World War One Aircraft Models

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

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

I don't consider myself a 'master' of this craft, but hope to be able to pass on what I have learned. As such, here is my build log, which covers the 1:32 scale model of the Nieuport 28 C.1 by 'Roden'.

Mike 'Sandbagger' Norris

sandbaggeruk@sky.com

https://mikesww1aircraftmodels.com

Completed: December 2020

CONTENTS

INTRODUCTION

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

Sorted

AFTER MARKET

AFTER MARKET

Figure

'Wings Cockpit Figures' leaning pilot 1915-16 (LSK 04B).

Decals

'SuperScale' WW1 Nieuport 28C-1 (MS320243),
'Airscale' WW1 Instrument Dial decals (AS32 WW1),
'Xtradecal' parallel stripes white (XPS2),
'Aviattic' CDL (ATT32094), Linen Weave Effect (ATT32236) and Wood Grain (ATT32235).

Photo-Etch (PE)

'PART' Nieuport 28c1 (S32-033).

Propeller

'ProperPlane' hand made laminated wood (Nieuport type).

Engine

'Wingnut Wings' Gnome-Oberursel engine (Fokker E.III kit No.32048).

Weapons

'GasPatch' Vickers Mk.1 (18-32126).

Resin

'Aviattic' Peach Basket seat and cushion (ATTRES 015).

Rigging accessories (as required)

'GasPatch Elite Accessories' Turnbuckles 1/48 scale,
'Albion Alloy's' Micro-tube (Brass or Nickel Silver - various diameters).
'Steelon' mono-filament 0.12 mm diameter', 'Stroft' mono-filament 0.08, 0.12 mm diameter,
'Maxima' Chameleon mono-filament 0.12 mm diameter.

Sundries (as required)

'Araldite' two part epoxy adhesive, Paints ('Tamiya' Acrylic, Humbrol Acrylic,
'Mr. Metal Colour', 'AK Interactive' Primer and micro-filler (Grey AK758, White AK759),
'AK Interactive' Filters (Wood AK-261) and figure paints, Kerosene AK-2039, Oil AK-2019
and Wash AK-2033), 'Alclad II' Lacquers, 'Alclad' Aqua Gloss 600, 'Mr. Colour' Levelling
Thinners, 'Vallejo' Model Colour, PVA Adhesive (e.g. 'MicroScale' Micro Krystal Clear),
'VMS Fleky' CA adhesive (Standard and Thin) and Metal Prep 4K, 'Bostik' Blue,
UHU White Tack, 'AV' Masilla Plastica (401) putty, 'De-Lux Materials' Perfect Plastic Putty,
Sanding and/or Polishing sticks from 'Flory Models', 'Humbrol' Maskol, 'UHU' White Tack,
'Milliput' two part putty, 'White Spirits', 'MicroScale' MicroSol/MicroSet,
'Mr. Surfacer 500, 1000,1200', 'DecoArt Crafters Acrylic' (water based) paints,
'Artool' Ultra Mask sheets, 'Vallejo' Still Water (26.230), 'Milliput' two part clay,
'Mr. Surfacer' primer and filler, 'Hataka' lacquer paints, 'Plastruct' styrene rod,
'PlusModel' lead wire, 'ANYZ' black braided line (AN001), 'Tamiya' extra thin liquid cement,
'Plastic Magic' liquid cement, 'Prismacolor' Verithin Argent Metallique 753,
'Bare-Metal' Matte Aluminium foil.

Weathering mediums (as required)

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

Display Base

Etched Plaque (name plate),
'Inperspective' custom made Acrylic base and cover,
'Polak' Wild Meadow (Variation F - 4706).

THE PILOT

THE PILOT

References:

1. Profile Publications No.79 - The Nieuport N.28C1
2. Windsock Date file No.36 - Nieuport 28 (by John Guttman).

Quentin Roosevelt I was born in Washington D.C on the 19th of November1897 and was the youngest son of President Theodore 'Teddy' Roosevelt and First Lady Edith Roosevelt. He proved to be an intelligent child and academically successful.

When America entered World War One, Quentin thought his mechanical skills would be useful to the Army. Although he had only just become engaged to Flora, he dropped out of college in May 1917 and joined the newly formed 1st Reserve Aero Squadron, the first air reserve unit in the nation. He trained at an airfield on Long Island (later renamed Roosevelt Field in his honour).

After training he was sent to France where he helped in setting up the large Air Service training base at Issoudun. Although a supply officer he eventually controlled one of the training airfields. Quentin decided that he wanted to fly as a pilot and was accepted for training, after which he was posted, on the 17th of June 1918, as a pilot to the 95th Aero Squadron, which was part of the 1st Pursuit Group. The Group was moved to Touquin aerodrome and on the 9th of July to Saints aerodrome.

During his brief operational flying he was credited with a single victory, a German aircraft he shot down on the 10th of July, 1918.

Just four days later, the 14th of July, he himself was killed after being shot down behind enemy lines during the start of the Second Battle of the Marne. His aircraft, a Nieuport N.28C1 was shot down in aerial combat over Chamery, a hamlet of Coulonges-en-Tardenois (now Coulonges-Cohan). It was found that he had been shot twice through the head. The German military buried him with full battlefield honours.

Three different German pilots have been credited, at various times, with the shooting down of Roosevelt.

> Lt. Karl Thom of Jasta 21, one of Germany's aces of the war, was in the vicinity and had confirmed kills nearby. He was often credited with Quentin's downing, but never claimed the credit.
>
> Lt. Christian Donhauser of Jasta 17 claimed credit and publicized himself as Quentin's victor after the war.
>
> Sergeant Carl Graeper of Jasta 50 also claimed credit, but if he did fire the fatal shots, it was his only kill during the war.

It was common for photographs of fallen aircraft to be taken, both by Germany and the Allies. A photograph was taken of Roosevelt's body lying beside his wrecked aircraft. Unfortunately and for propaganda purposes, it was used for a postcard and circulated. However, this back fired as many in America as well as in Germany, still held his father, Theodore Roosevelt, in high respect.

The French government posthumously awarded him the Croix de Guerre with Palm. He is the only son of an American President to lose his life in combat.

The propaganda photograph

THE AIRCRAFT

THE AIRCRAFT

References:

1. Profile Publications No.79 - The Nieuport N.28C-1
2. Windsock Date file No.36 - Nieuport 28 (by John Guttman).

This model represents the Nieuport N.28C1, Serial No.6177, of the 95th Aero Squadron, 1st Pursuit Group, operating from Saints aerodrome, France, during 1918 and as flown by 1st Lt. Quentin Roosevelt.

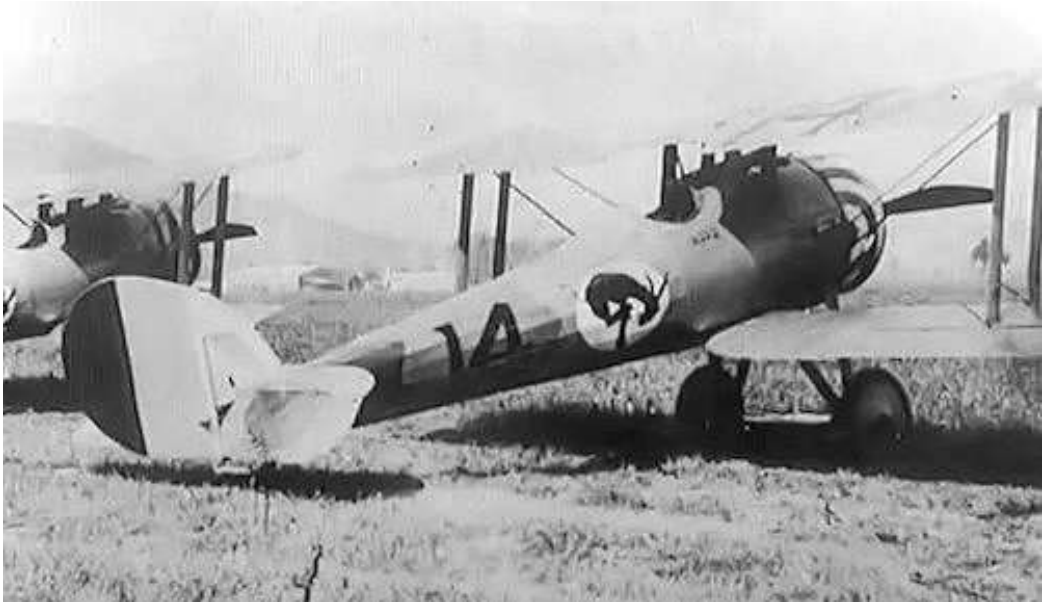
The French built Nieuport 28C-1 was the latest in a line of successful Nieuport fighters and was expected to become the primary fighter for the French squadrons. It was intended to replace the SPAD VII, which although a good design, suffered with problems with the Hispano-Suiza engine. However, by the time the Nieuport 28 had completed flight testing, the improved SPAD XIII had been accepted and as it exceeded the Nieuport 28 in most respects, the Nieuport 28 was destined to be scrapped.

When America entered the war, industry promised to supply thousands of combat aircraft, but none were ever delivered before the war ended. As such the American forces were desperate to obtain aircraft and the French willingly supplied them with 297 Nieuport 28C-1 aircraft, which were flown by the 27th, 94th, 95th and the 103rd Aero Squadrons.

The first victories for the American flyers came in April 1918 and the aircraft was flown by several notable pilots, such as Eddie Rickenbacker, Douglas Campbell and Alan Winslow. The aircraft had one fault in that in combat manoeuvres, the linen covering on the upper wing could shed, although this happened to only 6 of the 297 aircraft supplied. Before this was fully remedied, the SPAD XIII was introduced into the American squadrons and the Nieuport was slowly withdrawn from front line duties.

General specifications:	Performance:
Length - 6.4 m	Maximum speed - 400 km/h
Wingspan - 8.15 m	Endurance - 1.5 hours
Empty weight - 531.6 kg	Service ceiling - 5,178 m
Loaded weight - 737 kg	
Engine:	**Weapons:**
Gnome-Monosoupe 9N (16 hp)	Two .303 Vickers machine guns.

The aircraft flown by 1st Lt. Quentin Roosevelt

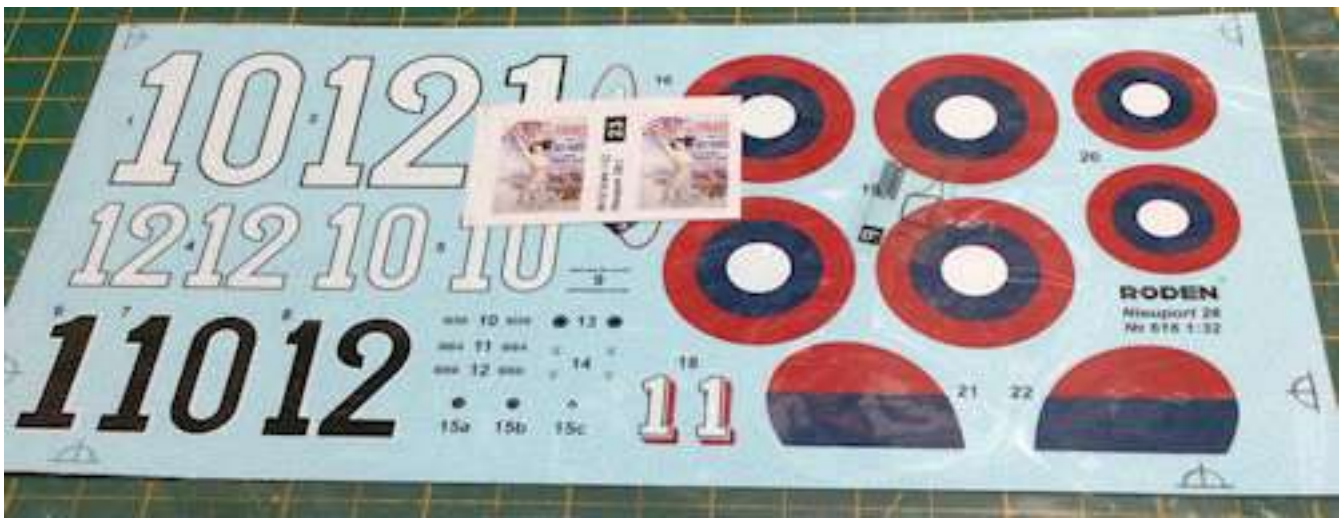


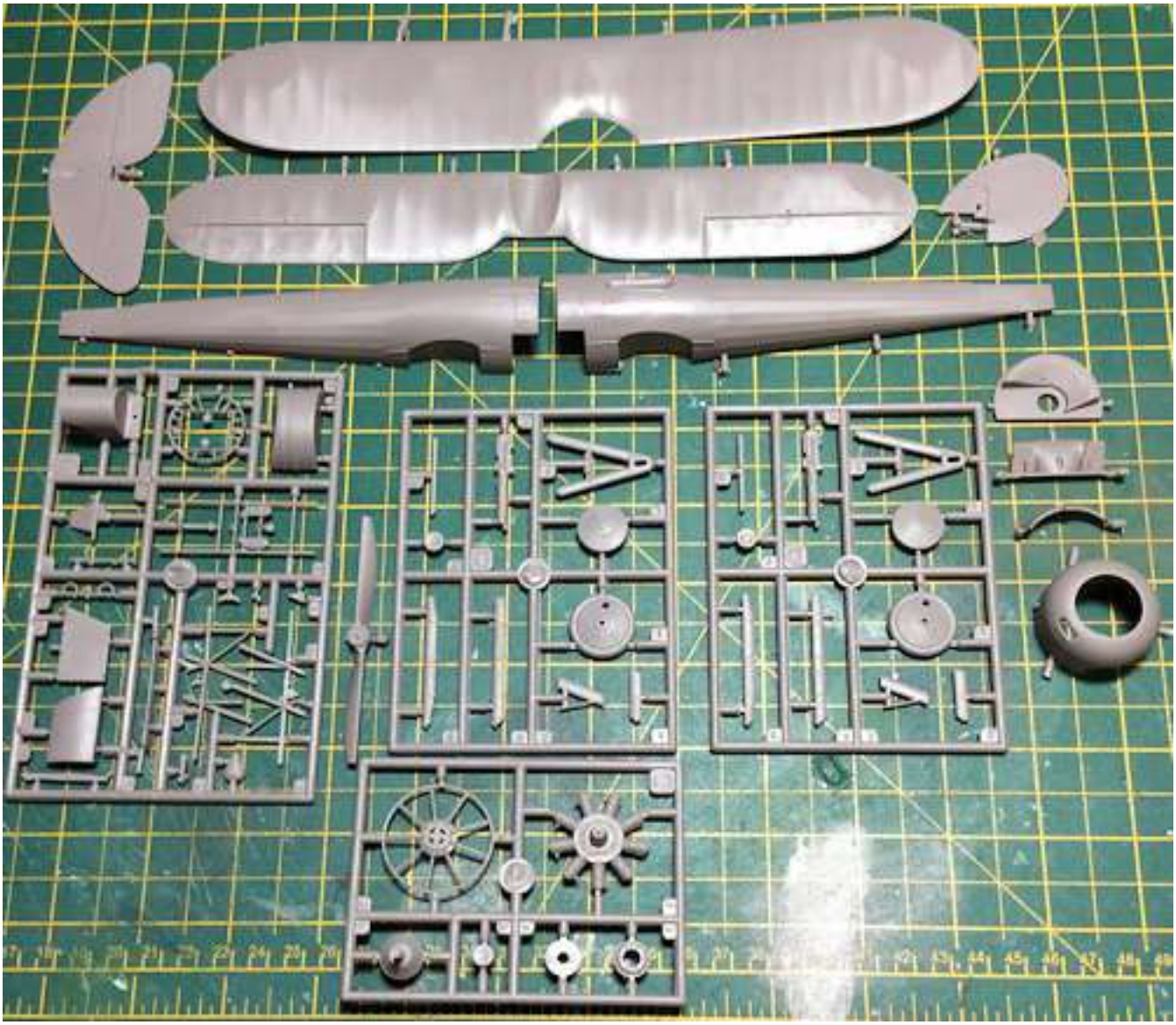
PART 1
MODEL DESCRIPTION

PART 1 - MODEL DESCRIPTION

('Roden' - Kit No:RO616)

This 1:32nd scale model is manufactured by 'Roden' and is manufactured in a grey coloured styrene plastic.
The kit supplies seven sprues containing the model parts, an instruction guide and a decal sheet, which has the markings for three aircraft of the 94th Aero Squadron of the American Expeditionary Force. Also supplied is a flexible acetate windscreen.
Although this kit is the original moulding it does has little flash that would need to be removed. That said, some parts, such as the engine and machine guns are not up to modern standards and will be replaced during the build. For this model, the decal sheet will not be used and replaced with decals for a specific aircraft, namely that of 1st Lt. Quentin Roosevelt of the 95th Aero Squadron.





PART 2
WOOD EFFECTS
(General)

PART 2 - WOOD EFFECTS (General)

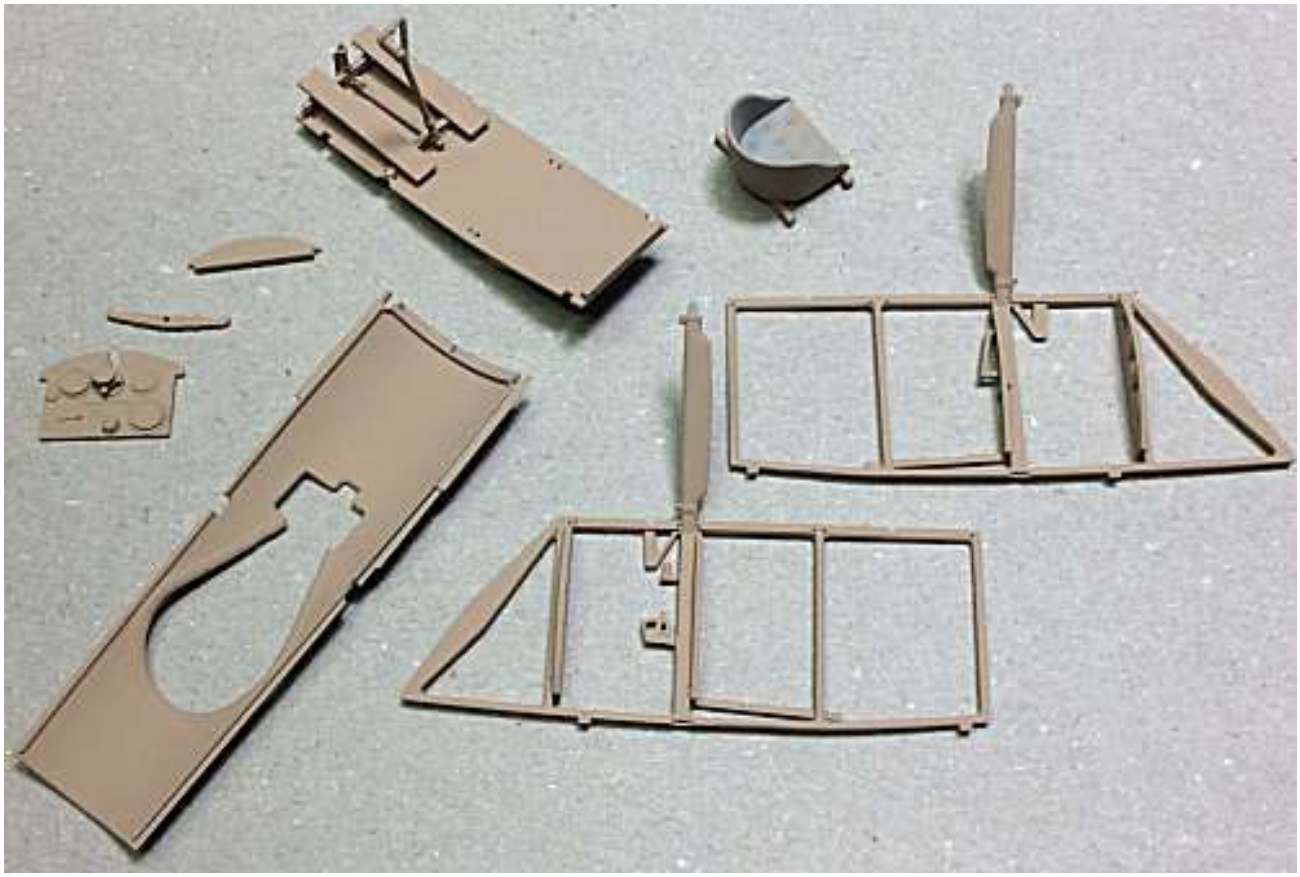
A basic technique:

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

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

To start, apply a suitable base colour. For most painting I use an airbrush and only resort to brush painting when dealing with small items, when I add a few drops of 'Mr. Colour' Levelling Thinner', which aids brush painting. For most wood effect, I use 'Tamiya' Wooden Deck Tan (XF78) or Dark Yellow (XF60), suitably thinned with 'Tamiya' Thinners (X20A). Allow this base coat to fully dry (if you can't smell the paint, then it's dry).

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



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

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

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

Once painting is complete, clean the brush in water.

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

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

'Tamiya' have 'Clear' coloured Acrylic paints, which are intended to be mixed with either Flat Clear (XF86), Semi-Gloss Clear (X35) or Clear (X22), to give the required finish but with a tint of the added 'Clear' colour. I use the Clear Yellow (X24) or Clear Orange (X26) to add a varnished tint to the clear coat. If using the 'Tamiya' Clear I add 'Mr. Colour' Levelling Thinners, which does improve airbrushing and avoids pooling. Otherwise I use 'Alclad' Light Sheen (ALC-311).

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

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

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

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

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

PART 3
WEATHERING
(General)

PART 3 - WEATHERING (General)

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

Flory Model clay washes:

The washes I tend to use are the 'Flory Models' Clay Wash 'Grime' and 'Dark Dirt', which come in various shades and consist of a suspended and very fine clay pigment. They are brushed over the surface to be weathered and dry in around 30 minutes. When dry, use either a piece of good, absorbent kitchen roll or a soft brush to remove as much of the clay wash as you need to achieve the desired effect. Once dampened, the dried clay is re-activated and the clay wash can be removed or worked as required.

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

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

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

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

To apply the clay wash is just a matter of brushing all over the surface to be weathered. It doesn't matter really how much is applied as it can be left on for any period, as it is easily removed without any effect on the surface underneath. If you don't achieve your desired effect, you can wash it all off and start again. I use a soft brush, which has been very slightly dampened, to brush off the clay wash. For smearing effects, a very slightly damp brush or absorbent paper should be used, but even then I dab them onto a dry piece of the paper, until it's almost dry. Any wetter and you'll find that you are removing too much of the clay wash. If that happens you would have to re-apply the wash and start again. That said, if you're not happy with the final effect, you can easily remove the clay wash by brushing with a wet brush or even airbrush water over the surface. Dry off the surfaces washed and then re-apply the clay wash and try again until you are satisfied. The technique is to 'damp' brush or wipe over the surface to re-activate the clay wash and at the same time, to smear it over areas that had no clay wash. It'll dry more or less straight away. Then I'll very lightly brush and/or use a piece of damp absorbent paper to remove as much as I want until I get the desired effect. If I remove too much I just reapply clay wash to that area and repeat the removal procedure. Once finished, just run the brush under a tap to rinse out any residual clay pigments. Finally I usually seal the surface with airbrushed 'Alclad' Light Sheen (ALC-311), which will seal in the applied clay wash.

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

Chipping effects:

To give the effect of chipped and weathered paint/varnish to metal engine cowls and forward fuselage panels etc, chipping fluids can be used. To achieve this effect, first prime the areas with a suitable primer then airbrush the metallic finish desired. Once dry, a chipping fluid, such as 'AK Interactive' Medium Chipping fluid or 'Vallejo' chipping fluid is airbrushed over the painted areas. An alternative is to use a cheap hair spray. This forms a barrier which will allow the top coat to be chipped off. Finally the required top coat colour is applied.
Once fully dry, moisten the top coat with water, which softens the paint. Then with a cut down (stiff) brush and wood cocktail stick, gently teased off the top coat paint. Take care when doing this as 'too much chipping' can't really be covered up. In that event you would have wet the top coat and remove it all with an old toothbrush or similar and then when dry, re-spray the top coat and try again. Once the desired effect was achieved, I sealed the surfaces with an airbrushed coat of 'Alclad' Light Sheen (ALC-311).

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

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

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

Water colour pencils:

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

Oil paint: A technique used more frequently now is oil paint ‘dot and drag’. Basically an oil paint of the desired colour is placed onto a piece of cardboard, which over a hour or so, soaks out the oil in the paint, leaving a drier pigment. The pigment is ‘dotted’ onto the painted surface where it is required then dragged with a brush previously wetted with ‘Tamiya’ X20 enamel thinners then wiped virtually dry.
Softly ‘flick’ the brush to drag the pigment in the direction required, which will blend it in a thin layer.
The amount of pigment left showing depends on the effect you require. Always keep the brush wiped clean to avoid a build up of pigment and remoisten and wipe dry often. The more paint you drag, the less pigment is left showing. Blending different coloured pigments can create stains from smoke/gun blast, rain marks/runs, dirt/dust and oil/fuel stains.

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

PART 4
DECALS
(General)

PART 4 - DECALS (General)

Standard decals:

The supplied markings decal sheet and the optional 'lozenge' decals sheets are not 'cookie cut' to the required shapes, but are part of the overall carrier film on the sheet. Therefore you will need to carefully cut the individual decals from the sheet. The decals appear not to be laser

printed, as with for example 'Cartograph' decals, and backing sheet is thicker than standard decal sheets. This makes it difficult to achieve a clean cut around the decals. The decals are not of the best quality, which is to be expected from a 'limited run' kit of this type and given that they have to be carefully cut out from the sheet may make the end result less than favourable.

One alternative to using these decals is, where possible, is to source replacements from commercial retailers or from your 'spares' collection if you have one. This would only apply to the larger 'standard' markings as the smaller and specific model decals are unique and would still need to be used.

A second alternative for the larger markings would be to create masks and airbrush the markings, although this would require specific masks and is not a method advised for the less experienced modeller. Again the small and specific models decals would still need to be used.

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

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

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

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

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

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

Carefully move the decal into the correct position.

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

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

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

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

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

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

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

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

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

'Aviattic' linen effect decals:

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

However, 'Aviattic' decals are laser printed onto a very fine carrier film and although this film is thin, the decals are remarkably resilient and somewhat 'stretchy' when being applied. This allows them to be more easily moved and positioned before being finally applied. Also with most other decals, I've used softeners to help the decals conform to surface irregularities and contours, which is something I've found is not really required for 'Aviattic' decals, due to the nature of the carrier film. In addition, the decals need to be cut out from the sheet, so care is required to cut the decals accurately to avoid leaving gaps, especially at the edges, where the white base colour will show. That said, minor gaps may be able to be covered with weathering. For more information, refer to the 'Aviattic' instruction sheet supplied with the decals.

Aviattic' decals are laser printed onto either 'clear' or 'white' backing, the 'clear' being dependent on the base coat you apply and the finished effect you desire. The decals are supplied with very clear instructions on their application, including when to add pre-shading to the base coat, where desired, before you apply the decals. For this model I chose to use the 'clear' decals, in order to show the linen effect more visibly.

Application:

If the decal is to be applied without a coloured undercoat (green, brown etc), first airbrush a primer coat of 'AK Interactive' primer and micro-filler (White - AK759) on all of the surfaces to have the decals applied.

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

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

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

NOTE: *The surface must be pre-wet with like warm water with. Care needs to be taken when you slide the decal from the backing sheet and onto the model surface, as the thin decal can fold over on itself.*

Soak each decal in warm water for approximately 20 seconds.

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

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

Align the decal to the shape of the model part.

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

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

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

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

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

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

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

PART 5
RESIN (General)

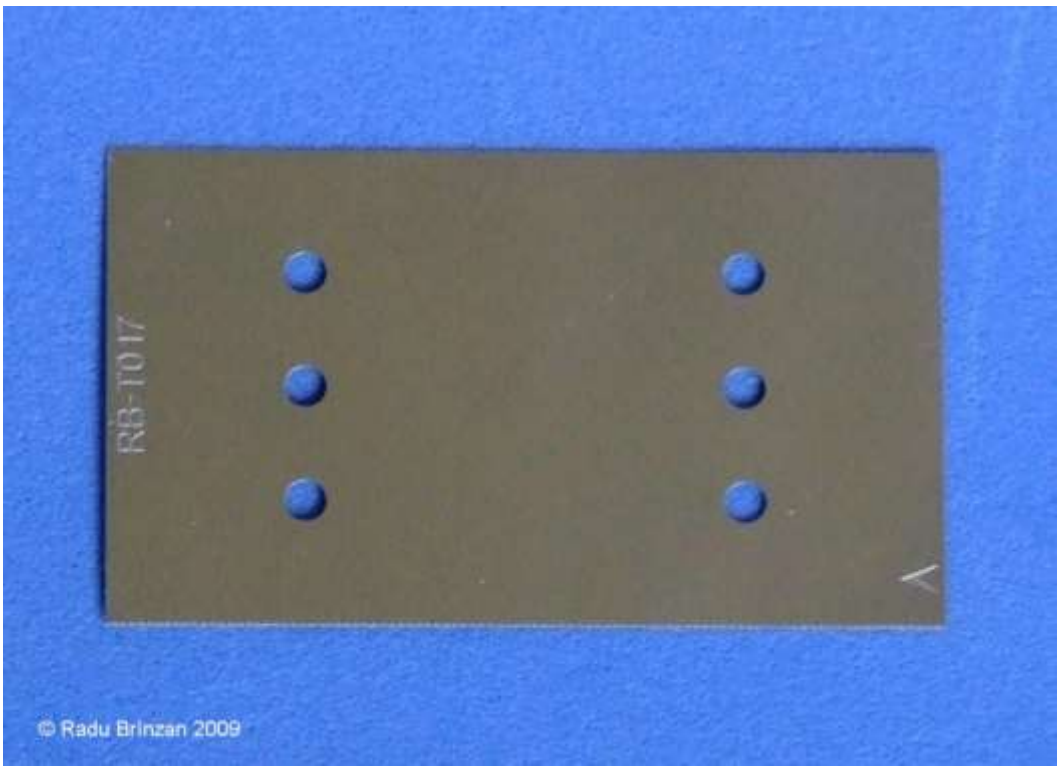
PART 5- RESIN (General)

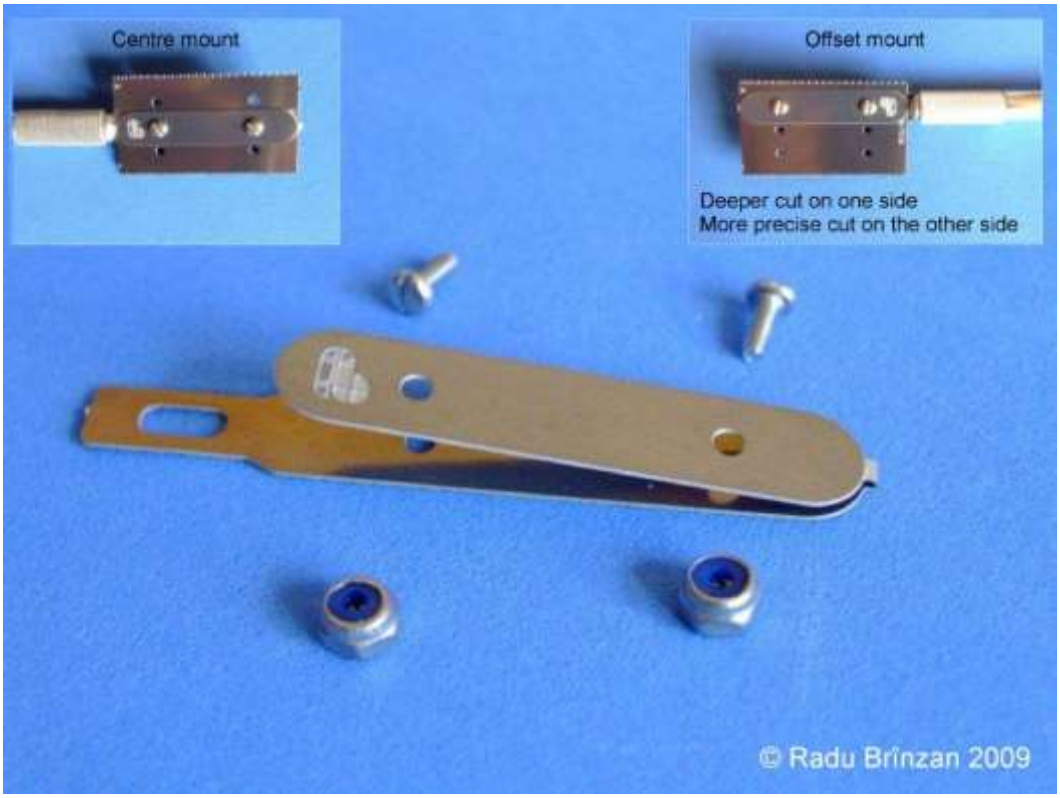
The reason for creating resin kits is that in years gone by, resin kits were able to produce much finer detail on kit parts than the plastic kit equivalents. Even today, there are many producers of resin kits and particularly after market replacement parts. However, plastic kit manufacturers have come 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 kits these days tend to make kits to order or have 'limited' runs, although aftermarket parts are usually readily available. Working with resin does present different challenges to the modeller, especially if it's the first time of building a resin kit. The properties of resin differ radically to those of plastic kits.

Below I have listed what I have found to be the primary differences for resin kits from plastic kits:

1. When resin kits are cast in their moulds, a release agent is applied to enable the cast resin parts to be more easily removed, which is similar to plastic kit moulding. This release agent can leave a film on the surface of the kit parts, which, if not removed, can prevent paint or adhesives from adhering to the surfaces. The easiest way to remove this film is to carefully and fully wash all of the model parts in warm soapy water, using an old, soft tooth brush, then rinse all of the parts thoroughly and leave to dry. Alternatively wipe the parts with isopropyl alcohol (e.g. 'Tamiya' X20A thinners).
2. Resin, by its nature, is very brittle and can be damaged or broken easily, especially when handling small parts. This is particularly evident when separating the individual items from the resin cast. The best way to remove item is to cut them away with a razor saw, then clean them up afterwards.
3. Once removed from the resin cast, parts will normally have 'resin flash' around or amongst parts, especially small items. This is easily removed with a sharp scalpel blade. Heavier residue can be scraped, filed or sanded away.
4. Plastic kits are assembled using solvent adhesives, which melt the surface where it is applied and 'weld' the joint together. Resin however will not react to this type of adhesive and can really only be glued using CA adhesive. This adhesive reacts to moisture in the air and on the surface to be joined. As most people know, it will also bond skin to whatever it touches, if the skin has CA adhesive on it. Obviously extreme care needs to be exercised when assembling resin kits using CA adhesive.
5. Cutting, sanding and drilling resin will create swarf and more importantly, resin dust. The dust in particular is dangerous, especially if inhaled. Therefore always vacuum the working area, and yourself, regularly. If you have a face mask or filtered respirator and find you can wear it whilst working, then do so. Resin can easily be drilled or scraped, but remember how brittle resin is when it is being handled.
6. It is not unusual to find imperfections in resin cast parts, such as surface blemishes, small 'blow' holes or ragged edges. This can be common on some resin kits. These imperfections can be rectified by sanding/polishing and/or filling with modelling putty, then sanding/polishing.
7. Generally CA adhesive is supplied as 'instant bond' adhesive, but there are some manufacturers, such as 'VMS Fleky', that supply CA adhesive as standard, thin, slow and specific resin adhesive. Whichever adhesive is used you must ensure parts are correctly positioned and aligned before applying the adhesive. Trying to separate mis-aligned parts once the adhesive sets will prove very difficult and may result in irreparable damage to the parts.

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





PART 6
RIGGING

PART 6 - RIGGING

General:

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

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

With your research complete and all necessary holes pre-drilled, the rigging can start. For the primary rigging, such as flying and landing wires and cross bracing wires, I used 'Steelon' mono -filament (fishing line) of 0.12 mm diameter and for flight controls I used 'Stroft' 0.08 mm diameter mono-filament. These are effectively transparent but do give a look of steel, without the need of painting or colouring with a gel pen. The turnbuckles used are either sintered metal or resin and obtained from 'Gaspatch Models'. Although the newer resin turnbuckles are better detailed, they are resin and therefore can break is stressed in the wrong direction. If in doubt, use the metal versions, which are much stronger.

The basic aircraft rigging is as follows and uses wire wound wires with adjustable turnbuckles.

Internal rigging:

Elevator control wires

The control column pivoted forwards and backwards where it was attached to the aileron control barrel. Control cables were attached above and below the pivot point and were routed rearwards through the fuselage by pulleys. At the rear of the fuselage the cables were attached to the ends of a bell-crank, which was fixed to the internal elevator torque tube. The bell-crank was accessed through an opening in the fin.

As the pilot moved the control column forwards or rearwards, the control cables would move the bell -crank and rotate the elevator torque tube, moving the elevators to pitch the aircraft up (climb) or down (dive).

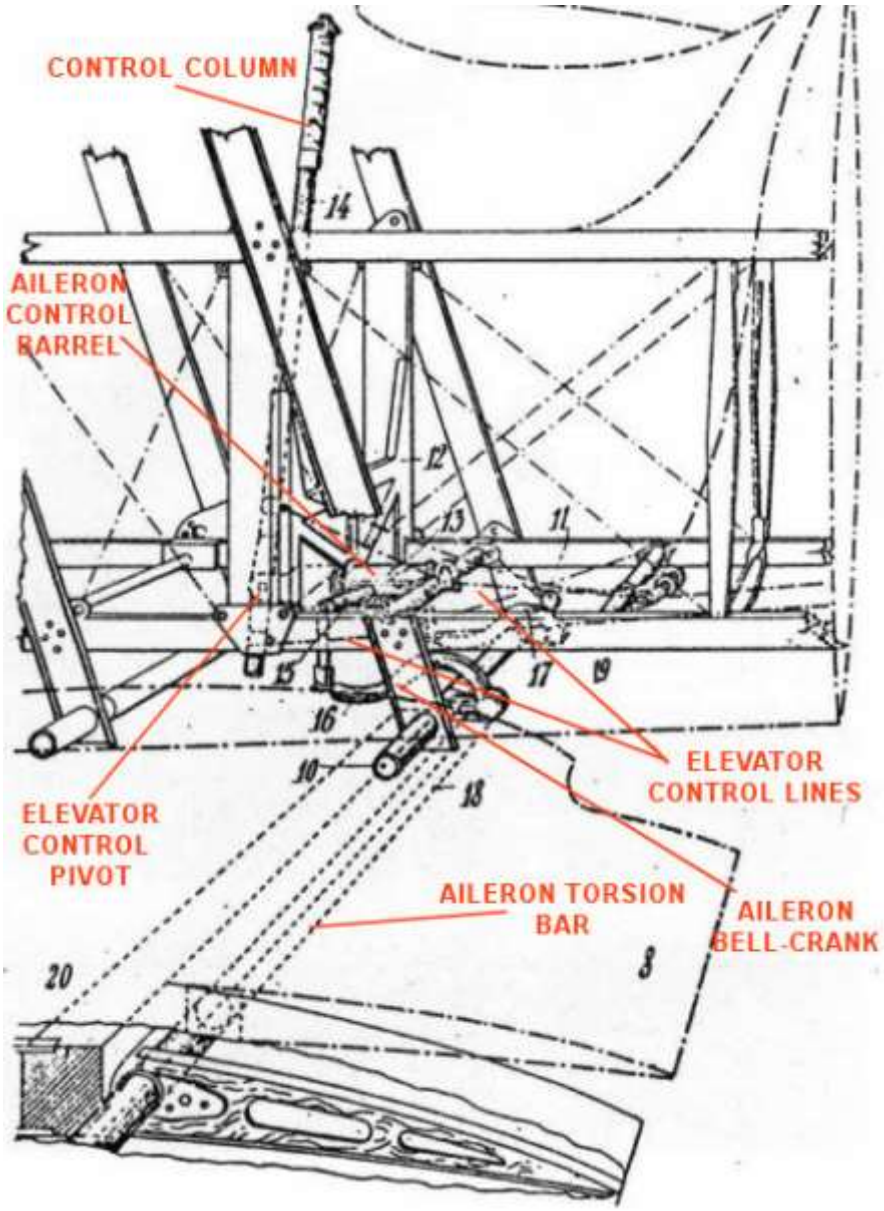
Aileron control

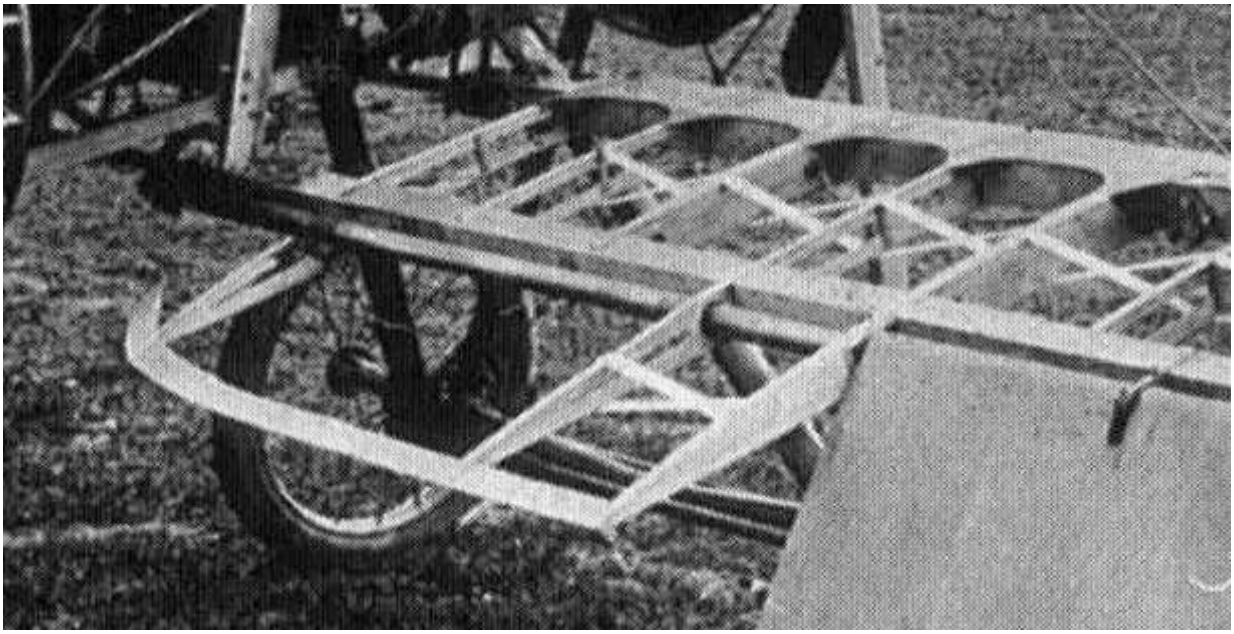
The control column was attached to the aileron control barrel, the rear end of which was fixed to the cockpit frame. An operating bar was fitted to each side of the barrel, the ends of which were attached to vertical rods. These rods, which had swivel joints at each end, were in turn attached to curved bell-cranks, the rear of which were fixed to the aileron torsion bars. The torsion bars then extended from each side of the cockpit and internally through the lower wings to the ailerons.

As the pilot moved the control column left or right, that movement would turn the aileron control barrel, which would push down on one vertical rod and lift up the other. This movement was transmitted to the aileron bell-cranks, which would rotate the one aileron torque bar in one direction and the other torque bar in the opposite direction. These rotations would move one aileron up and the other down, rolling the aircraft left or right.

Rudder control wires

Control wires were attached to either side of the pilot's rudder bar and internally routed to the rear of the fuselage, where they excited as pairs to be connected to the control horns on either side of the rudder. Turnbuckles were fitted to the wires at the control horns.

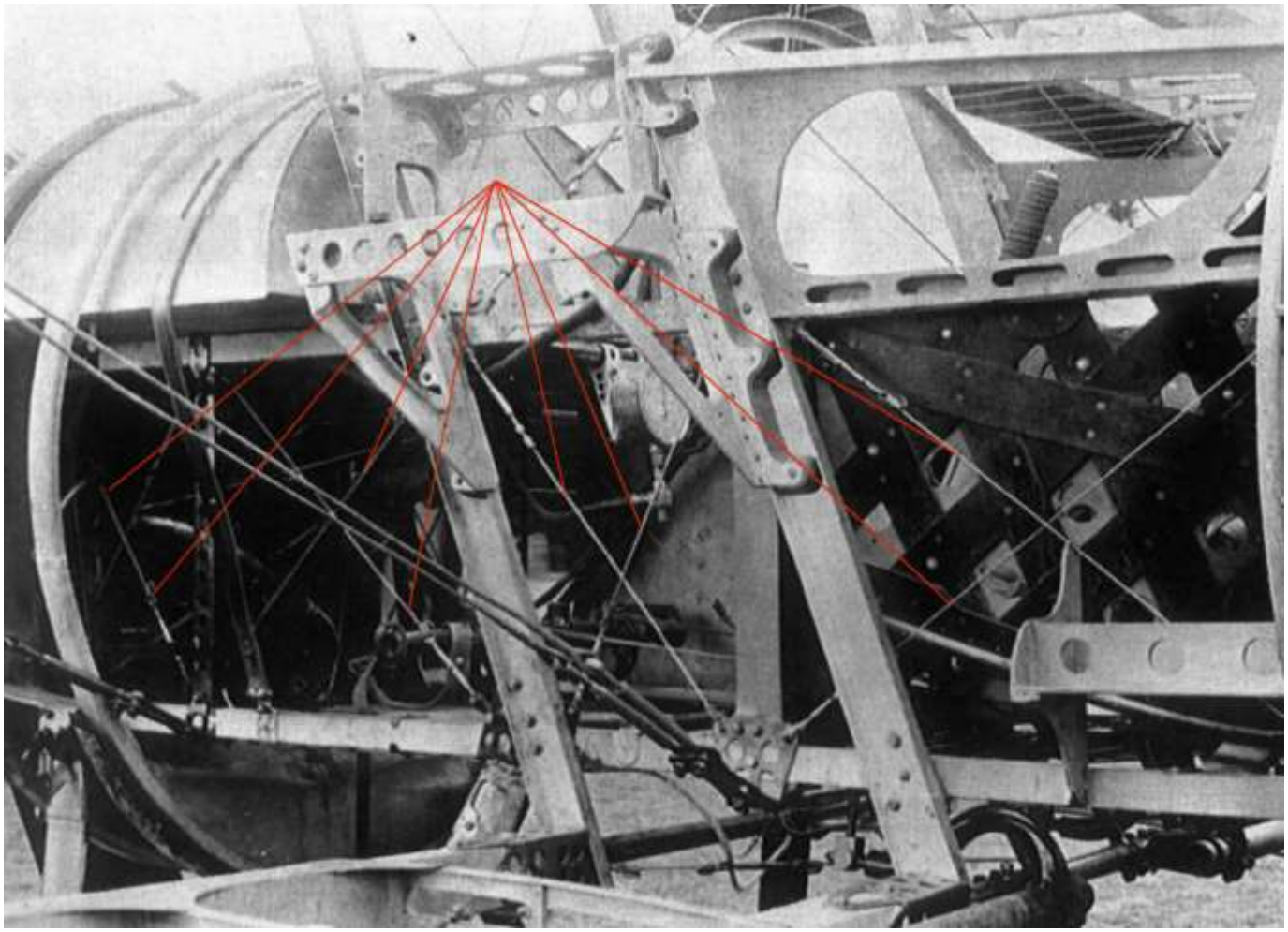




Internal bracing wires

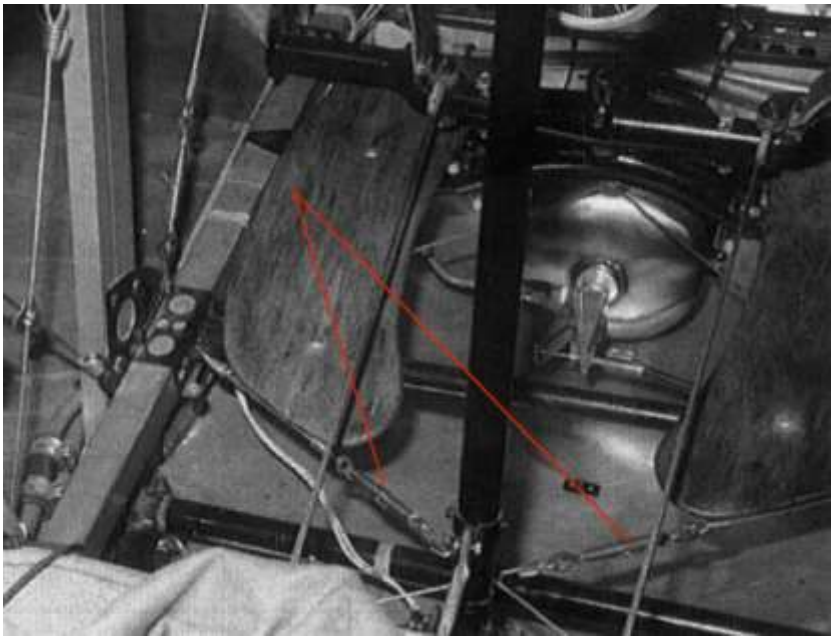
Cockpit side frames

Each bay between the cockpit side frames were cross braced with wires, which had turnbuckles that were fitted to the tops of the wires.



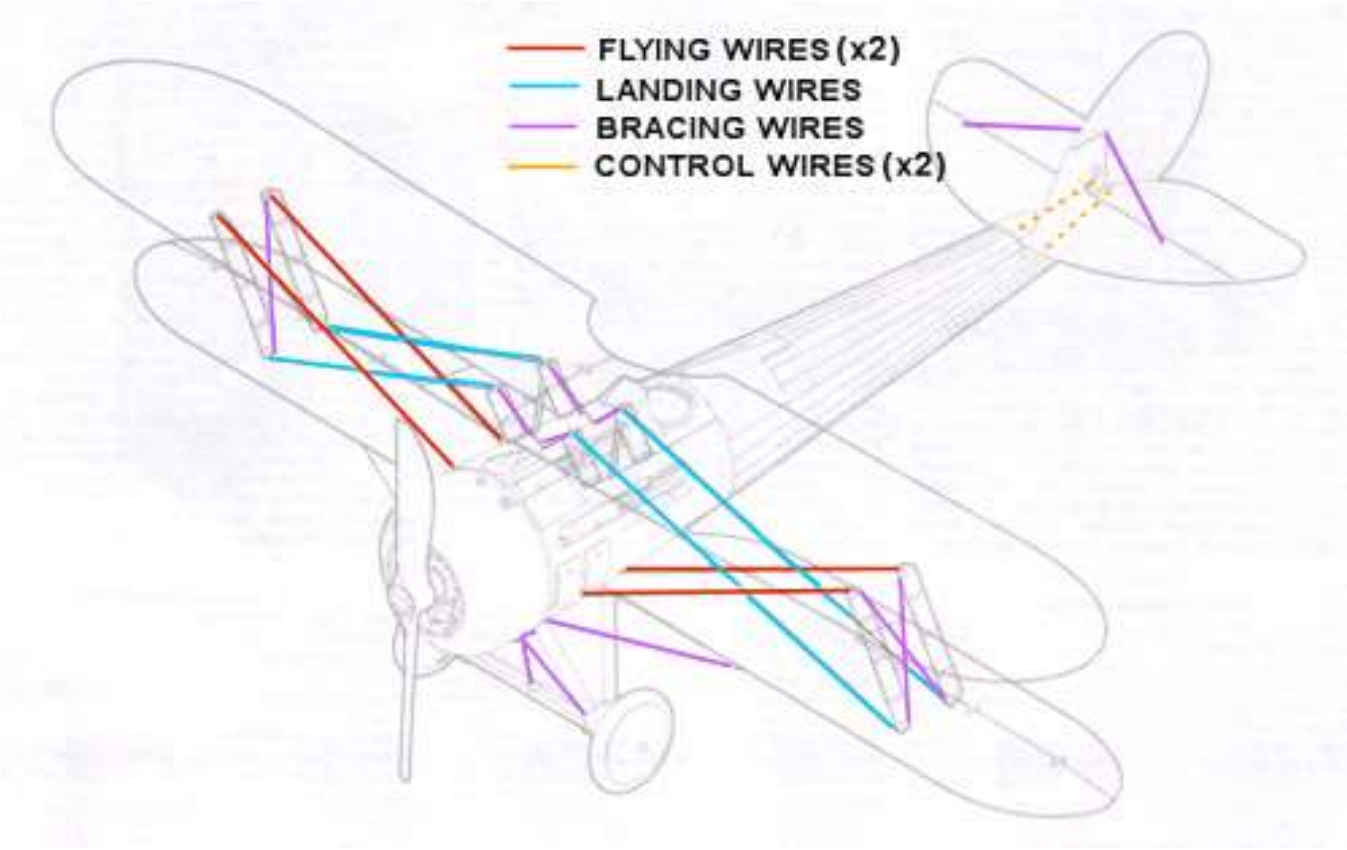
Floor frame

At least the forward bay of the floor frame, to the rear of the pilot's foot boards, was cross braced with wires, which had turnbuckles fitted.



Other cockpit bracing

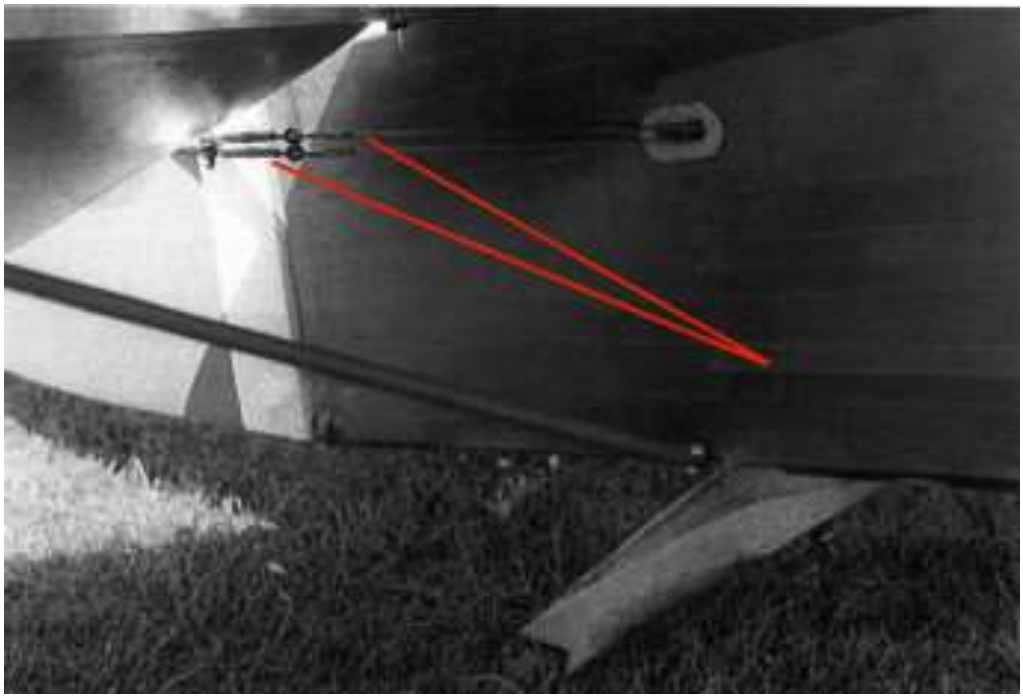
There were other areas of the cockpit that had cross bracing wires fitted, but these areas, such as the bulkhead behind the pilot's seat, will not be visible in the model. Therefore these bracing wires are not included.



External rigging:

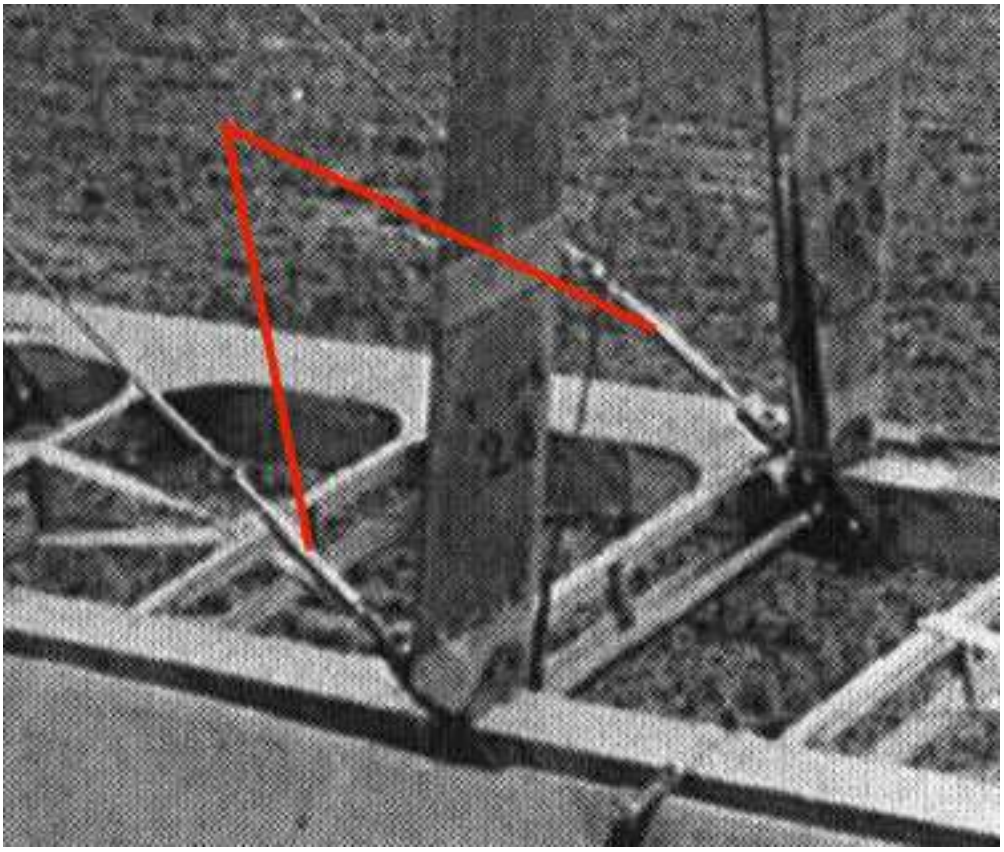
Rudder control wires

Control wires were attached to either side of the pilot's rudder bar and internally routed to the rear of the fuselage, where they excited as pairs to be connected to the control horns on either side of the rudder. Turnbuckles were fitted to the wires at the control horns.



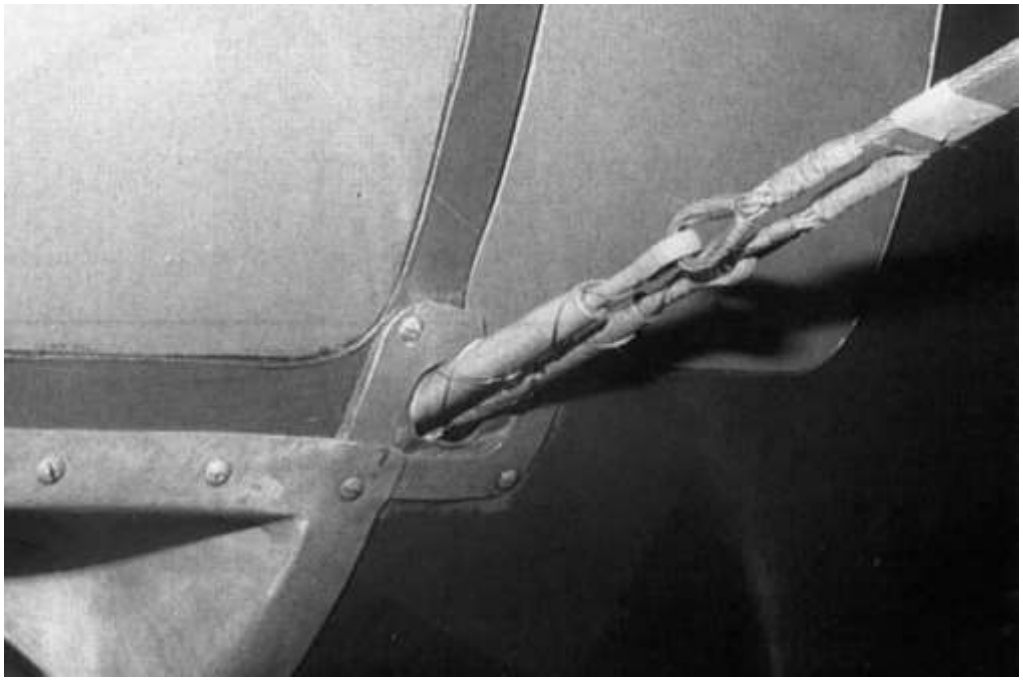
Landing wires

A front and rear landing wire was connected between the underside of the upper wing, at the top of the cabane struts and the lower wings at the bottom of the wing outer struts. Turnbuckles were fitted to the wires at the bottom of the outer struts.



Flying wires

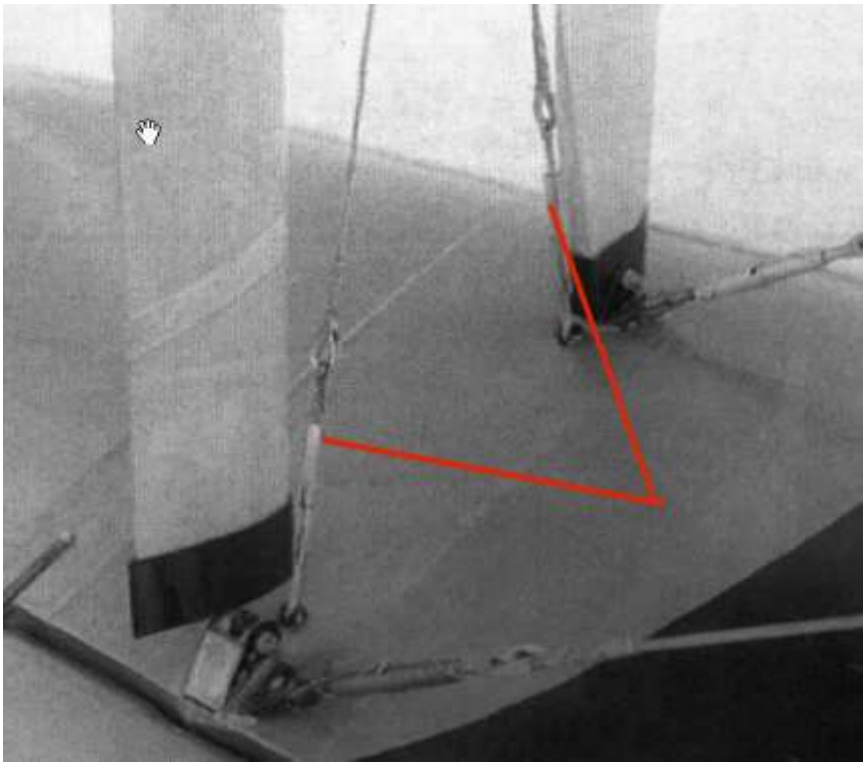
A pair of front and rear flying wires were connected between the underside of the upper wing, inboard from the top of the wing outer support struts and the lower sides of the fuselage, above the wing roots. To reduce airflow vibrations, these twin wires had wood strip inserts added between the wires. Although some photographs show an interconnecting rod between the front and rear pairs of wires on each side of the aircraft, most indications are that these were not generally fitted. Turnbuckles were fitted to the wires at the wing roots.



Bracing wires

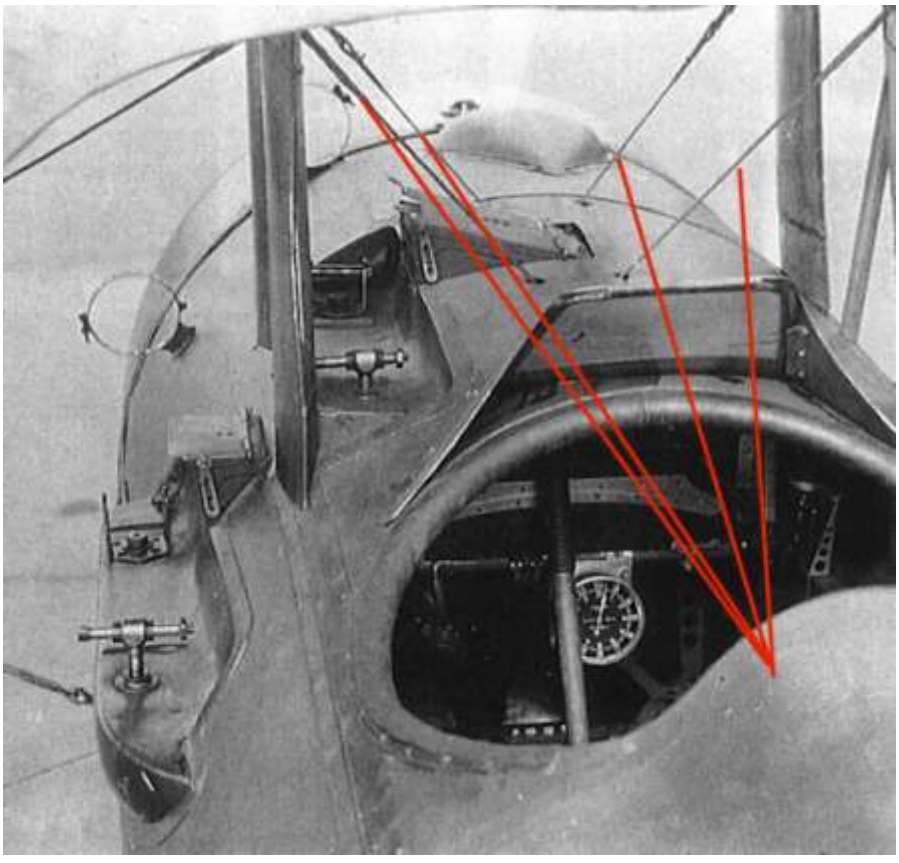
Wing outer support struts

Diagonally crossed bracing wires were fitted between the top and bottom of the wing outer support struts. Turnbuckles were fitted to the wires at the bottom of the outer struts.



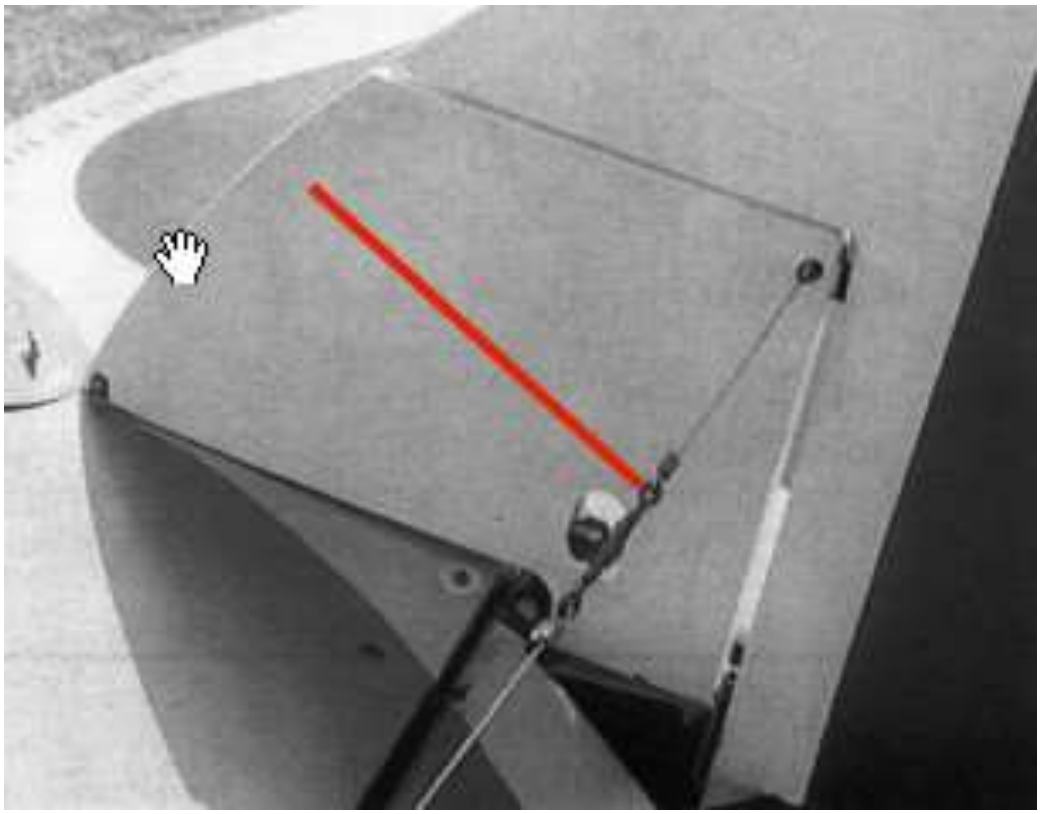
Fuselage cabane struts

A bracing wire was connected between the underside of the upper wing, inboard from the top of the fuselage front and rear cabane struts and through the top of the fuselage onto the top of the cockpit side frames. In addition, the rear cabane struts had a bracing strut fitted to the front edge. Turnbuckles were fitted to the wires at the top of the cabane struts.



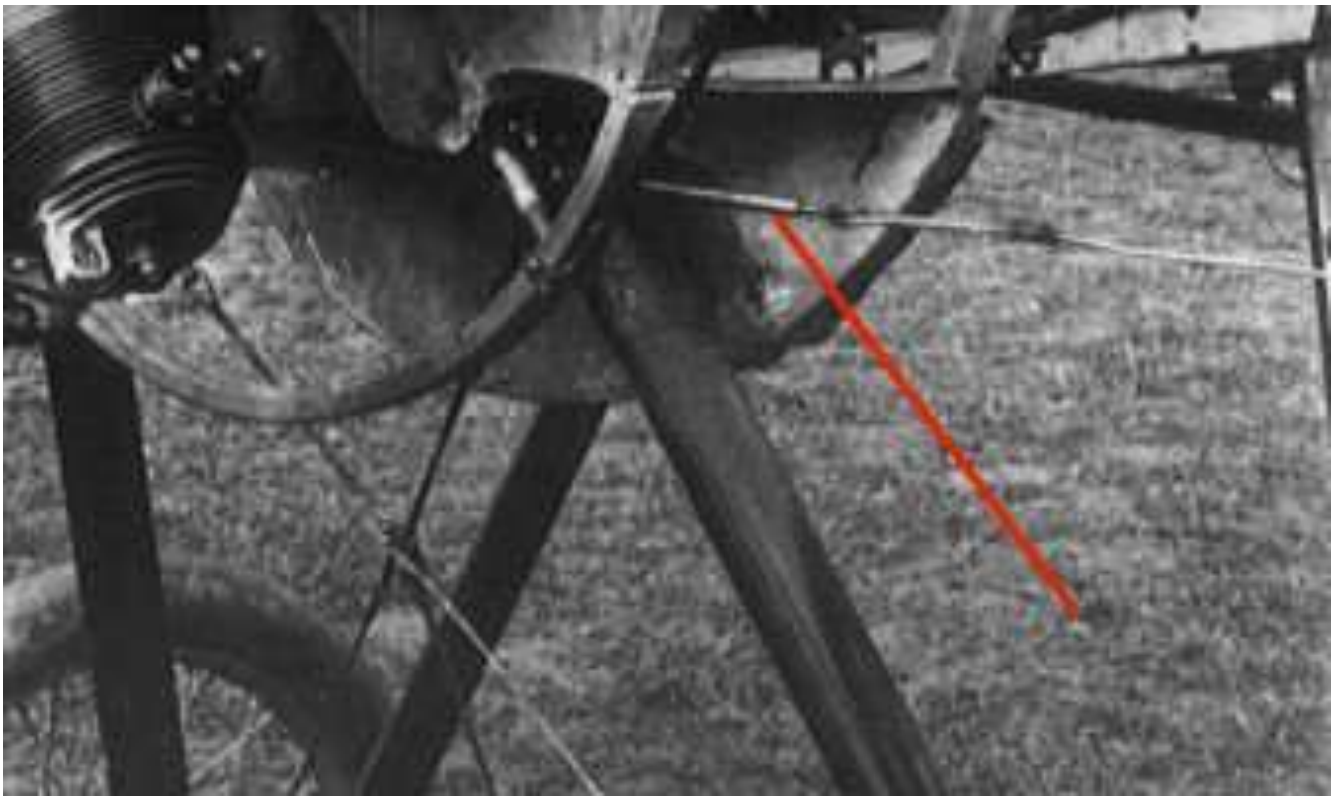
Fin

The fin was braced to the tail plane by a single wire, connected between the top surface of each side of the tail plane, above the lower support rods and the top edge of the fin. Turnbuckles were fitted to the wires.



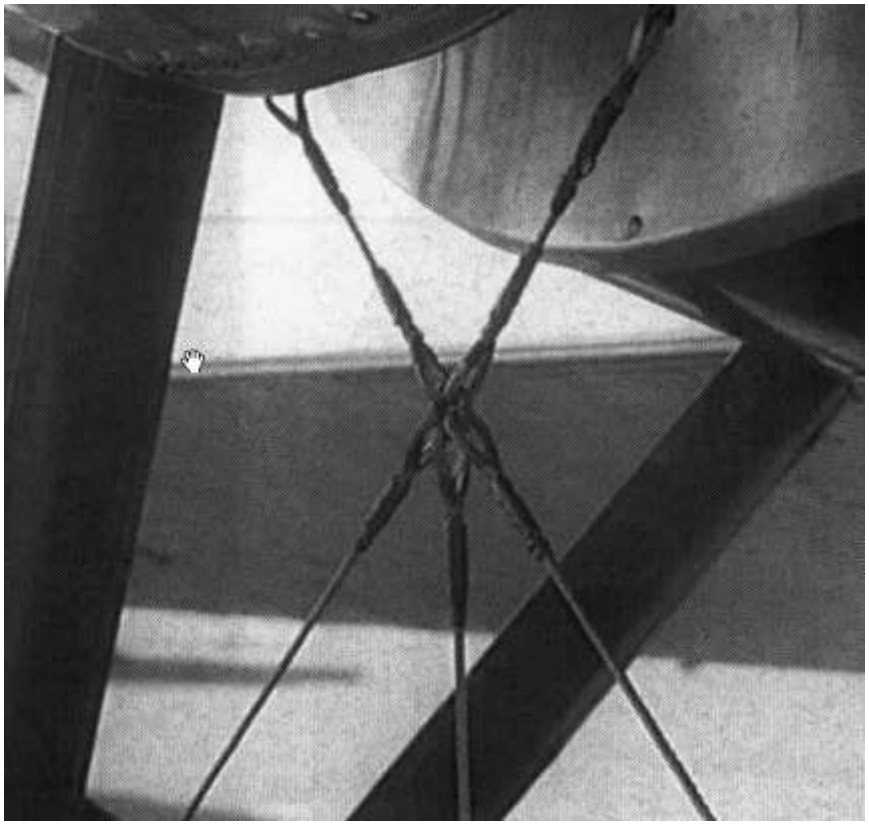
Lower wing

A single bracing wire was fitted at either side of the aircraft, between the top, rear of the front undercarriage strut and the leading edge of the lower wings, midway between the fuselage and wing outer struts. Turnbuckles were fitted to the wires at the undercarriage strut.



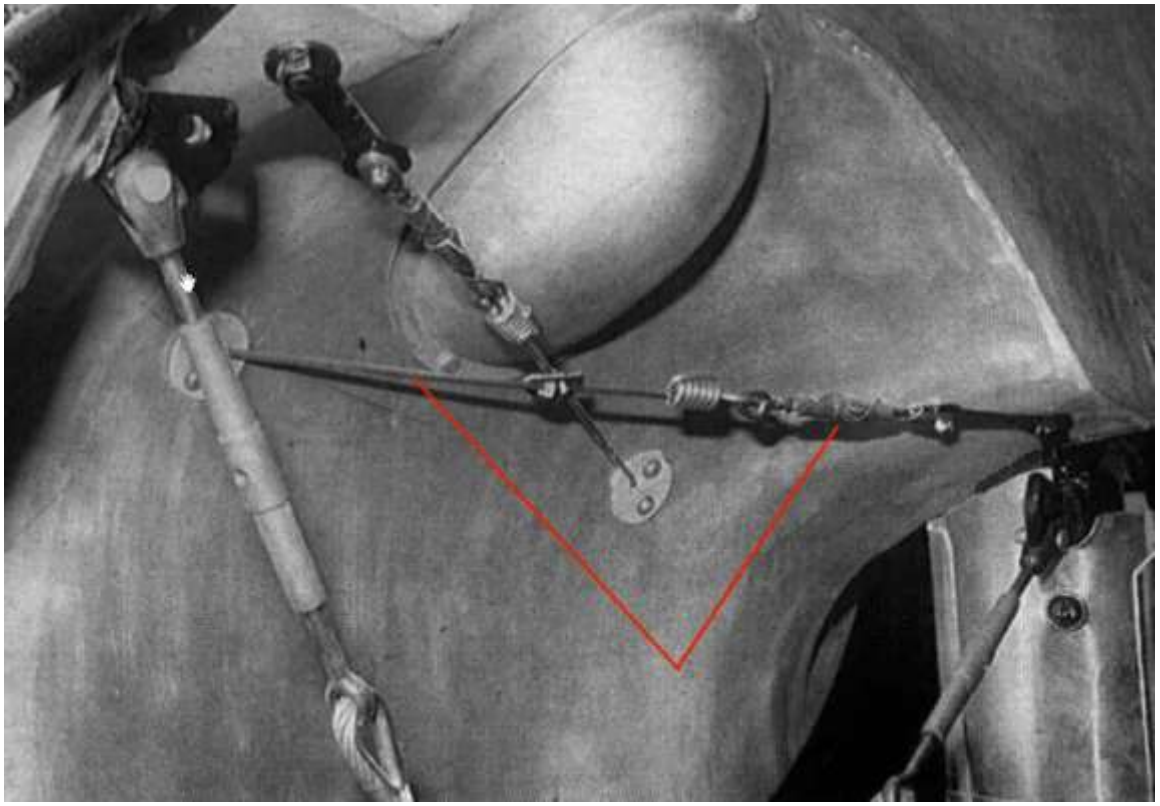
Undercarriage

The undercarriage was braced by diagonally crossed wires, connected between the outer ends of the axle fairing and the underside of the fuselage, inboard from the top of the front undercarriage struts. Also a single wire was fitted between where the two bracing wires crossed and the centre of the axle fairing. These bracing wires were attached to a ring where they crossed (five separate wires).



Engine bulkhead

Two crossed bracing wires were fitted at the bottom of the engine bulkhead with turnbuckles fitted. These wires were for cockpit internal bracing, but secured externally to the bulkhead, where adjustment could be carried out more easily.



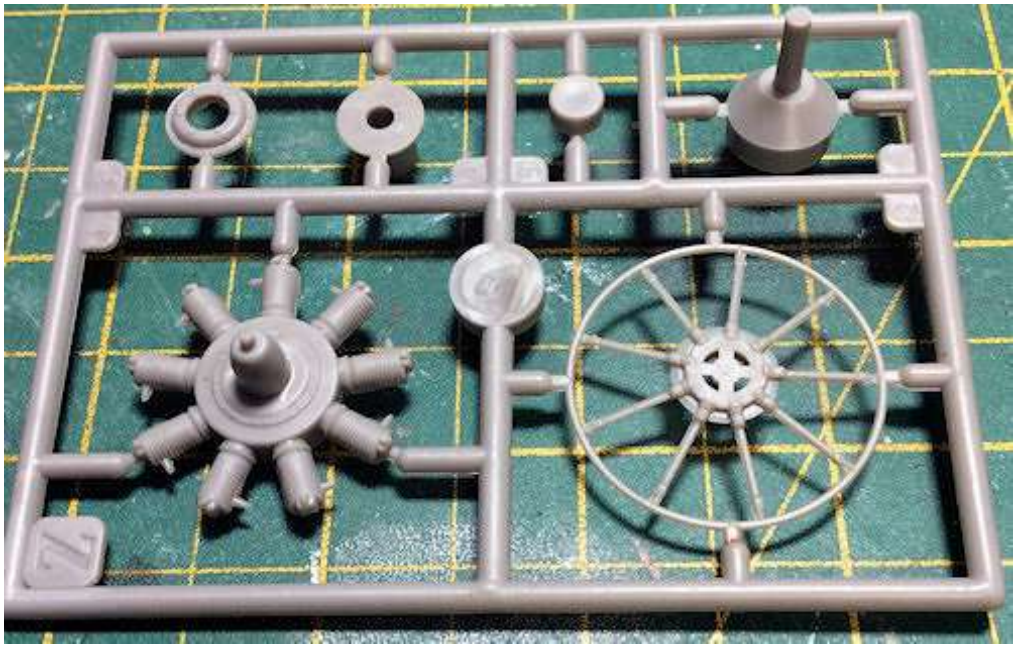
PART 7
ENGINE

PART 7 - ENGINE

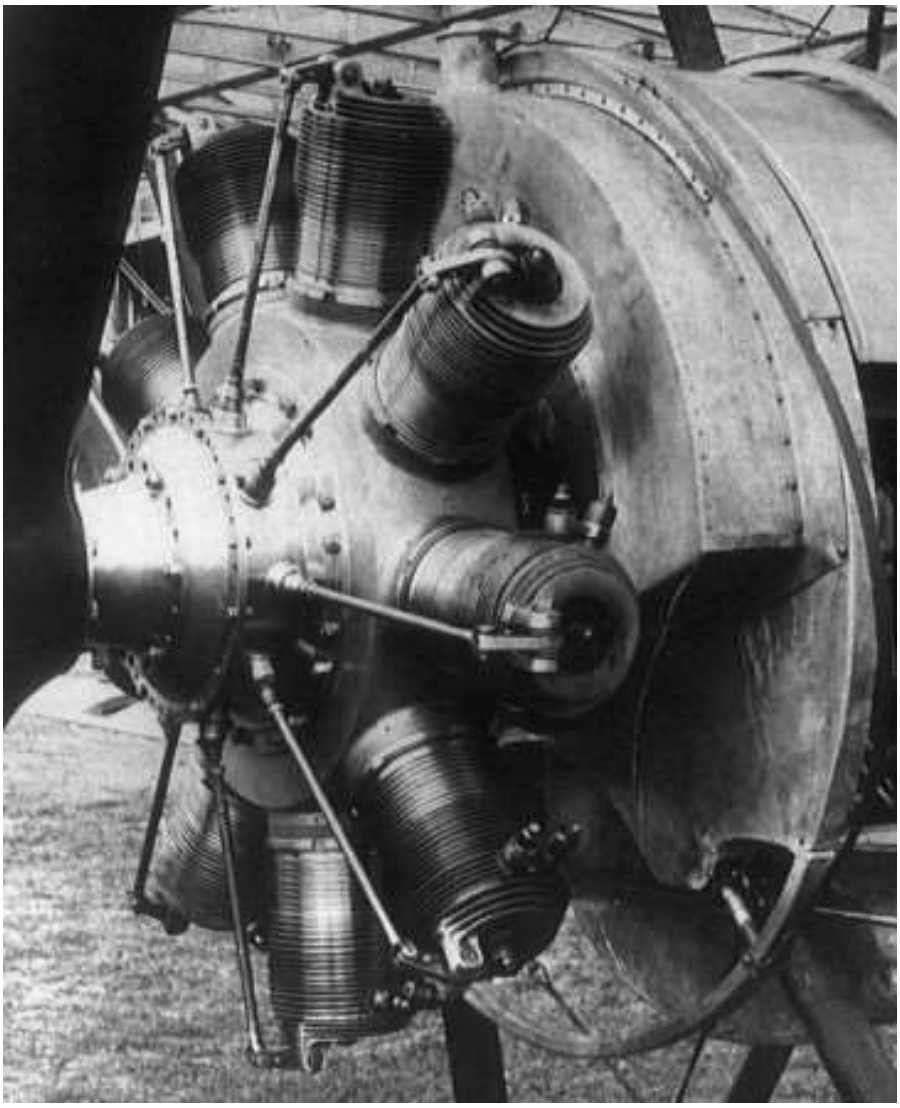
The kit supplied engine is lacking in accuracy and detailed so will be replaced with the 'Wingnut Wings' engine spue (Gnome/Oberursel) from their Fokker E.III kit. The German Oberursel U.I engine was a copy, built under license before the war started, of the French Gnome-Monosoupe 9N engine. However, for example, the French engine had two spark plugs per cylinder, whereas the German copy had only one spark plug per cylinder. The 'Wingnut Wings' engine allows either engine to be built.

'Wingnut Wings' Gnome/Oberursel engine.

'Roden' Gnome engine



NOTE: *The modeller can choose to use the kit supplied engine or replace it with the 'Wingnut Wings' (Gnome/Oberursel) engine. If the 'Wingnut Wings' engine is to be used, it's advisable to assemble parts of the kit to check the fit of the engine into the 'Roden' engine cowl and fuselage bulkhead. Also parts from each engine need to be used.*



Engine cowl:

Remove the following kit parts from their sprues and file or sand away any flash, seams or sprue tags from the kit parts:

Fuselage halves (2A and 3A).
Engine cowl (1B and 6B).
Engine bulk head (4B and 7B).

Scrape or sand the inner surface of the engine cowl to reduce its thickness to a more realistic scale.

Locate the two fuselage halves together using elastic bands.

Cement the two bulk head parts together. Locate the assembly into the fuselage to make sure the fit and alignment is correct.

Dry fit the engine cowl parts together making sure the edges are aligned.

If necessary, sand the glued joints to blend the surfaces together.

Engine:

NOTE: *The following steps are required to use the 'Wingnut Wings' (Gnome/Oberursel) engine.*

Remove the following kit parts from the 'Wingnut Wings' engine sprue and file or sand away any flash, seams or sprue tags from the kit parts:

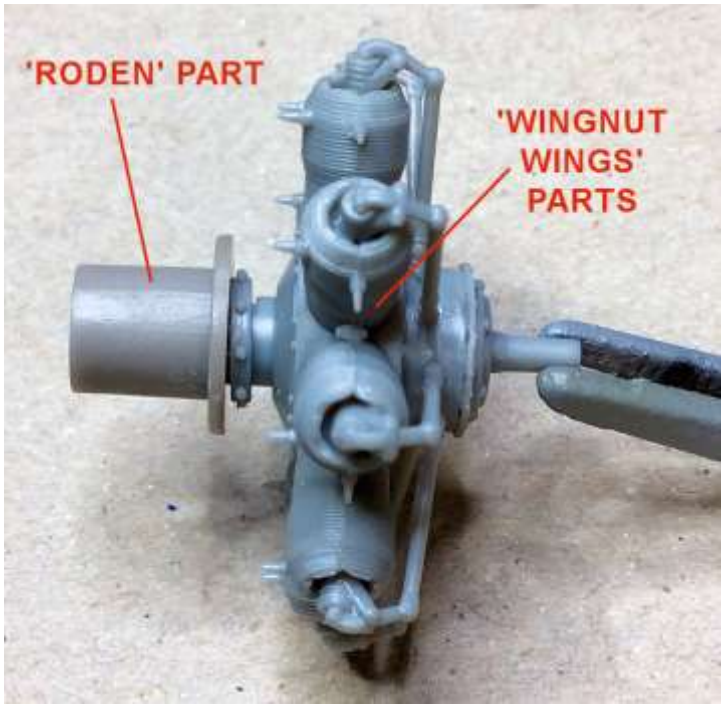
> Engine halves E3 (x2), back plates E8 and E4, ignition ring E7, shaft E11 and valve push rods E1 (x9).

Assemble the following engine parts:

> Engine halves E3, back plates E8 and E4, ignition ring E7 and shaft E11.

Cement the 'Roden' kit supplied part (4Z) onto the engine shaft E11, with the larger flange towards the engine.

Cement the 'Wingnut Wings' valve push rods (E11 x 9) in position on the engine.



NOTE: *To be correct the two spark plugs for each cylinder should be located side by side. The engine used ('Wingnut Wings') has one of the spark plugs located on the rear of each cylinder. However, neither the spark plugs or for that matter the cylinder heads will be visible once the engine cowl is fitted. Therefore I chose not to relocate the rear spark plugs.*

Painting

Airbrush the engine assembly with a black primer (e.g. 'Alclad' Gloss Black Base (ALC-305-60) or similar).

Airbrush the engine assembly with 'Alclad' Duraluminium (ALC-120) or similar.

Brush paint the bottom of each valve push rod with 'Mr. Colour' Brass (219) or similar.

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

Brush the engine with 'AK Interactive' Kerosene wash (AK-2039).

NOTE: *The 'Wingnut Wings' engine used has spark plugs fitted in the top, rear of the cylinders, which technically is incorrect for the engine in this aircraft. The spark plugs were in pairs next to each other. However I left these plugs as they cant be seen once the engine is covered by the cowl. Test fitting the engine showed that these rear spark plugs contacted the oil tank at the top of the engine bulk head, preventing the engine from being fully located against the bulkhead.*

Cut away the rear spark plugs from four adjacent cylinders to allow the engine to be fitted.

Engine and cowl - test fit

Locate the engine fully into the fuselage bulkhead, with the four cylinder without rear spark plugs at the oil tank.

Test fit the engine cowl over the engine and onto the front of the fuselage.

If necessary, scrape or sand the inner surface of the cowl so that it can be fitted correctly without contacting and damaging the cylinder heads of the engine.

Scrape or sand the inner surfaces of the engine cowl around the central opening and the ventilation slots, to reduce the thickness to more in-scale.

If necessary, sand the outer surface of the engine cowl so that it aligns with the contour of the forward fuselage (should have no obvious steps between the two).

Spark plug ignition leads

NOTE: *Only the side spark plugs will be fitted with ignition wires as the rear plugs can't be seen once the engine cowl is fitted over the engine.*

Cut nine lengths of 0.2 mm diameter copper wire.

Drill a hole of 0.4 mm diameter between each pair of 'stubs' on the ignition ring at the back of the engine.

Secure the nine copper wires into the nine pre-drilled holes in the ignition ring.

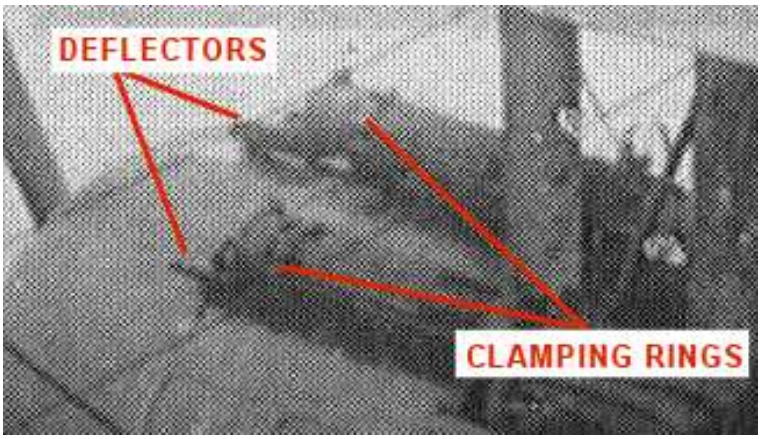
Pull each wire across to its spark plug on the cylinder and cut the wire so the end touches the tip of the spark plug.

Secure each wire to its spark plug, using CA adhesive.

PART 8
WEAPONS

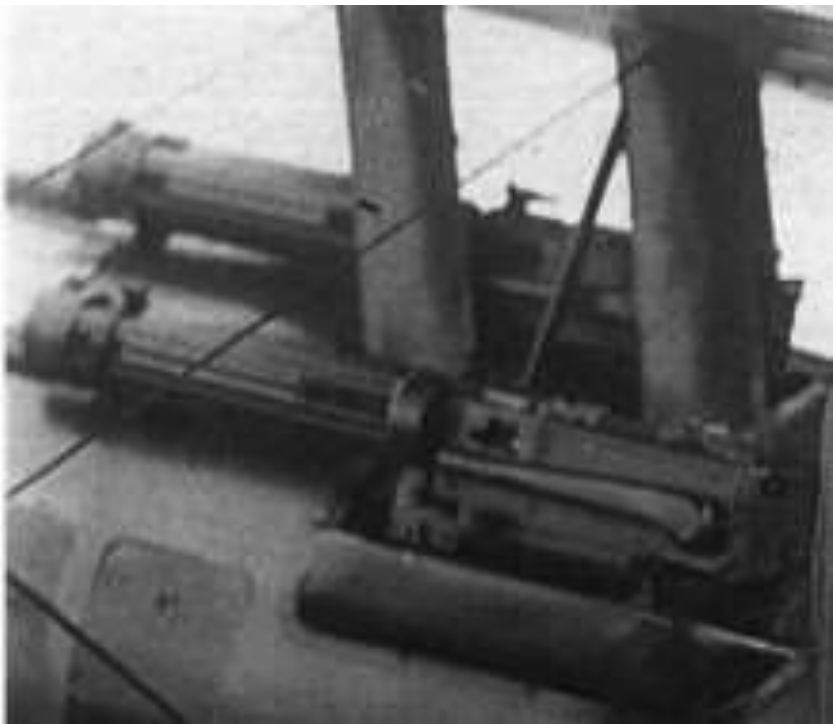
PART 8 - WEAPONS

The Nieuport 28C1 was fitted with two .303 Vickers Mk.1 machine guns. The weapons supplied in the kit supplied will be replaced with that of a 'GasPatch' Vickers Mk.1 (18-32126), which has much better defined details.



NOTES

Both machine guns had elliptical blast deflectors, fitted below the muzzles and these are not represented on the 'GasPatch' weapons. The two machine guns were fixed to a mounting under the breach block and also supported at the fuselage by clamping rings around the front of their cooling jackets.



Muzzle blast deflectors

Cut the shape of the two blast deflectors from 0.2 mm thick plastic card (see following photograph).

Bend the deflectors around a former to curve them to the shape of the cooling jackets on the machine guns.

Secure the deflectors to the cooling jackets using thin CA adhesive (see following photograph).

Rear mounting

Drill a hole of 0.5 mm diameter into, but not through, the bottom of the breech block and towards the outer edge.

Cut a short length of 0.5 mm diameter Nickel-Silver tube, such as ’Albion Alloy’s NST05 or similar and secure it into the pre-drilled hole using thin CA adhesive.

Drill through the rear mounting lugs on the bottom of the breach block with a 0.3 mm diameter drill.

Cut a short length of 0.2 mm diameter Nickel-Silver tube, such as ’Albion Alloy’s NST02 or similar and secure it into the pre-drilled holes across the two lugs, using thin CA adhesive.

Hold each machine gun against it mounting and point mark the location of the 0.5 mm tube. Make sure the ammunition feed on the weapon is positioned against the aircrafts feed chut and the weapon is vertical.

Drill a 0.6 mm diameter hole into, but not through, the aircraft mounting.

Front mounting

Locate each machine gun in position on the fuselage.

Using a drill of 0.3 mm diameter, drill through the front mounting lugs into the fuselage.

Cut two short lengths of 0.3 mm diameter Nickel-Silver tube, such as ‘Albion Alloy’s’ NST03 or similar. These will be used to mount the weapons when they are finally fitted.

Front clamping rings

Cut two strips of 0.2 mm thick plastic card and 1 mm wide.

Wrap each strip around the front of the machine gun cooling jackets and secure in place using thin CA adhesive.

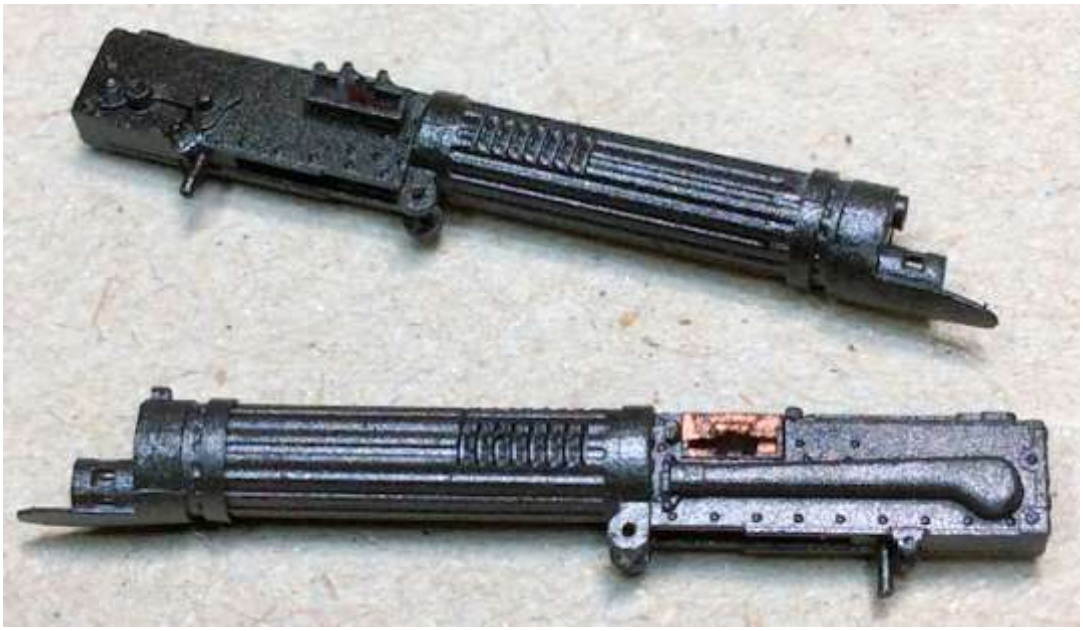
Painting

Airbrush prime the weapon with a gloss black primer, such as ‘Alclad’ Black ALC-305-60 or similar.

Lightly airbrush the weapon with ‘Alclad’ Steel ALC-112 or similar.

Brush paint the ammunition feed blocks with ‘Mr. Colour’ Bronze (215).

Using ‘Tamiya’ weathering master Set B (Soot), lightly sponge over the weapon to darken the finish, especially around the gun muzzle.



PART 9
PROPELLER

PART 9 - PROPELLER

For this model build I chose to replace the kit supplied propeller with a hand made, laminated wood propeller, which was made for me by Alexey Belov at ‘ProperPlane’, based on the information I could supply. The deign of the propeller is typical for those fitted to Nieuport scout aircraft of the period.

Cut the resin propeller bosses from their moulding blocks.

Sand the cut faces of the bosses flat.

Secure the bosses onto the propeller using CA adhesive.

Apply the propeller decals to the blades.

Seal the propeller with a semi-matte coat, such as ‘Alclad’ Light Sheen (ALC-311) or ‘Tamiya’ Semi-Gloss (X35) or similar.

PART 10
FUSELAGE

PART 10 - FUSELAGE

General.

Kit mould 'flash', rough or badly fitting joints and seams, moulding artifacts, such as surface blemishes - all need to be removed before any assembly is attempted.

Fuselage halves:

NOTE: *The kit supplied fuselage halves have no location stubs or holes, making alignment of the two halves difficult. To help in alignment, tabs are added to one fuselage half.*

Cut six strips of 0.5 mm thick plastic card. The strips should be approximately 4 mm wide and at least 5 mm long.

Cement the strips to the right fuselage half, at the locations shown in the following photo-graph. The strips should have a slight overhang at the edges of the fuselage, to allow the left fuselage half to fit and be cemented at the tabs, as well as along the mating edges.

Control column:

NOTE: *The kit supplied control column (14C) has a torsion bar attached (for operating the lower wing ailerons). This bar is not long enough to extend under the pilot's seat once the control column is fitted.*

Roll cut a 12 mm length of 0.7 mm diameter Nickel-Silver tube, such as 'Albion Alloy's' NST06 or similar.

Slide the tube onto the torque tube on the control column and secure in place using thin CA adhesive.

Pilot's seat:

NOTE: *The pilot's seat, kit part 13C, will be replaced by 'Aviattic' Peach Basket seat and cushion (ATTRES 015). Refer to Part 5 (Resin) of this build log, as these parts are cast in resin.*

Cut away the 'Aviattic' pilot's seat and cushion from the casting blocks.

Sand away the residual resin from the casting blocks.

Kit cockpit parts:

Remove the kit cockpit parts from kit sprue C - 1, 2, 4, 9, 11, 13, 14, 15, 16 and 17.

Cement parts 16 and 17 together.

Cement the cockpit frame parts together (2, 4, 9 and 11) together.

Test fit:

NOTE: *Before continuing it's best to test fit the cockpit frame assembly into the fuselage halves. I found that the following adjustments were required to achieve a good fit with the cockpit rear frame 11C seated fully against the pre-moulded ribs in the fuselage halves.*

Scrape or sand away the two pre-mould 'straps' over the top of the fuel tank (1C) and from the outer face of the .

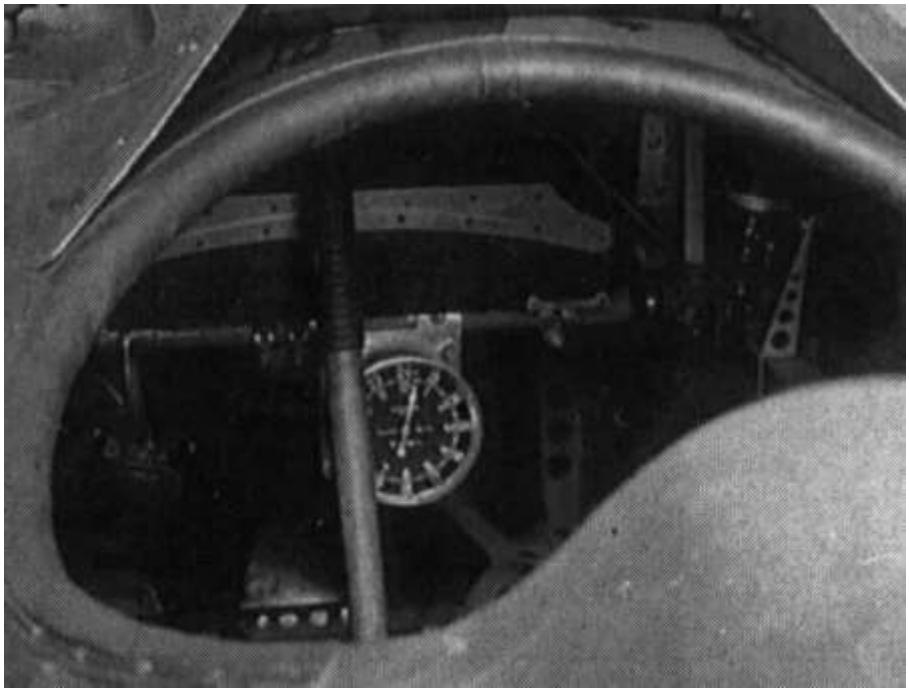
Scrape or sand around the outer edge of the cockpit rear frame (11C).

At each side of the cockpit frames (4C) and (9C), cut away some of the bottom of the two side members that extend below the base frame 2C).

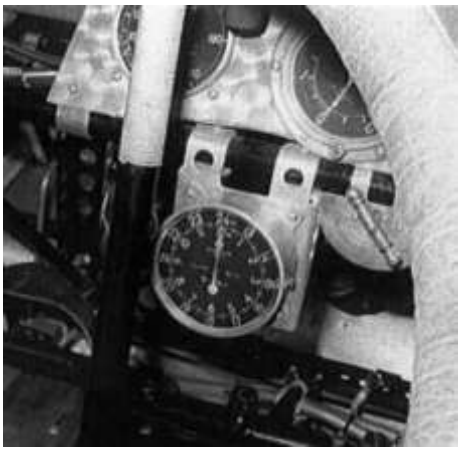
Test fit the cockpit frame assembly between the two fuselage halves.

Instrument panel

NOTE: *The instrument panel supplied in the kit (13C) is not correct. This is a common error in kits due to the data having been taken from the National Air and Space Museum restoration of this aircraft in 1996. That aircraft had extra instruments fitted for test purposes and this was taken by modelling companies as being the authentic panel. In reality the only instrument mounted on the cross member was a Tachometer.*

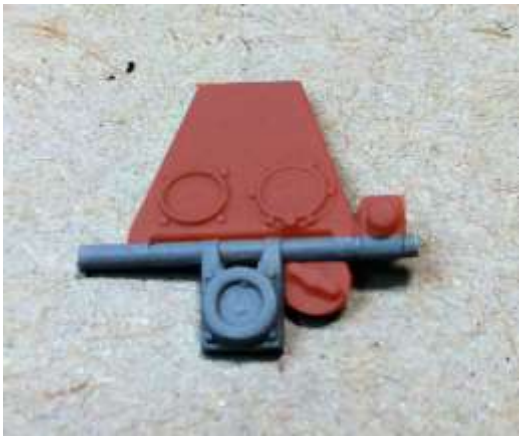


Correct instrument



Test panel

To correct the panel, cut away everything marked red from the mounting bar, but leave the Tachometer intact.



Brush paint the Tachometer and mounting bar with ‘Tamiya’ Rubber Black (XF85) or similar.

Brush the Tachometer face with a gloss coat, such as ‘Tamiya’ Clear (X22) or similar.

Select and apply a suitable Tachometer decal from the ‘Airscale’ WW1 Instrument Dial decals (AS32 WW1).

Seal the decal by brushing over with a gloss coat, such as ‘Tamiya’ Clear (X22) or similar.

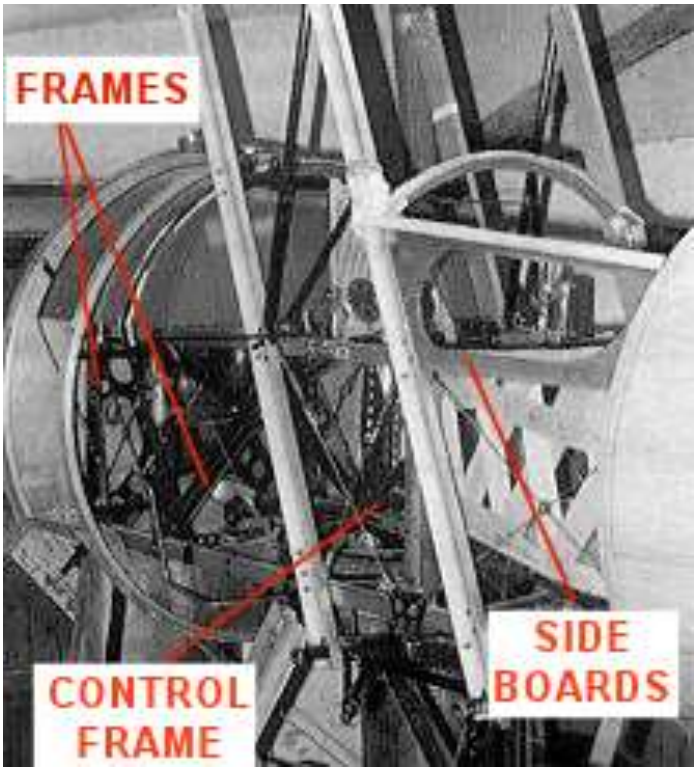
Cockpit - photo-etch

NOTE: *The kit supplied cockpit lacks parts that can be added to enhance the details. The photo-etch sheets from ‘PART’ (Nieuport 28C1 (S32-033) contains a fully detailed cockpit. However, unless the side of the fuselage is to be cut away to expose the full cockpit, there is no point in using most of the photo-etch parts, as the view into the cockpit is very restricted.*

The only cockpit parts from the photo-etch PART’ (Nieuport 28C1 (S32-033) sheets that will be used are:

Cockpit side frames 2 and 3, frames 22, 23 and 24.

Detail to be represented



Frames 22 and 23

Remove frames 22 and 23 from the photo-etch sheet.

File or sand away any residual photo-etch tags from their edges.

Refer to the following photograph - if necessary, file or sand steps into the top corners of each frame to achieve a good fit into the cockpit assembly.

Secure the two frames in position using CA adhesive.

Frame 24

NOTE: *This frame supports the torque tube at the rear of the control column.*

Remove frame 24 from the photo-etch sheet.

Bend the frame along its crease to join both halves.

Secure the halves together using thin CA adhesive.

File or sand away any residual photo-etch tags from the edges.

Refer to the following photograph - if necessary, file or sand the top of the struts of the frame to achieve a good fit into the cockpit assembly.

Carefully drill out the hole in the frame to 0.9 mm diameter.

Slide the torque tube of the control column into the hole.

Locate the frame into the cockpit assembly, making sure the base of the control column is Inserted fully into its locating hole.

Make sure the frame is fully against the cockpit structure, the control column is correctly located and its torque tube is horizontal (when viewed from the sides) and centrally parallel to the cockpit (when viewed from above).

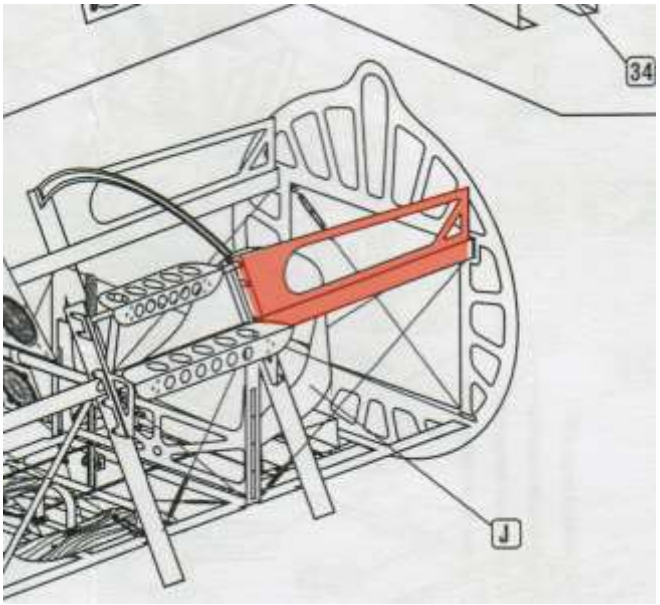
Secure the frame in position using CA adhesive.

Slide the control column forwards and out of the frame and cockpit assembly.

Slotted shoulder boards

NOTE: *This aircraft had slotted side boards fitted on the cockpit side frames at shoulder height to the seated pilot. These boards are not represented in the kit.*

Carefully cut out the slotted boards from the photo-etch side frames 2 and 3.



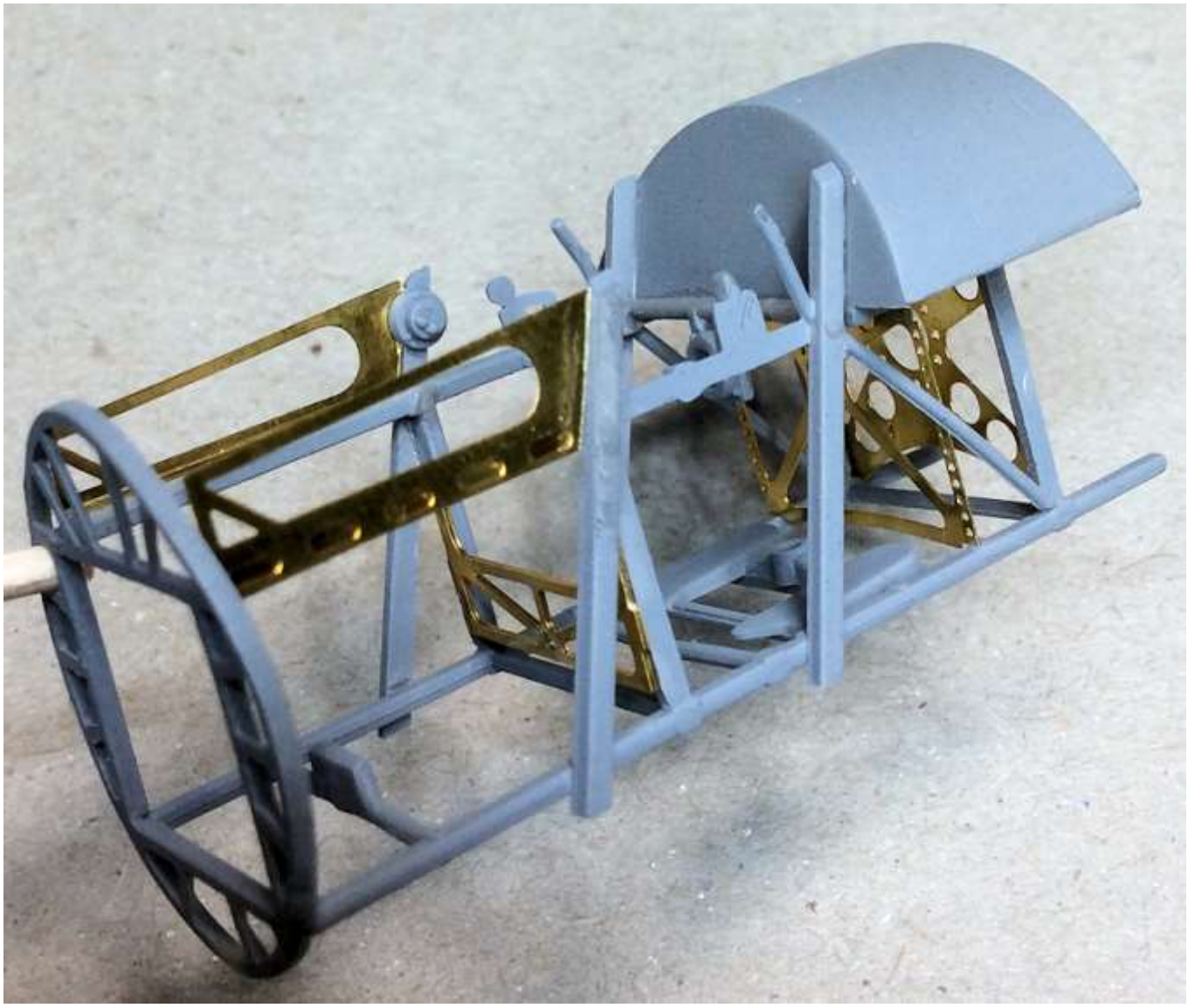
File or sand away any residual photo-etch distortion or rough edges.

Test fit the boards into their locations on the cockpit side frames.

File or sand the edges of the boards to achieve a good fit in the cockpit side frames.

Make sure both boards are flat and not distorted.

Secure the boards in position using CA adhesive.



Cockpit side walls

NOTE: *Traditionally Nieuport fighters had metal faced side walls inside the cockpit. However, the Nieuport 28 aircraft was a radical change in Nieuport design and one difference was that the cockpit side walls were lined with two layers of Tulip wood strips, applied in diagonally opposite layers.*

Cut a strip of 0.5 mm thick plastic card, approximately 8 mm wide.

Lay the straight edge of the strip against the inside of the fuselage half and at an approximate angle of 45 degrees.

Hold this strip in position and lightly score the fuselage surface using a sharp and fine scriber.

Move the strip approximately 4 mm and repeat the process.

Continue until the cockpit area on the fuselage side has been completed.

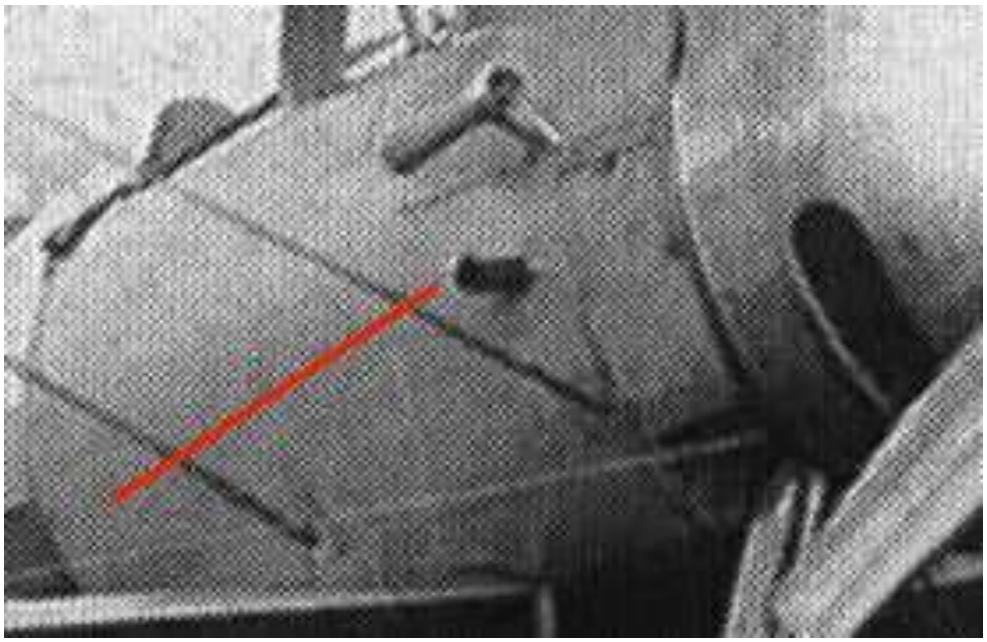
Continue the scribed lines across the bottom of the fuselage half.

Lightly sand the surface to remove any lifted edges and styrene swarf.

Repeat this procedure on the other fuselage half.

Carburettor air intakes

NOTE: *The air intake for the engine carburettor was located midway up the right side of the fuselage. The kit part is moulded as a solid piece.*



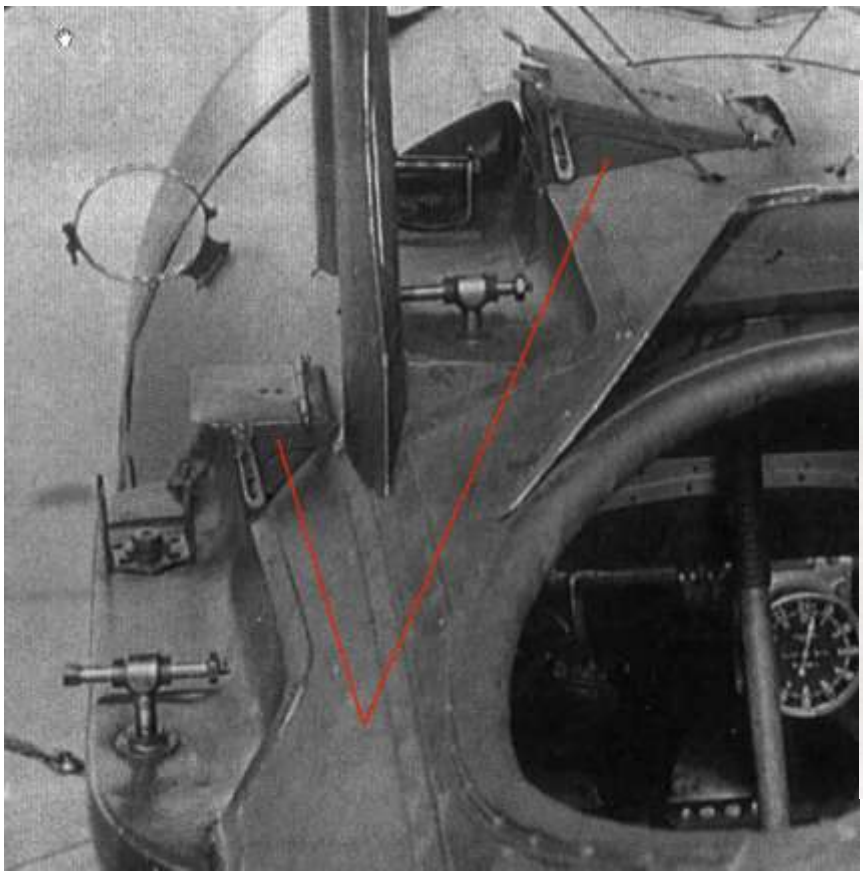
Point mark the centre of one end of the carburettor air intake (6C).

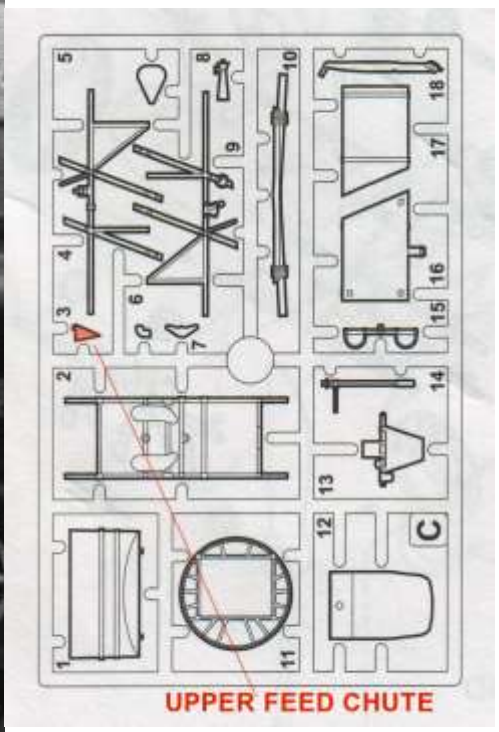
Carefully drill out the end of the part, using the centre mark as a guide.

Ammunition feed chute (information only)

NOTE: *The two Vickers machine guns had their belts of ammunition supplied to the right side of their breech blocks. The belts were covered by 'feed chutes'. The feed chute for the lower machine gun is pre-moulded into the fuselage left half. The feed chute for the upper machine gun is a separate part (kit part 3).*

This kit part 3 is not mentioned in the kit build instruction.





Pre-rigging

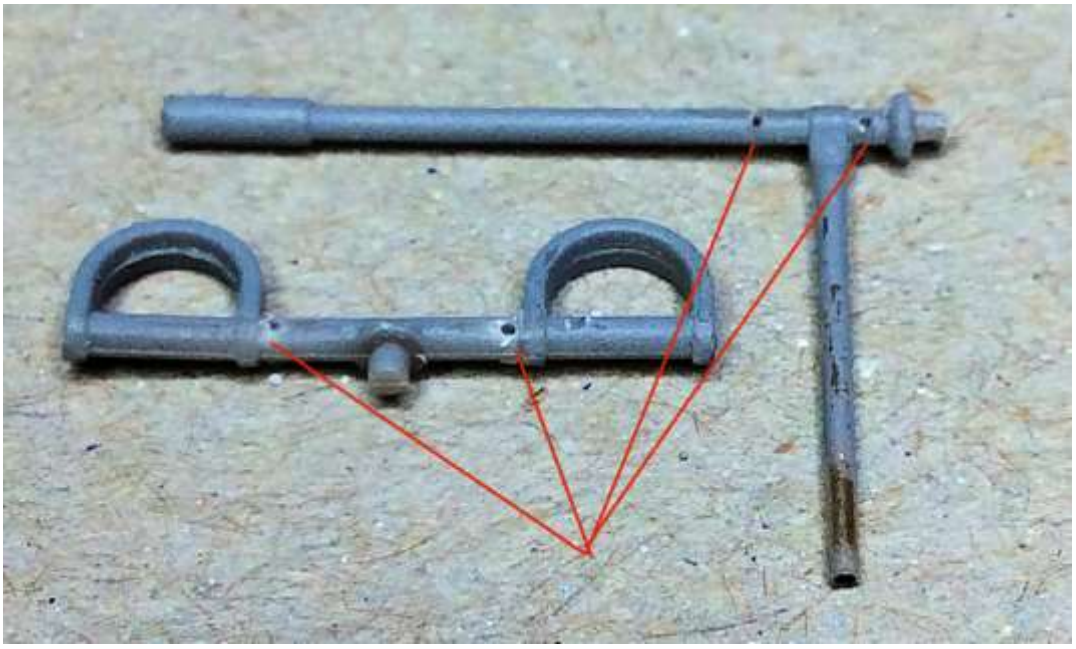
NOTE: *At this stage of construction, it's best to drill the holes necessary for rigging the cockpit assembly.*

Rudder control lines

Drill a hole of 0.3 mm diameter through each side of the rudder bar (from back to front) and just inboard from the pilot's foot straps. These holes will be used to fit the rudder control lines.

Elevators control lines

Drill a hole of 0.3 mm diameter through the control column (side to side) above and below where the torque bar is attached. These holes will be used to fit the elevator control lines.



NOTE: *T Nickel-Silver tube used was first blackened by being dipped in a blackening solution, such as 'Blacken-It or similar.*

Rudder control lines

Cut a long length of 0.8 mm diameter mono-filament (e.g. 'Stroft GTM or similar).

Pass the line into the pre-drilled hole in the rudder bar.

Secure the line in the hole using thin CA adhesive.

Slide a blackened 0.4 mm diameter tube onto the line.

Slide the tube up to, but not touching, the rudder bar.

Secure the tube to the line using thin CA adhesive.

Repeat this procedure to add a line to the other rudder control horn.

Elevator control lines

Cut a long length of 0.8 mm diameter mono-filament (e.g. 'Stroft GTM or similar).

Pass the line into a pre-drilled hole in through the control column.

Slide a blackened 0.4 mm diameter tube onto the line.

Loop the line back and through the tube.

Slide the tube up to, but not touching, the control column.

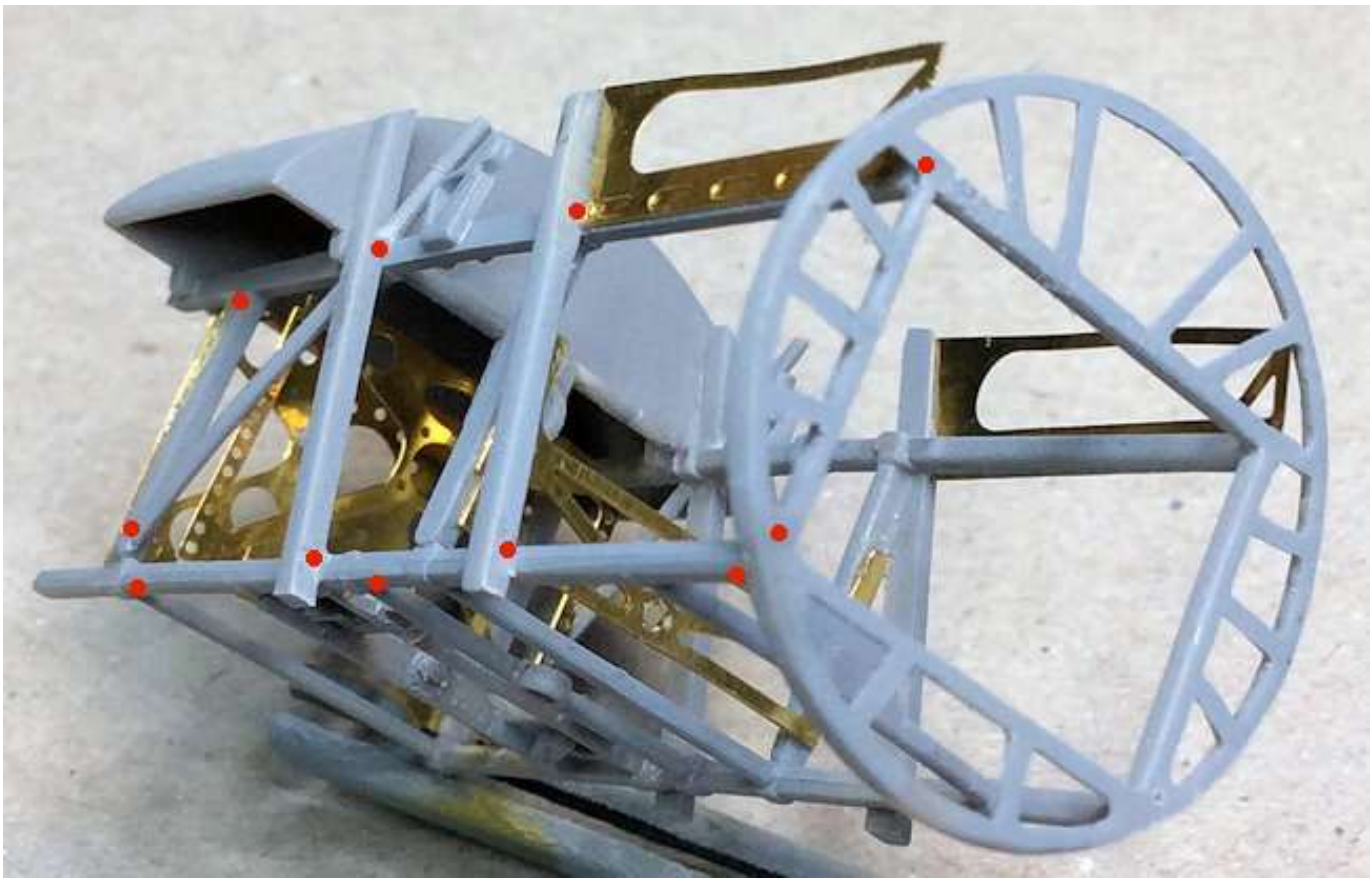
Secure the tube to the line using thin CA adhesive.

Cut away the residual line at the tube.

Repeat this procedure to add a line to the other pre-drilled hole in the control column.

Bracing wires

On both sides of the cockpit assembly, drill holes of 0.3 mm diameter through the cockpit frames at each of the ‘red dot’ positions shown in the following photograph. These holes will be used to fit the cross bracing lines.



Painting:

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

Airbrush the cockpit structure, inside of the fuselage halves, pilot’s seat and rudder bar (except the fuel tanks, control column and the Tachometer and its mounting bar) with ’Tamiya’ Deck Tan (XF55) or similar.

Brush paint the main fuel tank, pilot’s foot boards, mixture control quadrant and rear face of the engine bulkhead (kit part 7B) with ‘Mr. Colour’ Stainless Steel (213) or similar.

Airbrush the auxiliary fuel tank with ‘Alclad’ Duraluminium (ALC-120) or similar.

Brush paint the control column and the angled bracing bar on each cockpit side frame with ‘Tamiya’ Rubber Black (XF85) or similar.

Brush paint the hand grip on the top of the control column with ‘Tamiya’ Hull Red (XF9) or similar.

Refer to Part 2 (Wood effects) - Apply ‘DecoArt’ Burnt Umber to the cockpit assembly, inside of the fuselage halves and rudder bar.

Refer to Part 2 (Wood effects) - Apply ‘DecoArt’ Burnt Sienna to the pilot’s seat with Burnt Umber edges and bracing straps.

Brush paint the rudder bar foot straps with ‘Humbrol’ Leather (62) or similar.

Brush paint the two forward added cockpit structure photo-etch frames with ‘Mr. Colour’ Stainless Steel (213).

Brush paint pilot’s seat cushion with ’Tamiya’ Hull Red (XF9) with highlights of ’Humbrol’ Leather (62).

Brush paint the magneto starter switch, ‘blip’ button on the top of the control column and the filler cap on the auxiliary fuel tank with ‘Mr. Colour’ Brass (219) or similar.

Brush paint oil pulse meter (on right side frame) with ’Tamiya’ Clear Yellow (X24).

Rigging

Side frames

Cut a long length of 0.8 mm diameter mono-filament (e.g. ’Stroft GTM or similar).

Pass the line through the pre-drilled hole in the rudder bar a pre-drilled hole in the bottom corner of the cockpit rear frame.

Cut away the residual excess line at the rear of the frame.

Secure the line in the hole using thin CA adhesive.

Slide two blackened 0.4 mm diameter tubes onto the line.

Pass the line diagonally forward, up and through the pre-drilled hole at the top of the strut at the next forward cockpit side frame.

Slide two blackened 0.4 mm diameter tubes onto the line.

Pass the line diagonally forward, down and through the pre-drilled hole at the bottom of the strut at the next forward cockpit side frame.

Slide two blackened 0.4 mm diameter tubes onto the line.

Pass the line diagonally forward, up and through the pre-drilled hole at the top of the forward strut at the front of the cockpit side frame.

Pull the line taut and secure it in the hole using thin CA adhesive.

Cut away the residual excess line at the strut.

Slide the fitted tubes up or down to the ends of the lines in the frame and secure them in position using thin CA adhesive.

Repeat the procedure to fit a bracing line to the other set of pre-drilled holes in that cockpit side frame to achieve cross bracing lines between each frame in that cockpit side frame.

Repeat the procedure to add the same cross bracing lines to the opposite cockpit side frame.

Floor frames

Cut four long lengths of 0.8 mm diameter mono-filament (e.g. ’Stroft GTM or similar).

Pass one line through the pre-drilled hole in the forward end of one side of the floor frame.

Secure the line in the hole using thin CA adhesive.

Slide two blackened 0.4 mm diameter tubes onto the line.

Pass the free end of the line diagonally across and through the pre-drilled hole in the opposite side of the floor frame at the join for the control column cross member.

Pass a second line through the same pre-drilled hole.

Slide two blackened 0.4 mm diameter tubes onto the second line.

Keeping the first line taut, secure both lines in the hole using thin CA adhesive.

Pass the free end of the second line diagonally across and through the pre-drilled hole in the opposite side of the floor frame at the cockpit rear frame.

Keeping the second line taut, secure it the hole, using thin CA adhesive.

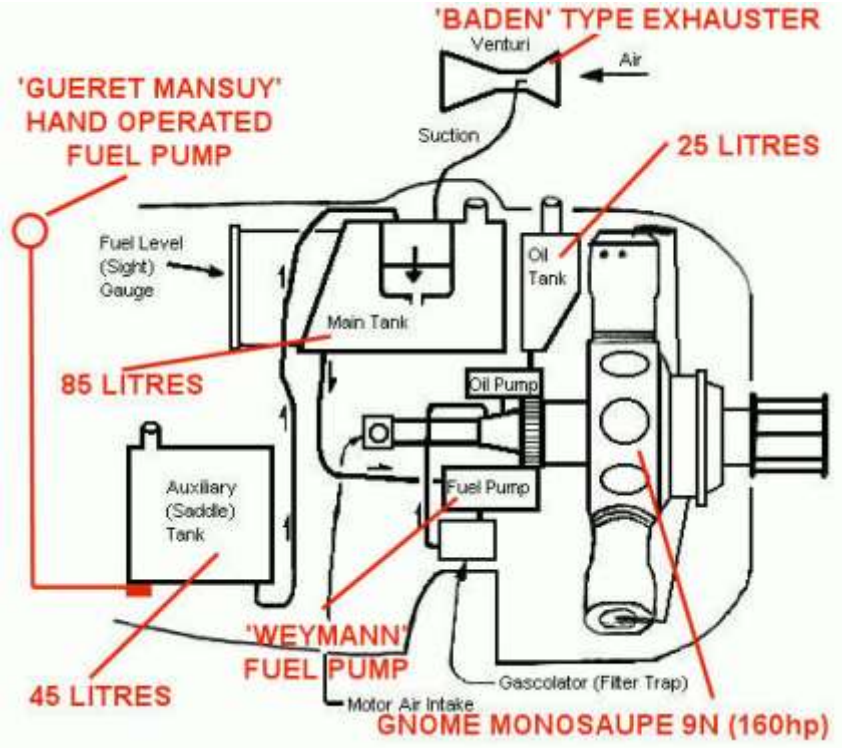
Cut away any residual exposed line.

Slide the blackened tubs along the lines and against their frames.

Secure the tubes to the lines, using thin CA adhesive.

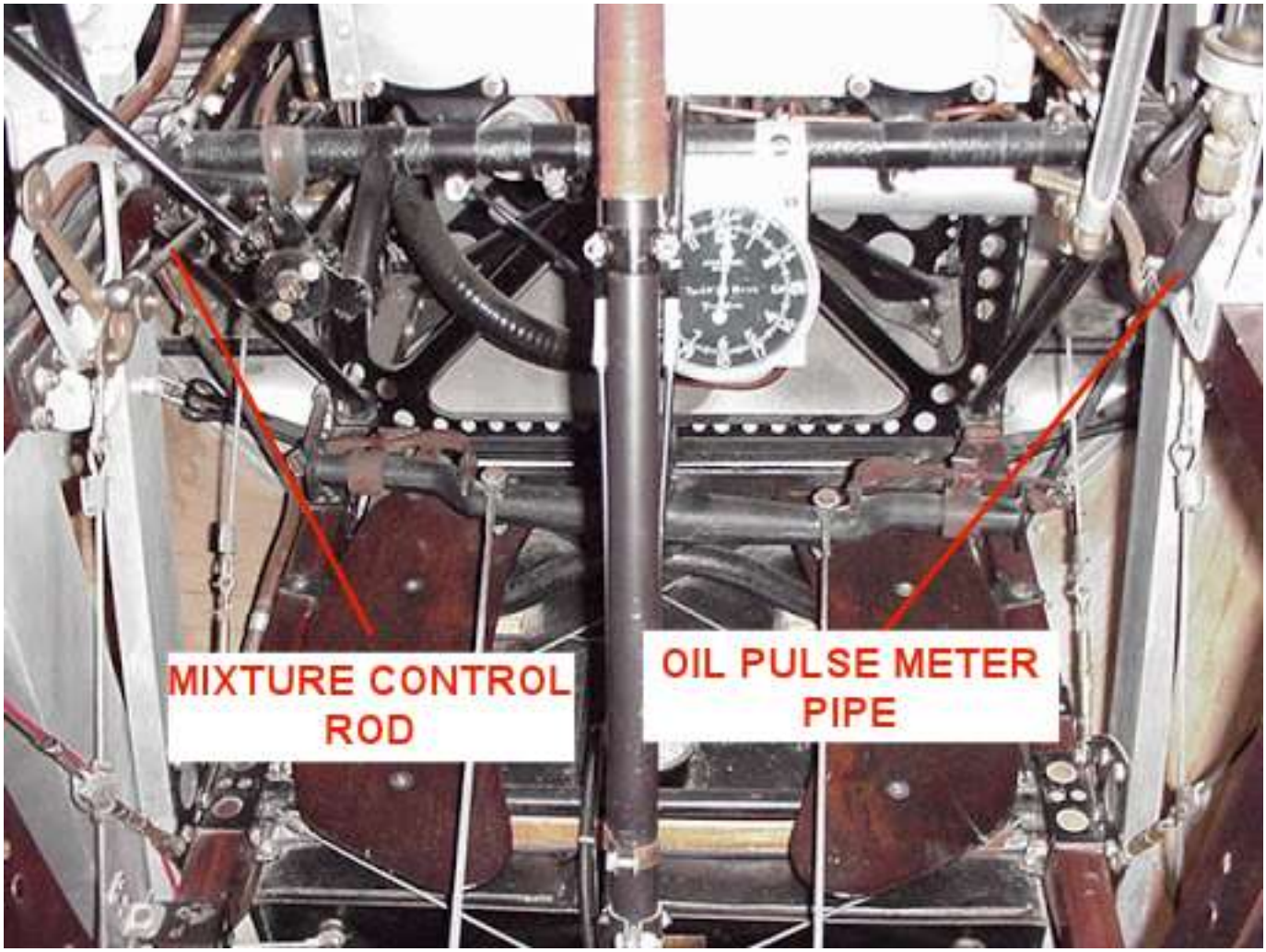
Fuel system (*information only*)

The following illustration shows the basic layout for the fuel system of the Nieuport N28C1 aircraft. The fuel supply from the main fuel tank to the engine carburettor was gravity fed to a ‘Weymann’ fuel pump, which supplied fuel to the carburettor. A ’Baden’ type venturi exhauster was connected to an inner feed tank inside the main tank. Fuel was also contained in the auxiliary saddle tank, which was lower down in the cockpit right side. The auxiliary fuel tank could be pressurized by the pilot hand cranking a ‘Gueret Mansuy’ fuel pump, which could supplied ‘top-up’ fuel to the main tank. The engine carburettor fuel supply to start and run the engine was supplied by gravity from the main tank and through the ‘Weymann’ fuel pump. Airflow from the propeller and forward flight passed through the ‘Baden’ exhauster. The venturi in the exhauster caused a drop air pressure, which was felt in the inner tank of the main fuel tank. This drop in pressure sucked fuel from the auxiliary fuel tank, to maintained the fuel level in the main fuel tank. If for any reason the exhauster failed to operate correctly, the fuel level in the main fuel tank would continue to drop without being topped up from the auxiliary fuel tank. In these circumstances, the pilot could operate the hand crank for the ‘Gueret Mansuy’ pump, which would supply fuel from the auxiliary fuel tank into the main fuel tank.



Cockpit control and piping

NOTE: *Although the visibility into the completed cockpit is very limited, some of the cockpit controls and piping can be added for authenticity.*



Mixture control

NOTE: *Unlike inline engines, rotary engines could not be control by a traditional throttle lever control how much fuel was supplied to the engine. Once a rotary engine was started it would run to its operation RPM. The only way to slow or stop the engine was by cutting ignition to the cylinders by operating the 'blip' switch on the control column. This was a dangerous procedure as residual fuel in the cylinders could ignite or explode if the 'blip' switch was operated too often or for too long. At higher altitudes the air was less dense than at lower altitudes. To maintain the correct fuel and air mixture for combustion, a mixture control lever was fitted. As the aircraft gained in altitude, the lever was operated by the pilot to reduce fuel flow to the engine (leaning) to prevent over-fuelling in the less dense air. As the aircraft dropped to lower altitudes the pilot would increase the fuel flow (richen) to prevent under-fuelling in the more dense air.*

Roll cut a length of 0.5 mm diameter Nickel-Silver tube (e.g. 'Albion Alloy's' NST05 or similar).

Position the rod on the outer edge of the cockpit left side frame, between the outer side of the mixture control quadrant and fuel tank.

Secure the rod in position using CA adhesive.

Oil pulse meter

NOTE: *An oil pulse meter was fitted in the cockpit to indicate that the pump supplying lubricating oil to the engine was operating correctly. Because of the design of the pump, the oil supply to the engine was not a continuous flow, but rather it pulsed. A tapping from the engine supply was taken to the pulse meter, which was basically a glass tube partially filled with oil from the engine supply. As the oil supply pulsed the level of oil in the meter would also pulse slightly, indicating to the pilot that the pump was operating correctly and therefore the engine was being lubricated correctly.*

Cut a length of 0.4 mm diameter wire (e.g. 'PlusModel' lead wire or similar).

Bend the wire so that it contacts the bottom of the oil pulse meter (on the cockpit right side frame) and routes forwards under the fuel tank.

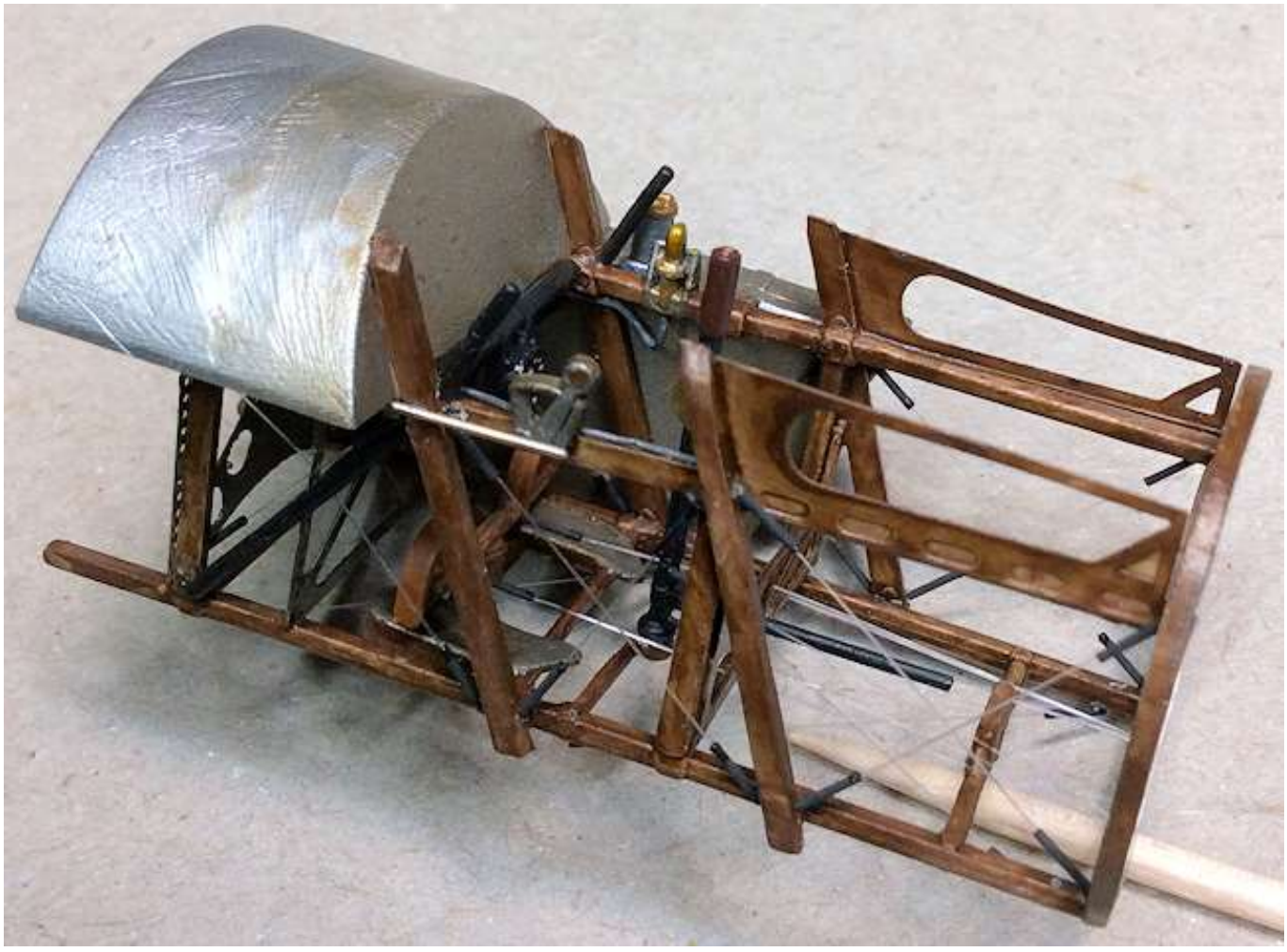
Secure the wire to the oil pulse meter and fuel tank, using CA adhesive.

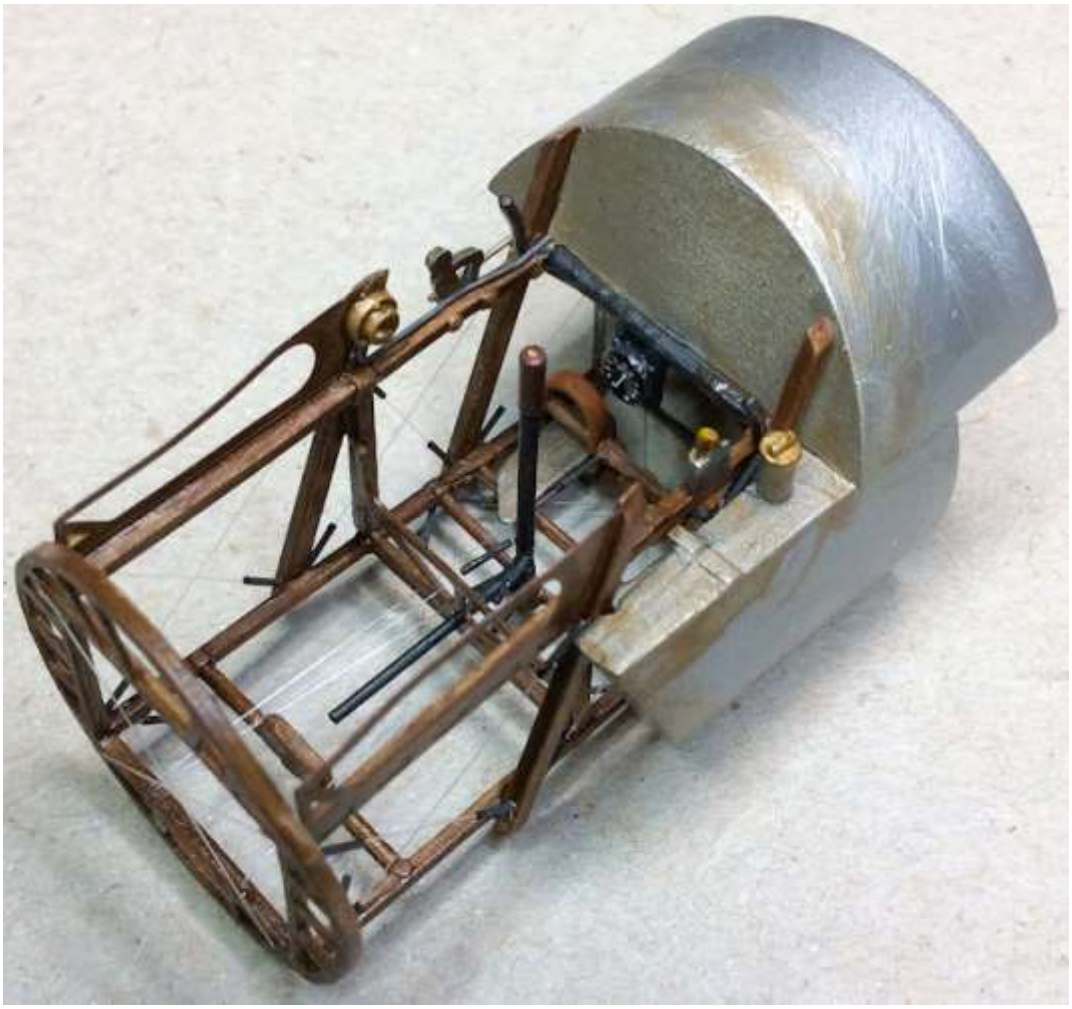
Magneto starter switch

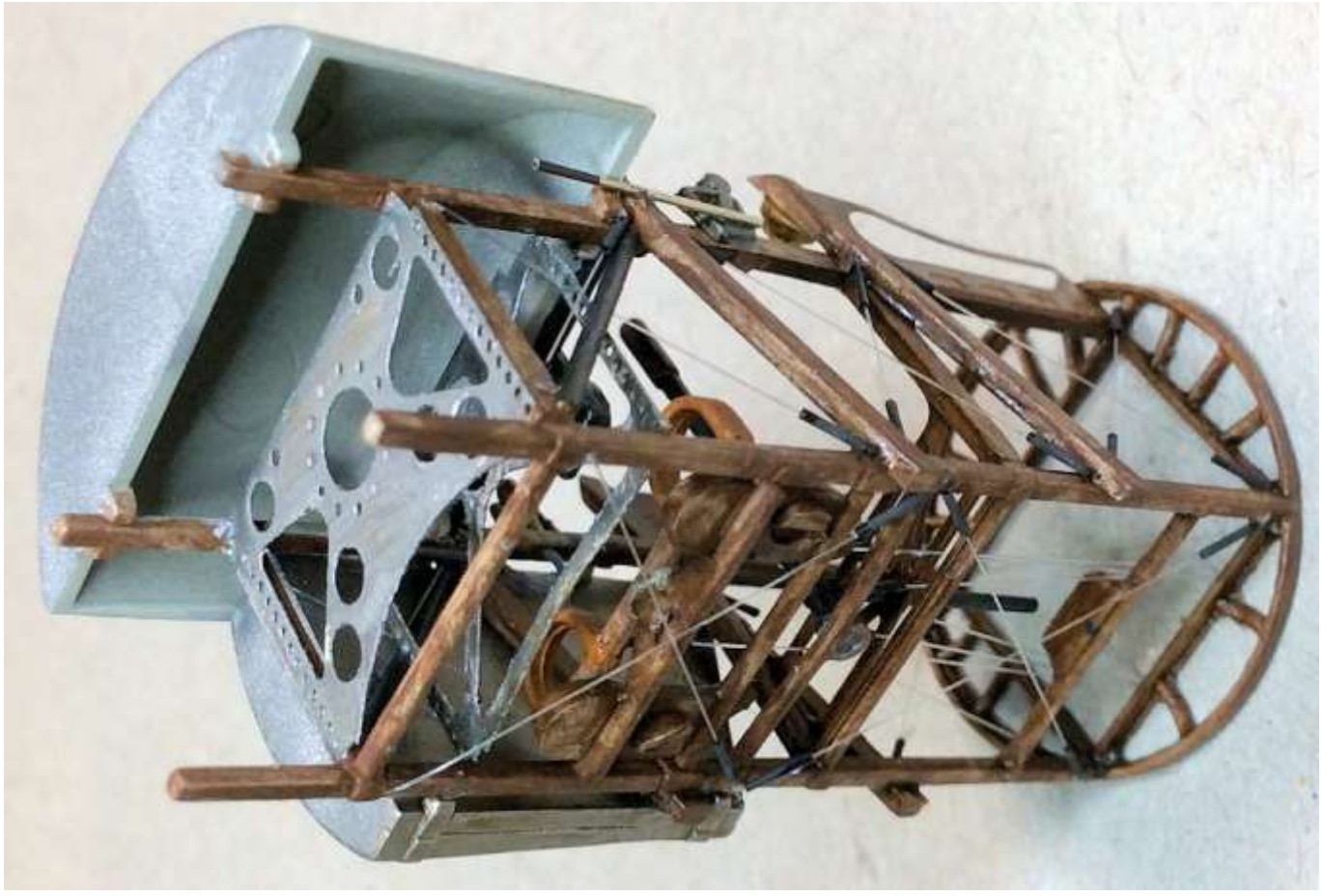
Cut a length of 0.3 mm diameter wire (e.g. 'PlusModel' lead wire or similar).

Bend the wire so that it contacts the bottom of the magneto starter switch (on the cockpit left side frame) and routes forwards under the fuel tank.

Secure the wire to the magneto starter switch and fuel tank, using CA adhesive.







Surface finish

Brush ‘AK Interactive’ Engine oil wash (AK2019) over the inside surfaces of the fuselage halves and the cockpit assembly.

Once fully dry, airbrush a light coat of semi-matte clear, such as ‘Alclad’ Light Sheen (ALC-311) or similar, over the inside surfaces of the fuselage halves and the cockpit assembly.

Brush the face of the Tachometer decal with ‘Tamiya’ Clear Gloss (X22) or similar.

Pilot’s seat belts

NOTE: *The pilot’s seat belts will need to be represented, as they are not included in the basic kit. Information on the exact seat belts or harness fitted to this aircraft is scarce. Therefore I decided to use a spare photo-etch harness from a ’Wingnut Wings’ Fokker Eindecker E.1 kit (32021).*

Remove the three harness parts from the photo-etch sheet.

Remove any residual photo-etch tags from the edges of the parts.

Soften the parts by annealing them over a heat source, such as a cigarette lighter. Keep the parts moving over the heat source until they start changing colour. Keep the heat source away from thin and fragile parts such as the end fittings, to avoid them melting.

NOTE: *The straps at the top of the shoulder harness should be passed through the outer openings in the cockpit rear frame and secured to its rear face. The two lap belts should pass through the openings at the front, side of the seat and be secured to the seat cushion and the cockpit structure.*

Carefully form the belts over the pilot’s seat to the desired effect.

Treat the shoulder harness and two lap straps with a metal painting preparation, such as ‘VMS’ Metal Prep 4K or similar.

Airbrush the two straps and harness with ‘Hataka’ Sable Desert lacquer (C126) or similar.

Brush paint he metal fittings with ‘Mr. Colour’ Iron (212) or similar.

Refer to Part 3 (Weathering) of this build log - Apply ‘Flory Models’ Grime clay wash over the lap straps and shoulder harness.

Remove the wash as required, to achieve the desired ‘dirty’ finish.

Position the shoulder harness and lap straps to the pilot’s seat and cockpit frames and secure them in position using CA adhesive.

Cockpit assembly

Cement the auxiliary fuel tank in position on the right side frame.

Locate the torque bar of the control column into the hole in the added photo-etch frame.

Slide the control column rearwards and locate its base into the mounting hole in cross member.

Cement the control column into its mounting.

Pass the lower right and left elevator control lines through the lower openings in the added torque bar support frame.

Pass the upper right and left elevator control lines through the upper openings in the added torque bar support frame.

Locate the rudder bar into its mounting hole in cross member.

Cement the rudder bar in position.

Route the right and left control lines for the rudder bar through the lower openings in the added torque bar support frame.

Pass all control lines through the large, square opening in the cockpit rear frame.

Carefully tension the lines and secure them to the back of the rear frame, using CA adhesive.

Cut away the residual excess lines at the back of the cockpit rear frame.

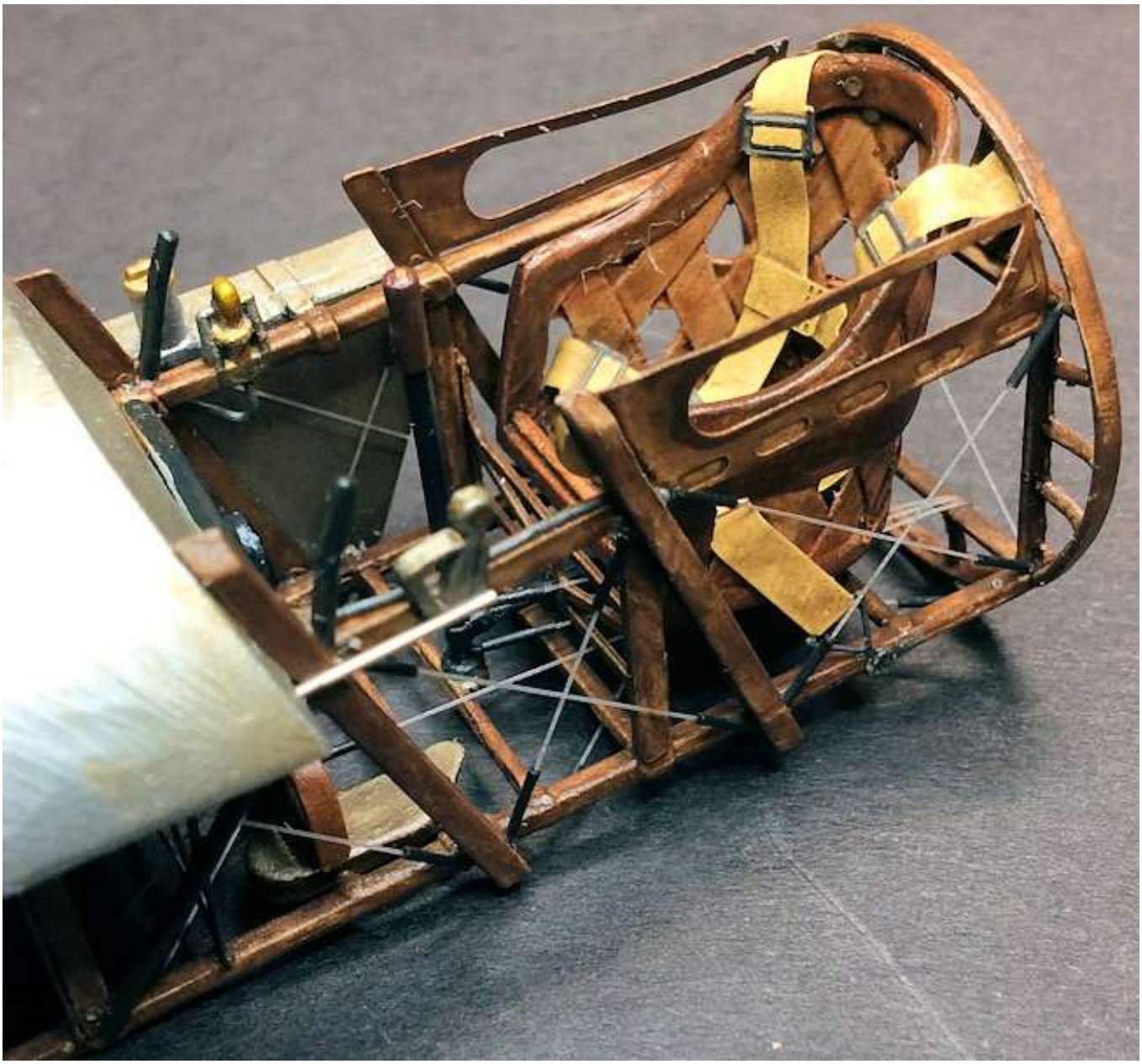
Cement the Tachometer and its mounting bar in position (Tachometer facing down) between the cockpit side frames at the bottom edge of the fuel tank.

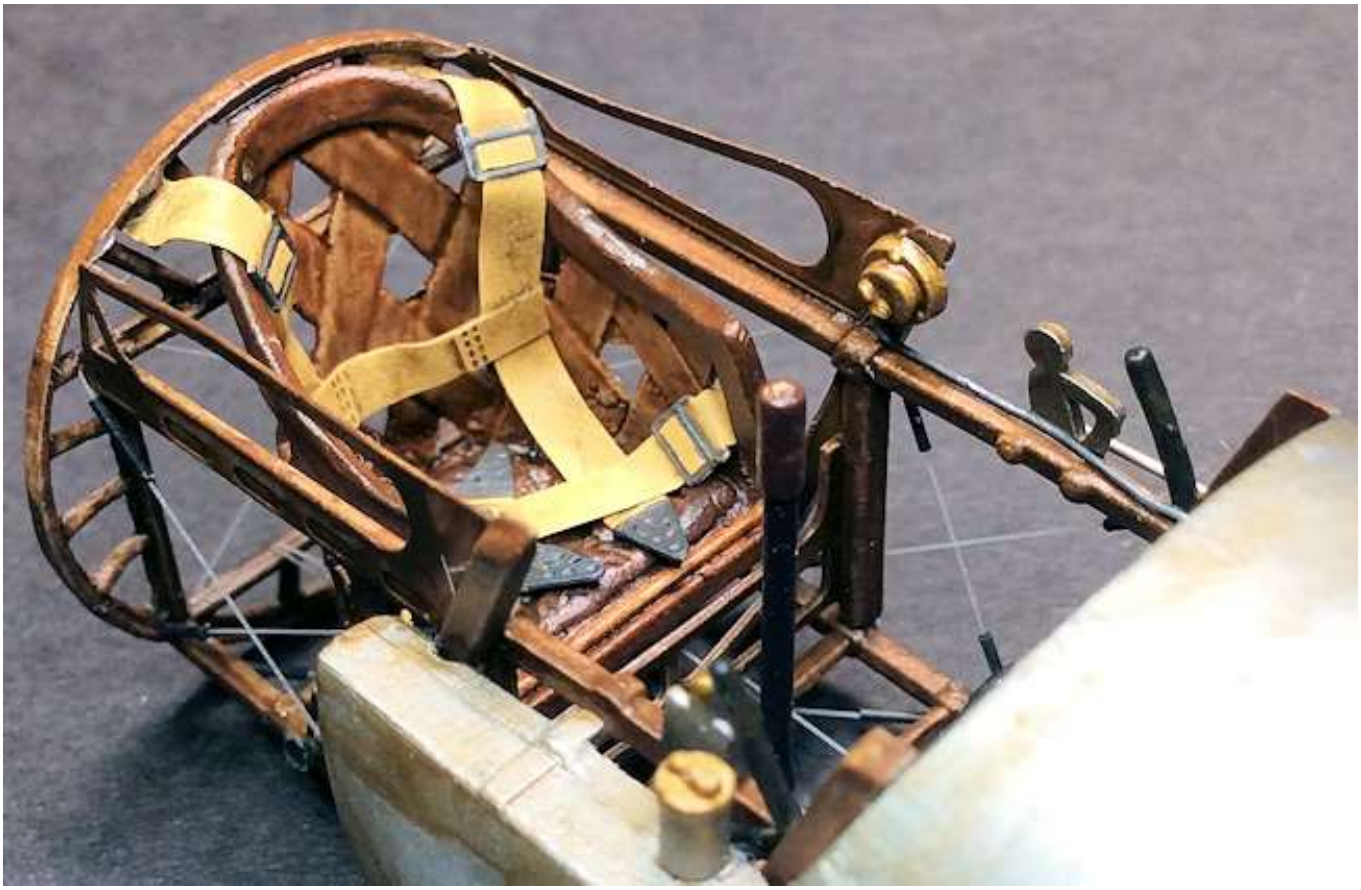
Secure the pilot's seat cushion onto the pilot's seat, using CA adhesive.

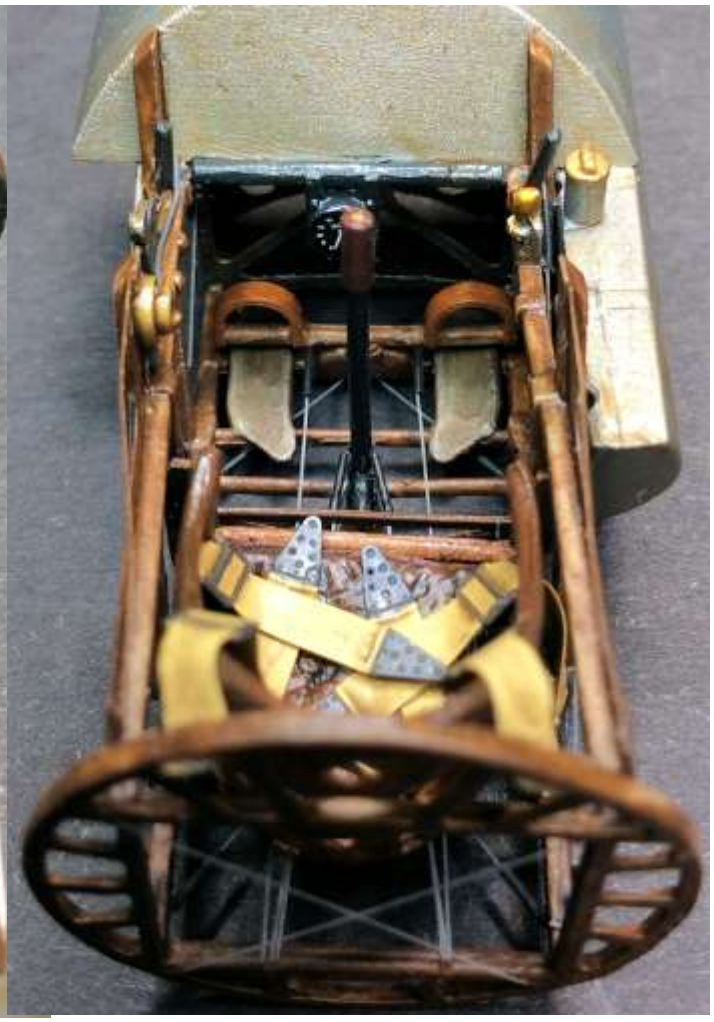
Secure the pilot's seat into the cockpit frame on the seat mounting lug, using CA adhesive.

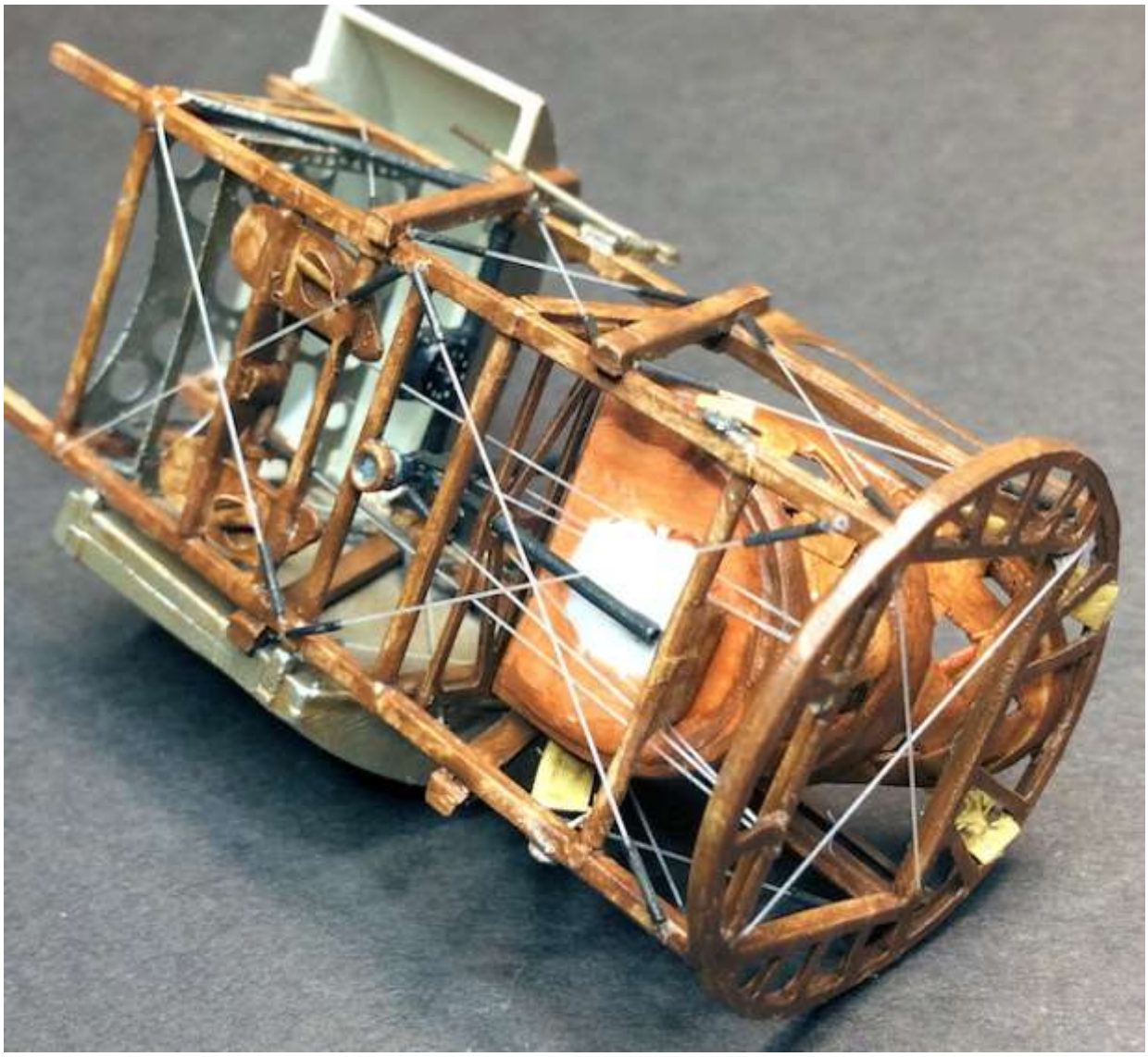
NOTE: *The straps at the top of the shoulder harness should be passed through the outer openings in the cockpit rear frame and secured to its rear face. The two lap belts should pass through the openings at the front, side of the seat and be secured to the seat cushion and the cockpit structure.*

Using CA adhesive, secure the shoulder harness and two lap belts in position on the pilot's seat and the cockpit structure.









Fuselage assembly

NOTE *To avoid damage, the tail skid will be fitted later in this build.*

Make sure the mating edges of the two fuselage halves are free from paint and primer.

Locate the cockpit assembly into a fuselage half, but do not cement it in position. Make sure the circular rear frame of the cockpit assembly is just forward from its location shoulder in the fuselage half.

Apply cement to the added locating strips on the fuselage half.

Locate the two fuselage halves together, making sure the halves are aligned correctly and the cockpit assembly can move slightly.

Hold the fuselage halves together with clamps or elastic bands.

Apply cement along the fuselage joint , but only as far as the rear of the cockpit.

Allow the cement to fully set.

Remove the clamps or elastic bands.

Carefully move the cockpit assembly rearwards into the fuselage until the rear frame contacts the location shoulders in the fuselage.

Align the fuselage front mating faces (my fuselage was slightly misaligned). If necessary, hold the alignment using clamps or elastic bands.

Apply cement to the auxiliary fuel tank where it contacts the inner surface of the right fuselage half.

Apply cement to the fuselage forward mating faces.

Allow the cement to fully set.

Remove the clamps or elastic bands.

Apply cement to the mating edge of the engine bulkhead (kit part 7B) into the front of the fuselage.

Once the cemented joints have fully set, sand or scrape the join seams to remove any extruded cement. Also check for any gaps and if found, fill with modellers putty and once fully cured, sand back to blend with the fuselage.

Fuselage details

NOTE: *The left fuselage half has a panel line pre-moulded along the front of the fuselage, just below the cabane strut attachment locations. However, the right fuselage half does not. Also the vertical divide between the forward fuselage and the linen covered rear of the fuselage needs to be more defined.*

Using masking tape as a guide, scribe a shallow line down each side of the fuselage, vertically between the forward fuselage and the linen covered rear of the fuselage.

Using masking tape as a guide, scribe a shallow line along the front of the fuselage right side, just below the cabane strut attachment locations and up to the front panel.

Cement the cover (kit part 5C) onto its location on the forward, top right of the fuselage.

Scrape or sand the pre-moulded 'panel' on the right side of the fuselage, midway between the cockpit and engine bulkhead.

Cement the carburettor air intake (6C) onto its location of the fuselage right side.

Cement the ammunition feed chute (3C) onto its location on the left, forward side of the fuselage.

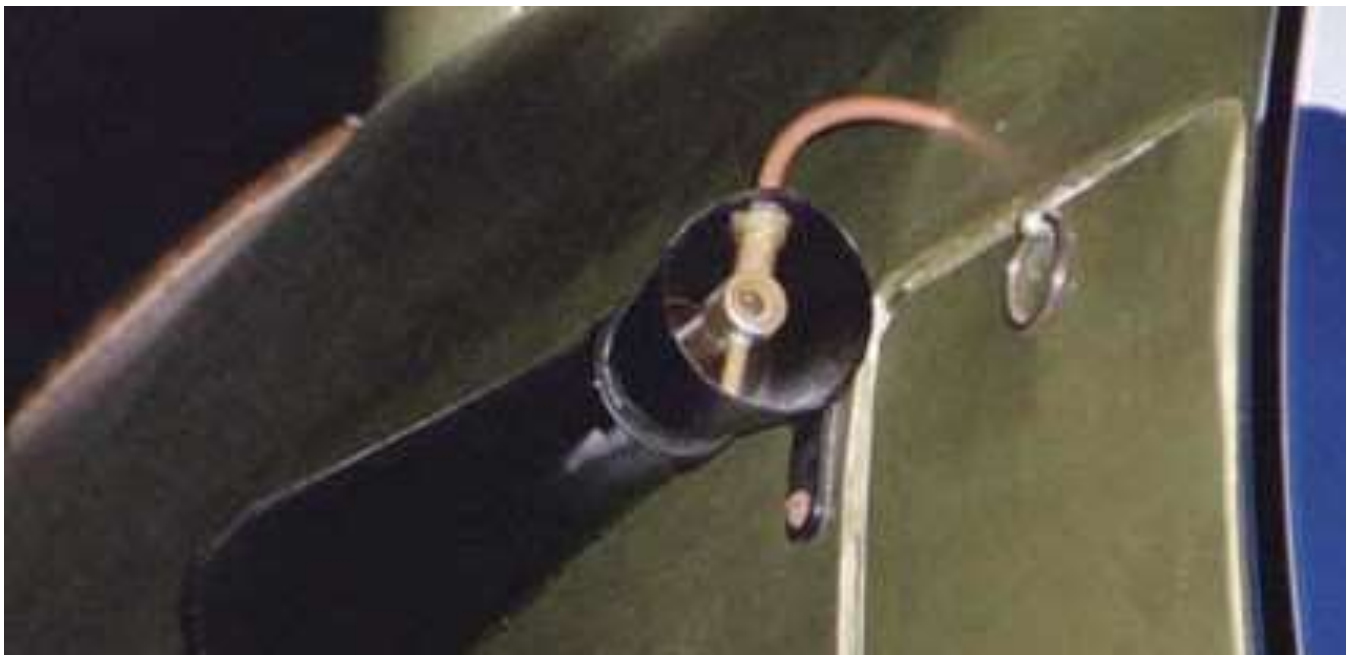
NOTE: *The fuel 'Baden' type exhauster (kit part 8C) is moulded as a solid piece. In reality the exhauster was a hollow convergent/divergent venturi, so needs to be presented as such.*

Point mark the centre of both ends of the exhauster.

Using suitably sized drills, drill out as far as possible, the ends of the exhauster, to represent the hollow venturi.

To allow fitting of the pressure pipe into the front of the exhauster, drill a hole of 0.4 mm diameter vertically down through the centre of the front nozzle.

NOTE: *The exhauster pressure pipe will be fitted later in this build.*



Cement the exhauster onto its location of the fuselage right side.

Remove the following parts from the ‘PART’ Nieuport 28c1 (S32-033) set:

Panel (97), control outlets (89 x 2), Panel outlines (85 x 2) and cowl rivet ring (83).

Soften the parts by annealing them over a heat source, such as a cigarette lighter. Keep the parts moving over the heat source until they start changing colour. Keep the heat source away from thin and fragile parts such as the end fittings, to avoid them melting.

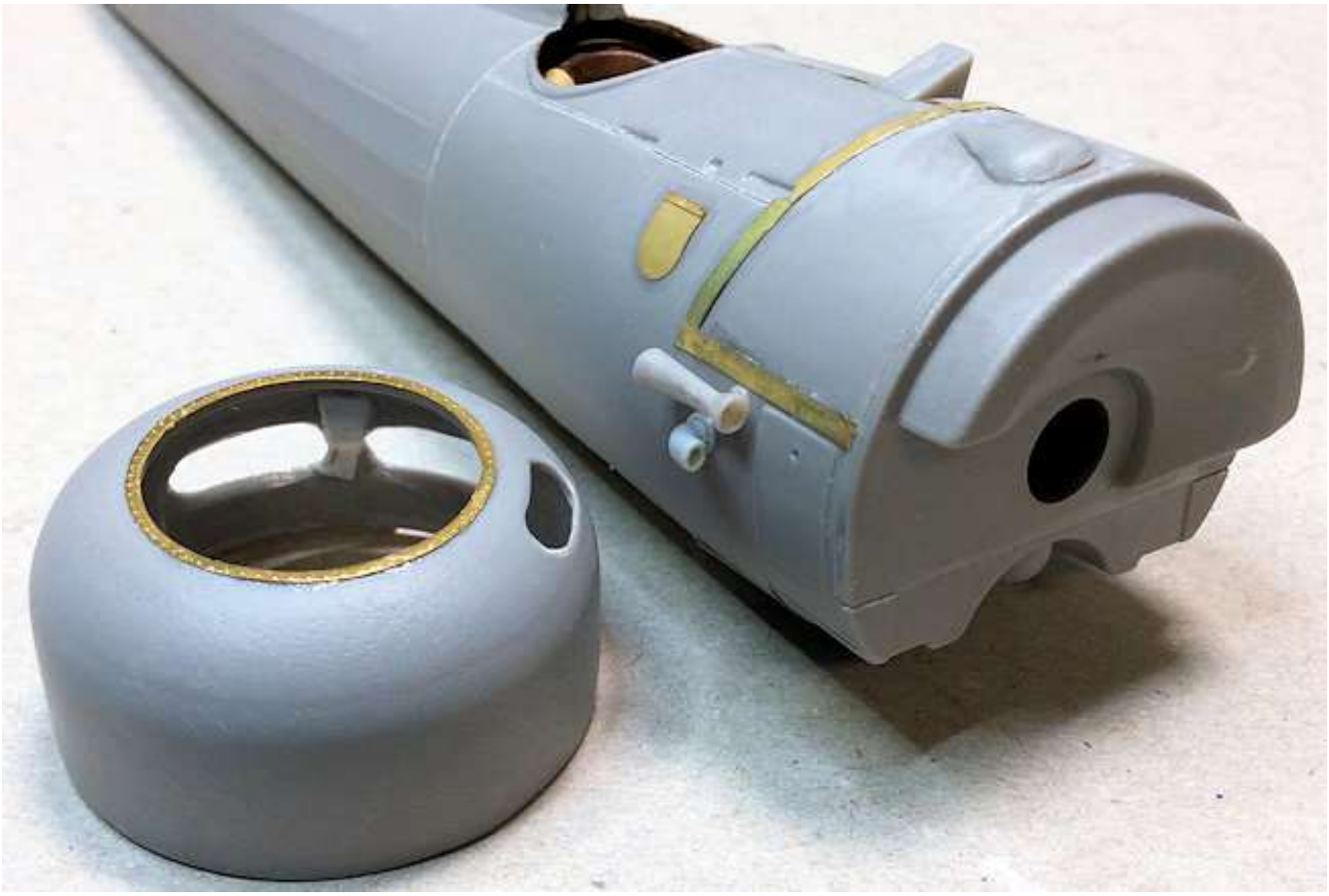
Using thin CA adhesive, secure the panel (97) onto the right fuselage and where the removed panel was located.

Using thin CA adhesive, secure the control outlets (89) onto the rear of the fuselage and over the pre-moulded outlets.

Using thin CA adhesive, secure the panel outlines (85) onto the forward fuselage and following the pre-moulded panel lines.

Using thin CA adhesive, secure the rivet ring (83) around the opening in the centre of the engine cowl.

NOTE: *Test fitting of the engine and the engine cowl to the fuselage was carried out in Part 7 (Engine) of this build log.*



Oil tank - filler

NOTE: *The oil tank filler is pre-moulded as part of the engine cowl. However, in reality to remove the engine cowl would probably have required a slot to be cut into the rear edge of the cowl to clear the neck of the oil filler as the cowl was removed. Therefore both the filler and engine cowl require modification.*

Cut away the pre-moulded oil filler on the top of the engine cowl.

Cut away the filler cap from the removed oil filler neck.

Drill a hole of 1.5 mm diameter into the top, centre at the rear of the oil tank on the engine bulk-head.

Roll cut a short length of 1.5 mm diameter tube (e.g. ‘Albion Alloy’s MBT5M or similar).

Secure the removed oil filler cap to one end of the tube, using CA adhesive.

Secure the tube into the pre-drilled hole in the oil tank, with the filler cap just above the top of the fuselage, using CA adhesive.

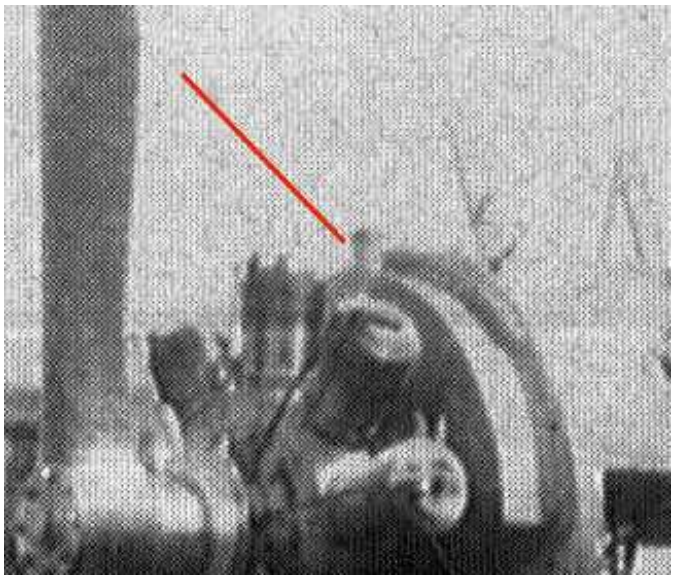
Locate the engine cowl on the bulkhead and mark the position of the oil filler tube.

Using the mark as a guide, drill a hole of 1.6 mm diameter through the engine cowl.

Cut the cowl away from the hole rearwards through the cowl to create a slot.

Test fit the engine cowl onto the fuselage, making sure it fully locates onto the fuselage.

Remove the cowl.



Undercarriage strut locations

NOTE: *The undercarriage struts are located into the fuselage by tabs on the top of the struts, which are inserted into pre-moulded recesses in the underside of the fuselage. However, these recesses are too shallow.*

Using a sharp and thin modellers chisel, deepen the four recesses in the underside of the fuselage until the undercarriage struts can be fully located into the recesses.

Loosely assemble the axle to the struts and test fit the struts into the fuselage. Make sure the struts fully locate into the recesses.

PART 11
CONSTRUCTION

PART 11 - CONSTRUCTION

Remove all remaining parts from the kit sprues.

File or sand away any residual sprue tags, mould flash or seam lines from the parts.

NOTE: *You may find that either or both of the wings, which should be flat, are bowed to some degree.*

To remove any bow, heat the parts in hot (not boiling) water or heat the part with a hair dryer on high heat. Once the part if hot enough, carefully bend the part in the opposite direction to the bow and hold it until it has cooled, when the shape should be retained. Never just bend cold styrene or you may create stress marks in the part or even break it.

Flight control surfaces.

Static

The flight control surfaces (ailerons, elevator and rudder) are all moulded as part of either the lower wing, tailplane or fin. These surfaces can be left as they are.

Animated

NOTE: *To animate the flight control surfaces (in positions other than as moulded in the kit parts), the following procedures can be carried out.*

Ailerons

NOTE: *Rather than cutting out the two ailerons from the lower wing, then reattaching them with rods, I chose to remove the pre-moulded seams to leave the ailerons still attached by their hinges.*

Using a sharp scriber, carefully scribe through both sides of the pre-moulded join seam around each aileron, leaving the three aileron hinges intact.

Using a straight scalpel blade or similar, scrape away residual joint styrene from opposing faces to leave a smooth finish.

Elevator

Using a sharp scriber, carefully scribe through both sides of the pre-moulded join seam between the rear of the tailplane and leading edge of the elevator.

Separate the tailplane and elevator.

File or sand the trailing edge of the tailplane and leading edge of the elevator to remove residual styrene and leave a smooth finish.

Point mark the middle of the tailplane trailing edge in two locations, each midway between the outer tip and the centre bar.

Using the two marks as a guide, drill holes of 0.4 mm diameter into the trailing edge of the tail-plane.

Roll cut two lengths of 0.3 mm diameter rod (e.g. ‘Albion Alloy’s’ MBR03 or similar).

Secure the rods into the pre-drilled holes in the tailplane, using thin CA adhesive.

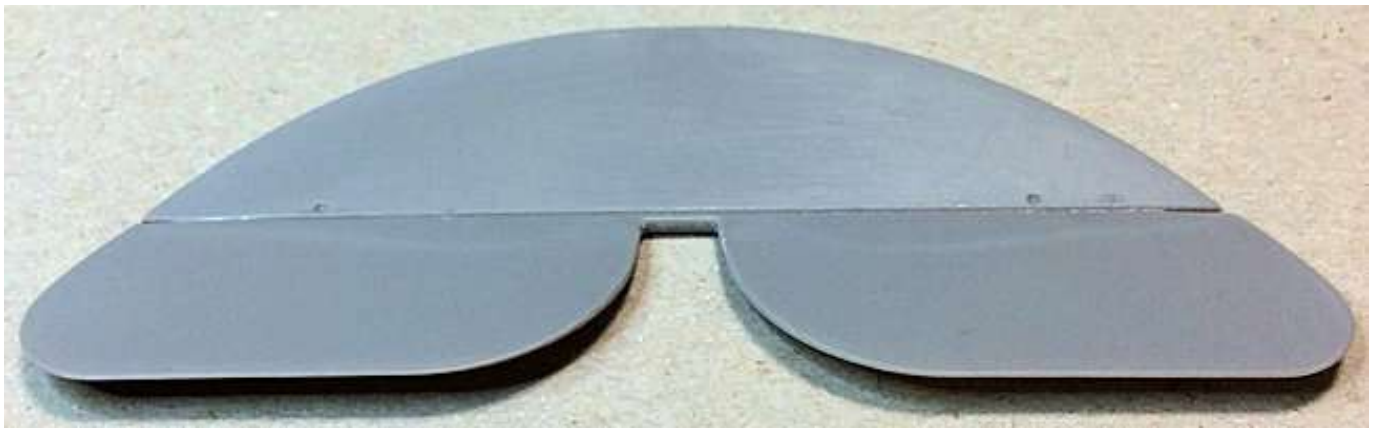
Position the elevator against the tailplane and mark the location of the two rods in the tailplane.

Using the two marks as a guide, drill holes of 0.4 mm diameter into the leading edge of the elevator.

Locate the elevator partly onto the rods in the tailplane, apply thin CA adhesive to the rods and then push the elevator fully against the tailplane.

Slightly bend the elevator in a downwards direction.

Apply cement along the elevator to tailplane joint, on the underside of the assembly.



Rudder

Using a sharp scriber, carefully scribe through both sides of the pre-moulded join seam between the fin and the rudder.

Separate the rudder and fin.

File or sand the trailing edge of the fin and leading edge of the rudder to remove residual styrene and leave a smooth finish.

Point mark the middle of the fin trailing edge in two locations.

Using the two marks as a guide, drill holes of 0.4 mm diameter into the trailing edge of the fin.

Roll cut two lengths of 0.3 mm diameter rod (e.g. ‘Albion Alloy’s’ MBR03 or similar).

Secure the rods into the pre-drilled holes in the fin, using thin CA adhesive.

Position the rudder against the fin and mark the location of the two rods in the fin.

Using the two marks as a guide, drill holes of 0.4 mm diameter into the leading edge of the rudder.

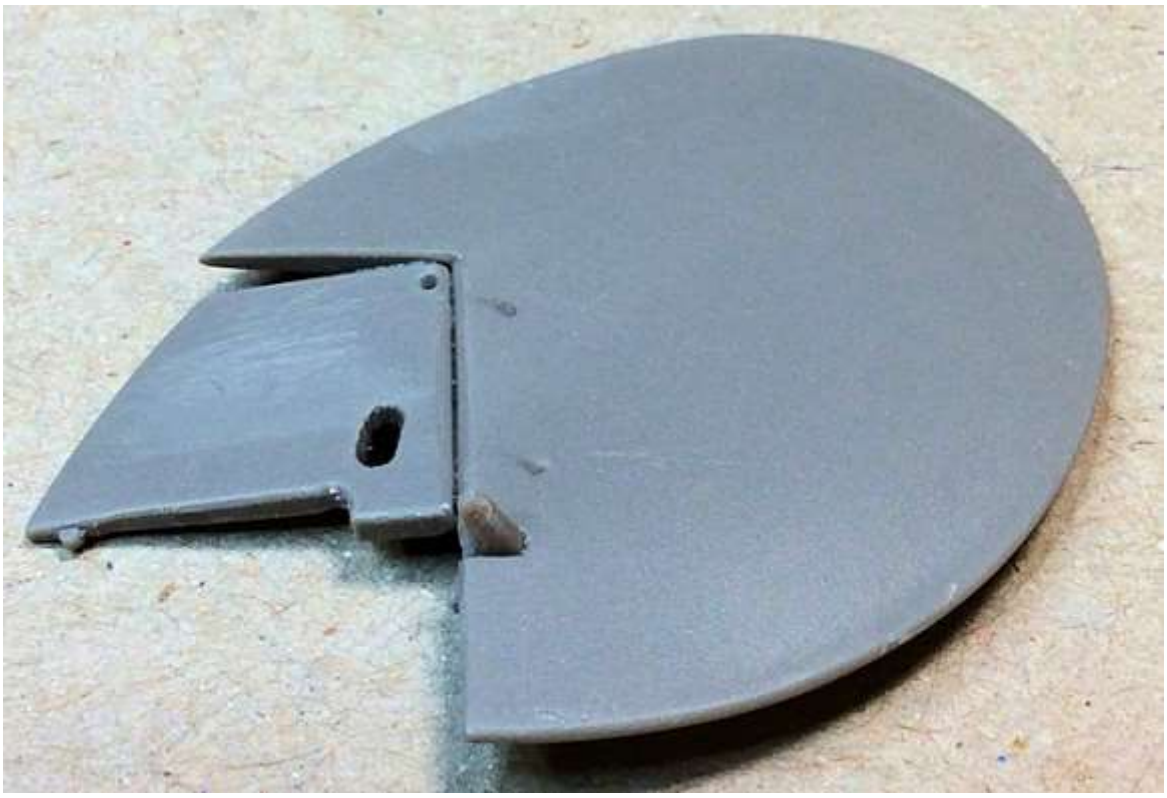
Locate the rudder partly onto the rods in the fin, apply thin CA adhesive to the rods and then push the rudder fully against the tailplane.

Slightly bend the rudder either left or right.

Apply cement along the fin to rudder joint.

Drill a hole of 0.3 mm diameter through each end of the rudder control horn (kit part 7C).

Cement the rudder control horn into its location slot in the leading edge of the rudder.



Tailplane - fit

Test locate the tailplane onto its location step on the top, rear of the fuselage.

If necessary, scrape or sand the fuselage step to achieve a flush fit of the tailplane to the top, rear of the fuselage.

Cement the tailplane to the fuselage, making sure it is at 90 degrees to the fuselage when viewed from the front and rear.

Drill a hole of 0.3 mm diameter (from the top surface) through the trailing edge of the tailplane at the pre-moulded recesses.

Tailplane photo-etch

NOTE: *The kit supplied tailplane lacks detail that can be added to enhance the details. The photo-etch sheets from 'PART' (Nieuport 28C1 (S32-033) contains the parts required.*

The parts from the photo-etch PART' (Nieuport 28C1 (S32-033) sheets that will be used are the tailplane cover 92 and fastener plates 93 (x 4).

Remove the parts from the photo-etch sheets and file or sand away any residual photo-etch tags from their edges.

Anneal the tailplane cover over a heat source, such as a cigarette lighter, to soften the part.

Bend the cover over a suitable round former to create a slight curve.

Scrape or sand the detail away from the pre-moulded cover on the tailplane.

Secure the cover in position over the pre-moulded cover on the tailplane, using thin CA adhesive.

Secure two fastener plates onto the top of the tailplane trailing edge, using thin CA adhesive.

Secure the two remaining fastener plates onto the underside of the tailplane (in same locations), using thin CA adhesive.

Fin photo-etch

NOTE: *The kit supplied fin lacks detail that can be added to enhance the details. The photo-etch sheets from 'PART' (Nieuport 28C1 (S32-033) contains the parts required.*

The parts from the photo-etch PART' (Nieuport 28C1 (S32-033) sheets that will be used are the fin attachment plates 95 (x 2) and elevator control 94 (x2).

Remove the parts from the photo-etch sheets and file or sand away any residual photo-etch tags from their edges.

Bend the two elevator control (94) parts over to for a double thickness.

Secure two fin attachment plates onto the lower sides of the fin (where the fin locating peg is located), using thin CA adhesive.

Secure an elevator control into each side of the fin, at the bottom of the oval opening, using CA adhesive.

Wheels - assemble

NOTE: *I found that when the outer wheel covers are fully located in the wheels, there was a noticeable shoulder between the outer edge of the covers and the inner edge of the tyres. This is not correct and is due to the wheel cover being moulded too thick.*

Check fit the wheel covers into the wheels and if necessary, file or sand the mating surface until the covers fit into the wheels without leaving a shoulder at the outer edge.

Apply cement to the axle supports and locate them centrally onto the inner surface of the wheels.

Fully locate the wheel covers into the wheel and insert a suitable probe to move and align the hole in the axle supports with the holes in the wheels.

Test fit the axle to make sure it can be located fully into the wheels.

Apply cement around the outer edge o the covers to secure them in the wheels.

Wing foot plate

NOTE: *There was a foot plate located on the left lower wing, just outboard from the fuselage. This foot plate is not represented on the kit lower wing.*

Cut a strip of 0.5 mm thick plastic card 3 mm wide and 9 mm long and cement it onto the upper surface of the left lower wing.

Pre-rigging - anchor points

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

NOTE: Although the basic kit does not provide rigging locations or anchor points, the photo-etch set *'PART' (Nieuport 28C1 (S32-033) does. However, the rigging anchors in the set are intended to be fitted between the wing struts and the wing surfaces. This would require securing them in position using CA adhesive. Whilst this adhesive provides a strong bond, it can be susceptible to becoming brittle and therefore easily dislodged. Also fitting these anchors between the struts and wing surfaces reduces the amount of styrene joint that can be cemented, making the joints weak. Therefore I decided not to use the photo-etch rigging parts, apart from the four fuselage location plates (104) and the axle centre anchor (100 and 101).*

Undercarriage axle

Remove the parts from the photo-etch sheets and file or sand away any residual photo-etch tags from their edges.

Using a modelling chisel or similar, create a narrow slot across the centre of the pre-moulded centre anchor point on the top surface of the axle.

Using thin CA adhesive, secure the anchor part 100 into the slot of part 101.

Using thin CA adhesive, secure the anchor point assembly onto the axle with the protruding part 100 into the created slot.

Fuselage flying wire anchors

Using thin CA adhesive, secure a part 104 anchor point onto the lower, left side of the fuselage, just below and between the two rectangular access panels.

Using thin CA adhesive, secure the second part 104 anchor point onto the lower, left side of the fuselage, 23 mm from the first part 104 anchor point (centre to centre) and with its top edge aligned to the bottom edge of the first part 104 anchor points.

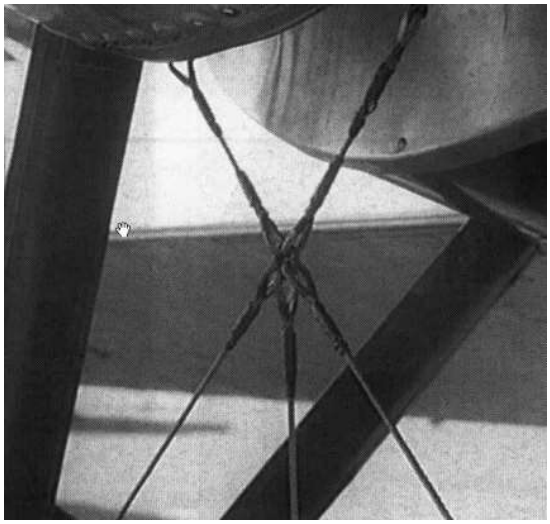
Repeat to add the two remaining part 104 anchor points to the right side of the fuselage.

Pre-rigging - anchor holes

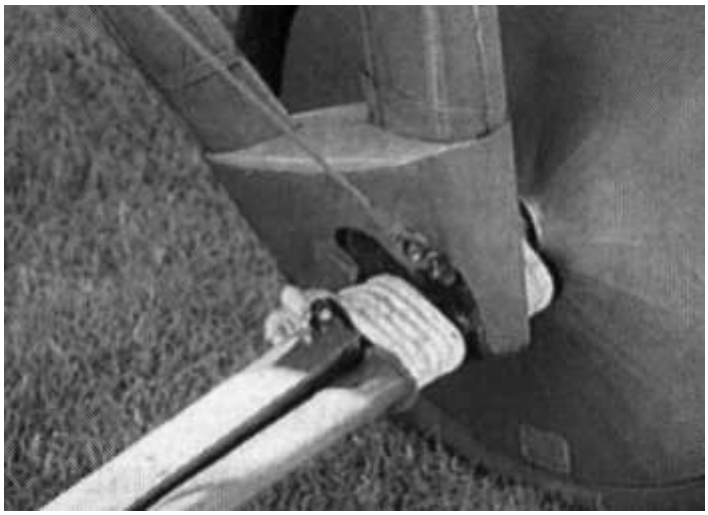
Refer to Part 6 (Rigging) of this build log for more information.

Undercarriage

Cross bracing

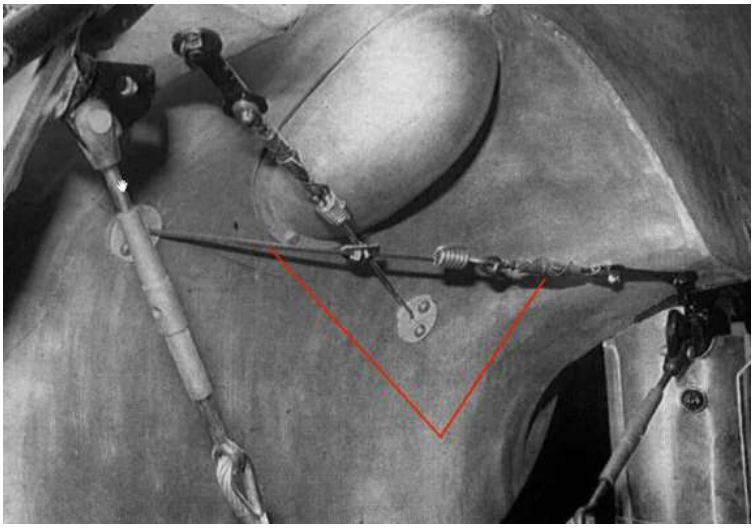


Axle connection



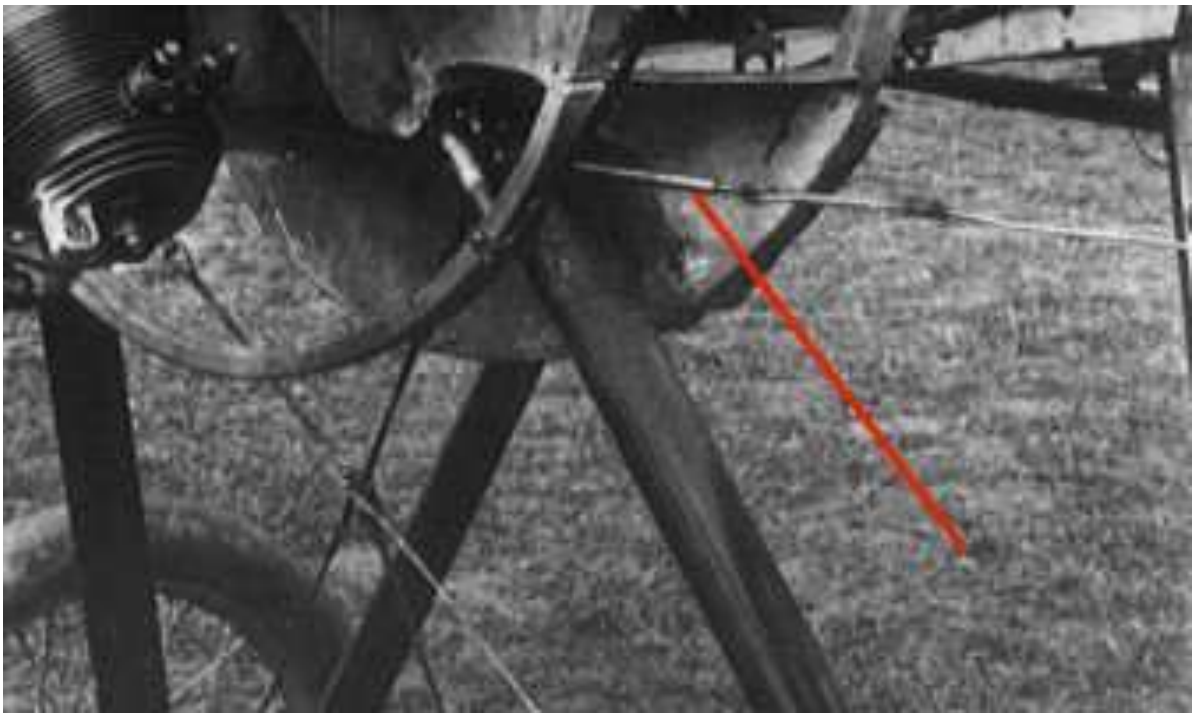
Drill a hole of 0.3 mm diameter through the top of the forward undercarriage struts (longest strut) and through bottom of the struts, forward of and midway down the oval axle cut-out.

Under bulkhead



Drill four holes of 0.3 mm diameter through the bottom of the engine bulkhead, as shown above.

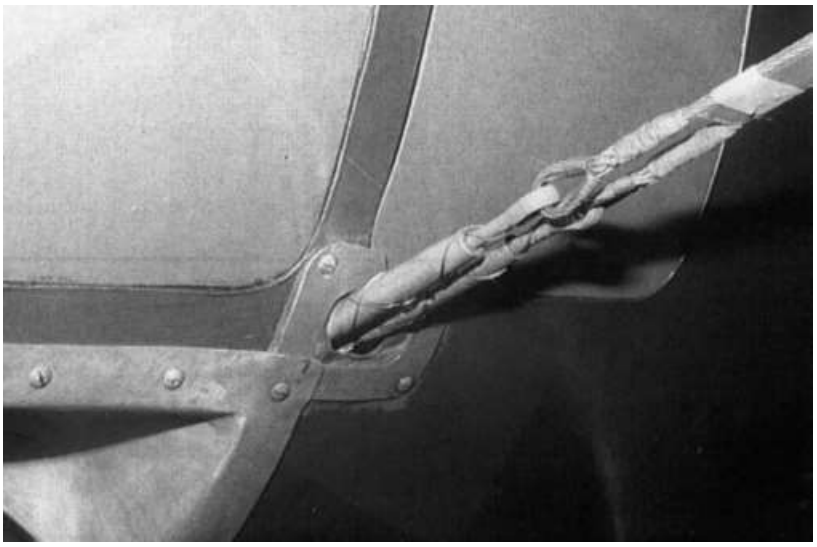
Lower wing - bracing



Temporarily locate the lower wing into its location trough in the fuselage.

Drill a hole of 0.3 mm diameter into the leading edge on each side of the lower wing. The holes should be at a shallow angle to the front of the fuselage and 32 mm inboard from the outer wing strut location holes.

Twin flying wires



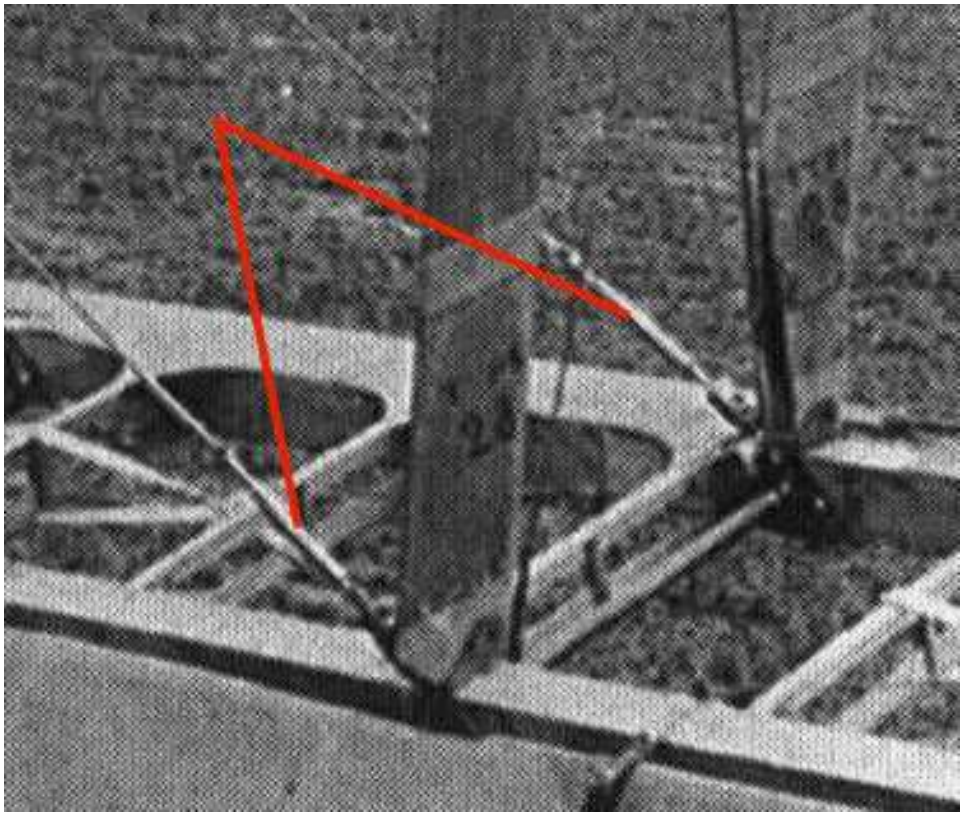
Drill a hole of 0.3 mm diameter into the fuselage through each of the four holes in the two photo-etch rigging plates on the fuselage (both sides).

Temporarily locate the lower wing into its location trough in the fuselage.

Temporarily locate an outer wing strut into the lower wing.

Drill two pair of holes of 0.3 mm diameter into, but not through, the underside of the upper wing. Each pair of holes should be just inboard from the strut location holes and should be spaced the same as the holes in the fuselage rigging plates.

Landing wires

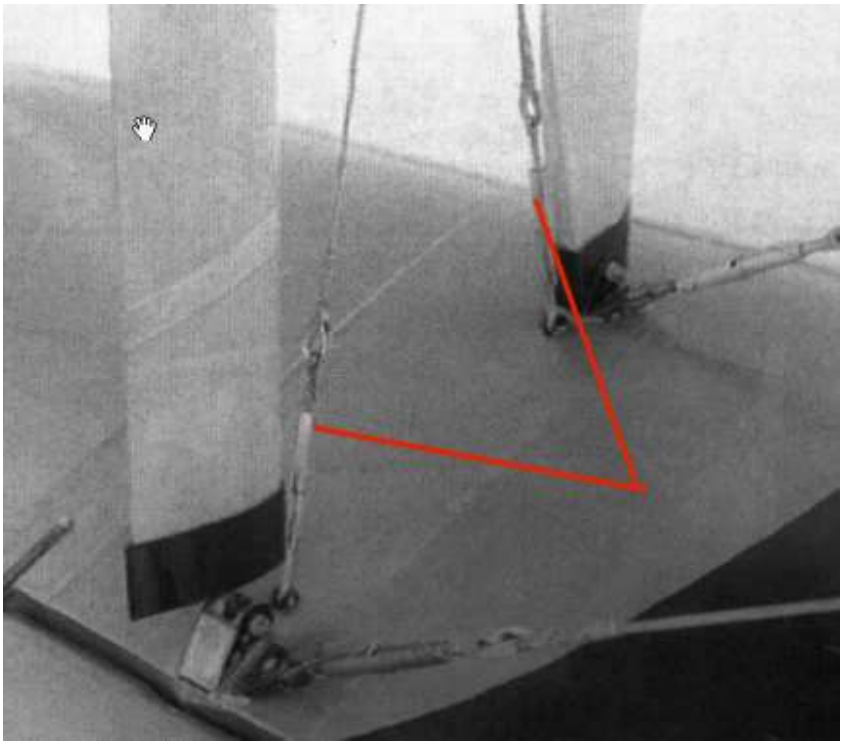


Temporarily locate the lower wing into its location trough in the fuselage.

Temporarily locate a fuselage cabane strut onto its location on the fuselage.

Drill two holes of 0.3 mm diameter into, but not through, the upper surface of the lower wing. Each hole should be just inboard from the outer strut location.

Incidence wires



Temporarily locate the two outer wing struts into their locations in the lower wing.

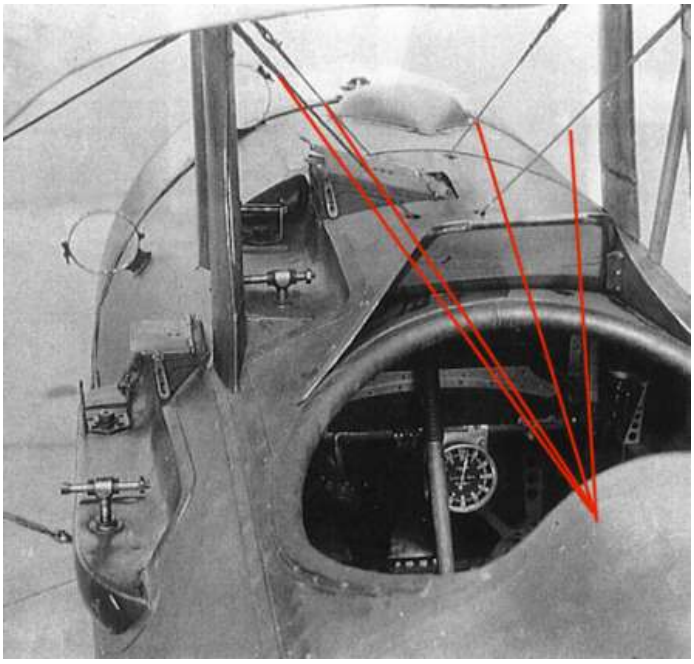
Drill two holes of 0.3 mm diameter into, but not through, each side of the upper surface of the lower wing. The holes should be just forward from the rear struts and just to the rear of the forward struts.

Repeat the procedure to drill the rigging holes in the underside of the upper wing.

Cabane strut - bracing wires

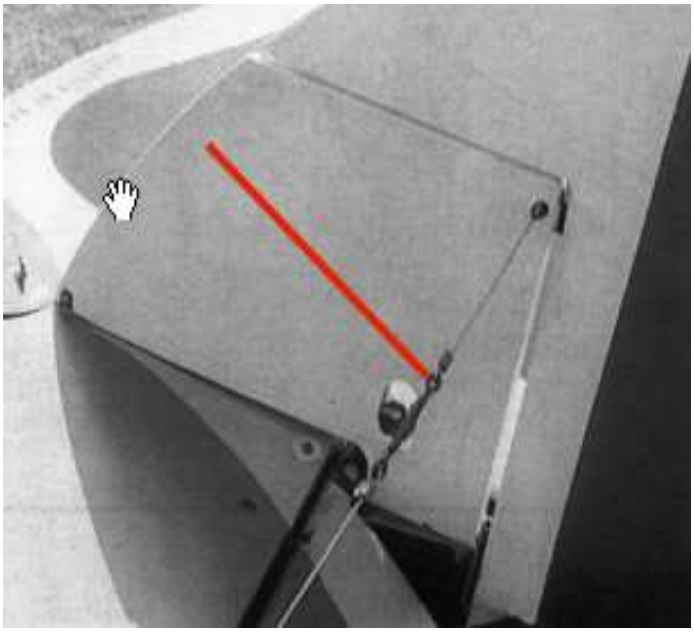
Drill two pairs of holes of 0.3 mm diameter through the top of the fuselage, as shown in the above photograph.

Drill a hole of 0.3 mm diameter through the top of the four fuselage cabane struts.



Fin - bracing wires

Run a drill of 0.3 mm diameter trough the pre-drilled holes in the trailing edge of the tail plane (cross bracing). This is required to drill through the fitted bracing struts under that location on the tail plane.



Insert a 'GasPatch' anchor point into each of the pre-drilled rigging anchor holes, ***except those at the forward undercarriage struts, under the engine bulkhead and the fin. Also, those on the underside of the upper wing and top surface of the lower wings, which will be fitted later once decals have been applied.***

Secure the anchor points in position using thin CA adhesive.

Wrappings - outer struts

NOTE: *It was common practice on French built aircraft to have evenly spaced linen strips wrapped around the wing struts. These were intended to strengthen the struts and help prevent splintering of the wood. These wrappings are represented on the kit supplied outer struts, but are too thick and overscale.*

Carefully file or sand away the pre-moulded linen wraps around each of the four outer wing struts. These will be replaced by decals later in the build.

Struts - location rods

NOTE: *The kit supplied wing struts are only located into the wings with a short styrene 'stubs'. Also the fuselage cabane struts are 'butt' joints, with no locating stubs. Therefore I chose to add reinforcing rods to better locate and support the wings.*

Outer wing struts

Using the four strut location recesses in the upper surface of the lower wing as a guide, drill a hole of 0.6 mm diameter and 3mm deep into, but not through, the wing.

Using the four strut location recesses in the underside of the upper wing as a guide, drill a hole of 0.6 mm diameter and 3 mm deep into, but not through, the wing.

File away the pre-moulded location stubs on both ends of the four outer wing support struts.

Point mark the centre of each end of the four struts then drill a hole of 0.5 mm diameter and approximately 3 mm deep into each end of the struts.

Cut four short lengths of 0.5 mm diameter rod, such as 'Albion Alloy's or similar, such that when inserted into the pre-drilled holes in the lower wing, approximately 3 mm is left protruding.

Secure the rods into the holes using thin CA adhesive.

Cut four short lengths of 0.5 mm diameter rod, such as 'Albion Alloy's or similar, such that when four of them are inserted into the pre-drilled holes in the top or the four outer wing struts, approximately 3 mm is left protruding.

Secure the rods into the holes in the top of the four outer wing struts, using thin CA adhesive.

Test fit the four outer struts onto the locating rods in the lower wing and make sure the struts fully locate onto the rods and make contact with the wing surface.

Fuselage cabane struts

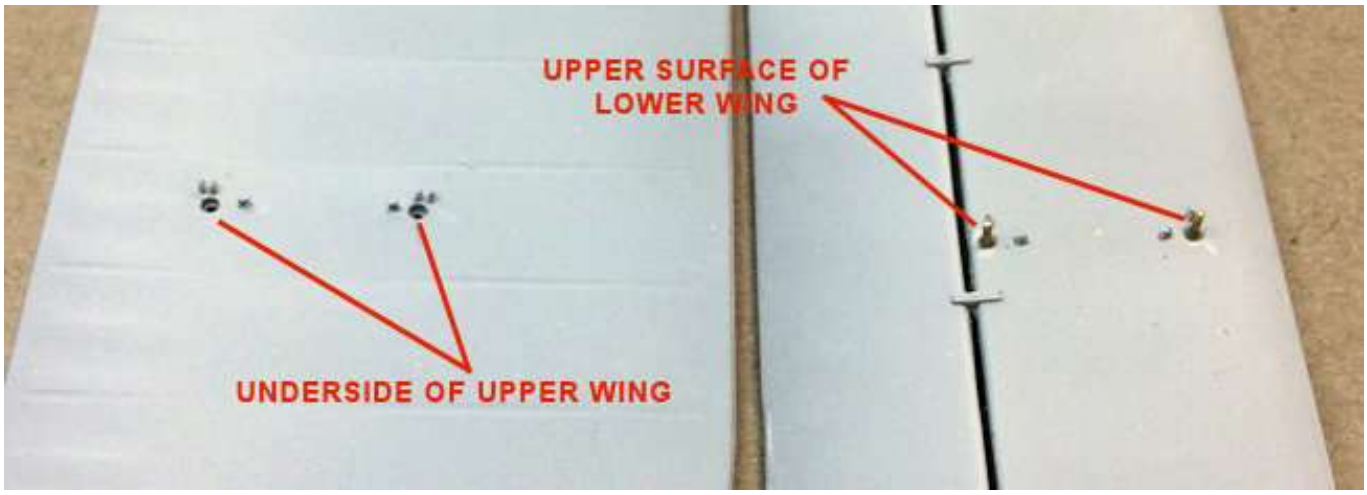
Drill a hole of 0.5 mm diameter into the centre of the four strut location recesses in the fuselage as a guide.

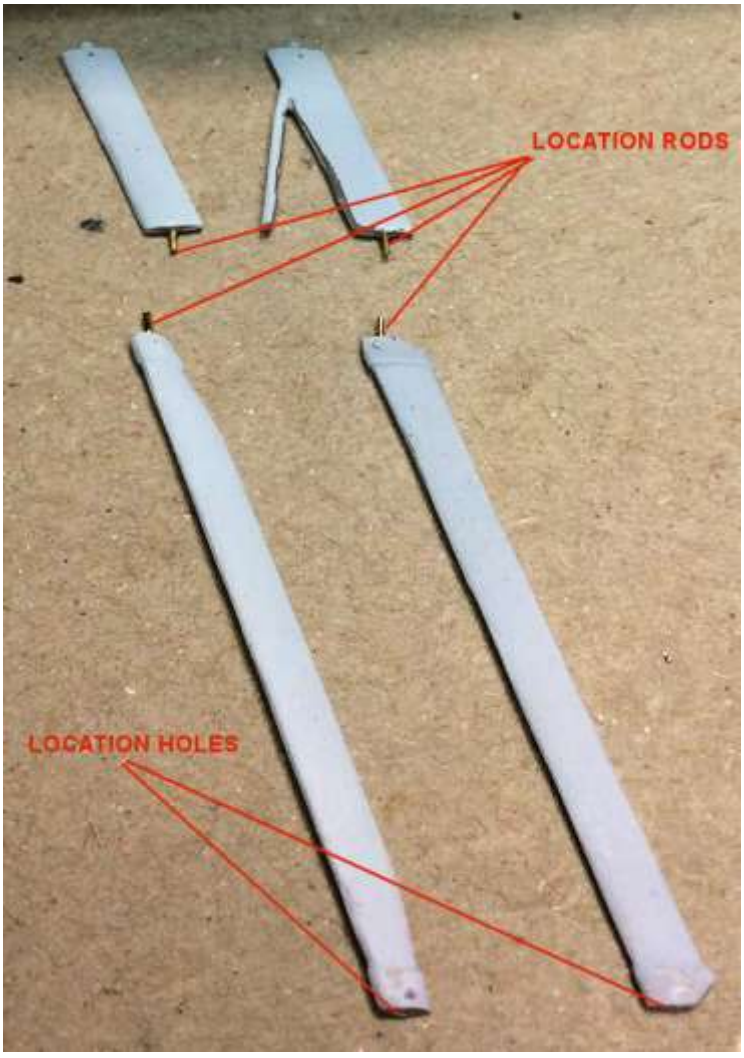
Point mark the centre of the bottom end of each of the four fuselage cabane struts then drill a hole of 0.4 mm diameter and approximately 3 mm deep into that end of the struts.

Cut four short lengths of 0.4 mm diameter rod, such as 'Albion Alloy's or similar, such that when inserted into the pre-drilled holes in the struts, approximately 3 mm is left protruding.

Secure the rods into the holes in the cabane struts, using thin CA adhesive.

Test fit the four cabane struts into their locating recesses in the fuselage and make sure the struts fully locate into the pre-drilled holes and are vertical when viewed from the front.


UPPER SURFACE OF
LOWER WING
UNDERSIDE OF UPPER WING


LOCATION RODS
LOCATION HOLES


LOCATION
HOLES

Lower wing - fit

Check the fit of the lower wing into the fuselage recess. Make sure that:

The front and rear edges of the centre section align with the adjacent fuselage edges.

The wing roots (viewed from above) are in contact with the bottom of the fuselage sides.

Both sides of the wing, when in position, are horizontal and at 90 degrees to the fuselage.

If necessary, carefully sand or scrape the mating faces to achieve the required fit.

Cement the lower wing into the fuselage recess.

Once the cement has fully set, check for misaligned edges or gaps and fill with modelling putty where required, then once set, sand as required.

If necessary, airbrush the worked areas with a white primer, such as 'AK Interactive' White (AK-759) or similar.

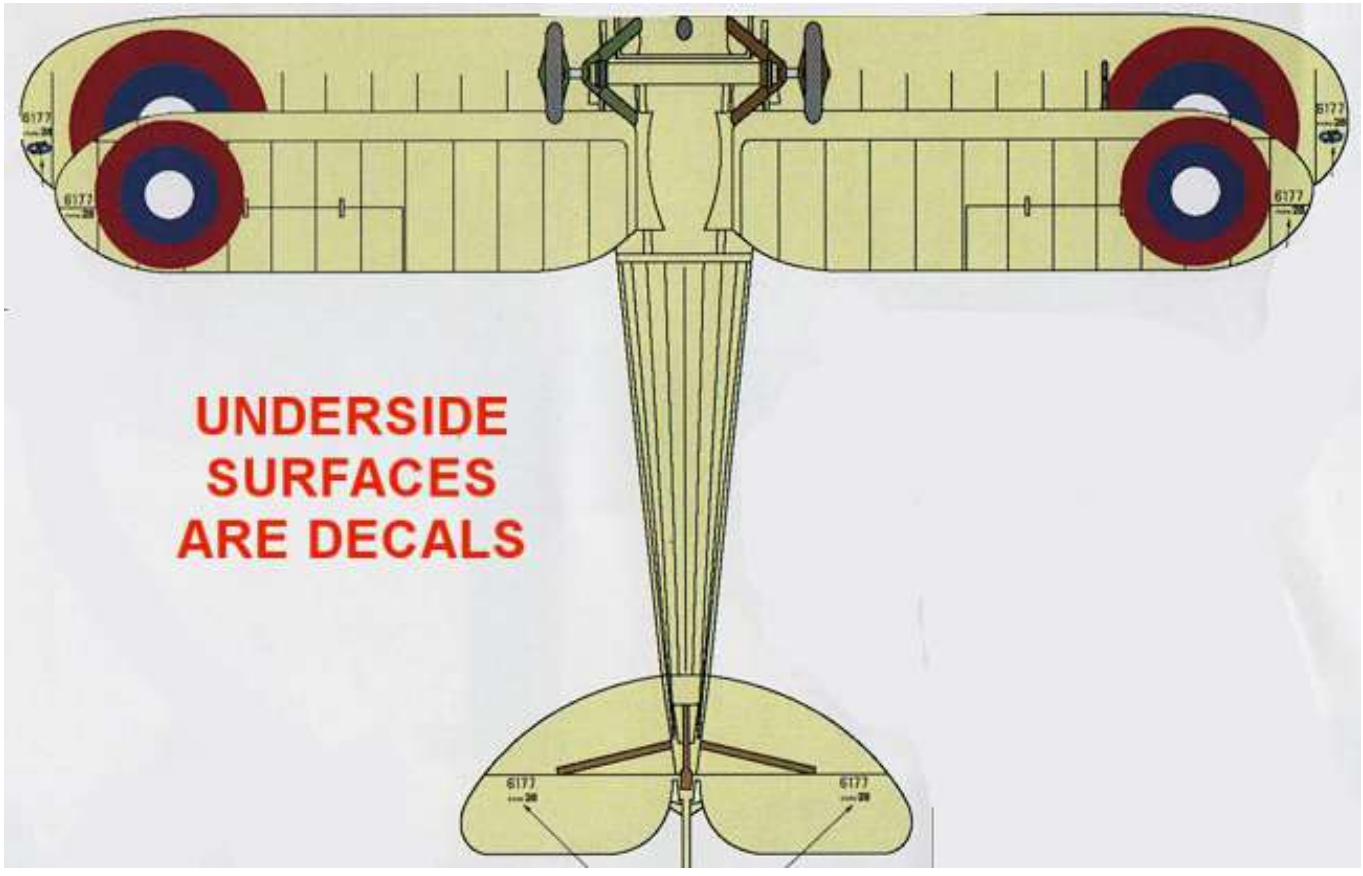
Priming for painting

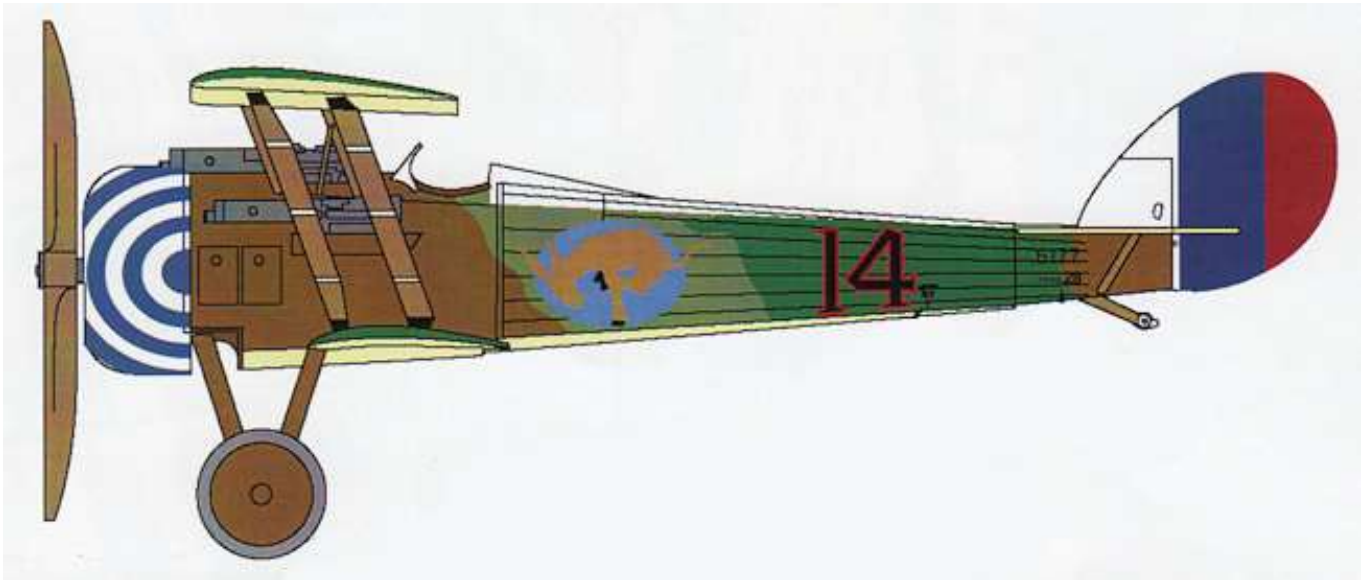
Blank of the fuselage cockpit opening and hole in the engine bulkhead, to prevent primer ingress inside the cockpit area.

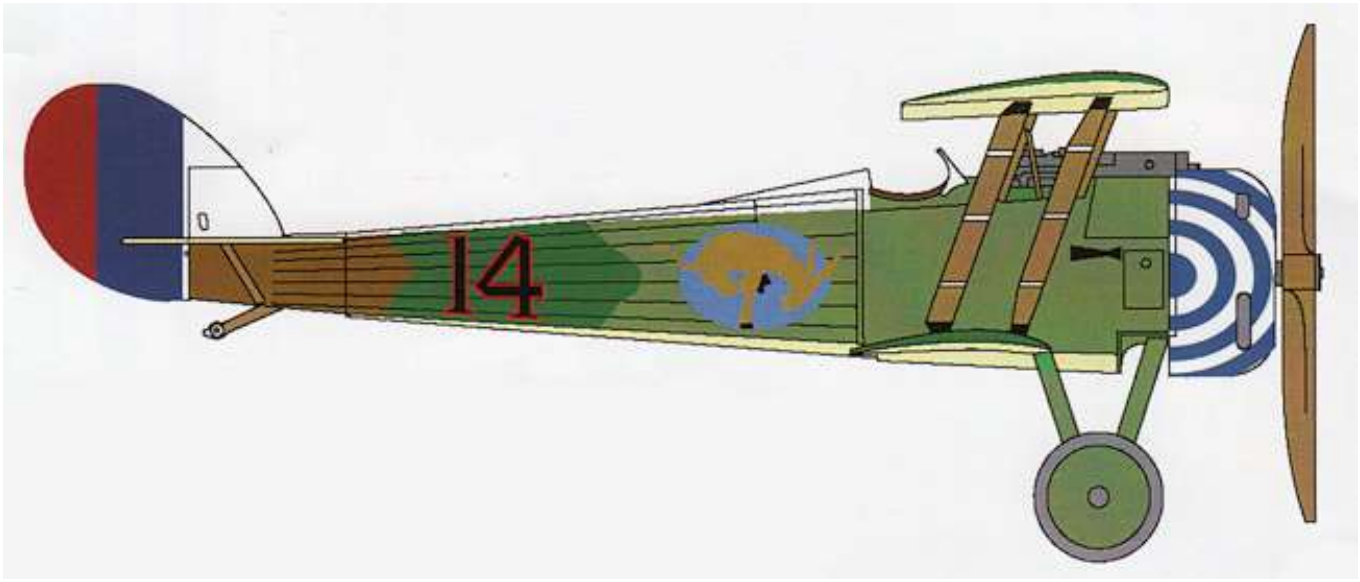
Airbrush the fuselage assembly, upper and lower wings and all other remaining parts with a white primer, such as 'AK Interactive' White (AK-759) or similar.

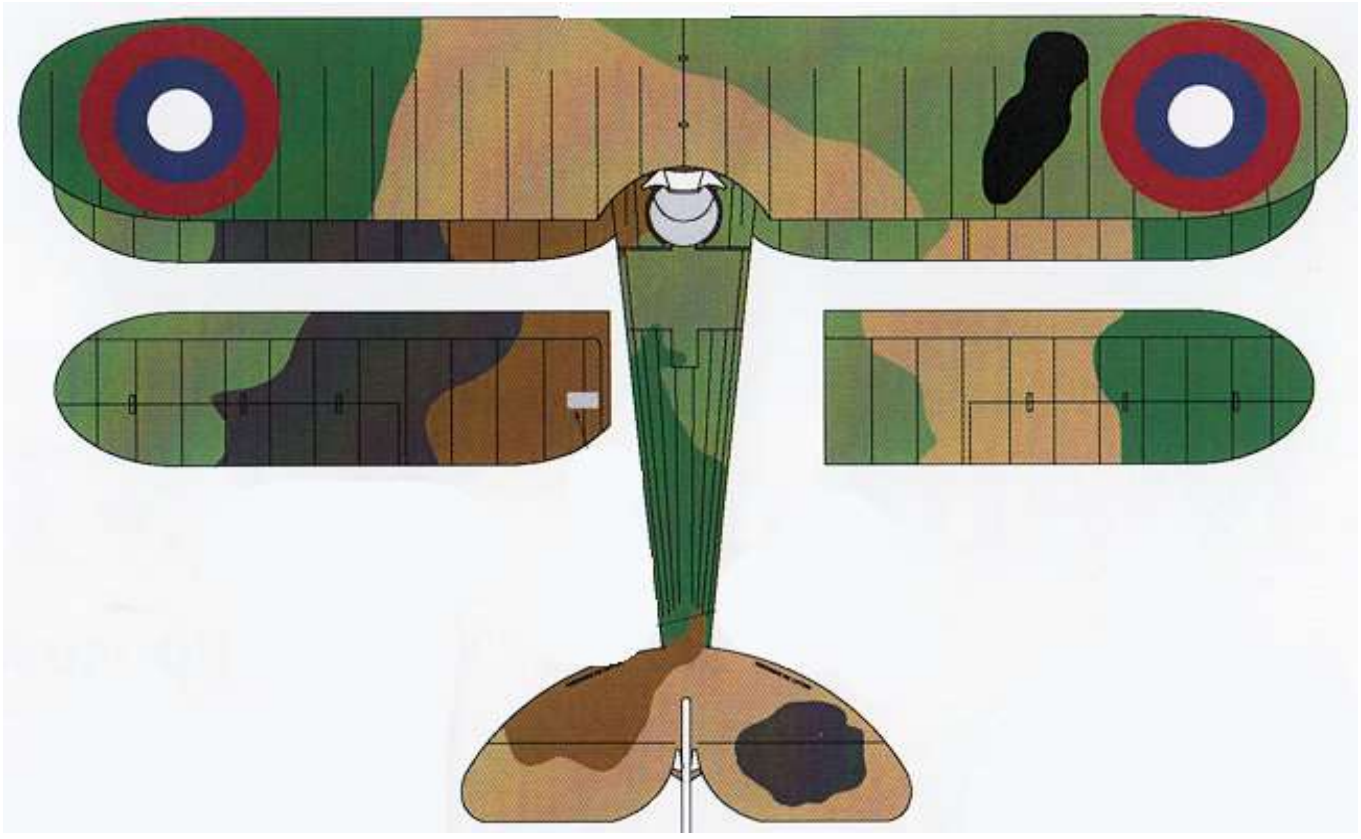
Once dry, check that all of the 'eye' ends on the fitted anchor points are clear of adhesive or primer. If necessary, carefully run a 0.2 mm diameter drill through obstructed 'eyes'.

NOTE: *The undersides of the upper and lower wings, tail plane and elevators and the fuselage are primed with white, as this is the base colour best used for applying the 'Aviattic' clear decals that will be applied to these surfaces.*



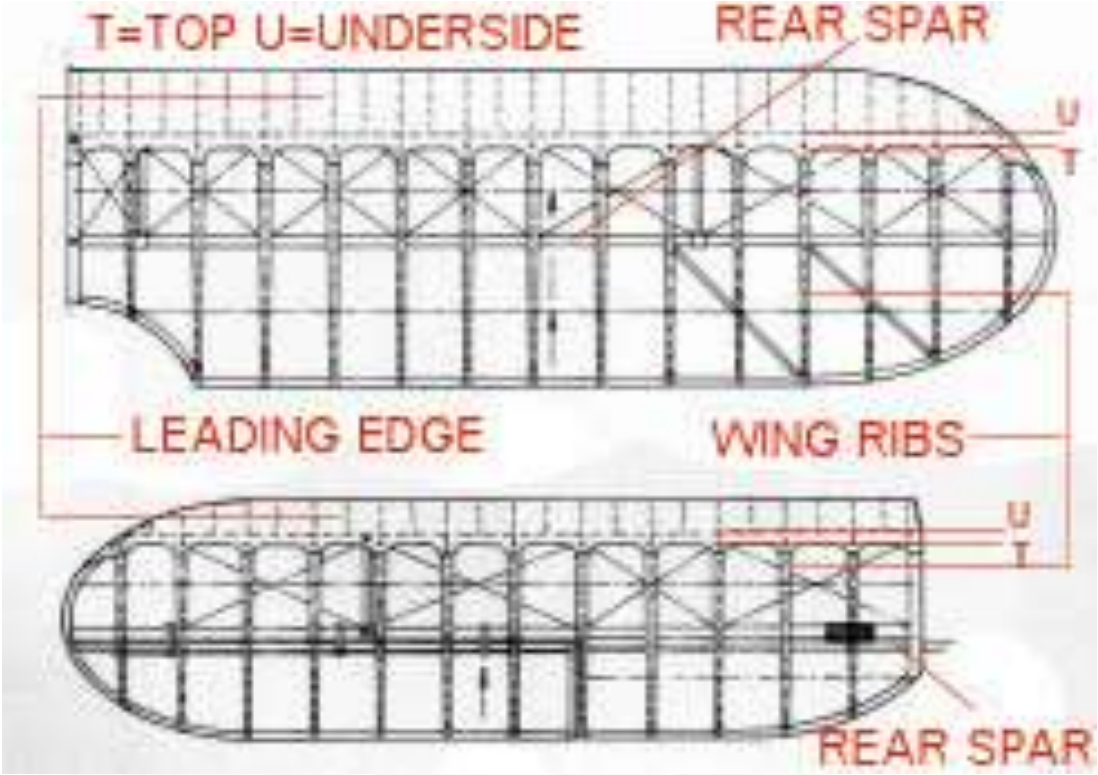

14

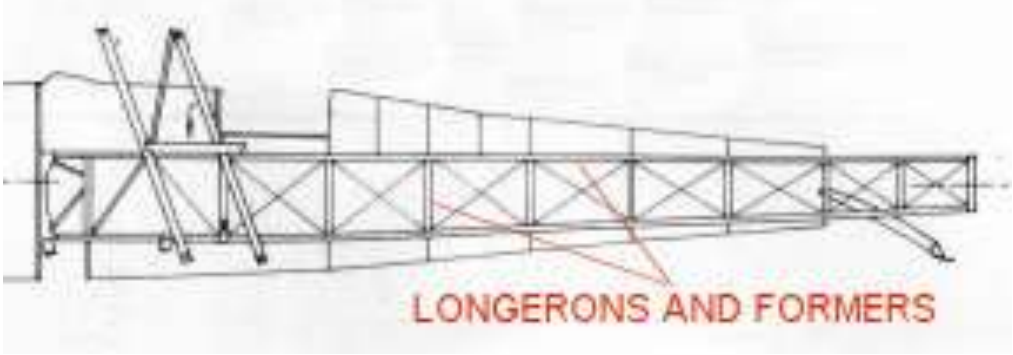

14



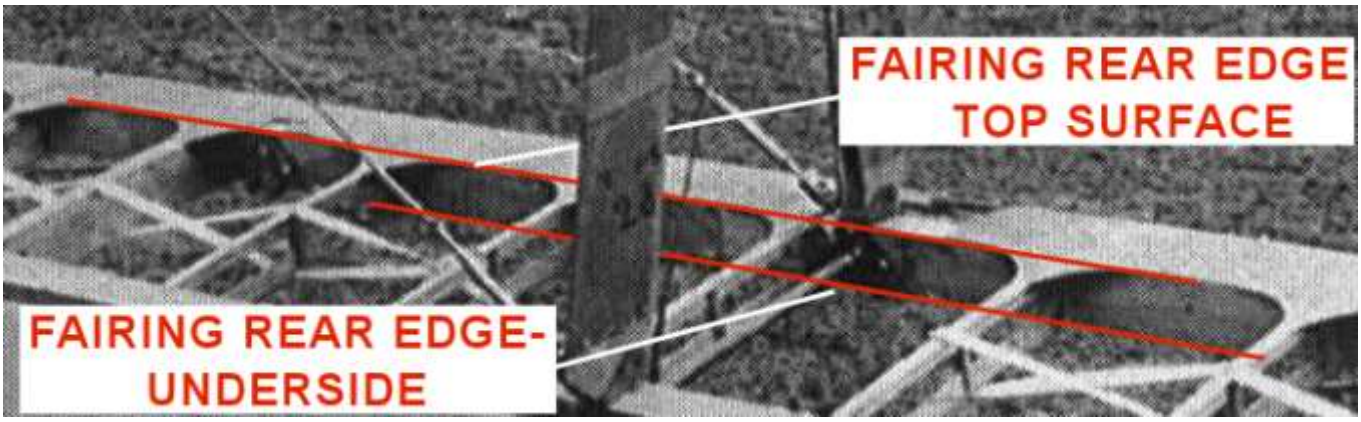
Pre-shading

NOTE: *The internal structure of particularly the wings, would have been partly visible, as shadows, through the doped linen covering of the wings, especially from the underside with its Clear Doped Linen (CDL). The dope painted colours on the upper surfaces would not shown the internal structure as much. To represent the shadows and lighter colour of the rib tapes covering where the linen was secured to the internal wing ribs, pre-shading is required.*





The rear edge of the fairing over the wing leading edge was scalloped on the top surface and its rear edge was further rearwards than the rear edge on the underside, which was not scalloped..



Undersides

Upper wing

NOTE: *Refer to the previous illustrations for more information. The undersides of the wings, fuselage and tailplane were clear doped linen (CDL. For this model I decided to create a mask for pre-shading the wings primary internal structure (leading edge fairings, wing ribs and rear spars). This Option 1 is possible only if you have access to the PC software and a mask cutter. Otherwise use Option 2.*

Option 1 - masks

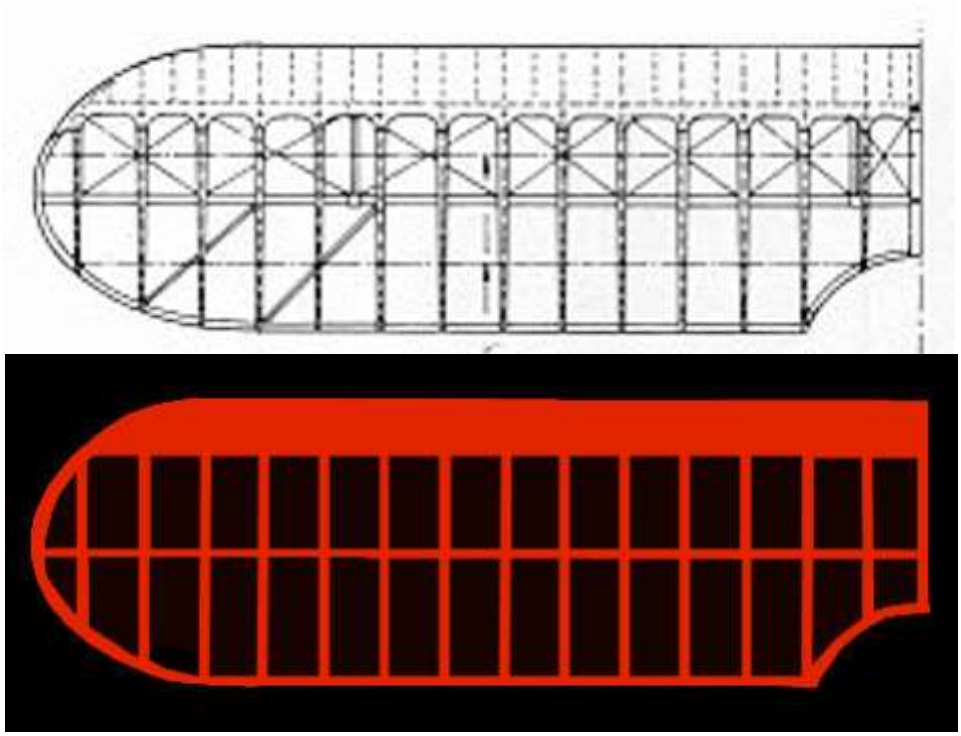
Using suitable PC software, such as ’Paint Shop Pro’ or similar, upload a scan of the illustration.

Colour fill the internal structure and background with contrasting intense colours.

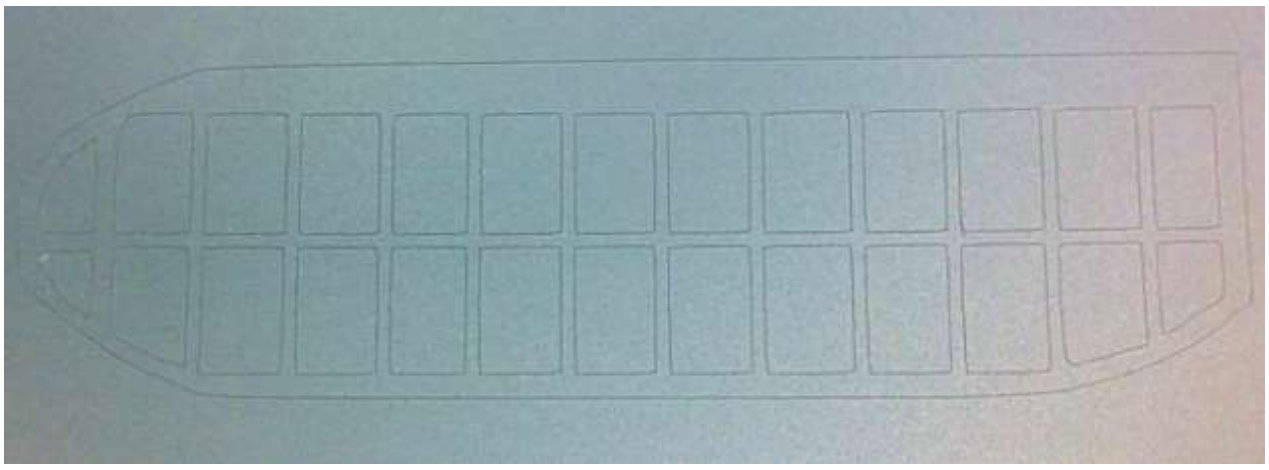
Save the image as both sides of the wing (horizontally ‘flip’ the image for the opposite side).

Load the illustrations into the mask cutters software (I use a ’Cricut Explore Air 2 crafters cutter).

Resize the images and test print to check their size to the model upper wing.



Use a masking sheet (I use ’Artool Ultra Mask Sheets A4’) into the cutter and cut the masks.



Airbrush thinned 'Tamiya' Smoke (X19) over the wing (previously primed with white), particularly over the leading edge fairing, wing ribs and the rear spar.

Using suitable tweezers, carefully remove the outline of the internal structure from the mask The areas between the wing ribs are not required.

Place the masks onto the wing, making sure the wing ribs are aligned as close as possible to the pre-moulded ribs on the wing.

Airbrush a light misting coat of white, such as 'AK Interactive' White primer (AK-759) or similar, over the exposed areas in the masks. The intention is to lightly blend back the exposed smoke pre-shading, but not to cover it completely.

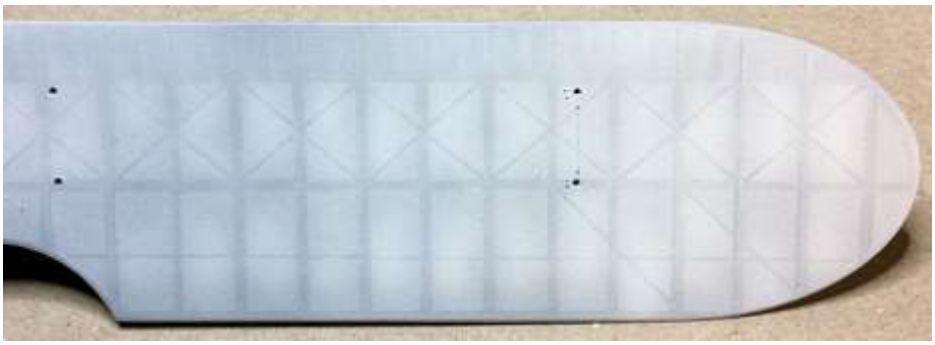
Remove the masks.

Using a pencil, draw the lines onto the wing to represent the cross bracing wires between the wing ribs that are forward from the rear spar masking strip.

Using a pencil, draw the lines onto the wing to represent the two diagonal bracing wires that are between the outer wing ribs at the rear of the rear spar masking strip.

Using a pencil, draw the lines across the wing to represent the reinforcing tapes between the leading edge fairing and rear spar and the rear spar and wing trailing edge.

Airbrush a light misting coat of white, such as 'AK Interactive' White primer (AK-759) or similar, over the wing. This should be a very light overcoat to lightly blend back the applied smoke pre-shading and pencil lines, leaving them just visible under the white covering.



Once dry, airbrush a clear gloss coat, such as 'Alclad' Aqua Gloss 600 or similar, over the wing to provide a smooth, gloss base for when the decals are applied.

Option 2 - freehand

Airbrush thinned 'Tamiya' Smoke (X19) over the wing, particularly over the leading edge fairing, wing ribs and the rear spar.

Airbrush a light misting coat of white, such as 'AK Interactive' White primer (AK-759) or similar, over the areas between the leading edge fairing, wing ribs and rear spar. The intention is to lightly blend back the applied smoke pre-shading, leaving leading edge fairing, wing ribs and rear spar visible.

Using a pencil, draw the lines onto the wing to represent the cross bracing wires between the wing ribs that are forward from the rear spar masking strip.

Using a pencil, draw the lines onto the wing to represent the two diagonal bracing wires that are between the outer wing ribs at the rear of the rear spar masking strip.

Using a pencil, draw the lines across the wing to represent the reinforcing tapes between the leading edge fairing and rear spar and the rear spar and wing trailing edge.

Airbrush a light misting coat of white, such as 'AK Interactive' White primer (AK-759) or similar, over the wing. This should be a very light overcoat to lightly blend back the applied smoke pre-shading and pencil lines, leaving them just visible under the white covering.

Once dry, airbrush a clear gloss coat, such as 'Alclad' Aqua Gloss 600 or similar, over the wing to provide a smooth, gloss base for when the decals are applied.

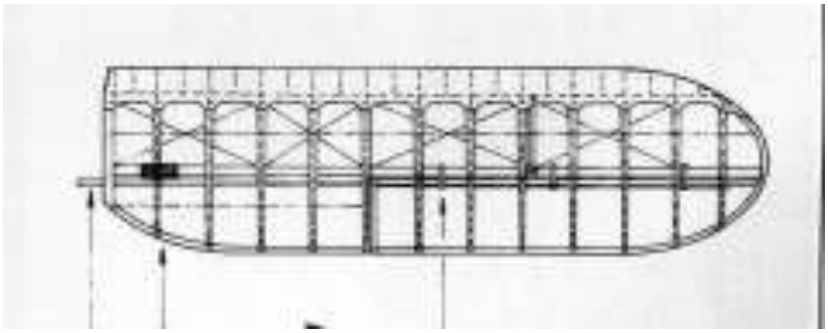
Lower wings

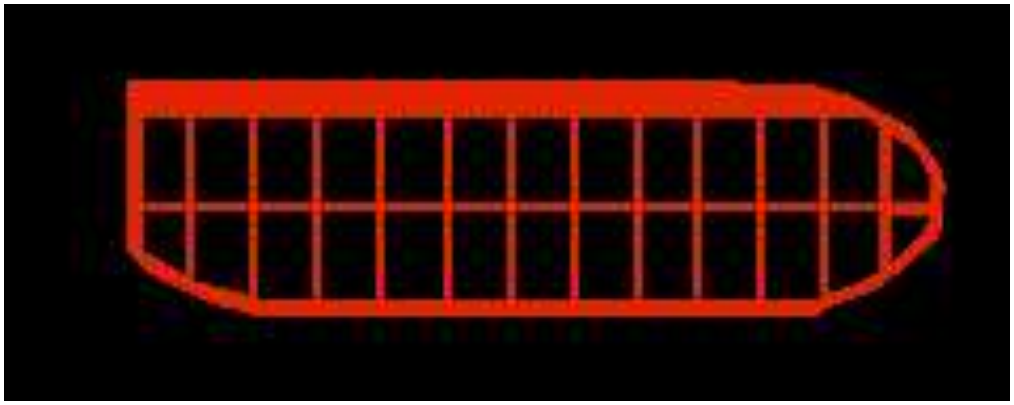
NOTE: *Refer to the previous illustrations for more information.* ***Use the same procedure as for the upper wing, except for the following differences.***

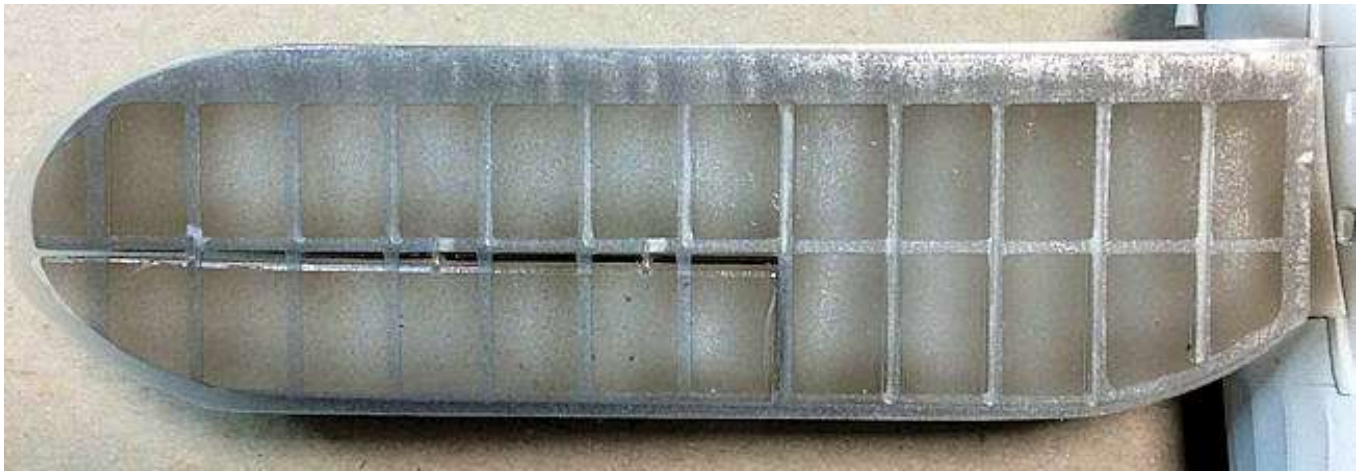
Create the masks for the internal structure of the lower wings.

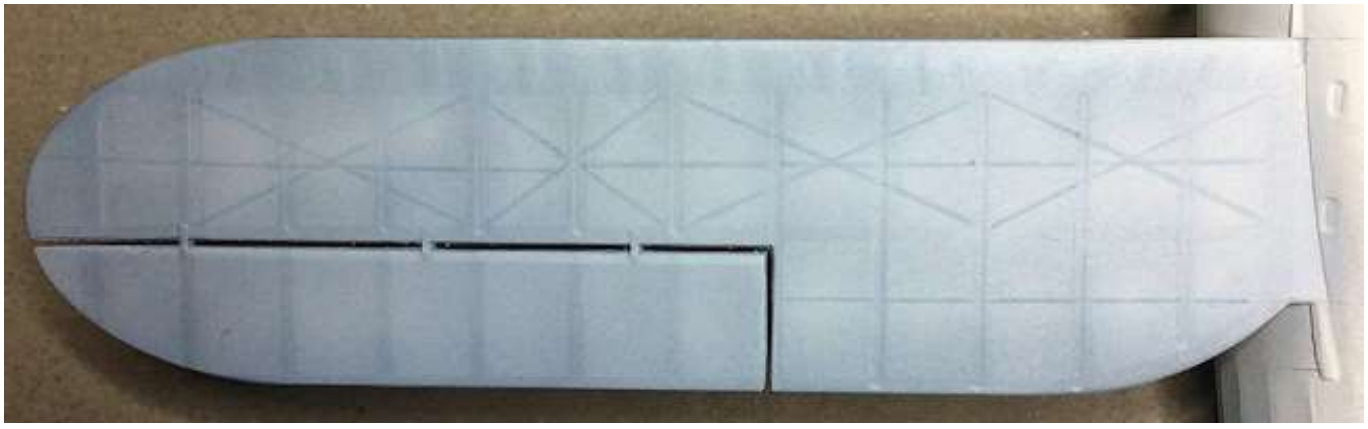
Using a pencil, draw the lines onto the wing to represent the cross bracing wires between the wing ribs that are forward from the rear spar masking strip.

Using a pencil, draw the lines across the wing to represent the reinforcing tapes between the leading edge fairing and rear spar and the rear spar and wing trailing edge up to the ailerons.









Painting

NOTES:

As the upper surface camouflage colour scheme was hand painted, the edges are not merged but clearly defined. To achieve the best edge between paint colours when using an airbrush, 'tack worms' of 'UHU' white tack can be used, which unlike 'Bostik' Blue Tack does leave oil marks when removed.

The paints used are:

Light Green:- 'Tamiya' Cockpit Green (XF71) lightened with White (XF2).

Dark Green:- 'Tamiya' Dark Green 2 (XF70) with small amounts of White (XF2) and Black (X1).

Black:- 'Tamiya' NATO Black (XF69).

Brown:- 'Tamiya' NATO Brown (XF68) lightened with White (XF2).

Beige:- 'Tamiya' Dark Yellow (XF60).

All paints were thinned using 'Mr. Colour' Levelling Thinners 400.

Follow the paint scheme shown previously on page 91.

Allow the applied paint to fully dry before applying the 'worms'.

Before painting, mask off:

The outer edges on the undersides of the wings, tailplane and elevators, including the gap at the elevators and the ailerons.
The fuselage underside.
The white top of the fuselage.
The open cockpit.

Airbrush the approximate areas for the Light Green.

Roll out thin tack worms of UHU white tack.

Apply the tack worms on the wings and tailplane to outline the areas. Lightly press the tack worms to flatten them and create a sharper edge.

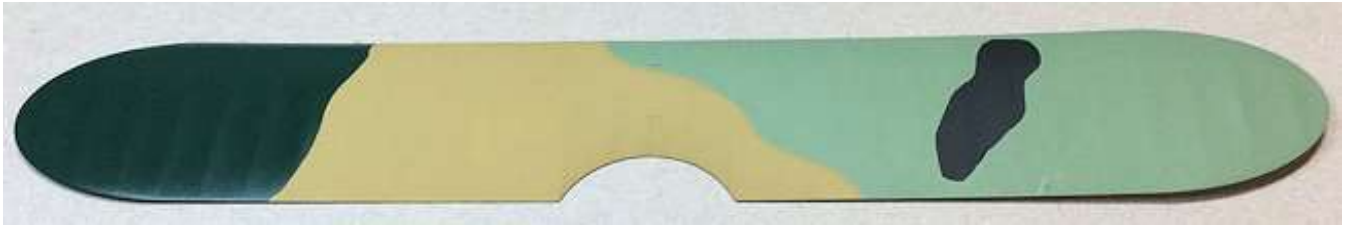
Mask off the other exposed areas to prevent over spray, using such as kitchen wrap ('Clingfilm'), covering exposed areas with its edge pressed lightly into the tack worms.

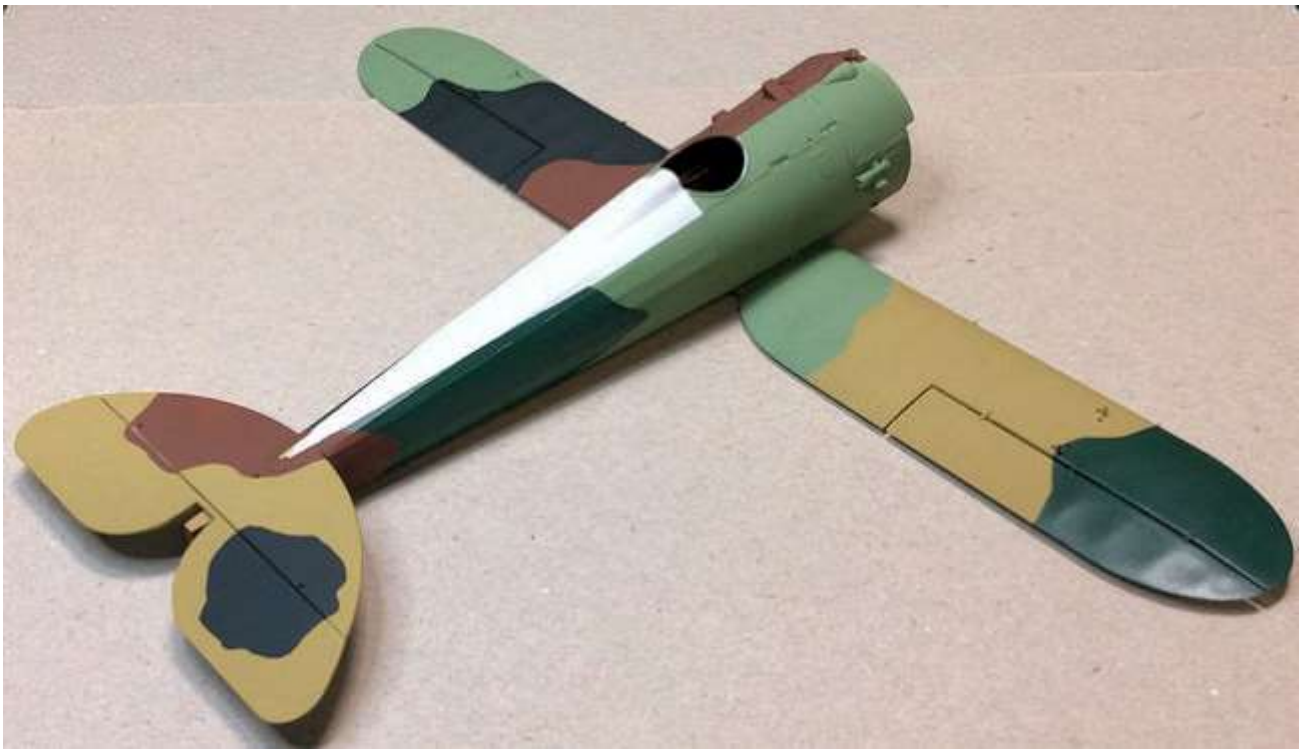
Airbrush the Beige colour between the tack worms on the wings and also across the tailplane.

Remove the tack worms and masking.

Continue using the same procedure and in sequence (Dark Green, Brown then Black), airbrush the remaining colours to the wings, fuselage and the tailplane.

Remove all remaining masking.





Wing struts

NOTE: *Refer to Part 3 (Wood effects) for more information.*

Airbrush the four outer wing struts and fuselage cabane struts with ‘Tamiya’ Wooden Deck Tan (XF78).

Apply ‘DecoArt’ crafters acrylic paint (Burnt Umber) over the eight struts to create the desired wood effect finish.

Brush paint the forward support strut on the two fuselage rear cabane struts with ‘Tamiya’ rubber Black (XF85) or similar.

Brush paint the end fittings on the four wing support struts with ‘Tamiya’ rubber Black (XF85) or similar.

Airbrush a clear coat of gloss, such as ‘Alclad’ Aqua Gloss (ALC-600) or similar, to prepare the surface for applying decals.

Detail painting

Carburettor air intake

Brush paint the carburettor air intake with ‘Mr. Colour’ Aluminium (218) or similar.

Fuel ‘Badin’ venturi

Brush paint the ‘Badin’ venturi with ‘Tamiya’ Rubber Black (XF85).

Engine bulkhead

Brush paint the engine bulkhead and inside of the engine cowl with ‘Mr. Colour’ Stainless Steel (213) or similar.

Wing foot plate

Brush paint the foot step of the top surface of the left lower wing with ‘Mr. Colour’ Iron (212) or similar.

Cockpit surround padding - Brush paint the cockpit surround padding with 'Humbrol' Leather (62) with 'Tamiya' Hull Red (XF9) highlights.

Fuel filler cap -Brush paint the fuel tank filler cap 'Tamiya' Rubber Black (XF85).

Tailplane support struts - Brush paint the struts with 'Tamiya' Deck Tan (XF78).

Undercarriage struts/axle - Airbrush the left strut Light Green, right strut Brown and the axle half and half, matching the struts (for colours see page 91. Brush paint the axle with 'Tamiya' Rubber Black (XF85) and the bungee suspension cords Buff (XF57). Apply 'AK Interactive) Kerosene was (AK2039) over the painted bungee cords.

Tail skid - Brush paint with 'Tamiya' Dark Earth (XF64), metal shoe with 'Mr. Colour' Stainless Steel (213).

Engine and cowl - fit

Make sure all paint is removed from the mounting cylinder on the rear of the engine, its mounting hole in the engine bulkhead and across the top of the fuel tank on the bulkhead.

Fully locate the engine into the bulkhead and cement in position.

Apply cement to the bare top of the bulkhead fuel tank.

Fully locate the engine cowl onto the bulkhead and forward fuselage and cement in position.

Decals

Make sure the surfaces of the upper wing, rudder and fuselage assembly are smooth and free from surface imperfections.

Airbrush a sealing gloss coat ('Alclad' Aqua Gloss (ALC-600) or similar) over the upper wing, rudder, fuselage assembly and the four outer wing support struts.

If the finish is not glossy enough, apply a second coat.

Upper wing - underside

NOTE: *The 'Aviattic' decal is supplied as a single A4 sheet. The decal is not 'cookie' cut to suit a particular aircraft. Therefore each decal required must be cut to shape.*

Cut out a paper template to the shape of the upper wing, then cut the template across the centre, creating two half wing templates. This separates the wing decals, which reduces the overall size of the decals, making them easier to apply.

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

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

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

Soak the decals in warm water for approximately 20 seconds.

Wet the surface where the decals are to be applied.

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

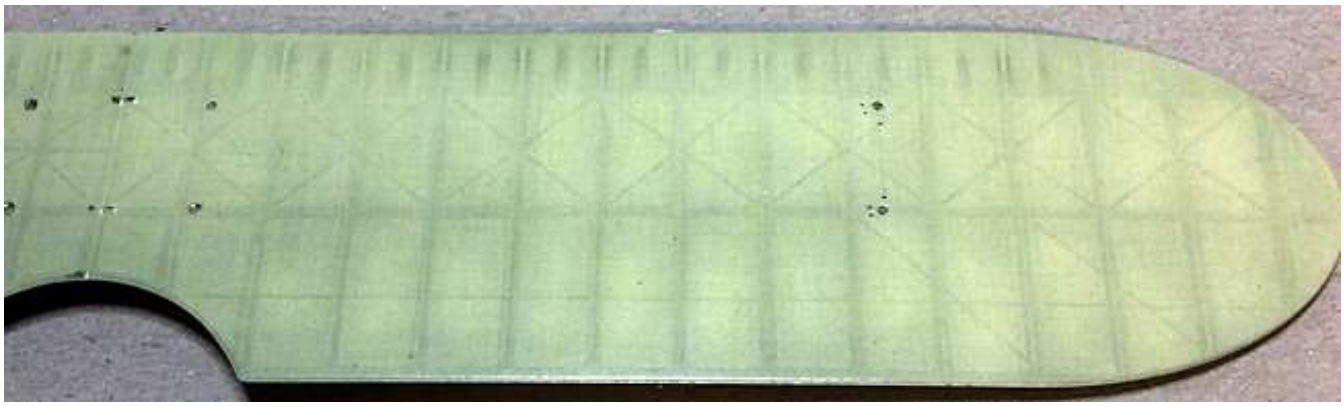
Slide the decal into position then use a broad, soft brush to brush out water from under the decal.

Use soft tissue paper or cotton buds, to expel any residual water from under and around the decal.

Slide the other decal into position then use a broad, soft brush to brush out water from under the decal. Make sure the join between the two decals does not overlap as it will double the decal and will be noticeable.

Use soft tissue paper or cotton buds, to expel any residual water from under and around the decal.

If necessary, use ‘MicroScale’ MicroSol or similar to conform the decal around sharp edges of into location holes etc.



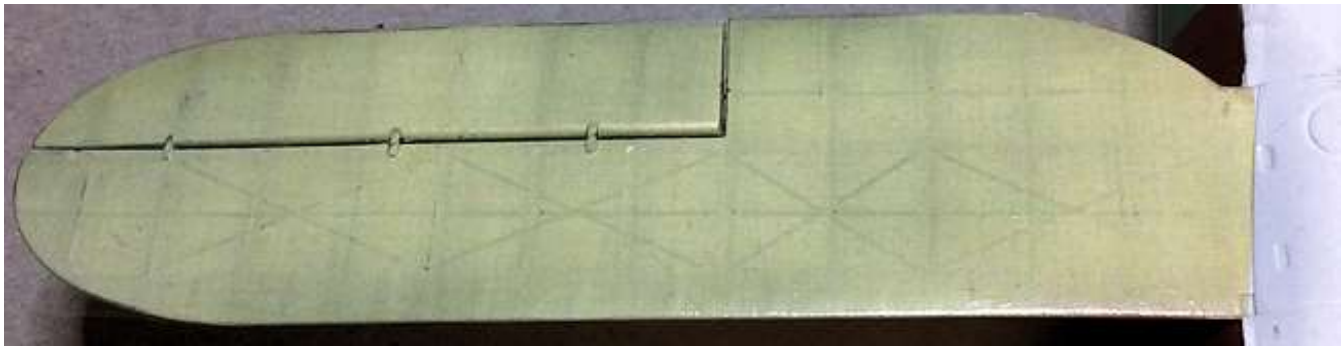
Lower wing - undersides

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

These decals should stop at the wings to fuselage recesses.

Once the decals have been cut for each lower wing, mark the decals at the aileron gaps, then cut out the ailerons.

After applying the main decals to the lower wings, apply the separate aileron decals.



Tailplane and elevators - undersides

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

Bottom of fuselage

NOTE: *The linen covering on the underside of the fuselage was between the tail skid and the rear of the underside strakes, inline with linen join around the fuselage sides*

Use the same procedure and decal type to apply the decal to the underside of the fuselage. I did this with separately cut decals, due to the various shapes under the cockpit/forward fuselage.

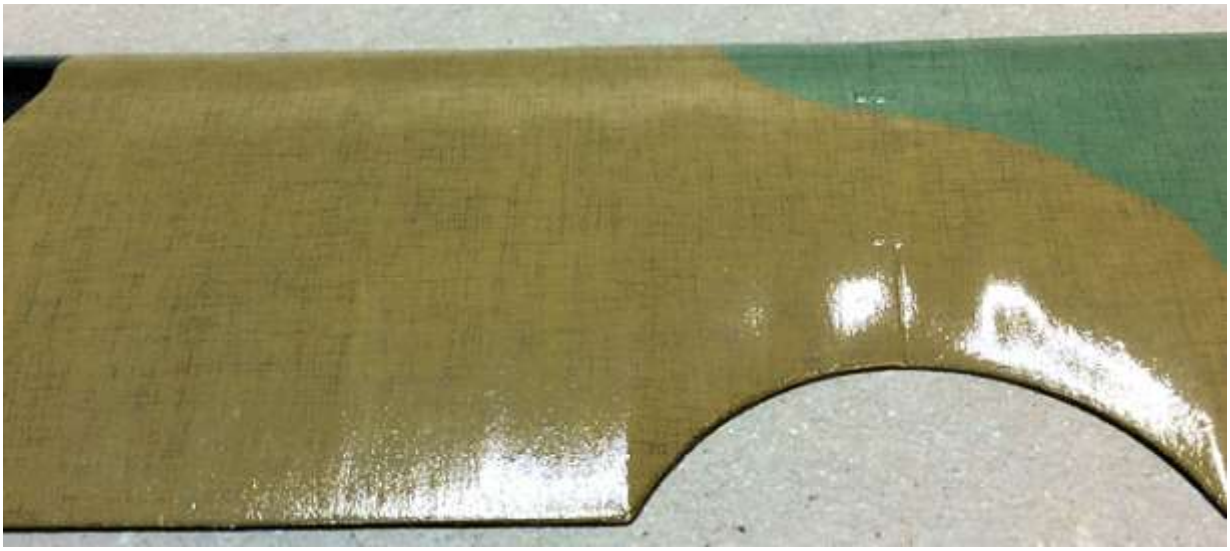
Decal rear section only shown

Upper wing - top surface

Use the same procedure to apply the 'Aviattic' Linen Weave Effect (ATT32236) decals to the top surfaces of the upper wing.

Lower wing - top surfaces

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



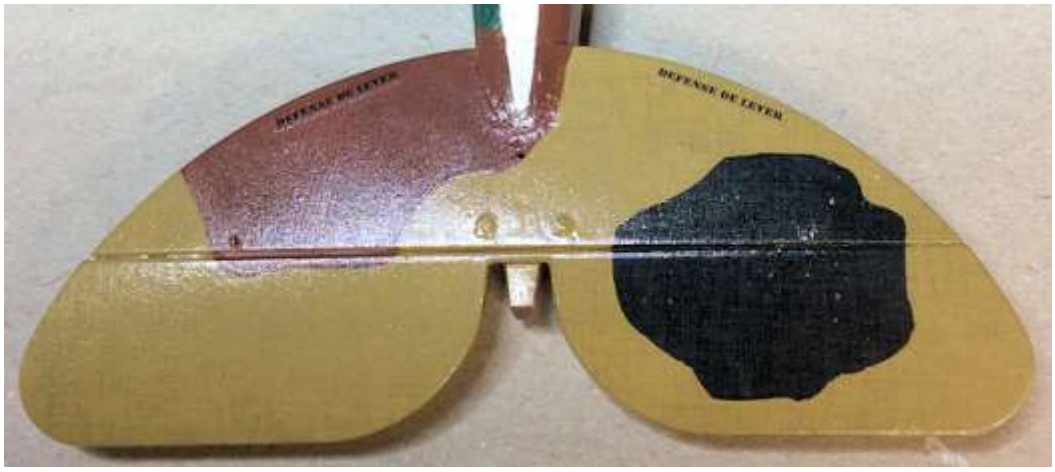
Tailplane and elevators - top surfaces

NOTE: *The tailplane was covered with plywood, but also had doped linen covering applied for additional protection. Also the 'shield' shaped panel at the centre, front of the tailplane was metal so was not linen covered.*

Trace the outline of the tailplane onto the rear of the decal sheet.

Cut out the ’shield’ shaped panel area from the front, centre of the decal.

Use the same procedure and decal type to apply the decal to the top surface of the tailplane.



Fuselage

NOTE: *The fuselage from the back of the cockpit forwards was covered with diagonally opposed strips of painted Tulip wood. The fuselage from the back of the cockpit rearwards was covered with doped linen over tapering formers and longerons. This formed a tapered and polygonal cross section. The linen covering finished below the leading edge of the tailplane. Due to the multi-sided and tapered fuselage, a large decal can’t be applied as it would crease and fold over itself towards the rear of the fuselage.*

Cut a paper template that spans the side of the fuselage, from the already applied decal on the underside of the fuselage to the edge of the white section of the top of the fuselage. The template should start at the side seam from the rear of the cockpit to half way under the tailplane.

Trace both sides of the template onto the back of the ‘Aviattic’ Linen Weave Effect (ATT32236) sheet.

Cut out the two decals.

Use the same procedure to apply the decals to the sides of the fuselage.

Use the same procedure to create and apply the final decal to the top (white section) of the fuselage. Make sure you do not cover the head rest fairing as that, was not linen covered.

‘SuperScale’ decals

NOTE: *The kit decal for the aircraft markings were not used. Instead those from the ‘SuperScale’ WW1 Nieuport 28C-1 (MS320243) set are used.*

Using the illustration guides supplied, apply the various decals for this aircrafts markings.

Rudder

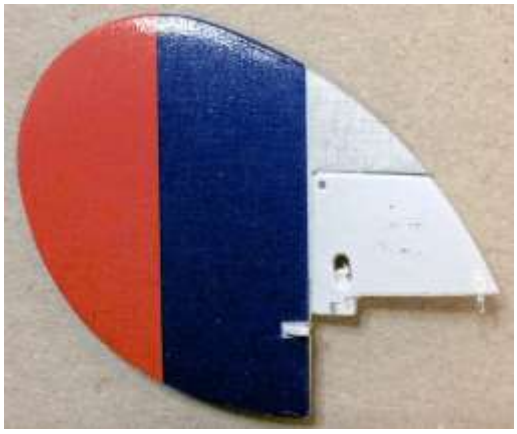
Trace the outline of the rudder decals on the rear of the ‘Aviattic’ Weave effect decal sheet (ATT32236). Make sure you add the forward part of the rudder (over the top of the fin).

Cut out the two decals.

Apply the Red and Blue rudder decals from the ‘SuperScale’ WW1 Nieuport 28C-1 (MS320243) set, to both sides of the rudder. Make sure the decal colour edges are aligned at the top and bottom of the rudder.

To conform the decals to the profile of the rudder, treat the applied decals with ‘MicroScale’ MicroSol or similar and allow to set.

Apply the two weave effect decals onto the sides of the rudder.



Lower wing roundels

NOTE: *The roundels for the underside of the lower wings are printed as one piece. However they need to be cut to compensate for the gap between the trailing edge of the lower wing and leading edge of the ailerons.*

Cut each roundel close to the decal edge.

Position the decals onto the underside of the lower wing and mark the position of the ends of the gap for the ailerons.

Cut the decals across the marks.

Apply the separated decals to the wing and aileron.

Engine cowl markings

NOTE: *The engine cowl was marked with coloured striped curves, which started and ended at the rear edge of the cowl. The exact colour of these stripes in unclear and they may have been blue or black. The decals supplied in the s that 'SuperScale' WW1 Nieuport 28C-1 (MS320243) set or coloured blue*.

1st Lt. John Hambleton of 'C' flight, 95th Aero Squadron

In order to achieve equal spacing between the stripes, it's best to apply the decals in the following sequence:

Apply the two 'Y' shaped decals centrally, top and bottom of the cowl, with the forked ends to the cowl opening.

NOTE: *When applying the remaining stripes, check the spacing and alignment before setting the decals in position.*

Apply the two middle side (centre and next stripe) decals to the sides of the cowl. The right side decal will span the oval opening in the cowl. Cut through the centre of the decal over the opening.

Apply the two halves of the next stripe to each side of the cowl, making sure the decal ends are align correctly. The right side decal will span the oval opening in the cowl. Cut through the centre of the decal over the opening.

Apply the final two halves of the next stripe to each side of the cowl. These decal will overlap the cowl centre opening.

Carefully trim the edges of those decals that span the openings, but not fully against the opening edges.

Treat the decals with a solvent to conform the decals fully on the cowl surface and around the edges of the cowl openings.

Serial numbers 14

NOTE: *The decals for the numbers 14 have carrier film around and inside the numbers. If left these areas may trap air underneath and when the decals dry, areas of 'silvering' may show through. Therefore it's best to cut out these areas of carrier film to leave the numbers separate and free of the carrier film.*

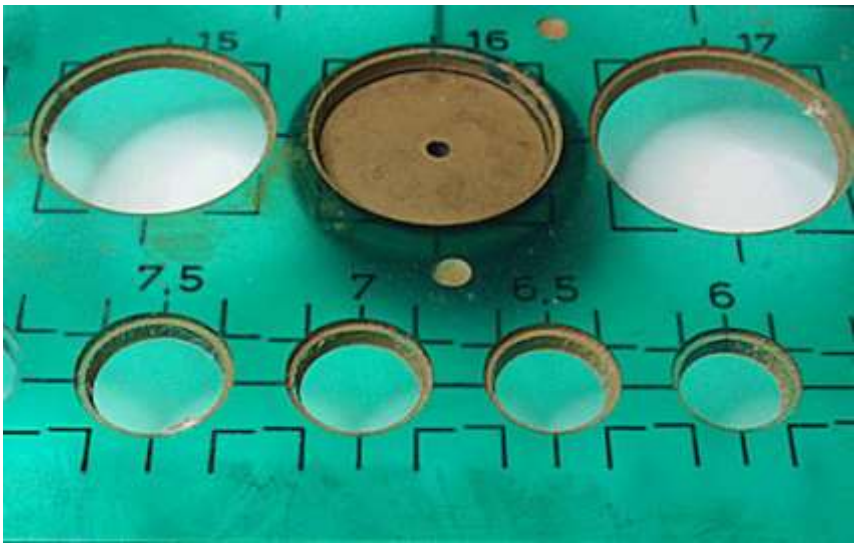
Using a straight edge and sharp blade, carefully cut away the numbers from the decal carrier film , including the areas inside the numbers 4.

Wheels

NOTE: *The wheel covers were made from linen. To represent this decals can be cur from the 'Aviattic' Linen Weave Effect (ATT32236) decal sheet.*

Brush paint the tyres with 'Tamiya' Ocean Grey (XF82).

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



Airbrush one wheel Light Green and the other Brown (for colours see page 91).

NOTE: *I used a 'ThinnerLine Circle Cutter' to create circular decals (from the 'Aviattic PC and CDL sheets) for the wheel covers.*

Using the cutter I cut out two decals for the rear wheel covers and two decals for the front covers.

Airbrush a sealing gloss coat (‘Alclad’ Aqua Gloss (ALC-600) or similar) over the wheel covers.

NOTE: *The wheel covers are slightly conical in shape. The decals need to be cut slightly larger in diameter than required then a section cut out. This will allow the decal to be applied to the conical surface with the cut sides butting against each other. The ‘Aviattic’ decals are quite strong and flexible enough to be able to push and position the decals prior to final fitting.*

Cut a paper test template to check for correct fit onto the wheel covers. The template should have a narrow segment cut out to allow the decal to conform to the shape of the wheel covers. The centre should also have a hole large enough to clear the axle hole and end in the covers.

Cut the four decals out of the decal sheet then using the paper template as a guide, cut out the segment and centre holes.

Apply the cut decals to the wheel covers making sure the joint of the cut out segment joins but does not overlap.

The rear wheel covers have an access hole for the valve inside the wheel. To conform the decal to the access hole, first carefully puncture through the decal into the access hole, then carefully apply ‘Micro-Sol’ or ‘Tamiya’ X20A thinners to conform the decal into the hole.

Brush paint around the axle hole in the inner covers and the axle end on the outer covers with ’Tamiya’ Rubber Black (XF85) or similar.

NOTE: *The following markings decals are from the 'SuperScale' WW1 Nieuport 28C-1 (MS320243) set.*

Wing outer support struts

Represent the three wrapped bands around each strut by applying the 1.5 mm wide decal strips from the 'Xtradecal' parallel stripes white (XPS2) set.

NOTE: *Before applying the cut decal strips, make sure the decal will slightly overlap the edges of the strut. This will ensure that there are no gaps between the decals on each side of the strut.*

Lay an outer support strut on the work surface at the angle it will be when fitted.

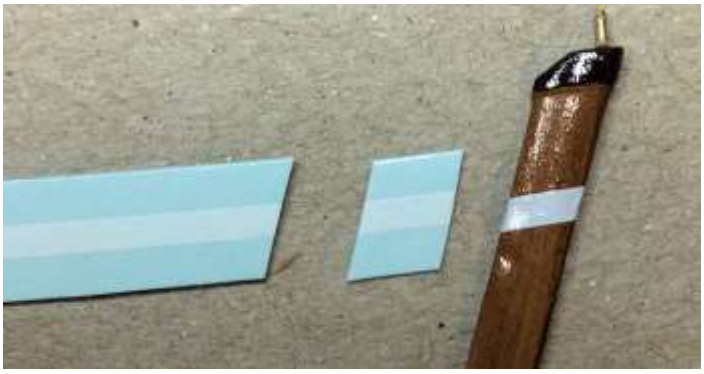
Lay the decal strip horizontal to the strut.

Cut the end of the decal strip to the same angle as the front edge of the strut.

Cut the decal strip at the angle of the rear edge of the strut.

Apply the decal parallel to the top of one side of the strut, with its top edge 6 mm from the top of the strut.

To conform the decal to the profile of the strut, treat the applied decal with 'MicroScale' MicroSol or similar and allow to set.



Repeat to apply a cut decal at the bottom of the strut, with its bottom edge 6 mm from the bottom of the strut.

Repeat to apply a cut decal centrally between the two applied decals and parallel to them.

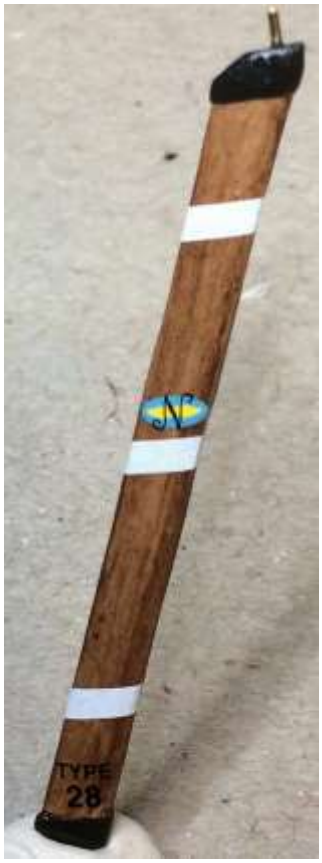
Turn the strut over and repeat the above procedure to apply cut decals to that side of the strut. Make sure the ends of the decals at each of the three locations are aligned with no overlapped edges.

Repeat to apply the decal bands around the three remaining outer struts.

Apply the 'Type 28' decal from the 'SuperScale' WW1 Nieuport 28C-1 (MS320243) set, on the bottom of the outboard face of the outer wing struts.

Apply the 'Nieuport' company logo decal from the 'SuperScale' WW1 Nieuport 28C-1 (MS320243) set, above the centre wrapping strip on the outboard face of the outer wing struts.

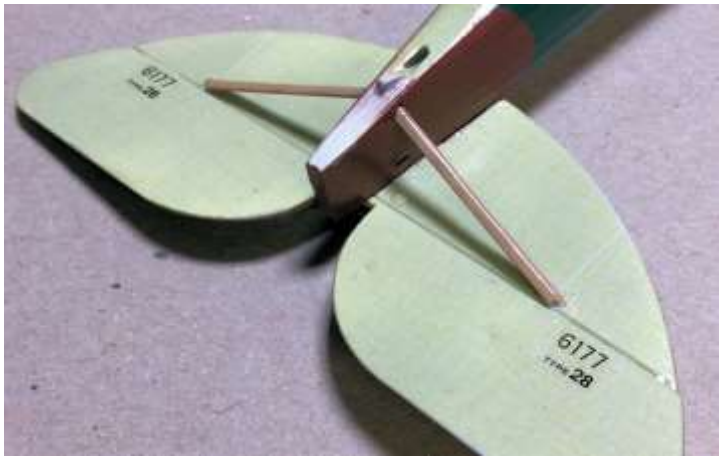
To conform the decals to the profile of the strut, treat the applied decals with 'MicroScale' MicroSol or similar and allow to set.



Tailplane support struts - fit

NOTE: *Once the decals have been applied to the tailplane and fuselage, the tailplane support struts can be fitted.*

Cement the two tailplane support struts between the pre-moulded recesses at the lower, rear of the fuselage and the underside of the tailplane.



Weathering

Once all of the decals are fully set, protect the surface by airbrushing a light semi-matte sealing coat, such as 'Alclad' Light Sheen (ALC-311), 'Tamiya' Semi-Gloss (X35) or similar over the wing. This surface will not only dull the sheen of the decals but will also provide a good base for applying weathering.

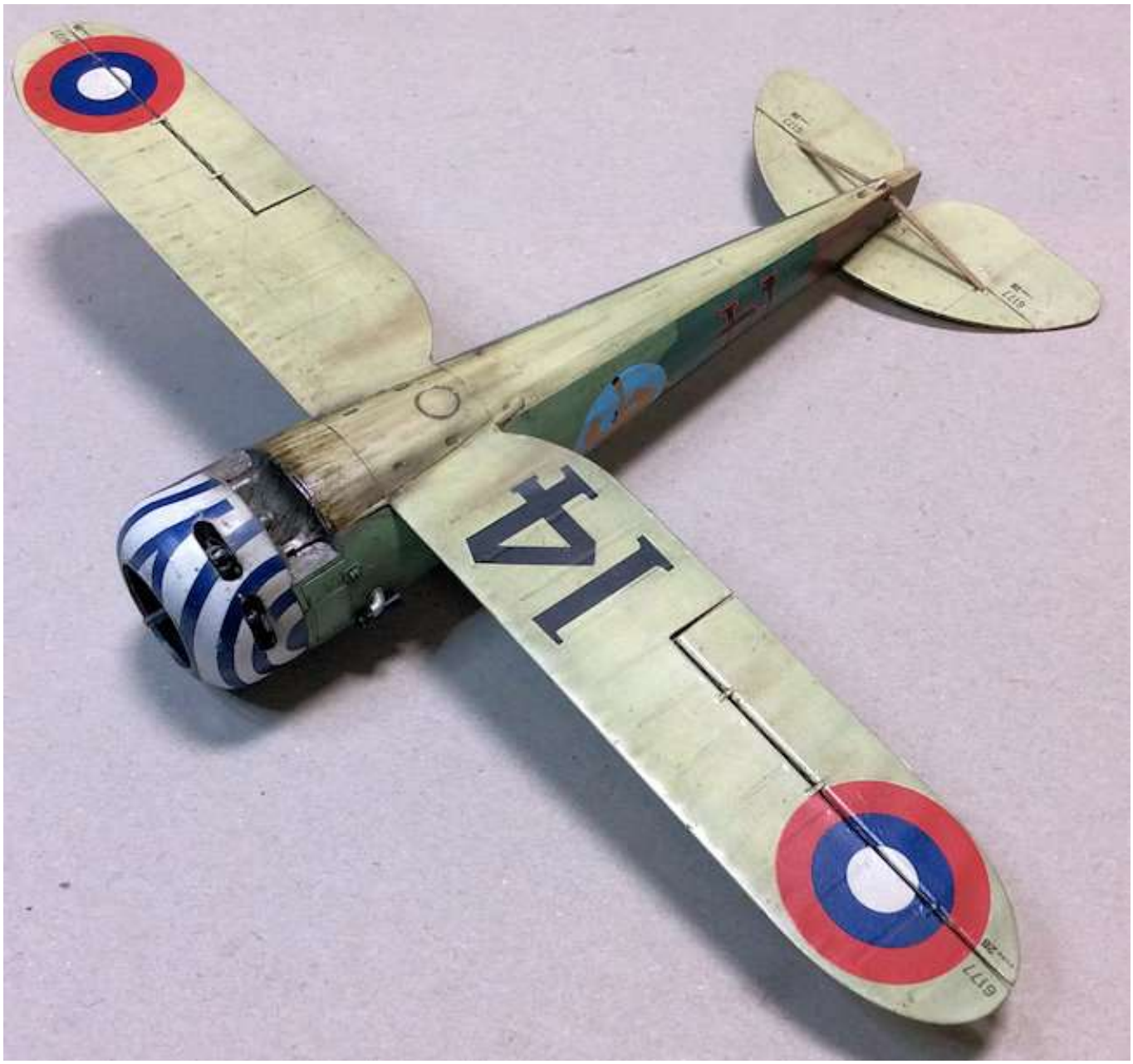
Refer to Part 3 (Weathering) of this build log for more information - Apply 'Flory Models' weathering clay wash (Dark Dirt) over the surface of the fuselage assembly, upper wing, fin/ rudder and undercarriage struts and wheels.

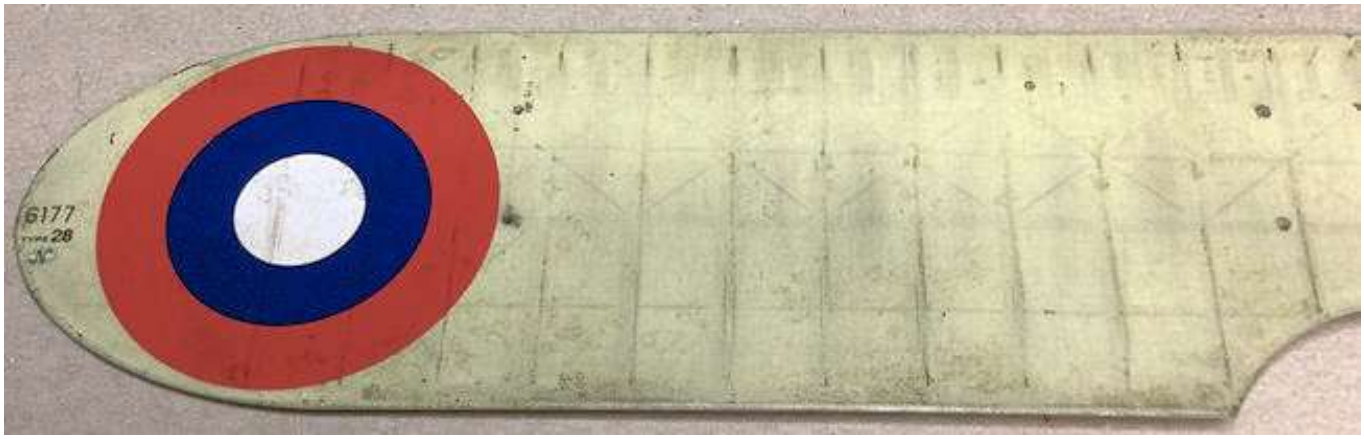
Use a dry or very slightly damp tissue or brush to remove the weathering wash, as required, to achieve the desired finish.

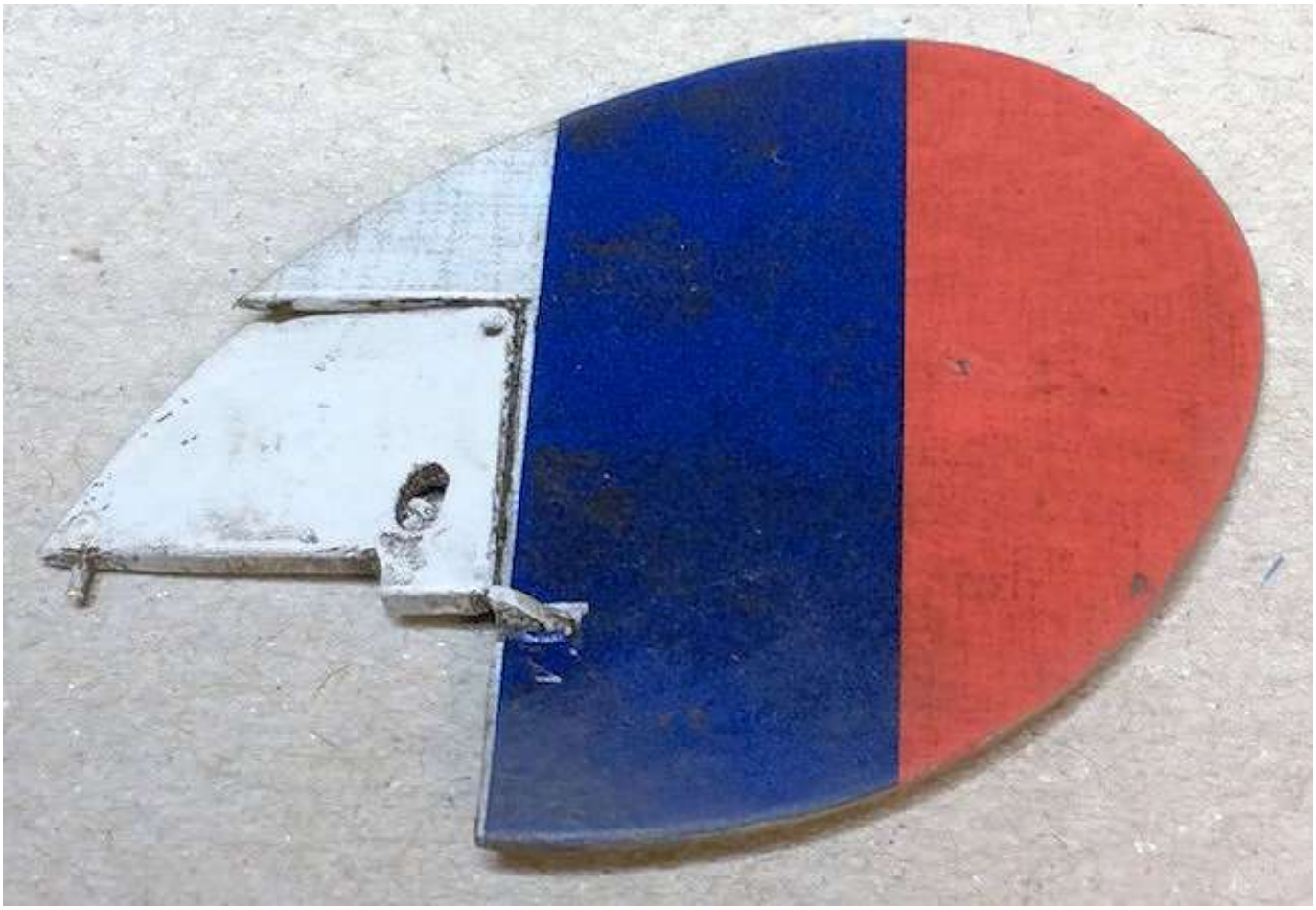
Once fully dry, airbrush a light sealing coat of a semi-matte clear coat, such as ‘Alclad’ Light Sheen (ALC -311) or ’Tamiya’ Semi-Gloss (X35) or similar over the struts.

If desired, apply ‘AK Interactive’ Kerosene (AK2039) and Engine Oil (AK2019) around the fuel filler cap and the forward, underside of the fuselage at the rear of the engine cowl.

If desired, apply by sponge ‘Tamiya’ Weathering Master Set A (Mud) and Set D (Oil Stain) as wheel spray stain on the underside of the lower wing, bottom of fuselage and forward, underside of the fuselage at the rear of the engine cowl.

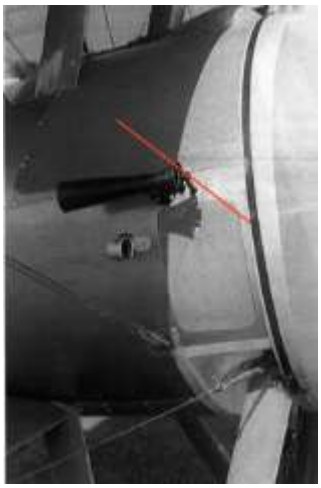

14
6177


6177



Cowl retaining strap

NOTE: *The engine cowl was held in place by a ring strap that was located around the rear edge of the cowl.*



Cut a 1 mm wide strip of 'Bare-Metal' Matte Aluminium foil.

Apply the self-adhesive strip around the rear of the engine cowl and in the slight recess that is visible.

Apply several coats of 'Flory Models' Dark Dirt' clay wash to dull the metallic sheen of the foil.

Remove the wash from the edges of the fuselage and engine cowl.

Airbrush a light sealing coat of a semi-matte clear coat, such as 'Alclad' Light Sheen (ALC -311) or 'Tamiya' Semi-Gloss (X35) or similar over the band to blend it to the surrounding area.

'Baden' venturi tube.

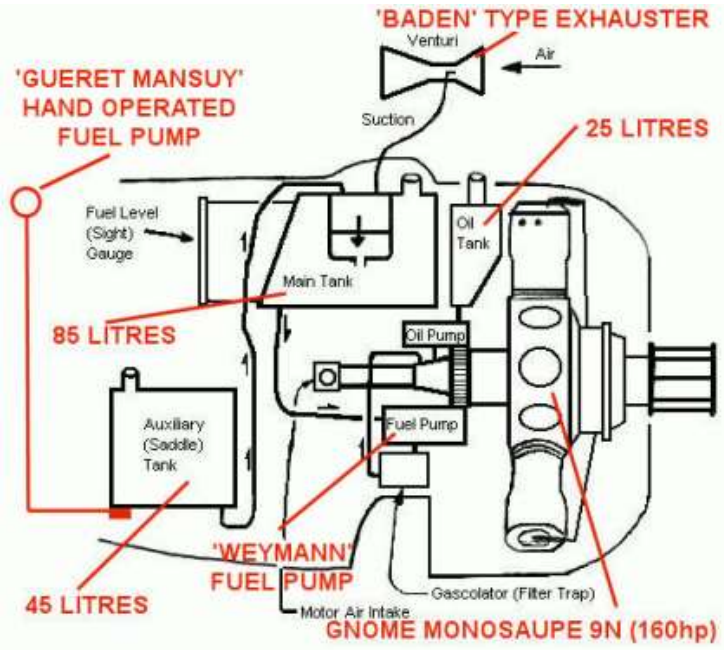
NOTE: *The 'Baden' venturi was connected to the main fuel tank by an air tube. The 'Baden' venturi should have been pre-drilled earlier in this build log.*

Clear the pre-drilled hole in the venturi using a 0.4 mm diameter drill.

Drill a hole of the same diameter into the fuselage above the venturi hole.

Insert a cut length od 0.3 mm diameter lead wire, such as 'PlusModel' wire or similar, into the hole in the venturi and fuselage.

Brush paint the wire inside the venturi with 'Mr. Colour' Brass (219) or similar.



Machine guns - fit

NOTE: *The two machine guns should already have been prepared for fitting to the fuselage. Refer to Part 8 (Weapons) of this build log.*

File or sand away the locating lugs on the two fuselage feed chutes (for the original kit weapons), as the will stop correct alignment of the replacement 'GasPatch' weapons.

Apply thin CA adhesive to the face of the upper fuselage feed chute and onto the rear locating tube under the weapon breech block.

Locate the weapon full into its pre-drilled location hole in the fuselage and against the face of the feed chute.

Insert the pre-cut 0.3 mm tube through the weapon front mounting and into the pre-drilled hole in the fuselage.

Secure the tube using thin CA adhesive.

Repeat the procedure to fit the lower machine gun.

Undercarriage assembly:

Make sure all paint and primer is removed from the locating tabs on the top of the undercarriage struts and in their location recesses in the underside of the fuselage.

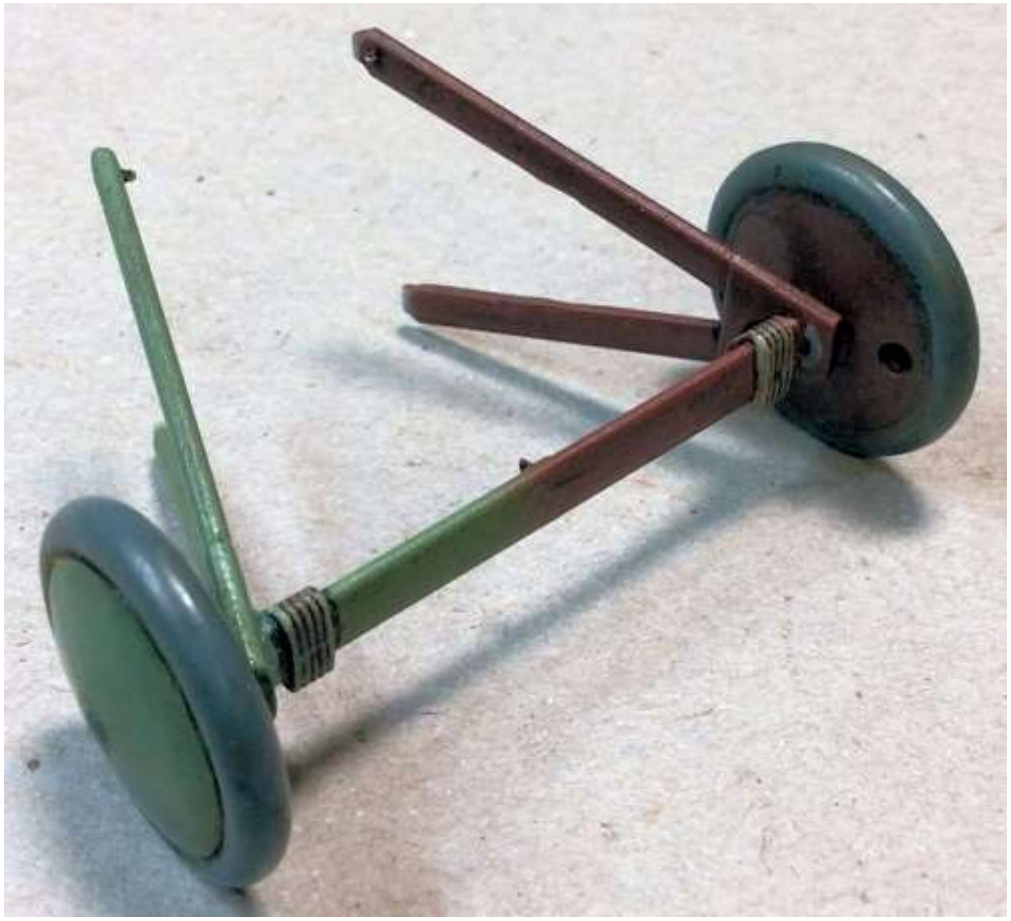
Loosely assemble the axle and struts, making sure they are fitted to the correct side (colour matched to fuselage with pre-fitted rigging anchor points inboard at the top of the front struts).

Locate the struts into their location recesses in the underside of the fuselage. Make sure the shorter struts are to the rear recesses.

Hold the struts in position in the fuselage using for example, small amounts of 'UHU' White Tack.

Cement the axle to the struts, making sure the assembly is aligned correctly when viewed from the front and below.

Cement the wheels onto the axle ends, making sure they are colour matched to the struts.



Pre-rigging:

NOTES: *At this stage of the build it is best to pre-rig as much as possible the various rigging lines. This will make the final rigging easier after the model is assembled.* ***Refer to pages 84-90 for the pre-drilled anchor point locations and Part 6 (Rigging) for more information***.

Normally pre-rigged lines would be attached to the underside of the upper wing, which makes it easier to complete the rigging by attaching the lines at the lower wing anchor points. However, rigging the turnbuckles is more difficult than rigging at the anchor points and the location of the turnbuckles for this aircraft are at the lower wings and fuselage. Therefore pre-rigging for this model will be carried out on the lower wings and fuselage.

Example 1 - turnbuckle:

NOTE: *The following procedure is used to attach the rigging line to one end of a turnbuckle.*

Cut a long length of the 0.12 mm diameter mono-filament.

Pass the line through a pre-cut and blackened 0.5 mm diameter tube.

Pass one end of the line through one of the ‘eye’ ends of a ’GasPatch’ Type C turnbuckle.

Loop the line back and through the tube.

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

Apply thin CA adhesive to the two exposed lines to secure them to the tube.

Using a sharp scalpel or shielded razor blade, cut away the tag of line at the tube, leaving the long, required line attached to the tube and turnbuckle.

Brush paint the centre section of the turnbuckle with ‘Tamiya’ Hull Red (XF9) to represent weathered bronze.

Example 2 - anchor point:

NOTE: *The following procedure is used to attach a rigging line to its anchor point.*

Pass the free end of the rigging line through a pre-cut and blackened 0.5 mm diameter tube.

Pass the line through the ‘eye’ end of the ’GasPatch’ anchor point.

Loop the line back and through the tube.

Slide the tube up to, but not touching, the ’eye’ end of the anchor point.

Apply thin CA adhesive to the two exposed lines to secure them to the tube.

Using a sharp scalpel or shielded razor blade, cut away the tag of line at the tube, leaving the long, required line attached to the tube and turnbuckle.

Preparation:

Make sure those anchor points already fitted (page 89) are clear of primer and paint. If necessary run a 0.2 mm diameter drill through the 'eye' of the anchor points.

Prepare twenty 1:48th scale 'GasPatch' anchor points.

Using thin CA adhesive, secure the anchor points into the remaining pre-drilled holes in the underside of the upper wing and the top surface of the lower wings.

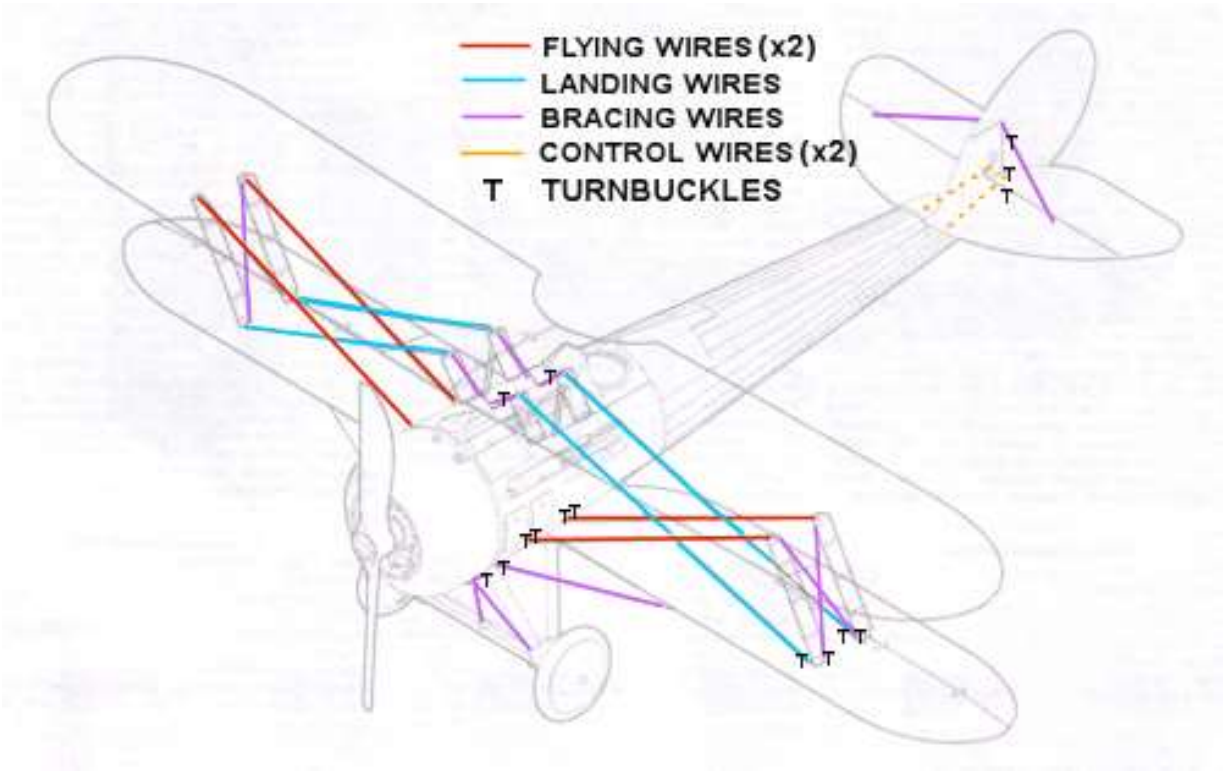
Prepare thirty 1:48th scale 'GasPatch' turnbuckles (Type C).

Roll cut approximately 30 short lengths of Nickel-Silver 0.4 mm diameter tube, such as 'Albion Alloy's NST04 or similar.

Roll cut approximately 50 short lengths of Nickel-Silver 0.5 mm diameter tube, such as 'Albion Alloy's NST05 or similar.

Blacken the cut tubes using a blackening solution, such as 'Blacken-It' or similar.

Location of turnbuckles (one side only)



Flying wires

NOTES: *Pre-rigging the four pairs of flying wires is carried out at the pre-installed anchor points at the lower fuselage/wing root locations. The mono-filament used is 'Maxima' Chameleon mono-filament 0.12 mm diameter.*

At each of the eight anchor points and using example 2 (page 117), pre-rig eight long flying wires.

Using example 1 (page 117) create eight long pre-rigged turnbuckle lines, which should be much longer than the distance between the anchor points and the tops of the outer wing support struts.

Carry out the following procedure for each flying wire:

Pass the free end of the pre-installed anchor line through a blacked 0.5 mm tube.

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

Loop the line back and through the tube.

Pulling on the free end of the line, slide the tube as close as possible to the other anchor line tube and also up to, but not touching, the 'eye' of the turnbuckle.

Apply thin CA adhesive to the exposed free line to secure it to the tube.

Using a sharp scalpel or shielded razor blade, cut away the tag of line at the tube.

The finished pre-rigged lines should be able to be pulled straight with no fixed mis-alignment. Due to the rough surface of the metal turnbuckles, the line loops through the 'eye' ends can snag, but are easily repositioned to achieve a straight rigged line.

Landing wires

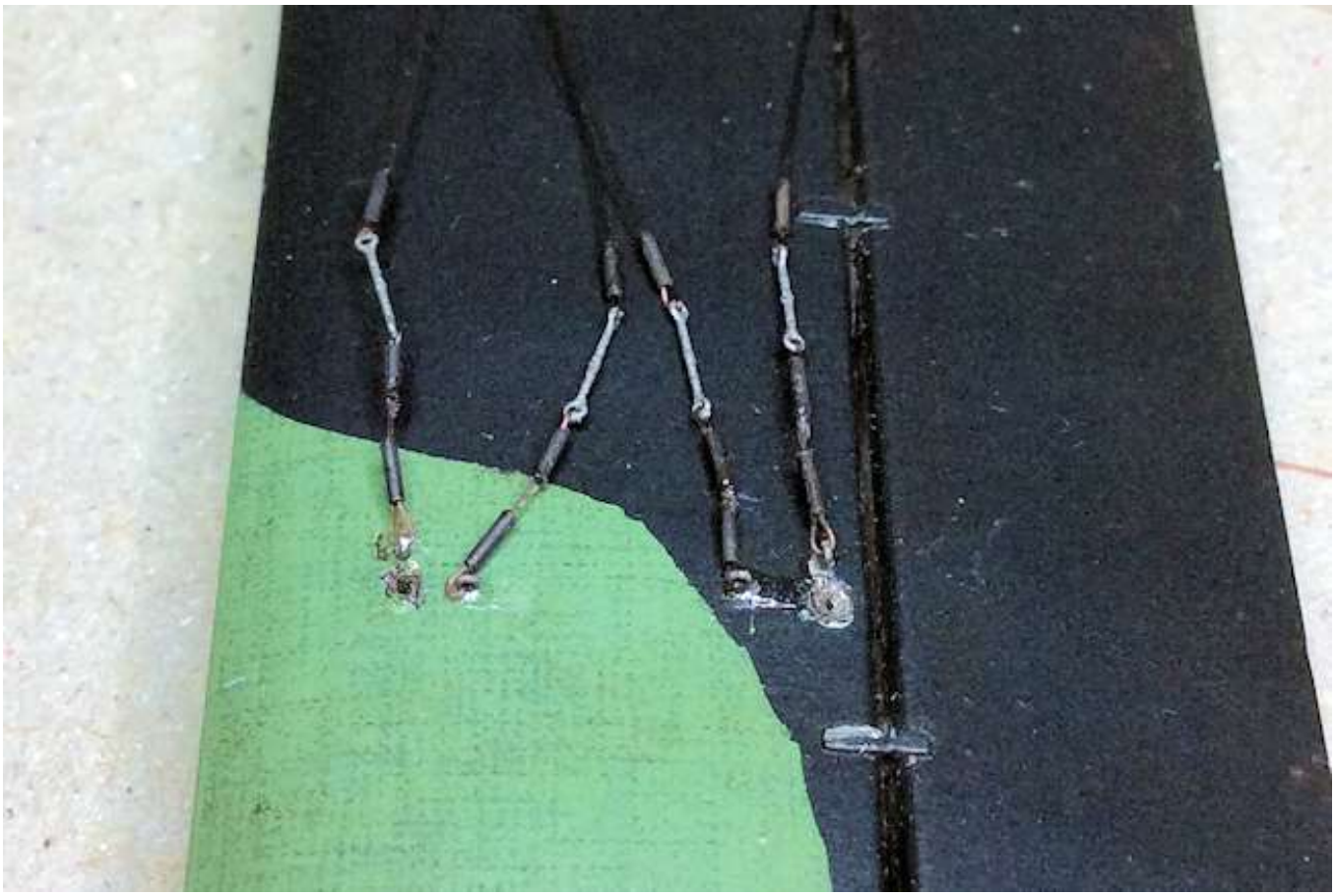
NOTE: *Pre-rigging the four single landing wires is carried out at the pre-installed anchor points on the top surface of the lower wings, inboard from the struts locations. The mono-filament used is 'Maxima' Chameleon mono-filament 0.12 mm diameter.*

Use the flying wire procedure to create the four single landing wires, which should be much longer than the distance between the anchor points to the top of the fuselage cabane strut and down into the pre-drilled holes in the top of the fuselage.

Incidence wires

NOTE: *Pre-rigging the four incidence (cross bracing) wires between the outer wing struts is carried out at the pre-installed anchor points on the top surface of the lower wings, between the base of the struts locations. The mono-filament used is 'Maxima' Chameleon mono-filament 0.12 mm diameter.*

Use the flying wire procedure to create the four single incidence wires, which should be much longer than the distance between the anchor points to the top of the outer wing struts.



Rudder control wires

NOTE: *Pre-rigging the twin control wires on each side of the rudder is carried out at the rudder control horns. The mono-filament used is 'Maxima' Chameleon mono-filament 0.12 mm diameter.*

Using example 1 (page 117) create four long pre-rigged turnbuckle lines.

Carry out the following procedure for each side of the rudder:

Cut a long length of the mono-filament.

Pass a free end of the line through a blacked 0.5 mm tube.

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

Loop the line back and through the tube.

Pulling on the free end of the line, slide the tube up to, but not touching, the 'eye' of the turnbuckle.

Apply thin CA adhesive to the exposed free line to secure it to the tube.

Using a sharp scalpel or shielded razor blade, cut away the tag of line at the tube.

Pass that line through the pre-drilled hole in the end of a rudder control horn.

Pass the free end of the line through a blacked 0.5 mm tube.

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

Loop the line back and through the tube.

Pulling on the free end of the line, slide the tube up to, but not touching, the 'eye' of the turnbuckle and with both tubes close to, but not touching, the control horn.

Apply thin CA adhesive to the exposed free line to secure it to the tube.

Using a sharp scalpel or shielded razor blade, cut away the tag of line at the tube.

Repeat this procedure to add twin control lines on the other side of the rudder.

NOTE: *Due to lack of space the rigged control lines will be too long to be inserted into the control exit ports in the fuselage. Therefore a compromise has to be carried out.*

Cut away the line from each of the four tubes, leaving just the tube.

Upper wing - fit:

NOTE: *The undercarriage assembly will not be fitted and rigged until after the upper wing has been fitted and fully igged. This is to prevent damaging the undercarriage assembly during wing fitting and rigging.*

Test fit the outer wing struts and fuselage cabane struts into their location holes in the underside of the upper wing, top surface of the lower wings and fuselage. If necessary, clear the locations of primer, paint or decal.

Make sure all primer and paint is removed from the added strut locating rods and also from the tops of the fuselage cabane struts.

Using thin CA adhesive, secure the outer wing struts into their location holes in the underside of the upper wing. Make sure the struts are fitted into their correct positions (front struts, rear struts, applied decals facing outboard.

Using thin CA adhesive, secure the fuselage cabane struts into their locations into the fuselage.

Using masking tape or ‘UHU’ White Tack, temporarily secure all of the rigging lines clear of the strut locations.

Carefully position the upper wing and locate the outer wing struts and fuselage cabane struts into the their location holes.

Hold the wing in position, if necessary use elastic bands around the wings.

Apply thin CA adhesive to the joints between the outer wing struts and lower wings.

Cement the joints between the fuselage cabane struts and the underside of the upper wing.

Leave the assembly to allow the joints to set.

Flying wires

NOTE: *The twin flying wires have already been attached to the fuselage.*

Using example 2 (page 117) attach each of the eight flying wires to their anchor points on the underside of the upper wing, inboard from the outer wing struts.

Incidence wires

NOTE: *The incidence wires between the wing outer struts have already been attached to the lower wings.*

Using example 2 (page 117) attach each of the four incidence wires to their diagonally opposite anchor points on the underside of the upper wing, between the wing outer struts.

Landing wires

NOTES: *The four single landing wires have already been attached to the lower wing. The landing wires pass through the tops of the fuselage cabane struts then down into the top of the fuselage. Turnbuckles should be fitted to the lines inboard from the fuselage cabane struts, but due to a lack of room and the short length of line available, the turnbuckles will instead be represented by tubes.*

Pass each of the four landing wires through a blackened 0.4 mm diameter tube.

Pass the free end of each landing wire through the pre-drilled hole through its fuselage cabane strut.

Hold each line taut, apply thin CA adhesive to secure the line into the hole and the tube against the cabane strut.

Cut the free end of each line such that it can be inserted into its pre-drilled hole in the top of the fuselage.

Pass each of the lines through a blackened 0.4 mm diameter tube.

Insert each line into its pre-drilled hole in the top of the fuselage.

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

Slide each 0.4 mm diameter tube up to the inside top of its fuselage cabane strut and secure in position using thin CA adhesive.

Under fuselage cross bracing

Cut two lengths of the mono-filament.

Pass the free end of the lines through the pre-drilled holes in one side of the under fuselage at the rear of the engine cowl.

Secure the lines in the holes using thin CA adhesive.

Slide two blackened 0.4 mm diameter tubes onto each line.

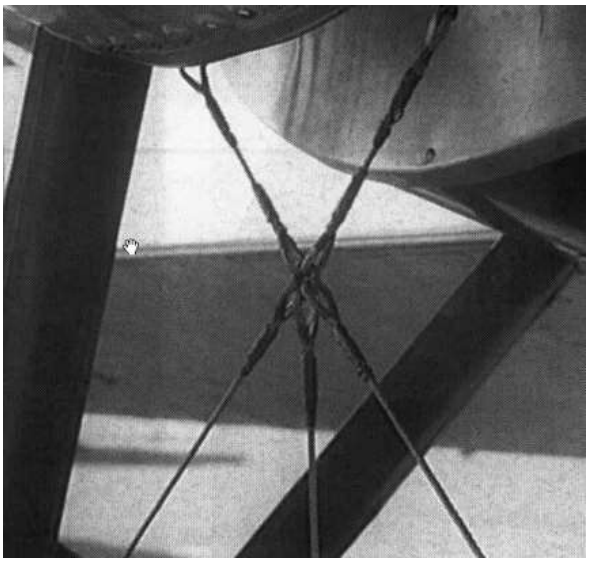
Pass the free end of the lines through the diagonally opposite pre-drilled holes.

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

Slide the tubes to each end of the lines and secure in position using thin CA adhesive.

Undercarriage bracing and fit

NOTE: *The undercarriage forward struts have already been pre-drilled for the bracing wires.*



Cut five long lengths of the mono-filament.

Using example 1 (page 117) create two long pre-rigged turnbuckle lines with line attached to both ends of the turnbuckle.

Pass the free end of one of the lines through the pre-drilled hole in the top of the forward strut of the undercarriage.

Slide a blackened 0.4 mm diameter tube onto the line.

Slide a blackened 0.5 mm diameter tube onto the line.

Pass the free end of the line through the rigging ring (part 103) from the 'PART' Nieuport 28c1 (S32-033) photo-etch set.

Loop the line back and through the 0.5 mm diameter tube.

Leave the tubes loose on the line to prevent distorting the undercarriage struts.

Repeat the procedure to add the bracing line to the opposite undercarriage strut.

Using example 2 (page 117) to attach a line to the added photo-etch anchor bracket on the top of the axle fairing.

Using example 2 (page 117) attach the other end of the line around the rigging ring.

Leave the tubes loose on the line to prevent distorting the undercarriage struts.

Pass the free end of a cut line through the pre-drilled hole in the bottom of the forward strut of the undercarriage.

Secure the end of the line in the hole using thin CA adhesive.

Slide a blackened 0.4 mm diameter tube onto the line.

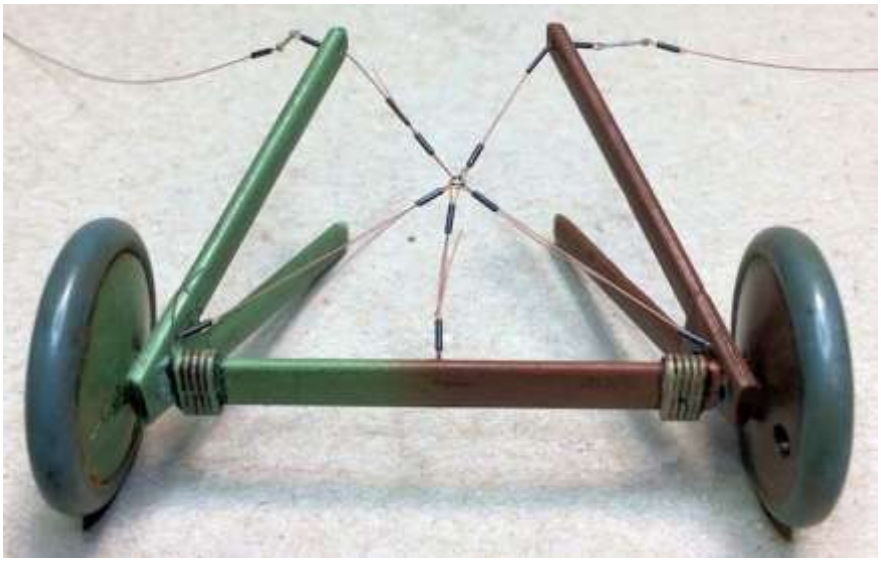
Slide a blackened 0.5 mm diameter tube onto the line

Pass the free end of the line through the rigging ring (part 103) from the 'PART' Nieuport 28c1 (S32-033) photo-etch set.

Loop the line back and through the 0.5 mm diameter tube.

Repeat the procedure to add the bracing line to the opposite undercarriage strut.

Leave the tubes loose on the line to prevent distorting the undercarriage struts.



Make sure the pre-rigged lines are kept clear of the four strut locations recesses.

Cement the undercarriage assembly into its location recesses in the fuselage.

Refer to the above photograph.

NOTE: *During the following step, keep the rigging ring central between the forward struts and the line from the centre of the axle vertical.*

Keeping the lines taut, gently pull on the free ends of each line to tighten the lines whilst sliding the 0.5 mm diameter tubes up to, but not touching, the rigging ring.

Secure the 0.5 mm diameter tubes to their lines using thin CA adhesive.

Slide the 0.4 mm diameter tubes up against their undercarriage struts and secure them in position using thin CA adhesive.

Carefully cut away the exposed tags of lines at the tubes and at the bottom outer face of the forward undercarriage struts.

Lower wings - bracing

NOTE: *The bracing lines for the leading edge of the lower wings and their anchor points have already been fitted to the front struts of the undercarriage and leading edge of the lower wings.*

Slide a blackened 0.5 mm diameter tube onto the lines.

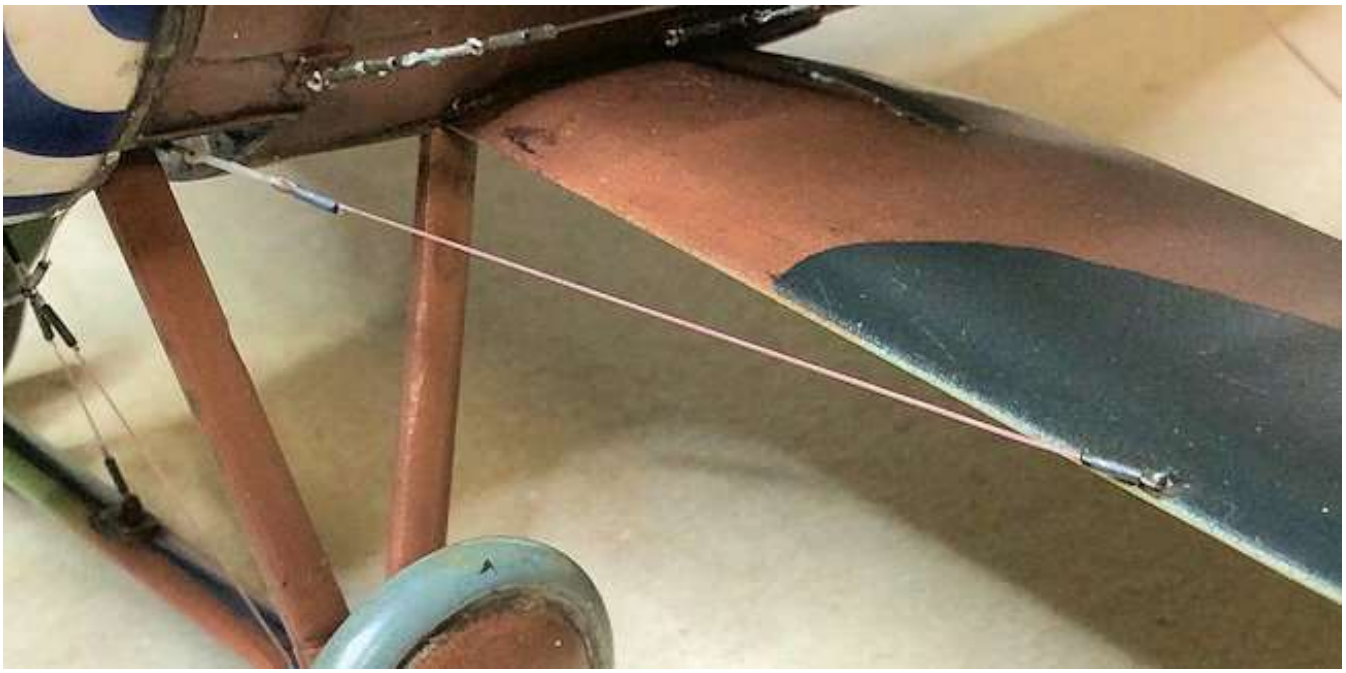
Pass the free end of the line through the anchor points on the leading edge of the lower wings.

Loop the line back and through the 0.5 mm diameter tubes.

Keeping the lines taut, gently pull on the free ends of each line to tighten the lines whilst sliding the 0.5 mm diameter tubes up to, but not touching, the anchor points.

Secure the 0.5 mm diameter tubes to their lines using thin CA adhesive.

Carefully cut away the exposed tags of lines at the tubes.



Rudder control lines and fit

NOTE: *The twin rudder control wires have already been attached to the rudder control horns.*

Position each end tube of the rudder control lines at the control exit ports in the fuselage and secure in position using thin CA adhesive.

Finally, make sure every installed turnbuckle has its centre section brush painted with ‘Tamiya’ Hull Red (XF9) or similar.

Fin bracing wire

NOTE: *The anchor points for the fin bracing wire are already fitted to the top surface of the tail-plane.*

Using example 1 (page 117) create two long pre-rigged turnbuckle lines.

Slide a blackened 0.5 mm diameter tube onto the line.

Pass one end of the line through an anchor point on the tailplane.

Loop the line back and through the 0.5 mm diameter tube.

Keeping the line taut, slide the 0.5 mm diameter tubes up to, but not touching, the anchor point.

Secure the 0.5 mm diameter tube to the line using thin CA adhesive.

Carefully cut away the exposed tags of lines at the tubes.

Cut a long length of mono-filament.

Slide a blackened 0.5 mm diameter tube onto the free end of the line.

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

Loop the line back and through the 0.5 mm diameter tube.

Keeping the line taut, slide the 0.5 mm diameter tubes up to, but not touching, the turnbuckle.

Slide a blackened 0.4 mm diameter tube onto the free end of the line.

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

Slide a blackened 0.4 mm diameter tube onto the free end of the line.

Slide a blackened 0.5 mm diameter tube onto the free end of the line.

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

Loop the line back and through the 0.5 mm diameter tube.

Keeping the line taut, slide the 0.5 mm diameter tubes up to, but not touching, the turnbuckle.

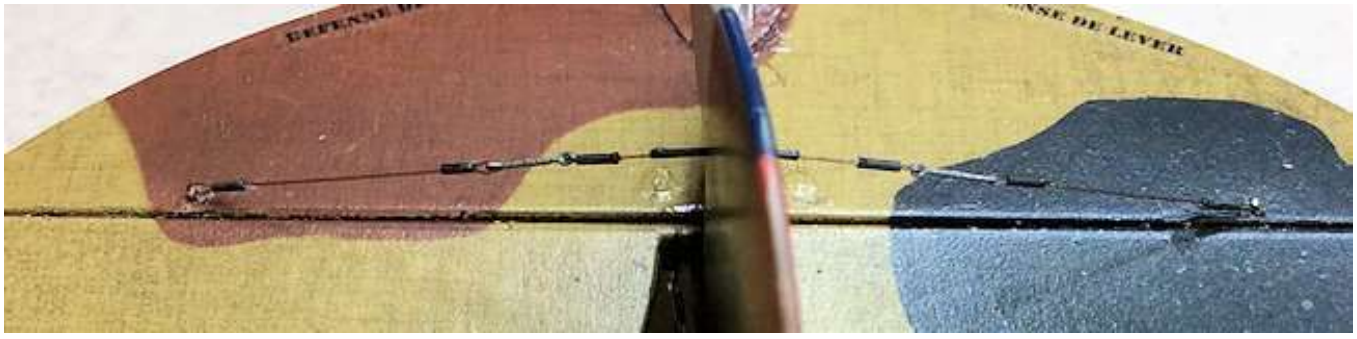
NOTE: *During the next steps, make sure the added line and tubes are equally spaced each side of the fin.*

Adjust the position of the 0.5 mm diameter tubes until the turnbuckles are equally spaced each side of the fin.

Secure the 0.5 mm diameter tubes to the line using thin CA adhesive.

Slide the 0.4 mm diameter tubes up to the fin and secure in position using thin CA adhesive.

Carefully cut away the exposed tags of lines at the tubes.



Flying wire inserts

NOTES: ***Making and especially fitting the infill strips between the four pairs of flying wires is something best attempted by the more experienced modeller. If in doubt it's best not to attempt this and instead leave the pairs of flying wires without infills.***

The four pairs of flying wires had infill wood strips fitted between each pair of wires. These were fitted to prevent vibration and flexing of the long flying wires.

Cut a strip of 0.2 mm thick plastic card approximately 65 mm in length. The width of the strip should be the same as the distance between one pair of flying wires.

Cut a strip from the 'Aviattic' Wood Grain (ATT32235) decal sheet. The length should be approximately 65 mm and the width twice as wide as the cut plastic strip.

Apply the cut decal strip centrally along the cut plastic strip, leaving equal overhang at each side.

Use a cotton bud to roll off any moisture.

Brush 'Tamiya' X20A thinners along the decal covered side of the plastic strip.

Allow the thinners to dry and secure the decal in position.

Turn the strip over to expose the side with no decal.

Brush 'Tamiya' X20A thinners along the overlapping edges of the decal. The decal should soften and fold over the edges of the strip to cover that side of the strip.

Trim the length of the infill strip to 55 mm.

Cut a length of 'Bare-Metal' Matte Aluminium foil of 0.5 mm width.

Cut five pieces from the foil strip. Each should be just over twice the width of the strip.

NOTE: *Although the foil has a self-adhesive backing, the cut strips are to small for this adhesive to be effective.*

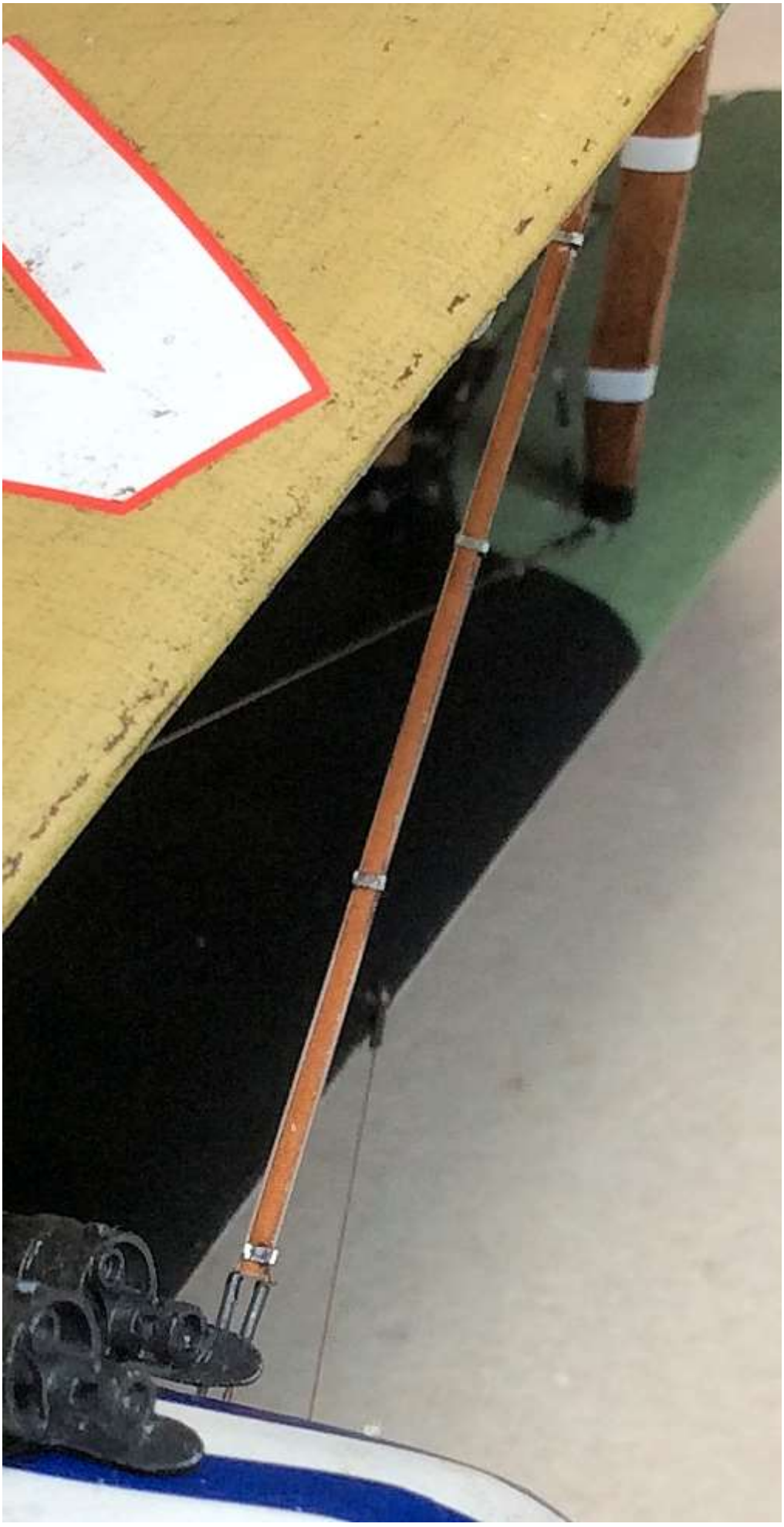
Secure the five cut foil strips across the infill strip using thin CA adhesive. The foil strips should overlap the edges of the infill strip equally and be positioned 1 mm from each end with the remaining three spaced 13 mm centre to centre.

Position the infill strip between a pair of flying wires with the foil strips resting on the wires.

Carefully push the ends of the foil strips around to the other side of the infill strip, making sure the two wires are against the strip.

Apply thin CA adhesive along the flying wires to secure them against the infill strip.

Repeat the procedure to add infill strips to the three remaining pairs of flying wires.



Access panel rings

NOTE: *Three access panels were fitted on the forward sides of the fuselage, one on the right side and two on the left side. These access panel had ring pulls to open the panels.*

Wind 0.2 mm diameter lead wire ('PlusModels' or similar), around a 0.8 mm diameter former (e.g. drill shank).

Slide the coil of wound wire off the former.

Insert a sharp, flat scalpel blade into the coil and cut through the coil.

Separate the individual rings or wire.

Gently flatten the rings.

Secure a ring onto the three access panel at the top, pre-moulded recess.

Windscreen fit photo-etch version

NOTE: *The windscreen (119) used is from the 'PART' Nieuport 28c1 (S32-033) photo etch set, which also includes an acetate transparency (Film C3).*

Cut the windscreen from the photo-etch sheet.

File away any photo-etch tags from the edges of the windscreen.

Anneal (soften) the windscreen by applying heat from, for example, a cigarette lighter. Make sure the heat source is applied evenly across the windscreen until it changes colour. Keep the heat source moving without stopping in one area, otherwise the photo-etch may distort or melt.

Carefully wipe the surface of the windscreen clean.

NOTE: *During the following steps, handle the windscreen carefully. After annealing the photo-etch will be soft and easily distorted.*

Gently bend the windscreen around a suitably sized, round former until the windscreen conforms to the shape of the top of the fuselage, just forward from the cockpit.

Prime the windscreen with a white primer, such as 'AK Interactive' White (AK-759) or similar.

Carefully cut out the windscreen transparency from the acetate sheet (Film C3). Cut around the outer black outline.

Apply a thin bead of PVA adhesive, such as 'Microscale' Krystal Clear or similar, to the inside of the windscreen around the edge where the transparency will locate.

Position the windscreen transparency onto the adhesive applied to the windscreen.

Using pointed tweezers or a wood toothpick or similar, carefully press the transparency onto the adhesive.

Leave the windscreen to allow the adhesive to set.

Apply a bead of PVA adhesive, such as 'Microscale' Krystal Clear or similar, to the bottom edge of the windscreen.

Position the windscreen on the fuselage just forward from the cockpit.

If necessary, use pointed tweezers or a wood toothpick or similar, to position the windscreen on the fuselage.

Leave the windscreen to allow the adhesive to set.

Propeller fit

NOTE: *The kit supplied propeller is being replaced by the laminated wood propeller from 'ProperPlane', hand made by Alexey Belov.*

Secure the propeller to the engine propeller shaft, using CA adhesive.

PART 12
FIGURE

PART 12 - FIGURE

The figure I chose to use is the 'Wings Cockpit Figures' leaning pilot 1915-16 (LSK 04B), which was sculpted by Doug Craner. The figure is supplied complete, except for the left foot.

Preparation

Separate the figure and foot from their mould blocks.

Cut away any mould stems from the figure and foot.

Sand or scrape away any mould seam lines.

Check for any surface imperfections, such as pin holes etc. If found, fill with a modelling putty and once fully set, sand to blend with the figure surfaces.

Test fit the foot into the left leg and check for a good fit, particularly the resting angle of the foot. If necessary scrape the mating faces to achieve the required fit.

Where necessary, reprofile the left arm/shoulder so the figure leans naturally against the aircraft.

Assembly

Secure the left foot into the left leg, using thin CA adhesive.

Drill a hole of 0.9 mm diameter up and into the right leg, taking care to keep the drill central, so as not to drill through the sides of the leg.

Cut a length of 0.8 mm diameter rod, such as from a standard paper clip.

Secure the rod into the hole in the right leg, using CA adhesive. This will be used to hold the figure for painting and for mounting the figure on the final display base.

Painting

Airbrush the figure with a grey primer, such as 'AK Interactive' Grey (AK-758) or similar.

NOTE: *Brush paint the figure with your preferred medium. I use mainly 'Tamiya' acrylic paints thinned slightly with 'Tamiya' X20A thinners, blending colours where required whilst the paints are still wet*.

Brush paint the figure as follows:

Shoes - 'Tamiya' Hull Red (XF9) with 'Humbrol' Leather (62) highlights.

Flying overalls - 'Tamiya' Buff (XF57) base coat with Deck Tan (XF78) and Dark Yellow (XF60) highlights.

Belt and Straps - 'Tamiya' Buff (XF57).

Helmet - 'Tamiya' Hull Red (XF9) with 'Humbrol' Leather (62) highlights.

Helmet liner - 'Humbrol' Leather (62) with 'Tamiya' Hull Red (XF9) highlights.

Goggles - 'Tamiya' Flat Earth (XF52), Clear Yellow (X24) and 'Mr. Colour' Stainless Steel (213).

Metal fittings - 'Mr. Colour' Stainless Steel (213) and Brass (219).

Flesh - 'AK Interactive' Base Flesh (AK3011) with Light Flesh (AK3012) and Highlight Flesh (AK3013) highlights. Eyes are 'Tamiya' Deck Tan (XF55) and Rubber Black (XF85).

Finish:

Flesh - Mix of ‘Tamiya’ Semi-Gloss (X35) and Flat (XF86).

Shoes - ‘Tamiya’ Semi-Gloss (X35).

Shoes - ‘Tamiya’ Weathering Master Set A (Mud).

Flying Overalls - ‘Tamiya’ Weathering Master Set D (Oil Stain).

PART 13
DISPLAY BASE

PART 13 - DISPLAY BASE

The display case is made from two sheets of 3mm thick Piano Black Acrylic sheet cemented together with a transparent top fabricated from 3mm thick Clear Acrylic sheet. This was custom made for me by Paul Moss at ‘Inperspextive’ (Ebay). The name plaque was also made by an on -line retailer ‘The Engraving Shop’.

The grass mat was cut to shape from a sheet of ‘Polak’ grass mat (Wild Meadow variation 4706). The cut mat was then positioned on the base and the model and figure test placed to achieve the best effect and to make sure the transparent cover of the case would be able to be located without touching the model. The model and figures were then removed with the grass mat left in position on the display base. The edges of the grass mat were then carefully lifted and a soft marker pen was used to mark the outline of the grass mat, but approximately 5 mm inside the mat edge. The grass mat was then removed and the area of the display base inside the marks was scuffed using a coarse grit sand paper, in order to give a key for the adhesive.

NOTE: *When applying the adhesive, make sure it is not applied too thickly and close to the edges of the finally positioned grass mat. Otherwise the adhesive may be squeezed out from under the grass mat once weight is applied to hold down the mat during setting of the adhesive.*

A coat of PVA adhesive (white glue) was applied to the scuffed area on the display base and to the back of the grass mat. The grass mat was then laid onto the PVA adhesive and positioned correctly. Light pressure was applied to ensure the mat was in contact with the adhesive.

A sheet of kitchen ‘Cling-Film’ was then laid over the grass mat and weighted down (I use books stacked on top of the covering). This was left for several hours to allow the adhesive to set. The weights and covering were then removed and the display base left exposed to fully air dry.

Finally an acrylic plaque stand was positioned to the left, front corner of the display base (just in from the edges of the shoulder for locating the transparent acrylic cover. The area on the underside of the stand and its contact are on the display base were scuffed using a coarse grit sand paper, in order to give a key for the adhesive. A thin coat of contact adhesive was then applied to both scuffed areas and once the adhesive started to set, the stand was carefully position onto the display bae and pressed down to make full contact. The self-adhesive backed information plaque was the positioned onto the stand and pressed to make full contact.

The model and figures were then positioned on the base in their final positions and the support pins in the figures leg marked into the grass mat. The metal pin in the leg of the figure was bent to the correct angle so that when fitted into the display base, the figure would lean against the engine cowl of the model. A hole of 1.0 mm diameter was then drilled through the grass mat and into, but not through, the base. The hole were cleared of residual acrylic to ensure the pin in the figure would fully locate. The figure were then test fitted and where necessary, the support pin was snipped to the required length to fully locate into the display base.

NOTE: *The aircraft model is not secured to the display base as this can cause shock damage to the model if the display is transported to shows etc. For that the aircraft model would be packed separately for transporting.*

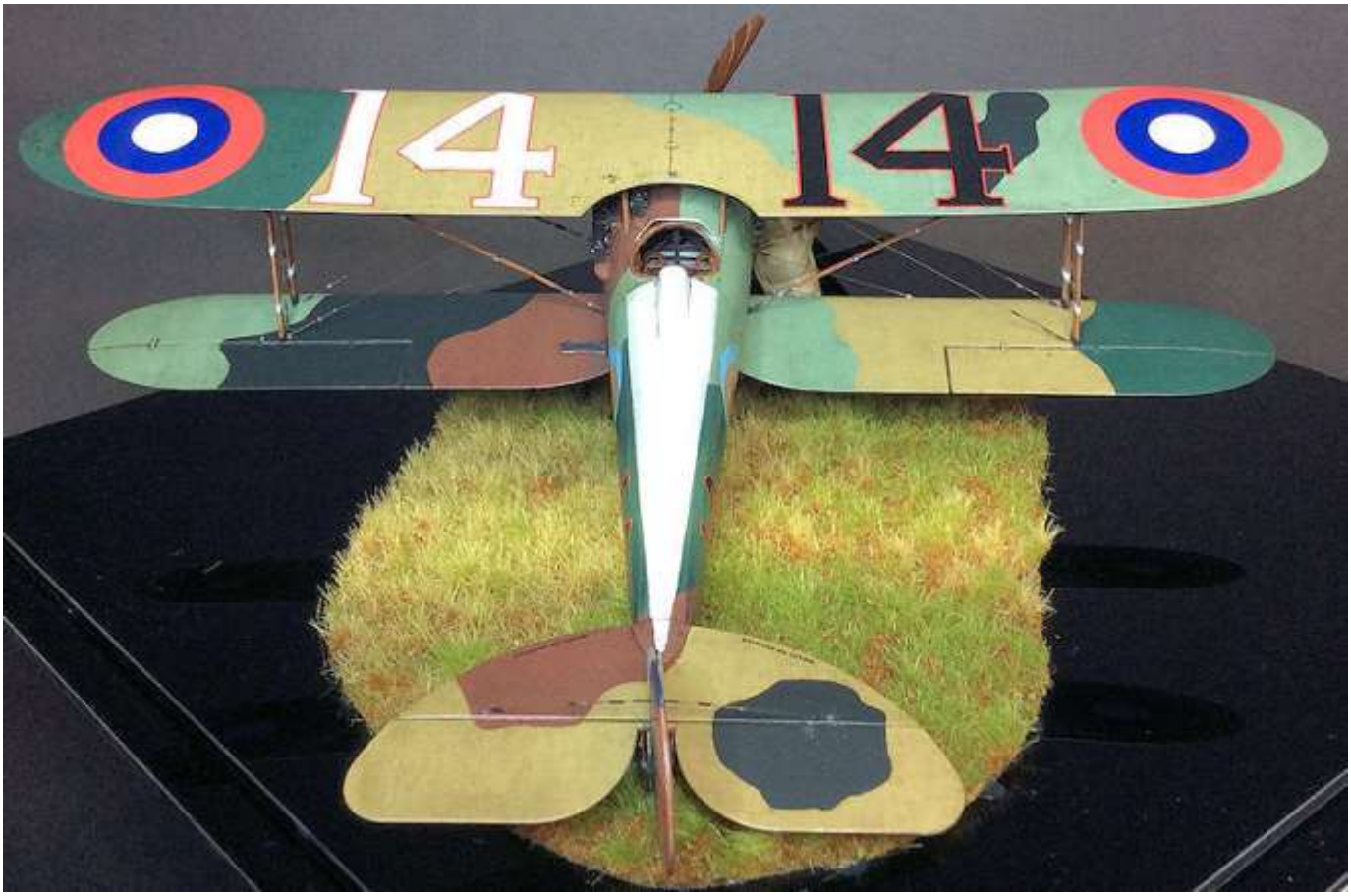
Thin CA adhesive or PVA adhesive was then applied to the support pin of the figure, which was then located, in the desired position, into their pre-drilled location hole. The aircraft itself, being light in weight, will tend to sit on top of the grass on the mat, rather than seat fully down, as would a real aircraft. Therefore the location of the aircraft wheels and tail skid were marked onto the grass mat and those areas scrapped through the mat to create slight and unobstructed troughs, into which the aircraft could be located.

PART 14
COMPLETED MODEL PHOTOGRAPHS


14


14


14
14
14


14
14


14
14
14

END