



Mikes WW1 Aircraft Models

I have always had a fascination with early military aircraft. I served for 27 years in the Royal Air Force, then a further 20 years as a Military Aerospace Technical Author. Although, like most modelers, I got involved in the world of construction kits at an early age, I stopped for most of my service career and for some years afterwards.

I started modeling again in 2015 as preparation for my retirement in 2016, so now I enjoy the challenge of building aircraft of World War One as my primary pastime. Since I started to post photographs of my completed models online, people have asked if I would create a 'build log' for future builds.

I certainly do not consider myself a 'master' of this craft, but hopefully the build logs I have written will be of some use in passing on some of what I have learned over the years. The builds logs can be downloaded from the 'Build Logs' pages on my website.

<https://mikesww1modelaircraft.com>

As such, here is my build log, which covers the build of the 'Wingnut Wings' 1:32 scale model of the Royal Aircraft Factory RE.8 'Harry Tate'.

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INTRODUCTION

INTRODUCTION

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







AFTER MARKET

AFTER MARKET

Figures

'Kellerkind Miniaturen' RFC pilot in sweater (54/067) and RFC pilot 'let's go' (54/026).

Propeller

'Proper Plane' wood laminated RE.8 propeller (WP-038).

Seat lap straps

'HGW' RE.8 texture seat belts (132524).

Exhaust pipes

'ReXx RE.8 exhaust pipes (ReXx-32007).

Decals

'Pheon' RE.8 decal sheet (32038),
'Xtradecal' Parallel White Stripes (XPS2) and Black (XPS1),
'Xtradecal' Serial Letters and numbers (X32021).

Resin

'Barracuda Studios' 3D printed wicker seat set (BCR32234).

Rigging accessories (as required)

'Albion Alloy's' 0.4 mm (MBT04) or 0.5 mm (MBT05) diameter Brass tube,
'Bobs Buckles' 0.4 mm or 0.5 mm diameter cut tubes,
'HGW' 1/32nd scale Spoke Eyelets (132129),
'Steelon' or 'Stroft GTM' fishing line (0.08 mm and 0.12 mm diameter),
'Infini Model' Medium Aero Black Rigging (0.135 mm),
'Proper Plane' 3D printed turnbuckles (RD-005).

Paints (as required)

'Tamiya' Acrylic, Humbrol Acrylic, 'Mr. Metal Color', 'Alclad II' Lacquers,
'AK Interactive' Primer (Grey AK758, White AK759) and figure paints (various),
'Tamiya' Fine Surface Primer (Grey/White), Tamiya' Paint Retarder,
'AK Interactive' Acrylic Thinner (AK712), 'Mig' A-Stand Aqua Gloss (A.Mig-2503),
'MRP' acrylic lacquers, 'Windsor & Newton' Griffin Alkyd oil paint, 'Citadel' Colour (various),
'Mr. Surfacer' 500/1000/1200/1500, 'Mr. Finishing Surfacer' 1500, 'Mr. Color' Levelling Thinners 400.

Sundries (as required)

PVA Adhesive (e.g. 'MicroScale' Micro Krystal Clear), PlusModel' lead wire (various),
'MicroScale' MicroSol/MicroSet decal solutions, 'VMS Fleky' CA adhesive (Slow or Thin or Resin),
'Araldite' two-part epoxy, 'MFH' 0.4 mm diameter flexible black tube (P-961), 'UHU' White Tack,
Copper wire various diameters, 'Tamiya' masking sheet and tapes (various widths),
'Prismacolor' Verithin pencil 'Argent Metallique', 'Abteilung 502' Liquid Mask, 'Plastruct' strip,
'De-Solv-It' Sticky Stuff Remover, AMMO Mig photoetch Burnishing Fluid (A.MIG-2021),
'EZ' heavy stretch line (White or Black), 'Signo' uni-ball silver pen (UM-153), 'VMS' Metal prep 4K,
'Tamiya' liquid cement (Thin and Extra Thin).

Weathering mediums (as required)

'AK Interactive' (Kerosene AK-2039, Engine Oil AK-2019), 'Tamiya' Weathering Master sets,
'Flory Models' Clay washes or Pigments.

Display Base

'Lars op't Hof' scenery Pasture Autumn Long 10.34S),
Inperspective' custom made acrylic base and cover,
Information plaque from 'TLS Engraving Ltd'.

PART 1

AIRCRAFT

DESCRIPTION

PART 1 – AIRCRAFT DESCRIPTION

References:

'Windsock' Data File 24 - RAF RE.8 (J.M.Bruce).
'Air Board Technical Notes' - Published 1917.
'Wingnut Wings' - Instruction Manual (IM).
'Their Flying Machines' - <https://flyingmachines.ru/Site2/Crafts/Craft25546.htm>
'Belgian Wings' - <https://www.belgian-wings.be/aircraft-1909-1918>
'The Vintage Aviator' -
<https://www.thevintageaviator.co.nz/>
<https://jamesfahey.smugmug.com/RAF-RE8-A3930>
<https://jamesfahey.smugmug.com/RAF-RE8-A4267>

NOTE: *The following description is based on extracted text from the 'Belgian Wings' web site and the 'Wingnut Wings' instruction manual.*

Background:

The RE.8 (Reconnaissance Experimental) was designed by John Kenworthy of the Royal Aircraft Factory in 1915 and as a replacement for the BE2c. Although many of the shortcomings of the BE2c were solved, the aircraft proved to be difficult to fly, which resulted in many landing accidents. The aircraft used many components from the BE2 design, including wings, landing gear and tailplane. Obvious differences were the addition of a pilot operated forward firing Vickers machine gun and moving the observers cockpit from in front of the pilots cockpit to behind it, which gave the occupant a much better field of fire.

The RE.8 was operated as a bomber, reconnaissance and artillery spotting aircraft. However, the design of the aircraft, like the BE2, meant it was too stable in flight, which meant it could not manoeuvre well when defending itself and was too unstable to perform low level turns safely. Despite these shortcomings, the RE.8 was produced in large numbers and was first allocated to No.52 Squadron (RFC) in late 1916 and the aircraft remained operating until the armistice.

Specifications:

Wingspan - 47' 2" (13m).

Length - 27' 10" (8.5m).

Maximum weight - 2,869lbs (1,301kg).

Maximum speed - 98mph (158kph).

Ceiling - 11,000' (3,353m).

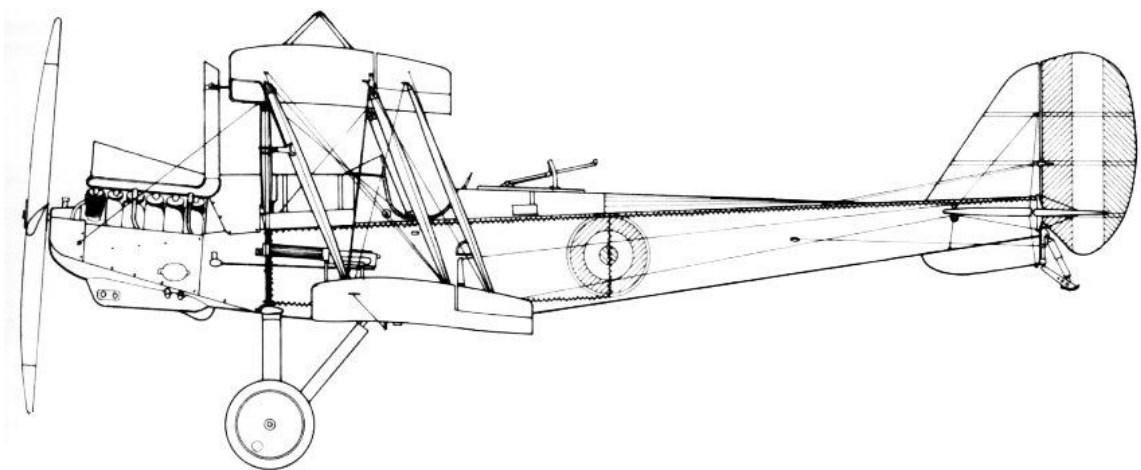
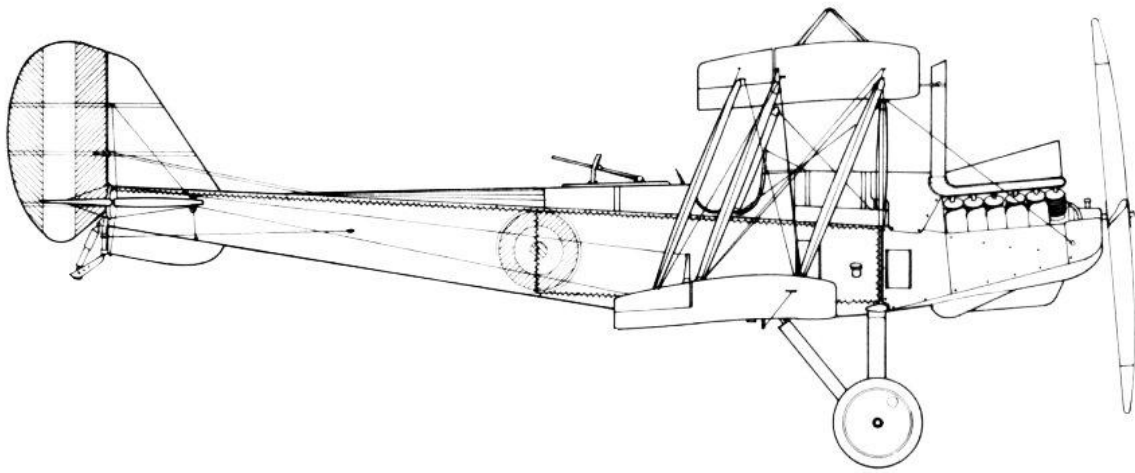
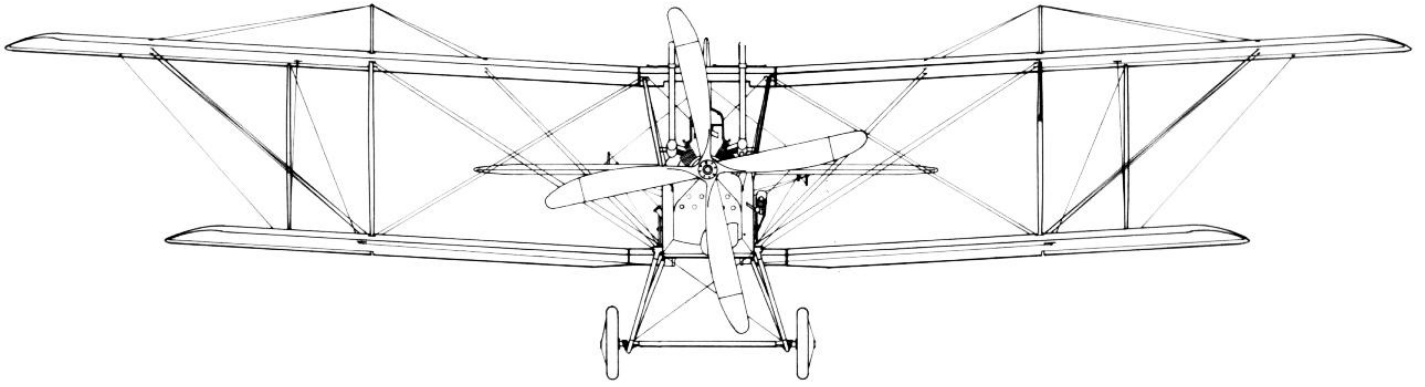
Engine - RAF 4a air cooled V12 (150hp).

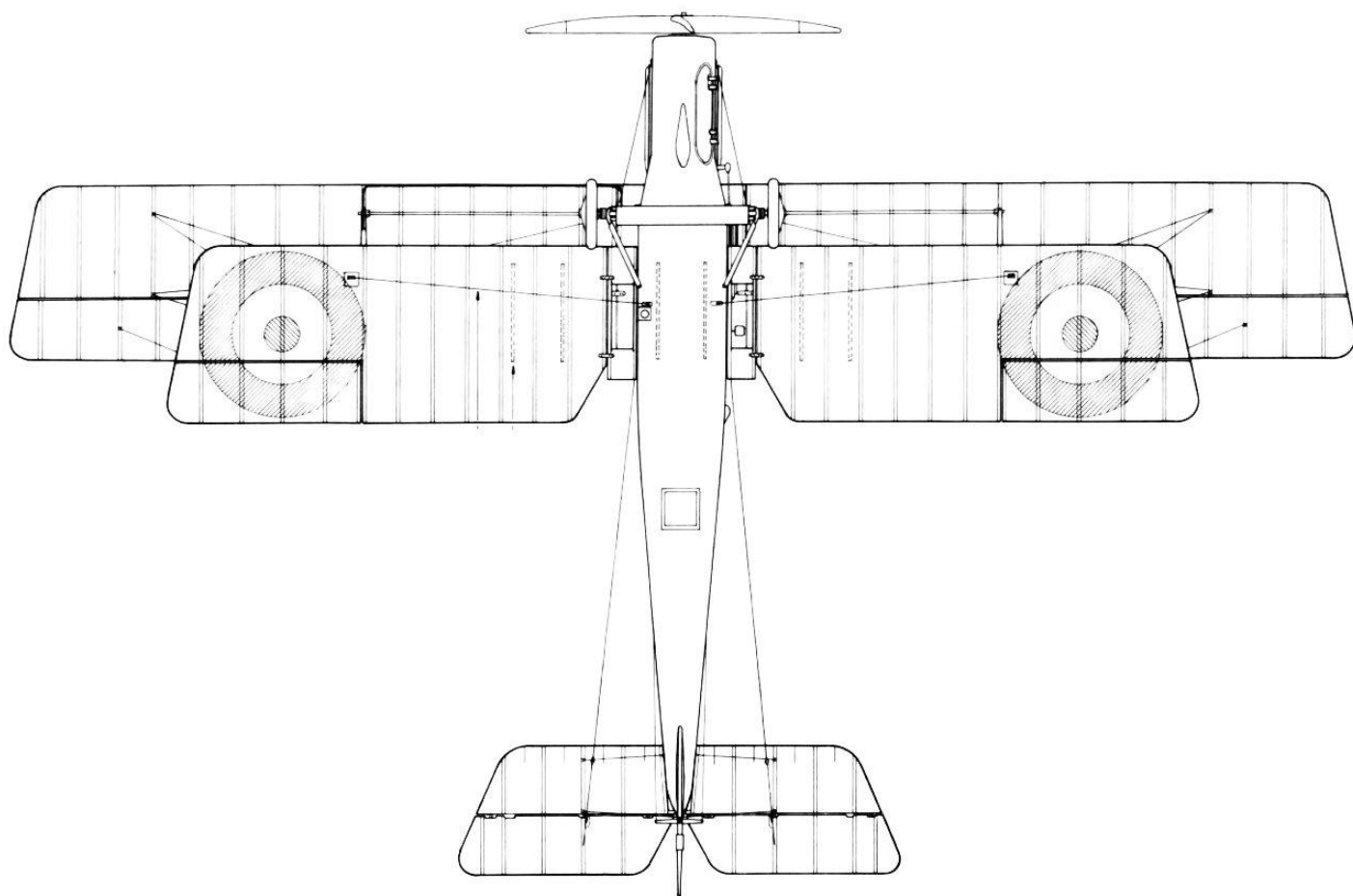
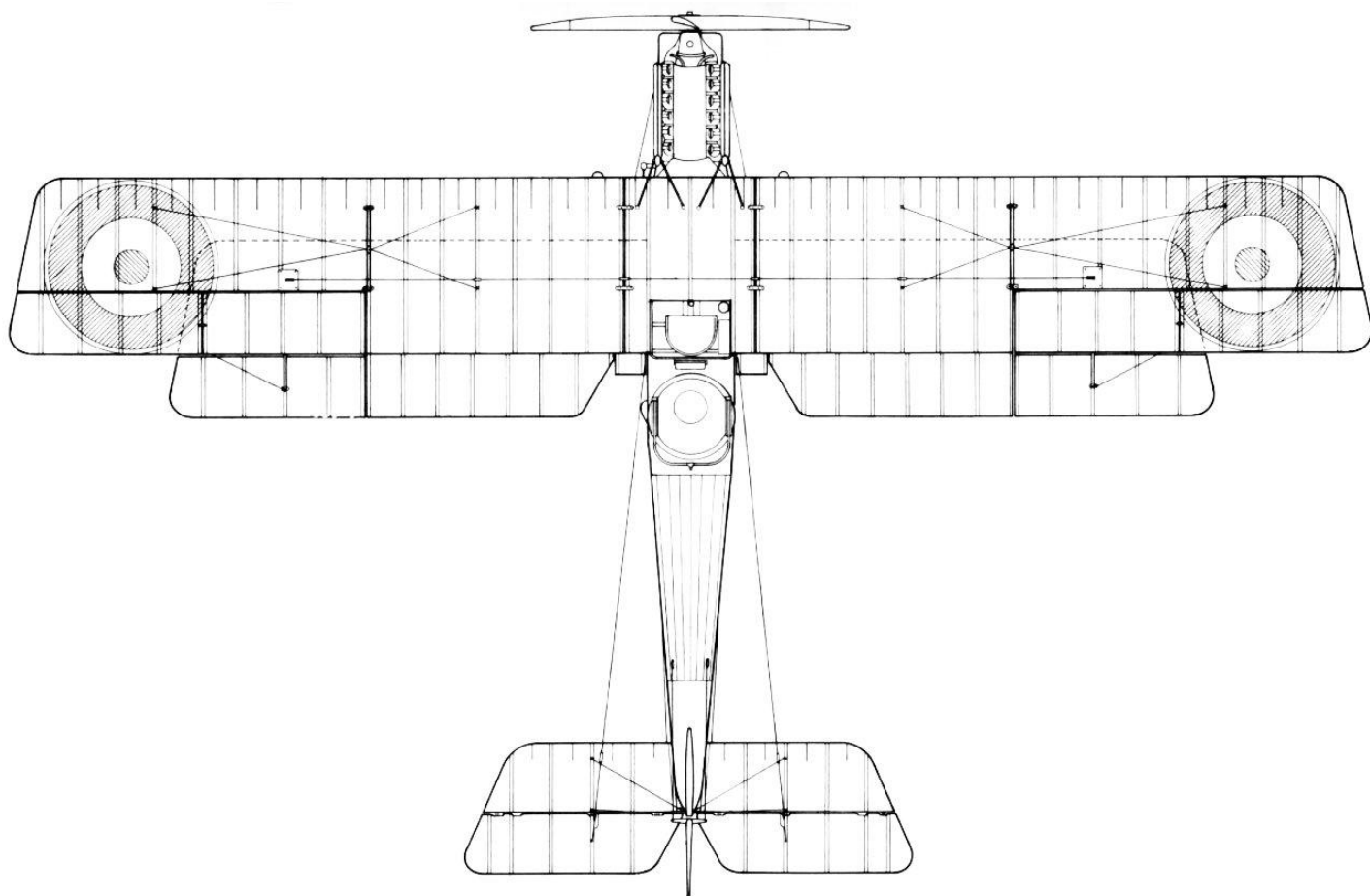
Weapons - 0.303 (7.7mm) Vickers machine gun, one/two 0.303 (7.7mm) Lewis machine guns, 260lb (118kg) of bombs.

Belgian service:

In order to replace the Belgian Air Service's BE.2c observation aircraft, which was plagued by many design flaws, the Belgian Government acquired 22 Royal Aircraft Factory R.E.8 (R.E. stood for Reconnaissance Experimental) in late 1916. Following an agreement with the War Office all of these 22 R.E.8 aircraft were relinquished by the Royal Flying Corps (RFC). On the 28th of July 1917, the first 6 aircraft were transferred from the RFC base at St. Omer (France) to the Belgian Aviation Militaire and to the 6me Escadrille, at Houthem-lez-Furnes. This unit was to exclusively operate these 'Harry Tate' (the rhyming nickname, after a popular music hall artist of the time).

As was the case with the BE2c, the Belgian Air service found the R.E.8 to be underpowered. Therefore, Belgian R.E.8 aircraft were re-equipped with a more powerful 180hp Hispano Suiza liquid cooled V8 engine, replacing the 140hp RAF 4a engine. That engine was housed in a distinctive SPAD like round-fronted, tubular-slotted cowling with a side radiator. Unfortunately, the installation of the more powerful engine did little to improve overall performance of the R.E.8 as the design had reached the limit of development potential. In April 1918, less than a year after the introduction of the R.E. 8 in Belgian service, the first of the replacement SPAD XI observation aircraft reached the 6me Escadrille. However, a handful of Hispano R.E.8 aircraft soldiered on until the end of World War 1.





PART 2

KIT REVIEW

PART 2 - KIT REVIEW
(‘Wingnut Wings’ Kit No.32012)

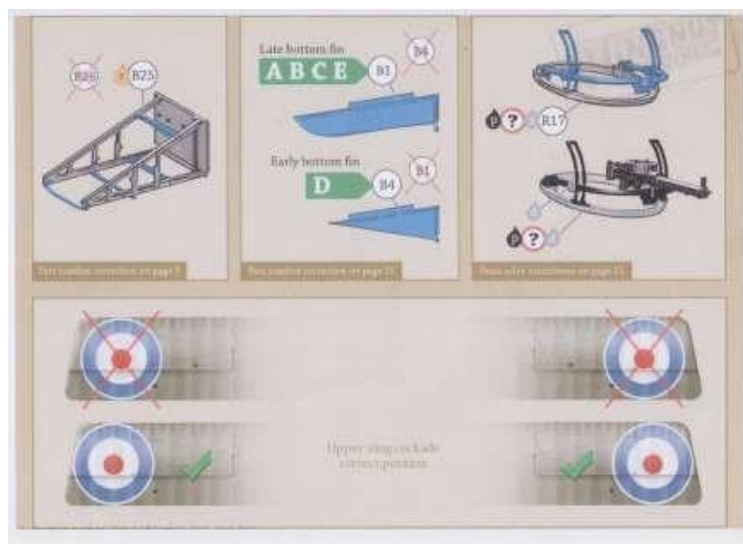


As expected, any model from ‘Wingnut Wings’ (WNW) is at the top of quality and accuracy. The kit components are not a numerous as many of their kits, which is good if you are building a WNW kit for the first time. The parts are manufactured from traditional ‘plastic’, not resin. There is minimal mold flash that needs to be removed and no ejection pin marks that need to be filled and sand- ed away. All the main sprues, including the transparencies and photo-etch (PE) parts, are sealed in separate plastic bags, which prevents and sprue damaging another. There are eight main sprues, one transparency and one photo-etch for this model, however some parts supplied are not required.

The decal sheets supplied are by ‘Cartograf’ so they should be of the best quality in both colour and registration. The decal sheet covers five different schemes. However, I have chosen not to model any of the kit schemes and instead will model a Belgian Aviation Militaire RE.8, using the ‘Pheon’ RE.8 decal sheet (32038).

The instruction manual is in the well-known format that WNW produce and has clear and concise instructions, including coloured illustrations and photos for reference. Also, the manual has a lot of information on the aircraft.

In addition, the ‘Wingnut Wings’ web site has pages for hints and tips and correction sheets for some models. The RE.8 model has one correction sheet and two hints and tips sheets.



PART 3
THE AIRCRAFT
MODELLED

PART 3 - THE AIRCRAFT MODELLED

Royal Aircraft Factory RE.8 'Harry Tate', Serial No: A 3715 '6' of the 6me Escadrille, Belgian Aviation Militaire, at Houthem-lez-Furnes airfield in 1917.

This aircraft, serial number A 3715 '6', was built in Coventry, England and was transferred to Belgian's in July 1917. Initially this aircraft was delivered with the RAF 4a engine fitted, but this was later replaced by a Hispano-Suiza engine.

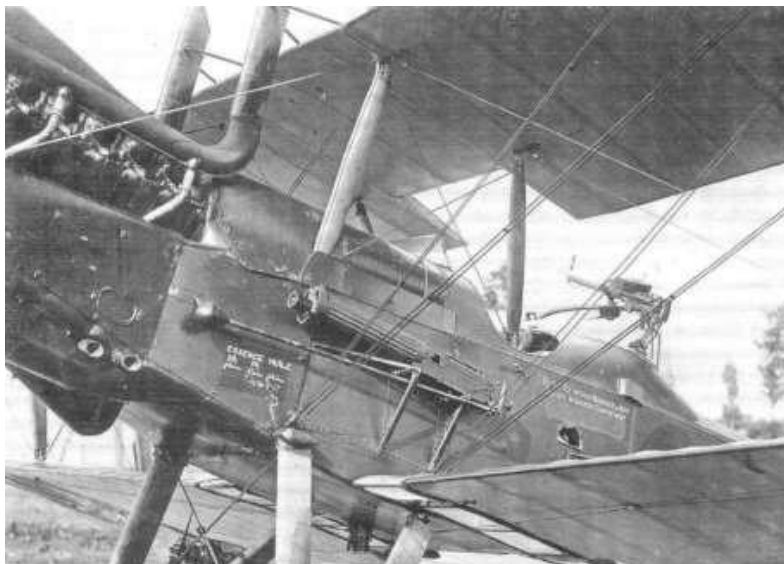
It is modelled as initially powered by the standard 150-horsepower RAF 4a V-12 engine, when it was first operated by 6me Escadrille in 1917.

This aircraft was shot down in 1918 when crewed by pilot Adj. Simonet and observer Lt. Piron.

Some colour profiles of these aircraft show the aircraft with its upper surfaces and fuselage in a dark, almost black colour. Whereas other profiles of aircraft from the same unit show what I believe is the more accurate colouring of that used in the Royal Flying Corps (RFC), namely Protective Covering PC10 or PC12.



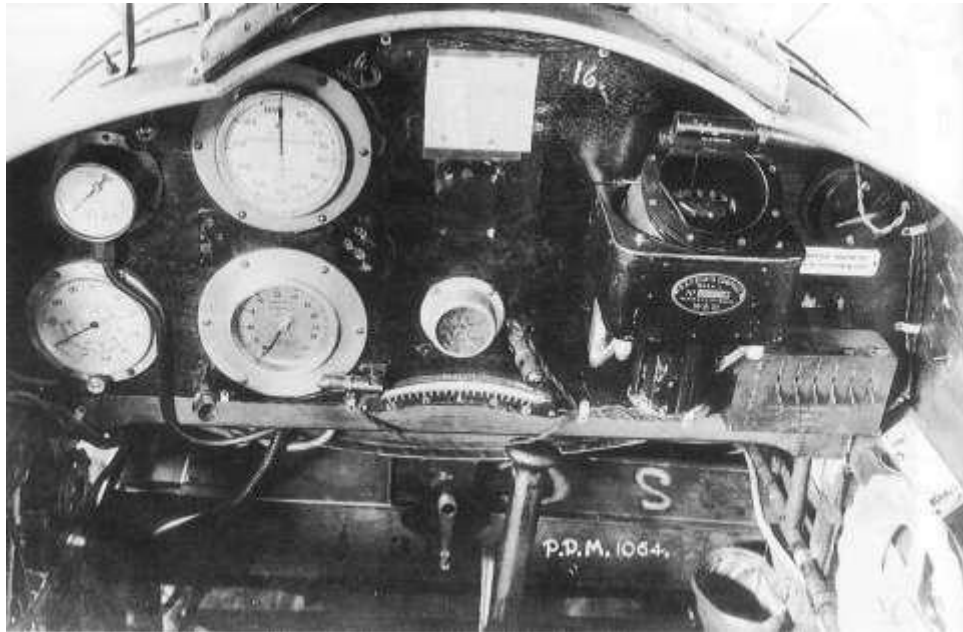
Unlike the aircraft colour schemes employed on the RE.8 aircraft of the RFC, the Belgian RE.8 aircraft had the fuselage nose panels colouring the same as that used on the fuselage. The only difference is that as the nose panels were metal and the fuselage covering was doped linen, the shade of the colouring on the nose panels was slightly darker than that of the fuselage. This shade change can be seen in the following photograph.



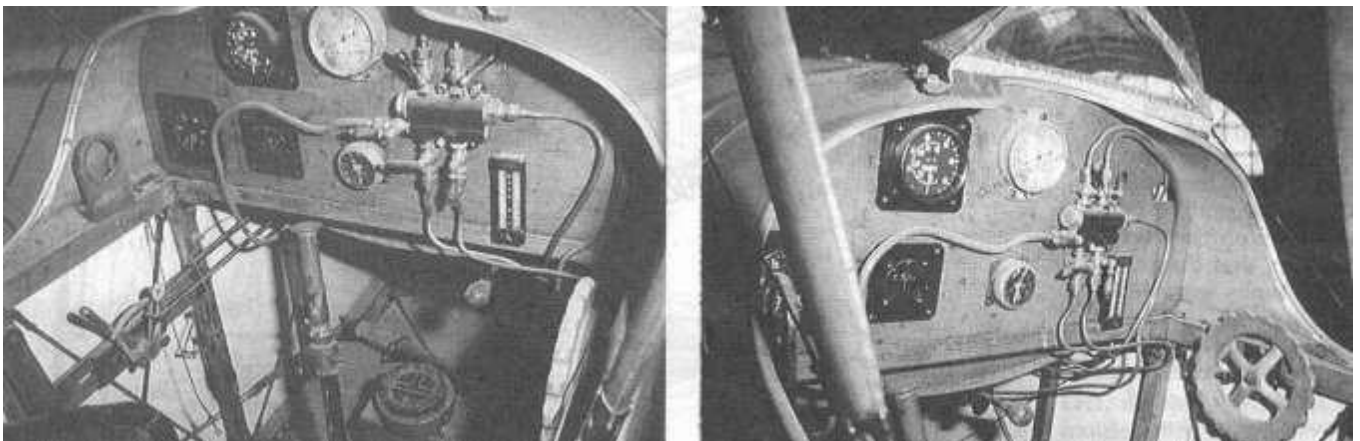
One notable internal difference is the layout of the pilots cockpit in a RFC aircraft compared to the and the cockpit of a Belgian aircraft, which had much less instrumentation the RFC cockpit, as can be seen in the following photographs.

However, I am unsure as whether the photographs of the Belgian cockpit are those of an aircraft fitted with the 140hp RAF 4a engine or a modified aircraft fitted with the 180hp Hispano Suiza V8 engine. It is most probable that the type of engine fitted would necessarily have required different cockpit instrumentation. The model has only the RFC type instrument panel.

Pilots cockpit in an RFC RE.8.



Pilots cockpit in a Belgian RE.8



PART 4

WOOD EFFECTS

PART 4 - WOOD EFFECTS

A basic technique:

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

The first thing to do is to ensure the model parts are cleaned, normally with warm water with washing up fluid and something like an old toothbrush. Once cleaned and thoroughly dried, the primer coat can be applied. I use 'AK Interactive' Grey (AK758) primer.

Once the primer is dry, you can start applying the wood effect to the applicable cockpit items, such the cockpit framework, decking, seat supports, rudder bar, instrument panel and of course, the wing struts. With practice, this method can also be used on fuselage panels and propellers.

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

Wood effect:

Windsor & Newton' Griffin (Alkyd) oil paints:

Mask off the area as required.

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

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

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

Leave the oil paint to settle for about ten minutes.

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

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

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

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

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

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

Surface finish:

Once the oil paint layers have dried, the final topcoats 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 (X35) or Clear (X22), to give the required finish but with a tint of the added 'Clear' colour. I use Clear Yellow (X24) or Clear Orange (X26) to add a varnished tint to the clear coat.

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

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

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

An example of applied wood effect with added weathering.



PART 5

WEATHERING

PART 5 - WEATHERING

There are distinct types of weathering mediums available now to modelers of aircraft, ships, vehicles and figures, in models 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. Modellers have even used water colour paints, and pencils. The following are the basic weathering mediums I tend to use on 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 fine clay pigment. They are brushed over the surface to be weathered and dry in around 30 minutes. When dry, use either a piece of good, absorbent kitchen roll or a soft brush to remove as much of the clay wash as you need to achieve the desired effect. Once dampened, the dried clay is re-activated and the clay wash can be removed or worked as required.

First, I seal the surface with an airbrushed semi-gloss clear coat, such as 'Tamiya' Semi-Gloss (X35) or similar. A gloss coat tends to stop the clay wash 'gripping' the surface when it is applied, and it can run off or just puddle. A matte coat can cause the clay wash to 'grip' too much, making it difficult to remove or even to wash it off completely.

NOTE 1: The glossier 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 drops of ordinary kitchen washing up liquid to the clay wash. This will break the surface tension of the wash, allowing it spread fully.

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

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

Applying the clay wash is just a matter of brushing all over the surface to be weathered. It does not matter 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 do not achieve your desired effect, you can wash it all off and start again. I use a soft brush, which has been slightly dampened, to brush off the clay wash. For smearing effects, a very slightly damp brush or absorbent paper should be used, dabbing either onto a dry piece of paper, until it is almost dry. Any wetter and you will find that you are removing too much of the clay wash. If that happens you will have to re-apply the wash and start again. That said, if you are 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 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 have no clay wash. It will dry more or less straight away. Then I will brush very lightly and/or use a piece of damp absorbent paper to remove as much as I want until I get the desired effect. If I remove too much, I just reapply clay wash to that area and repeat the removal procedure. Once finished, just run the brush under a tap to rinse out any residual clay pigments. Finally, I usually seal the surface with airbrushed 'Tamiya' Semi-Gloss (X35) or similar, which will seal in the applied clay wash.

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



Chipping effects:

To give the effect of chipped and weathered paint/varnish to metal engine cowls and forward fuselage panels, 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 topcoat to be chipped off. Finally, the required topcoat colour is applied.

Once fully dry, moisten the topcoat with water, which softens the paint. Then with a cut down (stiff) brush and wood cocktail stick, gently tease off the topcoat paint. Take care when doing this as 'too much chipping' cannot really be covered up. In that event you would have wet the topcoat and remove it all with an old toothbrush or similar and then when dry, re-spray the topcoat and try again. Once the desired effect was achieved the surfaces were sealed with an airbrushed coat of 'Tamiya' Semi-Gloss (X35).



'Tamiya' Weathering Master sets: Each of these 'Tamiya' produced weathering sets contain three 'tablets' of assorted 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 is best to use these as the final surface treatment, as being a 'Wax', any treated surfaces cannot be painted or sealed.



Pigments: Pigments, such as those produced by 'Flory Models' or 'Humbrol' are effectively fine 'dust', which can be applied to a model to re-create dust, dirt and stains. 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 or to add a 'filter' of colour onto a painted surface. They can be purchased ready made from various manufacturers or can be 'homemade' 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 details. 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 an 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 depends on the effect you require. Always keep the brush wipe 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 superior quality oil paint and thinners are essential to produce a good finish.

Oil paints can be too 'gritty' once leached of the oil, so I use 'Abteilung 502' oil paints thinned with 'Tamiya' Enamel thinners (X20).



PART 6

DECALS

PART 6 - DECALS

Kit supplied decals:

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

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

Airbrush a clear gloss sealing coat, such as 'Mig' A-Stand Aqua Gloss (A.Mig-2503), Tamiya' Clear (X22), 'MRP' Super Clear Gloss Varnish (MRP-048) or similar to provide a smooth surface.

NOTE: *'MicroSet' solution softens the decal to allow it to conform to the painted surface. Do not attempt to move the decal too much or it may tear.*

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

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

Carefully move the decal into the correct position.

Once the decal is correctly positioned, use a flat brush to brush the water out from under the decal, working from the centre of the decal out towards the edges. I then roll a dry cotton bud (Q-tip) over the decal in the same manner. Finally, wearing cotton gloves, I apply slight pressure and slide my fingers across the decal to finally push the decal onto the surface.

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

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

Leave the solution to fully dry and set the decal.

To 'knock back' the sheen of the decals and painted surfaces for applying weathering effects (refer to Part 6 of this build log), for example 'Flory' clay washes or oil paint, I airbrush a semi-gloss clear coat, such as 'Tamiya' Semi-Gloss (X35) or similar.

'Aviattic' decals:

The 'Aviattic' decals are different in both production techniques and application to those of the more traditional decal manufacturers.

Traditional decals are normally created using processes such as silk screen printing and are pre-shaped for the particular model markings. When placed in warm water they will detach from the backing sheet and can then be slid onto the model surface and when they are correctly positioned, wiped with a semi-dry brush or cotton bud to expel any water from under the decal. Once fully dry, decal softeners, such as 'MicroSol' and/or 'MicroSet' can be applied, if necessary, to 'weld' the decal to the model surface. Finally, a sealing coat of acrylic or lacquer gloss, semi-matt or flat is applied over the decal, to seal and protect the seal and protect the decal.

The 'Aviattic' decals are laser printed onto a 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 finally being applied. Also with most other decals, I have used softeners to help the decals conform to surface irregularities and contours, which is something I have found is not really required for 'Aviattic' decals, due to the nature of the carrier film.

'Aviattic' decals are laser printed onto either 'clear' or 'white' backing, the 'clear' being translucent which allows the application of pre-shading to the surface before the decal is applied. Minor gaps may be able to be covered with weathering. For more information, refer to the 'Aviattic' instruction sheet supplied with the decals.

The decals are supplied with clear instructions on their application, including when to add pre-shading to the base coat, where desired, before you apply the 'clear' backed decals.

Application:

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

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

Once dry, check the surfaces for any imperfections, such as trapped dust or raised areas of paint, which will cause 'silvering' under the decals. Any surface imperfections found should be carefully sanded or polished out. If necessary, lightly sand the surfaces with one thousand grit paper or similar

Airbrush at least two light sealing coats of a clear coat such as 'Mig' A-Stand Aqua Gloss (A.Mig-2503), 'Tamiya' Gloss (X22), 'MRP' Super Clear Gloss Varnish (MRP-048) or similar over the painted surface to 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 any water from under the decal.

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

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

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

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

Where decals cover location holes or other openings, prick or cut through the decal into the hole or opening then lightly apply 'Tamiya' X20A thinners, which will soften and adhere the decal into the hole or opening. Using X20A can also conform decals around curves edges. **Do not apply too much X20A** as it will melt the decal.

Protect and seal the decals by airbrushing a sealing coat over the decals. If more decals are to be added it is not really necessary to apply a gloss sealing coat before, as the 'Aviatic' decals are glossy enough when applied. A final sealing coat of the desired finish should be applied, which will protect and seal the applied decals.

PART 7

RESIN

PART 7 - RESIN

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

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

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

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

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

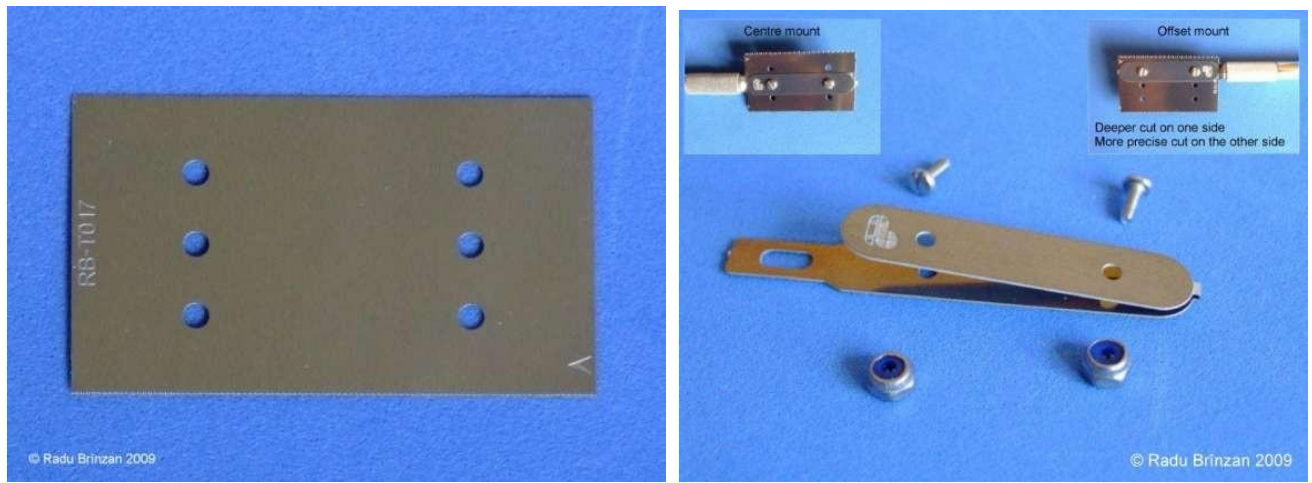
Plastic kits are assembled using solvent adhesives, which melt the surface where it is applied and 'weld' the joint together. Resin cast or 3D prints, however, will not react to this type of adhesive and can really only be glued using Cyanoacrylate (CA) adhesive. This adhesive reacts to moisture in the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

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

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

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

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



The ultrasonic cutter I use is from 'Hanboost' although other cutters are available. The cutter works by vibrating at extremely high speed which is not visible to the naked eye. The blade is also heated slightly so the plastic or resin part is cleanly cut off without imposing any stress to the parts. **Great care is required** when operating the cutter. If you inadvertently touch the blade, it will cut and cause injury.



PART 8

RIGGING

PART 8 - RIGGING

References:

'Windsock' Data File 24 - RAF RE.8 (J.M.Bruce).

'Air Board Technical Notes' - Published 1917.

'Wingnut Wings' - Instruction Manual (IM).

'Their Flying Machines' - <https://flyingmachines.ru/Site2/Crafts/Craft25546.htm>

'Belgian Wings' - <https://www.belgian-wings.be/aircraft-1909-1918>

'The Vintage Aviator' -

<https://www.thevintageaviator.co.nz/>

<https://jamesfahey.smugmug.com/RAF-RE8-A3930>

<https://jamesfahey.smugmug.com/RAF-RE8-A4267>

General:

It is important to check where the various rigging attachment points are for this aircraft. Most models have these located on the model, but it is best to carry out research in reference books or research online before drilling. Some modellers use micro drills manufactured for drilling printed circuit boards 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 'corkscrew' their way in, which causes jamming and 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 of the model and rig by pulling through the rigging line/EZ thread, gluing in position and then rubbing down the exposed line 'tag' and then re-painting that area. I prefer to drill only part way into the plastic and attach the applicable rigging fixture with CA adhesive.

With your research complete the rigging can be planned for the model in the subsequent Parts of this build log.

This aircraft had structural wires which were of the streamlined solid forged type (RAF wires) and these had specific tension adjusters at both ends of the wires, not turnbuckles. However, the aircrafts control cables were of the standard wound type with adjustable turnbuckles fitted for adjusting the tension of the cables. The materials and aftermarket parts used for the rigging of the structural wires and control cables are described in the relevant Parts of this build log.

NOTE: *Only control cables require turnbuckles as the structural wires are streamlined RAF wires. The following descriptions of rigging **apply to both sides** of the aircraft.*

Structural rigging:

Flying wires

NOTE: *The RE.8 was fitted with three sets of twin flying wires:*

Front and rear inner flying wires.

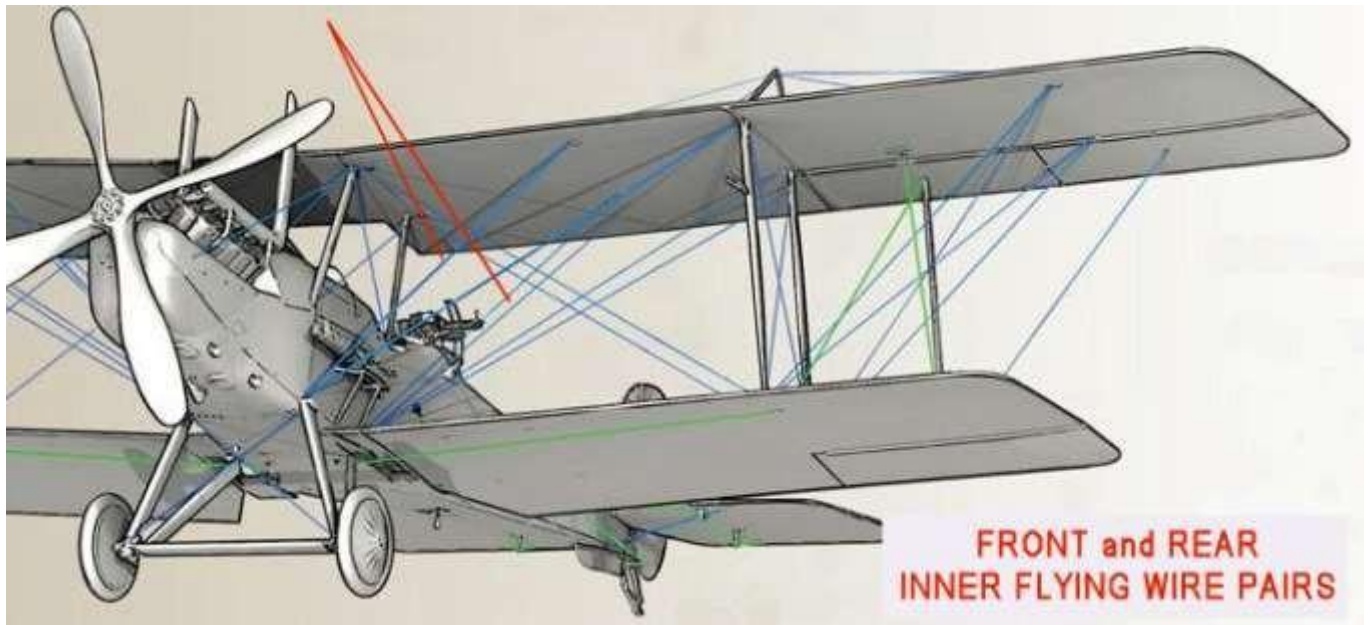
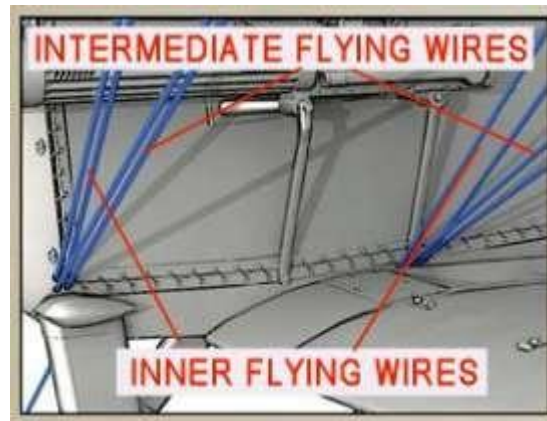
Front and rear intermediate flying wires.

Front and rear outer flying wires.

Front and rear inner flying wires:

A pair of forward inner flying wires were attached between the fuselage at the top of the landing gear forward struts and the underside of the upper wing, midway between the tops of the fuselage forward cabane struts and the forward interplane struts.

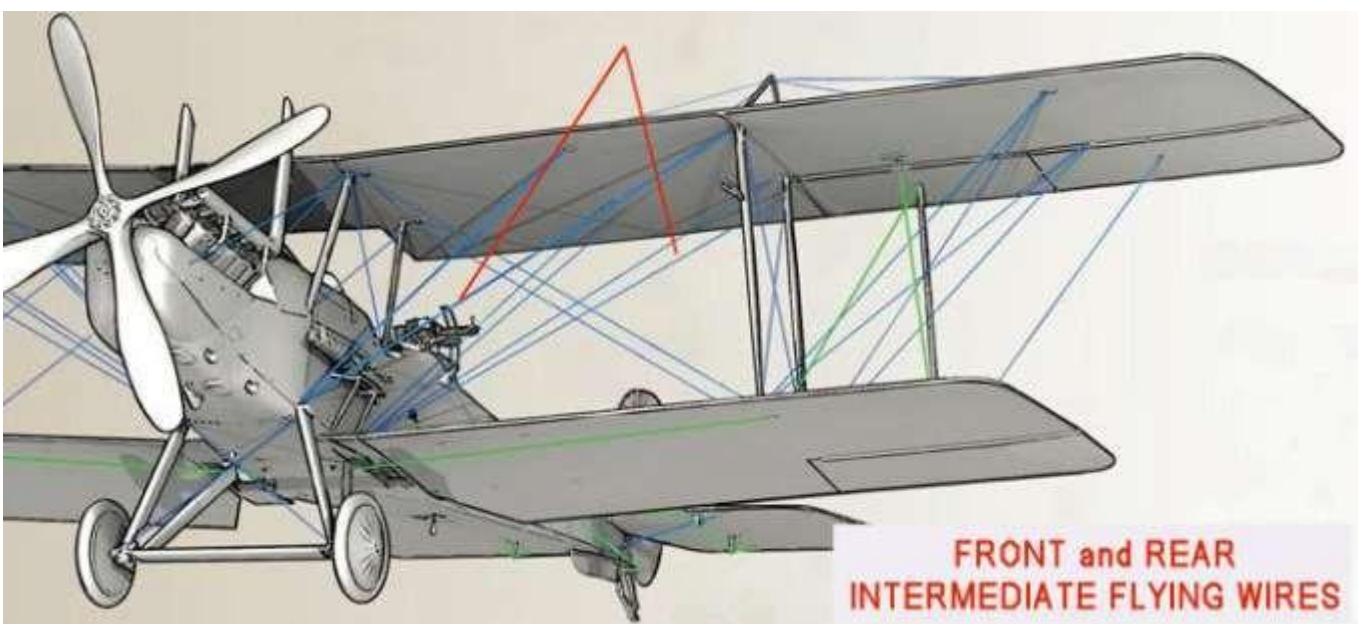
A pair of rear inner flying wires were attached between the fuselage at the lower wing roots and the underside of the upper wing, midway between the tops of the fuselage rear cabane struts and the rear interplane struts.



Front and rear intermediate flying wires:

A pair of forward intermediate flying wires were attached between the fuselage at the top of the landing gear forward struts and the underside of the upper wing inboard from the tops of the forward interplane struts.

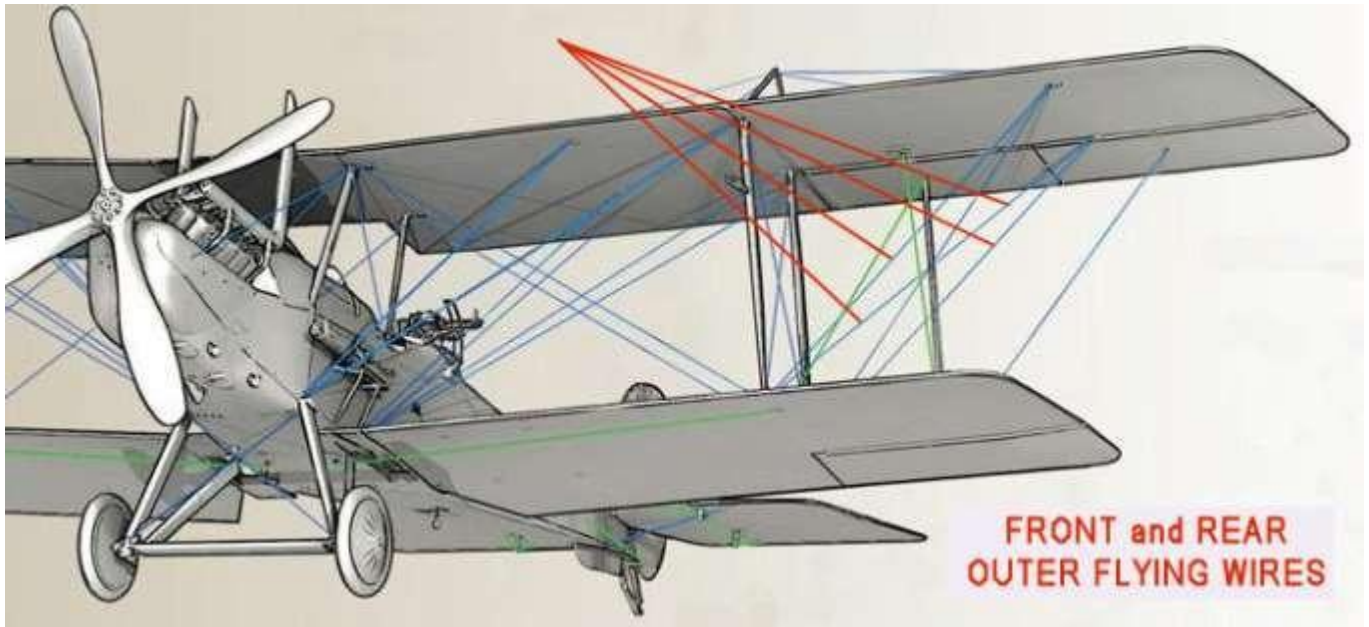
A pair of rear intermediate flying wires were attached between the fuselage at the lower wing roots and the underside of the upper wing inboard from the tops of the rear interplane struts.



Front and rear outer flying wires:

A pair of forward outer flying wires were attached between the top surface of the lower wings, outboard from the bottom of the forward interplane struts and the underside of the upper wing, midway towards the wing tips.

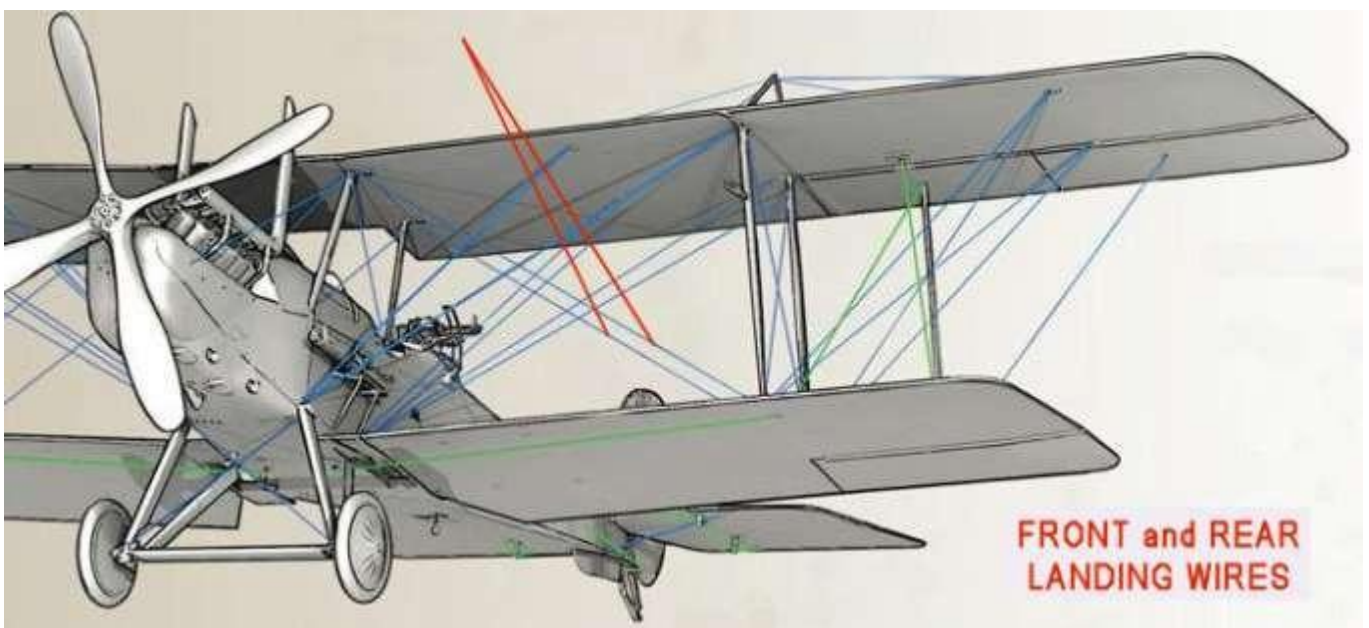
A pair of rear outer flying wires were attached between the top surface of the lower wings, outboard from the bottom of the rear interplane struts and the underside of the upper wing, midway towards the wing tips.



Landing wires:

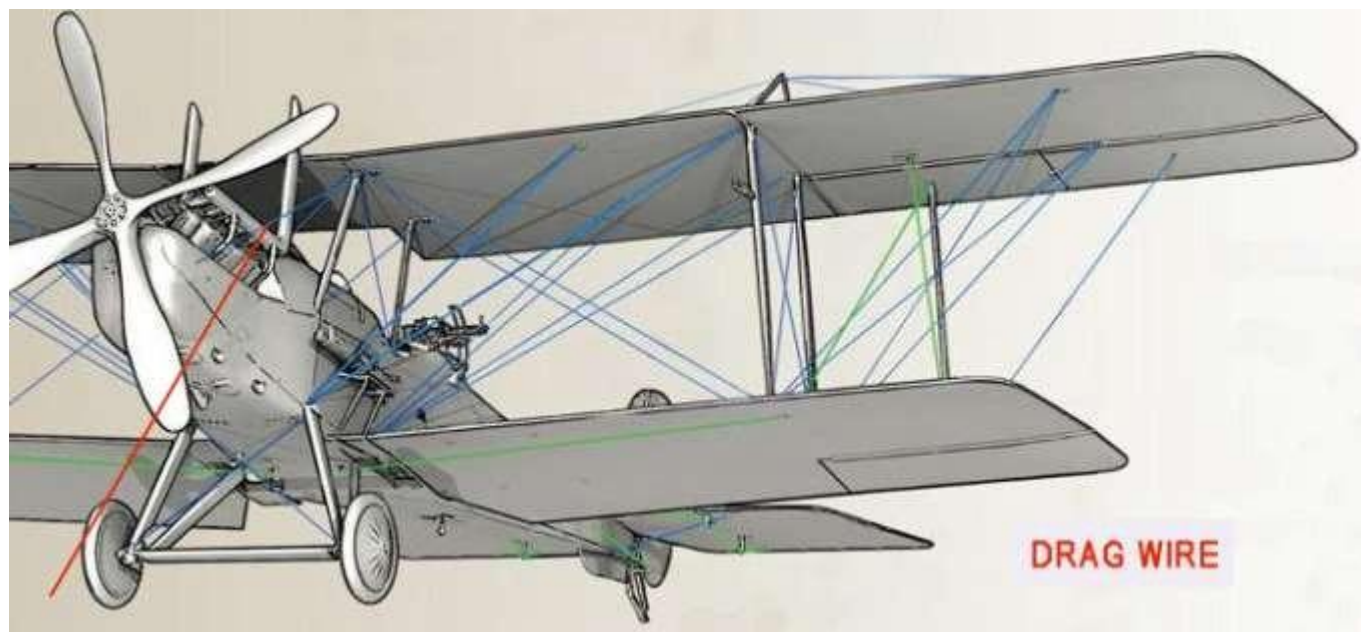
A single landing wire was attached between the underside of the upper wing, outboard from the top of the fuselage forward cabane struts and the top surface of the lower wings, inboard from the bottom of the forward interplane struts.

A single landing wire was attached between the underside of the upper wing, outboard from the top of the fuselage rear cabane struts and the top surface of the lower wings, inboard from the bottom of the rear interplane struts.



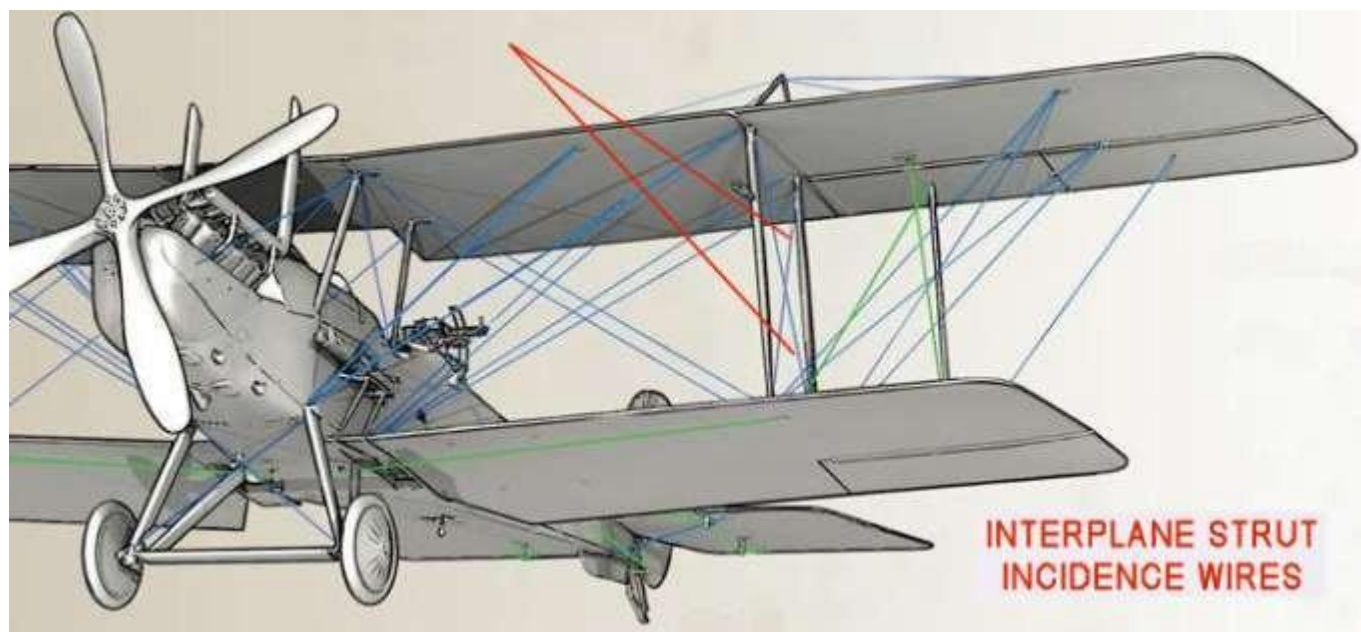
Drag wires:

A single drag wire was attached between the upper side of the nose side panels and the underside of the upper wing, inboard from the top of the fuselage forward cabane struts.



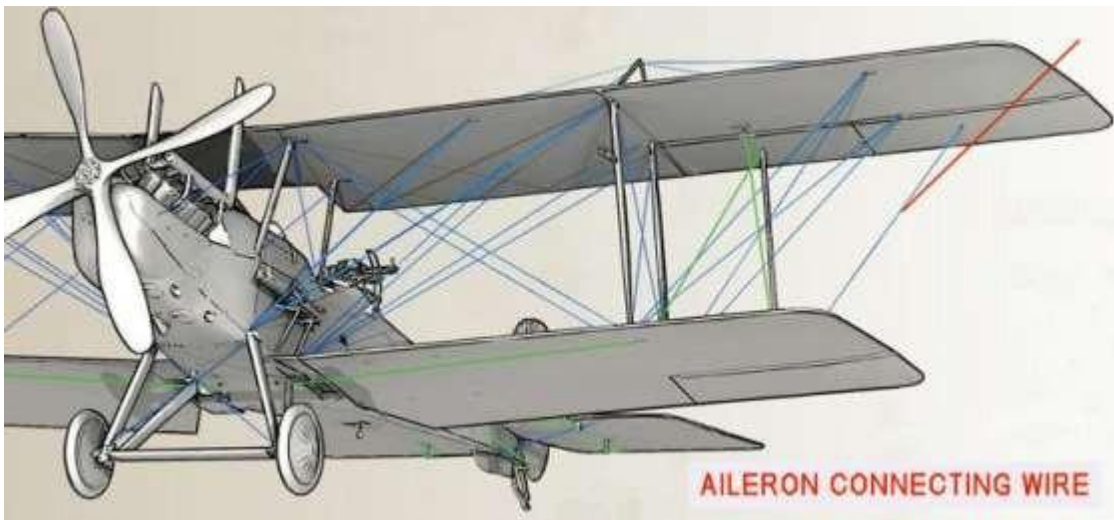
Interplane strut incidence wires:

Two diagonally crossed incidence wires were attached between the interplane struts, from the top and bottoms of the interplane struts.



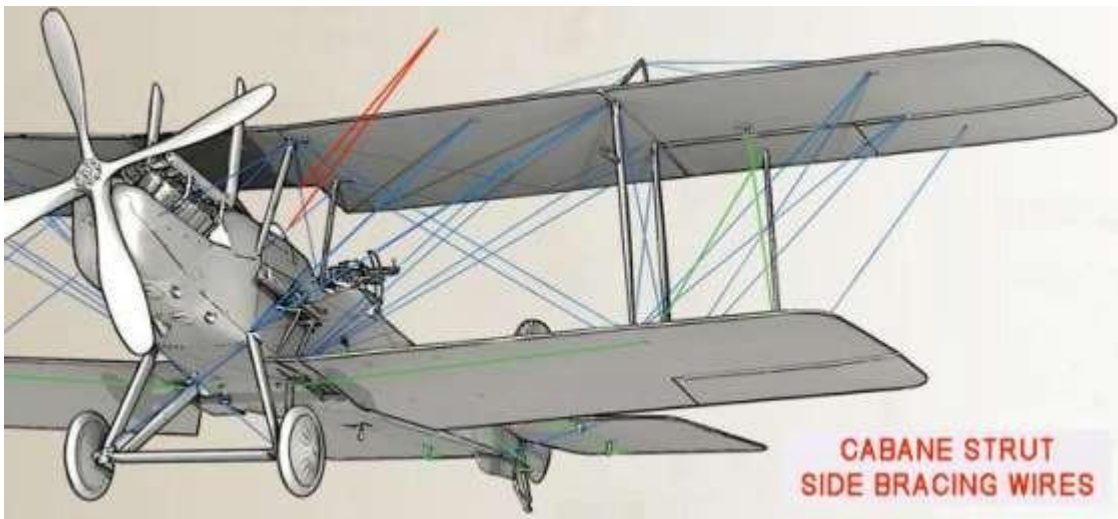
Aileron connecting cables:

A single aileron connecting cable was attached between the top surface of the lower wings, outboard from the aileron struts and the underside of the upper wing ailerons.



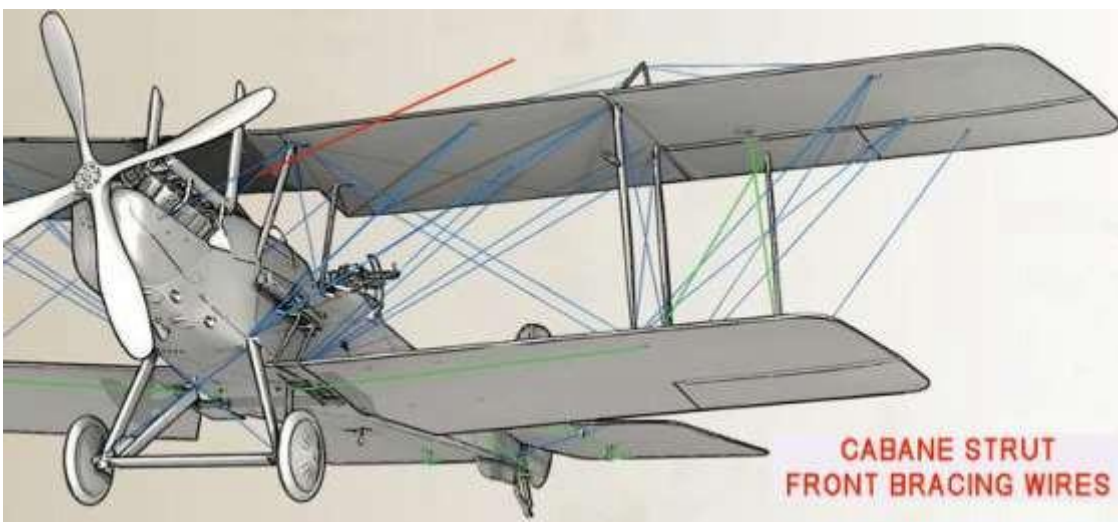
Cabane strut side bracing wires:

Two diagonally crossed bracing wires were attached between the top and bottoms of the fuselage front and rear cabane struts.



Cabane strut front bracing wires:

Twin bracing wires were attached to the underside of the upper wing, inboard from the fuselage forward cabane struts and routed diagonally down and into the fuselage through a slot at the centre of the fuselage decking panel, forward from the pilots cockpit.



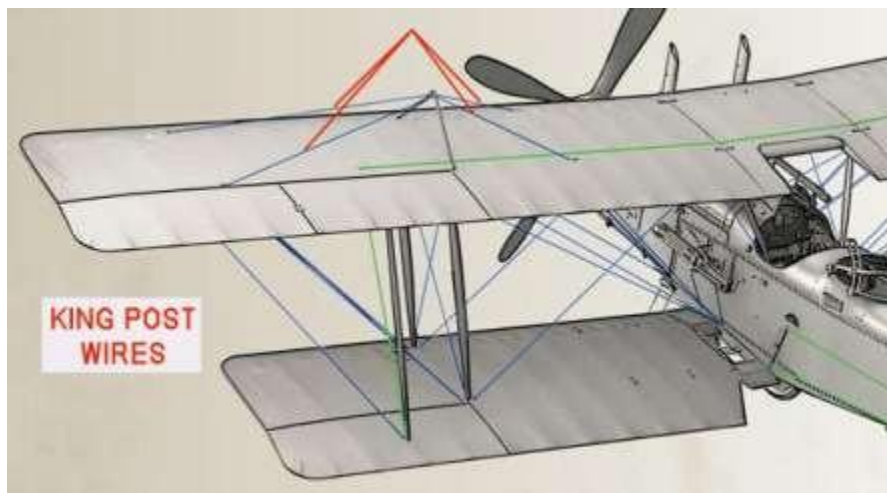
Landing gear bracing wires:

Two diagonally crossed bracing wires were attached between the inboard top of the landing gear forward struts and the forward, outer ends of the landing gear axle fairing.



Upper wing king post wires:

Four separate wires were attached between the top surface of the upper wing, inboard and outboard from the top of the king posts on the wing.



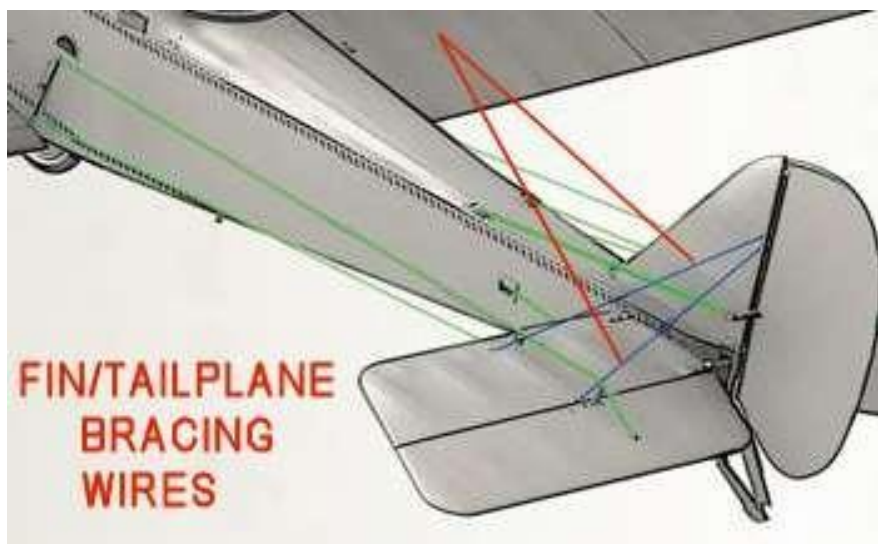
Fin/Tailplane bracing wires:

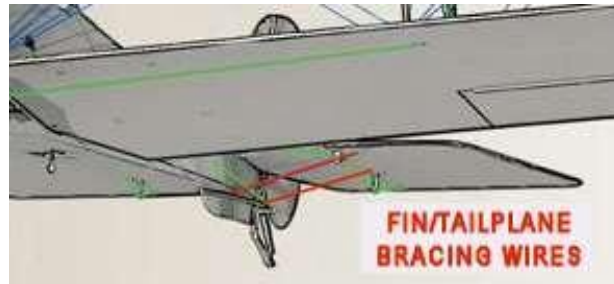
Forward bracing wires:

Four separate bracing wires were fitted between the bottom edge of the fuselage rear, the forward edge of the tailplanes and the rear edge of the fin.

Rear bracing wires:

Four separate bracing wires were fitted between the top, rear of the tail skid fairing, the rear edge of the tailplanes and the rear edge of the fin.



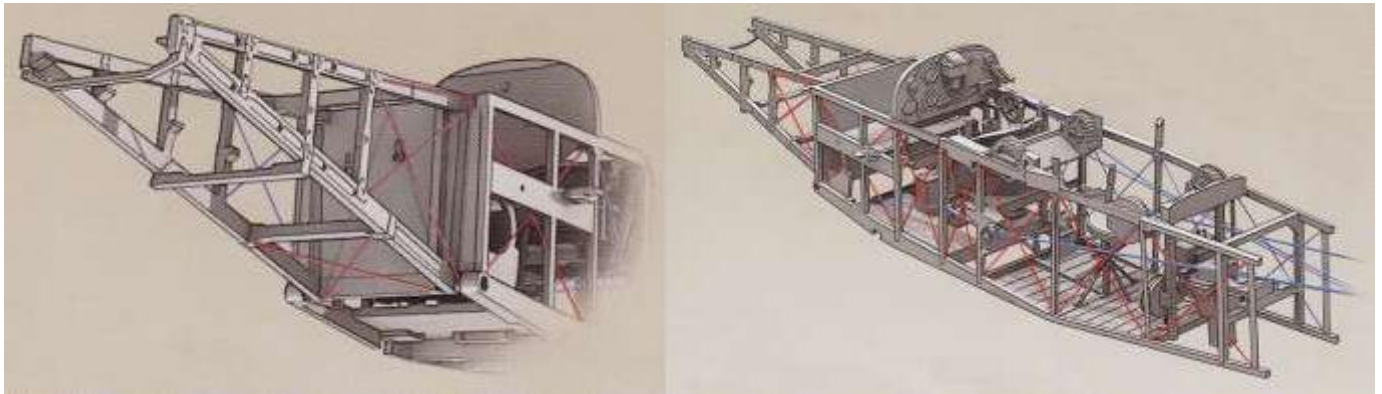


Cockpit bracing wires:

Side frame bracing wires:

Diagonally crossed bracing wires were fitted between the engine bearer and cockpit side frames.

Floor bracing wires:



Diagonally crossed bracing wires were fitted under the cockpit floors and across the fuselage between the cockpit side frames. However, these either cannot be fitted or will not be seen on the completed model and so were not added.

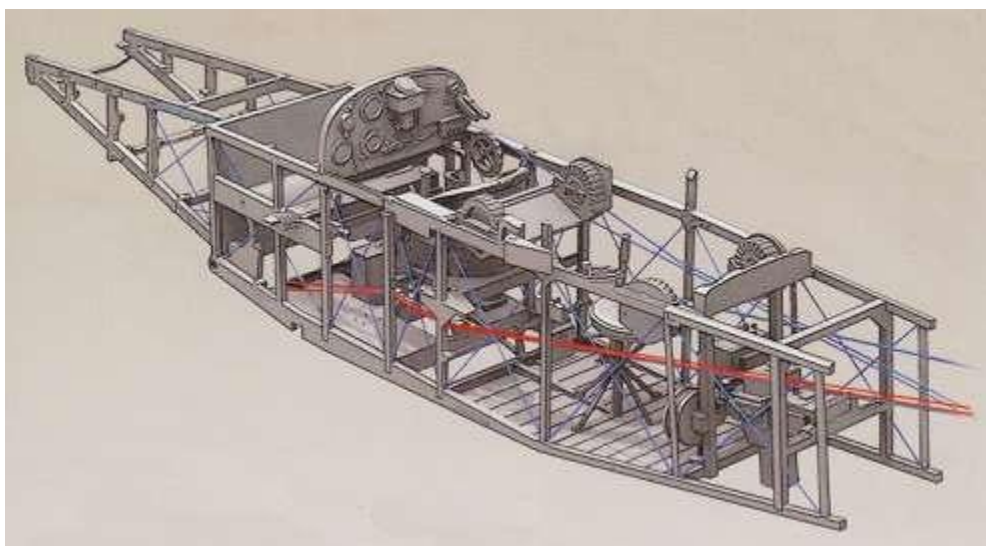
Control cables:

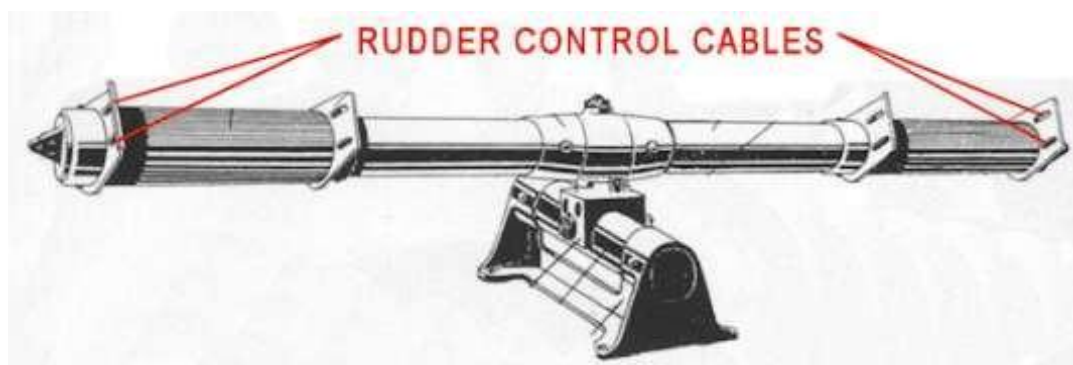
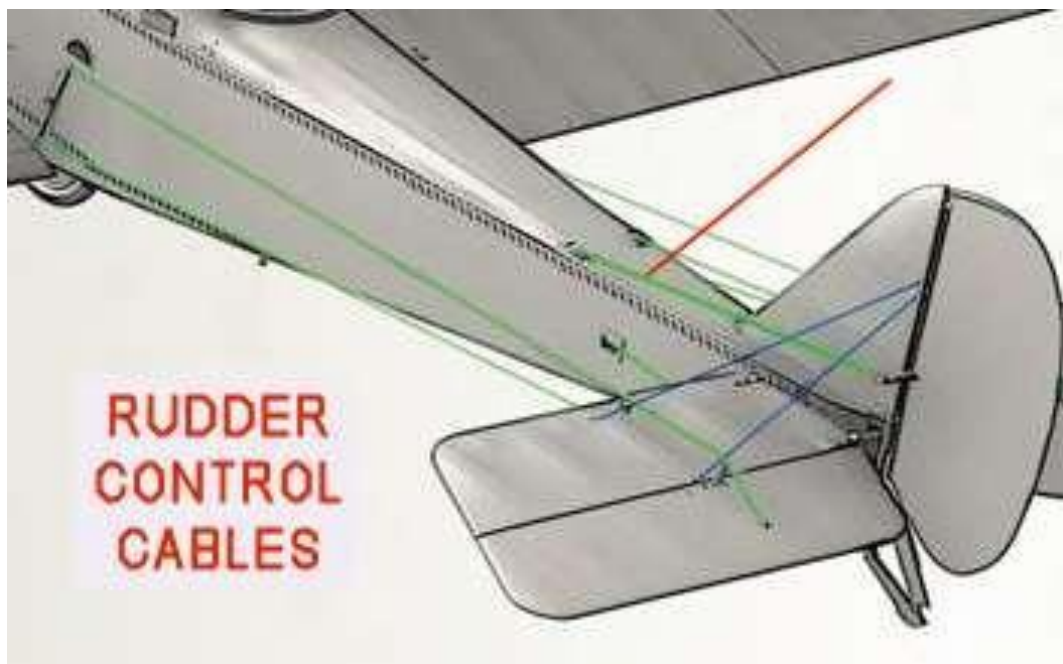
Rudder control cables:

A pair of rudder control cables were attached to both outer ends of the pilots rudder bar and were routed out and rearwards through the observers cockpit sides and to the rear of the fuselage. The cables passed through openings in the top, rear of the fuselage to be attached to the rudder control horns.

Turnbuckles were fitted in the wires at rudder control horns and the pilots rudder bar.

Moving the rudder bar left or right would cause the rudder control cables to pull the rudder left or right, which would turn the aircraft (yaw) in the required direction.



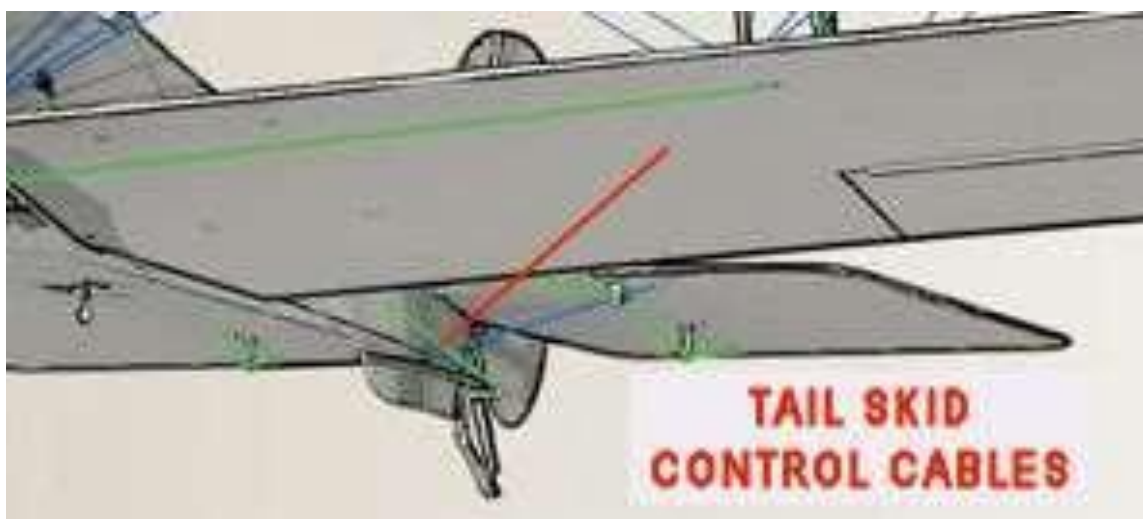


Tail skid control cables:

Tail skid control cables would usually be attached to both sides of the pilots rudder bar and would be routed rearwards through then out of the rear, sides of the fuselage. The cables passed through openings in the sides of the fuselage to be attached to the tail skid control horns.

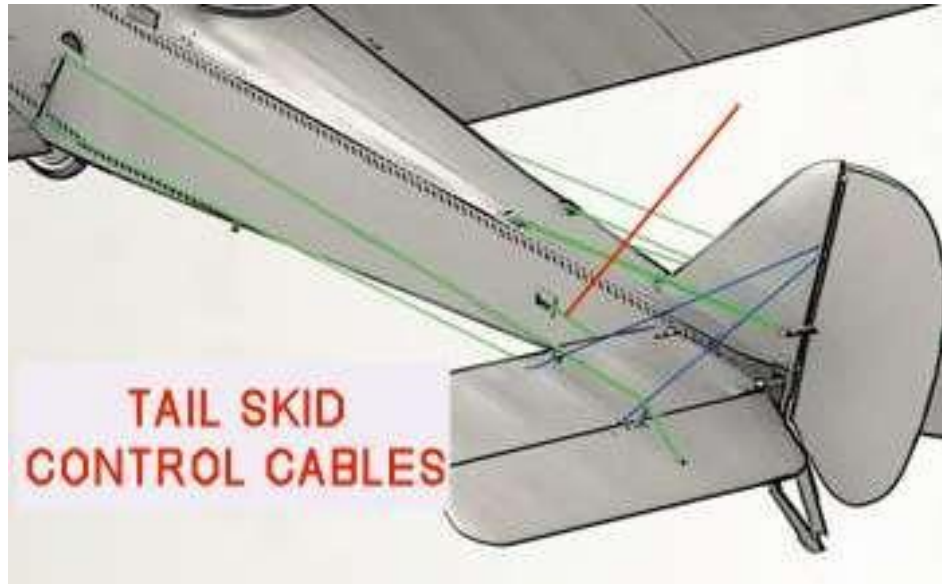
Turnbuckles were fitted in the wires at tail skid control horns.

Moving the rudder bar left or right would cause the control cables to pull the tail skid left or right, which would turn the aircraft in the required direction when on the ground.



During my research on the RE.8, I could not find any written or photographic information as to how the tail skid control cables were configured. There were no photographs that showed the tail skid control cables from the pilots rudder bar or from within the pilots or observer cockpits.

Therefore, I chose not to represent the tail skid control cables within the fuselage or cockpits and just show the cables externally, between the fuselage sides and the tail skid control horns.



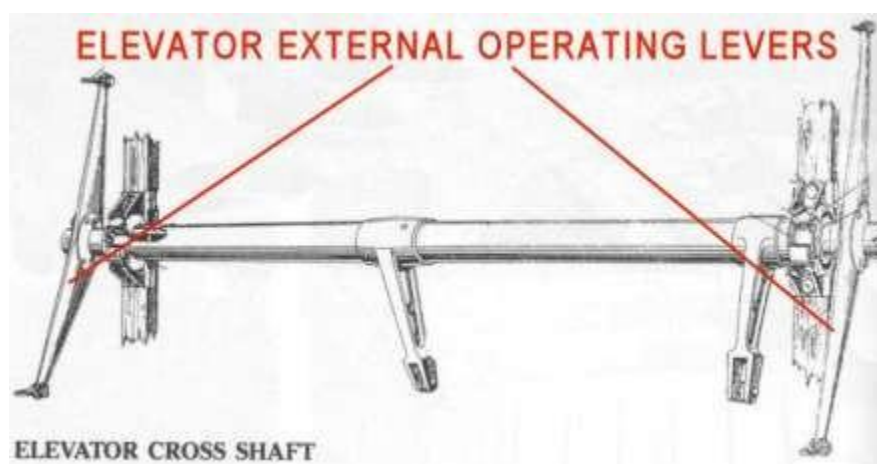
Elevator control cables:

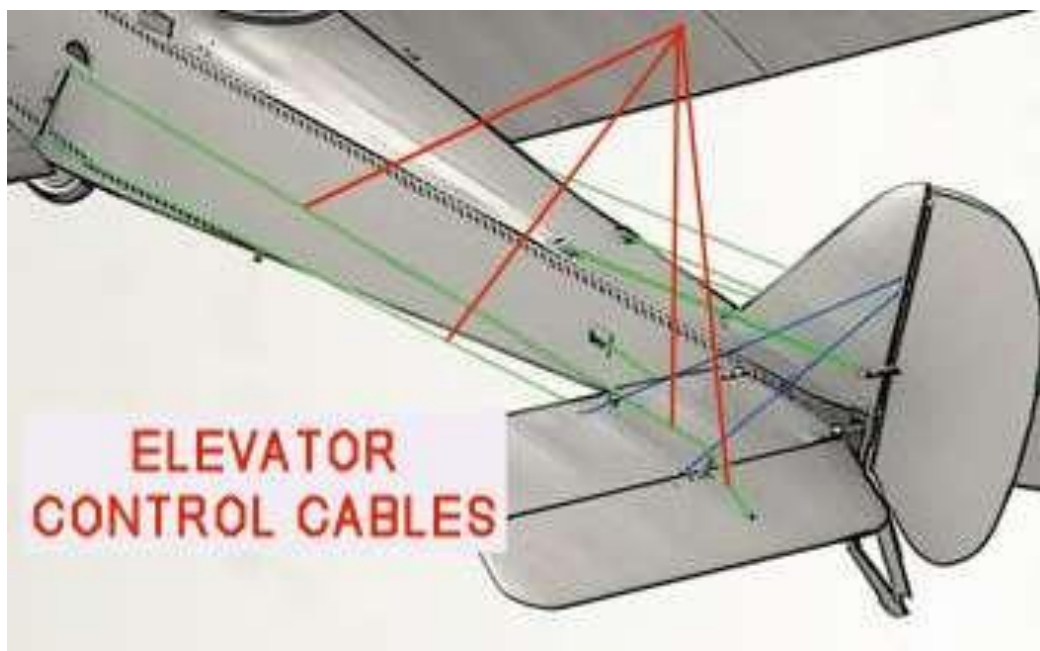
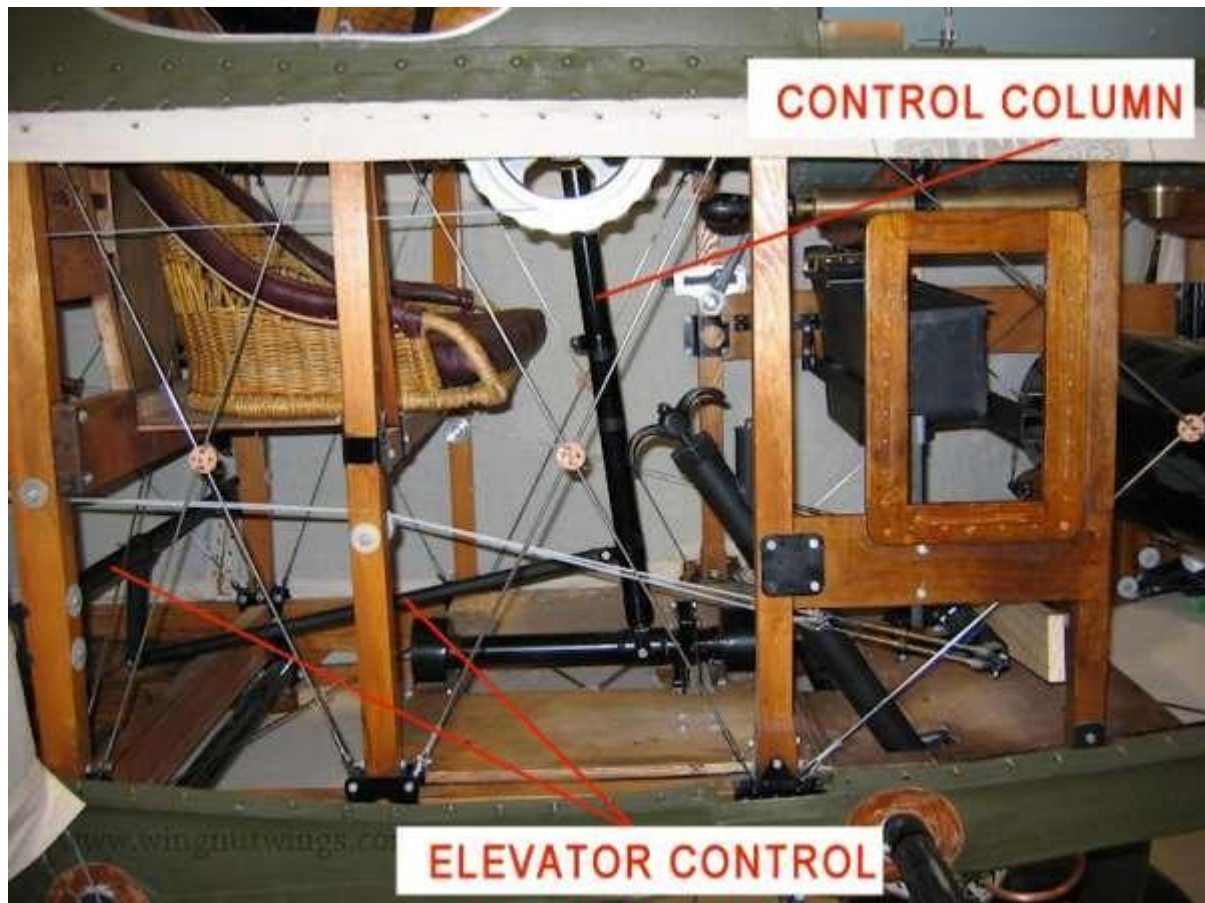
NOTE: *As well as the pilots cockpit, the observers cockpit was also fitted with a basic control column for control of the elevator in an emergency.*

Pilots elevator control:

The rear of the pilots control column was fitted with a control tube or cable, which was routed rearwards and was attached to a lever fixed at the centre of the elevator cross tube. The outer ends of the cross tube were external to the fuselage sides and were fitted with the elevator operating levers. Elevator upper and lower control cables were attached to the ends of the operating levers and were routed externally to the tailplanes. The cables passed through fairleads or pulleys to be attached to the top and underside elevator control horns. A separate cable was attached to the rear edges of the elevator control horns and was routed through the elevators.

Turnbuckles were fitted in the cables at the elevator operating levers and elevator control horns.





Observers elevator control:

A basic control column was stowed in the observers cockpit for use in an emergency. The control column was connected to an operating lever fitted on the elevator cross tube.

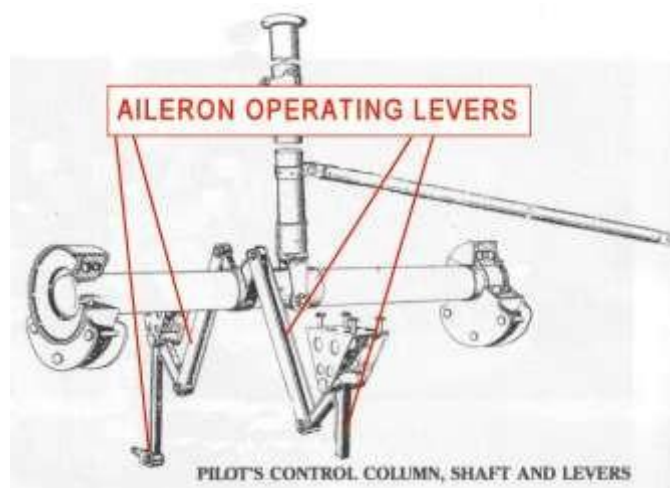
When used, the control column, like the pilots control column, would when moved forwards or rearwards, cause the elevator cross tube to rotate and move the external levers forwards or backwards. This caused the control cables to either lift or lower the elevator, causing the aircraft to climb or dive (pitch).

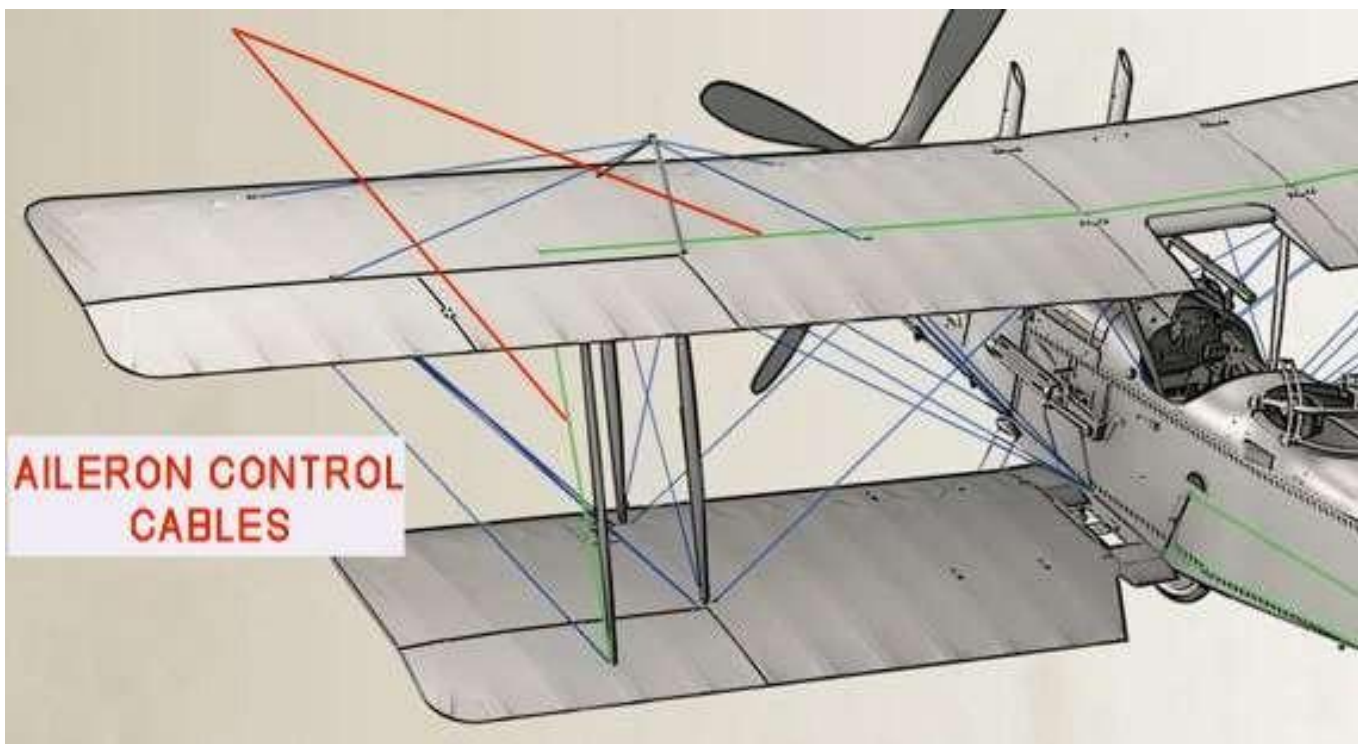
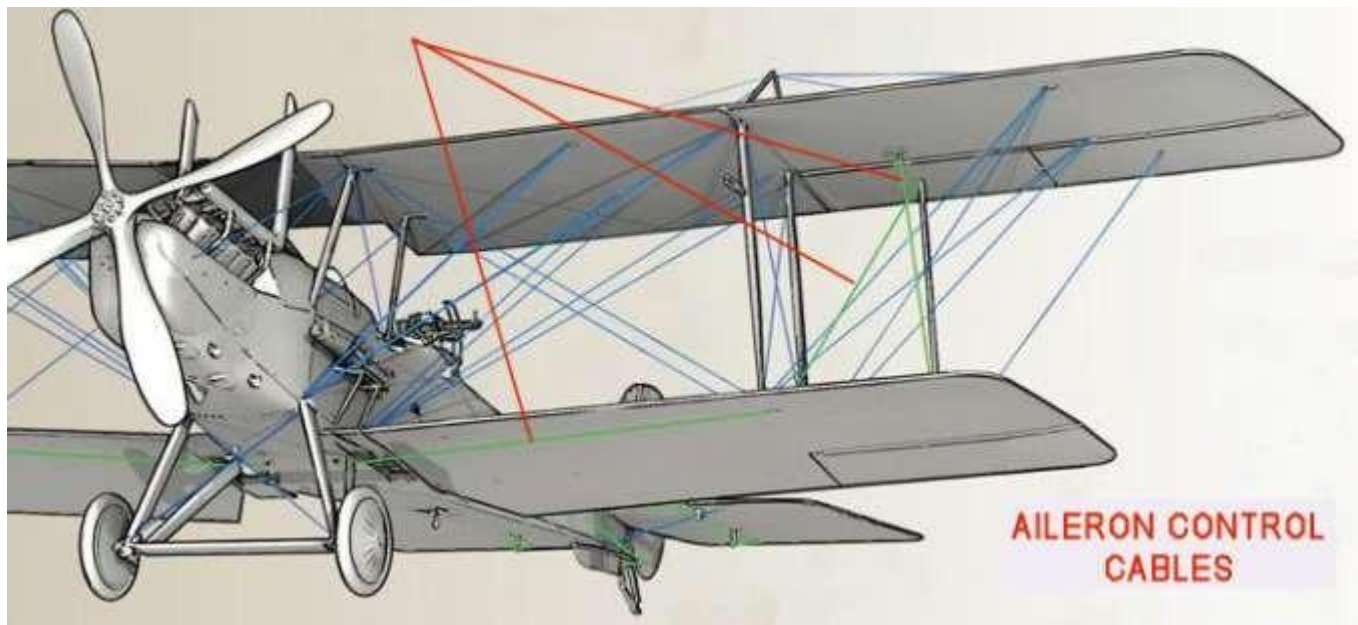


Aileron control cables:

The pilots control column was attached to a torque tube, which was held front and rear in bearings under the cockpit floor. On the torque tube, in front of the control column, were two lever assemblies, which were attached to aileron control cables under the fuselage. These cables were routed outboard, below the lower wings and through the wings near the forward interplane struts then up and rearwards to the underside of the upper ailerons at the top of the aileron interconnecting struts. A second cable was routed between the top of the lower ailerons at the bottom of the aileron interconnecting struts, up and through the trailing edge of the upper wing then across the top of the upper wing through fairleads to be joined at the centre section by a turnbuckle. A turnbuckle was also fitted into the cables at the control levers under the fuselage centre section.

As the pilot moved the control column left or right, the control levers on the control column torque tube would pull on the wires, causing the ailerons on one side of the aircraft to lift and the ailerons on the opposite side of the aircraft to lower by the same amount. This caused the aircraft to roll (bank) in the required direction.





Tailplane variable incidence:

NOTE: The pilot had a hand wheel fitted to the right side of the cockpit. This hand wheel controlled cables that altered the angle of incidence of the tailplane, which served to relieve continuous control pressures from the pilot, allowing the stable RE.8 to fly 'hands-off' during routine reconnaissance and artillery observation missions.

A control cable was looped around the pilots hand wheel and routed rearwards through the right side of the observers cockpit and through the rear of the fuselage. The cables were attached to the variable incidence mechanism within the rear of the fuselage.

During long flights, the pilot could adjust the angle of the tailplane (trim) to allow the aircraft to fly level, thereby negating the need for the pilot to keep adjusting the trim using his control column.



PART 9
PREPARATION
AND
MODIFICATIONS

PART 9 - PREPARATION AND MODIFICATIONS

References:

'Windsock' Data File 24 - RAF RE.8 (J.M.Bruce).

'Air Board Technical Notes' - Published 1917.

'Wingnut Wings' - Instruction Manual (IM).

'Their Flying Machines' - <https://flyingmachines.ru/Site2/Crafts/Craft25546.htm>

'Belgian Wings' - <https://www.belgian-wings.be/aircraft-1909-1918>

'The Vintage Aviator' -

<https://www.thevintageaviator.co.nz/>

<https://jamesfahey.smugmug.com/RAF-RE8-A3930>

<https://jamesfahey.smugmug.com/RAF-RE8-A4267>

General:

NOTE: *The parts call-out page shows the kit gates with the various parts shown. Some may be 'blued out', which denotes those particular parts are not required but are included on the gates as they would be for other models of this kit. Also, other parts may not be required during the particular aircraft build and those parts are denoted in the instructions by the letter (Scheme A, B, C) of the build in the kit.*

Some modellers work the various pieces whilst they are still attached to the main sprue, but I prefer to remove the pieces first so that I can clean them up more easily. However, pieces like the cockpit frames are delicate and can easily be damaged when being removed. When parts are cut from the sprues, care should be taken as they can either break or get stressed at the cut point, which causes 'white' stress and/or deforming. For plastic kits, I use fine sprue cutters to cut away the kit part, not too close to the part, then sand off the tag. When I cut resin parts away from their mold blocks, I use a fine cutting saw, which has a gentler cutting action.

Despite being a WNW kit there are still some fine molding lines around items such as the cockpit frames, but they are only slight and are easily removed using a sharp blade or sanding stick. I use a new scalpel blade to gently scrape off the mold lines. Some of the model items like the parts for the cockpit are small and can easily 'fly off' when being handled, so take care. Remember to drill any holes needed for rigging or control wires by referring to the relevant pages and diagrams in the kit instruction manual.

Once the items have been removed from the sprue and prepared, You can gently wash them in warm, soapy water, to remove any handling 'grease' or mold release agent remaining on the items, although this is less of a necessity these days. I use an old toothbrush to do this. Once dry they can be primed ready for painting. Primer can be applied by brush, airbrush or from aerosol cans. These days I prefer to use 'AK Interactive' Primer and Micro-filler (Grey AK758) or (White AK759). These have good coverage as the base primer for acrylic or lacquer paints. Take care when spraying the primer as if you apply too much it will result in 'pooling' or 'runs', which would then need to be removed once the primer has dried. Make sure you spray in a well-ventilated area or preferably, if you have one, use an extractor booth. To hold items for priming I use self-locking tweezers or carefully insert a toothpick into the item or I use a small piece of sticky putty, such as 'UHU White Tack', on the end of a toothpick. Once applied the primer dries quickly, one of the main advantages of using acrylic paints rather than enamels or oil paints.

Preparation:

NOTE: *During this build I refer to the 'IM', which is the 'Wingnut Wings' instruction manual. Refer to the relevant pages of the IM for the parts required. The parts required for this particular model are those required for **scheme A on page 23 of the IM.***

General:

Refer to page 2 of the IM and discard the highlighted parts on the mold gates that are not required.

Remove the following parts from their mold gates:

Fuselage halves F1 and F3.

Lower wing G1.

Tailplane G9.
Elevators D6.
Fin G2.
Rudder G5.
Lower wing ailerons G10 and G11.
Upper wing outer sections F2 and F4.
Upper wing ailerons G2 and G4.

Scrape or sand away any mold tags, flash or seam lines from the edges of the parts.

Fuselage:

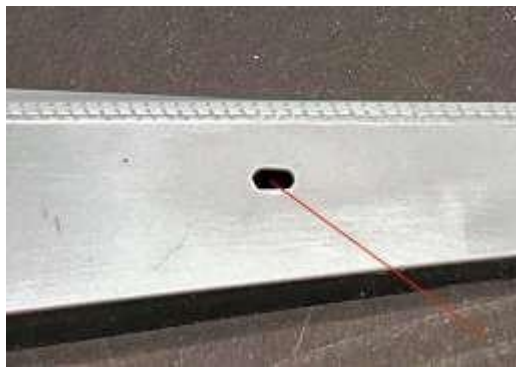
NOTE: *Refer to page 10 of the IM.*

Tail skid cable openings:

As a guide, use the scheme **AC** pre-molded recess on the inside of the fuselage halves F1 and F3 and drill holes of 1.6 mm diameter through the fuselage sides.

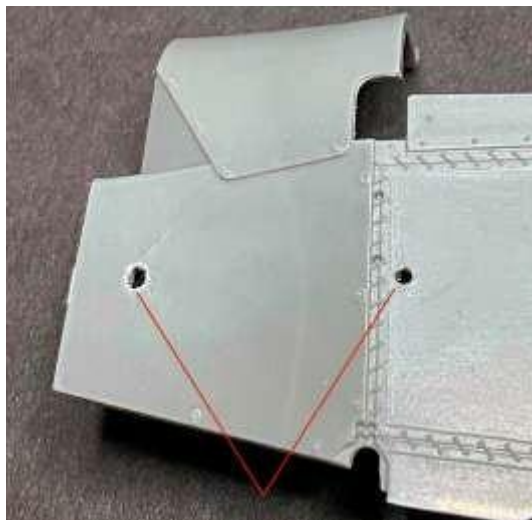
Use the drill or a round needle file to complete the oval openings.

If necessary, use liquid cement lightly around the edges to smooth any rough surface.



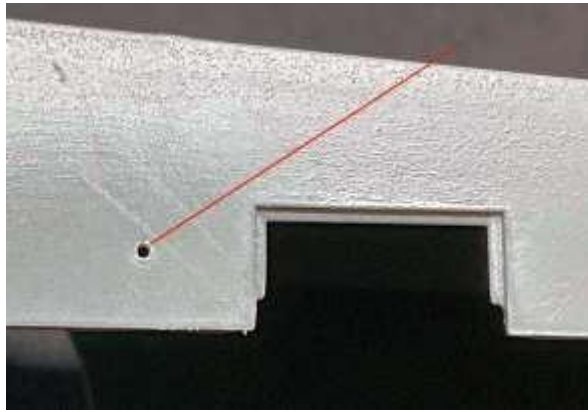
Vickers challenger interrupter gear:

As a guide, use the scheme **ABD** pre-molded recess on the inside of the fuselage left half F3 and drill holes of 1.0 mm diameter through the fuselage sides.



Wireless wire opening:

As a guide, use the pre-molded recess on the inside of the fuselage left half F3 and drill a hole of 0.5 mm diameter through the underside of the fuselage half.



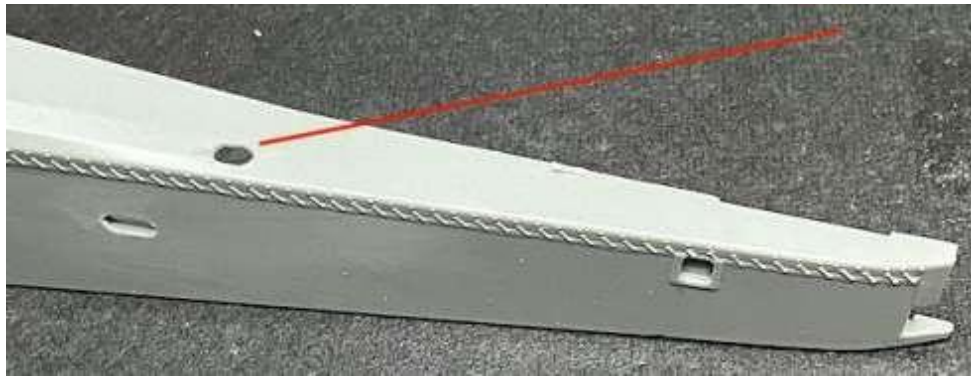
Rudder cable openings:

NOTE: Refer to page 13 of the IM.

As a guide, use the pre-molded recesses on the top, rear of the fuselage halves F1 and F3 and drill holes of 1.3 mm diameter through the fuselage.

Use the drill or a round needle file to complete the oval openings.

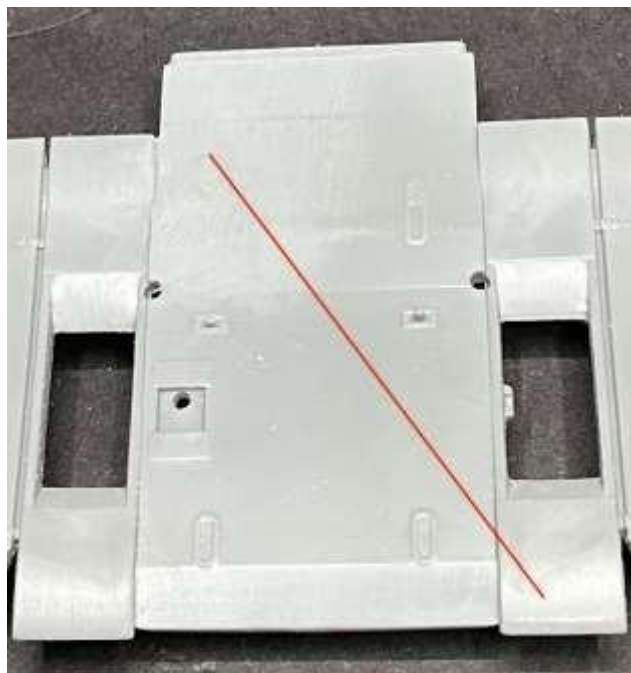
If necessary, use liquid cement lightly around the edges to smooth any rough surface.



Lower wing:

NOTE: Refer to page 11 of the IM.

Rile or sand away the 'Constantinesco' pump detail from the underside of the lower wing G1 centre section.



Lower wing ailerons:

NOTE: Refer to page 14 of the IM.

Point mark the centre of the three hinges on both lower wing ailerons G10 and G11.

Use the point marks as guide and drill holes of 0.6 mm diameter centrally into the leading edge of the ailerons.

Cut away the hinges on the leading edge of both lower wing ailerons, as these may interfere with the fit after the support rods are added.

Point mark the centre of the three hinges on the lower wing G1 aileron locations.

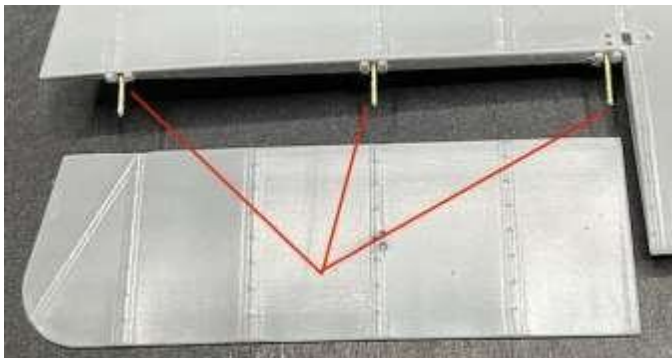
Use the point marks as guide and drill holes of 0.6 mm diameter centrally into the trailing edge of the lower wing.

Cut six lengths of 0.5 mm diameter Brass rod, such as that from 'Albion Alloy's' or similar.

Using thin CA adhesive, secure a rod into each of the pre-drilled holes in the lower wing.

Test fit the ailerons to their support rods and if desired, bend one aileron slightly up and the other down at the same angle.

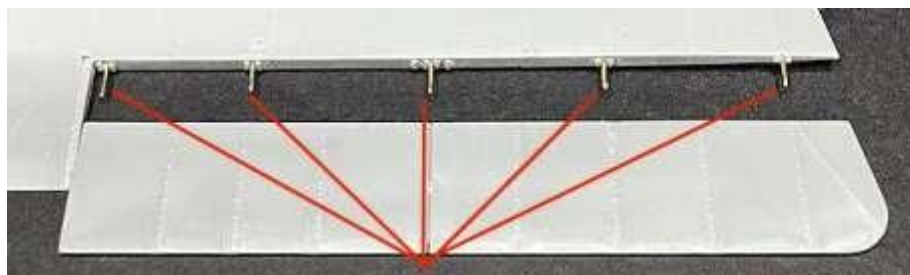
Remove the ailerons from the lower wing.



Upper wing ailerons:

NOTE: Refer to page 15 of the IM. Both of the upper wing ailerons have five hinges, not three as on the lower wing ailerons. The aileron angles should match the lower wing ailerons.

Repeat the previous procedure to add five support rods for the ailerons G2 and G4 to the upper wing outer sections F2 and F4.



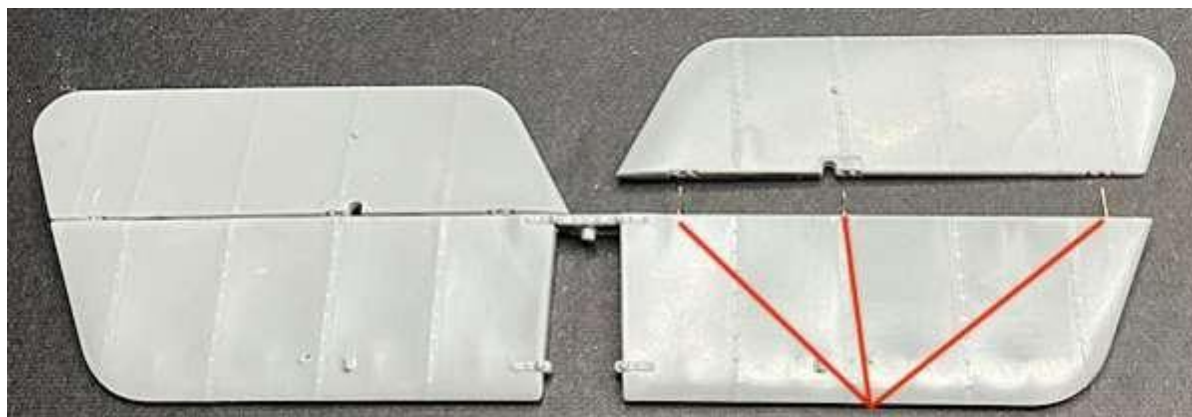
Elevators:

NOTE: Refer to page 13 of the IM.

Repeat the previous procedure, but using 0.3 mm drill and rod, to add three support rods into the trailing edge of the tailplane G9 for the two elevators D6.

Test fit the elevators to their support rods and if desired, bend both slightly down at the same angle.

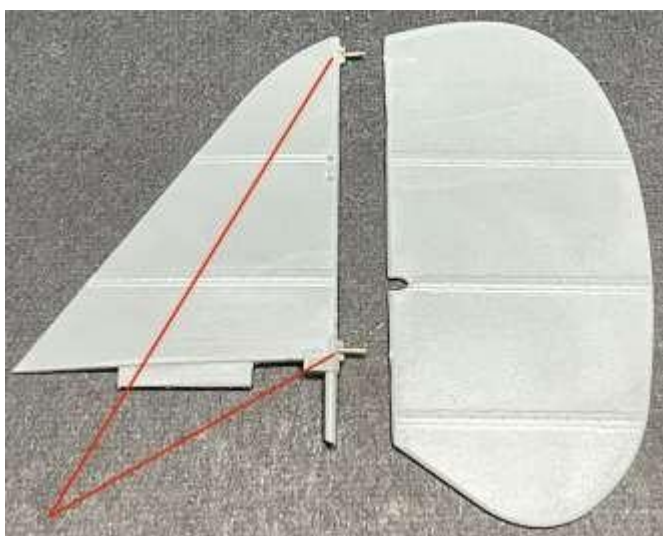
Remove the elevators from the tailplane.



Rudder:

NOTE: Refer to page 13 of the IM.

Repeat the previous procedure, using 0.3 mm drill and rod, to add two support rods into the trailing edge of the fin G2 for the rudder G5.



'Claude-Hobson' carburettor:

NOTE: Refer to page 19 of the IM.

Point mark the centers of the air intake pipes (D23) for the 'Claude-Hobson' carburettor.

Drill a hole of 0.6 mm diameter centrally into the ends of the pipes.

NOTE: The suggested drill size of 1.0 mm diameter to drill out the pipes may break through the sides of the pipes.

Carefully open out the holes using a 0.9 mm diameter drill.

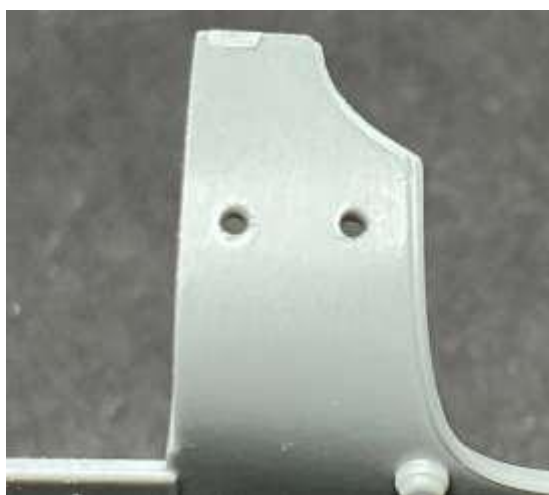


Aldis' gun sight:

NOTE: Refer to page 10 for scheme **D** of the IM. The aircraft of this unit had an 'Aldis' type gun sight fitted to the left side of the decking panel, forward from the pilots cockpit. This was used for the pilots Vickers machine gun.



As a guide, use the pre-molded recess on the inside of the fuselage left half F3 and drill holes of 1.0 mm diameter through the fuselage half.



The kit supplied 'Aldis' gun sight (A48) is longer than the sight seen on the photograph of this aircraft. Therefore, the rear and front of the tube were cut and then drilled to produce divots, which after painting, will be filled with UV clear resin to represent the lenses.



Pilots seat:

NOTE: The pilots wicker seat supplied in the kit is supplied as the seat A26, seat base A35 and two wicker supports D5. The seat is molded with a solid wicker seat back, without the separated strip. Therefore, I chose to replace the seat with a more accurate seat from 'Barracuda Studios' wicker seat set (BCR32234), which requires the following:

Disregard the kit seat A26 and wicker supports D5.

Modification of the seat base A35 to accept the replacement seat.

File or sand away the molded seat cushion and surround from the top of the pilots seat support such that the replacement resin seat can be positioned centrally on the seat support.



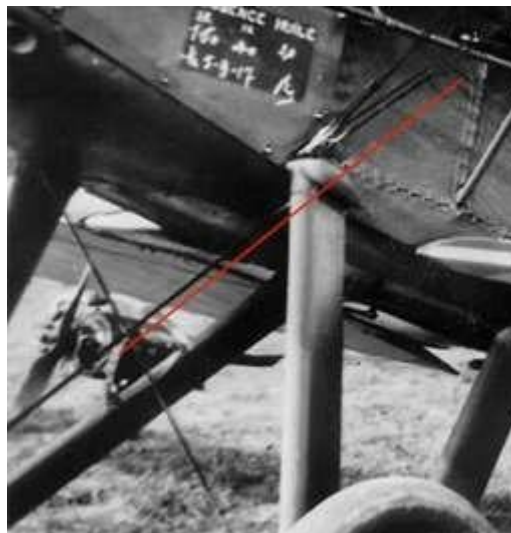
The modified seat will be assembled and painted later in this build and will include the seat lap straps.



Test seat only

Wind driven generator:

NOTE: Photographs of aircraft of this unit show what appears to be a wind driven generator, presumably to power the radio transmitter and other equipment. The generator was fitted to the landing gear left, rear strut. The propeller used is kit part R26.



The body of the generator was made from scrap sprue cemented together and shaped.

A hole of 1.0 mm diameter was drilled in one end and a short length of 1.0 mm diameter Brass tube was secured in the hole, using thin CA adhesive.

The kit supplied propeller R26 was secured to the tube using thin CA adhesive.

A hole of 0.5 mm diameter was drilled into the side of the generator body and a short length of 0.5 mm diameter Brass locating rod was secured in the hole using thin CA adhesive.

A hole of 0.5 mm diameter was drilled through the landing gear rear, left strut to insert the generator locating rod, making sure the generator and propeller cleared the wheel, when fitted.



PART 10

ENGINE

PART 10 - ENGINE

References:

'Windsock' Data File 24 - RAF RE.8 (J.M.Bruce).

'Air Board Technical Notes' - Published 1917.

'Wingnut Wings' - Instruction Manual (IM).

'Their Flying Machines' - <https://flyingmachines.ru/Site2/Crafts/Craft25546.htm>

'Belgian Wings' - <https://www.belgian-wings.be/aircraft-1909-1918>

'The Vintage Aviator' -

<https://www.thevintageaviator.co.nz/>

<https://jamesfahey.smugmug.com/RAF-RE8-A3930>

<https://jamesfahey.smugmug.com/RAF-RE8-A4267>

NOTE: *During this build I refer to the 'IM', which is the 'Wingnut Wings' instruction manual. The engine exhaust parts A8, A9, A14 and A16 will not be used and replaced by 'ReXx RE.8 exhaust pipes (ReXx-32007).*

Preparation:

NOTE: *Refer to page 8 of the IM.*

Remove the required parts from their mold gates.

Scrape or sand away any mold flash or seam lines from the edges of the parts.

File or scrape the cylinder cover plates A43 and A44 to reduce their thickness to a more realistic scale.

Assembly:

NOTE: *Make sure all primer and paint is removed from mating surfaces before assembly of parts.*

Cement together the two crankcase halves E9 and E10.

Cement the sump E3 onto the crankcase assembly.

NOTE: *The following is only necessary if the propeller is to be fixed in position and not rotate.*

Cement the propeller shaft E5 into the reduction gear housing E1.

Cement the housing E4 onto the rear of the crankcase.

Cement the oil filler E11 into its location on the reduction gear housing.

Cement together the left cylinder halves E6 and D18 (x 6).

Cement together the right cylinder halves E7 and D17 (x 6).

Painting:

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

Airbrush the engine block assembly with 'Alclad' Duraluminium (ALC-102) or similar.

Airbrush the cylinder cover plates and exhaust drop pipes D11 with 'Alclad' Steel (ALC-112) or similar.

Brush paint the following with 'Mr. Metal Color' Copper (215) or similar:

Four side drop pipes.

Eight crankcase bearer bolt heads.

Rear, upper circular housing and pipe.

Rear stub pipe.

Brush paint the circular faces of the two magnetos with 'Tamiya' Hull Red (XF9) or similar.

Brush paint the oval faces on the bottom of the two magnetos with 'Tamiya' Rubber Black (XF85) or similar.

Brush paint the upper section of the exhaust drop pipes D11 with 'Tamiya' Deck Tan (XF55) or similar.

Assembly (continued):

NOTE: *Make sure all primer and paint is removed from mating surfaces before assembly of parts.*

Cement the central manifold E2 into its locating holes in the top of the crankcase.

Cement the six right cylinders into their locating recess in the crank case and onto the tops of the central manifold pipes.

Cement the six left cylinders into their locating recess in the crankcase and onto the tops of the central manifold pipes.

Cement the cylinder cover plates A44 to the bases of the **five right rear** cylinders.

Cement the cylinder cover plates A43 to the bases of the **five left rear** cylinders.

Painting (continued):

Brush paint the half plates on the tops of the cylinders with 'Mr. Metal Color' Copper (215) or similar

Brush paint the tie rings around the ignition lead rail E12 with 'Mr. Metal Color' Copper (215) or similar

Brush paint the bases of the spark plugs and the reduction gear filler cap with 'Mr. Metal Color' Brass (219) or similar.

Brush paint the spark plug insulators with 'Tamiya' Buff (XF57) or similar.

Assembly (continued):

Locate the ignition lead rail onto the two magnetos and cement it into its two locating holes in the top of the central manifold.



Modifications:

Ignition leads:

NOTE: *The ignition leads from the two magnetos were routed up and along the space between the two banks of engine cylinders. Ignition leads were routed out from the combined group of leads and attached to their relative spark plug.*

Cut two long lengths of 0.2 mm diameter lead wire, such as that from 'PlusModel' or similar.

Using thin CA adhesive, secure one wire along the ends of the spark plugs on one cylinder bank of the engine.

Using thin CA adhesive, secure the remaining wire along the ends of the spark plugs on the opposite cylinder bank of the engine.

Once the adhesive has set, carefully cut the wires at the engine front side of each spark plug. I use a shielded razor blade.

Carefully loop the free end of each wire down to its relevant retaining ring on the harness.

If necessary, brush 'Tamiya' Buff (XF57) or similar to reinstate the colour.

NOTE: The two REXx replacement exhaust pipes, two drop pipes D11 and two carburetors D23/D24 will be fitted later in this build.



Weathering:

NOTE: Refer to Part 5 (Weathering) of this build log for more information.

Brush 'Flory Models' Dark Dirt fine clay wash over the engine sump.

Once dry, remove the excess with a moistened piece of absorbent brush or cotton bud (Q-tip) to achieve the desired effect.

Brush lightly 'AK Interactive' Kerosene wash around the slotted cylinder heads.

PART 11

PROPELLER

PART 11 - PROPELLER

NOTE: *Although the kit supplied propeller is of good quality, I chose to replace the propeller for this particular aircraft with a 'Proper Plane' wood laminated RE.8 propeller (WP-038) propeller.*



Preparation:

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

Carefully cut off the two supplied crush plates from their molding block.

Carefully sand the crush plates to the correct thickness.

Painting:

Mask off the propeller blades leaving just the tips exposed.

Airbrush the exposed tips with 'Tamiya' Buff (XF57) or similar.

Remove the masking.

Decals:

NOTE: *Refer to Part 6 (Decals) of this build log for more information. The decals used on this propeller are those of 'F. Tibbenham Ltd' of Ipswich in England and were from my 'spares' collection of decals.*

Apply a decal to each of the four propeller blades, making sure the legs of the logo hornet face left on the blades.

Painting (continued):

To seal and protect the decals, airbrush a light sealing coat of a semi-gloss clear coat, such as 'Tamiya' Semi-Gloss (X35) or similar over the propeller.

Brush paint the two crush plates with 'Mr. Metal Colour' Stainless Steel (213) and once dry, buff to a metallic sheen.

Assembly:

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

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

Lightly brush 'AK Interactive' Kerosene wash (AK2039) over the two crush plates.

Lightly sponge 'Tamiya' Weathering Master Set (Mud) along the rear edge of the four blades.



PART 12

WEAPONS

PART 12 - WEAPONS

Vickers machine gun:

NOTE: During this build I refer to the '**IM**', which is the 'Wingnut Wings' instruction manual. Refer to page 12 of the IM.

Preparation:

Remove the machine gun A55 from its mold gate.

Remove the 'Constantinesco' interrupter gear A15 and supports A33 and A34 from their mold gate.

Remove the photo-etch cocking lever P9 and end plate P2 from the supplied sheet.

File or sand away any residual mold gate or photo-etch tags from the edges of the parts.

Assembly:

NOTE: Before any assembling of parts, make sure all primer and paint is removed from the mating surfaces, holes and recesses.

Using thin CA adhesive, secure the photo-etch end plate P2 onto the front end of the cooling jacket.

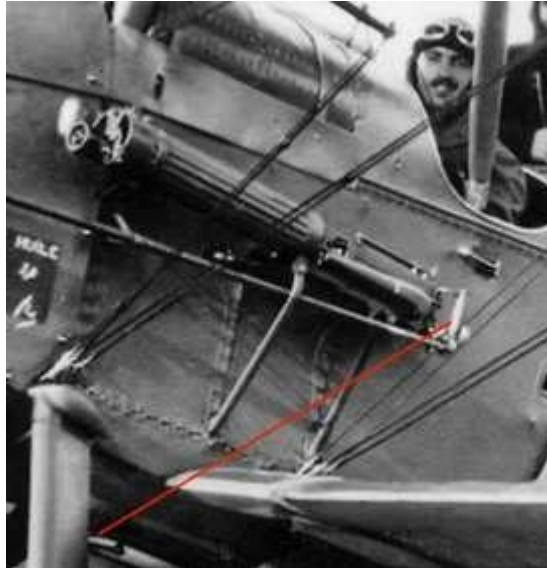
Bend the round handle over on the photo-etch cocking lever P9.

Using thin CA adhesive, secure the cocking lever onto the rear spigot on the right, rear side of the breach block.

Modification:

Handle:

NOTE: Photographs of this aircraft show that the Vickers machine gun still had its hand grip fitted to the rear of the breach block.



To represent the handle, I cut away one handle from a vickers machine gun in my 'spares' collection. This was cemented to the rear, left side of the breach block.

Muzzle:

NOTE: The muzzle of the machine gun is molded solid, whereas the muzzle should have side vent openings and the bore of the barrel.

Using a 0.6 mm diameter drill, carefully drill through the side recesses on the muzzle to create the side vent openings.

Using a drill of 0.5 mm diameter, carefully drill centrally into the front of the muzzle to create the bore of the barrel.



Painting:

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

Brush paint the hand grip and the handle on the gun cocking lever with 'Tamiya' Hull Red (XF9) or similar.

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

Dry brush around the machine gun with 'Mr. Metal Color' Super Iron 2 (203) or similar, to create a worn metallic surface.

Brush both sides of the ammunition ejection port with 'Mr. Metal Color' Brass (219) or similar.

Airbrush the machine gun with a semi-matte clear coat, such as 'Tamiya' Semi-Gloss (X35) or similar.



Lewis machine gun:

NOTE: Refer to page 21 of the IM. The Lewis machine gun fitted to Belgian aircraft was the type shown in the following photograph (kit part R20).



Preparation:

Remove the following parts from their mold gates and photo-etch sheet:

- Lewis machine gun R20.
- Ammunition drum R21.
- Gun mount R25.
- Swivel ring R17.
- Lift beam R11.
- Photo-etch swing arms P4 and P6.

File or sand away any residual mold gate or photo-etch tags from the edges of the parts.

Assembly:

Cement the ammunition drum R21 onto its locating peg on the top of the Lewis gun breach block.

Painting:

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

Brush paint the hand butt grip and rear handle with 'Tamiya' Hull Red (XF9) or similar.

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

Dry brush around the machine gun and ammunition drum with 'Mr. Color' Super Iron 2 (203) or similar to create a worn metallic surface.

Brush paint the hand strap on the ammunition drum with 'AK Interactive' British Uniform (AK3081) or similar.

Airbrush the machine gun with a semi-matte clear coat, such as 'Tamiya' Semi-Gloss (X35) or similar.



'Hale' bomb rack:

NOTE: *Refer to page 17 of the IM. The aircraft could carry a maximum load of 260 lbs. The early 'Hale' bomb weighed 100 lbs and with eight rack mounted 'Cooper' bombs, each weighing 20 lbs, equaled the maximum weight of 260 lbs.*

Preparation:

Remove the following parts from their mold gates and photo-etch sheet:

- Rack support A31 - Bomb support beam A47.
- Side braces D13 (x 2).
- Bomb half R18 - Bomb half R19.

File or sand away any residual mold gate tags from the edges of the parts.

Assembly:

Follow the illustrations on page 17 of the IM to assemble the bomb rack and 100 lb 'Hale' bomb. Sand or scrape along the joint seam of the bomb to blend the two halves of the bomb together.

Painting:

Bomb rack:

Airbrush the bomb rack with a grey primer, such as 'AK Interactive' Grey (AK758) or similar.

Airbrush the bomb rack with 'Tamiya' Rubber Black (XF85) or similar.

Brush paint the four 'feet' of the bomb rack with 'Tamiya' NATO Brown (XF68) or similar.

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

Dry brush around the bomb rack with 'Mr. Color' Super Iron 2 (203) or similar, to create a worn metallic surface.

'Hale' bomb:

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

Airbrush the body of the bomb with 'Tamiya' Yellow Green (XF4) with approximately 10% of Desert Yellow (XF59).

Airbrush the bomb with a gloss clear coat, such as 'Tamiya' Clear Gloss (X22) or similar.

Decals:

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

Apply kit supplied decal 45 around the nose of the bomb.

Apply kit supplied decal 46 around the tail of the bomb.

Assembly (continued):

NOTE: *Before any assembling of parts, make sure all primer and paints are removed from their mating surfaces, holes and recesses.*

Cement the 'Hale' bomb between its front and rear supports on the centre beam of the bomb rack.

Painting (continued):

Airbrush the assembly with a semi-matte clear coat, such as 'Tamiya' Semi-Gloss (X35) or similar.

Weathering:

Lightly sponge 'Tamiya' Weather Master Set B (Soot) along the body of the of each bomb.

Dry brush the nose of the bomb with 'Mr. Color' Super Iron 2 (203) or similar, to create a worn metallic surface.



'Cooper' bomb racks:

NOTE: Refer to page 17 of the IM. The aircraft could carry a maximum load of 260 lbs. The early 'Hale' bomb weighed 100 lbs and with eight rack mounted 'Cooper' bombs, each weighing 20 lbs, equaled the maximum weight of 260 lbs.

Preparation:

Remove the following parts from their mold gates:

- Rack support beams R10 (x 2).
- Bomb rack R6.
- Eight bomb halves R8.
- Eight bomb halves R9.

File or sand away any residual mold gate tags from the edges of the parts.

Assembly:

Follow the illustrations on page 17 of the IM to assemble the two bomb racks and the eight 'Cooper' bombs.

Sand or scrape along the joint seams of the bombs to blend the two halves of the bombs together.

Painting:

Bomb racks:

Airbrush the bomb racks with a grey primer, such as 'AK Interactive' Grey (AK758) or similar.

Airbrush the bomb racks with 'Tamiya' Rubber Black (XF85) or similar.

Brush paint the four 'feet' of the bomb racks with 'Tamiya' NATO Brown (XF68) or similar.

'Cooper' bombs:

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

Airbrush the body of the bombs with 'Tamiya' Yellow Green (XF4) with approximately 10% of Desert Yellow (XF59).

Brush paint the nose caps of the eight bombs with 'Tamiya' Rubber Black (XF85) or similar

Airbrush the bombs with a gloss clear coat, such as 'Tamiya' Clear Gloss (X22) or similar.

Decals:

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

Apply kit supplied decals 42 (red) around the nose of the bomb.

Apply kit supplied decal 441 (green) around the nose of the bomb and behind the applied red decals.

Assembly (continued):

NOTE: Before any assembling of parts, make sure all primer and paints are removed from their mating surfaces, holes and recesses.

Cement each 'Cooper' bomb into its locating hole in the bomb rack with the upper fins against the rear of the bomb rack.

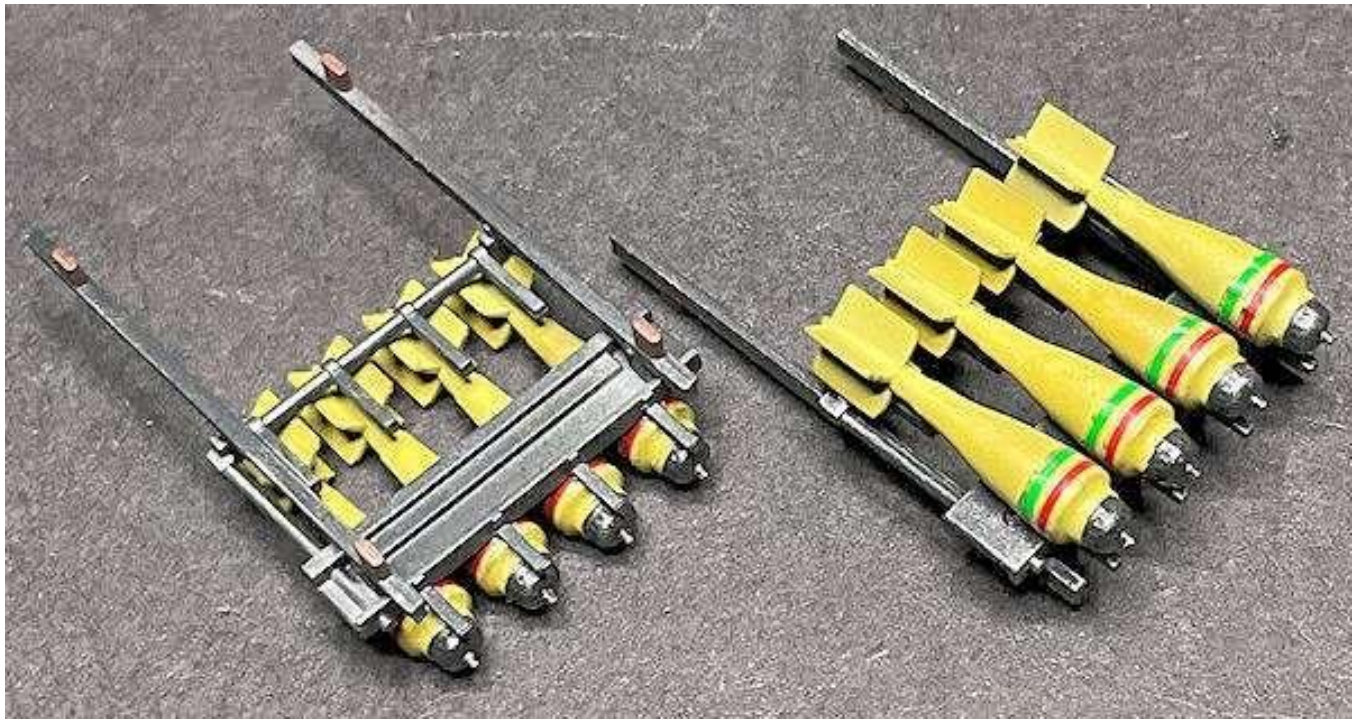
Painting (continued):

Airbrush the assembly with a semi-matte clear coat, such as 'Tamiya' Semi-Gloss (X35) or similar.

Weathering:

Lightly sponge 'Tamiya' Weather Master Set B (Soot) along the body of the of each bomb.

Dry brush the nose of the bombs with 'Mr. Color' Super Iron 2 (203) or similar, to create a worn metallic surface.



PART 13
FUSELAGE
CONSTRUCTION

PART 13 - FUSELAGE CONSTRUCTION

References:

'Windsock' Data File 24 - RAF RE.8 (J.M.Bruce).

'Air Board Technical Notes' - Published 1917.

'Wingnut Wings' - Instruction Manual (IM).

'Their Flying Machines' - <https://flyingmachines.ru/Site2/Crafts/Craft25546.htm>

'Belgian Wings' - <https://www.belgian-wings.be/aircraft-1909-1918>

'The Vintage Aviator' -

<https://www.thevintageaviator.co.nz/>

<https://jamesfahey.smugmug.com/RAF-RE8-A3930>

<https://jamesfahey.smugmug.com/RAF-RE8-A4267>

Preparation:

NOTE: *During this build I refer to the 'IM', which is the 'Wingnut Wings' instruction manual. Refer to the relevant pages of the IM for the parts required. The parts needed for this particular model are those required for **scheme A on page 23 of the IM**. Make sure all primer and paint is removed from mating surfaces before assembly of parts.*

Cockpit assembly:

NOTE: *Refer to pages 3 to 7, 9 and 11 of the IM for the cockpit parts required.*

Remove the required parts from their mold gates.

Scrape or sand away any mold flash or seam lines from the edges of the parts.

Cement the engine bearer assembly together using parts A28, B11, B12 and B24 to B27.

Cement the trim wheel A19 and the ammunition drum A64 onto their locations on the cockpit right side frame A13.

Cement the container A22, the ammunition drum A63 and the morse key D22 onto their locations on the cockpit left side frame A46.

Cement the halves of the Vickers gun magazine A1 and A3 together.

Cement the two halves of the flare chute A5 and A6 together.

Cement the container A12 in position on the pilots cockpit floor A29.

Cement the throttle control D21, very pistol holster A18 and morse key D22 onto their locations on the instrument panel frame.

Cement the pilots cockpit floor assembly into the bottom cross member of the pilots instrument panel frame.

Cement the aileron levers A67 into its locating slot on the front of the control column A11 torque tube.

Cement the support shelf A57 into its locating slot in the top cross member of the cockpit frame A38.

Cement the throttle control D21 in position on the right side of the cockpit frame A38.

Cement the battery A60 into its location on the observers cockpit floor A53.

Cement the wireless set A52 into its location on the observers cockpit floor A53.

Cement the two halves of the fuel tank A32 and A45 together.

Cement the two halves of the camera A56 and A59 together.

Cement the clip board A66 into a 1.0 mm drilled hole in the top centre of the pilots instrument panel.

Cement the seat adjuster A20 into its recess in the underside of the observers seat A58.

Cement the leg assembly A68 of the observers seat into its location in the observer cockpit floor A53.

Cement the wireless set A49 onto its location on frame A36.

Cement the wire reel A2 onto its location on frame A36.

Cement the camera levers A4 into its location on the side of the camera.

Cement the camera into its recess in frame A30.

Painting:

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

- All of the previously prepared cockpit parts and assemblies.

- Inside surface of the lower wing centre section.

- Inside surfaces of both fuselage halves.

NOTE: *Refer to page 9 of the IM for the different areas to be painted.*

Airbrush the oil tank and petrol tank with 'Tamiya' Ocean Grey (XF82) or similar.

Airbrush the following with 'MRP' Black (MRP-255) or similar:

- Vickers gun magazine.

- Pilots rudder bar.

- Flare tube.

- Pilot and Observers control columns.

Airbrush the inside surfaces of both fuselage halves with 'MRP' Clear Doped Linen (MRP-256) or similar.

Mask off the inside surfaces of both fuselage halves to leave just the front metal panel and upper wood areas exposed. Also, the square container on right fuselage F1 half.

Airbrush the front metal panel area with 'Alclad' Steel (ALC-112) or similar.

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

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

- Cockpit left and right side frames.

- Engine bearer assembly.

- Pilot cockpit floor assembly.

- Pilots instrument panel frame assembly.

- Pilots cockpit rear frame.

- Observers cockpit forward frame.

- Observers cockpit floor assembly.

- Observers cockpit rear frame.

- Observers cockpit camera frame.

- Right side member A42 between pilots cockpit instrument and rear frames.

- Inside surface of the lower wing centre section.

- Camera box surround A50.

Wood effect:

NOTE: *Refer to Part 4 (Wood Effects) of this build log for more information. The light colour wood effect for the internal fuselage and frames was created using 'Windsor & Newton' Griffin (Alkyd) **Raw Sienna** oil paint. When applying the oil paint, avoid applying too much over instruments and other details as this may obscure any surface details.*

Brush a covering coat of the 'Windsor & Newton' Griffin Alkyd **Raw Sienna** oil paint over the following wood surfaces:

- Previously 'Tamiya' Dark Yellow (XF60) painted parts (wood finish areas only).

- Exposed wood areas on the insides of the fuselage halves.

Leave the oil paint to settle for approximately a minute.

Decant a small amount of White Spirits into a suitable dish.

Dip a soft brush into the White Spirit then wipe the brush on a sheet of kitchen roll, which should not deposit any fibres in the oil paint, to remove most of the White Spirit.

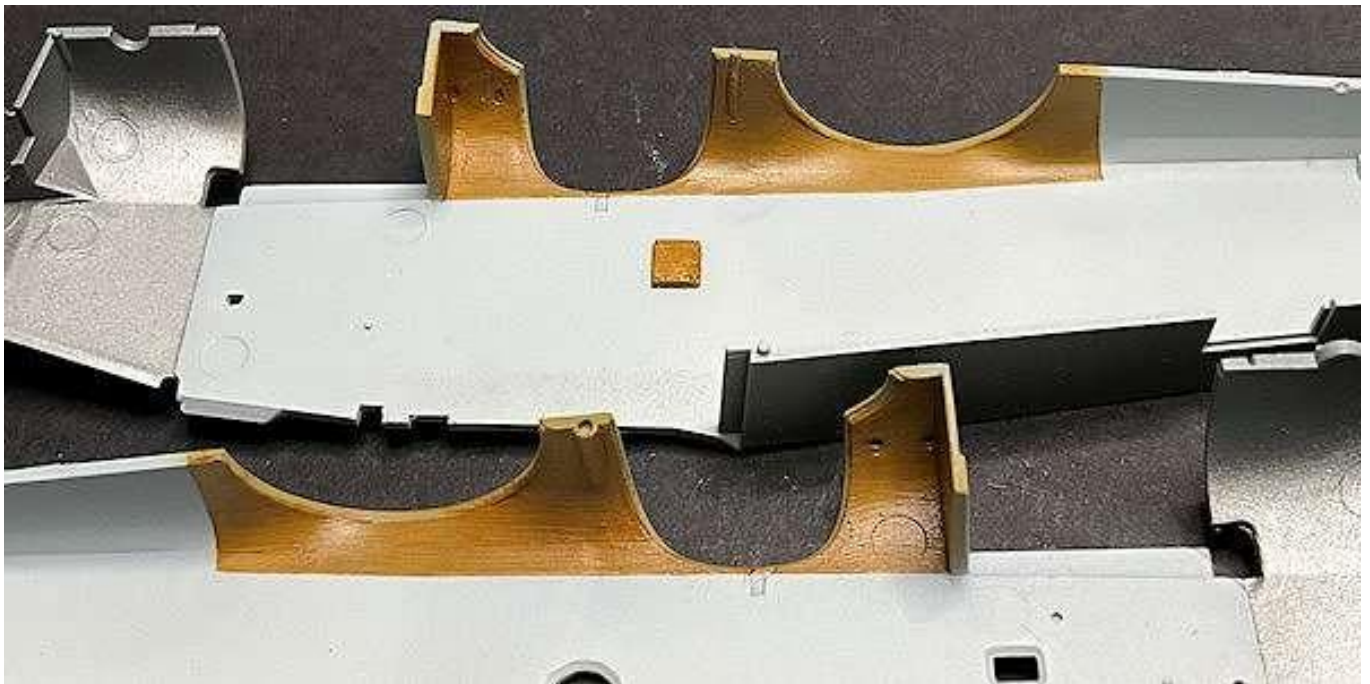
Brush the oil paint in the required direction of the wood grain and keep wiping the brush on the sheet to remove residual oil paint.

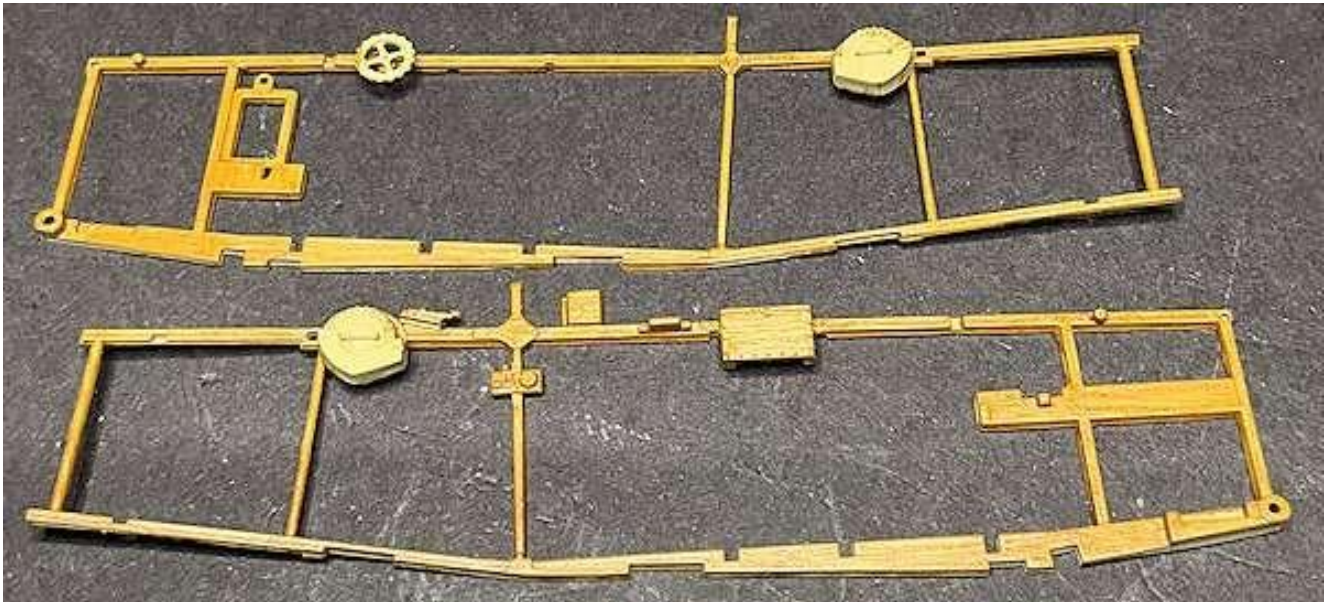
Repeat dipping and wiping the brush in the White Spirits and brushing the oil paint until the desired density and effect is achieved.

Remove the masking from the insides of the fuselage halves.

Leave the oil paint to fully dry. It should be touch dry in an hour or so and fully dry within 12 hours.

Protect and seal the wood finishes by airbrushing with a semi-matte clear coat, such as 'Tamiya' Semi-Gloss (X35) or similar.





Painting (continued):

Detail painting:

Brush paint the various details as follows, using the suggested paints or similar:

'Tamiya' Gun Metal (X10) - Lewis gun ammunition drums on cockpit side frames and top of observers cockpit front and rear frames.

'MRP' Black (MRP-255)

Observers cockpit:

Camera, seat support frame, wireless set, lever on forward frame, battery, forward container, cross bar on front frame, morse key.

Pilots cockpit:

Three instrument surrounds on instrument panel (page 4 of IM), throttle lever, floor mounting for rudder, morse key.

Frame brackets on both engine bearer frames.

'Tamiya' Buff (XF57) - Flare holder (pilots cockpit frame).

'Tamiya' Dark Wood (XF68) - Flare pistol handle (pilots cockpit frame).

'Tamiya' NATO Brown (XF80) with Red (X7) - Mix to a ratio of approximately 60/40% to create a red/brown colour - Bottom of fuel tank on pilots instrument panel.

'Tamiya' Flat Earth (XF52) - Hand grip on pilot and observers control columns.

'Tamiya' Hull Red (XF9) - Handle on hand pressure pump, handle on observers wireless wire reel.

'Tamiya' Buff (XF57) - Ammunition belt on Vickers magazine.

'Mr. Metal Color' Stainless Steel (213) - Trim wheel on cockpit right side frame, engine bay bulkhead, wire wound around observers wireless wire reel, barrel of flare pistol, controls on small panel on cockpit left side frame, trigger lever on pilots control column.

'Mr. Metal Color' Brass (219) - Two instruments and switch (on the pilots instrument panel), hand pressure pump body, cylinder on small panel on cockpit left side frame, bullet heads on Vickers machine gun magazine.

'Mr. Metal Color' Copper (215) - Bullet cases on Vickers magazine.

'AK Interactive' British Uniform (3081) - Hand straps on Lewis gun ammunition drums.

Decals:

NOTE: Refer to pages 3 to 6 of the IM for decals required and their locations.

Brush a clear gloss coat, such as 'Tamiya' (X22) over the decal locations.

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

Refer to the relevant pages of the IM and apply the required decals.

Weathering:

NOTE: Refer to Part 5 (Weathering) of this build log for more information.

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

Inside surfaces of the two fuselage halves.

Pilot and Observers cockpit floors.

Engine bay bulkhead.

Areas of some of the cockpit frames.

Once dry, remove the excess with a moistened piece of absorbent brush or cotton bud (Q-tip) to achieve the desired effect.

Brush lightly 'AK Interactive' Kerosene wash around the slotted edges of the Lewis gun ammunition drums and the edge around the trim wheel on the cockpit right side frame.

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

Dry brush the following with 'Mr. Color' Super Iron 2 (203) or similar, to create a worn metallic surface:

Observers cockpit - Wireless set, battery, seat support frame, camera and forward container.

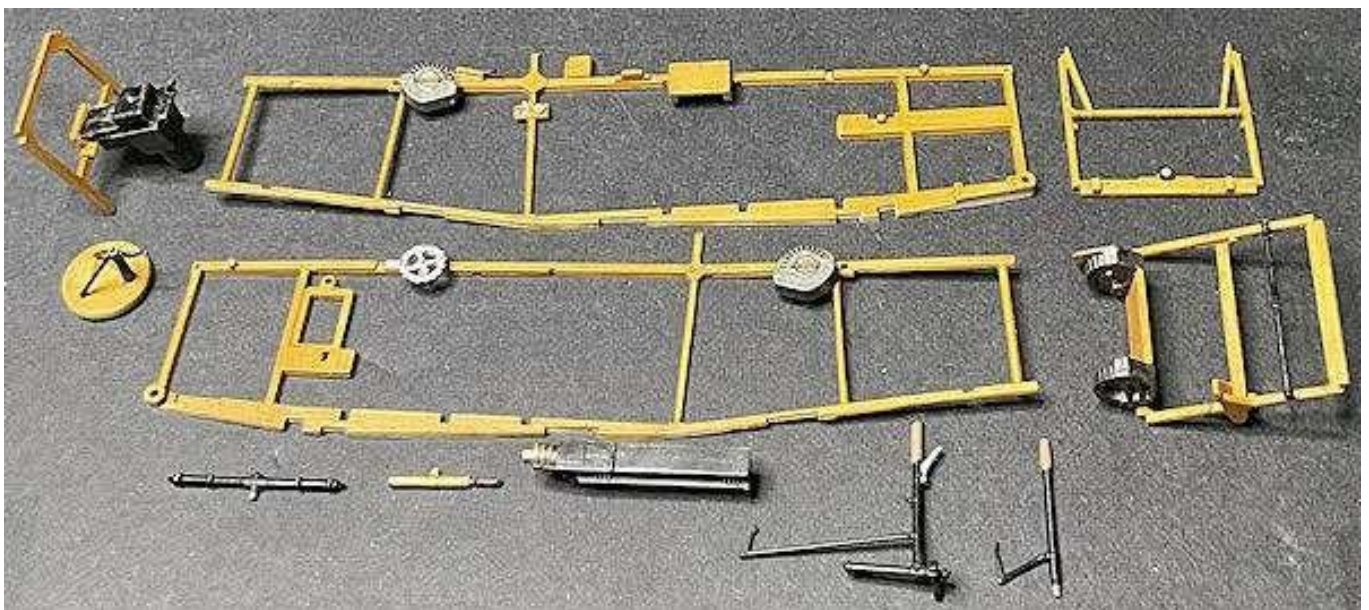
Pilots cockpit - Flare tube, throttle lever, morse keys, rudder mounting and Vickers gun magazine.

Fuel and oil tanks.

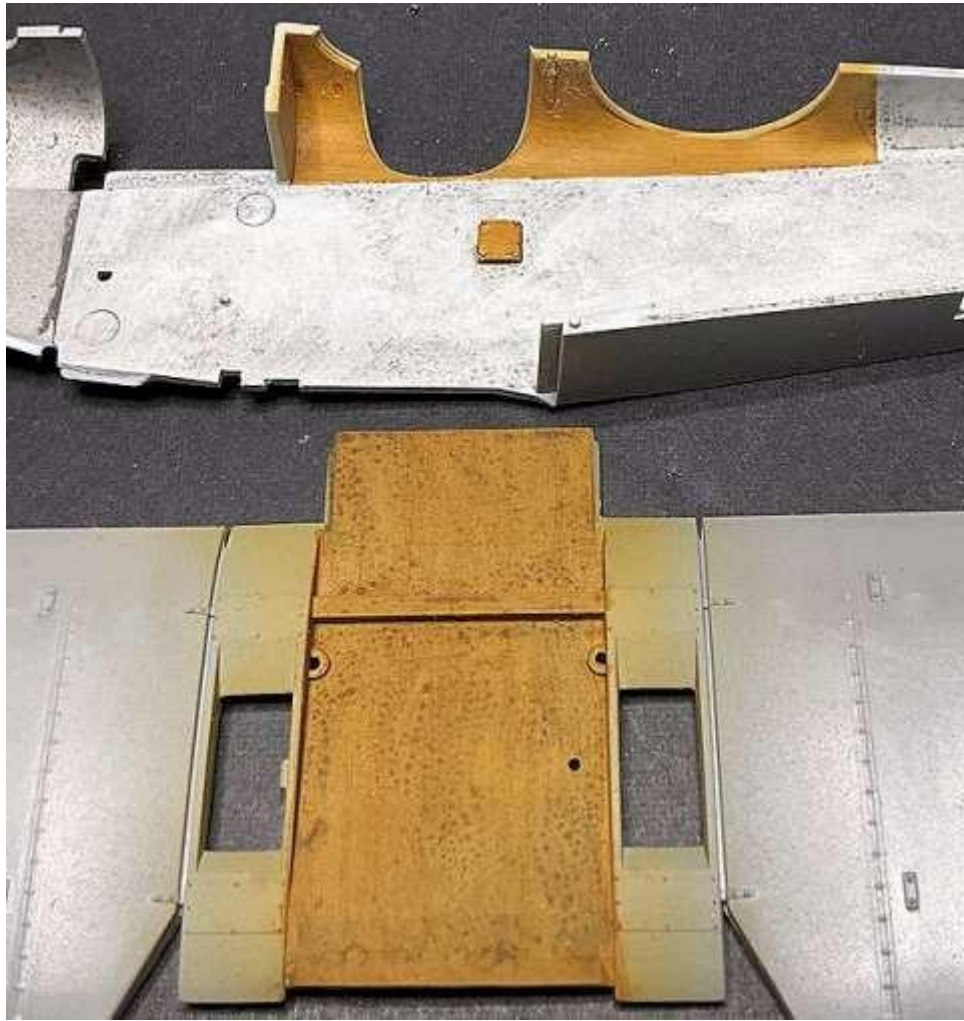
Ultra-Violet setting resin:

To seal and present the glass of the pilots instruments, I applied a small amount of UV clear resin to the faces of the pilots instruments.

To replace the camera lens (C1) in the kit, I filled the camera opening with UV resin.







Rigging preparation:

NOTE: Refer to Part 8 (Rigging) of this build log for more information.

Drill two holes of 0.3 mm diameter vertically above each other and through the rigging tabs on both ends of the rudder bar.

Assembly:

NOTE: During this build I refer to the '**IM**', which is the 'Wingnut Wings' instruction manual. Refer to pages 3 to 7 of the IM. Before any assembling of parts, make sure all primer and paint is removed from the mating surfaces, holes and recesses.

The sequence I chose to assembly the cockpit does not follow the sequence shown in the IM.

Cement the rudder bar into its locating recess on the pilots cockpit floor.

Cement the instrument/frame assembly into its locating recesses in the cockpit side frames.

Cement the bottom of the rear frame of the pilots cockpit into its recesses in the bottoms of the cockpit side frames with its top against the inside, top of the side frames.

Cement the pilots control column into its locating recesses between the bottom of the instrument panel and rear cockpit frames.

Cement the forward frame of the observers cockpit into its recesses in the cockpit side frames.

Cement the engine bearer assembly into its locating holes in the top and bottom ends of the cockpit side frames.

Cement the oil tank into its recesses in the bottom of the cockpit side frames.

Cement the magazine for the Vickers gun into its recesses in the cockpit side frames.

Cement the observers cockpit floor into its recesses in the bottom of the cockpit side frames and the top of the rear frame into the locating holes in the top of the cockpit side frames.

Cement the observers control column into its locating hole in the forward, right side of the of the observers cockpit and the front lever onto the cross bar of the forward frame.

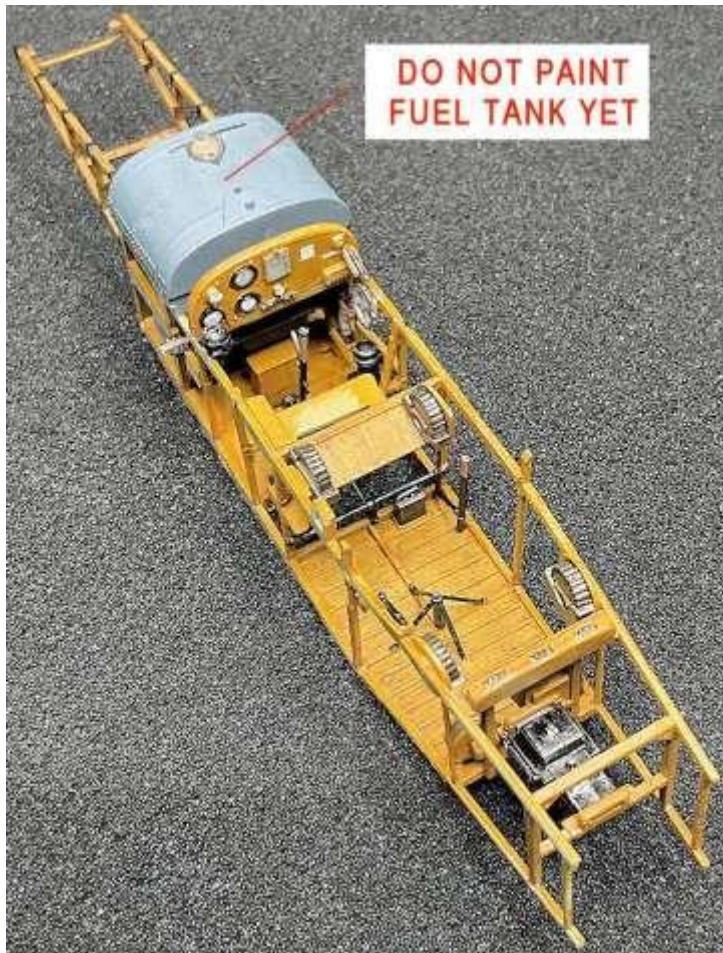
Cement the fuel tank onto its locations on the forward, top of the cockpit side frames.

Cement the cross member A42 to the top, outside of the flare tube and into its locating holes in the frame vertical members.

Cement the cockpit rear camera frame into its recesses in the cockpit side frames and the camera into its locating slot in the forward frame.

Cement the hand pressure pump A61 into its locating hole in the cockpit right side frame above the Vickers gun magazine.

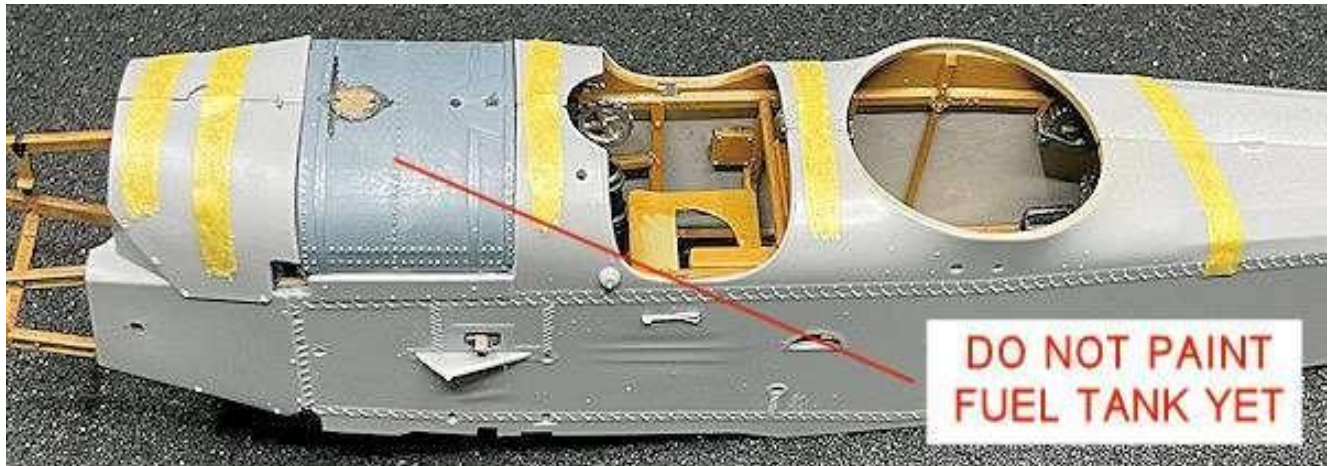
Cement the compass A40 onto the top of the cockpit left side frame near the instrument panel.



Test fit:

Test fit the cockpit assembly into the fuselage right half, making sure it fully locates, especially around the fuel tank. If necessary, file or scrape away material from the mating surfaces of the fuselage opening and/or the fuel tank to achieve a full fit. Check that the fuselage side and forward panel are able to fully contact the cockpit structure.

With the cockpit assembly fully located in the fuselage right half, test fit the fuselage left half onto the assembly. Make sure the fuselage halves fully contact each other. If necessary remove material, as before, from the fuselage left half to achieve the full joining and alignment of the cockpit in the fuselage.



Rigging:

NOTE: Refer to Part 8 (Rigging) of this build log for more information. Normally I would rig using monofilament. However, its strength may cause the long cockpit structure to distort when the rigging is tensioned. Therefore, for this cockpit I used 'EZ' line as this has more 'give' and is less likely to distort the structure.

The materials used for rigging the cockpit are:

'EZ' black stretch line (Fine).

'PlusModel' 0.2 mm diameter lead wire.

'Albion Alloy's' 0.3 mm diameter Nickel-Silver rod (NSR03).

Tail skid control cables:

During my research on the RE.8, I could not find any written or photographic information as to how the tail skid control cables were configured. There were no photographs that showed the tail skid control cables from the pilots rudder bar or from within the pilots or observer cockpits.

Therefore, I chose not to represent the tail skid control cables within the fuselage or cockpits.

Rudder control cables:

Cut two long lengths of the 'EZ' line.

Pass one end of each line, from the outside, into the pre-drilled holes in the rigging tabs on one end of the rudder bar.

Secure the lines in the holes using a small amount of thin CA adhesive.

Pass the lines, in parallel, up to the small pre-molded pulley on the inside edge of the forward seat support under the pilots seat.

Pass the upper line over the top of the pulley and the lower line under the pulley.

Keeping the lines taut, secure them to the pulley using thin CA adhesive.

Pass the lines rearwards, in parallel to the pre-molded pulley on the inside edge of the rear support under the pilots seat.

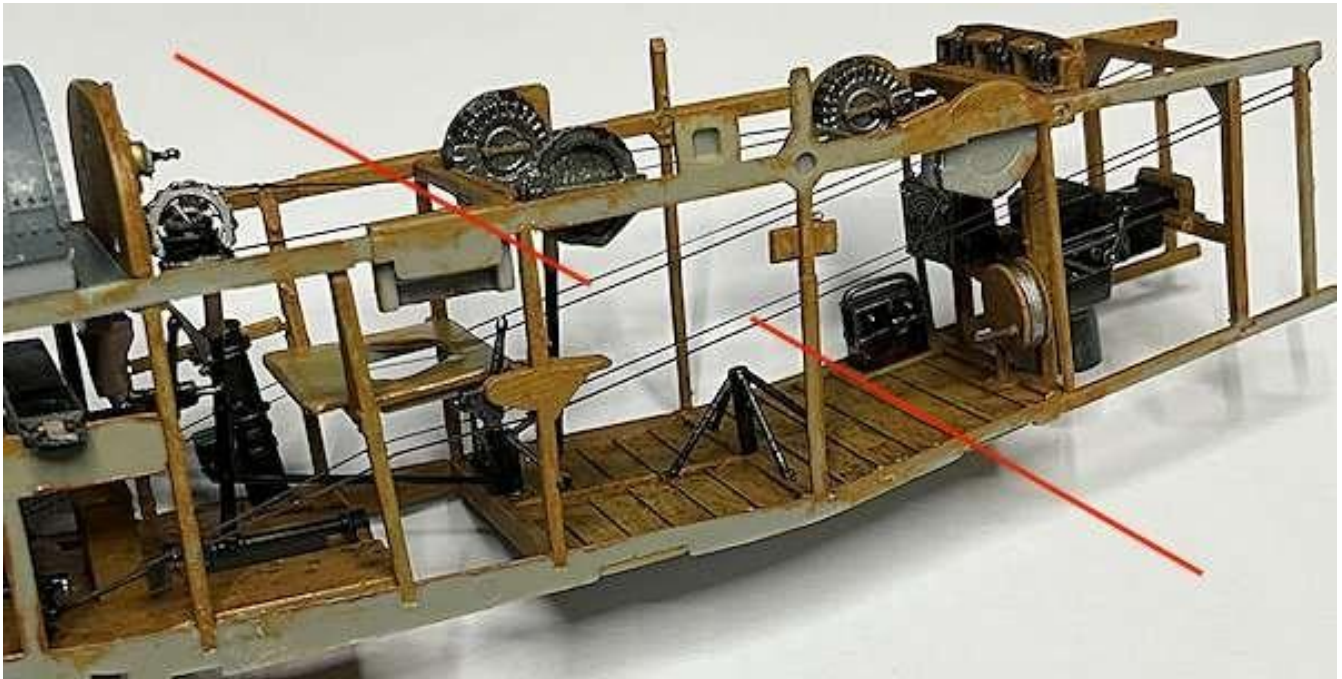
As before, secure the lines to the pulley using thin CA adhesive.

Pass the lines rearwards, in parallel, up to the top of the rear vertical member of the cockpit assembly.

Keeping the lines taut, secure them to the vertical member using thin CA adhesive.

Trim away any residual line at the rear of the vertical member.

Repeat the procedure to add the rudder control lines to the opposite side of the cockpit assembly.



Tailplane variable incidence cables:

Cut two long lengths of the 'EZ' line.

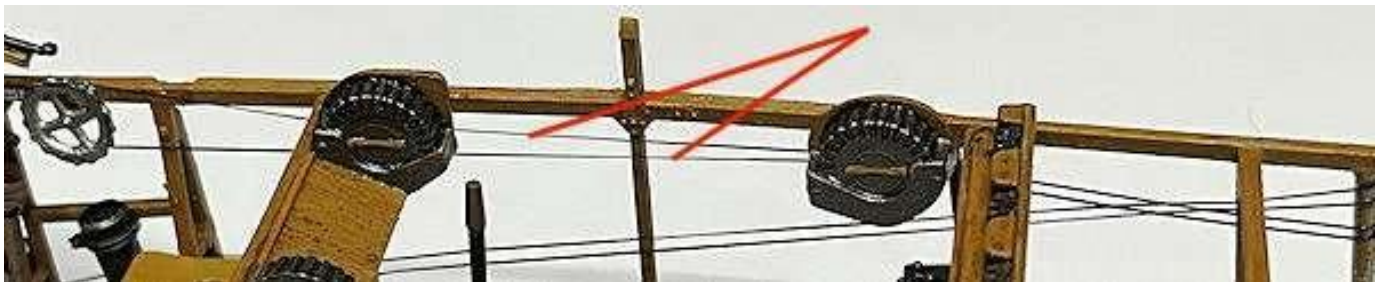
Using thin CA adhesive, secure one end of a line to the outside, top edge of the pilots handwheel.

Using thin CA adhesive, secure one end of the remaining line to the outside, bottom edge of the pilots handwheel.

Pass both lines, parallel to each other, rearwards under the map and ammunition shelf, behind the rear ammunition drum holder. Then slightly down to the rear vertical member of the cockpit assembly and just below the previously secured rudder control lines.

Keeping the lines taut, secure them to the vertical member using thin CA adhesive.

Trim away any residual line at the rear of the vertical member.



Cockpit crossed bracing wires:

Diagonally crossed bracing wires were fitted under the cockpit floors and across the fuselage between the cockpit side frames. However, these either cannot be fitted or will not be seen on the completed model and so were not added.

Cockpit bracing wires:

Engine bearer bracing:

Diagonally crossed bracing wires were fitted across the rear side bays and rear bottom bay of the engine bearers. However, these will not be seen on the completed model and so were not added.

Fuselage side bracing:

Drill a hole of 0.3 mm diameter through the corners of the five frame bays rear of the pilots instrument panel frame in the cockpit side frames.

Cut a long length of line.

Secure one end of the line into a pre-drilled hole at the pilots instrument panel frame.

Secure the line in the hole using thin CA adhesive.

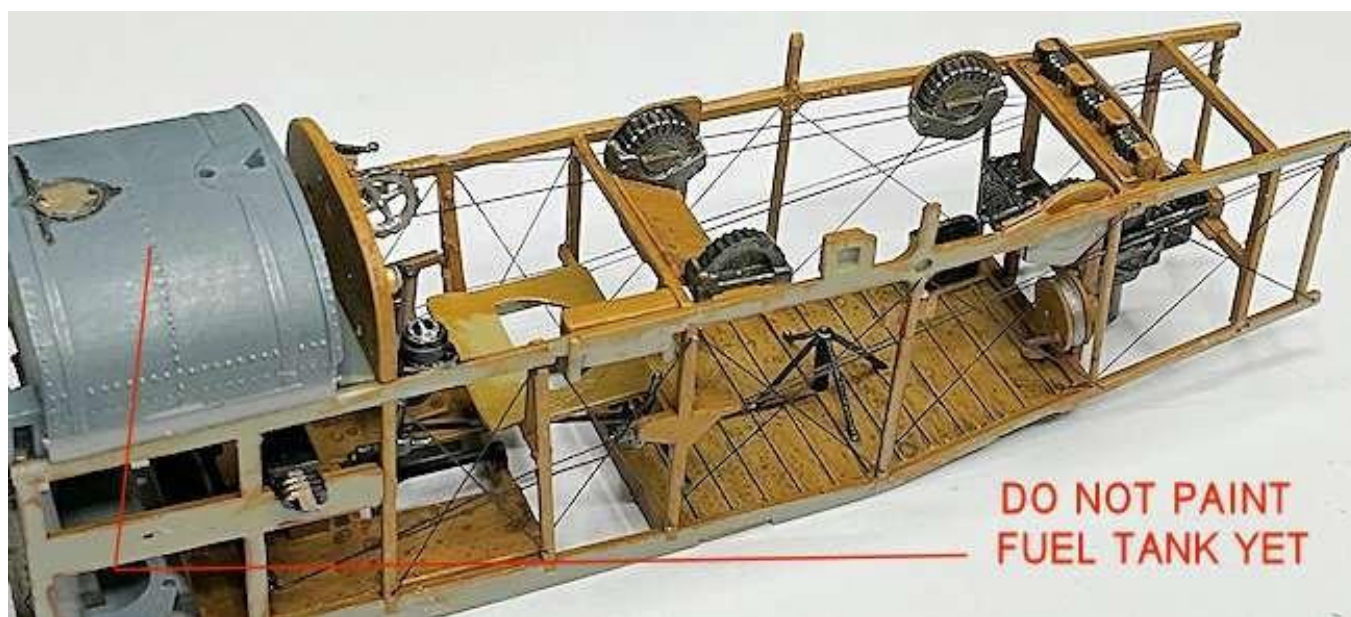
Pass the line rearwards and diagonally up and down through the pre-drilled holes in the side frame, ending at the relative pre-drilled hole in the rear frame.

Keeping the line taut, secure the line in the end hole using thin CA adhesive.

Cut away any residual end tag of line at the rear frame.

Repeat the procedure to add the opposite line along the cockpit side frame.

Repeat the procedure to add both lines on the opposite side frame of the cockpit.



Morse key cables:

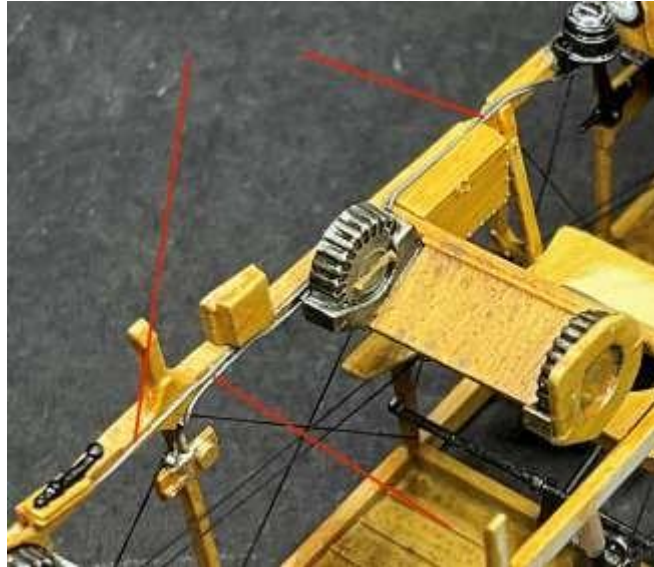
Cut a long length of 0.2 mm diameter lead wire, such as 'PlusModel' or similar.

Using thin CA adhesive, secure one end of the wire at the morse key on the top of the cockpit left side frame in the observers cockpit.

Route the wire along the top longeron then under the compass and instrument panel, securing in place at intervals, using thin CA adhesive.

Cut away any residual wire under the instrument panel.

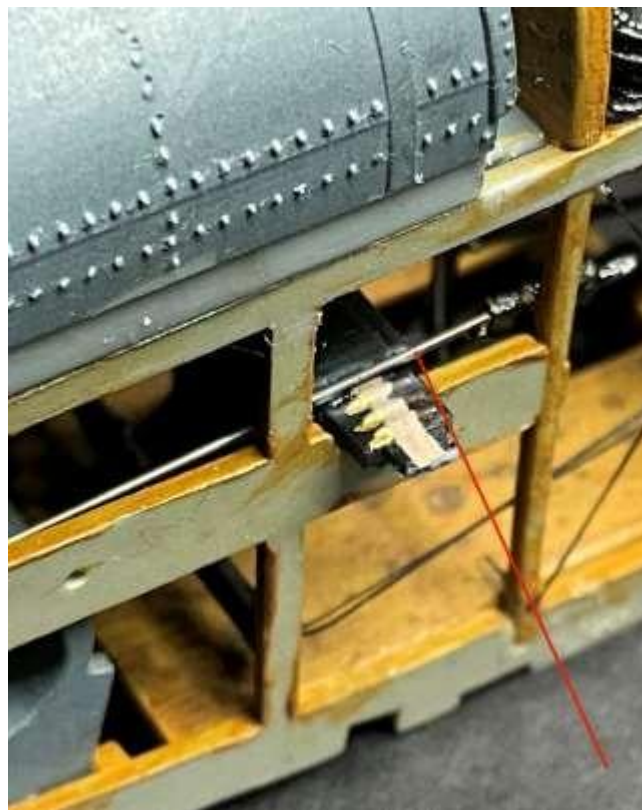
If desired, repeat the procedure to add a wire from the small instrument panel near the morse key in the observers cockpit.



Throttle control rod:

Cut a short length of 0.3 mm diameter Nickel-Silver rod, such as 'Albion Alloy's' NSR03 or similar.

Using thin CA adhesive, secure the rod onto the inner edge of the ammunition feed for the Vickers machine gun, with its end against the throttle lever.



Vickers gun trigger cable:

Cut a long length of 0.2 mm diameter lead wire, such as 'PlusModel' or similar.

Using thin CA adhesive, secure one end of the wire onto the front of the control column and under the gun trigger.

Route the wire down and under the pilots left foot board.

Secure the wire under the foot board using thin CA adhesive.

Cut away any residual wire under the foot board.



Pilot's modified seat:

Preparation:

NOTE: Refer to Part 7 (Resin) of this build log for more information. The seat cushion is from a previous 'Barracuda' resin seat.

Cut the resin 3D printed seat and cast resin cushion from their printed and cast blocks.

File or scrape away any residual resin from the underside of the seat and cushion, making sure the surfaces are flat.

Painting:

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

Airbrush the seat, cushion and the modified support frame with 'Tamiya' Dark Yellow (XF60) or similar.

Brush 'Windsor & Newton' Griffin Alkyd **Raw Sienna** oil paint over the wicker seat and support frame.

NOTE: The leather effect on the seat cushion was created using 'Windsor & Newton' Griffin Alkyd oil paint.

To create a leather effect, first apply the 'Windsor & Newton' Griffin Alkyd **Burnt Umber** oil paint over the seat cushion and when semi-dry, stipple brush on the 'Windsor & Newton' Griffin Alkyd **Raw Sienna** oil paint.

Weathering:

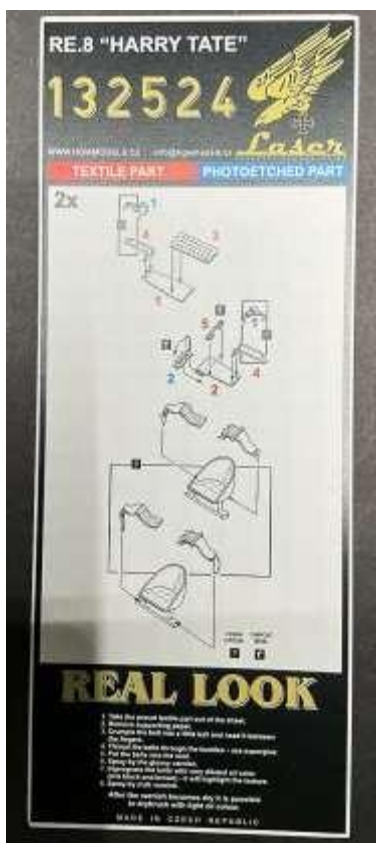
Lightly brush 'AK Interactive' (Kerosene AK-2039) over the seat to highlight the wicker weave.

Pilot's lap straps:

NOTE: The kit supplies photo-etch lap straps for the pilot. However, for this model I chose to use the 'HGW' RE.8 texture seat belts (132524).

The lap straps were assembled, using thin CA adhesive, in accordance with the 'HGW' instruction card, using the metal anchors for the straps, not the thin straps.

Once assembled, the two lap straps were brushed with 'Windsor & Newton' Griffin Alkyd **Burnt Umber** oil paint, heavily diluted with white spirit.



Assembly:

NOTE: Before any assembling of parts, make sure all primer and paint is removed from the mating surfaces, holes and recesses.

Using thin CA adhesive, secure the painted seat cushion fully onto the wicker seat.

Using thin CA adhesive, secure the resin seat centrally on the top of the modified seat support, making sure the front edge of the seat is aligned to the front edge of the seat support.

Using thin CA adhesive, secure the metal anchor for the two lap straps onto the forward sides of the seat.

Using thin CA adhesive, secure the remainder of the two lap straps over the edges of the seat and onto the seat cushion.

Cement the pilots seat assembly onto its two cross member supports in the cockpit.

Observers seat:

Painting:

Airbrush the circular seat pad with a grey primer, such as 'AK Interactive' Grey (AK758) or similar.

Airbrush the circular seat pad with 'Tamiya' Dark Yellow (XF60) or similar.

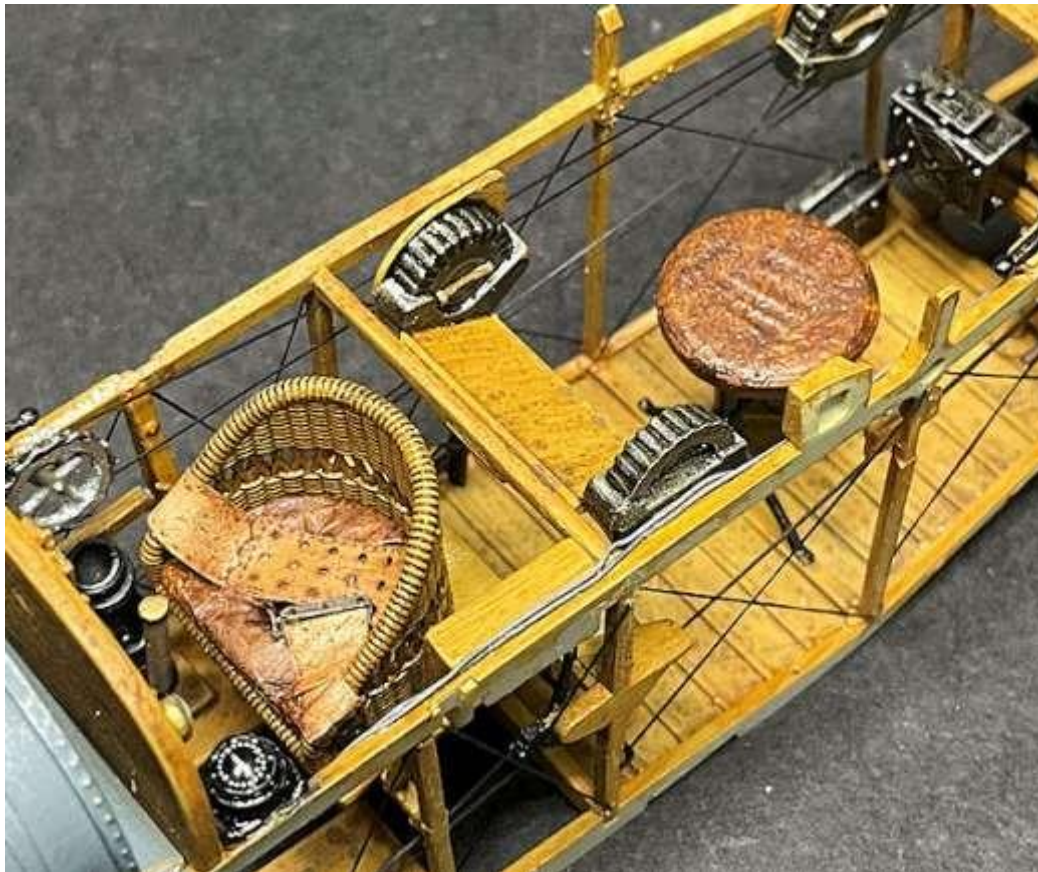
NOTE: The leather effect on the observers seat pad was created using 'Windsor & Newton' Griffin Alkyd oil paint.

To create a leather effect, first apply the 'Windsor & Newton' Griffin Alkyd **Burnt Umber** oil paint over the seat cushion and when semi-dry, stipple brush on the 'Windsor & Newton' Griffin Alkyd **Raw Sienna** oil paint.

Assembly:

NOTE: Before any assembling of parts, make sure all primer and paint is removed from the mating surfaces, holes and recesses.

Cement the observers seat into its location on the fitted seat support in the observers cockpit.



Map:

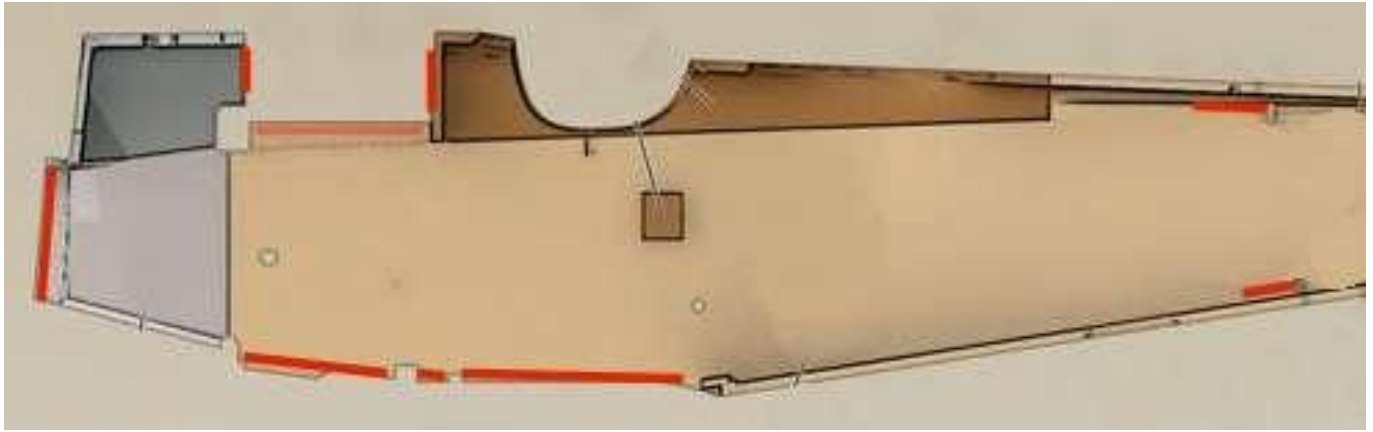
Using PVA adhesive (white glue), a section of the WW1 map from 'Tommy's War' was cut and secured to the map board on the forward frame in the observers cockpit.



Assembly (continued):

NOTE: Before any assembling of parts, make sure all primer and paint is removed from the mating surfaces, holes and recesses.

Apply cement to the red marked mating surfaces on the fuselage right half, as shown on the following illustration.

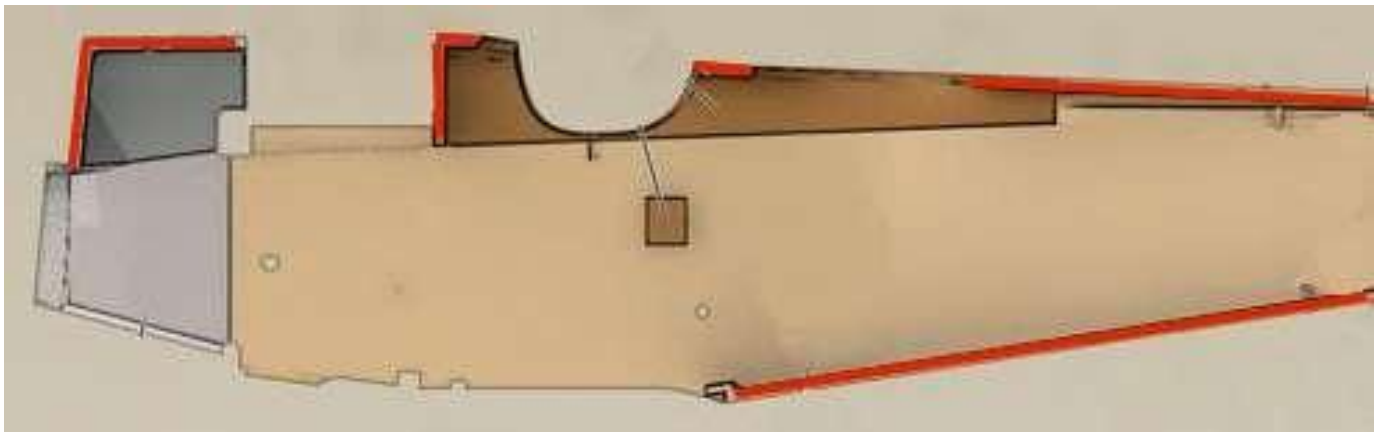


Fully locate the cockpit assembly into the fuselage right half and vertical member of the engine bearer, clamping the assembly in position onto the fuselage and engine bearer.

Once the adhesive has fully set, apply cement to the red marked mating surfaces on the fuselage left half, as shown on the previous illustration.

NOTE: *Cemented fuselage seams may continue to cure after the fuselage halves have been joined, causing a shallow seam to appear sometime later. To avoid this happening, CA adhesive can be used to join the fuselage halves, as that adhesive does not weld the plastic and therefore will not produce a ghost seam.*

Apply thin CA adhesive along the fuselage mating surfaces, as shown on the following illustration.



Fully locate the fuselage left half onto the right half, cockpit assembly and vertical member of the engine left bearer, clamping the fuselage halves together and the fuselage to the engine left bearer.

Once the adhesives have fully set, remove any clamps.

Carefully file then sand the fuselage seam joints to remove any residual adhesive and to blend the two fuselage halves together.

NOTE: *Refer to pages 11 to 13 of the IM.*

Cement part A24 onto its location recesses on the fuselage left half at the observers cockpit.

Cement the tail skid fairing B1 into its recess in the rear, underside of the fuselage.

Using thin CA adhesive, secure the two photo-etch outlet surrounds P5 for the rudder cables over the created openings in the top, rear of the fuselage.

Using thin CA adhesive, secure the two photo-etch outlet surrounds P10 for the tail skid cables over the created openings in the rear, sides of the fuselage.



NOTE: Refer to pages 19 and 20 of the IM.

Cement the deflector panel A54 into its location in the engine right cylinder cover panel B23.

Cement the two engine cylinder cover panels B22 and B23 together.

NOTE: The large top, front locating peg inside the cylinder cover panel assembly is easily seen from the front of the assembly and spoils the look of the panel.

Carefully file or scrape away the top, front locating peg and barrel from inside the cylinder cover panel.



Cement the trough panel B5 into its recesses in the bottom engine panel B21.

Sand the joint seams to blend the two halves of the panels together.

Using the pre-molded recesses as guides, drill holes of 0.7 mm diameter through the lower, front of the engine bottom panel B21.

Painting (continued):

Airbrush the insides surfaces of the following with 'Alclad' Steel (ALC-112) or similar:

Engine cylinder cover panels B22 and B23.

Engine cylinder cover panel assembly A54, B22 and B23.

Two engine side panels B15 and B16.

Airbrush the insides of the previous panels with 'Alclad' Steel (ALC-112) or similar.

Brush paint the front of the fuselage bulkhead with 'Mr. Metal Color' Stainless Steel (213) or similar.

Assembly (continued):

NOTE: Refer to pages 9, 19 and 20 of the IM. **NOTE:** Before any assembling of parts, make sure all primer and paint is removed from the mating surfaces, holes and recesses.

Cement the engine fully onto its four locating shoulders in the side frames of the engine bearers.

NOTE: I found during test fitting that the engine bottom panel B21 could not be fitted with the two carburettors D23, D24 fitted to the engine, as indicated. The carburettors fouled the cavity in the engine panel stopping it from fitting to the underside of the engine bearers. Therefore, the bodies of the carburettors were cut away, as the engine is not being modelled exposed anyway. The two exhausts drop pipes D11 will be fitted later in this build.

Cut away the two carburettor bodies from the top of the body on both carburettor assemblies.

Cement the two carburettors into the panel cavity with their pipes protruding from the panel openings and with the pipes the same distance and at the same angle.

Cement the bottom panel, with the two carburettors fitted, to the bottom of the engine bearers and fuselage.

NOTE: *The two engine side panels B15 and B16 have shallow recesses on their inside surfaces intended to be cleaned of paint for fixing to the associated and cleaned vertical members of the engine bearers.*

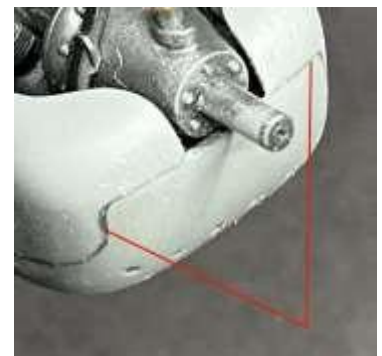
Cement the two engine side panels B15 and B16 onto the sides of the engine bearers.



NOTE: *After fitting the panels there was a slight gap at the nose, where the side panels joined the bottom panel. Also, when temporarily located over the engine, there was a slight gap between the rear of the cylinder cover panel and fuselage bulkhead.*

Fill the panel gaps at the nose with a model filler. I used UV setting clear resin, but any model filler putty can be used.

Once fully set, sand the filler to blend the joints with the surrounding panel surfaces.



Cut a piece of plastic card with the thickness necessary to fill the gap between the rear of the cylinder cover panel and fuselage bulkhead.

Cement the card onto the rear of the cylinder cover panel.

Once the adhesive has fully set, file or sand the edges of the card to blend it with the edges of the cylinder cover panel.



PART 14
RIGGING
PREPARATION

PART 14 - RIGGING PREPARATION

References:

'Windsock' Data File 24 - RAF RE.8 (J.M.Bruce).

'Air Board Technical Notes' - Published 1917.

'Wingnut Wings' - Instruction Manual (IM).

'Their Flying Machines' - <https://flyingmachines.ru/Site2/Crafts/Craft25546.htm>

'Belgian Wings' - <https://www.belgian-wings.be/aircraft-1909-1918>

'The Vintage Aviator' -

<https://www.thevintageaviator.co.nz/>

<https://jamesfahey.smugmug.com/RAF-RE8-A3930>

<https://jamesfahey.smugmug.com/RAF-RE8-A4267>

Preparation:

NOTE: Refer to Part 8 (Rigging) of this build log for more information. During this build I refer to the '**IM**', which is the 'Wingnut Wings' instruction manual. Refer to the relevant pages of the IM for the parts required.

General:

Refer to pages 12 to 15 and 22 of the IM for the remaining parts required.

Remove the parts for required parts from their mold gates.

Scrape or sand away any mold flash or seam lines from the edges of the parts.

Assembly:

Temporarily locate fully the lower wing into the underside of the fuselage.

Cement landing gear axle B7 between the two landing gear struts B29 and B30.

Locate the landing gear assembly into its locating holes in the lower sides of the fuselage and underside of the lower wing. Make sure the axle is parallel to the fuselage with the lower wings level with each other.

Once the cement has fully set, remove the landing gear assembly from the fuselage and lower wing.

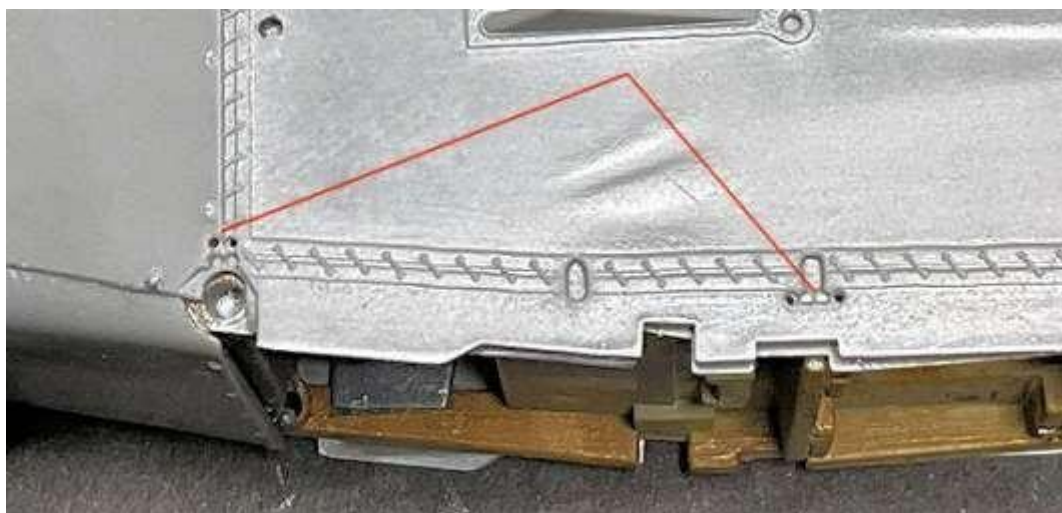
Remove the lower wing from the fuselage.

Preparation:

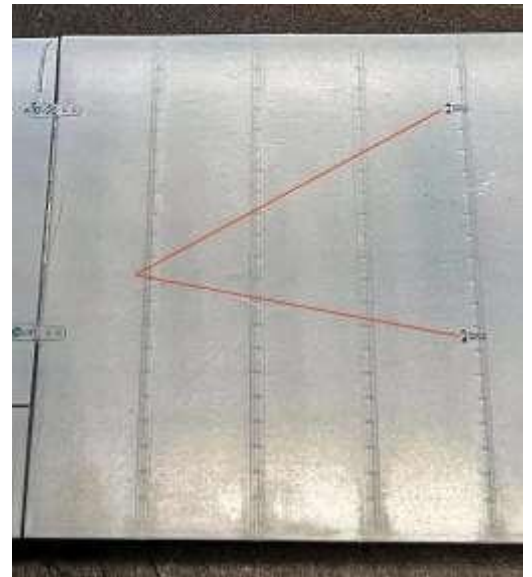
Inner flying wires:

Using the upper pre-molded recesses in the fuselage at the top of the landing gear forward strut locating holes, drill holes of 0.3 mm diameter into the fuselage.

Using the outer pre-molded recesses in the fuselage at the lower wing roots, drill holes of 0.3 mm diameter into the fuselage.



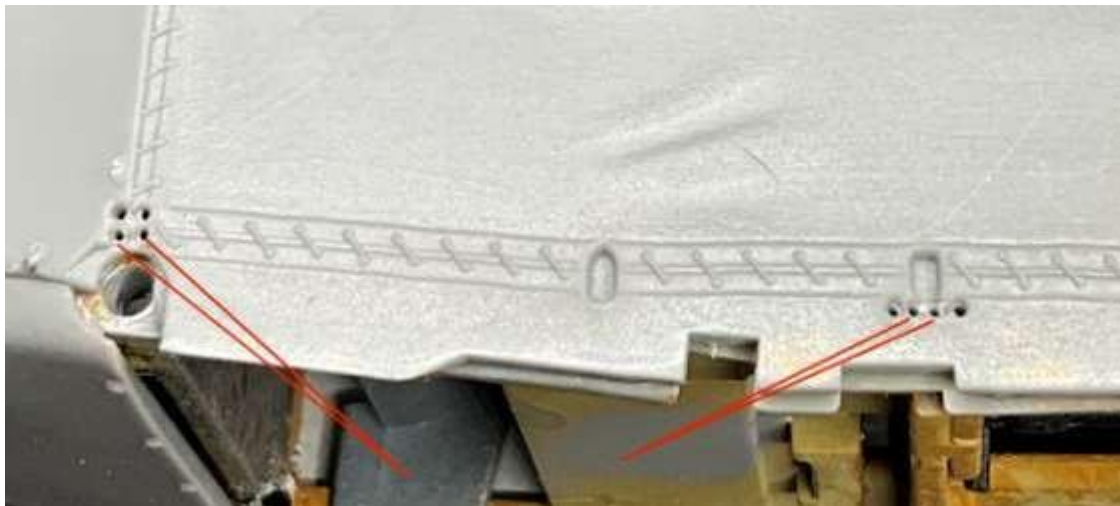
Using the four pre-molded recesses in both sides of the underside of the upper wing midway between the wing centre section and the interplane strut locating holes, drill holes of 0.3 mm diameter into, **but not through**, the upper wing.



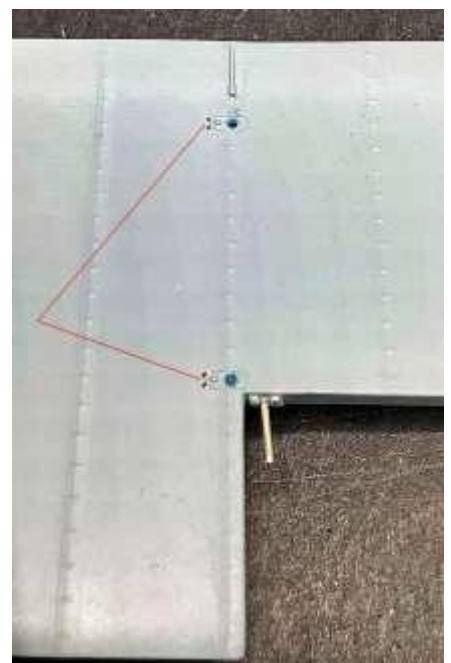
Intermediate flying wires:

Using the lower pre-molded recesses in the fuselage at the top of the landing gear forward strut locating holes, drill holes of 0.3 mm diameter into the fuselage.

Using the inner pre-molded recesses in the fuselage at the lower wing roots, drill holes of 0.3 mm diameter into the fuselage.

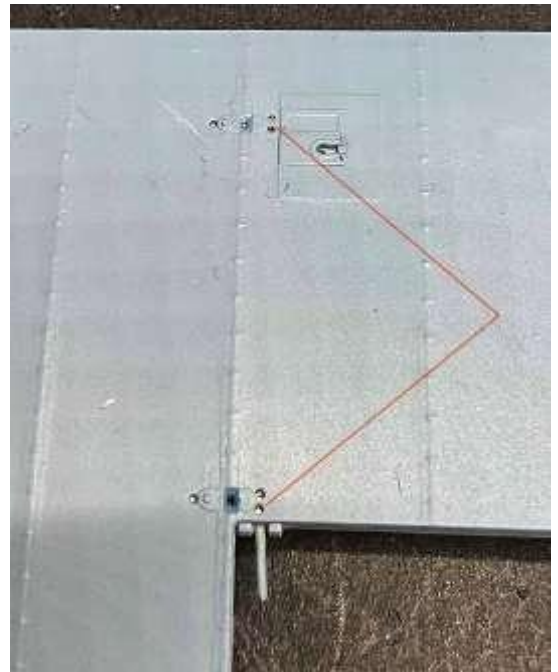


Using the four pre-molded recesses in both sides of the underside of the upper wing, inboard from the interplane strut locating holes, drill holes of 0.3 mm diameter into, **but not through**, the upper wing.

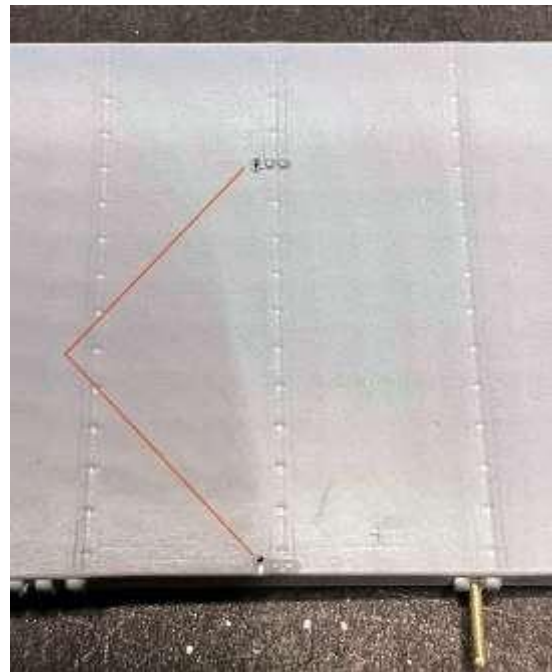


Outer flying wires:

Using the four pre-molded recesses in both sides of the top surface of the lower wings, outboard from the interplane strut locating holes, drill holes of 0.3 mm diameter into, **but not through** the upper wing.

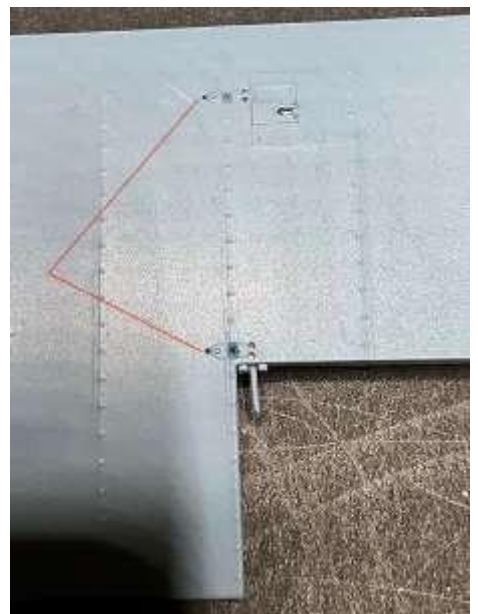


Using the two pre-molded recesses in both sides of the underside of the upper wing, between the interplane strut locating holes and the outer wing tips, drill holes of 0.3 mm diameter into, **but not through**, the upper wing.

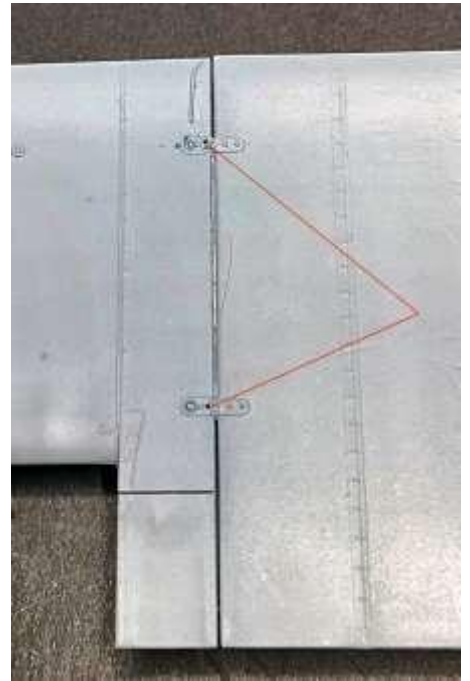


Landing wires:

Using the two pre-molded recesses in both sides of the top surface of the lower wings, inboard from the interplane strut locating holes, drill holes of 0.3 mm diameter into, **but not through**, the upper wing.

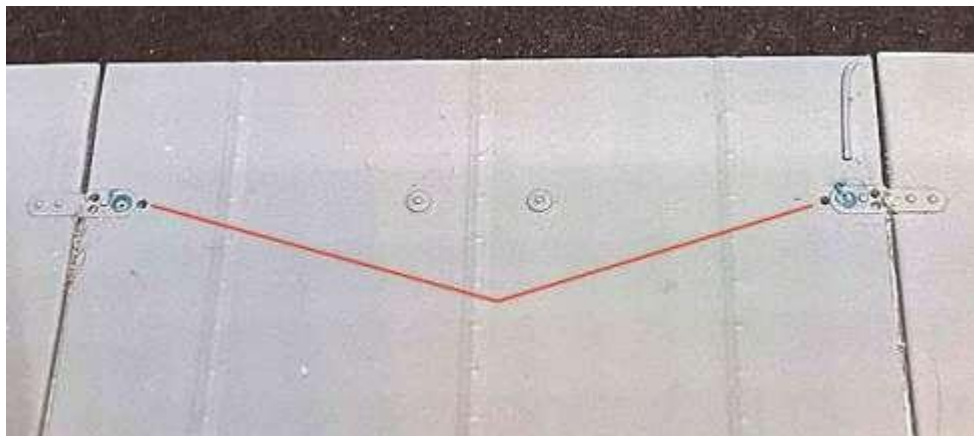


Using the two pre-molded recesses in both sides of the underside of the upper wing centre section, outboard from the fuselage cabane strut locating holes, drill holes of 0.3 mm diameter into, **but not through** the upper wing.



Drag wires:

Using the two pre-molded recesses in both sides of the underside of the upper wing centre section, board from the fuselage cabane strut locating holes, drill holes of 0.3 mm diameter into, **but not through**, the upper wing.

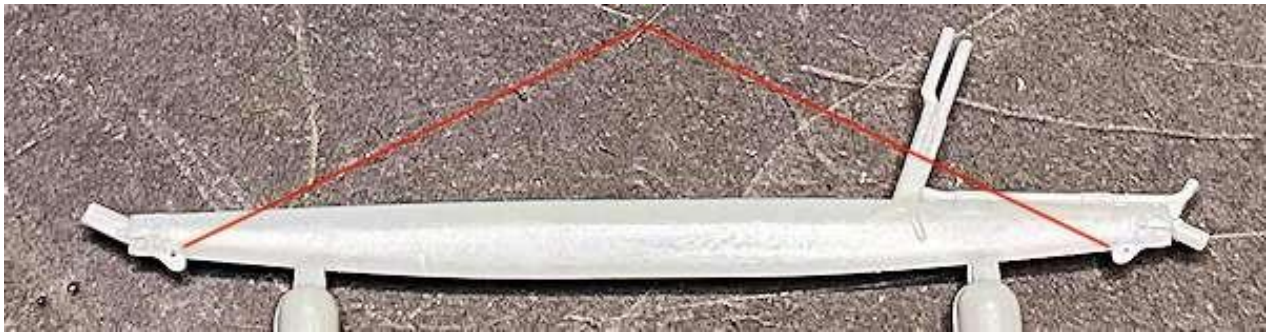


Drill a hole of 0.3 mm diameter through the forward engine side panels, midway down the trailing edge.



Interplane strut incidence wires:

Drill a hole of 0.3 mm diameter through the rigging plates on both ends of the four interplane struts.



Cabane strut bracing wires:

Cabane strut side bracing wires:

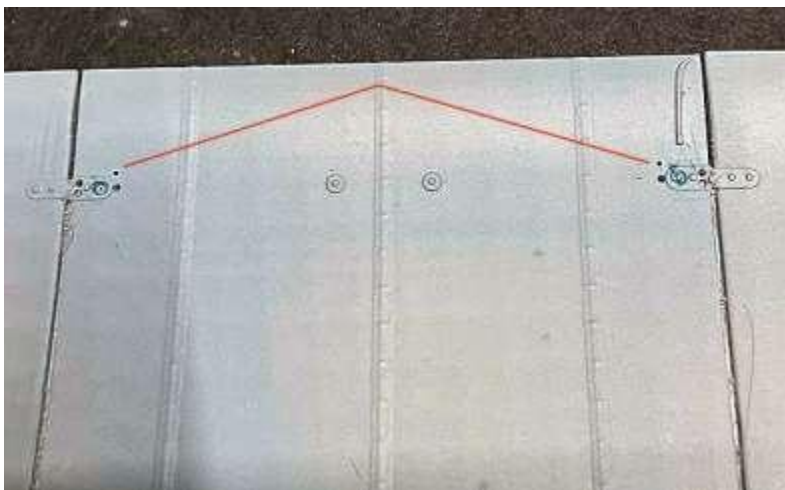
Drill a hole of **0.2 mm** diameter through the rigging plates on both ends of the four fuselage cabane struts.



Cabane strut front bracing wires:

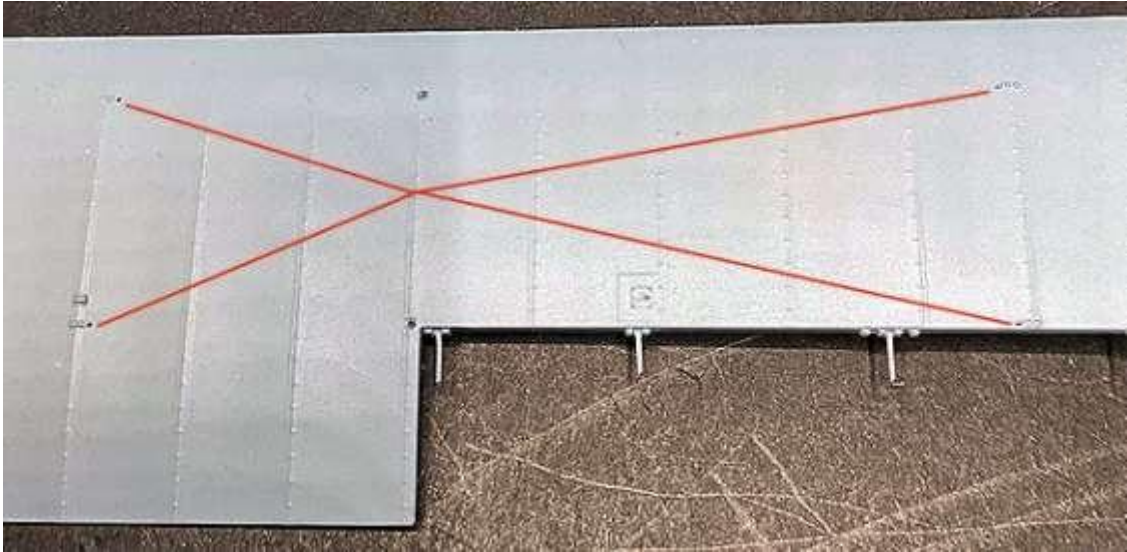
Drill a hole of 0.3 mm diameter into, **but not through**, the centre section of the upper wing, just forward from the already drilled drag wire holes.

Drill two holes of 0.3 mm diameter, the same distance apart as the upper wing holes, into the slot area of the fuselage decking panel.



Upper wing king post wires:

Drill four holes of 0.3 mm diameter through both sides of the top surface of the upper wing. Two holes are at either side of the king post locating holes.



Landing gear bracing wires:

Drill a hole of 0.3 mm diameter through the top and bottom of both landing gear forward struts.



Fin/tailplane bracing wires:

Using the two pre-molded recesses in the trailing edge of the fin, drill two holes of 0.5 mm diameter through the fin.



Using the two pre-molded recesses in both of the tailplanes, drill holes of 0.5 mm diameter through the tailplanes.



Using the pre-molded recess in the both sides of the fuselage lower, rear edge, drill a hole of 0.3 mm diameter through the fuselage side.

Drill a hole of 0.5 mm diameter through the top, rear of the tail skid.



Rudder control cables:

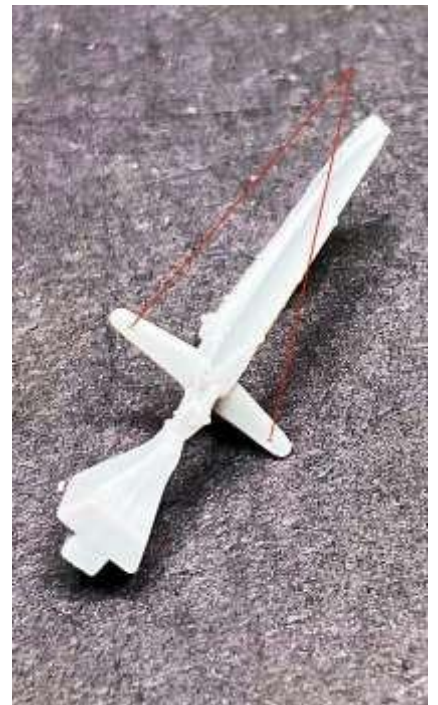
Drill a hole of 0.2 mm diameter through both ends of the rudder control horns B18.

Cement the control horn fully into its locating recess in the leading edge of the rudder.



Tail skid control cables:

Drill a hole of 0.2 mm diameter through both ends of the tail skid control horns on the tail skid A7.



Elevator control cables:

Drill a hole of 0.2 mm diameter through both ends of the elevator control levers D7.



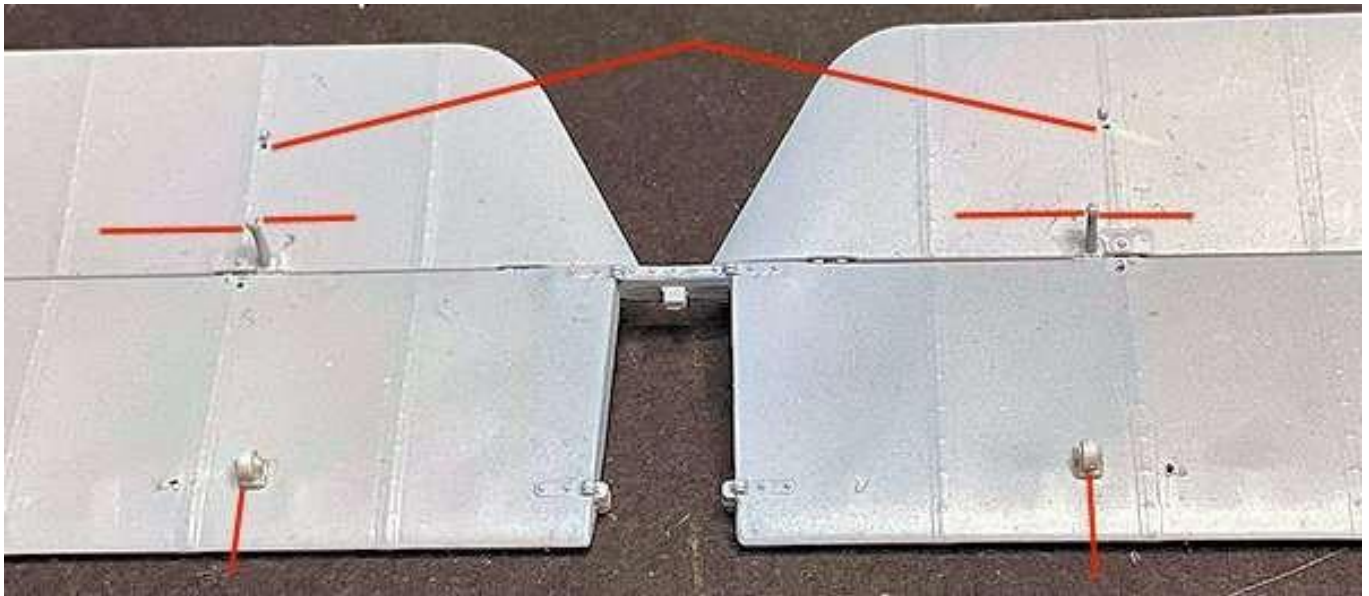
Drill two holes (front and rear) of 0.2 mm diameter through both ends of the two elevator control horns D12.

Cement the control horns D12 fully into their locating recesses in the elevators.

Cement the elevator cable pulleys D20 into their locating recesses in the underside of the tailplanes.

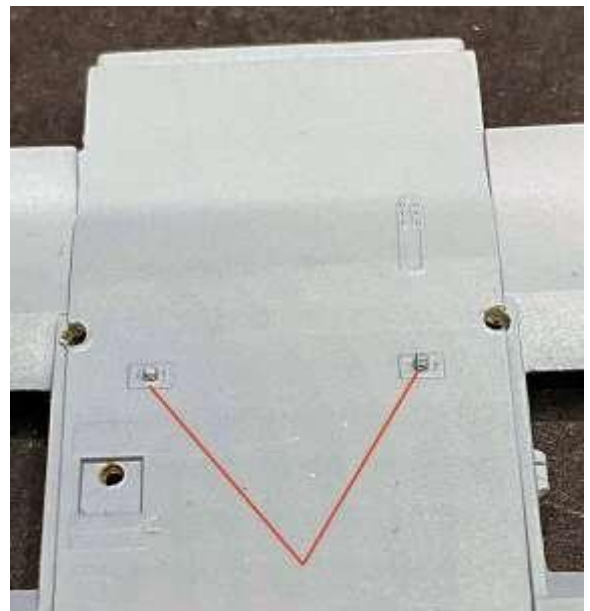
Drill a hole of 0.3 mm diameter through the bottom of the D20 pulleys.

At the pre-molded stub on both elevators, drill a hole of 0.5 mm diameter through the elevators.

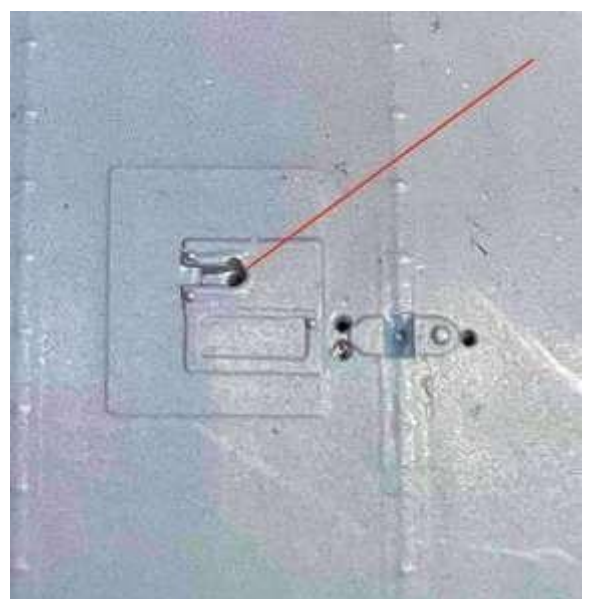


Aileron control cables:

Drill a hole of 0.3 mm diameter through the bottom of the two aileron control levers on the underside, centre section of the lower wing.



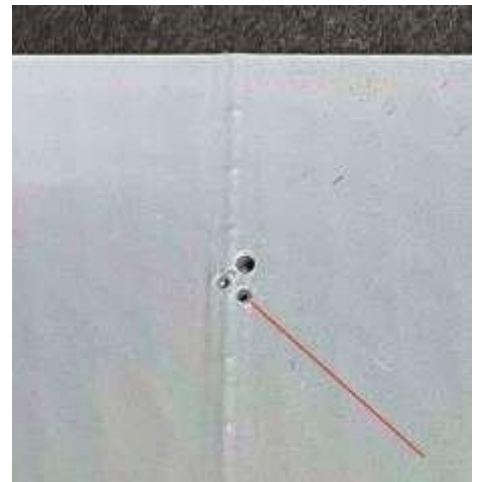
Drill a hole of 0.5 mm diameter through both sides of the lower wing at the control cable outlet.



Drill a hole of 0.3 mm diameter into, **but not** through, the underside of both upper ailerons.



Drill a hole of 0.3 mm diameter into, **but not** through, the top surface of both lower ailerons.

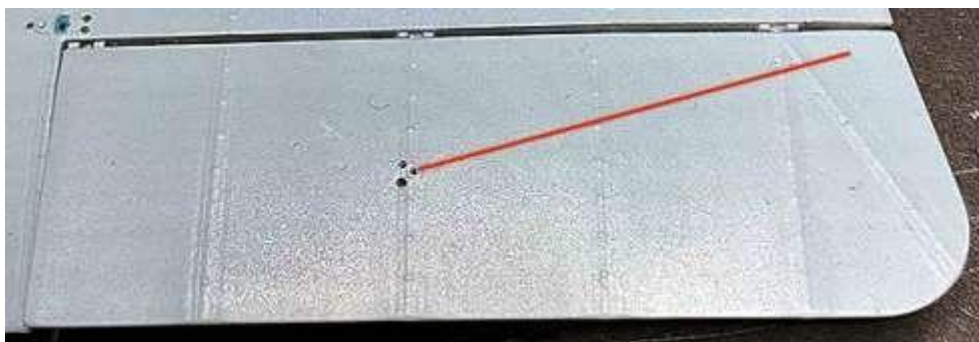


Drill a hole of 0.5 mm diameter through both sides of the upper wing at the cable outlet.

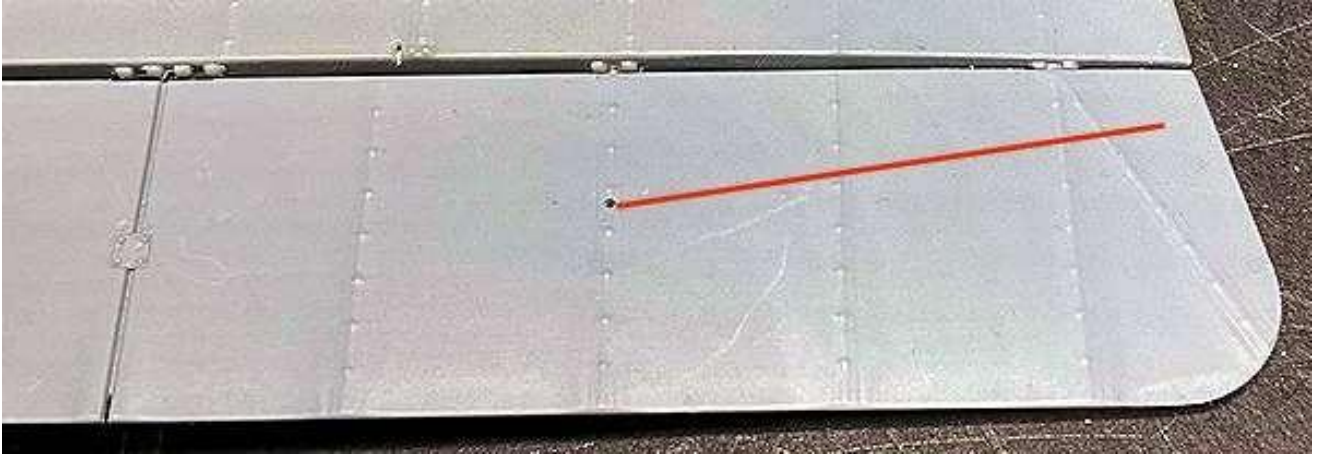


Aileron connecting cables:

Drill a hole of 0.3 mm diameter into, **but not** through, the top surface of both lower ailerons.



Drill a hole of 0.3 mm diameter into, **but not** through, the underside of both upper ailerons.



PART 15
EXTERNAL
CONSTRUCTION

PART 15 - EXTERNAL CONSTRUCTION

References:

'Windsock' Data File 24 - RAF RE.8 (J.M.Bruce).

'Air Board Technical Notes' - Published 1917.

'Wingnut Wings' - Instruction Manual (IM).

'Their Flying Machines' - <https://flyingmachines.ru/Site2/Crafts/Craft25546.htm>

'Belgian Wings' - <https://www.belgian-wings.be/aircraft-1909-1918>

'The Vintage Aviator' -

<https://www.thevintageaviator.co.nz/>

<https://jamesfahey.smugmug.com/RAF-RE8-A3930>

<https://jamesfahey.smugmug.com/RAF-RE8-A4267>

Preparation:

NOTE: *During this build I refer to the 'IM', which is the 'Wingnut Wings' instruction manual. Refer to the relevant pages of the IM for the parts required. The parts needed for this particular model are those required for **scheme A on page 23 of the IM.***

General:

Refer to pages 12 to 17 and 20 to 22 of the IM for the remaining parts required.

Remove the remaining parts from their mold gates.

Scrape or sand away any mold flash or seam lines from the edges of the parts.

Assembly:

NOTE: *Before any assembling of parts, make sure all primer and paint is removed from the mating surfaces, holes and recesses.*

Cement the tail skid A7 into its location in the rear of the fuselage and onto the fitted tail skid fairing B1.

Cement the tailplane and elevator assembly into the tailplane locating recess in the rear of the fuselage and the fuselage sides, making sure the assembly is horizontal to the fuselage when viewed from the rear.

Cement the fin into its locating slot in the top, rear of the fuselage with the bottom of the rudder post onto the tail skid.

Cement together the two halves G7 and G8 of the upper wing centre section.

Cement the two upper wing outer sections F2 and F4 into the wing centre section.

NOTE: *The following steps are only necessary if the ailerons are to be angled on the wings.*

Temporarily fit the lower G10 and G11 wing ailerons G2 and G4 fully onto their locating rods in the lower wing.

Temporarily fit the upper wing ailerons G2 and G4 fully onto their locating rods in the upper wing.

Slightly bend the upper and lower left ailerons either up or down and the upper and lower right ailerons in the opposite direction.

Pull the ailerons slightly away from the wings.

Apply thin CA adhesive onto the exposed locating rods in the wing.

Fully locate the ailerons onto their locating rods and against the wings.

Test fit the lower wing into the underside of the fuselage, making sure the wing fully locates into the fuselage and the front and rear edges of the centre section align with the fuselage edges.

Remove the wing to apply cement to the mating edges on the fuselage underside.

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

Cement the landing gear assembly into its locating holes in the fuselage underside and lower edge.



Cement the oil tank filler A23 into its locating hole in the fuselage forward right side.

Cement part B17 into its locating recess in the underside, centre section of the lower wing.

Painting:

Mask off all openings in the fuselage, as well as the two cockpits and the engine.

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

- Fuselage and lower wing assembly.
- Upper wing assembly.
- Engine cylinder cover B22.
- Four interplane struts B2, B3 and D16 (x 2).
- Aileron interconnecting struts D15 (x 2).
- Four fuselage cabane struts B31 to B34.

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

- Four interplane struts B2, B3 and D16 (x 2).
- Aileron interconnecting struts D15 (x 2).
- Four fuselage cabane struts B31 to B34.

Struts:

Wood effect:

NOTE: Refer to Part 4 (Wood Effects) of this build log for more information. The light colour wood effect for the various struts was created using 'Windsor & Newton' Griffin (Alkyd) **Raw Sienna** oil paint. When applying the oil paint, brush it along, not across, the struts.

Brush a covering coat of the 'Windsor & Newton' Griffin Alkyd **Raw Sienna** oil paint over the interplane, cabane and aileron struts (ten in total).

Leave the oil paint to settle for approximately a minute.

Decant a small amount of White Spirits into a suitable dish.

Dip a soft brush into the White Spirit then wipe the brush on a sheet of kitchen roll, which should not deposit any fibers in the oil paint, to remove most of the White Spirit.

Brush the oil paint in the required direction of the wood grain and keep wiping the brush on the sheet to remove residual oil paint.

Repeat dipping and wiping the brush in the White Spirits and brushing the oil paint until the desired density and effect is achieved.

Leave the oil paint to fully dry. It should be touch dry in an hour or so and fully dry within 12 hours.

Protect and seal the wood finishes in preparation for decals by airbrushing with a gloss clear coat, such as 'Tamiya' Semi-Gloss (X35) or similar.

Brush paint the end caps on the four interplane and four cabane struts with 'Tamiya' Rubber Black (XF85) or similar.

Brush paint the end caps on the two aileron interconnecting struts with 'Tamiya' Rubber Black (XF85) or similar.

Decals:

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

Apply the kit supplied decals 47 midway up the outer surfaces of the four interplane struts.

Apply the kit supplied decals 47 midway up the outer surfaces of the four fuselage cabane struts.

Painting (continued):

Brush paint the round openings in the strut end caps with 'Tamiya' Desert Yellow (XF59) or similar.

Airbrush the struts with a semi-matte clear coat, such as 'Tamiya' Semi-Gloss (X35) or similar.



NOTE: Refer to the following colour profile for locations of the various colours.



Airbrush the engine top cover with 'MRP' Black (MRP-255) or similar.

Airbrush the engine top cover with 'MRP' Khaki Green (MRP-333) or similar.

Mask off the fuselage to leave just the exposed fuel tank, forward from the cockpit.

Mix 'Tamiya' NATO Brown (XF80) with Red (X7) to a ratio of approximately 60/40% to create a red/brown colour.

Airbrush the exposed fuel tank with the created paint colour.

Remove the masking.

Mask off the forward fuselage and fuel tank to leave just the white coloured areas exposed.

Airbrush the exposed areas with 'MRP' Bianco White (MRP-308) or similar.

Remove the masking.

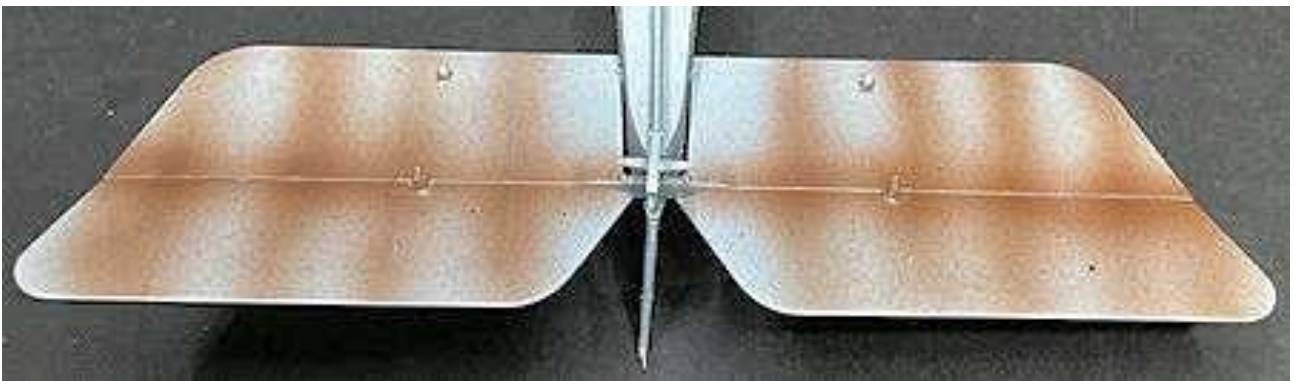


Airbrush along the rib tapes of the following with 'MRP' Dark Wood (MRP-262) or similar:

Underside of the upper wing and ailerons.

Underside of the lower wings and ailerons.

Underside of the tailplane and elevators.



Airbrush seven frame shadows on the underside of the fuselage with 'MRP' Dark Wood (MRP-262) or similar.



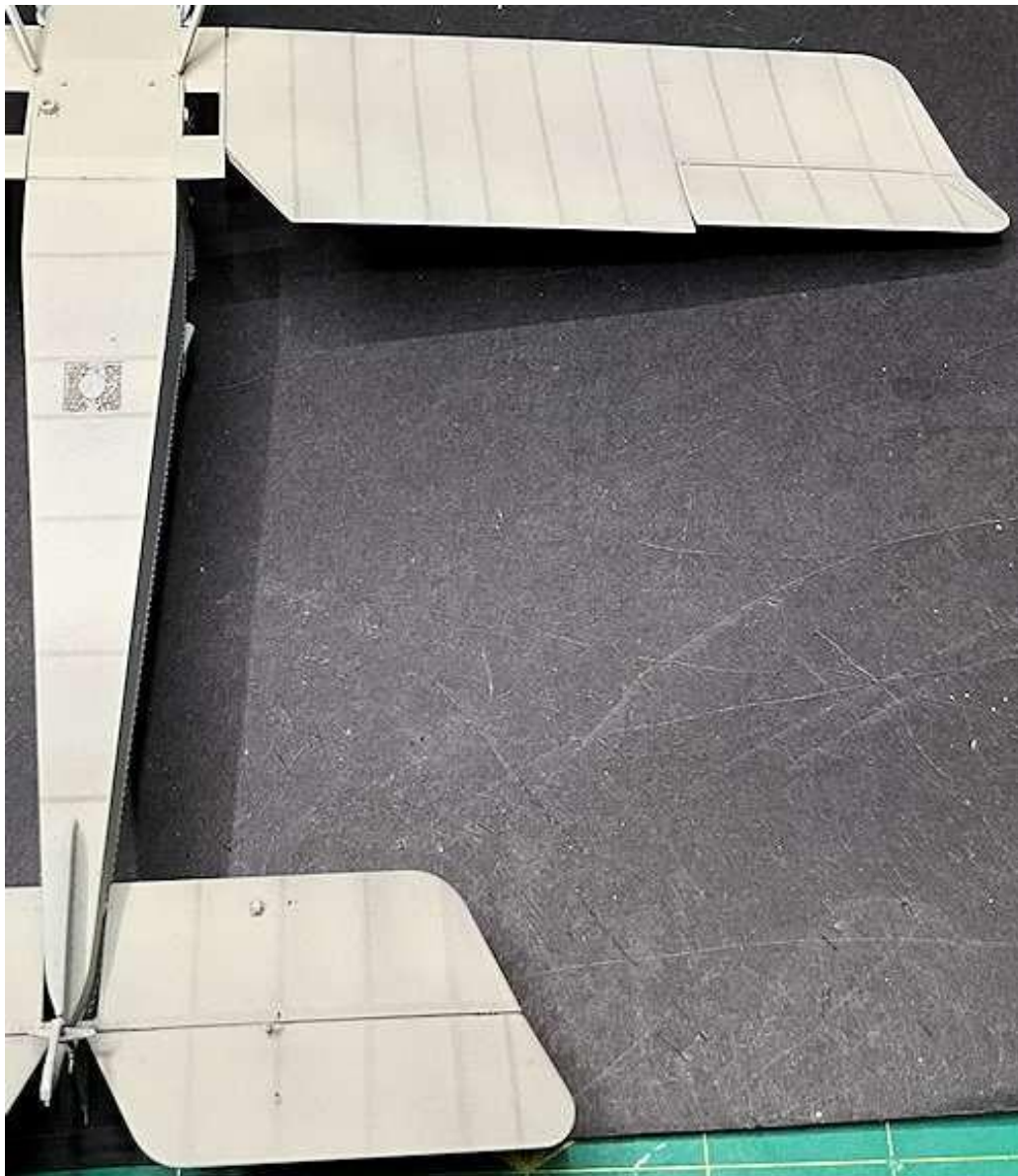
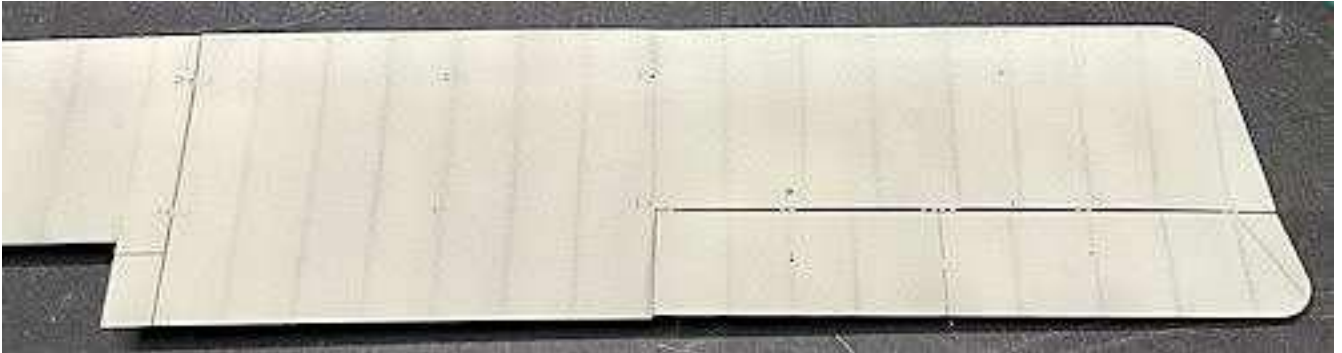
Mask off all of the previously painted rib tapes using 1.0 mm wide strips of masking tape.

NOTE: *During the following step, the intention is to partially cover ('knock back') the painted Dark Wood rib tapes with the Deck Tan topcoat in order to create a faded effect for the rib tapes. Do not airbrush too much covering as a second coat of Deck Tan will be required when the masking strips are removed.*

Lightly airbrush the masked/painted surfaces with 'Tamiya' Deck Tan (XF55) or similar to cover the surface, but only lightly fade the exposed Dark Wood painted ribs.

Remove all of the masking strips.

Lightly airbrush the surfaces with 'Tamiya' Deck Tan (XF55) or similar to further lightly fade the exposed Dark Wood painted ribs.



NOTE: *The fuselage openings, cockpits and engine should still be masked off.*

Mask off the following on the fuselage/lower wing assembly, leaving just the upper and side surfaces exposed:

- Painted fuel tank.
- White painted areas.
- Landing gear.
- Underside of the fuselage.
- Underside of the tailplane and elevators.

Airbrush the exposed engine side and underside panels with 'MRP' Black (MRP-255) or similar.

Airbrush the following surfaces with 'MRP' Khaki Green (MRP-333) or similar:

- Top surfaces of upper wing and ailerons.
- Engine side and underside panels.
- Top surfaces of lower wings and ailerons.
- Top surfaces of tailplane and elevators.
- Fuselage sides and top surfaces.
- Tail skid.
- Tail skid fairing.
- Fin.

Remove all applied masking, including previously applied asking to fuselage openings, cockpits and engine.







Painting details:

Brush paint the following with 'Mr. Metal Colour' Stainless Steel (213) or similar:

- Four carburettor air intake pipes.
- Oil tank filler pipe.
- Tail skid shoe.
- Lower wing foot plates.
- Elevator cable pulleys under the tailplanes.

Brush paint the following with 'Mr. Metal Colour' Brass (219) or similar:

- Magneto starter switch on the fuselage left side of the cockpit.
- Two fuel tank filler caps.
- Oil tank filler cap.

Brush paint the following with 'AK interactive' British Uniform (AK3081) or similar:

- Pilots cockpit surround padding.
- Cable outlet surrounds for the tail skid and rudder.

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

Brush paint the following with 'Tamiya' Rubber Black (XF85) or similar:

- Landing gear axle.
- Rudder control horns.
- Elevator control horns.
- Tail skid control horns.
- Metal fitting on wings.
- Protruding cylinder in underside of lower wing centre section.
- Bomb sight (photo-etch P3).

Assembly (continued):

Cement the camera box surround into its location in the underside of the fuselage.

Using thin CA adhesive, secure the bomb sight into its recess in the left lower wing cut-out.

Cement the engine top cover onto the front of the fuselage bulkhead with its bottom openings fully over the engine cylinders.

Decals (continued):

NOTE: The decals used are the 'Xtradecal Parallel White Stripes (XPS2) and the Parallel Black Stripes (XPS1).

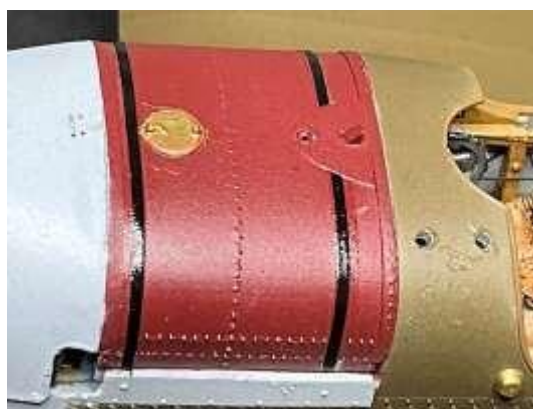
Fuel tank retaining straps:

NOTE: Refer to the following illustration and Part 6 (Decals) for more information.



Cut two of the 1 mm wide Xtradecal Parallel Black Stripes (XPS1) and long enough to apply over the pre-molded retaining straps on the fuel tank.

Apply the two black stripes over the pre-molded retaining straps on the fuel tank.



Fuselage stripes:

NOTE: Refer to the following illustration and Part 6 (Decals) for more information.



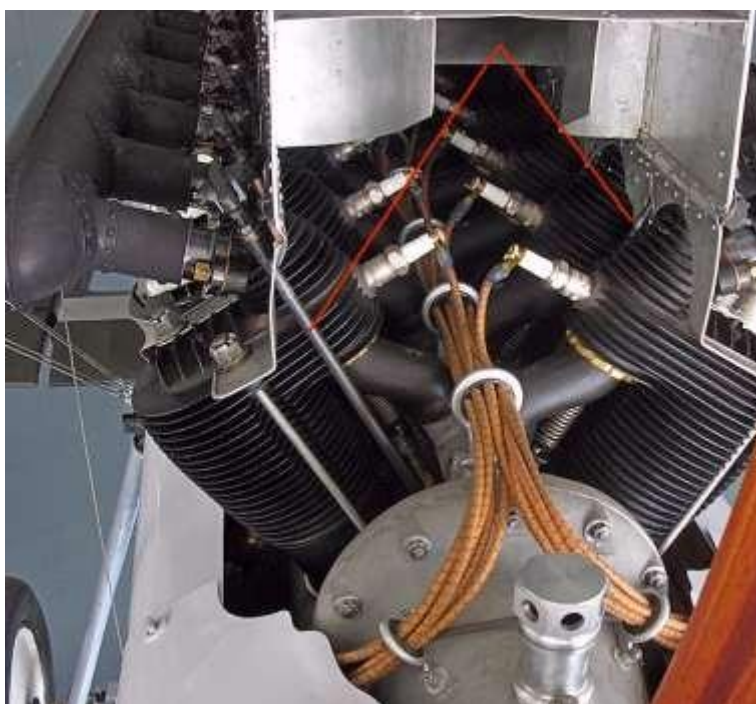
Cut four of the 2 mm wide Xtradecal Parallel White Stripes (XPS2) and long enough to wrap around the fuselage.

Apply the four white stripes to the fuselage.



Modifications:

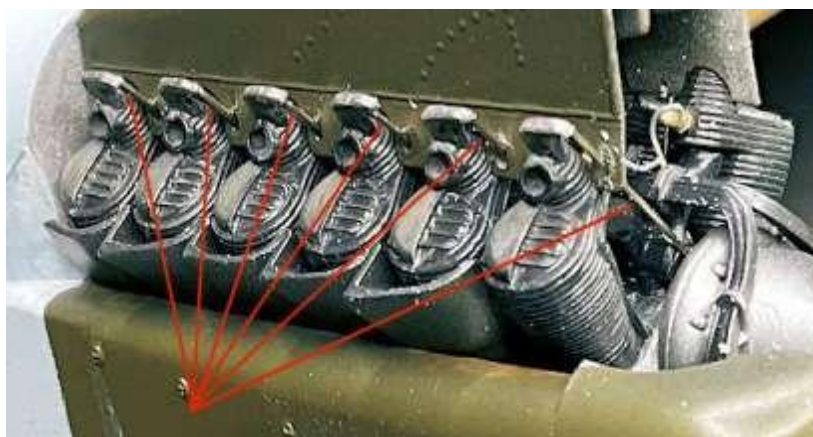
NOTE: *The valve push rods on the engine cylinders pass through the bottom fins of the engine top cover.*



The twelve pre-molded push rod holes in the bottom fins of the top cover were carefully drilled out to 0.5 mm diameter, to allow for better alignment of the inserted tubes.

Twelve short lengths of 0.3 mm diameter Nickel-Silver tube, such as 'Albion Alloy's' NST03 or similar were cut.

Each tube was inserted into its push rod hole and secured to the underside of its valve tappet, using thin CA adhesive.



Decals (continued):

NOTE: *Refer to Part 6 (Decals) of this build log for more information. Some decals used are from the kit supplied sheet. Others are from the 'Pheon' RE.8 decal sheet (32038).*

Refer to page 23 of the kit IM and the 'Pheon' supplied colour profiles for relevant decal placement. The kit decals used are 31, 37 (x 14) and 49 (x 6).

The fin serial number A3715 is made of parts from the kit decals 21, 22, 27 and 30.

The upper and lower wing Belgian roundels are used from the 'Pheon' decal sheet.

The 'Pheon' rudder decals have the number one. However, the aircraft being modelled has the number six. Therefore, the rudder markings will need to be modified.

The aircraft modelled has a data plate located on the lower, left side of the forward fuselage. Appropriate decal from my 'spares' collection was used.

The aircraft probably had data plates fitted near the two filler caps on the fuel tank. Appropriate decals from my 'spares' collection was used.

Make sure the surfaces to have decals are smooth and free from any imperfections. If necessary, lightly sand the surfaces in preparation for applying decals.

Airbrush a clear gloss coat, such as 'Tamiya' Clear (X22) or similar, over the areas of the model where decals are to be applied.

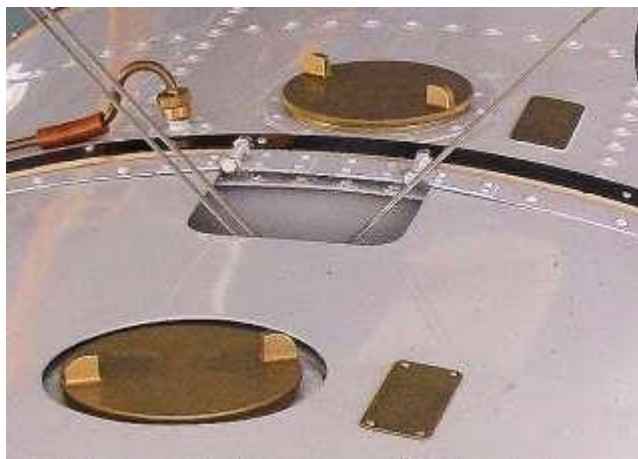
Refer to the 'Pheon' colour profile and apply the upper and lower wing roundels to the wings and their ailerons.

Refer to page 23 of the kit IM and apply the previously stated kit decals to their relevant locations on the model.

Apply the decal for the fuselage data plate to the lower, left side of the fuselage.



Apply the decals for the fuel tank data plates onto the fuel tank, near the filler caps.



Rudder:

NOTE: *The serial number six on the rudder was from the 'Xtradecal' Serial Letters and numbers (X32021) set.*

Painting:

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

Airbrush the rudder with 'Tamiya' Flat Yellow (XF4) or similar to match as close as possible the yellow of the 'Pheon' rudder decal.

Brush paint the rudder control horns with 'Tamiya' Rubber Black (XF85) or similar.

Cut away the black and red sections of the 'Pheon' rudder decal.

Discard the cut away yellow section.

Airbrush the rudder with a clear gloss coat, such as 'Tamiya' Clear Gloss (X22) or similar.

Apply the red and black section of the 'Pheon' decal either side of the painted yellow area.

Apply the serial number six from the 'Xtradecal' Serial Letters and numbers (X32021) set central on the yellow painted area.

Apply kit decal 31 to the top, right side of the rudder.





Assembly (continued):

NOTE: Refer to page 21 of the kit IM. Before any assembling of parts, make sure all primer and paint is removed from the mating surfaces, holes and recesses.

Remove the two mounts (P4 and P6) for the gun rail from the supplied photo-etch sheet .

NOTE: When bending the photo-etch parts, lay the part down with the bend grooves facing upwards and bend the sections of the part towards the bend lines.

Bend the outer centre tab 90 degrees to the centre tab.

Bend the two end tabs to 90 degrees.

Bend the two side arms 90 degrees to the centre tab, so that the two ends of the arms meet.

Clip the pivot ends of the gun rail R11 into its locating lugs on the swivel ring R17.

Locate the two side arms around the gun rail and against its rollers, so that the two ends of both side arms join in their locating recesses in the swivel ring.

NOTE: Position the gun rail in the desired position against the side arms before securing in place.

Secure the side arms in their locating recesses and against their gun rail rollers, using thin CA adhesive.



Painting details (continued):

General:

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

- Lewis gun mount assembly.
- 'Constantinesco' synchronizing system A51.
- Vickers gun supports A34 and A51.
- Modified 'Aldis' gun sight A48.
- Airial weight A21.
- Exhaust pipe stays D2 and D3.
- Magneto starter handle (A41).

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

- Lewis gun mount assembly.
- Vickers gun supports A34 and A51.
- Modified 'Aldis' gun sight A48.
- Exhaust pipe stays D2 and D3.

Airbrush the following parts with 'Alclad' Steel (ALC112) or similar:

- 'Constantinesco' synchronizing system A51.
- Airial weight A21.

Airbrush the Magneto starter handle (A41) with 'Mr. Metal Color' Brass (219) or similar.

Brush paint the rollers on the gun rail of the mounting for the Lewis machine gun with 'Mr. Metal Colour' Stainless Steel (213) or similar.

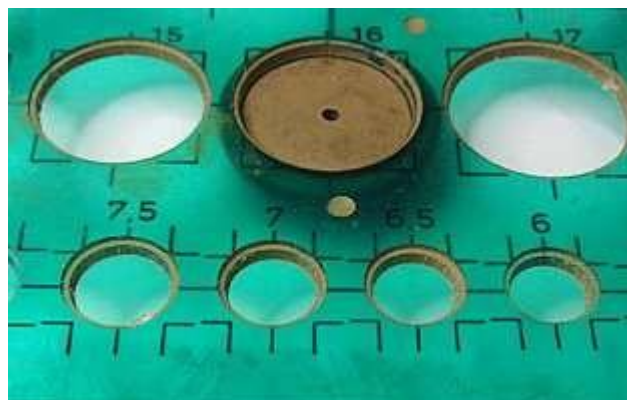
Airbrush the painted parts semi-matte clear coat, such as 'Tamiya' Semi-Gloss (X35) or similar.

Brush paint the propeller on wireless generator with 'Tamiya' NATO Brown (XF68) or similar.

Brush paint the frame around the windscreen with 'Tamiya' Rubber Black (XF85) or similar.

Wheels:

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



The kit supplied wheels have the tyre manufacturers name and tyre size on both sides of the tyre. The kit supplies this text in the form of decal 50 (x 4), which matches the size and format of the pre-molded text on the tyres. However, the text looked too large and text actually stood proud of the tyre sides. Therefore, I chose not to use the kit decals 50 and also to sand away the pre-molded text on the tyre sides and replace the decals with ones of a more appropriate size (from my 'spares' collection).

Sand away the pre-molded tyre text and edge shoulder from both sides of both wheels.

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

Wheels D8 (x 2).

Wheel outer covers D9 (x 2).

Airbrush the tyres around the wheels with 'Tamiya' Rubber Black (XF85) or similar.

Airbrush the following with 'MRP' Khaki Green (MRP333) or similar:

Inside of the two wheels D8.

Wheel rear covers.

Wheel outer covers D9.

Rub a pencil lead along the inflation valve and spokes on the inner surface of both wheels to create a metallic finish.

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

Brush around the tyre edges on both wheels with a clear gloss coat, such as 'Tamiya' Clear (X22) or similar.

Apply the replacement tyre text decals in the same position on both sides of both wheels.

Airbrush the two wheels and outer covers with a semi-matte clear coat, such as 'Tamiya' Semi-Gloss (X35) or similar.



Modifications (continued):

Lewis machine gun mounting:

NOTE: The Lewis machine gun was raised or lowered on the side arms of the gun mounting. To allow this to happen, movement of the gun rail was assisted by 'bungee' type cords. These were wrapped around the base and rollers of the gun rail and the tops of the two side arms.



Drill a hole of 0.4 mm diameter vertically down through the swivel ring and behind the pivot for the gun rail.

Drill a hole of 0.4 mm through both sides at the bottom of the pulleys at the pivot for the gun rail.

Cut a long length of 'EZ' black stretch line (Fine).

Pass one end of the line down through the hole in the swivel ring, behind the gun rail pivot.

Pass the opposite end of the line through one of the holes drilled through the bottom of the pulley.

Pass the line up to and around the bottom of the pulley at the side arm.

Pass the line up and over the top of the side arm.

Keeping the line taut, secure the line to the pulley and top of the side arm using thin CA adhesive.

Pass the line down and around the bottom of the pulley on that side of the side arm.

Keeping the line taut, secure the line to the pulley.

Pass the line back and through the remaining hole drilled through the bottom of the pulley.

Pass the line down through the hole in the swivel ring, behind the gun rail pivot.

Keeping the two lines taut, secure the lines in the swivel ring, using thin CA adhesive.

Cut away any residual end of line from the underside of the swivel ring.

Repeat the procedure to the opposite side of the gun mounting.



Weathering:

NOTE: Refer to Part 5 (Weathering) of this build log for more information.

Airbrush the upper wing, fuselage/lower wing assembly and the wheels and their outer covers with a semi-matte clear coat, such as 'Tamiya' Semi-Gloss (X35) or similar. This will protect and seal the applied paint and decals and provide an appropriate surface for applying weathering.

Brush 'Flory Models' Dark Dirt fine clay wash over the upper wing, fuselage/lower wing assembly, rudder and the wheels and their outer covers.





Flick 'Flory Models' Grime fine clay wash onto the underside of the lower wings to the rear of the landing gear wheels (when fitted).

Once dry, remove the excess with a moistened brush, piece of absorbent kitchen roll or a cotton bud (Q-tip) to achieve the desired effect.

Seal the applied weathering by airbrushing with a semi-matte clear coat, such as 'Tamiya' Semi-Gloss (X35) or similar.

Brush 'AK Interactive' Kerosene wash (AK2039) around the two filler caps on the fuel tank.

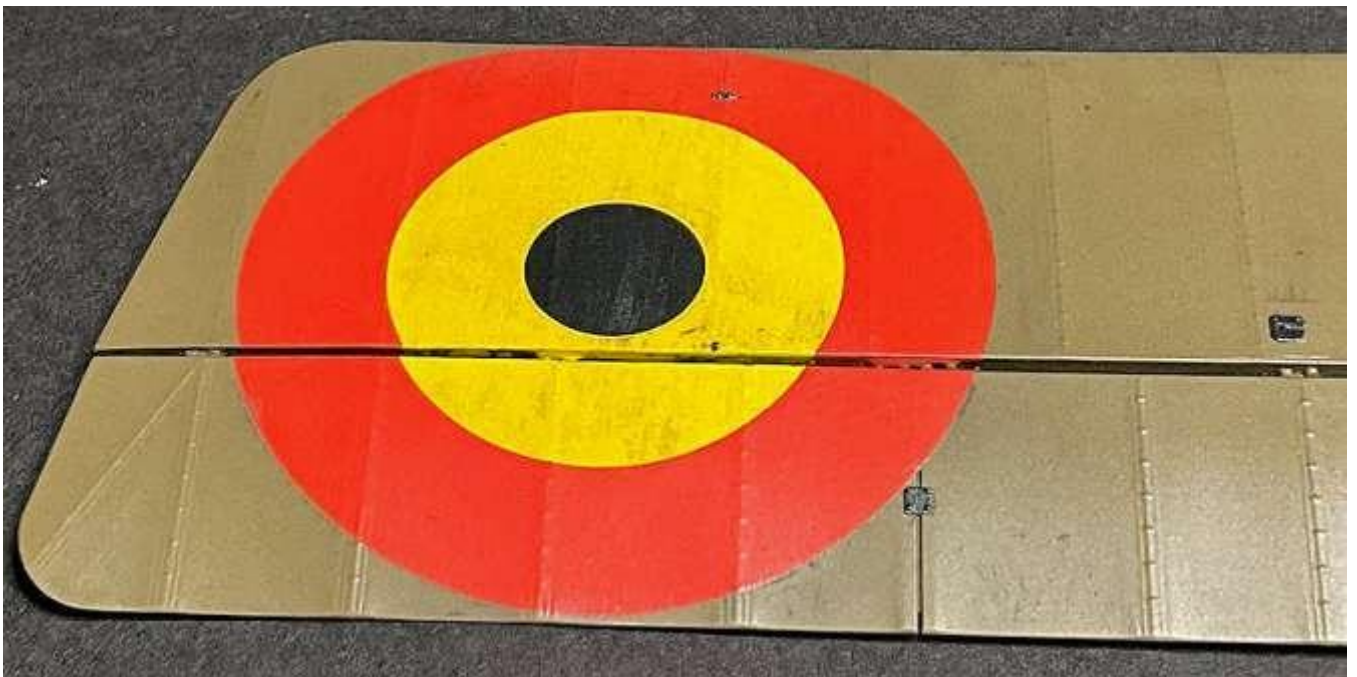
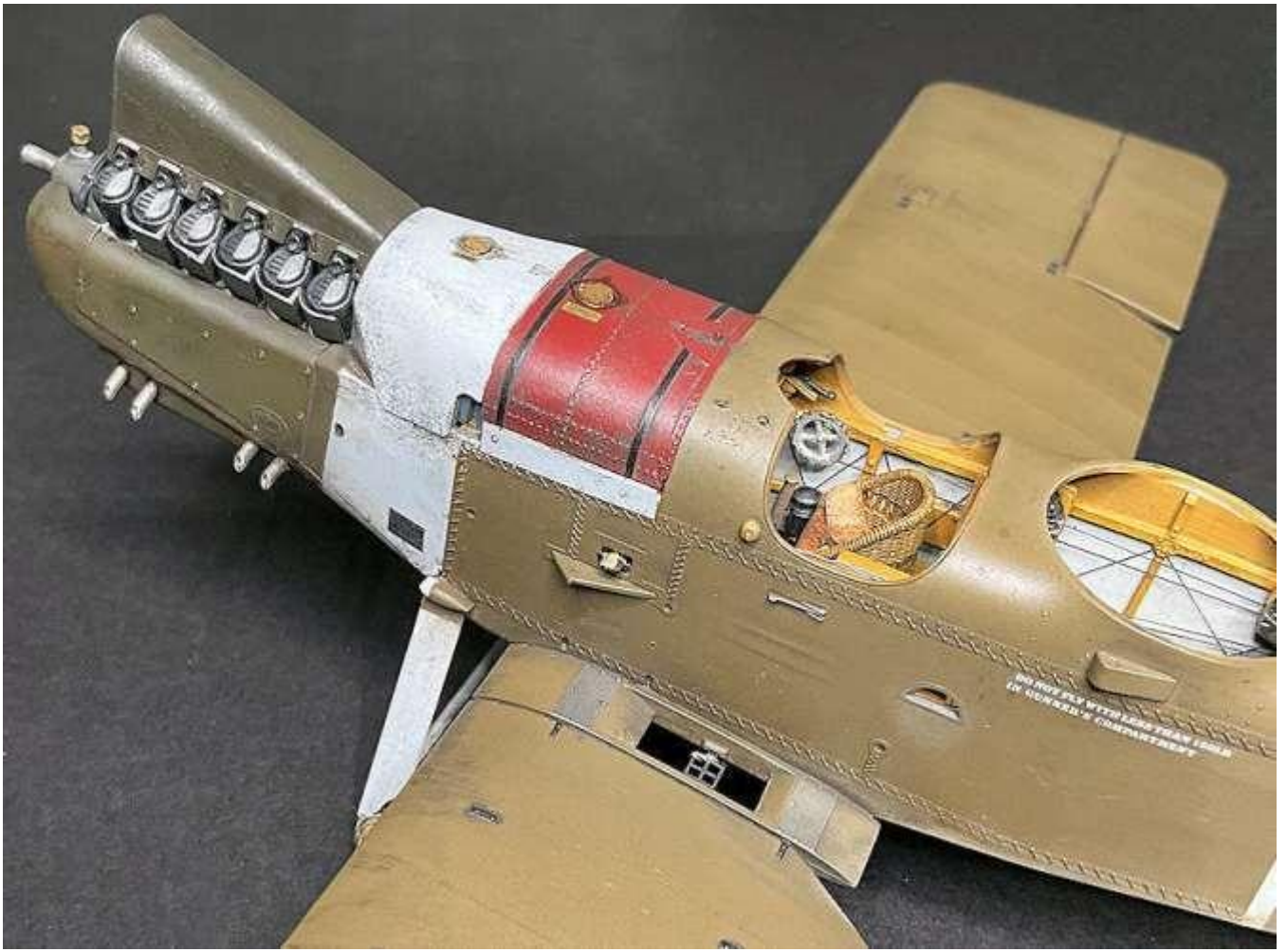
Lightly brush 'AK Interactive' Engine Oil (AK2019) down the oil tank filler pipe in the fuselage right side.

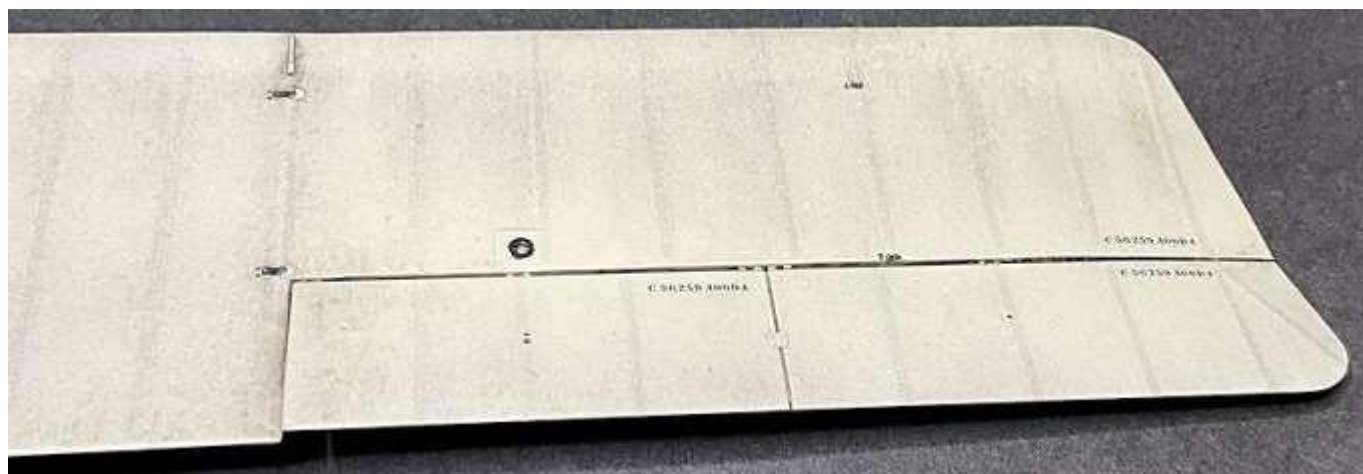
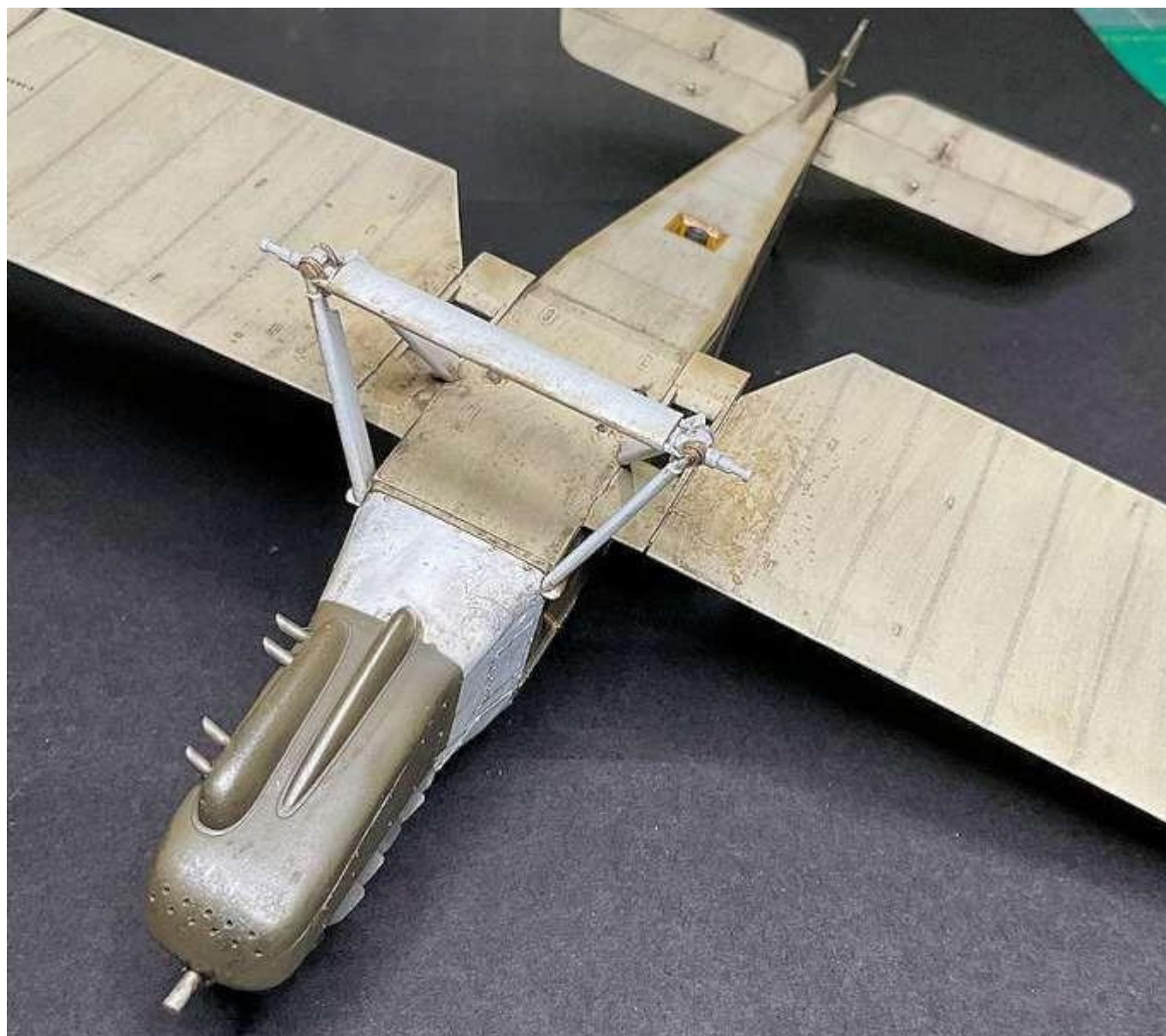
NOTE: Dry brush by using a domed and soft brush, which has been dipped in the paint. Dab the brush on an absorbent paper to remove the liquid paint, leaving paint pigment on the brush.

Dry brush around the metal access panels on the fuselage and wings with 'Mr. Metal Color' Super Iron 2 (203) or similar, to create a worn metallic surface.

Lightly sponge 'Tamiya' Weathering Master Set D (Oil Stain) behind the rear edges of the engine panels.

Lightly sponge 'Tamiya' Weathering Master Set A (Mud) along the bottom edges of the fuselage.







Assembly (continued):

NOTE: Refer to pages 12 and 21 of the kit IM. Before any assembling of parts, make sure all primer and paint is removed from the mating surfaces, holes and recesses.

Cement the 'Scarf' gun mounting assembly (for the Lewis machine gun) into the opening of the observers cockpit.

Cement the 'Vickers' machine gun onto its mounting. The rear locating rod locates into its locating hole the fuselage side and the front, inner lug on the bottom of the gun locates against the small pin on the fuselage gun mount. Make sure the gun is vertical and parallel with the fuselage side.

Locate the 'Constantinesco' gear A15 into its two locating holes in the fuselage side, with the rear end against the rear of the gun breach block and between the added handle and the cocking lever.

Cement the gear into the fuselage and against the rear of the breach block.

Cement the rear stay A33 into its locating recess at the bottom of the fuselage side and into rear locating recess on the outer, bottom of the gun breach block. The top of the support stay is fitted between the 'Constantinesco' gear and gun breach block.

Cement the forward stay A34 into its locating recess at the bottom of the fuselage side and into forward locating recess on the outer, bottom of the gun breach block. The top of the support stay is fitted outside of the 'Constantinesco' gear.



Pre-rigging:

NOTE: *At this stage of the build, it is easier to prepare as much of the rigging as possible before the upper wing is fitted. This will make access for final rigging less restricted.*

The rigging materials used are as follows:

'Albion Alloy's' or 'Bobs Buckles' 0.5 mm (MBT05) diameter Brass tube.

'HGW' 1/32nd scale Spoke Eyelets (132129).

'Steelon' or 'Stroft GTM' fishing line (0.08 mm and 0.12 mm diameter).

'Proper Plane' 3D printed turnbuckles (RD-005).

Make sure all pre-drilled rigging holes in Part 14 (Rigging Preparation) of this build log, are free from primer and paint. If necessary, clear holes with the appropriate diameter drill.

Inner and intermediate flying wires:

Cut four long lengths of 0.12 mm diameter line.

Fully locate the one end of each line into a pre-drilled hole at the bottom edge of the fuselage at the left lower wing root.

Secure the four lines in their holes using thin CA adhesive, making sure the lines are not glued together.

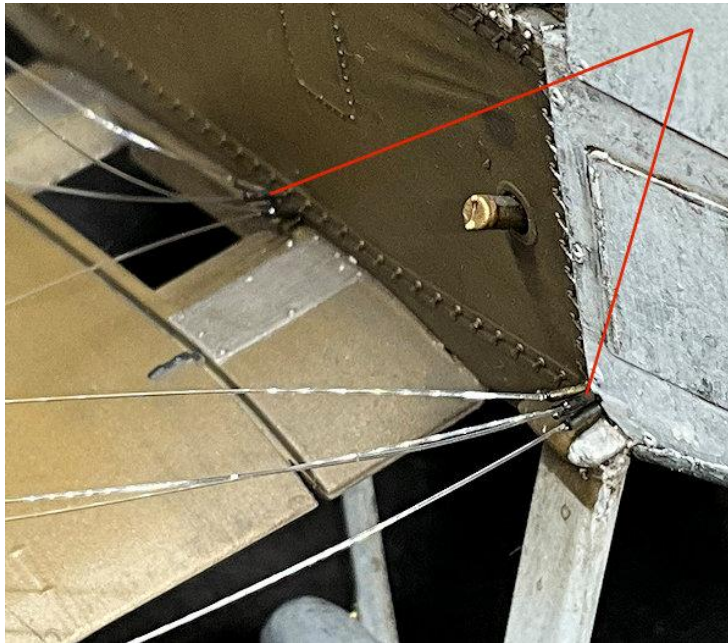
NOTE: *Nickel-Silver or Brass tube can be chemically blackened by immersion in solutions such as AMMO Mig photoetch Burnishing Fluid (A.MIG-2021), then rinse and dry the blackened tubes to prevent powdering of the surfaces.*

Slide a short length of blackened 0.4 mm diameter Brass or Nickel-Silver tube onto each line.

Slide each tube up to the fuselage and secure on its line using thin CA adhesive, making sure the tubes and lines are not glued together.

Repeat the procedure to a line into the four pre-drilled holes in the fuselage above the landing gear forward strut.

Repeat the procedure to fit lines into the eight pre-drilled holes on the right side of the fuselage.



Prepare eight 'HGW' 1/32nd scale Spoke Eyelets (132129).

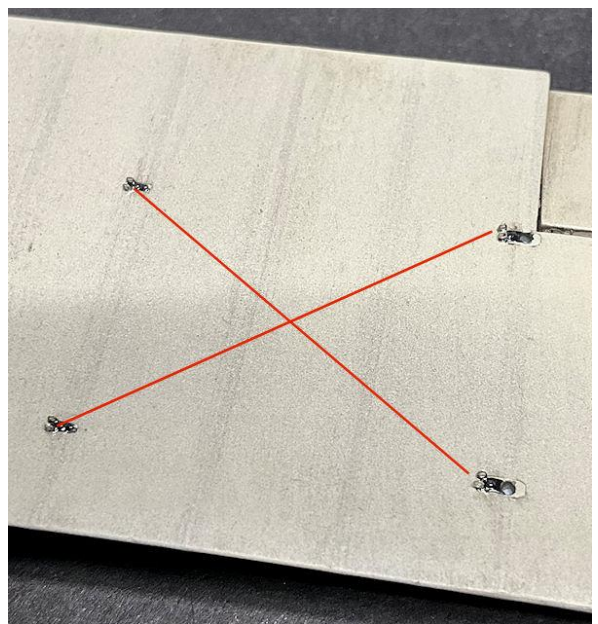
Using thin CA adhesive, secure an eyelet into each of the pre-drilled hole pairs in the left underside of the upper wing, inboard from the interplane strut locating holes and those midway between the struts and wing centre section.

Repeat the procedure to fit eight eyelets into the right underside of the upper wing.

Outer flying wires:

Prepare six 'HGW' 1/32nd scale Spoke Eyelets (132129).

Using thin CA adhesive, secure an eyelet into each of the four pre-drilled holes in the top surface of the left lower wing, outboard from the interplane strut locating holes.



Using thin CA adhesive, secure an eyelet into the two pre-drilled holes in the underside of the upper wing top surface of the left lower wing, outboard from the interplane strut locating holes.

Repeat the procedure to fit eight eyelets into the right underside of the upper wing, between the locating holes for the interplane struts and the outer wing tips.

Repeat the procedure to fit six eyelets into the pre-drilled holes in the right upper and lower wings.

Cut four long lengths of 0.12 mm diameter line.

Cut four short lengths of 0.5 mm diameter blackened tube.

Pass a line through one of the eyelets on the underside of the upper wing.

Slide a tube onto the line.

Loop the line back and through the tube.

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

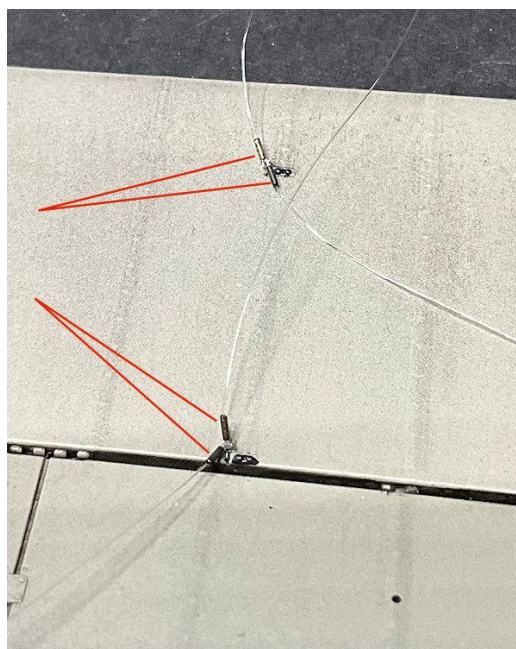
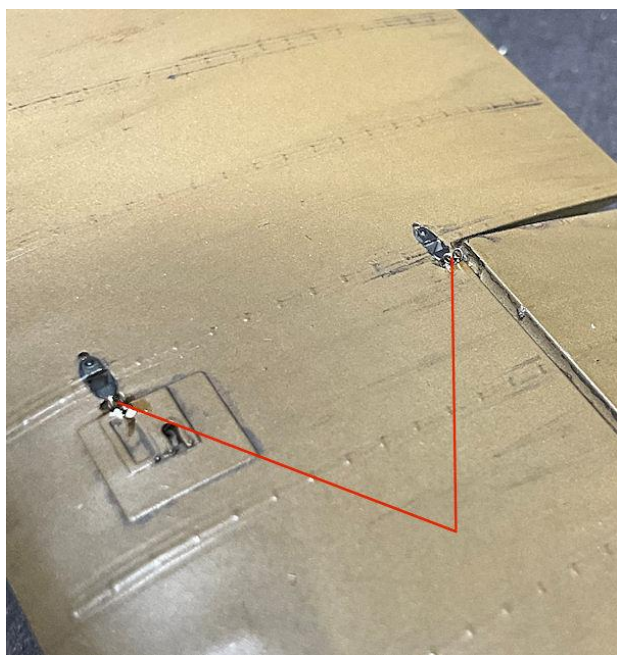
Secure the tube on the lines using thin CA adhesive.

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

Repeat the procedure to add a second lone to the eyelet.

Repeat the procedure to add two lines to the opposite eyelet.

Repeat the procedure to add four lines to the eyelets on the other underside of the upper wing.



Landing wires:

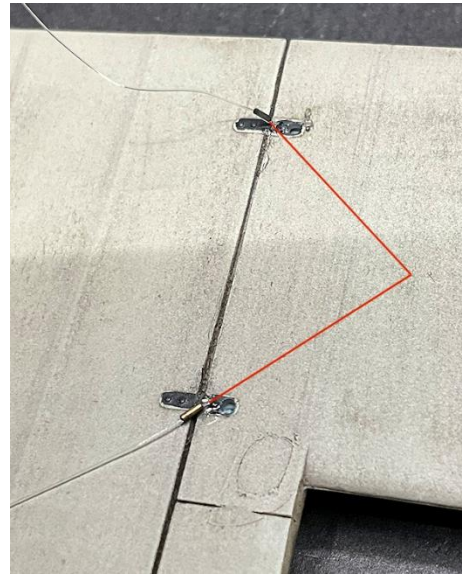
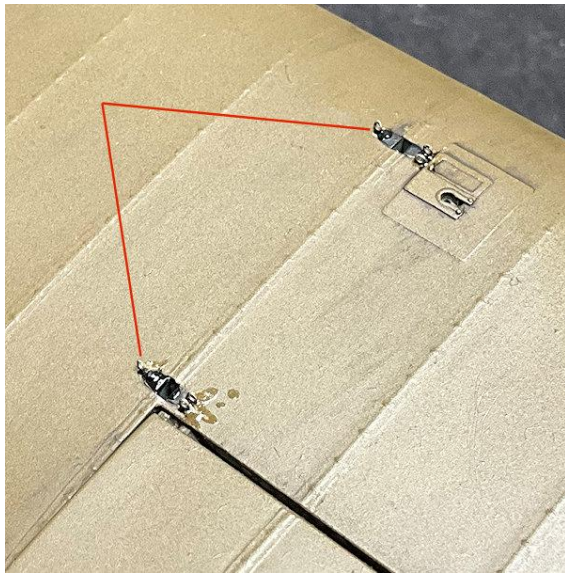
Prepare four 'HGW' 1/32nd scale Spoke Eyelets (132129).

Using thin CA adhesive, secure an eyelet into the pre-drilled holes in the top surface of the lower wings, inboard from the locating holes for the interplane struts.

Using thin CA adhesive, secure an eyelet into the pre-drilled holes in the underside of the upper wing, outboard from the locating holes for the four fuselage cabane struts.

NOTE: Use the outer flying wires procedure for adding lines to the eyelets.

Add a line to each of the eyelets outboard from the locating holes for the fuselage cabane struts in the underside, centre section of the upper wing.



Drag wires:

Cut two long lengths of 0.12 mm diameter line.

Cut two short lengths of 0.4 mm diameter blackened tube.

Pass a line fully into a pre-drilled hole in the forward side of the fuselage at the engine access panels.

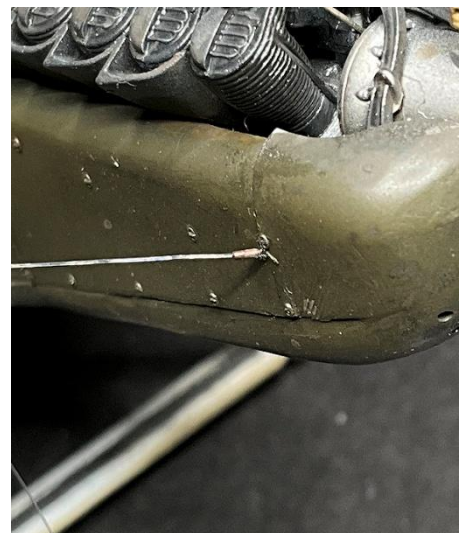
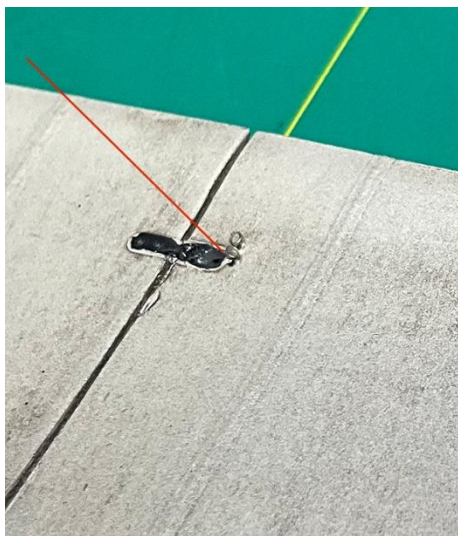
Secure the line in the holes using thin CA adhesive.

Slide a tube onto the line.

Secure the tube on the line using thin CA adhesive.

Repeat the procedure to add a line to the other side of the fuselage.

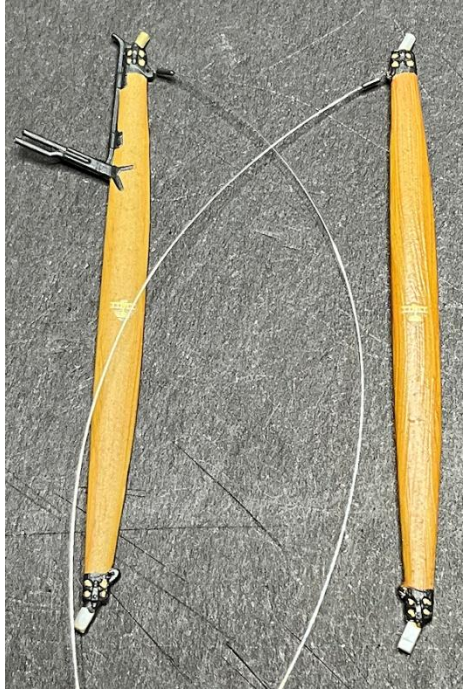
Using thin CA adhesive, secure an eyelet into the pre-drilled holes inboard from the locating holes for the fuselage cabane struts in the underside, centre section of the upper wing.



Incidence wires:

NOTE: Use the outer flying wires procedure for adding lines to the interplane struts.

Add a line to the pre-drilled holes through only the **top** rigging brackets on each of the four interplane struts.



Fuselage cabane strut bracing wires:

Side bracing wires:

NOTE: Use the outer flying wires procedure for adding lines to the fuselage cabane struts.

Add a line to the pre-drilled holes through only the **bottom** rigging brackets on each of the four fuselage cabane struts



Front crossed bracing wires:

Using thin CA adhesive, secure an eyelet into the pre-drilled holes forward from the locating holes for the fuselage cabane struts in the underside, centre section of the upper wing.

Cut two long lengths of 0.12 mm diameter line.

Cut two short lengths of 0.4 mm diameter blackened tube.

Using thin CA adhesive, secure one end of the lines into the two rear pre-drilled holes in the fuselage decking panel. Leave the forward pair of holes clear.

Slide a tube onto each line and up to the decking panel.

Secure the tubes on to the lines using thin CA adhesive.



Upper wing king post bracing wires:

Cut two long lengths of 0.12 mm diameter line.

Cut two short lengths of 0.4 mm diameter blackened tube.

Using thin CA adhesive, secure a line into the two pre-drilled holes in the top surface of the upper wing.

Slide a tube onto each line and up to the wing surface.

Secure the tubes on to the lines using thin CA adhesive.

Repeat the procedure to add two lines to the other side of the upper wing.



Landing gear crossed bracing wires:

Cut two long lengths 0.12 mm diameter line.

Cut four short lengths of 0.4 mm diameter blackened tube.

Pass a line through the pre-drilled holes in the top of the landing gear forward struts.

Secure the lines in the holes using thin CA adhesive.

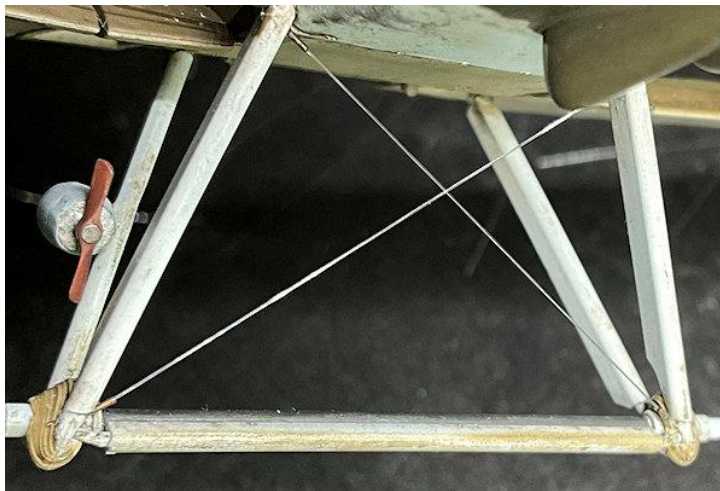
Slide two tubes onto each line.

Pass the lines diagonally down and through the pre-drilled holes in the bottom of the landing gear forward struts.

Keeping the lines taut secure them into the struts using thin CA adhesive.

Cut away any protruding end tags of line at the outer edges of the struts.

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



Rudder control cables:

Cut six long lengths of 0.08 mm diameter line.

Cut eight short lengths of 0.5 mm diameter blackened tube.

Brush paint the centre barrel of four 'Proper Plane' 3D printed turnbuckles (RD-005) with 'Mr. Metal Color' Copper (215) or similar.

Slide a tube onto the line.

Pass a line through the eye end of a turnbuckle.

Loop the line back and through the tube.

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

Secure the tube to the lines using thin CA adhesive.

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

Pass the opposite end of the line through the pre-drilled hole in one end of the rudder control horn.

Slide a tube onto the line.

Pass the line through the eye end of a second turnbuckle.

Loop the line back and through the tube.

NOTE: During the following steps, leave just enough line in the control horn to allow both turnbuckles to be close to the control horn.

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

Secure the tube to the lines using thin CA adhesive.

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

Slide a tube onto a second line.

Pass the line through the free eye end of one of the turnbuckles.

Loop the line back and through the tube.

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

Secure the tube to the lines using thin CA adhesive.

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

Repeat to add the third line to the other turnbuckle.

Repeat the whole procedure to the opposite side of the rudder.



Tail skid control cables:

Cut four long lengths 0.08 mm diameter line.

Cut four short lengths of 0.5 mm diameter blackened tube.

Brush paint the centre barrel of two 'Proper Plane' 3D printed turnbuckles (RD-005) with 'Mr. Metal Color' Copper (215) or similar.

Slide a tube onto a line.

Pass the line through the eye end of a turnbuckle.

Loop the line back and through the tube.

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

Secure the tube to the lines using thin CA adhesive.

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

Repeat the procedure to add a line to the second turnbuckle.

Slide a tube onto a separate line.

Pass the line through the free eye end of one of the turnbuckles.

Loop the line back and through the tube.

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

Secure the tube to the lines using thin CA adhesive.

Pass one of the two lines from the tube through the pre-drilled hole in one end of the tail skid control horn.

Pass the other line from the other side through the pre-drilled hole in the tail skid control horn.

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

Secure the two lines into the control horn using thin CA adhesive.

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

Repeat the procedure to the other side of the control horn.



Elevator control cables:

NOTE: *Four lines need to be longer than needed to span between the elevator operating levers on the fuselage sides and elevator control horns.*

Cut six long lengths 0.08 mm diameter line.

Cut eight short lengths of 0.5 mm diameter blackened tube.

Slide a tube onto a line.

Pass the line through a pre-drilled hole in the rear top of one of the elevator control horns.

Loop the line back and through the tube.

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

Secure the tube to the lines using thin CA adhesive.

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

Pass the free end of the line rearwards and through the pre-drilled hole in the elevator.

Slide a tube onto a line.

Pass the line through the pre-drilled hole in the rear top of the elevator control horn.

Loop the line back and through the tube.

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

Secure the tube to the lines using thin CA adhesive.

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

Repeat the procedure to the other elevator.

NOTE: *To pre-rig the four long elevator control cables to the control horns, carry out the same procedure used to pre-rig the tail skid control cables.*

Attach a line to the forward pre-drilled holes in the top of the two upper elevator control horns.

Attach a line to the forward pre-drilled holes in the top of the two underside elevator control horns.

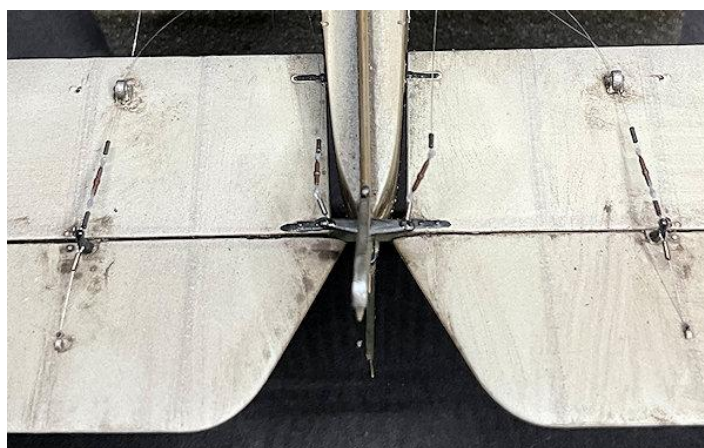
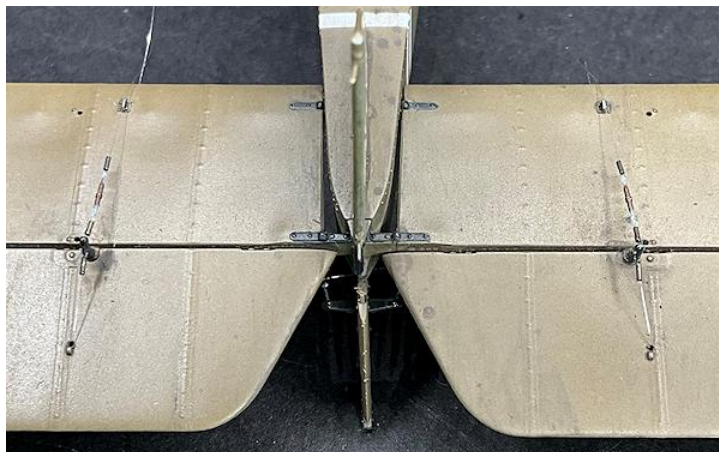
Cut away any residual end tags of line at the outer edges of the control horns.

Pass the free ends of the underside lines forward and through pre-drilled holes in the fitted pulleys.

Keeping the lines taut, secure them in the pulleys using thin CA adhesive.

Pass the upper lines forward and over the pre-molded cable fairleads on the tailplanes.

Keeping the lines taut, secure them onto the top of the fairleads using thin CA adhesive.



Fin/tailplane bracing wires:

Rear bracing wires:

Cut one long lengths of 0.12 mm diameter line.

Cut eight 0.4 mm diameter blackened tubes.

Pass one end of the line through the pre-drilled hole in the top, rear of the tail skid fairing.

Slide two tubes onto the line.

Pass the line up and through the pre-drilled hole in the trailing edge of the tailplane.

Slide two tubes onto the line.

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

Slide two tubes onto the line.

Pass the line down and through the pre-drilled hole in the trailing edge of the opposite tailplane.

Slide two tubes onto the line.

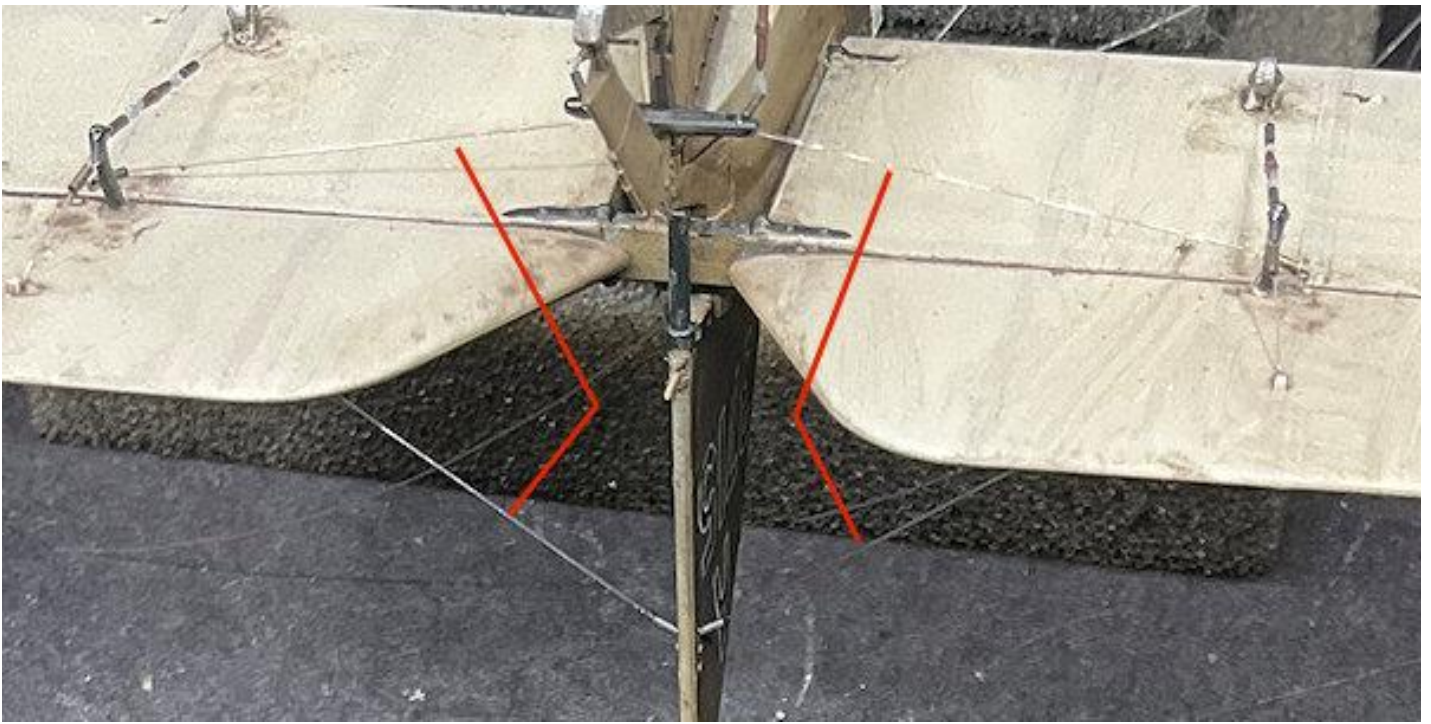
Pass the line through the pre-drilled hole in the top, rear of the tail skid fairing.

NOTE: During the following step, keep the tubes on the lines clear of the CA adhesive.

Keeping the two ends of the line taut, secure the lines in the tail skid fairing using thin CA adhesive.

Cut away any residual end tags of line at the tail skid fairing.

Slide the tubes on the lines up to the tail skid fairing, tailplanes and fin and secure the in position using thin CA adhesive.



Forward bracing wires:

Cut one long lengths of 0.12 mm diameter line.

Cut eight 0.4 mm diameter blackened tubes.

Insert one end of the line into the pre-drilled hole in the bottom edge of the fuselage rear.

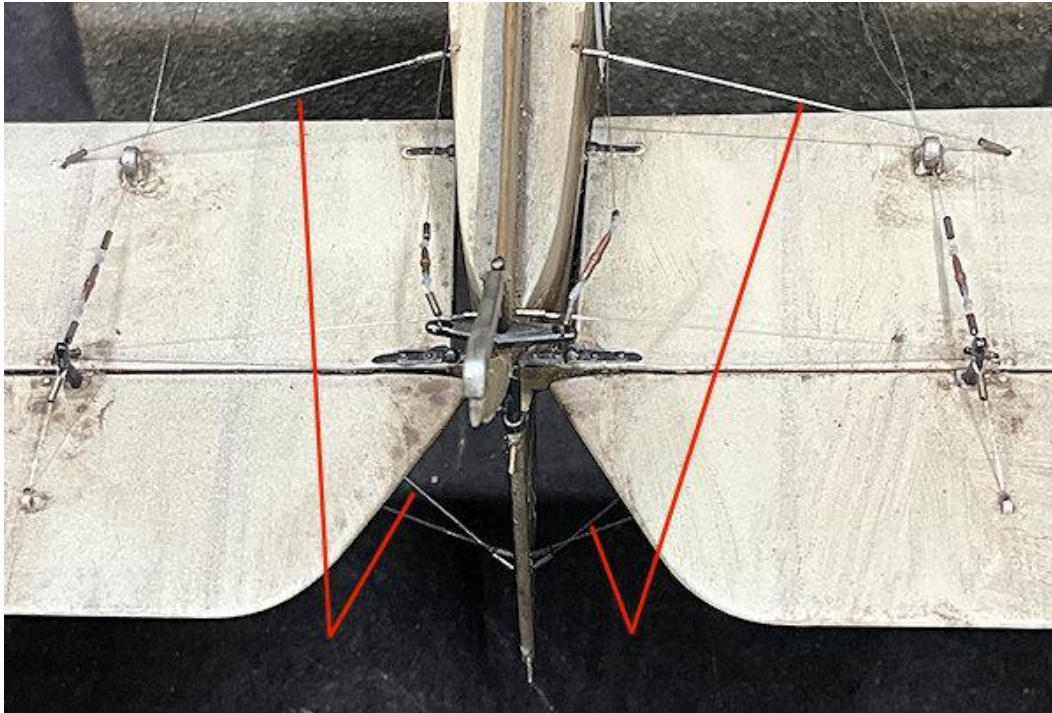
Secure the line in the hole using thin CA adhesive.

Follow the previous procedure to route the line using the pre-drilled holes in the leading edge of the tailplanes and fin (upper pre-drilled hole).

Insert the free end of the line into the pre-drilled hole in the opposite bottom edge of the fuselage rear.

Keeping the line taut, secure the line in the hole using thin CA adhesive.

Position as before and secure in place the tubes on the lines.



Rigging - final tensioning:

Invariably after rigging has been added some wires may be slack. This can be remedied by careful application of heat along the line.

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

NOTE: *Take care not to linger at one area of a line with the heat source as this will melt the monofilament 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.*

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.

Assembly (continued):

NOTE: *The bomb racks need to be attached at this stage of the build before the aileron control cables are pre-rigged to the underside of the lower wings. Before any assembling of parts, make sure all primer and paint is removed from the mating surfaces, holes and recesses.*

Cement the two prepared 'Cooper' bomb racks onto their four locating recesses on the underside of the lower wings.



Pre-rigging (continued):

Aileron control cables:

NOTE: *Two lines need to be longer than needed to span between the aileron control levers on the underside centre section of the fuselage, across and up through the lower wings and up to the upper wing ailerons (when the wing is fitted).*

Cut eight long lengths 0.08 mm diameter line.

Cut six short lengths of 0.5 mm diameter blackened tube.

Brush paint the centre barrel of two 'Proper Plane' 3D printed turnbuckles (RD-005) with 'Mr. Metal Color' Copper (215) or similar.

Under lower wing cables:

Slide a tube onto one of the longer lines.

Pass the line through the eye end of a turnbuckle.

Loop the line back and through the tube.

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

Secure the tube to the lines using thin CA adhesive.

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

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

Pass one end of the line through the rear of the pre-drilled hole in one of the aileron control levers under the fuselage.

Pass the other end of the line through the front of the pre-drilled hole in the aileron control lever.

Pull the two lines to draw the turnbuckle close to the aileron control lever.

Secure the lines in the lever using thin CA adhesive.

Cut away any residual end tags of line at the front and rear of the lever.

Pass the free end of the line under the 'Cooper' bomb rack.

NOTE: *The following is an additional required step as the cable pre-molded fairlead on the outer underside of the lower wing is not directly aligned to the aileron lever.*

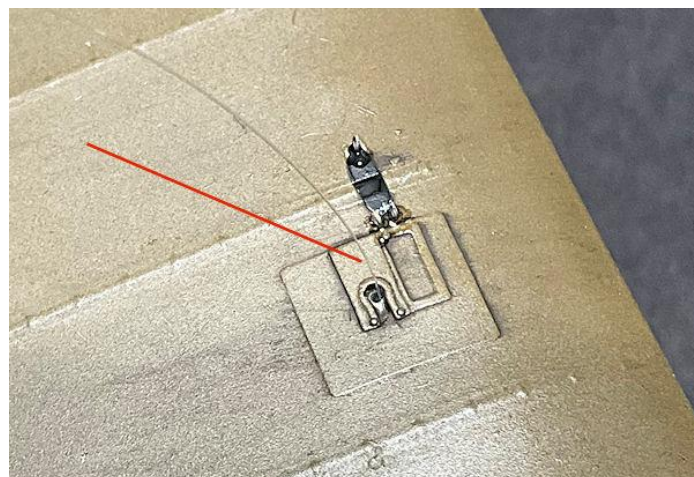
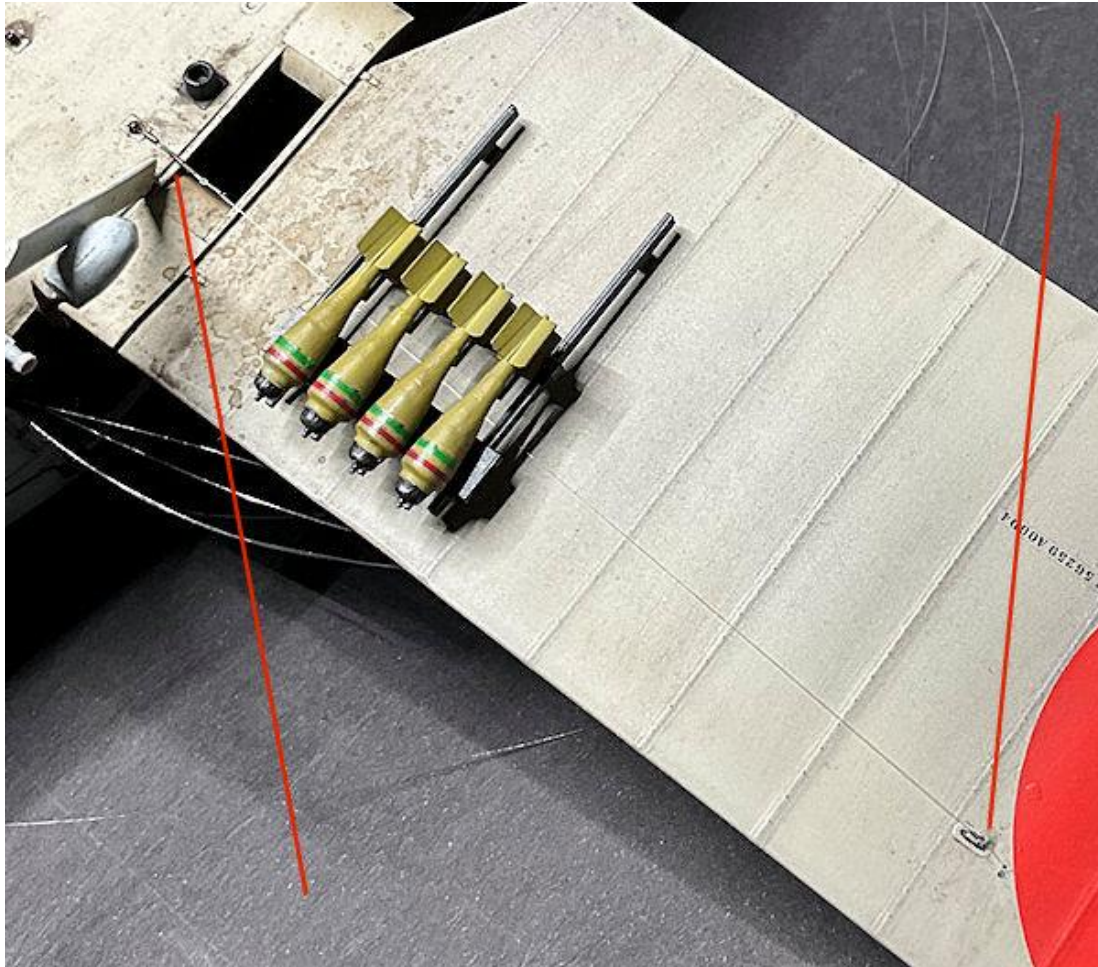
Drill a hole of 0.3 mm diameter into, **but not through**, the underside of the lower wing and just outboard from the pre-molded fairlead.

Using thin CA adhesive, secure a 'HGW' 1/32nd scale Spoke Eyelet (132129) into the hole.

Pass the free end of the line through the eyelet then up through the pre-drilled rigging hole to the top surface of the lower wing.

Keeping the line taut, secure the line in the rigging hole using thin CA adhesive.

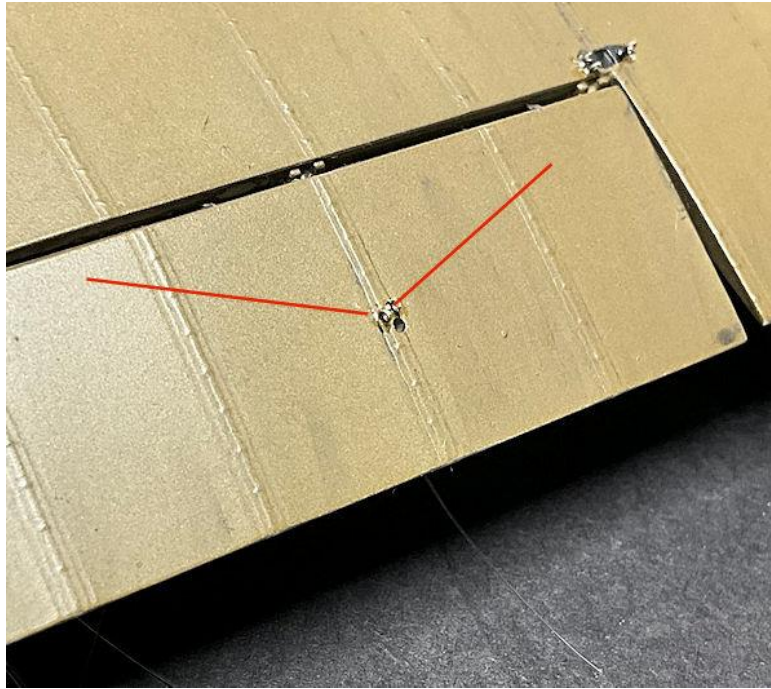
Repeat the procedure to add a line to the other lower wing.



Aileron cables:

Prepare eight 'HGW' 1/32nd scale Spoke Eyelets (132129).

Using thin CA adhesive, secure two eyelets into the pre-drilled holes in the top surface of both lower wing ailerons and forward from the locating holes for the aileron interconnecting strut.



Using thin CA adhesive, secure an eyelet into the pre-drilled holes in the underside of both upper wing ailerons.

Cut two long lengths of 0.12 mm diameter line.

Pass a line through the outer eyelet on the aileron.

Slide a tube onto the line.

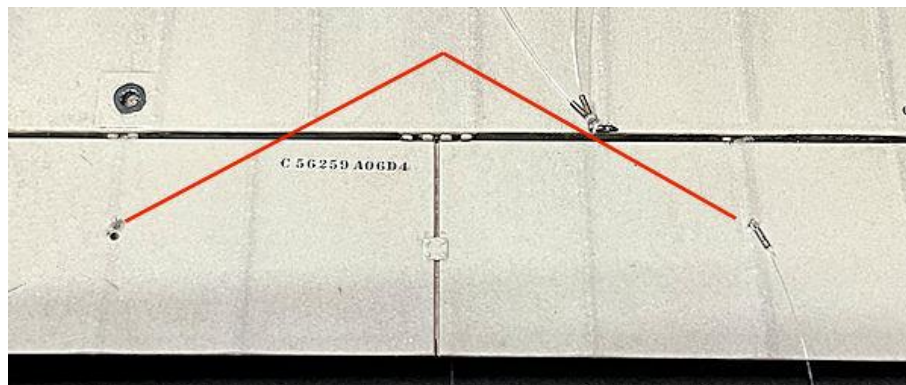
Loop the line back and through the tube.

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

Secure the tube to the lines using thin CA adhesive.

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

Repeat the procedure to fit a line to the outer eyelet on the opposite aileron.



Assembly (continued):

NOTE: Refer to page 14 of the kit IM. Before any assembling of parts, make sure all primer and paint is removed from the mating surfaces, holes and recesses.

Before any assembling of parts, make sure all primer and paint is removed from the mating surfaces, holes and recesses.

Cement the pre-rigged fuselage cabane struts into their locating recesses in the forward sides of the fuselage and in the sides of the pilots cockpit.

Check that the tops of the four struts are aligned when viewed from the sides and front and that the distances between them match their locating holes in the underside of the upper wing.

Pre-rigging (continued):

Cut four short lengths of 0.5 mm diameter blackened tube.

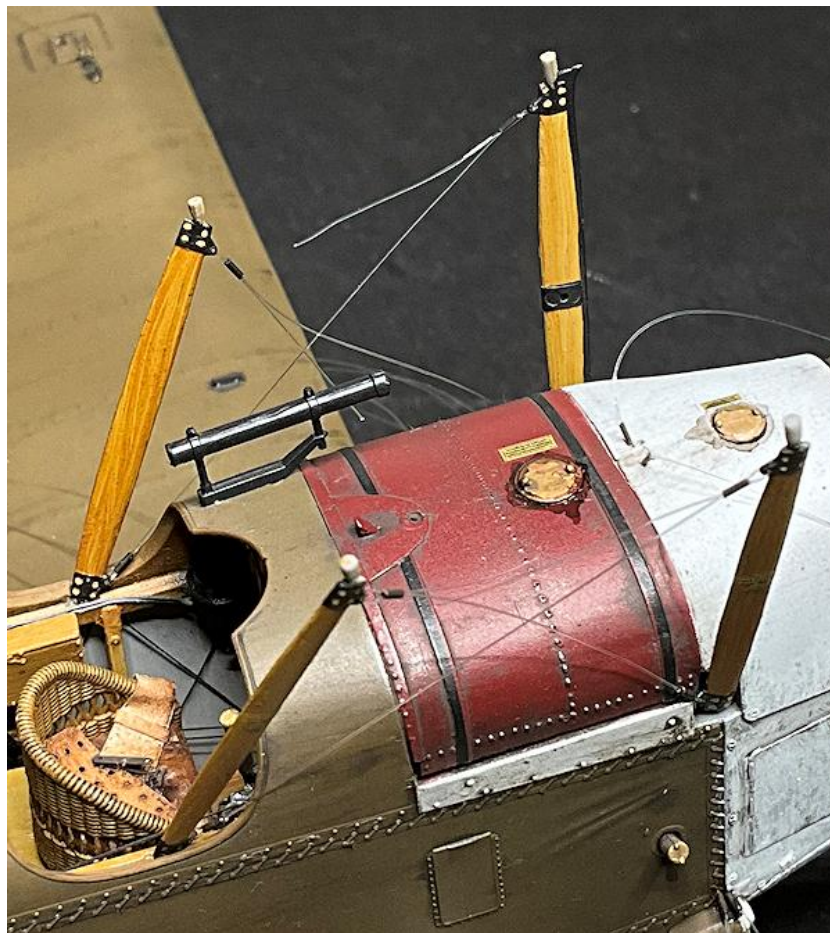
Slide a tube on to each of the pre-rigged bracing wires on the fitted fuselage cabane struts.

Pass the ends of each pre-rigged bracing wire from the bottom of the fuselage cabane struts, diagonally up and across to the top of the opposite strut.

Pass the lines through the pre-drilled holes in the top of the struts.

Loop the lines back and through the tubes.

Slide the tubes up close to the top of the struts, making sure to leave the lines loose. The lines will be final rigged after the upper wing is fitted.



Assembly (continued):

NOTE: Refer to page 14 of the kit IM. Before any assembling of parts, make sure all primer and paint is removed from the mating surfaces, holes and recesses.

Use thin strips of masking tape to keep the various rigging lines clear of the interplane and cabane strut locating holes in the upper and lower wings.

NOTE: *During the following steps it is best to fit the upper wing before the cemented struts fully set in the lower wings.*

Cement the four interplane struts into their locating recesses in the top surface of the lower wings, making sure their tops align with the tops of the fitted cabane struts.

Lay the upper wing, top surface down, on to suitable padding.

Invert the fuselage/lower wing assembly and carefully locate the four cabane and interplane struts into their locating recesses in the underside of the upper wing. If necessary, adjust the angle of the upper wing by adding packing under the wing to allow all struts to fully insert into their locating holes.

Hold the upper and lower wings together by using such as elastic bands or similar placed around the wings at the interplane struts.

With the wings held together, lightly apply cement to the interplane and cabane strut locations in the underside of the upper wing. If necessary, apply light pressure to the wings to fully locate the struts into the wings.

Allow the cemented struts to fully set before removing any retaining elastic bands.



Rigging - final tensioning:

Invariably after rigging has been added some wires may be slack. This can be remedied by careful application of heat along the line.

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

NOTE: *Take care not to linger at one area of a line with the heat source as this will melt the monofilament 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.*

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: *Refer to Part 8 (Rigging) and Part 14 (Rigging Preparation) of this build log for more information. Given the complexity of the rigging for this aircraft, I found it best to final rig in the following sequence, as lessens the need to work around rigging already added to the model.*

Cabane strut bracing wires:

Side bracing wires:

NOTE: *Do not apply too much tension when tightening the rigging lines, as this may cause the line to be pulled through the molded rigging points on the struts. The diagonally crossed bracing wires were fitted loose at the pre-rigging stage.*

Keeping one of the pre-rigged cabane strut bracing wires taut, slide the loose tube up to the top of the cabane strut.

Secure the tube onto the lines using thin CA adhesive.

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

Repeat the procedure on the remaining three cabane strut bracing wires.



Front bracing wires:

Cut four short lengths of 0.5 mm diameter blackened tube.

Slide a tube onto one of the pre-rigged front cabane strut bracing wires.

Pass the free end of the line diagonally up and through the rear fitted eyelet in the underside of the upper wing, inboard from the top of the forward cabane strut.

Slide another tube onto the free end of the line.

Keeping the line taut with both tubes against the eyelet, secure both tubes onto the line using thin CA adhesive.

Pass the free end of the line diagonally down and trim its length such that it can be fully inserted into the forward pre-drilled hole in the fuselage decking panel.

Fully insert the line into the hole and keeping the line taut, secure the line in the pre-drilled hole using thin CA adhesive.

Repeat the procedure on the opposite front cabane strut bracing wire



Drag wires:

Cut two short lengths of 0.5 mm diameter blackened tube.

Slide a tube onto one of the pre-rigged drag wires.

Pass the free end of the line diagonally up and through the forward fitted eyelet in the underside of the upper wing, inboard from the top of the forward cabane strut.

Loop the line back and through the tube.

Keeping the line taut, slide the tube up to the eyelet.

Secure the tube onto the lines using thin CA adhesive.

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

Repeat the procedure to the opposite drag wire.



Rear inner flying wires:

Cut four short lengths of 0.5 mm diameter blackened tube.

Slide a tube onto one of the pre-rigged rear inner flying wires (middle wires of the four at the fuselage/wing root).

Pass the free end of the line diagonally up and through the rear fitted eyelet in the underside of the upper wing, midway between the interplane and cabane struts.

Loop the line back and through the tube.

Keeping the line taut, slide the tube up to the eyelet.

Secure the tube onto the lines using thin CA adhesive.

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

Repeat the procedure for the pre-rigged forward inner flying wire (middle wires of the four at the fuselage/wing root).

Repeat the procedure for the same inner flying wires on the other side of the aircraft.



Rear intermediate flying wires:

Cut four short lengths of 0.5 mm diameter blackened tube.

Slide a tube onto one of the pre-rigged rear intermediate flying wires (outer wires of the four at the fuselage/wing root).

Pass the free end of the line diagonally up and through the rear fitted eyelet in the underside of the upper wing, inboard from the interplane strut.

Loop the line back and through the tube.

Keeping the line taut, slide the tube up to the eyelet.

Secure the tube onto the lines using thin CA adhesive.

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

Repeat the procedure for the pre-rigged forward intermediate flying wire (middle wires of the four at the fuselage/wing root).

Repeat the procedure for the same intermediate flying wires on the other side of the aircraft.



Rear landing wires:

Cut two short lengths of 0.5 mm diameter blackened tube.

Slide a tube onto one of the pre-rigged rear landing wires (outboard from the rear cabane struts on the upper wing underside).

Pass the free end of the line diagonally down and through the rear fitted eyelet in the top surface of the lower wing, inboard from the rear interplane strut.

Loop the line back and through the tube.

Keeping the line taut, slide the tube up to the eyelet.

Secure the tube onto the lines using thin CA adhesive.

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

Repeat the procedure for the pre-rigged rear landing wire on the other side of the aircraft.



Forward inner flying wires:

NOTE: Rig the **upper two lines** from the four pre-rigged in the fuselage at the top of the landing gear forward struts.

Repeat the procedure used to final rig the rear inner flying wires but attaching the lines to the forward eyelets in the underside of the upper wing.



Forward intermediate flying wires:

NOTE: Rig the **lower two lines** from the four pre-rigged in the fuselage at the top of the landing gear forward struts.

Repeat the procedure used to final rig the rear inner flying wires but attaching the lines to the forward eyelets in the underside of the upper wing.



Forward landing wires:

Cut two short lengths of 0.5 mm diameter blackened tube.

Slide a tube onto one of the pre-rigged forward landing wires (outboard from the forward cabane struts on the upper wing underside).

Pass the free end of the line diagonally down and through the forward fitted eyelet in the top surface of the lower wing, inboard from the forward interplane strut.

Loop the line back and through the tube.

Keeping the line taut, slide the tube up to the eyelet.

Secure the tube onto the lines using thin CA adhesive.

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

Repeat the procedure for the pre-rigged rear landing wire on the other side of the aircraft.



Interplane strut incidence wires:

Cut two short lengths of 0.5 mm diameter blackened tube.

Slide a tube onto one of the pre-rigged interplane struts.

Pass the free end of the line diagonally down and through the pre-drilled hole in the bottom of the opposite interplane strut.

Loop the line back and through the tube.

Keeping the line taut, slide the tube up to the strut.

Secure the tube onto the lines using thin CA adhesive.

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

Repeat the procedure for the other pre-rigged interplane strut incidence wire.

Repeat the procedure to the remaining two interplane strut incidence wires on the other side of the aircraft.



Aileron control cable:

Cut two short lengths of 0.5 mm diameter blackened tube.

Slide a tube onto one of the pre-rigged aileron control cables protruding through the lower wings from the underside.

Pass the free end of the line diagonally up and through the fitted eyelet in the underside of the upper aileron at the locating recess for the aileron interconnect strut.

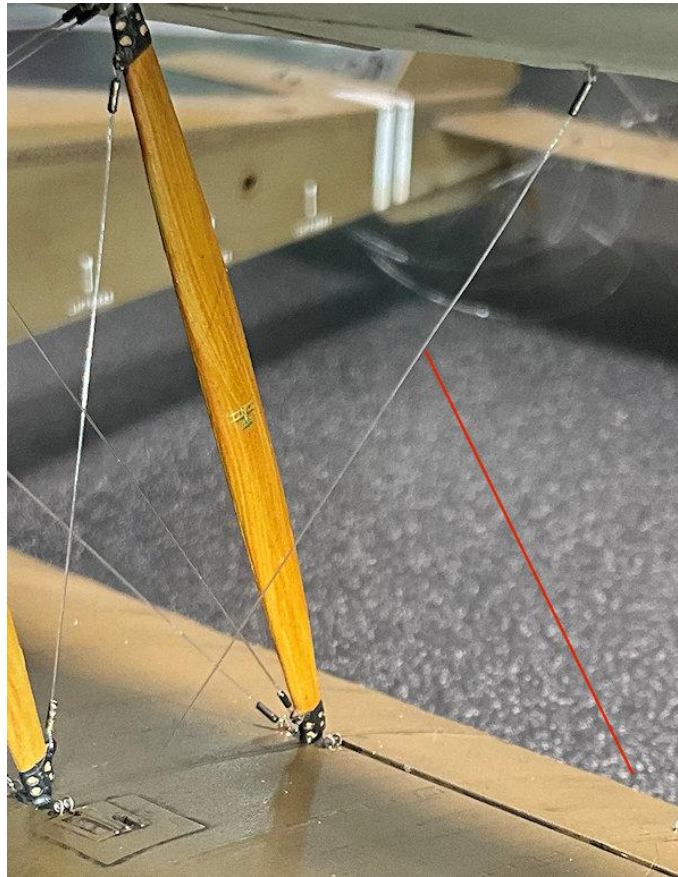
Loop the line back and through the tube.

Keeping the line taut, slide the tube up to the strut.

Secure the tube onto the lines using thin CA adhesive.

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

Repeat the procedure for the other aileron control cable protruding from the opposite lower wing.



Aileron control cable (across upper wing):

NOTE: *The length of the lines should be more than long enough to span from the lower wing ailerons, up between the wings and over halfway across the upper wing.*

Cut a long length of 0.12 mm diameter line.

Cut two short lengths of 0.5 mm diameter blackened tube.

Slide a tube onto a line.

Pass the free end of the line through the fitted eyelet in the top surface of the lower wing ailerons, forward from the locating hole for the aileron strut.

Loop the line back and through the tube.

Slide the tube up to the eyelet.

Secure the tube onto the lines using thin CA adhesive.

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

Pass the free end of the line up and through the pre-drilled hole through the upper wing trailing edge.

Keeping the line taut, secure the line in the hole using thin CA adhesive.

NOTE: *The following additional step is necessary to keep the line close to the cable fairlead on the upper wing.*

Prepare a 'HGW' 1/32nd scale Spoke Eyelet (132129).

Drill a hole of 0.3 mm diameter into, **but not through**, the top surface of the upper wing, at the inboard end of the pre-molded cable fairlead.

Using thin CA adhesive, secure the eyelet into the pre-drilled hole.

Pass the free end of the line across the upper wing and through the fitted eyelet.

Brush paint the centre barrel of a 'Proper Plane' 3D printed turnbuckle (RD-005) with 'Mr. Metal Color' Copper (215) or similar.

Slide the other tube onto a line.

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

Loop the line back and through the tube.

Slide the tube up towards the turnbuckle, leaving the **loop of line loose**.

Repeat the procedure to the other side of the aircraft.

With the two lines still loose in the turnbuckle, position the turnbuckle centrally over the centre section of the upper wing.

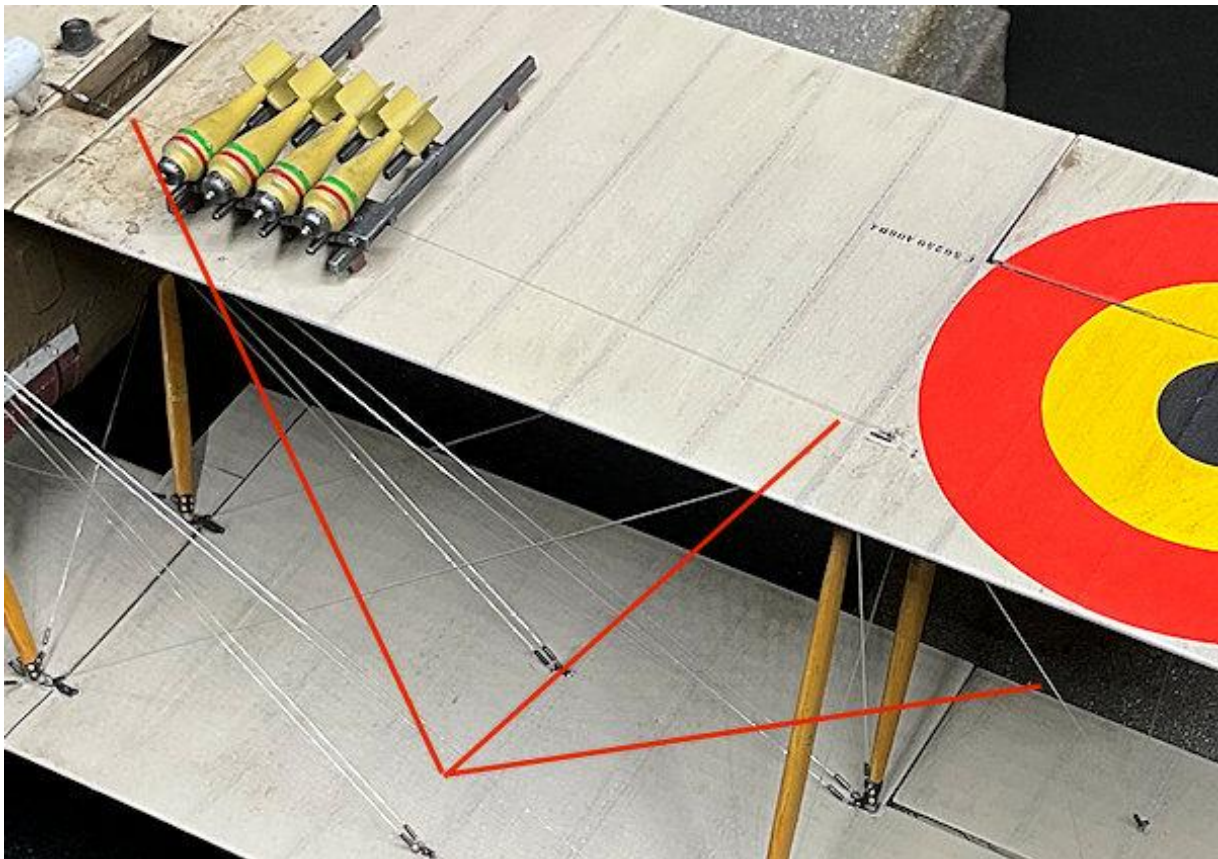
NOTE: *During the following steps make sure the turnbuckle remains centered over the centre section of the upper wing.*

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

Secure the tube to the lines using thin CA adhesive.

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

Repeat the procedure to the other line.





Outer flying wires:

NOTE: *The outer flying wires consist of two pairs of wires attached to single eyelets on the underside of the upper wing, outboard from the interplane struts. The two wires from each pair are attached to eyelets on the top surface of the lower wings, outboard from the interplane struts.*

Cut four short lengths of 0.5 mm diameter blackened tube.

Rear wires (trailing edge of upper wing underside):

Slide a tube onto the rear pre-rigged outer flying wire.

Pass the free end of the line diagonally down and through the rear fitted eyelet in the top surface of the lower wing, outboard from the rear interplane strut.

Loop the line back and through the tube.

Keeping the line taut, slide the tube up to the eyelet.

Secure the tube onto the lines using thin CA adhesive.

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

Slide a tube onto the forward pre-rigged outer flying wire.

Pass the free end of the line diagonally down and through the rear fitted eyelet in the top surface of the lower wing, outboard from the forward interplane strut.

Loop the line back and through the tube.

Keeping the line taut, slide the tube up to the eyelet.

Secure the tube onto the lines using thin CA adhesive.

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

Forward wires (leading edge of upper wing underside):

Slide a tube onto the rear pre-rigged outer flying wire.

Pass the free end of the line diagonally down and through the forward fitted eyelet in the top surface of the lower wing, outboard from the rear interplane strut.

Loop the line back and through the tube.

Keeping the line taut, slide the tube up to the eyelet.

Secure the tube onto the lines using thin CA adhesive.

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

Slide a tube onto the forward pre-rigged outer flying wire.

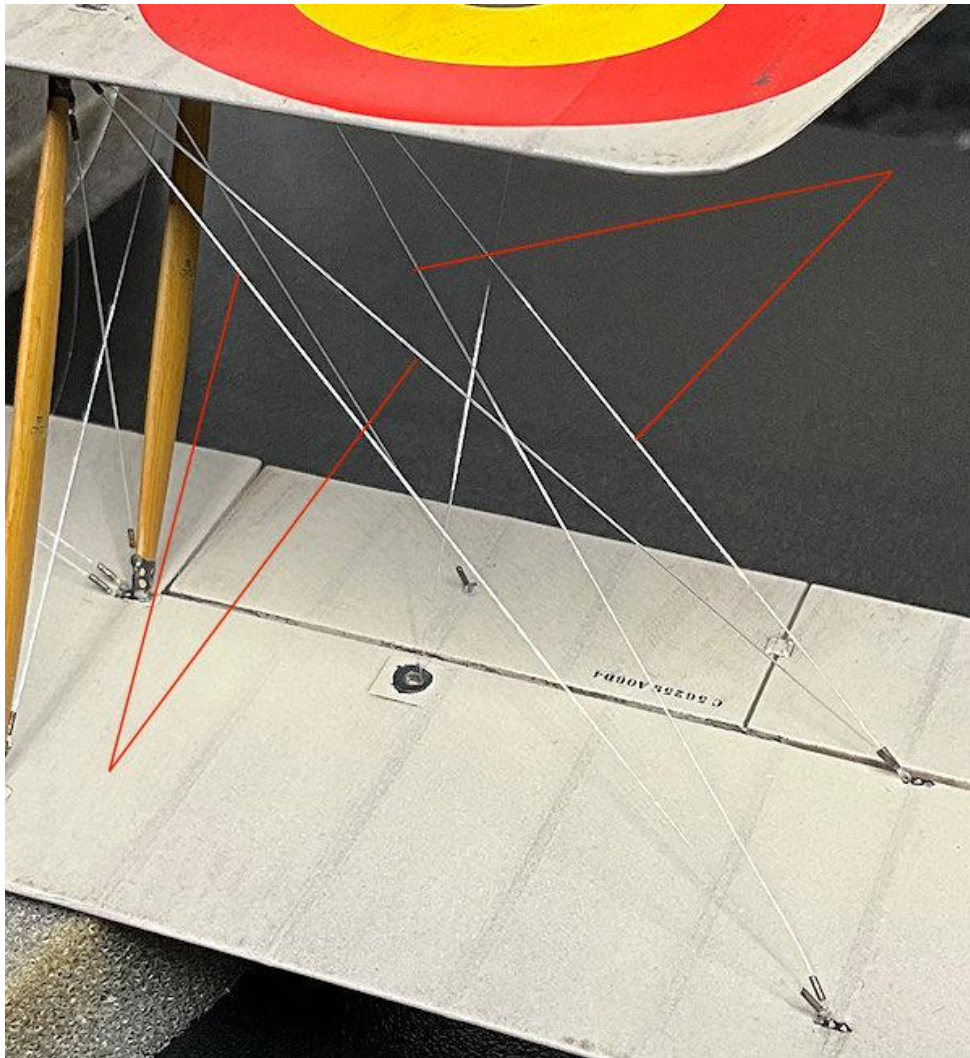
Pass the free end of the line diagonally down and through the forward fitted eyelet in the top surface of the lower wing, outboard from the forward interplane strut.

Loop the line back and through the tube.

Keeping the line taut, slide the tube up to the eyelet.

Secure the tube onto the lines using thin CA adhesive.

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



Aileron outer control cable:

Cut two short lengths of 0.5 mm diameter blackened tube.

Slide a tube onto one of the pre-rigged aileron control cables on the underside of the upper wing outer aileron section.

Pass the free end of the line diagonally down and through the fitted eyelet on the top surface of the lower wing aileron at the locating hole for the aileron strut.

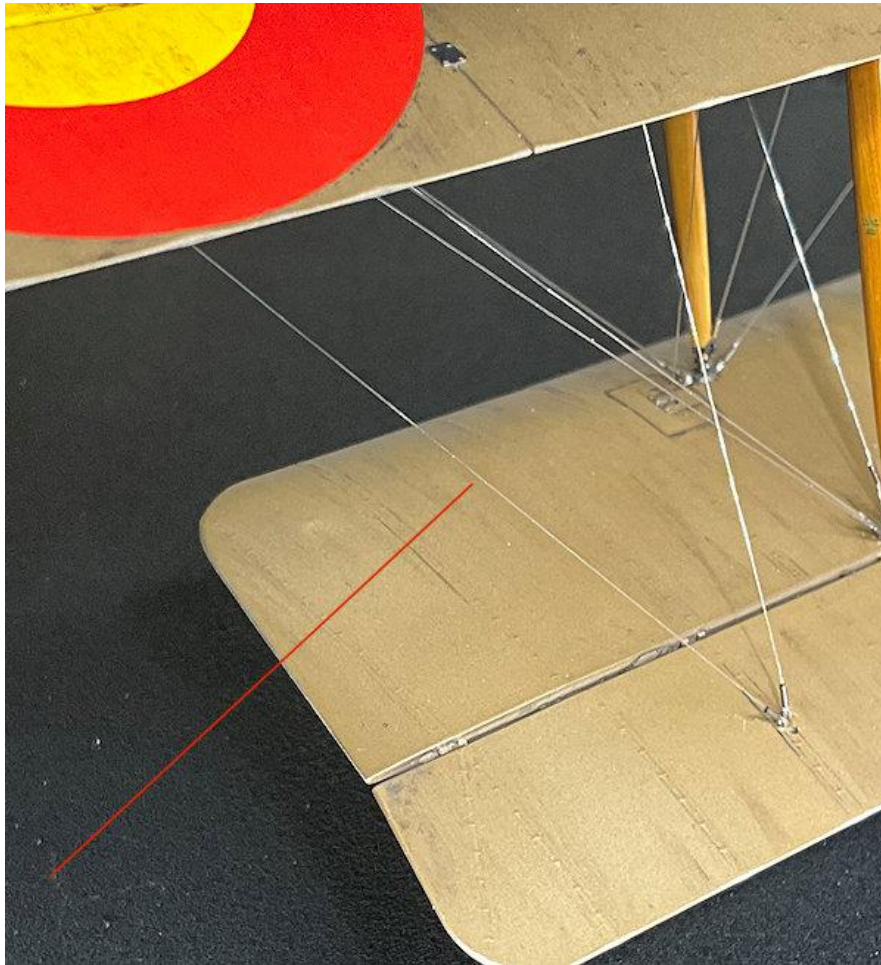
Loop the line back and through the tube.

Keeping the line taut, slide the tube up to the eyelet.

Secure the tube onto the lines using thin CA adhesive.

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

Repeat the procedure for the other aileron outer control cable for the opposite lower wing.



Assembly (continued):

NOTE: *The aileron struts were not fitted until now as it would have been awkward to fit the rigging wires close to the ends of the struts with the struts fitted. Before any assembling of parts, make sure all primer and paint is removed from the mating surfaces, holes and recesses.*

Cement the two aileron interconnecting struts into their locating holes in the top surface of the lower ailerons and the underside of the upper wing ailerons.



Cement the 'Hale' bomb and rack onto its locations on the underside centre section of the fuselage, between the landing gear struts.



Final rigging (continued):

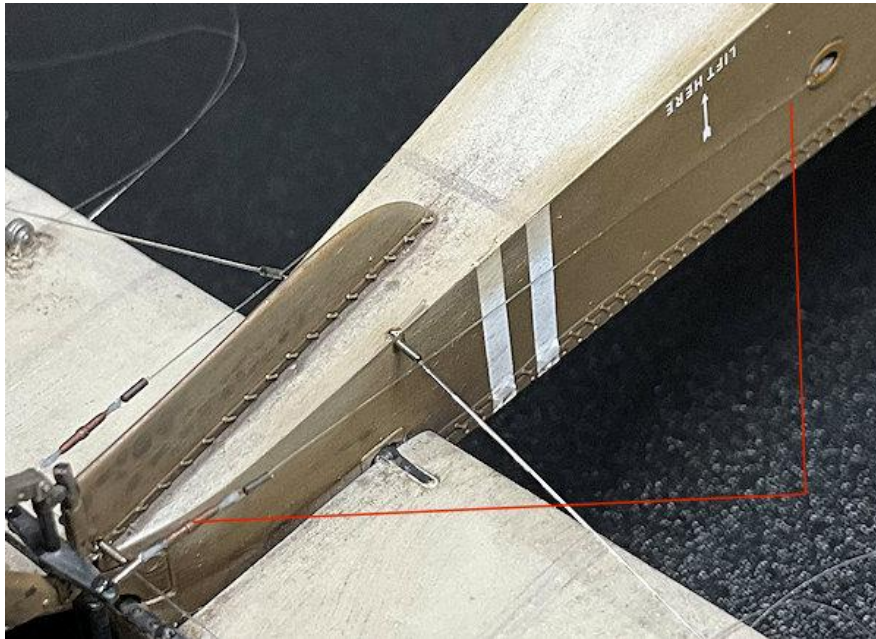
Tail skid control cables:

Pass the free ends of the pre-rigged tail skid control cables forwards and into their cable port openings in the sides of the fuselage rear.

Use a strip of masking tape close to the port openings to hold the lines taut and against the fuselage.

Using thin CA adhesive, secure the lines into their cable port openings.

Once the adhesive has fully set, remove the masking tape strips.



Elevator control cables:

Left side:

NOTE: The external elevator control levers are intended to be cemented into shallow recesses in the fuselage lower sides. However, this is not strong enough to withstand tension in the elevator control lines when they are connected to the levers and tensioned. Therefore, I chose to modify the levers.

Using as a guide the pre-molded recess for the elevator control lever in one side of the fuselage, drill a hole of 0.5 mm diameter through the fuselage side.

Cut away the mounting boss from the rear of the control lever.

Drill a hole of 0.5 mm diameter through the centre of the lever.

Cut a 6 mm length of 0.5 mm diameter Brass rod, such as that from 'Albion Alloy's' or similar.

Insert the rod into the hole from the rear of the lever, making sure the rod end is flush with the front of the lever.

Using thin CA adhesive, secure the rod in the lever.

Cut four short lengths of blackened 0.5 mm diameter brass tube.

Cut two lengths of 0.08 mm diameter line.

Brush paint the centre barrel of two 'Proper Plane' 3D printed turnbuckles (RD-005) with 'Mr. Metal Color' Copper (215) or similar.

Slide a tube onto the two lines.

Pass the lines through the eye ends of the turnbuckles.

Loop the lines back and through the tubes.

Slide the tubes up to, **but not touching**, the turnbuckles.

Secure the tubes to the lines using thin CA adhesive.

At both ends of the elevator control lever, pass one of the lines protruding from the end of the turnbuckle tubes through (from the same side of the lever) the pre-drilled hole in the ends of the levers.

From the other side of the levers, pass the other lines through the pre-drilled hole in the ends of the levers.

Pull the two lines for both turnbuckles to draw the turnbuckle close to the ends of the lever.

Secure the lines in the lever using thin CA adhesive.

Cut away any residual end tags of line at the sides of the lever.

Repeat the procedure on the other elevator control lever.



Slide a tube onto the two pre-rigged control lines from the elevator.

Pass the lines through the eye ends of the turnbuckles on the elevator control lever.

Loop the lines back and through the tubes.

Slide the tubes up to, **but not touching**, the turnbuckles, leaving the loops of line loose.

NOTE: *The position of the elevator control lever depends on the angular position of the elevator.*

If the elevator is fitted to be aligned to the tailplanes, the control lever should be vertical on the fuselage side.

If the elevator is fitted to be angled slightly down (normal) from the tailplanes, the top of the control lever should be angled slightly rearwards.

If the elevator is fitted to be slightly angled up (not normally) from the tailplanes, the top of the control lever should be angled slightly forwards.

Using thin CA adhesive, secure the elevator control lever into its pre-drilled hole in the fuselage side and at the correct angle for the position of the elevator.

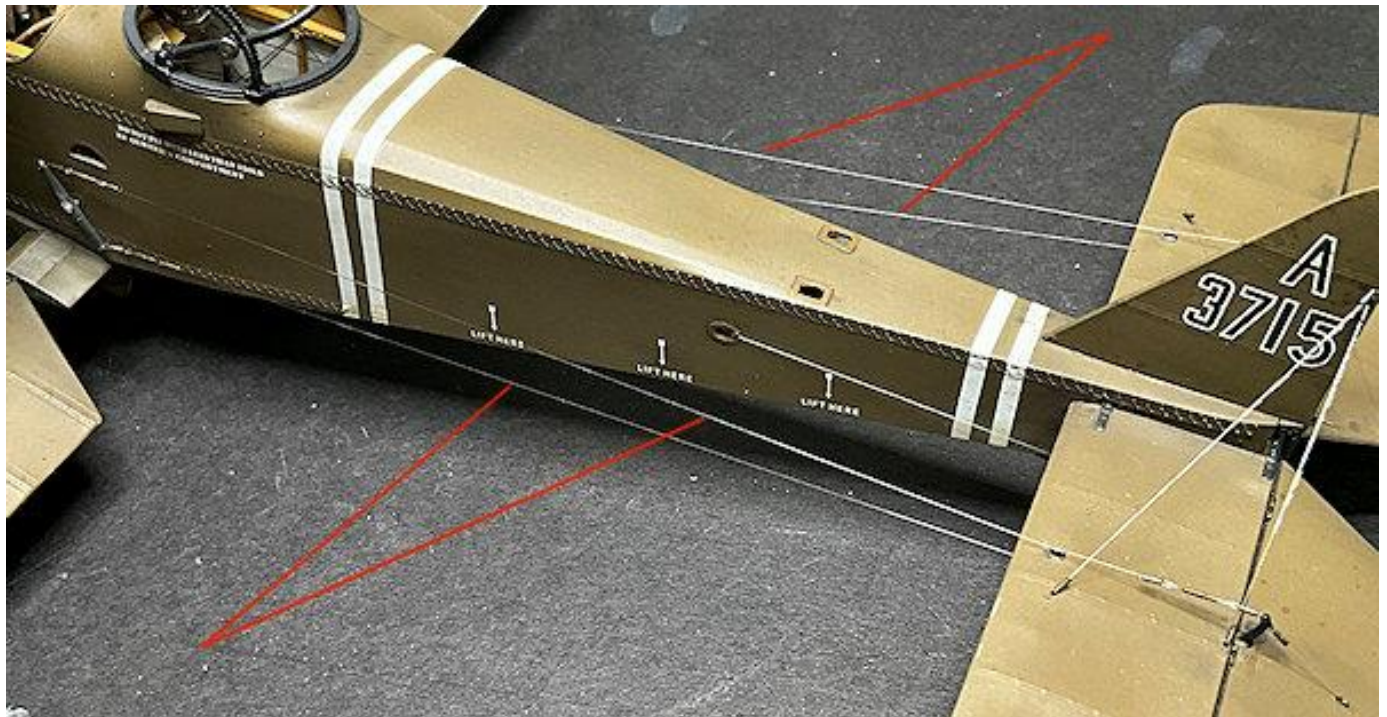
Keeping both lines taut, slide the tubes up to the turnbuckles.

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

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

Right side:

Repeat the whole procedure to attach the elevator control cables on the right side of the aircraft.



Assembly (continued):

NOTE: Before any assembling of parts, make sure all primer and paint is removed from the mating surfaces, holes and recesses.

Using thin CA adhesive, secure the rudder fully on to the added support rods in the trailing edge of the fin, making sure the pre-rigged rudder control cables are kept to their correct sides of the rudder.

Final rigging (continued):

Rudder control cables:

Keeping the lines taut, use thin CA adhesive to secure the two rudder control cables at both sides of the rudder into their control outlet ports in the top, rear of the fuselage.



Assembly (continued):

NOTE: Before any assembling of parts, make sure all primer and paint is removed from the mating surfaces, holes and recesses.

Over wing pylons:

Cement the two over wing pylons D1 into their locating recesses in the top surface of the upper wing, making sure the pylons are vertical when viewed from the front.

Wheels:

NOTE: The following is only required if the wheels are to be fixed on the axle ends and not be able to rotate. Otherwise assemble the parts without cementing.

Cement the wheels fully onto the axle ends.

Fully locate and cement the wheel retainers D10 on to their recesses in the axle ends.

Cement the wheel outer covers D9 fully into the wheel outers.

Magneto starter:

Cement the magneto starter (A41) into its recess in the right side of the fuselage at the pilots cockpit.



Final rigging (continued):

Pylon bracing wires:

Cut four short lengths of 0.5 mm diameter blackened tube.

Pass the free end of each pre-rigged bracing wire on the upper wing through the opening in the top of the over wing pylons.

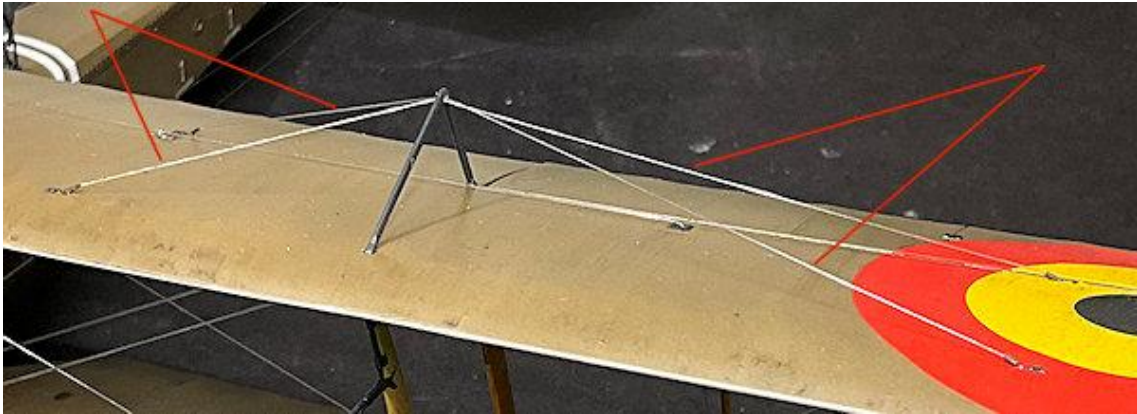
Slide a tube onto each line.

Pass the free end of the lines down through the pre-drilled holes outboard from the over wing pylons.

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

Slide the tubes down to the wing surface and secure them on the lines using thin CA adhesive.

Cut away any residual end tags of line from the underside of the upper wing.



Rigging surface finish:

To reduce the surface sheen on the added monofilament rigging, lightly airbrush the rigging wires with a semi-gloss clear coat, such as 'Tamiya' Semi-Clear (X35) or similar.

Assembly (continued):

NOTE: Before any assembling of parts, make sure all primer and paint is removed from the mating surfaces, holes and recesses.

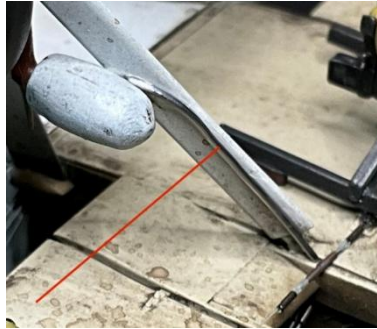
Windscreen:

Using a PVA adhesive, such as 'MicroScale' Micro Krystal Clear or similar, secure the windscreen into its locating hole and onto the top of the fuselage, forward from the pilots cockpit.



Generator cable:

To represent the cable from the strut mounted generator I cut a length of 0.5 mm diameter lead wire from 'PlusModel' and using thin CA adhesive, secured it to the landing gear strut and the generator.



Exhaust pipes:

NOTE: The kit supplied exhaust pipes are replaced by the 'ReXx RE.8 exhaust pipes (ReXx-32007). When handling these exhaust pipes care is needed as they can easily be dented if mishandled.

Cut four short lengths of 0.8 mm diameter Brass tube, such as 'Albion Alloy's' MBT08 or similar.

Using thin CA adhesive secure a tube into the second and fourth stub pipes from the front, leaving 2.0 mm of tube protruding.

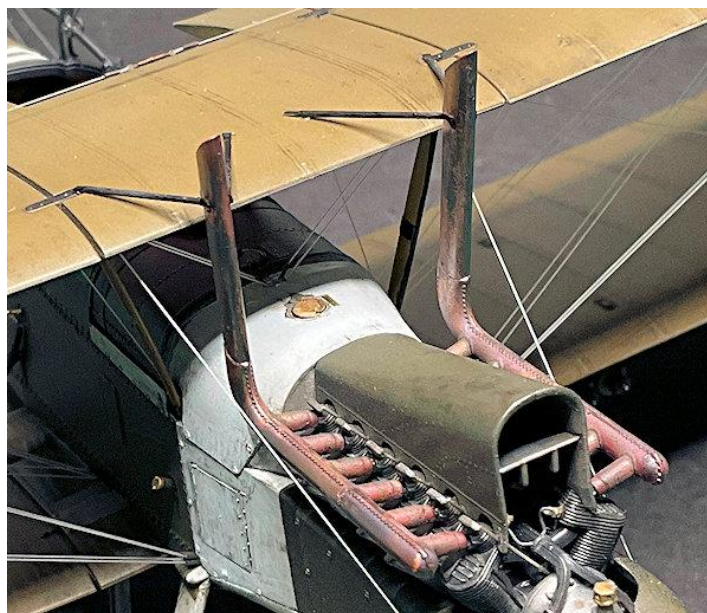
Using a drill of 0.8 mm diameter drill into, **but not through**, the second and fourth stub pipes recesses from the front of the engine.

Using thin CA adhesive secure the exhaust pipes onto the engine, making sure the stub pipes are in contact with the engine and the exhaust pipes are vertical when viewed from the front.

NOTE: I found that the fitted exhaust pipes were slightly mis-aligned to each other and at different distances from the leading edge of the upper wing so the kit supplied stays D2 and D3 did not fit. Therefore, I made stays using blackened tube.

I cut four lengths of 'Albion Alloy's' MBT06 diameter blackened Brass tube. Each tube was cut to fit its location and the ends were flattened to contact the wing and side of the exhaust pipes.

These were secured in position using thin CA adhesive.



Exhaust drop pipes:

NOTE: *The two drop pipes D11 were left to be fitted at this stage of the build due to using the replacement REXx exhaust pipes. Due to the engine being already fitted the drop pipes needed to be cut to fit.*

Cut away the bottom section with fork end on both pipes.

Test fit the pipes between the edge of the engine access panel and underside of the exhaust pipe. Trim the ends of the pipes to achieve a contact fit with the exhaust pipe.

Secure the pipes in position using thin CA adhesive.

Brush the tops of the pipes with 'Mr. Metal Color' Stainless Steel (213) or similar.



Lewis machine gun:

Cement the Lewis machine gun into its locator on the gun rail of the swivel ring mounting in the observers cockpit.



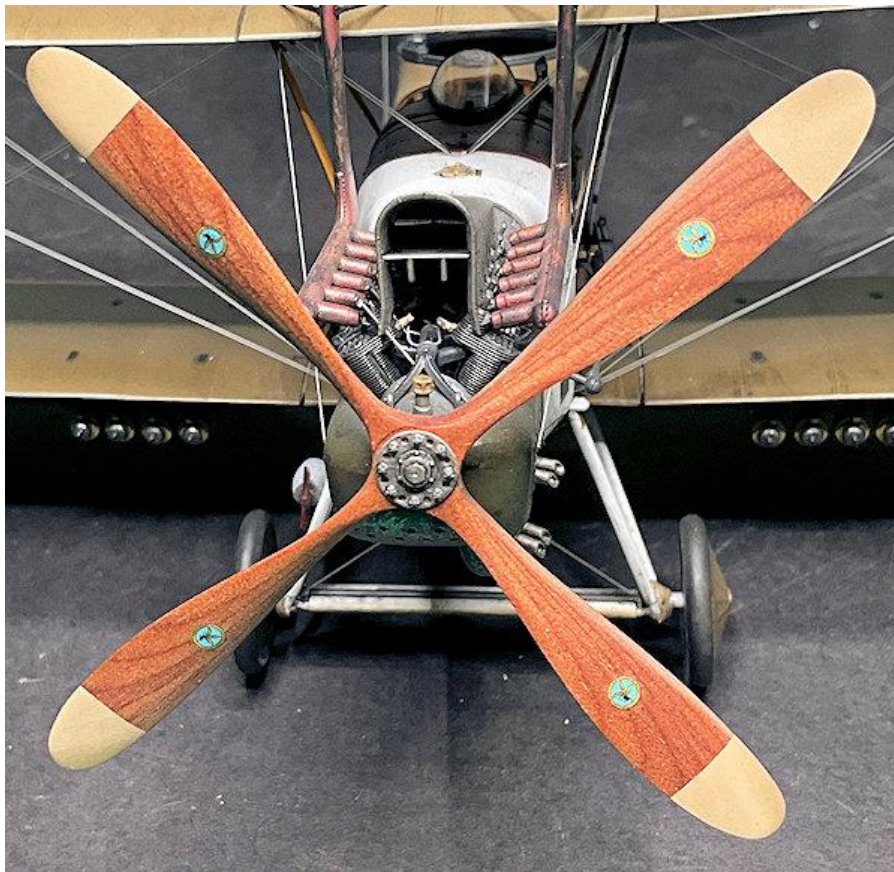
Aerial wire weight:

Cement the aerial weight A21 into its locating hole in the underside of the fuselage at the camera opening.



Propeller:

Using thin CA adhesive, secure the propeller onto the engine drive shaft and in the desired position.



PART 16

FIGURES

PART 16 - FIGURES

The figures I chose for this model are the 'Kellerkind Miniaturen' RFC pilot in sweater (54/067) and the RFC pilot 'let's go' (54/026).

RFC pilot (54/026):

NOTE: Refer to Part 7 (Resin) of this build log. This figure is supplied as a body, two arms, left leg and the dog.

Cut the figure parts and dog from their casting blocks.

Sand or scrape away any casting flash or seam lines from the pilot's body parts and the dog.

File or sand the soles on the pilot's flying boots, to reduce their thickness.

Secure the arms to the torso using CA adhesive.

Secure the left leg into the torso using CA adhesive.

Drill a hole of 0.9 mm diameter up into the pilot's right leg.

Cut a length of 0.8 mm diameter rod (e.g. standard metal paper clip).

Secure the rod into the pre-drilled hole in the pilot's right leg, using CA adhesive. This provides a means of holding the figure during painting and locating the figure onto the final display base.

NOTE: The figure was painted using 'AK Interactive', 'Hataka', 'Humbrol', 'Mr. Metal Color' and 'Tamiya' acrylic paints. Thin the 'AK' paints with their acrylic thinners (AK712). Refer to Part 5 (Weathering) of this build log for using 'Flory Models' fine clay washes.

Airbrush the figure with a grey primer, such as 'AK Interactive' Grey (AK-758) or similar.

Brush paint the figure as follows:

Flight coat - 'Humbrol' Leather (62) then 'Flory Models' fine clay wash (Grime).

Lining of flight coat – 'AK Interactive' WW1 British Uniform Light (AK3082).

Uniform jacket cuffs – 'Hataka' Medium Green 42 (CO19).

Fug boots - 'Tamiya' Desert Yellow (XF59) then 'Flory Models' fine clay wash (Grime).

Gloves, Fur linings - 'AK Interactive' British Uniform (AK3081) with British Uniform Light (AK3082) highlights.

Helmet – 'AK Interactive' British Uniform (AK3081).

Scarf - 'AK Interactive' Faded White (AK3029) then 'Flory Models' fine clay wash (Dark Dirt).

Goggles - 'Mr. Metal Color' Stainless Steel (213), 'Humbrol' Leather (62), 'AK Interactive' British Uniform (AK3081) and 'Tamiya' Clear Yellow (X24).

Metal fittings – 'Mr. Metal Color' Stainless Steel (213).

Flesh – 'AK Interactive' Light Flesh (AK3013) with Light Flesh (AK3012) highlights.

Finishes:

Flight coat and helmet – 'Tamiya' Semi-Gloss Clear (X35).

Uniform jacket cuffs – 'Tamiya' Flat Clear (X86).

Weathering:

Elbows on flight coat – 'Tamiya' Weathering Master Set D (Oil Stain).

Fug boot shoes – 'Tamiya' Weathering Master Set A (Mud).

Dog:

NOTE: The figure was painted using 'AK Interactive' and 'Tamiya' acrylic paints. Thin the 'AK' paints with their acrylic thinners (AK712).

Airbrush the dog with a grey primer, such as 'AK Interactive' Grey (AK-758) or similar.

Brush paint the dog as follows:

Body – 'AK Interactive' British Uniform (AK3081).

Nose - 'Tamiya' Rubber Black (XF85).

Finish: 'Tamiya' Semi-Gloss Clear (X35).



RFC pilot (54/067):

NOTE: Refer to Part 7 (Resin) of this build log. This figure is supplied as a body and right arm.

Cut the figure parts from their casting blocks.

Sand or scrape away any casting flash or seam lines from the pilot's body parts.

Secure the right arm to the torso using CA adhesive.

Drill a hole of 0.9 mm diameter up into either of the legs.

Cut a length of 0.8 mm diameter rod (e.g. standard metal paper clip).

Secure the rod into the pre-drilled hole in the pilot's leg, using CA adhesive. This provides a means of holding the figure during painting and locating the figure onto the final display base.

NOTE: *The figure was painted using 'AK Interactive' and 'Tamiya' acrylic paints. Thin the 'AK' paints with their acrylic thinners (AK712).*

Airbrush the figure with a grey primer, such as 'AK Interactive' Grey (AK-758) or similar.

NOTE: *Brush paint the basic figure colours as carried out on the previous figure but with the following differences:*

Uniform trousers, jacket bottom – 'Hataka' Medium Green 42 (CO19).

Jumper – 'AK Interactive' WW1 French Uniform Base (AK3101).

Scarf - 'AK Interactive' Red Emblem (AK3126) then 'Flory Models' fine clay wash (Dark Dirt).

Map case in right hand – 'Tamiya' Linoleum Deck Brown (XF79).

Finish: Uniform trousers, jacket bottom – 'Tamiya' Flat Clear (X86).



PART 17

DISPLAY BASE

PART 17 - DISPLAY BASE

The display case is made from piano black and clear acrylic sheet of 3mm thicknesses. The shoulder around the plinth is for locating the clear cover and is a second thickness on top of the base plate. This case was purpose built by Paul Moss, who has a retail outlet on Ebay - www.inperspective.com

The grass mat used was the 'Lars op't Hof Scenery' Autumn Pasture Long (LH 10.34 S).

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

Grass mat:

The grass mat was cut to shape then positioned on the base and the model and figures 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 figure 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 5mm 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 sandpaper, 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 marked outline of the 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 inside 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. Paper was laid over the mat and several books placed onto the paper to help flatten the mat onto the adhesive. After several hours, the books and paper were removed.

Aircraft model:

The aircraft was not fixed to the display base but left as 'free standing'. Although this may not be as secure as fixing the model to the display base, it does mean the model will not be subjected to any shock loading when being moved around, as it might be if fixed on the display

Figures:

With the model positioned on the wooden platform, the figures were positioned in their final positions and the location of the rods in the legs marked on the grass mat. Holes of 1.0 mm were drilled through the grass mat and into (not through) the acrylic base. PVA or thin CA adhesive was then applied to the rods of the figures, which were then fully inserted into the drilled holes. Light pressure was applied to the figures to ensure they were fully located into the base.

Information plaque:

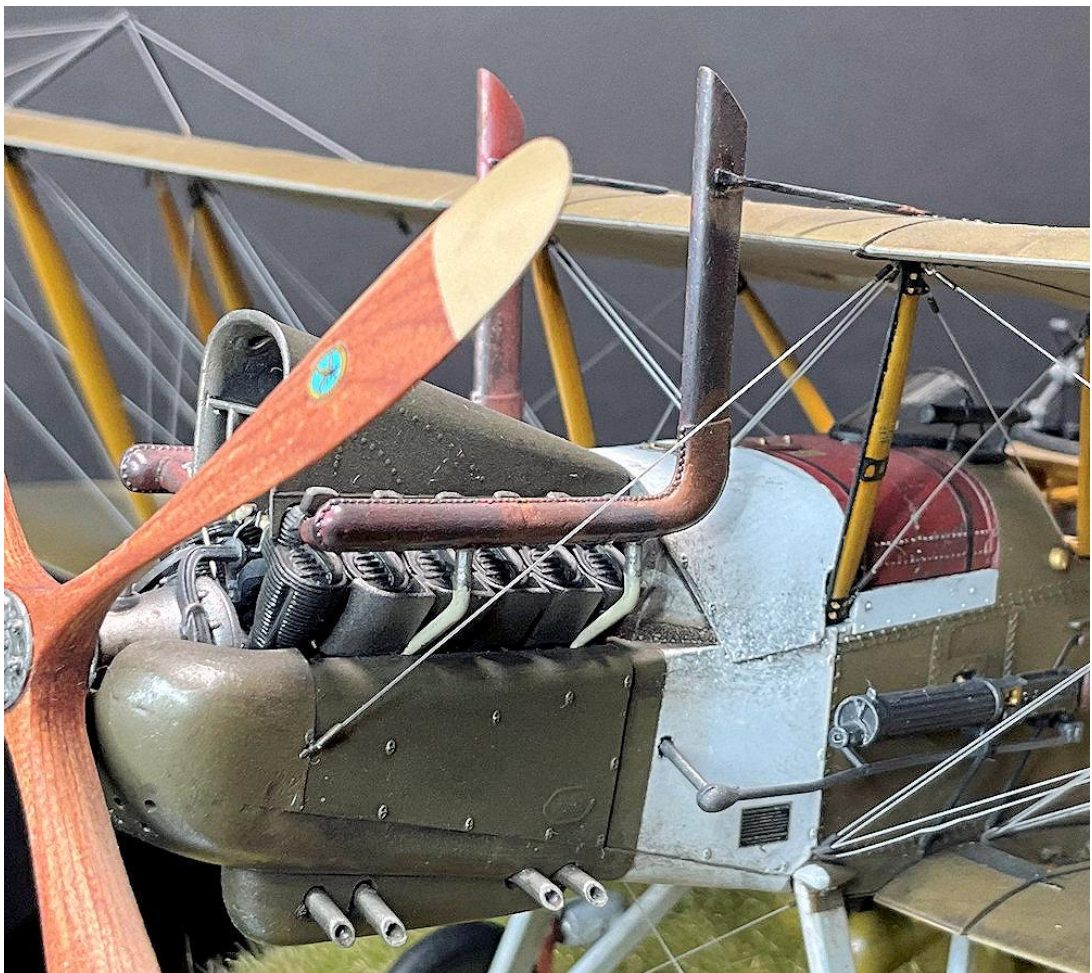
The acrylic stand for the information plaque was scuffed with sandpaper on its bottom surface. It was then positioned in the left corner of the display base and its outline lightly scored with a pointed scribe. The area inside the scribed outline was scuffed with sandpaper. An adhesive, such as a contact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

PART 18
COMPLETED
MODEL
PHOTOGRAPHS

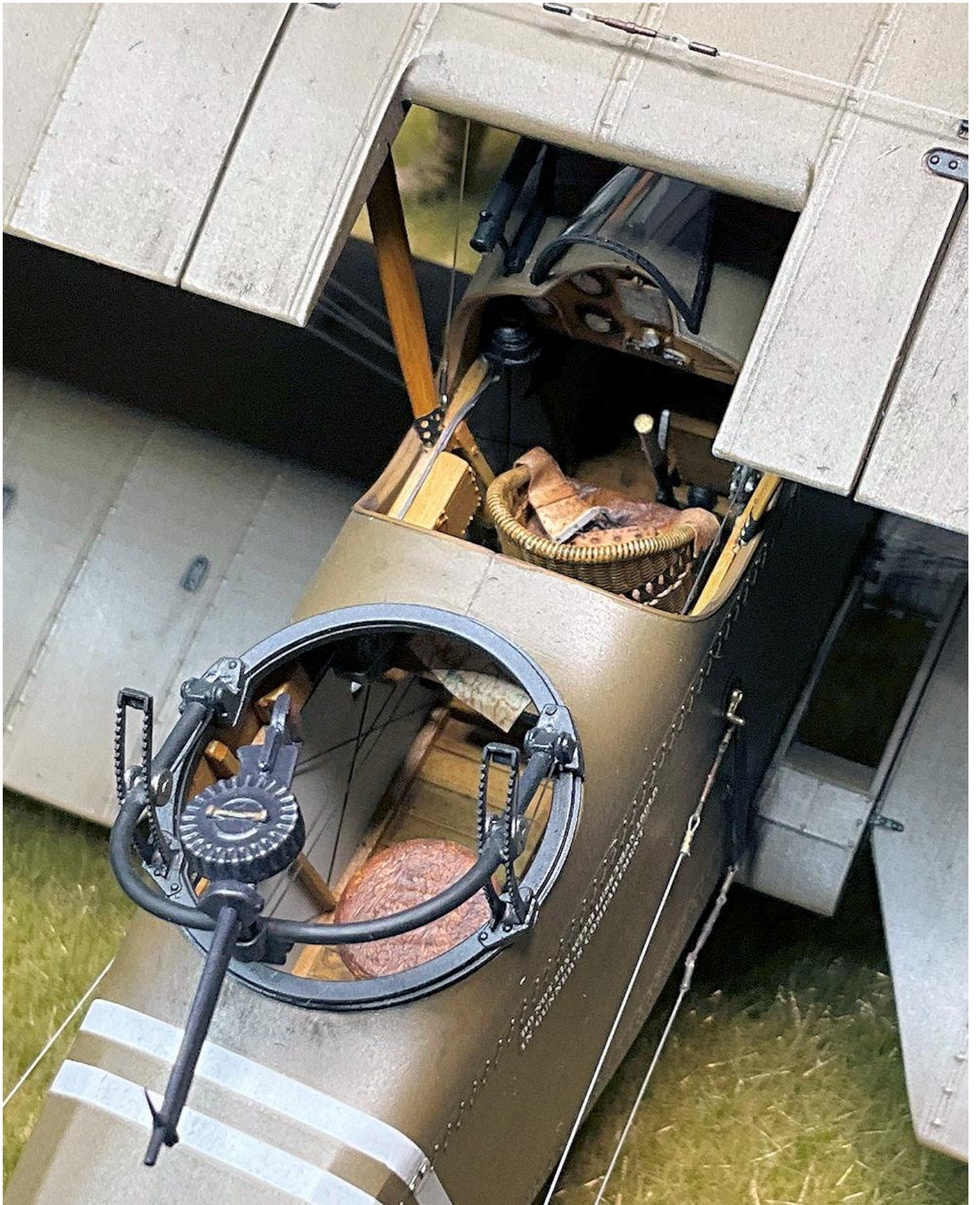














END