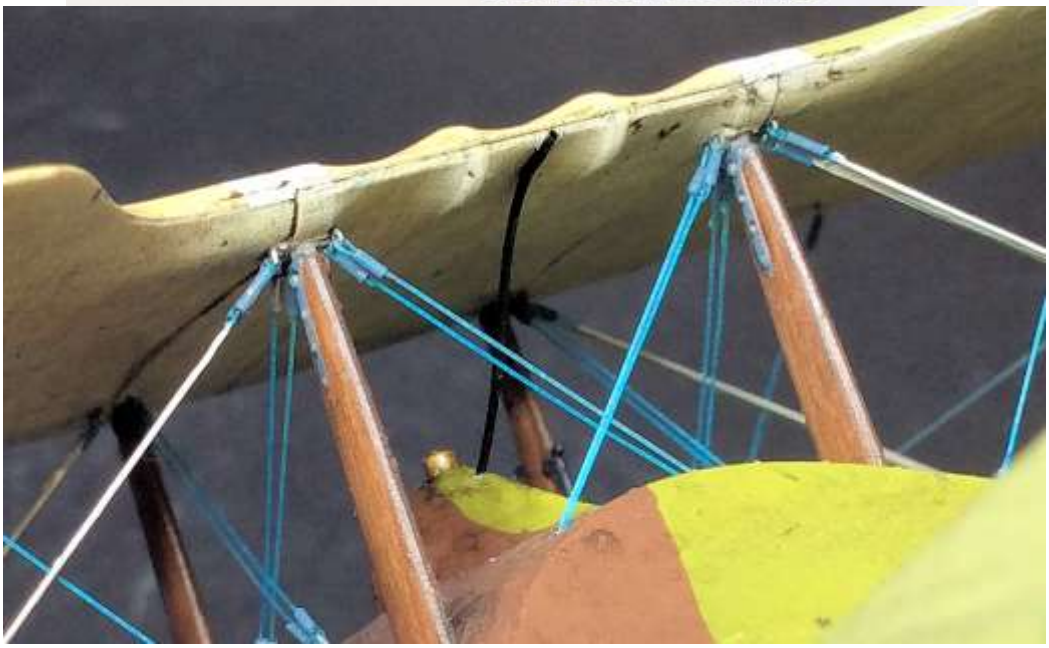
Using thin CA adhesive, secure one end of the tube into the pre-drilled hole in the top, rear of the decking fairing.

Flex the tube up and against the underside of the upper wing, keeping the tube central.

Using thin CA adhesive, secure the tube against the underside of the upper wing.

Cut away excess tube at the trailing edge of the wing.





Radio transmission wires:

Cut a long length of 0.2 mm diameter copper wire or similar.

Anneal with a naked flame the copper wire. Take care to keep the flame moving along the wire and not stop, or the wire will melt.

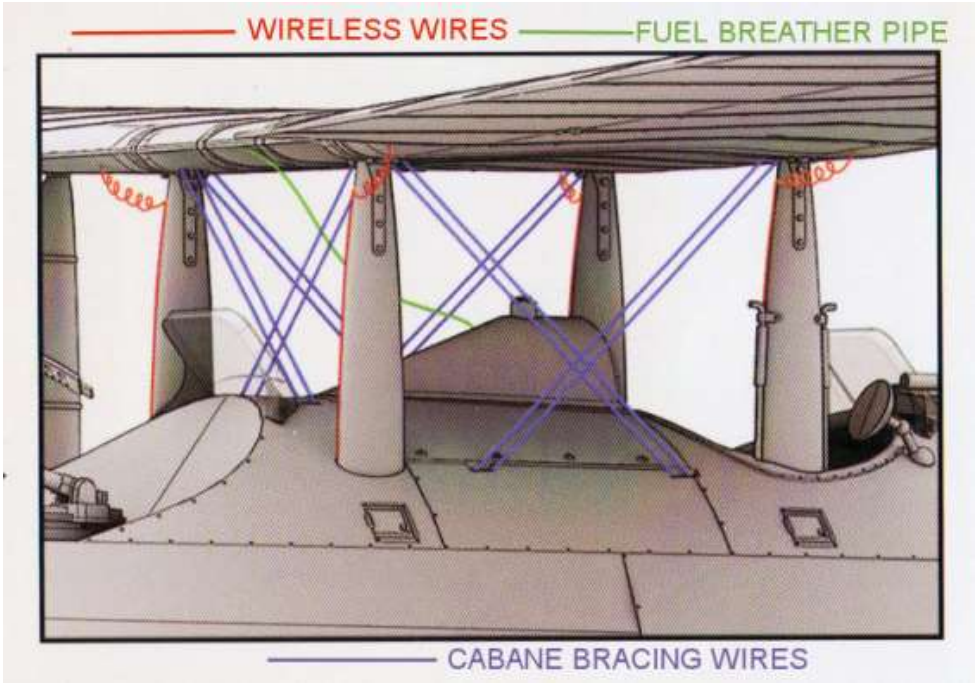
Wrap the wire around a 0.5 mm diameter drill shank.

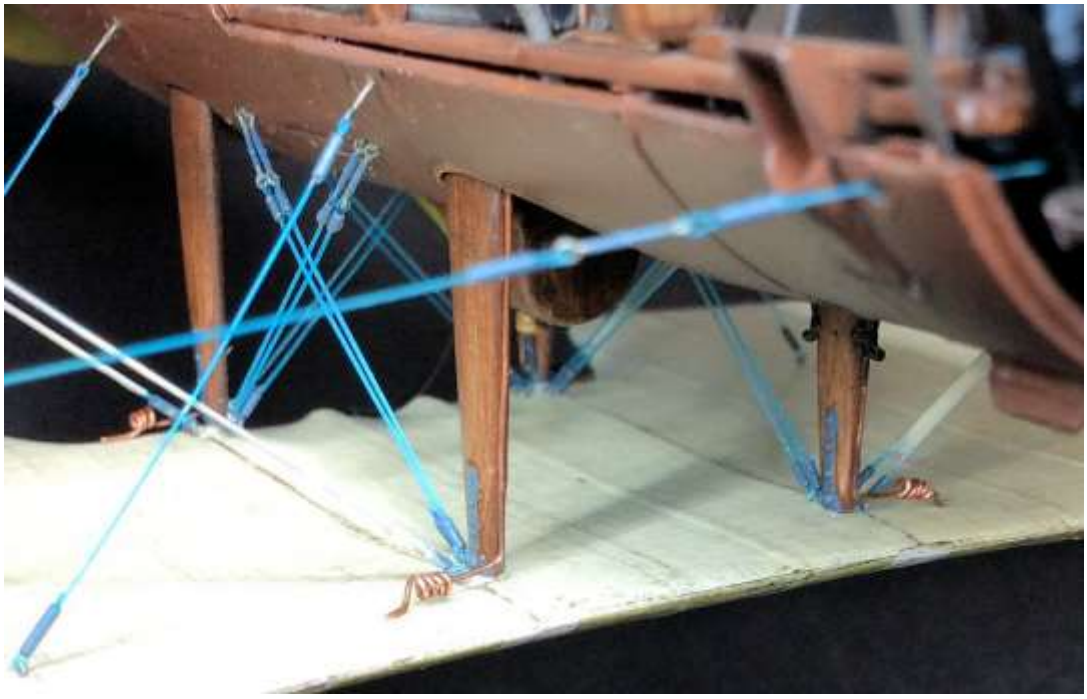
Bend and cut the wire such that it spans the rear edge of a fuselage cabane strut with coils outboard from the strut (see illustration below).

Secure the wire to the rear edge of the strut using CA adhesive.

Once the adhesive has set, apply adhesive to the top end of the wire and hold it against the underside of the upper wing until the adhesive sets.

Repeat the procedure to add wires to the other three cabane struts.





Painting (continued):

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

Header tank (A35), Mirror (A48), Gun sight (A57), Ring sight (P3), Wind driven pump/ generator (A40) and propeller (A1), Wing bars x2 (D6) and Wireless aerial A47).

Airbrush the following parts with ‘Tamiya’ Medium Blue (XF18) or similar:

Header tank, wing bars and wireless aerial.

Airbrush the gun sight and ring sight with ‘Tamiya’ Rubber Black (XF85) or similar:

Airbrush the pump body and the mirror with ‘Alclad’ Duraluminium (ALC102) or similar.

Dab on ‘Tamiya’ clear Gloss (X22) onto the end lenses of the gun sight and also onto the face of the mirror.

Brush paint the pump propeller with ‘Tamiya’ Hull Red (XF9) or similar.

Brush paint the header tank filler cap with ‘Mr. Colour’ Brass (219) or similar.

Brush paint the end lenses of the gun sight with ‘Mr. Colour’ Stainless Steel (213) or similar.

Assembly (continued):

Header tank:

Cement the header tank into its locating recess and hole in the forward, top of the fuselage.

Mirror:

Cement the mirror into its locating hole in the forward, top of the fuselage.

Gun sight:

Cement the gun sight into its locating holes in the forward, top of the fuselage.

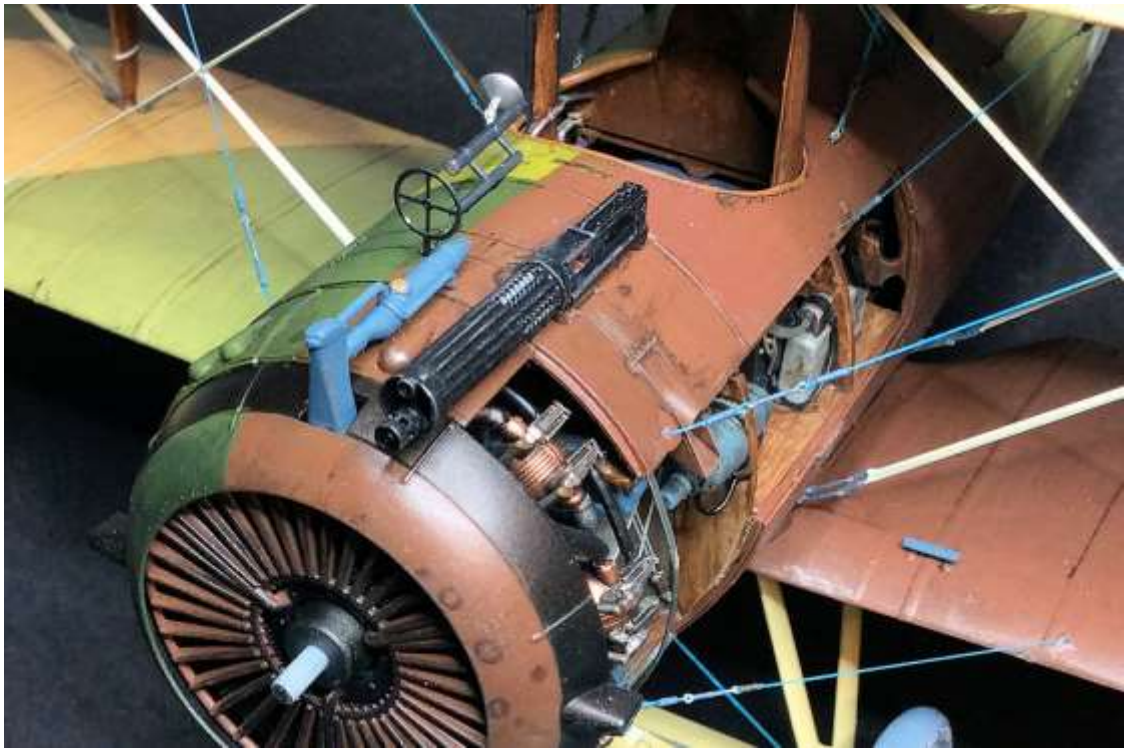
Ring sight:

Drill a hole of 0.6 mm diameter into the forward, top of the fuselage, as shown ion Page 10 of the instruction manual.

Secure the ring sight into its locating hole in the forward, top of the fuselage, using CA adhesive.

Vickers machine gun:

Using thin CA adhesive, secure the prepared Vickers machine gun into its location recess on the top, forward left of the fuselage.



Wing bars:

Cement the two wing bars into their locating holes in the top, forward leading edges of the lower wings.

Wind driven pump/generator:

NOTE: *It's unclear if this wind driven component was a fuel pressure pump or an electrical generator.*

Cut away the stub on the rear end of the pump body.

Drill a hole of 0.5 mm diameter into the rear end of the pump body.

Cut a length of 'MFH' black 0.4 mm flexible tube (P-961).

Using thin CA adhesive, secure one end of the tube into the pre-drilled hole in rear of the pump body.

Drill a hole of 0.6 mm diameter into the underside of the fuselage. The hole should be located just inboard from the fuselage edge and 5mm from the rear landing gear strut.

Cement the propeller onto its locating stub on the front of the pump body.

Cement the pump onto its location on the right, rear landing gear strut.

Cut the attached tube such that it can be inserted into the pre-drilled hole in the fuselage and with a slight curve.

Using CA adhesive, secure the end of the lead wire to the underside of the fuselage.

Ailerons and rigging:

Cut the four pre-rigged aileron control horns (D7 and D8) from their sprues.

Cement the pre-rigged aileron control horns (D8) into their location slots in the underside on the lower wing ailerons.

Cement the pre-rigged aileron control horns (D7) into their location slots in the upper surface on the upper wing ailerons.

Check fit the four ailerons onto their wing locations and make sure they fully locate onto their locating stubs on the wings.

NOTE: *If desired, the ailerons can be fitted animated to match the position of the control column.*

Control column tilted to the left - right ailerons angled down, left ailerons angled up.
Control column tilted to the right - right ailerons angled up, left ailerons angled down.
Control column central - all ailerons aligned to the wings.

Fully locate each aileron onto its locating stubs on the wings and in the chosen positions.

Cement each aileron in the chosen positions onto the wings.

Cut the length of the pre-rigged control lines, from the front of the aileron control horns toward the wings. The lines should be cut such that when kept taut, the ends can be fully inserted into the pre-drilled locating holes in the top surface of the upper wing and underside of the lower wings.

Holding each line taut, use thin CA adhesive to secure the lines into their respective locating holes in the wings.

Pass the lines from the rear of the upper aileron control horns back and down through the pre-drilled holes in the ailerons.

Pass the lines from the rear of the lower aileron control horns back and up through the pre-drilled holes in the ailerons.

NOTE: *During the following steps, do not apply too much tension on the lines as that may cause the ailerons to break away from the wings.*

Slide a blackened 0.4 mm diameter Brass tube, such as that from 'Albion Alloy's' MBT04 or similar, onto the two lines above the lower ailerons.

Pass the lines through an 'eye' end of a 'GasPatch' turnbuckle (Type C), then loop the lines back and through the tubes.

Slide the tubes up to, **but not touching**, the 'eye' end of the turnbuckles. Leave the loops of line loose.

Slide a blackened 0.4 mm diameter Brass tube, such as that from 'Albion Alloy's' MBT04 or similar, onto the two lines below the upper ailerons.

Pass the lines through the empty 'eye' end of the turnbuckles, then loop the lines back and through the tubes.

Slide the tubes up to, **but not touching**, the 'eye' end of the turnbuckles.

Moving the slackened lines in the tubes, position the turnbuckles as close as possible to the tops of the lower ailerons.

Carefully pull the tag ends of the lines to tighten the lines to each end of the turnbuckles.

Secure the lines in the tubes using thin CA adhesive at the tube ends farthest from the turnbuckles (to avoid the adhesive contacting the turnbuckles).

Cut away any residual lines at the end of the tubes.

Brush paint the tubes and the centre barrel of the turnbuckles with 'Tamiya' Medium Blue (XF18) or similar.

Surface finish:

Airbrush a light coat of clear semi-matte, such as 'Alclad' Light Sheen (ALC311) or similar over all of the **rigged wires and added components**. This will **seal paint and tone down the colour of exposed blue rigging wires**.

Observers weapons:

NOTE: *The 'GasPatch' replacement Lewis machine guns were prepared in Part 9 (Weapons) of this build log.*

Assembly:

NOTE: *The two Lewis machine guns for this model will be positioned on the Scarf ring with the barrels facing down outside the fuselage. This is because room is needed for a ground crew figure to be placed inside the cockpit.*

Locate the twin machine guns in the desired position on the added rod in the Swivel (A29) on the prepared Scarf ring.

Make sure the two machine guns are parallel to each other and there is a sufficient gap between the inboard edges of the fitted ammunition drums.

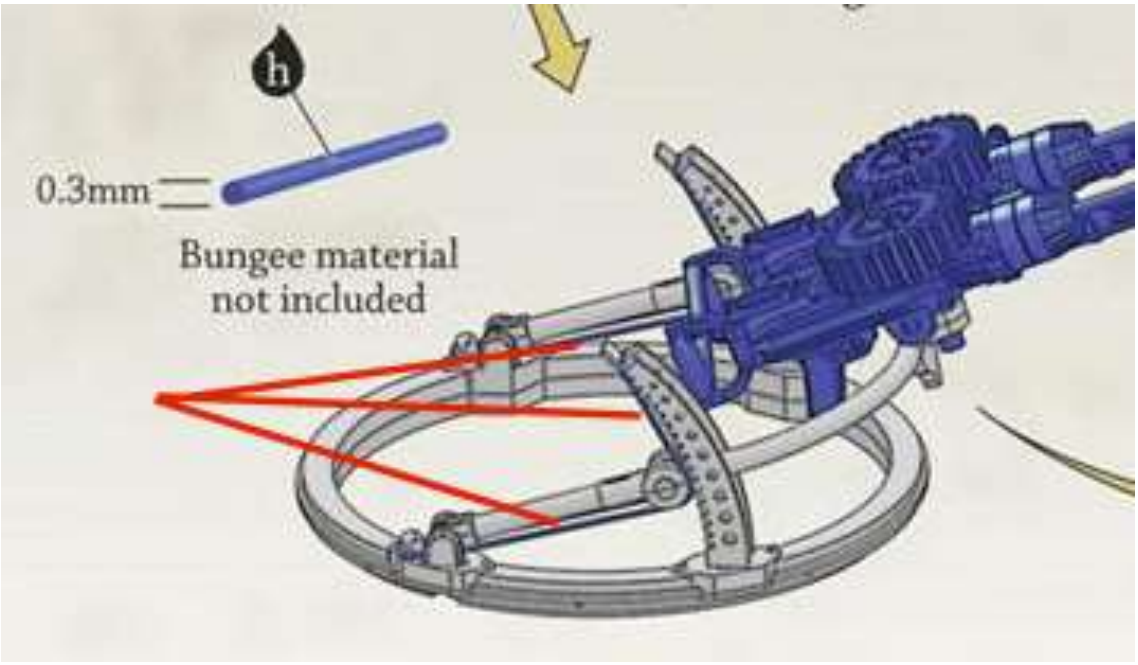
Secure the two guns to the Swivel rod using thin CA adhesive.

Bungee sprung cords:

Drill a hole of 0.4 mm diameter through each side of the support frame pivots on the base ring.

Cut two long lengths of 'EZ' heavy black stretch line.

Apply thin CA adhesive to one end of each line, which will harden to make it easier to thread the line through the holes.



Pass the treated end of the line through a pre-drilled hole at one of the support frame pivots.

Loop the line over the raised plate at the top of the curved toothed rail.

Pass the line down and through the opposite hole at the support frame pivot.

Gently tension both lines then loop the top of the line under the left and right pulleys up on the support frame.

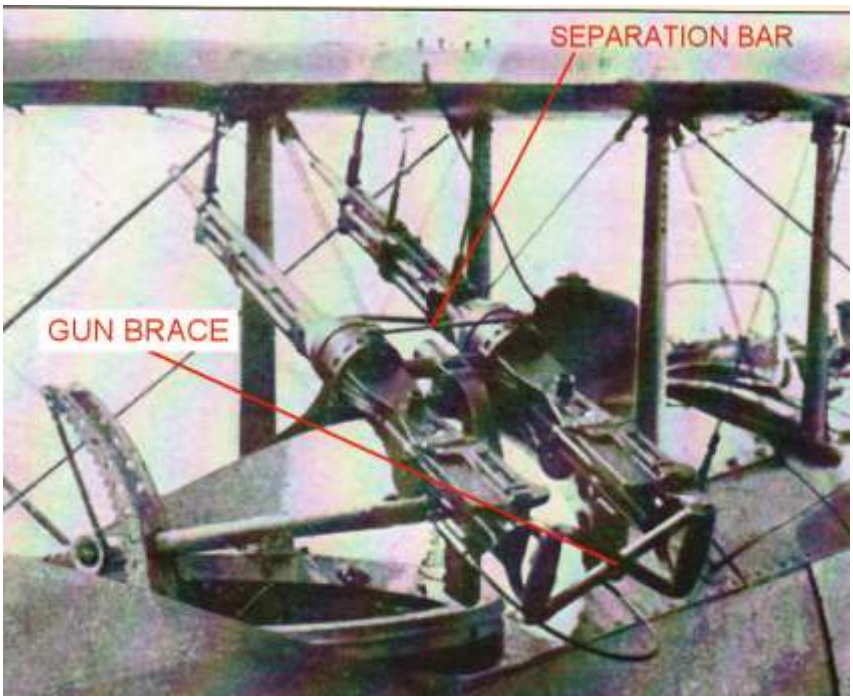
Cross the lines behind the stub on the base ring.

Make sure both sides of the lines are taut then secure the lines around the stub on the base ring, using thin CA adhesive.

Cut away the end tags of line.

Repeat the procedure to fit a line to the opposite side of the support frame.

<u>Gun brace:</u>



Cut two long lengths of ‘EZ’ heavy black stretch line.

Apply thin CA adhesive to one end of each line, which will harden to make it easier to thread the line through the holes.

Pass the treated end of the lines through the pre-drilled holes at one end of the machine gun handles.

Pass the lines diagonally across and through the pre-drilled holes in the opposite handles.

Use thin CA adhesive to secure one end of each line to the handle.

NOTE: *In the following step do not tension the lines too much as this will cause the machine guns to deflect from parallel and be pulled together and the handles.*

Pull the two lines taut then secure the free ends to the handles, using thin CA adhesive.

Carefully cut away any end tags of line.

Separation bar:

Cut a length of 0.4 mm diameter Brass tube, such as ‘Albion Alloy’s (MBT04) or similar.

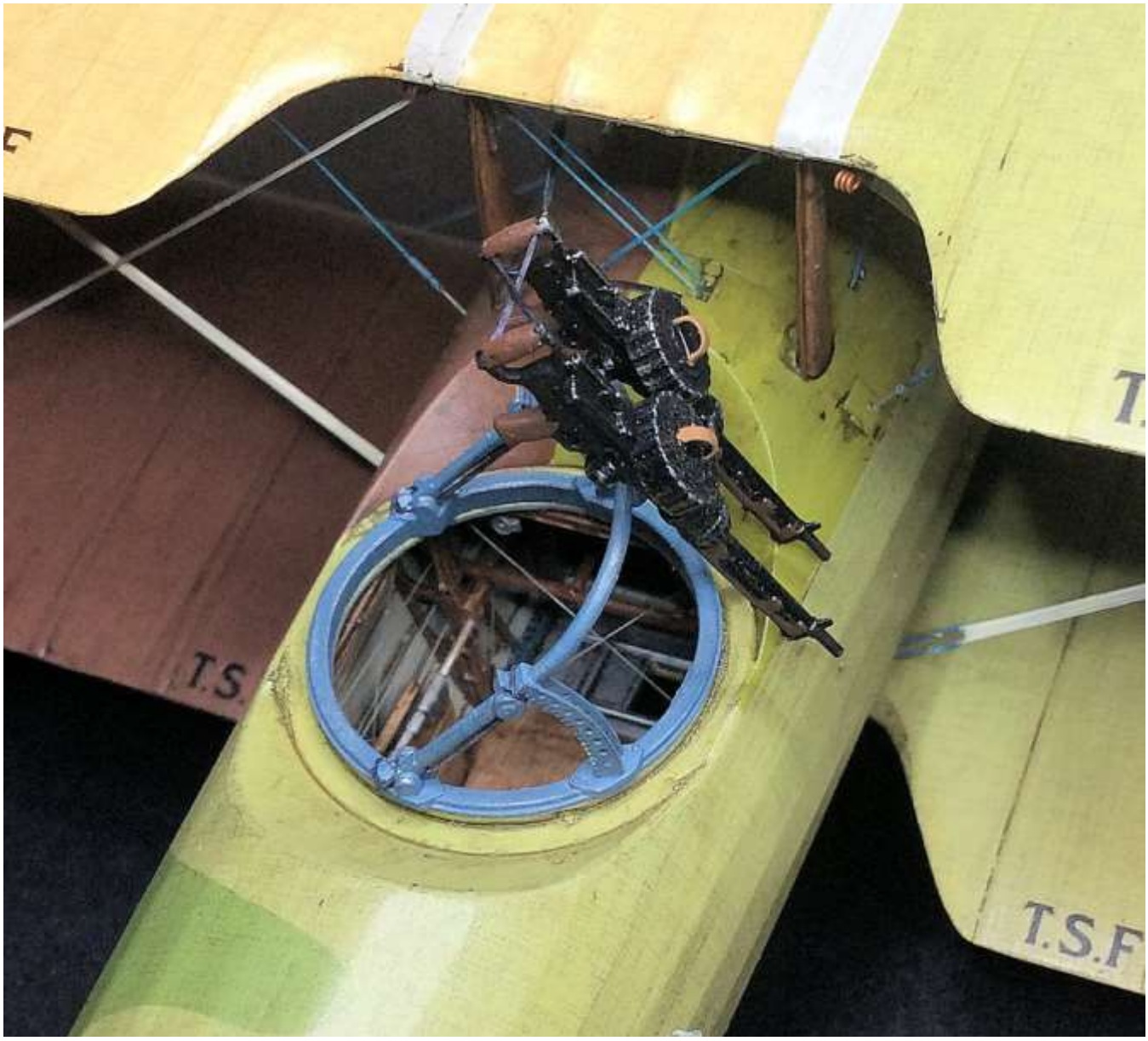
Trim the length of the to such that it fits between the barrel jackets at the front of the breach blocks of both guns.

Secure the tube in position using CA adhesive.

Brush paint the tube with ‘Tamiya’ Rubber Black (XF85) or similar.

Check the fit of the observers weapons assembly into the rear cockpit opening, making sure the base ring locates fully around its entire circumference and the two machine guns are positioned and desired.

Cement the observers weapons assembly into its rear cockpit recess.



Wireless Aerial:

Cement the wireless aerial into its locating hole in the underside of the fuselage.

Final weathering:

NOTE: *Refer to Part 3 (Weathering) of this build log.*

If desired, add weathering to those components added. - I applied ‘Flory Models’ Dark Dirt wash over the added components.

Wind screens:

Remove the two windscreens (C1) from their sprue and carefully file or sand away any residual sprue tags.

Test fit the windscreens into their locating slots in front of the two cockpits.

Brush paint the frames of the windscreens with ‘Tamiya’ Medium Blue (XF18) or similar.

Secure the two windscreens in position in the locating slots, using PVA adhesive.

Propeller fit:

Secure the prepared propeller onto the engine propeller shaft in the desired position, using CA adhesive.

PART 11
FIGURES

PART 11 - FIGURES

The figures are made from resin, as opposed to the normal plastic used. Working with resin does present different challenges to the modeller, especially if it's the first time of building a resin kit. The properties of resin differ radically to those of plastic kits. Below I have listed pertinent points when working with resin:

1. When resin kits are cast in their moulds, a release agent is applied to enable the cast resin parts to be more easily removed. This release agent can leave a film on the surface of the kit parts, which, if not removed, can prevent paint or adhesives from adhering to the surfaces. The easiest way to remove this film is to carefully and fully wash all of the model parts in warm soapy water, using an old, soft tooth brush, then rinse all of the parts thoroughly and leave to dry. Alternatively wipe the parts with isopropyl alcohol (e.g. 'Tamiya' X20A thinners).
2. 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. The best way to remove item is to cut them away with a razor saw, then clean them up afterwards.
3. Once removed from the resin cast, parts will normally 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.
4. Plastic kits are assembled using solvent adhesives, which melt the surface where it is applied and 'weld' the joint together. Resin however will not react to this type of adhesive and can really only be glued using 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.
5. Cutting, sanding and drilling resin will create swarf and more importantly, resin dust. The dust in 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. Resin can easily be drilled or scraped, but remember how brittle resin is when it is being handled.
6. It is not unusual to find imperfections in resin cast parts, such as surface blemishes, small 'blow' holes or ragged edges. This can be common on some resin kits. These imperfections can be rectified by sanding/polishing and/or filling with modelling putty, then sanding/polishing.
7. 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 are 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.

NOTE: The figures I chose to use are the:

'Copper State Models' German Personnel set (F32-005), German ground crewman N1 (F32-012), French mechanic (F32-046) (head only) and Lafayette flying ace (F32-033).

'Hornet' 1:32nd scale heads (H3204).

Preparation:

Scrape or sand away any obvious mould flash or seams from the figure parts.

Drill a hole of 1.0 mm diameter up and into a leg of each figure. This will be used to hold a rod to be used to hold the figure whilst it's being painting and, where required, to mount the figure onto the model display base.

Cut a length of 1.0 mm diameter Brass rod, such as that from 'Albion Alloy's' or similar.

Push fit the rod fully into the pre-drilled hole in the legs of the figures.

Cut the 'Hornet' heads from their mould block and file or sand the necks of the heads such that they sit correctly into the their bodies recesses.

Drill a hole of 1.0 mm diameter up and into the neck of the kit or 'Hornet' heads. This will be used to hold a rod to be used to hold the figure whilst it's being painting.

Cut a length of 1.0 mm diameter Brass rod, such as that from 'Albion Alloy's' or similar.

Push fit the rod fully into the pre-drilled hole in the neck of the figure heads.

Check fit the limbs of the each figure into their locations.

Painting heads and hands:

NOTE: *The following painting technique for flesh applies to all of the figures. These are water based and can be thinned as required using water, which is also used to clean the brushes. It's easier to use a 'wet palette' when applying these paints as this keeps the paint from drying and allows mixing of paints as required. A basic wet palette can be a water proof plastic lid with dampened kitchen roll paper laid inside. The paints are then dripped onto the damp paper and applied from there.*

The paints used for the flesh of the figures are from the 'Citadel' colour range:

Base coat - 'Bugmans Glow'.

Shading - 'Reikland Flesh Shade'.

Flesh tone - 'Cadian Flesh Tone'.

Flesh highlights - 'Kislev Flesh'.

Brush 'Bugmans Glow' over the exposed head and hands of the figure and allow to dry.

Brush thinned 'Reikland Flesh Shade' over the painted head and hands of the figure and allow to dry.

Brush thinned 'Cadian Flesh Tone' over the painted head and hands of the figure and allow to dry. Do not apply the paint such that it completely covers the previous coat, as subtle shadows are necessary around such as the ears, eyes, nose and chin etc.

Brush thinned 'Kislev Flesh' over the painted head and hands of the figure and allow to dry. This application is very light and intended to highlight areas such as the eye brows, ears, bridge of the nose and jaw line etc.

Using a needle point, apply 'Tamiya' Rubber Black (XF85) or similar to create the eye pupils.

Brush paint the pilot's cap and groundcrew forage cap with 'AK Interactive' French Uniform Blue (AK3101) - or similar.

Brush paint the hair/moustache/ eyebrows *as desired* with 'AK Interactive' German Uniform Shadow (AK3093), Brown Leather (AK3031), British Uniform (AK3081) or similar.

Brush paint the lips with 'AK Interactive' Light Flesh (AK3012) or similar.

Brush paint the peak of the pilot's cap with 'Tamiya' Semi Gloss Black (XF18) or similar.

Brush paint the pilot's cap strap pivots with 'Mr. Colour' Brass (219) or similar.

Remove the support rods from the necks of the four heads.

Copper State Models' German Personnel set (F32-005):

Ground crewman No.1:

NOTE: *The bomb supplied with this figure will not be required as the figure will be lifting up the aircraft's camera. Also the pose of the figure will need to be modified and the German head replaced with one from the 'Hornet' 1:32nd scale heads (H3204) set.*

Assembly:

Prepare the spare head from the 'Copper State Models' French mechanic (F32-046) figure and figure (refer to Preparation).

Secure the right and left arms into their body recesses, using thin CA adhesive.

File or sand any joints to blend them with the surrounding surfaces.

Painting:

Airbrush prime the figure and head, using ‘AK Interactive’ Grey (AK758) or similar.

Brush paint the trousers with ‘AK Interactive’ French Uniform Blue (AK3101) mixed with Dark Sea Blue (AK3103) as shadows - or similar.

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

Brush paint the boots with ‘Tamiya’ Semi Gloss Clear (X35) thinned with X20A thinners.

Brush paint the jacket with ‘AK Interactive’ German Uniform Light (AK3092) mixed with French Uniform Light (AK3102) as shadows - or similar.

Brush paint the jacket buttons with ’Mr. Colour’ Stainless Steel (213) or similar.

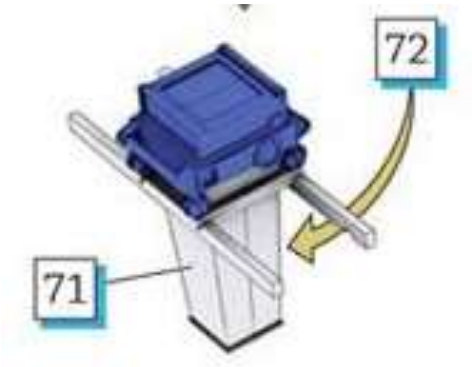
Lightly sponge ‘Tamiya’ Weathering Master Set D (Oil Stain), as desired, on the figure, such as around the trousers, elbows and pockets.

Lightly sponge ‘Tamiya’ Weathering Master Set A (Mud) on the boots.

Aircraft camera:

Using PVA adhesive, secure the clear lens (C2) into the bottom opening of the camera.

Brush ‘Tamiya’ Clear Gloss (X22) onto the camera areas for the decals (see above).



Apply decals 71 and 72 to the camera.

Airbrush the camera with a semi matte clear coat, such as ‘Alclad’ Light Sheen (ALC311) or similar.

Lightly dry brush a worn metal effect around the camera, as desired, using ‘Mr. Colour’ Super Metallic - Super Iron (203) or similar.

Assembly: (continued):

Using CA adhesive, secure the head into the neck of the body.

Using CA adhesive, secure the camera into the hands of the figure.

Ground crewman No.2:

NOTE: *This figure will be in the observers cockpit, holding the raised aircraft camera. Also the pose of the figure will need to be modified and the German head replaced with one from the 'Hornet' 1:32nd scale heads (H3204) set.*

Assembly:

Prepare your selected 'Hornet' head and figure (refer to Preparation).

NOTE: *Refer to the following photographs of the intended figure pose and the modified figure pose.*

Using a modellers saw, cut the body of the figure in half along the bottom edge of the jacket.

Drill a hole of 0.9mm diameter down into the legs.

Cut two lengths of 0.8mm diameter brass rod, such as that from 'Albion Alloy's' or similar.

Secure the rods into the pre-drilled holes in the legs, using thin CA adhesive.

Press the cut off upper body onto the two pins to make witness marks on the cut face of the body. Make sure the body is angled upright on the legs and aligned with the edges of the legs.

Drill two holes of 0.9mm diameter up into the upper body, using the witness marks as a guide.

Secure the upper body onto the two rods, using thin CA adhesive.

Fill the gap between the legs and upper body, using either 'Milliput' putty or Green Stuff' putty. Smooth the filler to merge with the surrounding surfaces, using a wet finger of suitable tool.

Once the filler has fully set and dried, file or sand the filler to remove any unnecessary surface imperfections.

If necessary, use 'Mr. Surfacer' 500 or 1000 surface primer to finish the surface.

File or sand the location stub on the right arm of figure No.2 such that it can be rotated in the body socket.

Position the crewman figure No.1, holding up the aircraft camera, alongside the left side of the fuselage, next to the observers cockpit.

Position the crewman figure No.2 in the observers cockpit and facing the No.1 figure.

Position the right arm of figure No.2 such that the hand rests against the top edge of the aircraft camera.

Note and mark the position of the arm to the body.

Remove the figure from the observers cockpit and secure the arm into the body using liquid cement.

Reposition the figure in the observers cockpit and if necessary adjust its position before the cement starts to set.

Once the cement has set, fill any gap between the arm and body legs, using either 'Milliput' putty or Green Stuff' putty. Smooth the filler to merge with the surrounding surfaces, using a wet finger of suitable tool.

Once the filler has fully set and dried, file or sand the filler to remove any unnecessary surface imperfections.

If necessary, use 'Mr. Surfacer' 500 or 1000 surface primer to finish the surface.

Intended figure pose

Modified figure pose

Painting:

Airbrush prime the figure and head, using ‘AK Interactive’ Grey (AK758) or similar.

Brush paint the trousers with ‘AK Interactive’ French Uniform Blue (AK3101) mixed with Dark Sea Blue (AK3103) shadows - or similar.

Brush paint the leg puttees with just ‘AK Interactive’ French Uniform Base (AK3101) or similar.

Brush paint the shoes with ‘Tamiya’ Rubber Black (XF85) or similar.

Brush paint the jacket with ‘AK Interactive’ French Uniform Light (AK3102) mixed with German Uniform Light (AK3092) as shadows - or similar.

Brush paint the shoes with ‘Tamiya’ Semi Gloss Clear (X35) thinned with X20A thinners.

Brush paint the jacket buttons with ’Mr. Colour’ Stainless Steel (213) or similar.

Lightly sponge ‘Tamiya’ Weathering Master Set D (Oil Stain), as desired, on the figure, such as around the trousers, elbows and pockets.

Lightly sponge ‘Tamiya’ Weathering Master Set A (Mud) on the shoes.

Assembly:

Using CA adhesive, secure the head into the neck of the body.

‘Copper State Models’ German ground crewman N1 (F32-012):

NOTE: *This figure will be working at the engine. The pose of the figure will need to be modified and the German head replaced with the spare head supplied in the ‘Copper State Models’ French mechanic (F32-046) figure.*

Assembly:

NOTE: *The figure will require a support, such as a box, under the left leg, to pose the figure Correctly against the model*

Prepare your selected ‘Hornet’ head and the figure (refer to Preparation).

Secure the right and left arms into their body recesses, using thin CA adhesive.

File or sand any joints to blend them with all of the surrounding surfaces.

Painting:

Airbrush prime the figure and head, using ‘AK Interactive’ Grey (AK758) or similar.

Brush paint the trousers and jacket with ‘AK Interactive’ French Uniform Blue (AK3101) mixed with Dark Sea Blue (AK3103) as shadows - or similar.

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

Brush paint the boots with ‘Tamiya’ Semi Gloss Clear (X35) thinned with X20A thinners.

Brush paint the jacket buttons with ’Mr. Colour’ Stainless Steel (213) or similar.

Lightly sponge ‘Tamiya’ Weathering Master Set D (Oil Stain), as desired, on the figure, such as around the trousers, elbows and pockets.

Lightly sponge ‘Tamiya’ Weathering Master Set A (Mud) on the boots.

Assembly:

Using CA adhesive, secure the head into the neck of the body.

Ladder:

NOTE: *To display this figure working on the engine, I used a ladder, cut to the correct length, from my ‘spares’ box.*

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

Airbrush the ladder with ‘Tamiya’ Buff (XF57) or similar.

Refer to Part 2 (Wood effects) of this build log for information. I used ‘DecoArt Crafters Acrylic’ Burnt Umber’.

The ladder was seal by airbrushing with a semi-gloss clear coat, such as ‘Alclad’ Light Sheen (ALC311) or similar.

To represent wear, I sponged ‘Tamiya’ Weathering Master Set E (grey) and Set A (Mud) onto the ladder sides and rungs.

‘Copper State Models’ Lafayette flying ace (F32-033):

Assembly:

Prepare the kit head and figure (refer to Preparation).

Secure the right arm into its body recess, using thin CA adhesive.

File or sand any joints to blend them with the surrounding surfaces.

Painting:

Airbrush prime the figure and head, using ‘AK Interactive’ Grey (AK758) or similar.

Brush paint the trousers and jacket with ‘AK Interactive’ French Uniform Blue (AK3101) mixed with Dark Sea Blue (AK3103) as shadows - or similar.

Brush paint the leg puttees with just ‘AK Interactive’ French Uniform Base (AK3101) or similar.

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

Brush paint the shoes with ‘Tamiya’ Rubber Black (XF85) or similar.

Brush paint the shoes with ‘Tamiya’ Semi Gloss Clear (X35) thinned with X20A thinners.

Brush paint the jacket buttons and cuff chevrons with ’Mr. Colour’ Brass (219) or similar.

Lightly sponge ‘Tamiya’ Weathering Master Set A (Mud) on the shoes.

Assembly:

Using CA adhesive, secure the head into the neck of the body.

PART 12
DISPLAY BASE

PART 12 - DISPLAY BASE

The display case is made from two sheets of 3mm thick Piano Black Acrylic sheet cemented together with a transparent top fabricated from 3mm thick Clear Acrylic sheet. This was custom made for me by Paul Moss at ‘Inperspextive’ (Ebay). The name plaque was also made by an on -line retailer ‘The Engraving Shop’.

The grass mat was cut to shape from a sheet of ‘Model Scene’ Summer meadow (F517). The cut mat was then positioned on the base and the model and figure test placed to achieve the best effect and to make sure the transparent cover of the case would be able to be located without touching the model. The model and figures were then removed with the grass mat left in position on the display base. The edges of the grass mat were then carefully lifted and a soft marker pen was used to mark the outline of the grass mat, but approximately 5 mm inside the mat edge. The grass mat was then removed and the area of the display base inside the marks was scuffed using a coarse grit sand paper, in order to give a key for the adhesive.

NOTE: *When applying the adhesive, make sure it is not applied too thickly and close to the edges of the finally positioned grass mat. Otherwise the adhesive may be squeezed out from under the grass mat once weight is applied to hold down the mat during setting of the adhesive.*

A coat of PVA adhesive (white glue) was applied to the scuffed area on the display base and to the back of the grass mat. The grass mat was then laid onto the PVA adhesive and positioned correctly. Light pressure was applied to ensure the mat was in contact with the adhesive.

Finally an acrylic plaque stand was positioned to the left, front corner of the display base (just in from the edges of the shoulder for locating the transparent acrylic cover. The area on the underside of the stand and its contact are on the display base were scuffed using a coarse grit sand paper, in order to give a key for the adhesive. A thin coat of contact adhesive was then applied to both scuffed areas and once the adhesive started to set, the stand was carefully position onto the display bae and pressed down to make full contact. The self-adhesive backed information plaque was the positioned onto the stand and pressed to make full contact.

The model and figures were then positioned on the base in their final positions and the support pins in the figures leg marked into the grass mat. Holes of 1.0 mm diameter were then drilled through the grass mat and into, but not through, the base. The holes were cleared of residual acrylic to ensure the pin in the figures would fully locate. The figures were then test fitted and where necessary, the support pin was snipped to the required length to fully locate into the display base.

NOTE: *The aircraft model is not secured to the display base as this can cause shock damage to the model if the display is transported to shows etc. For that the aircraft model would be packed separately for transporting.*

Thin CA adhesive or PVA adhesive was then applied to the support pins of the figures, which were then located, in the desired positions, into their pre-drilled location hole. The aircraft itself, being light in weight, will tend to sit on top of the grass on the mat, rather than seat fully down, as would a real aircraft. Therefore the location of the aircraft wheels and tail skid were marked onto the grass mat and those areas scrapped through the mat to create slight and unobstructed troughs, into which the aircraft could be located.

PART 13
COMPLETED MODEL PHOTOGRAPHS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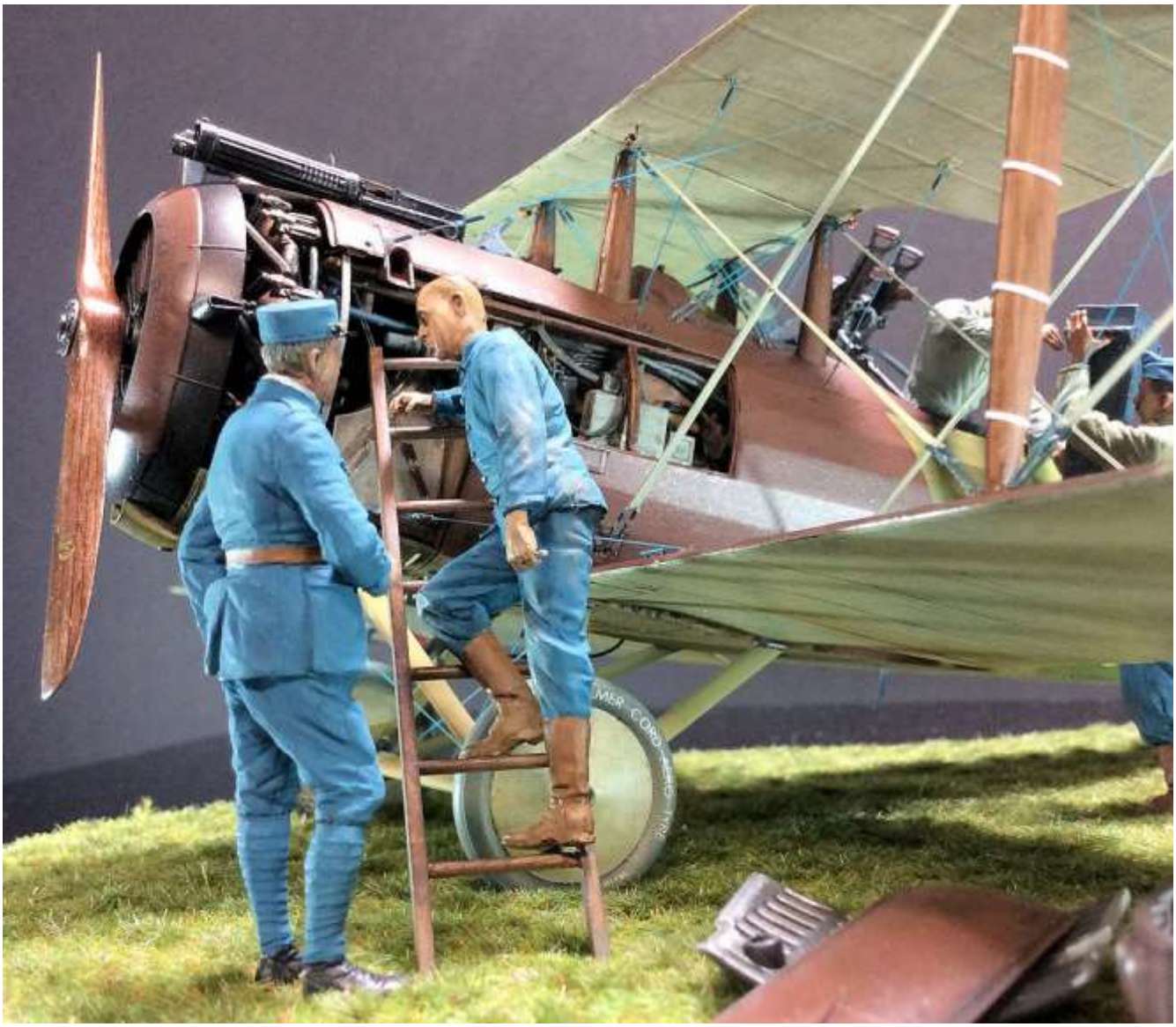

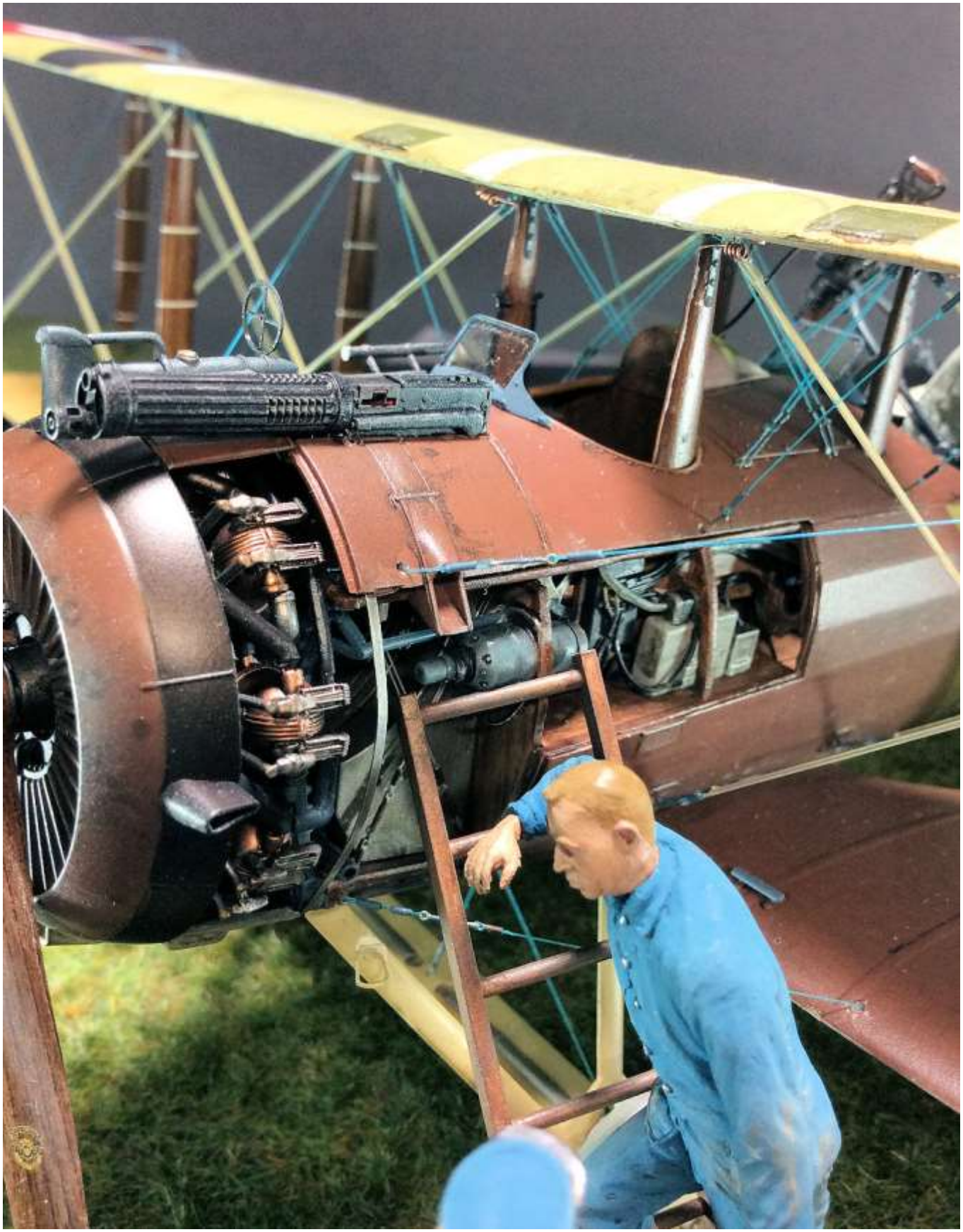

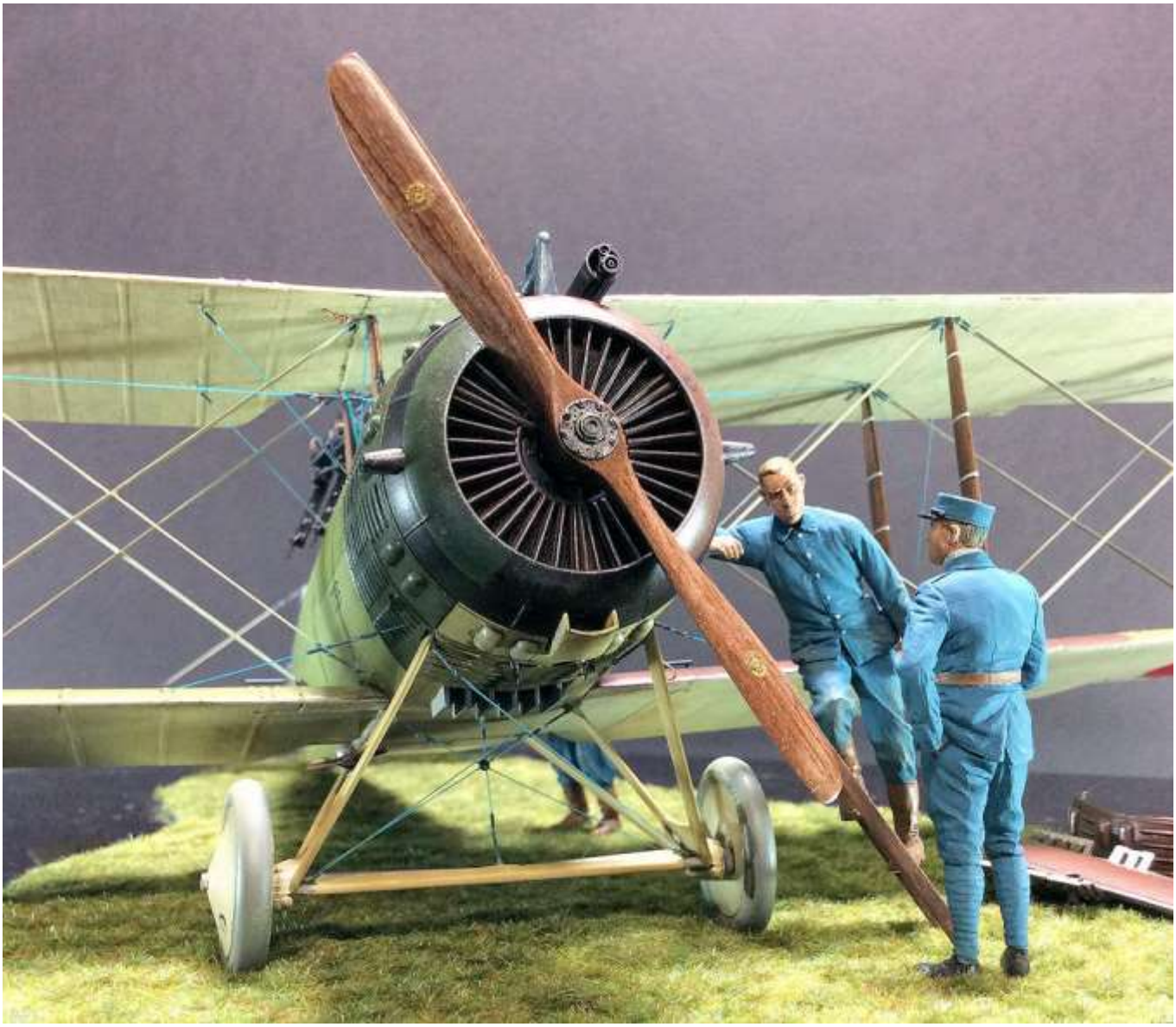


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