
# 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, covering the 1:32 scale model of the 'Pfalz D.VIII from 'Aviattic'.

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# 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 and gaming PC

# AFTER MARKET

## AFTER MARKET

### Propeller

'Proper Plane' laminated wood four bladed 'Wotan' propeller (WP-049).

### Rigging accessories (as required)

'Gaspatch Elite Accessories' metal Turnbuckles (1/48 scale),
'Albion Alloy's' Micro-tube (Brass or Nickel Silver - various diameters),
'Steelon' or 'Stroft GTM' Mono-Filament (0.08 mm diameter),
'Modelkasten' 1:48th scale 0.2 mm diameter black line (marked as 1.5).

### Decals

'Airscale' Generic WW1 Instrument Dials (AS32 WW1).

### Sundries (as required)

'Tamiya' Acrylic, 'Humbrol' Acrylic, 'Mr. Metal Colour', 'AK Interactive' Primer (Grey AK758, White AK759), 'Alclad II' Lacquers, 'Tamiya' Fine Surface Primer (Grey/White), 'Mig' A-Stand Aqua Gloss (A.Mig-2503), 'MRP' acrylic lacquers, 'Mr. Surfacer' 500/1000/1200, 'Mr. Colour' Levelling Thinners 400, PVA Adhesive (e.g. 'MicroScale' Micro Krystal Clear), 'PlusModel' lead wire, 'Black-It' solution, 'MicroScale' MicroSol/MicroSet decal solutions, 'VMS Fleky' CA adhesive (Slow and Thin), 'Perfect Plastic Putty', 'White Spirits/Odourless Thinners', 'Ammo' Acrylic filters, 'Windsor & Newton' Griffin Alkyd oil paint, 'VMS' Metal Prep 4K, 'MFH' 0.4 mm flexible tube (P-961), 'Mig' Ochre filter (0822), 'AK Interactive' Kerosene wash (AK2039) and engine oil (AK2019), 'EZ' black stretch line (Fine).

### Weathering mediums (as required)

'Flory Models' Clay washes or Pigments,
'AK Interactive' (Kerosene AK-2039, Oil AK-2019),
'Tamiya' Weathering Master (Set C, D or E).

### Display Base

'Polak' Wild Meadow (4703),
'Inperspective' custom made Acrylic base and cover,
Information plaque from 'TLS Engraving Ltd'.

# THE AIRCRAFT
# &
# PILOT

# THE AIRCRAFT

References:

'Aviattic' instruction manual.
Pfalz D.VIII (November 2024) - (P M Grosz)
Online resources.

**The aircraft modelled is the Pfalz D.VIII of Vzfw. Heinrich Forstmann of Kest 1a, operating from Mannheim-Sandhofen during October 1918.**

## Aircraft:

General:

The Bavarian aircraft manufacturer 'Pfalz Flugzeugwerke designed the Pfalz D.VIII near the end of WW I to be the ultimate fighter aircraft. A light wooden airframe built around the huge 11-cylinder, 200 hp Siemens-Halske Sh.III geared rotary resulted in spectacular performance. A total of 120 aircraft were ordered by Idflieg, but with only a small number entering service prior to the end of the war. The Pfalz D.VIII employed the unique, veneer-wrapped fuselage that imparted great strength with minimum weight. The D.VIII fighter's twin-strutted wing cellule was lighter and more robust than the suspect French Nieuport designed wing configuration. The twin-strutted cellule allowed the use of a thinner wing section that derived the maximum benefit from the engine.

Pfalz D.VII

The Pfalz D.VII prototypes, of which five or six versions were built, was moving ahead in October 1917 and in December the first flight trials were performed. In January 1918, powered by the Siemens-Halske Sh.III engine, the D.VII prototype reached 6000 metres (19,685ft) in 13 minutes. Although the Siemens-Halske Sh.III engine, beset by metallurgical and lubrication problems, would not be released for combat service until July 1918, it did show what could be achieved. The Pfalz D.VII was entered in the First Fighter Competition held at Adlershof between the 20th of January and the 12th of February 1918. The recorded climb time was not as good being 6000 metres in 20 minutes, but still equalled that set by the Siemens-Schuckert D.III, 8340/17 production fighter and the Fokker Triplane (w/n 1919) powered by the new 200 hp Goebel Goe.III rotary engine. Leutnant Josef Jacobs reported in his diary that the D.VII 'flew very well but somewhat slower'. The Austro-Hungarian observer stated that the D.VII had very fine performance, but did not come into consideration as a production machine because the (Sh.III) engine was failure prone.

Pfalz D.VIII

The Pfalz D.VIII was tested at Speyer in early January 1918. The heavier Pfalz D.VIII reached 6000 metres in 16,5 minutes. Pfalz reported that the pilot had entered a heavy cloud layer at higher altitude which 'surely influenced the rate of climb'. Already convinced that the Pfalz D.VII/D.VIII fighters had merit as combat aircraft, the Idflieg had hoped to make a production choice according to the flight results achieved at the First Fighter Competition, but this proved impossible, as on the first day of competition the D.VIII was withdrawn when the Sh.III engine suffered piston seizure. The two winners of the First Fighter Competition were the Fokker D.VII and the Pfalz D.VII. The Idflieg decreed that the production choice between the Pfalz D.VII or Fokker D.VII would depend on the outcome of the static-load tests, performed during January-February 1918. The Pfalz D.VIII was chosen because the twin-bay configuration was stronger and therefore better suited to withstand the violent manoeuvres and high-speed dives encountered in air combat. Whereas Fokker could go into full production (some 700 D.VII fighters were ordered) because sufficient Mercedes D.III engines were available. Pfalz were limited scarcity of the Siemens-Halske Sh.III engine. However, in February 1918, the Idflieg ordered 120 Pfalz D.VIII fighters, numbered 100/18 to 119/18.
The first six Pfalz D.V1I1 fighters, ready to be dispatched in March 1918, were retained at the factory to fix an undocumented deficiency. Sent to the Front in April the D.VIII fighters were not released for combat service although orientation flights may have been performed. The Pfalz fighters may have been recalled or grounded to await the correction of the engine problems. It was not until June 1918 that first D.VIII fighters appeared in the frontline inventory with a total of 14 listed on the 30-th of June, increasing to 19 fighters on the 31st of August 1918. The D.VIII fighters were thinly spread in ones or twos among various fighters units including Jasta Boelcke, Jastas 29 and 56.

The Second Fighter Competition took place between the 27th of May and the 28th of July 1918, to learn what pilots thought of the performance and flight characteristics. Two production D.VIII fighters, D.150/18 (Sh.III engine) and D.158/18 (Ur. Ill engine) were entered in the competition. Pfalz D.VIII 150/18 reached 6,000 metres (19,685 ft) in 21.5 minutes, whereas the Oberursel Ur.III engined version took 26.5 minutes. In the 6th of July 1918 de-briefing minutes, combat pilots stated that the D.VIII (Sh.III) was equal to the Siemens-Schuckert D.IV (developed D.III) in speed and climb, but the latter was preferred because of superior manoeuvrability. At the second session, pilots unanimously agreed that the Pfalz D.VIII was not sufficiently manoeuvrable and it was suggested that the D.VIII be assigned to the Kampfeinsitzer Staffeln (Kests) home defence flights and a few D.VIII fighters saw service in late 1918 with Jasta 90 (ex-Kest 1a) based at Mannheim.

General specifications:

Wing span upper - 7.5m (24ft 8in)

Wing span lower - 6.9m (22ft 7in)

Lower wing dihedral angle - 1.9 degrees

Length - 5.65m (18ft 6in)

Height - 2.75m (9ft)

Empty weight - 544kg (1,197lb)

Gross weight - 738kg (1,627lb)

Maximum speed - 190km/h (120mph)

Endurance - 1 hour 30 min)

Engine - Siemens-Halske Sh.III, 11 cylinder geared rotary (119kW, 160hp)

Weapons - Two 7.92mm LMG 08/15 machine guns

Colour schemes:

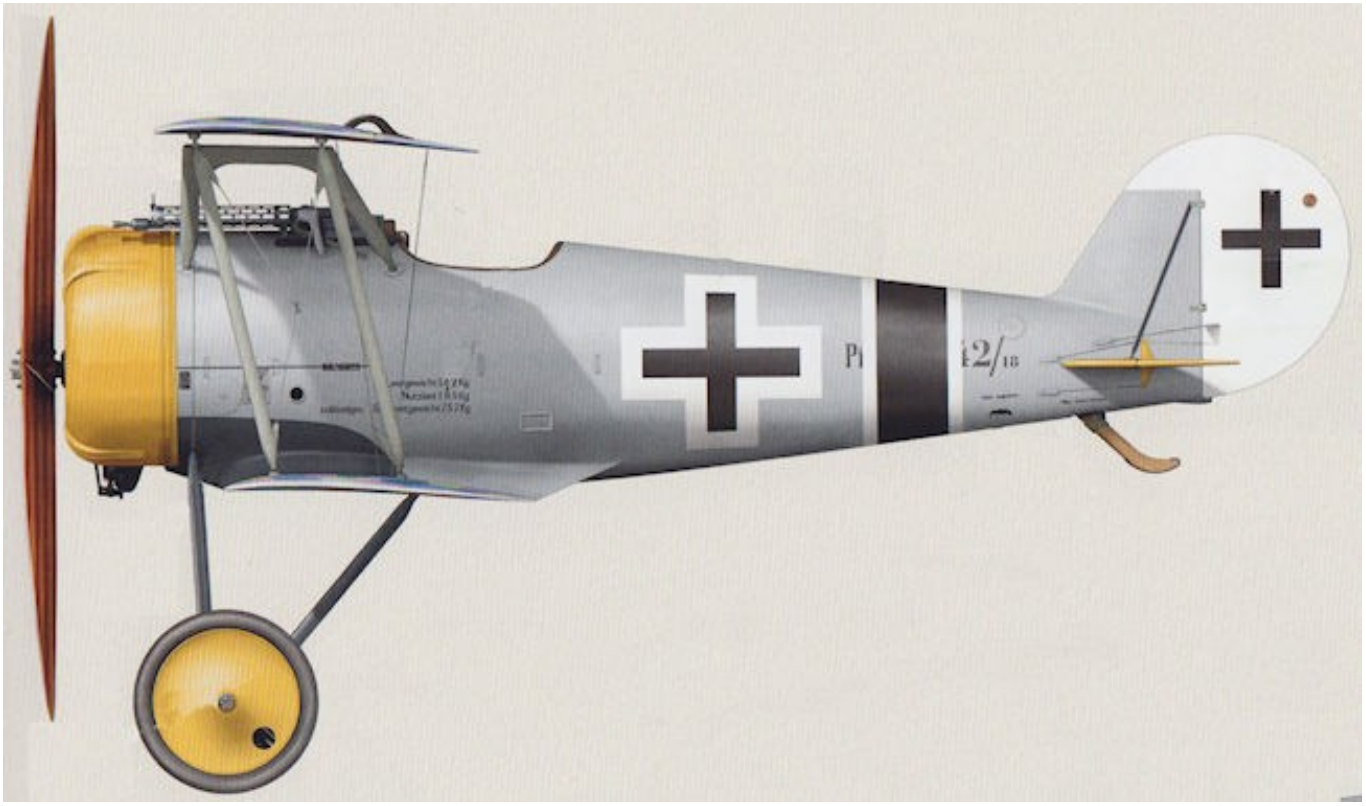
Most Pfalz D.VIII fighters were delivered from the factory in the typical Pfalz style with Aluminium dope being applied to the wooden covered surfaces with white-doped rudders. Flying and other control surfaces being covered in five coloured lozenge printed linen. Struts were normally Aluminium doped and liberally covered with stencil data and company logo transfers, the former identifying the aeroplane type as well as including the serial number and numbering of the eight wing (interplane) struts. Black serial numbers were applied forward of the tailplane with adjacent lifting and trestling instructions in the same colour. On many examples the lower area of the forward fuselage was over painted with a dark colour, possibly grey, to make the staining from the engine exhaust emissions less visible. This can be seen on some photographs and illustrations, which also show that the size of the ‘panel’ varied. National insignia was applied in various styles and there seemed to be no standard form of application. On some later examples of the type the fuselage and cowling were overpainted in a dark finish, thought to be bands of dark green and mauve, but there is no confirmation of actual colours. The Pfalz D.VIII saw service with a number of units and once there, little time was lost in applying Jasta and/or personal markings. These were usually confined to repainting the engine cowling and/or tail unit, although several examples sported fuselage stripes and bands.

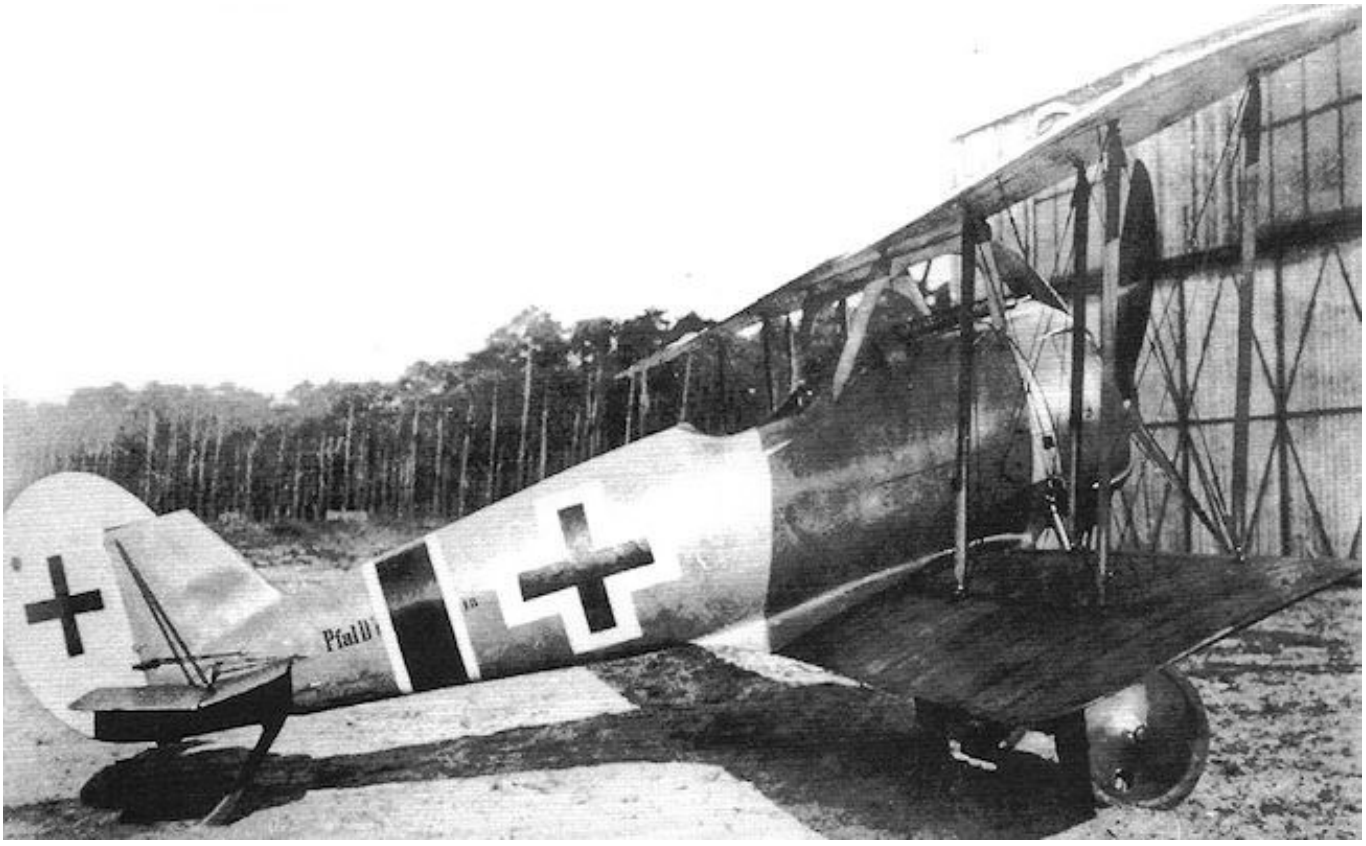
Kampfeinsitzer Staffeln (Kests):

Kests were German Home Defence Units. Their importance/influence was marginal. Founded in 1916 and early 1917 (a total 9 Kests), they had the task to defend Germany from increasing allied bombardments on cities, railway stations, factories, etc. The cry for measures against these attacks on the homeland, became very strong after the air attack from Escadrille C66 on Karlsruhe on the 22nd of 1916. Fighting off the allied bombers was a very difficult task, because it was obvious that it was impossible to engage all the enemy bombers from crossing the lines and dropping their deadly loads. This was due, for instance, to the quality of planes the Kests had (the best aircraft were sent to the front), communication problems (alarm came too late or not at all), the often inexperienced pilots and pilots who needed a ‘rest’. On the 29th of October 1918 the Kests were renamed. Among these Kest 1a and Kest 1b merged to become Jasta 90, operating from Mannheim until the end of the war. Several Pfalz D.VIII fighters served in the Jasta 90.

**The pilot:**

Very little information is available for the pilot of this aircraft, who was Vfw. Heinrich Forstmann. What is known is that he was credited with just one victory, which was a De-Havilland DH4 he shot down on the 7th of September 1918. On the 10th of October 1918, flying with the Kest 1a, he was killed in action over Meunzein flying the aircraft modelled (serial number not known).





The following photograph show the aircraft at the crash site.

# PART 1
# MODEL DESCRIPTION

## PART 1 - MODEL DESCRIPTION

'Aviattic' - Pfalz D.VIII (ATTKIT012)

Having used many decals from 'Aviattic' over the years, as well as many other items and having already built the 'Ansaldo A1 'Balilla' model, I can confirm that the Pfalz D.VIII kit is at the same high level of manufacture and detail.

Richard Andrews of 'Aviattic' is passionate about everything he creates and it shows in all of his products.

Normally I would write a general review of the kit in this part of the build log. However, many reviews have already been published, including this review by Iain Ogilvie on the 'Large Scale Planes' forum. His review covers in detail everything the kit has to offer and is worth reading. The link to the review is below.

**https://www.largescaleplanes.com/reviews/review.php?rid=2577**

# PART 2
# WOOD EFFECTS
# (General)

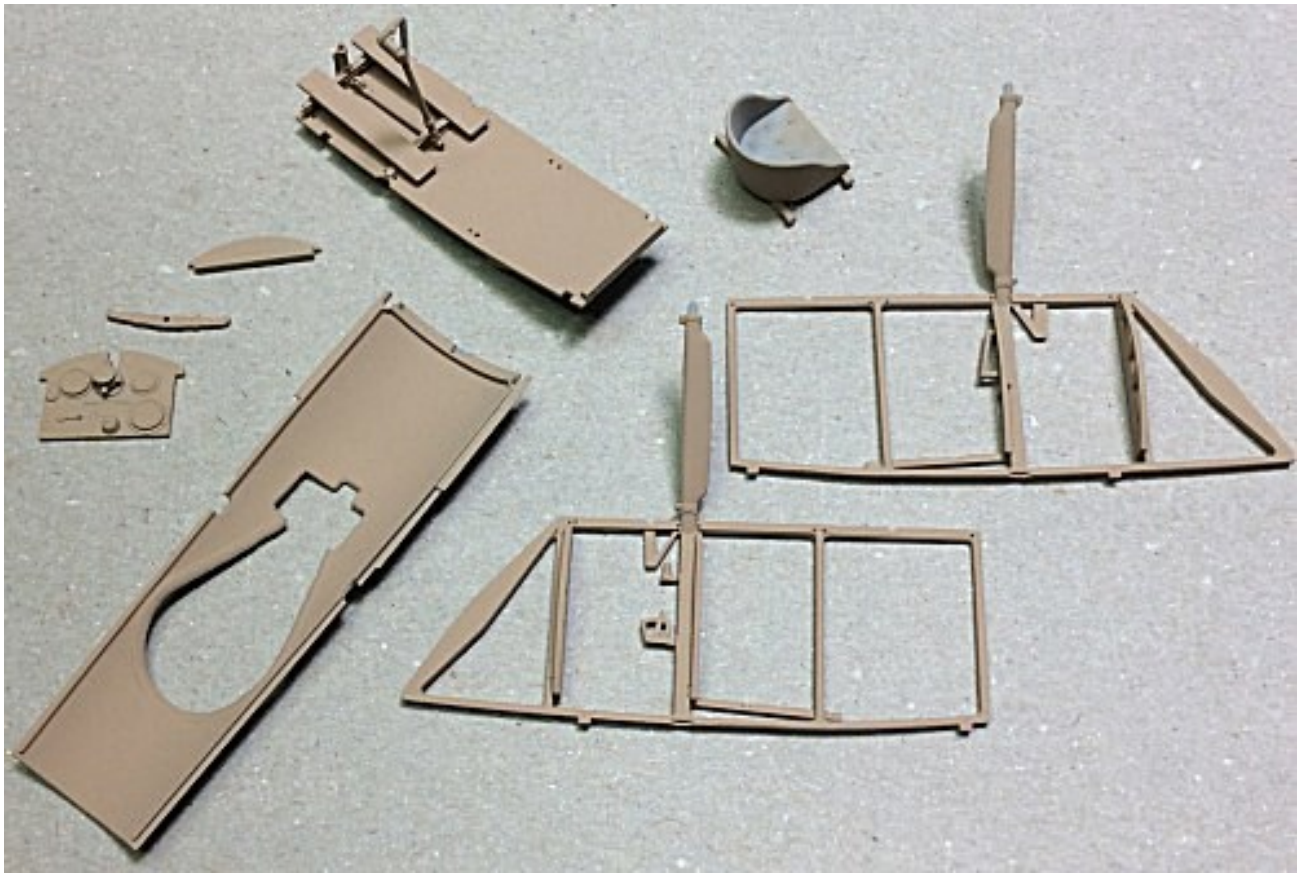
## PART 2 - WOOD EFFECTS (General)

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

The first thing to do is to ensure the model parts are cleaned, normally with warm water with washing up fluid and something like an old tooth brush. Once cleaned and thoroughly dried, the primer coat can be applied. I use 'AK Interactive' Grey (AK758) or White (AK759) primer.
Once the primer is dry, you can start applying the wood effect to the applicable cockpit items, such the cockpit framework, decking, seat supports, rudder bar, instrument panel and of course, the wing struts. With practice, this method can also be used on fuselage panels and propellers.

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

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



**Wood effect - Method 1:**

DecoArt Crafters Acrylic' paints:

For the next step I use 'DecoArt Crafters Acrylic' paints, either Burnt Umber or Burnt Sienna. These are similar to standard acrylic oil paints, but are water based instead of oil based. This paint is not as thick as oil based paint and is more creamy, so can be brushed and controlled more easily. Also, as it is water based, it's easy to clean your brushes, and if really necessary, can be thinned slightly with water.

In addition, the paints dry as quickly as normal acrylic paints, avoiding the disadvantage of using true oil paints, which can take days to fully dry.

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

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

Once painting is complete, clean the brush in water.

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

**Wood effect - Method 2:**

Windsor & Newton' Griffin (Alkyd) oil paints:

**NOTE:** *The wood effects can also be achieved using 'Windsor & Newton' Griffin (Alkyd) paints.*

Mask off the area as required.

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

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

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

Leave the oil paint to settle for about ten minutes.

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

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

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

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

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

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

Examples of wood effects

# 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 'Tamiya' Semi-Gloss (X35) or similar. A gloss coat tends to stop the clay wash 'gripping' the surface when it is applied and it can run off or just puddle. A matte coat can cause the clay wash to 'grip' too much, making it difficult to remove or even to wash it off completely.

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

**NOTE 2:** Always decant the amount of clay wash you need, rather than dipping the brush directly into the wash bottle. Dipping into the wash bottle can transfer contaminants from the brush into the wash, will 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 'Tamiya' Semi-Gloss (X35) or similar, which will seal in the applied clay wash.

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


**Chipping effects:**

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


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


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


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

**Water colour pencils:**

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

**Oil paint:**

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

Softly ‘flick’ the brush to drag the pigment in the direction required, which will blend it in a thin layer.

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

A good quality oil paint and thinners are essential to produce a good finish.

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


# PART 4
# DECALS
# (General)

# PART 4 - DECALS

## 'Aviattic' decals:

The 'Aviattic' decals are different in both production techniques and application to those of the more traditional decal manufacturers. Traditional decals are normally created using processes such as silk screen printing and are pre-shaped for the particular model markings. When placed in warm water they will detach from the backing sheet and can then be slid onto the model surface and when they are correctly positioned, wiped with a semi-dry brush or cotton bud etc, to expel any water from under the decal. Once fully dry, decal softeners, such as 'MicroSol' and/or 'MicroSet' can be applied, if necessary, to 'weld' the decal to the model surface. Finally a sealing coat of acrylic or lacquer gloss, semi-matt or flat is applied over the decal, to seal and protect the seal and protect the decal.
The 'Aviattic' decals are laser printed onto a very fine carrier film and although this film is thin, the decals are remarkably resilient and somewhat 'stretchy' when being applied. This allows them to be more easily moved and positioned before being finally applied. Also with most other decals, I've used softeners to help the decals conform to surface irregularities and contours, which is something I've found is not really required for 'Aviattic' decals, due to the nature of the carrier film. In addition, unless the decals has been printed pre-shaped ('cookie cut'), the decals will need to be cut out from the sheet, so care is required to cut the decals accurately to avoid leaving gaps, especially at the edges, where the white base colour will show. That said, minor gaps may be able to be covered with weathering. For more information, refer to the 'Aviattic' instruction sheet supplied with the decals.
Aviattic' decals are laser printed onto either 'clear' or 'white' backing, the 'clear' being dependent on the base coat you apply and the finished effect you desire. The decals are supplied with very clear instructions on their application, including when to add pre-shading to the base coat, where desired, before you apply any 'clear' backed decals.

Application:

**NOTE:** *The two decal sheets supplied in the kit are **'cookie'** cut to shape and are **'white'** backed.*

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

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

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

Airbrush at least two light sealing coats of a clear coat such as 'Mig' A-Stand Aqua Gloss (A.Mig-2503) or similar over the painted surface to form a gloss surface for applying the decals.

**NOTE:** *The surface must be pre-wet with warm water. A small amount of PVA adhesive (white glue) can be added to the decal water to aid the adhesion of the decals to the model surface. Care needs to be taken when you slide the decal from the backing sheet and onto the model surface, as the thin decal can fold over on itself.*

Soak each decal in warm water for approximately 20 seconds.

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

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

Align the decal to the shape of the model part.

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

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

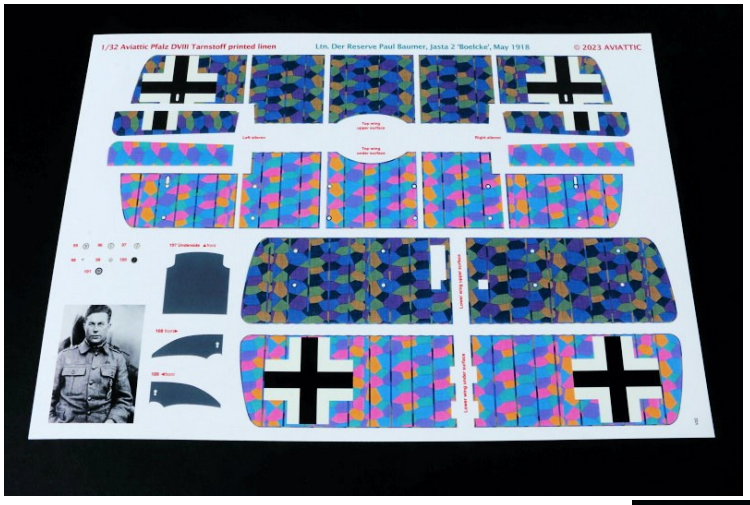
Check to make sure the decal is in full contact with the surface of the model part and that there are no areas exhibiting ’silvering’ (trapped air under the decal). If so, gently prick through the decal and apply water then press out the water to adhere the decal back onto the model part.

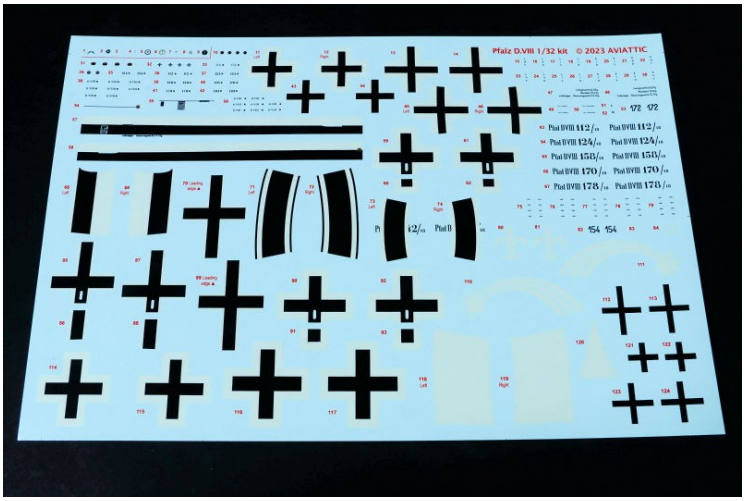
Also check that there are no lifted decal edges around the model part.

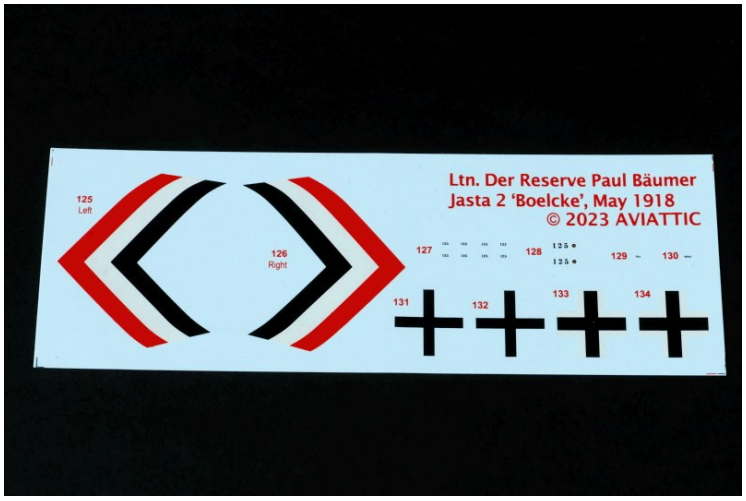
Allow the decal to fully set, preferably overnight. Where decals have been applied to large areas, gentle heating using a hair dryer can accelerate the decal setting time.

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

**NOTE:** *Models can be cast in resin or 3D printed with resin.*

Below I have listed what I have found to be the primary differences for resin parts as opposed to styrene (plastic) injection parts:

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 of at thoroughly and leave to dry. Alternatively clean the parts with isopropyl alcohol of at least 90% purity, especially on 3D printed parts that have resin residue on their surfaces.

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 and support trees. The best way to remove item is to cut them away with a razor saw, or a sharp pair of nippers, then carefully remove any residual stubs of resin.

3. Once removed from the resin cast, parts may have 'resin flash' around or amongst parts, especially small items. This is easily removed with a sharp scalpel blade. Heavier residue can be scraped, filed or sanded away.

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 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.

# PART 6
# RIGGING
# (General)

# PART 6 - RIGGING (General)

References:

'Aviattic' instruction manual.
Pfalz D.VIII (November 2024) - (P M Grosz)
Online resources.

**General:**

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

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

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

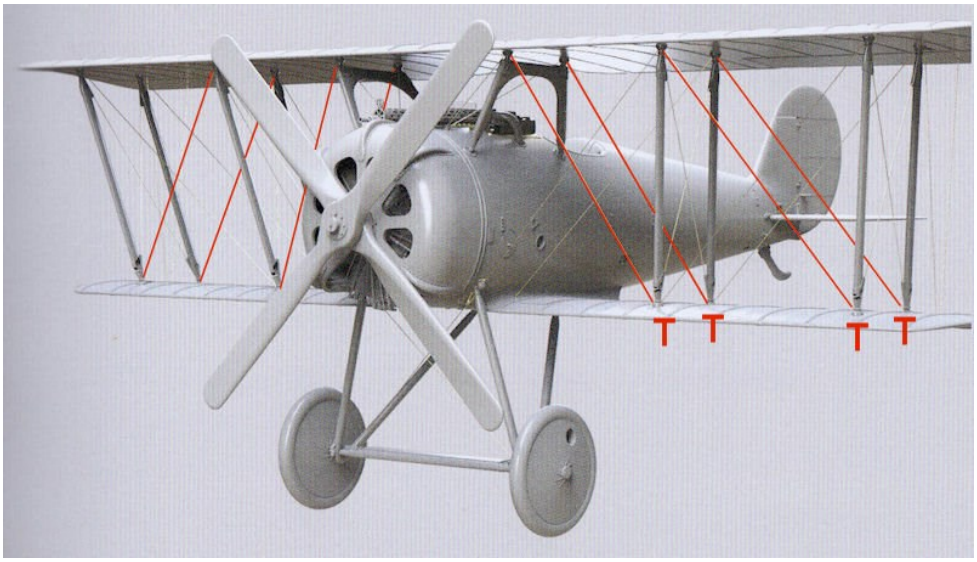
For the primary rigging, such as flying and landing wires and cross bracing wires, I used 'Steelon' or 'Stroft GTM' mono-filament (fishing line) of 0.12 mm diameter and for flight controls and 0.08 mm for flight control cables. These are effectively transparent, but airbrushed with a semi-matte clear coat, do give a look of steel and without the need of painting or colouring with a gel pen. The turnbuckles used are either sintered metal or resin and can be obtained from such as 'Gaspatch Models' or 'Proper Plane'.

**NOTE:** *The following rigging illustrations were adapted from those in the instruction manual and from research information. The different types of rigging are detailed under their type headings.*

Landing wires:

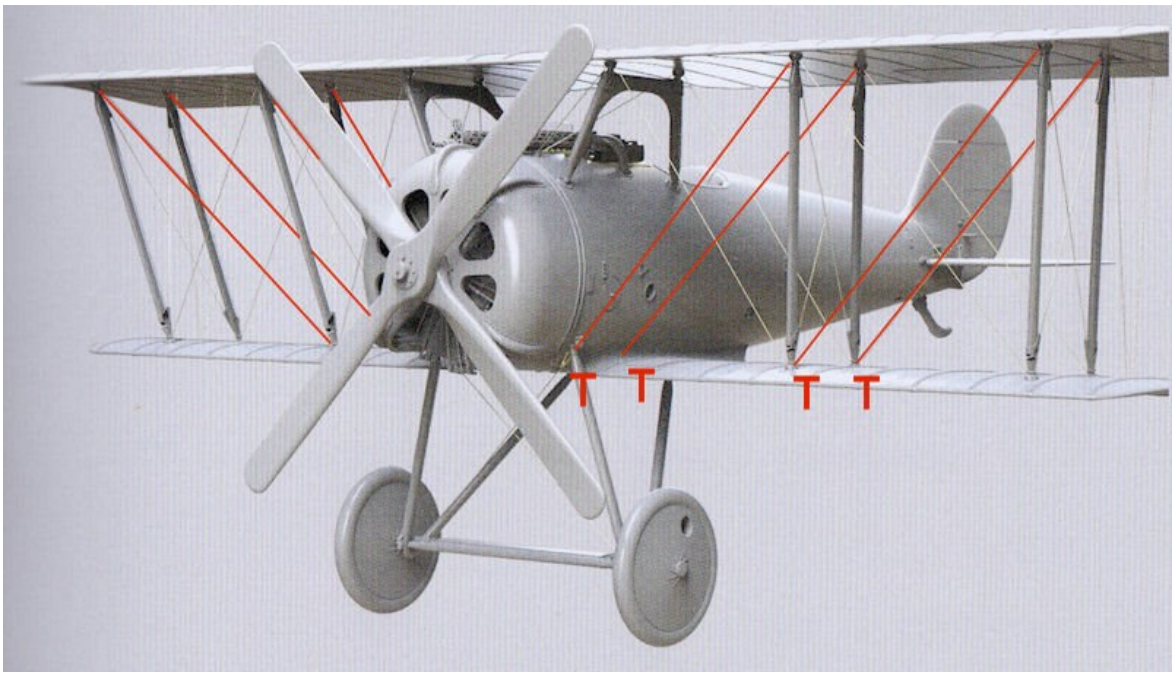
Landing wires were fitted between the wings to support the wings, especially when the aircraft was on the ground. The inner landing wires were fitted between inboard from the bottom of the inner interplane struts and were routed diagonally up and across to the top of the fuselage cabane struts. The outer landing wires were fitted between inboard from the bottom of the outer interplane struts and were routed diagonally up and across to the top of the inner interplane struts.

Turnbuckles were fitted in the wires at the rigging anchors at the bottom of the interplane struts.



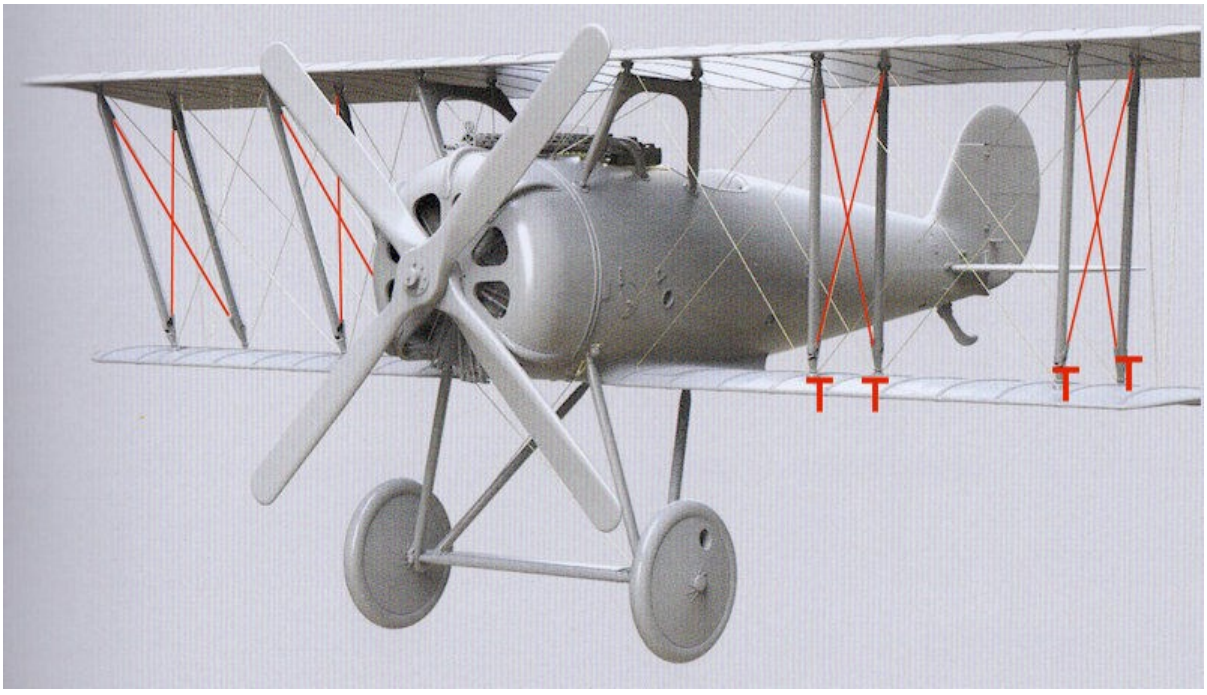
Flying wires:

Flying wires were fitted between the wings to support the wings, especially during flight. The inner flying wires were fitted between the top of the forward landing gear struts and the wing roots and were routed diagonally up and across to tops of the inner interplane struts.
The outer flying wires were fitted between bottom of the inner interplane struts and were routed diagonally up and across to the top of the outer interplane struts.
Turnbuckles were fitted in the wires at the rigging anchors at the bottom of the inner interplane struts and fuselage.



Incidence wires:

Incidence wires were fitted between the interplane struts to brace them during flight and when the on the ground. The incidence wires were fitted diagonally crossed and between the bottom and top rigging anchors on the interplane struts.
Turnbuckles were fitted in the wires at the rigging anchors at the bottom of the interplane struts.

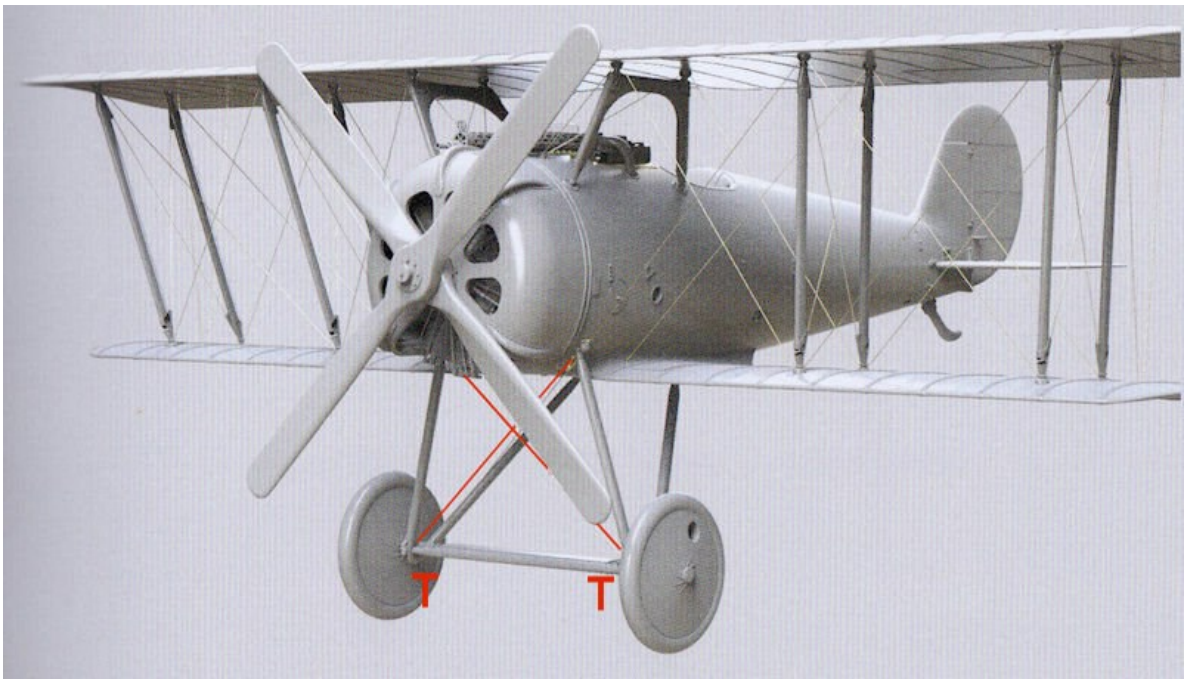


Bracing wires:

Bracing wires were fitted to give structural support between the fuselage and upper wing. Pairs of wires were fitted between the tops of the cabane struts and routed down to a single fuselage rigging anchors, located outboard from the machine gun cooling jackets.
Turnbuckles were fitted in the wires at the fuselage rigging anchors.

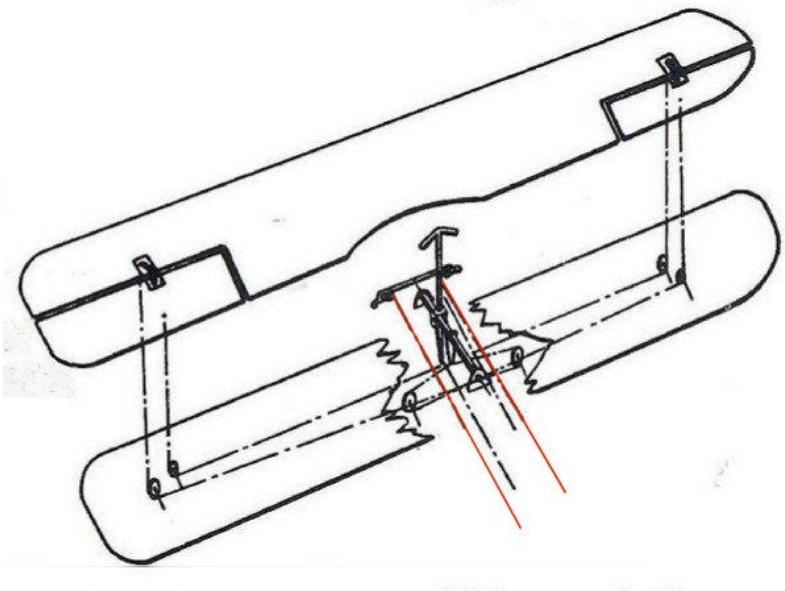

Landing gear bracing wires:

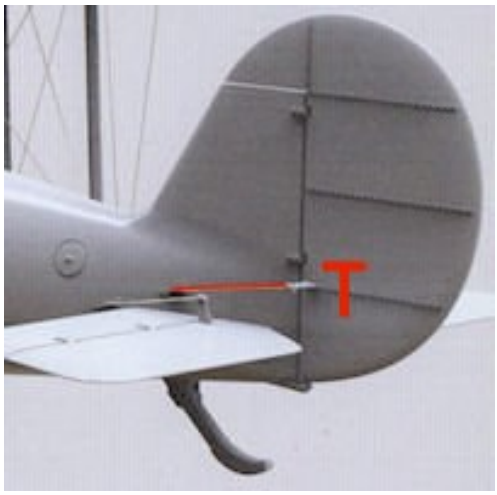
Bracing wires were fitted to the landing gear struts to provide structural strength. The wires were fitted inboard from the tops of the landing gear forward struts and were routed diagonally crossed and down to the outer ends of the forward landing gear bracing bar.
Turnbuckles were fitted in the wires at the bottom of the wires.



Rudder control cables:

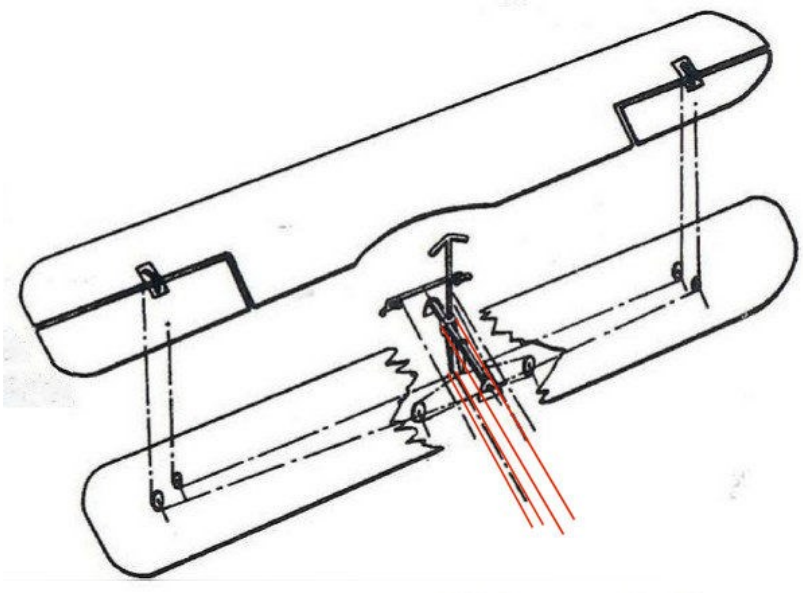
A rudder control cable was fitted at both ends of the pilots rudder bar and routed rearwards through the fuselage to their exit ports on the fuselage sides close to the tailplane. The cables continued rearwards to be attached to the ends of the rudder control horns. Turnbuckles were fitted in the cables at the rudder control horns.
As the pilot pushed the rudder bar left or right, one rudder cable would tension and the other relax. The tensioned cable would pull the rudder in the required direction while the relaxed cable followed it. This caused the aircraft to turn (yaw) left or right.

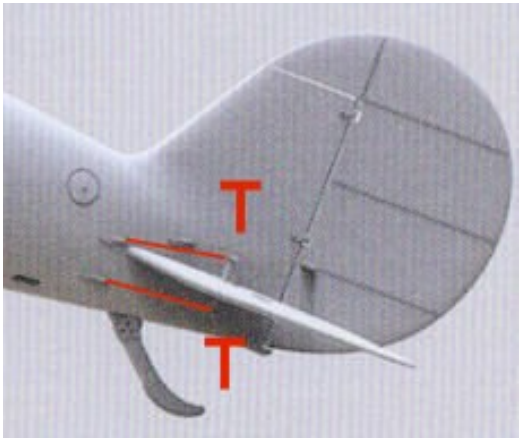





Elevator control cables:

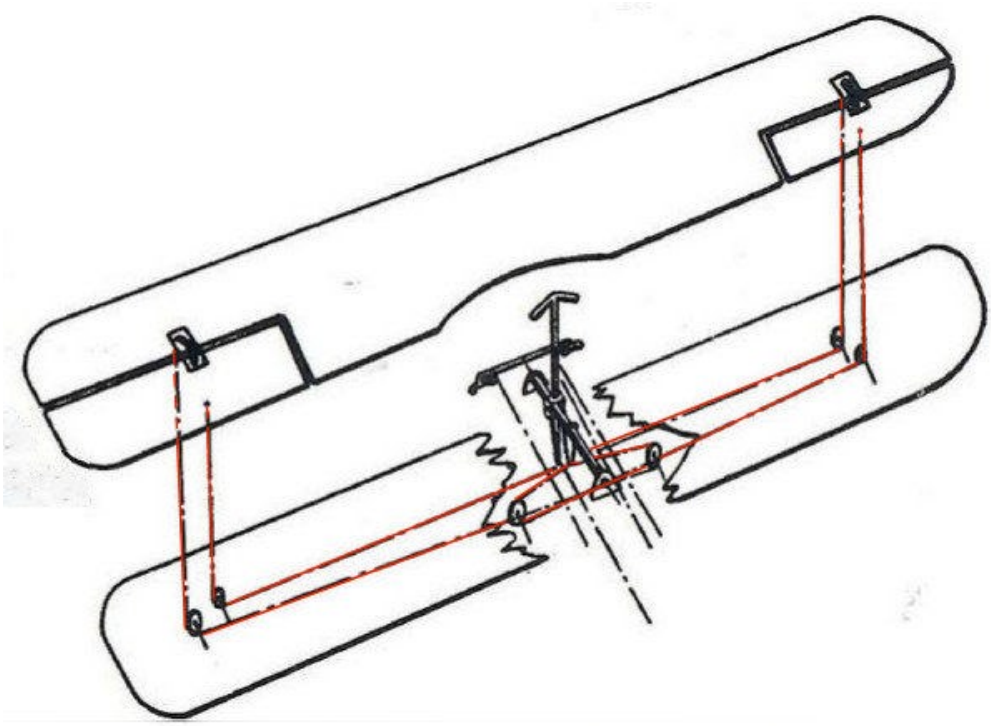
An elevator control cable was fitted midway up and on both sides of the control column. Another pair of cables were similarly fitted, but lower down the control column. The upper and lower pairs of cables were routed rearwards through the fuselage to their exit ports on the fuselage sides close to the tailplane. The upper pair of cables continued rearwards to be attached to the ends of the elevator upper control horns. The lower pair of cables were routed rearwards to be attached to the elevator underside control horns. Turnbuckles were fitted in the cables at the elevator control horns.
As the pilot pushed the control column forwards or rearwards, one pair of control cables would tension and the other pair relax. The tensioned cables would pull the elevator in the required direction while the relaxed cables followed it. This caused the aircraft to climb or dive (pitch).

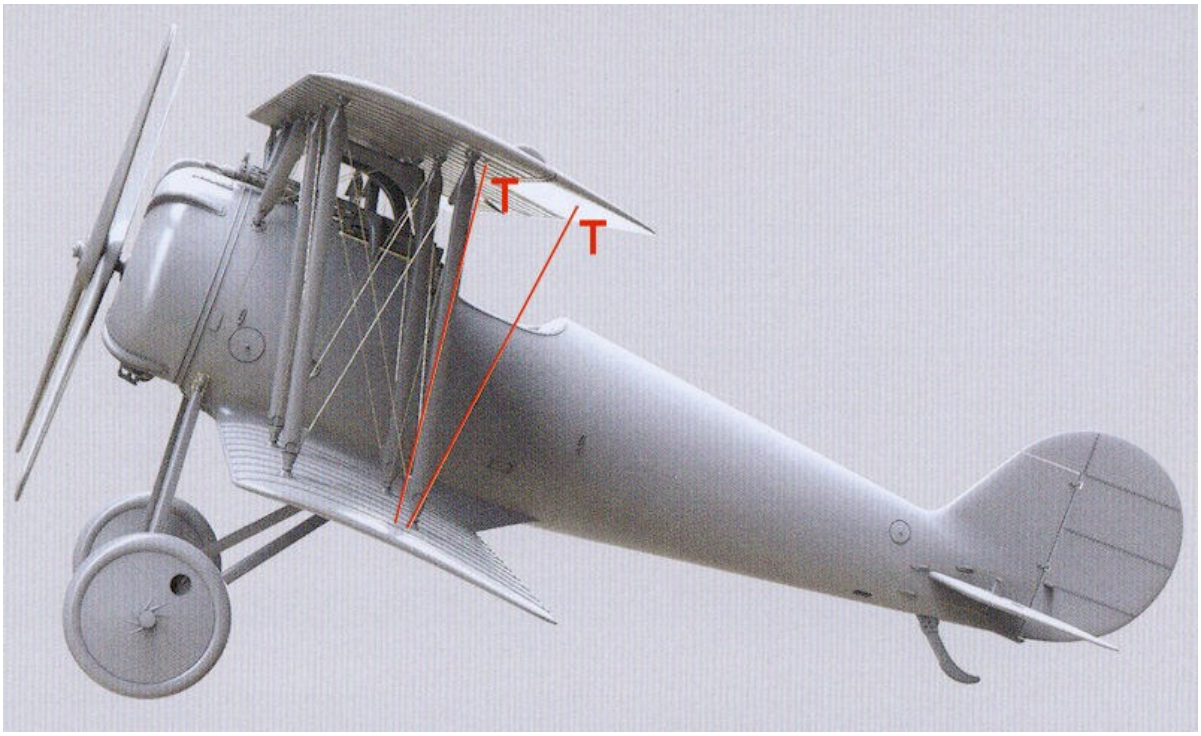




Aileron control cables:

Ailerons were only fitted to the upper wing. The control cables were attached to a system of lever and pulleys in the cockpit under the pilots seat. The primary levers were attached to the rear end of the control column torsion bar. The cables attached to the levers were routed around pulleys and then outboard through the lower wings to their exit ports on the upper surface of the wings, outboard from the rear, outer interplane struts. One cable was routed up and attached to the front of the aileron bell crank. The other cable was routed up and attached to the aileron.
As the pilot moved the control column left or right, the cables on one side of the aircraft would tension and the cables on the opposite side relax. The ailerons on one side of the aircraft would raise or lower and the ailerons on the other side of the aircraft would move in the opposite direction. This caused the aircraft to bank (roll) left or right.
Turnbuckles were fitted in the cables at the underside of the ailerons.





# PART 7
# PROPELLER

## PART 7 - PROPELLER

I chose to replace the kit supplied propeller with a four bladed 'Wotan' laminated wood propeller (WP-049) made by Alexey Belov from 'Proper Plane' in Ukraine.

'Proper Plane' 'Kit propeller'

**Preparation:**

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

Sand the mounting faces to the correct thickness.

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

**Painting:**

To represent a varnish finish to the propeller, airbrush light coats of 'Tamiya' Clear Orange (X26) thinned with 'Tamiya' X20A thinners.

Once dry, airbrush a light sealing coat over the propeller of 'Tamiya' Clear Gloss (X22) thinned with 'Mr. Colour' levelling thinners. Mix in a few drops of 'Tamiya' Red Brown (XF64) to slightly darken the finish.

**Decals:**

**NOTE:** *The decals used from the kit supplied Pfalz D.VIII are the 'Wotan' propeller logos (31 x 4).*

Apply the decals centrally and mid way along each propeller blade.

**Finish:**

Airbrush a semi-matte clear coat, such as 'Alclad' Light Sheen (ALC311) or 'Tamiya' Semi-Gloss (X35) over the propeller

Lightly sponge 'Tamiya' Weathering Master Set A (Mud) along the leading curved edges of the propeller blades to simulate dirt and impact wear.

**Propeller bosses:**

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

Sand the mounting faces to the correct thickness.

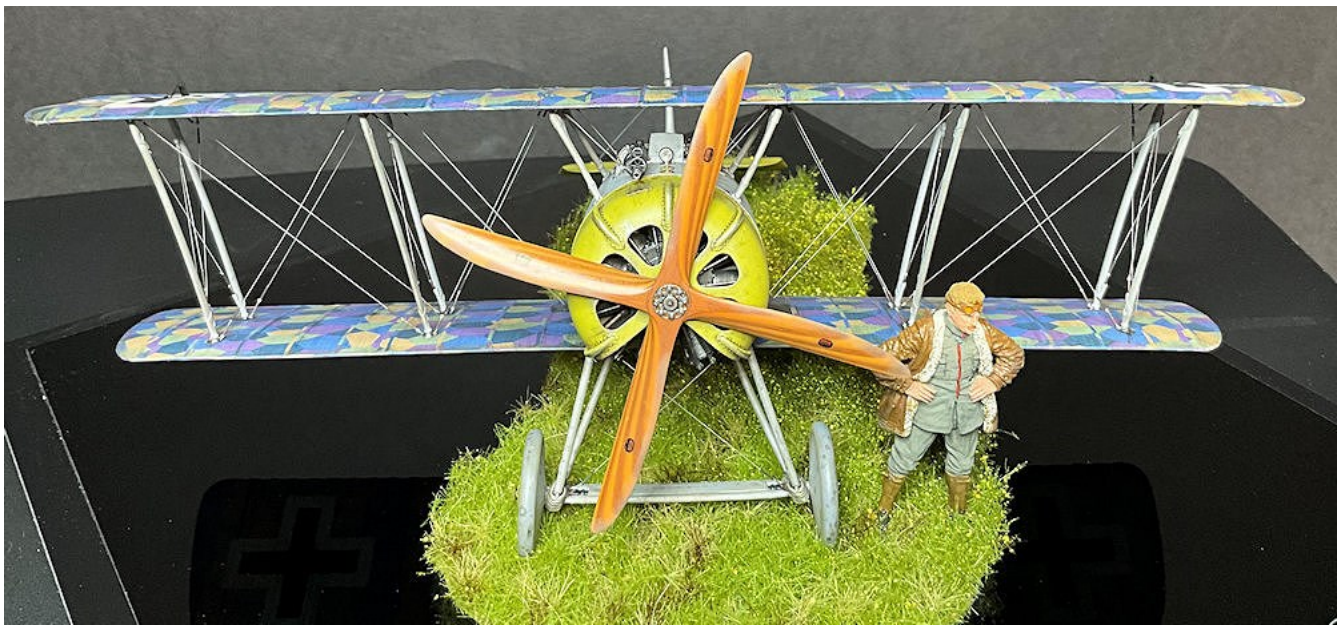
Airbrush both propeller bosses with 'Tamiya' Gloss Black (X1) or similar.

Airbrush both propeller bosses with ‘Alclad’ Steel (ALC112) or similar.

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

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

Brush ‘AK Interactive’ Kerosene wash (AK2039) over the front and rear propeller bosses .



# PART 8
# WEAPONS

## PART 8 - WEAPONS

**NOTE:** *The weapons fitted to the Pfalz D.VIII were two 'Spandau' LMG 08/15 7.92 mm machine guns.*

*Refer to the kit instruction manual for more information on their construction.*

*Refer to Part 5 (Resin) of this build log for more information.* ***Handle all 3D printed parts with care, as the resin used and the fine detail on the parts can easily be damaged if stressed or drilled****.*

***Thin CA adhesive*** *(superglue) should be used throughout the build to secure the model parts.*

**Preparation:**

**NOTE:** *I found that using a straight and sharp scalpel blade was best for cutting through the fine printed support structures. When removing the machine guns, take great care,* ***especially*** *separating the support structures from the tiny* ***cocking handles****.*

Carefully remove the two following engine parts from their print support structures:

Two machine guns.
Two gun barrels.
Two padding pieces.

Remove any stubs from the support structures and any 'rough' printed edges from parts.

Check fit the two barrels through their locating holes in the bottom, front of the machine gun cooling barrels. Trim their length until the muzzles of the barrels fully locating into the cooling barrel holes.

Secure the barrels into the machine guns.

Secure the padding pieces onto the rear ends of the machine gun breach blocks.

**Painting:**

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

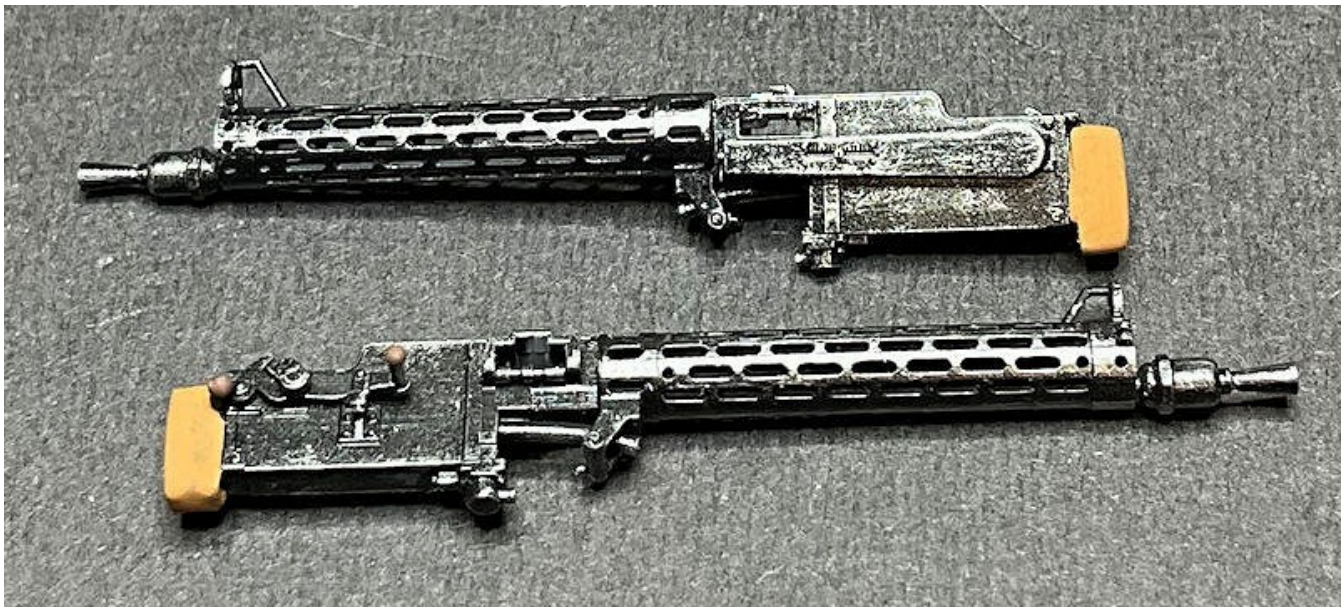
Airbrush the machine guns with 'Alclad' Gunmetal (ALC-120) or similar.

**NOTE:** *Dry brush by using a domed and soft brush, which has a very light dusting of paint. Dry off paint on the brush on an absorbent paper before dry brushing the part.*

Dry brush the machine guns with 'Mr. Colour' Super Iron 2 (203) or similar.

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

Brush paint the handle knobs of the cocking levers with 'Tamiya' Hull Red (XF9) or similar.



# PART 9 ENGINE

## PART 9 - ENGINE

**NOTE:** *The engine fitted to the Pfalz was the 'Siemens-Halske SH.III eleven cylinder rotary engine.*

*Refer to the kit instruction manual for more information on its construction.*

*Refer to Part 5 (Resin) of this build log for more information.* ***Handle all 3D printed parts with care, as the resin used and the fine detail on the parts can easily be damaged if stressed or drilled****.*

***Thin CA adhesive*** *(superglue) should be used throughout the build to secure the model parts.*

**Preparation:**

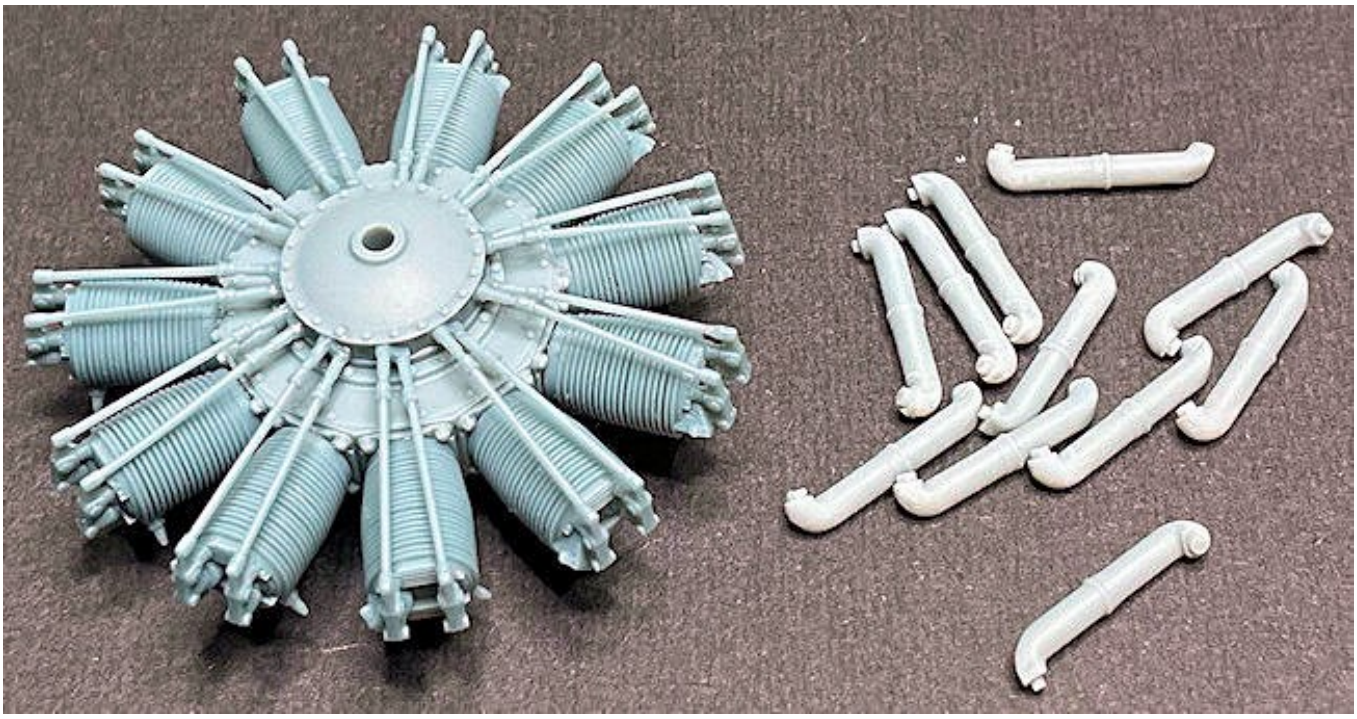
**NOTE:** *I found that using a straight and sharp scalpel blade was best for cutting through the fine printed support structures. When removing the cylinders, it's best to first snip through the support structures for the two push rods before removing the cylinder from their base plate.*

Carefully remove the following engine parts from their print support structures:

Engine crankcase.
Crank case back plate.
Ignition leads slip ring.
Eleven cylinders.
Eleven inlet manifolds.

Remove any stubs from the support structures and any 'rough' printed edges from parts.

Check fit each cylinders into their locating recesses in the engine crank case, making sure they fully locate and the end of the push rods locate into their recesses.



**Assembly:**

Secure the eleven cylinders and pushrods into their recesses in the engine crankcase.

**NOTE:** *The following step will allow a Brass tube to inserted through the engine cowl and engine, then into the centre of the engine fire wall. This tube will support and centralize the cowl and engine onto the fuselage.*

*The fitting of the engine to the fuselage will be covered later in this build.*

Drill through the existing hole in the centre of the engine, using a 1.6 mm diameter drill.

**Painting:**

Airbrush the engine and the eleven intake manifolds with a gloss black, such as ‘Tamiya’ Gloss Black (X1) or similar.

Airbrush the engine with ‘Alclad’ Steel (ALC112) or similar.

Airbrush the eleven intake manifolds with ‘Alclad’ Exhaust Manifold (ALC123) or similar.

**Assembly (continued):**

Secure the eleven intake manifold pipes into their locating recesses in the cylinder heads and rear of the engine crank case.

**Modification:**

Spark plug ignition leads:

Cut eleven lengths of ‘EZ’ black stretch line (Fine).

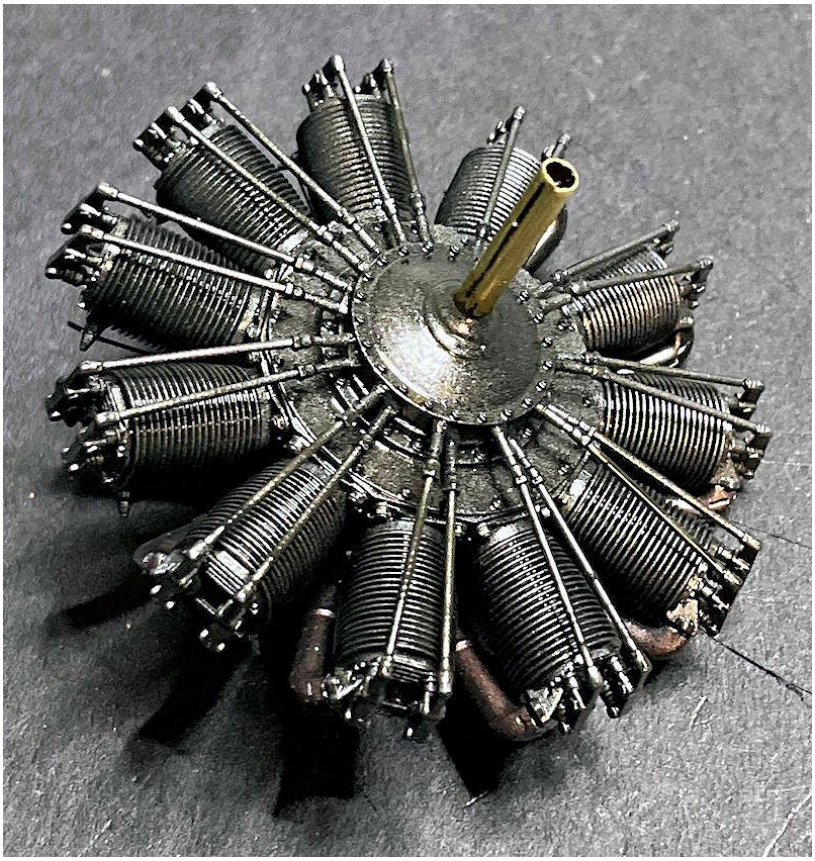
Secure one end of each line to a spark plug on the engine cylinders.

Slightly tension each line and secure the free end to the slip ring on the rear of the engine.

Cut away any residual line at the slip ring.

**Weathering:**

Brush ‘AK Interactive’ Kerosene wash (AK2039) around the cylinders and their cylinder heads. Also lightly up the inlet manifold pipes.



# PART 10
# FUSELAGE
# LOWER WING

## PART 10 - FUSELAGE/LOWER WING

References:

'Aviattic' instruction manual.
Pfalz D.VIII (November 2024) - (P M Grosz)
Online resources.

**NOTE:** *Refer to the kit instruction manual for more information on construction of the fuselage.*

*Refer to Part 5 (Resin) of this build log for more information.* ***Handle all 3D printed parts with care, as the resin used and the fine detail on the parts can easily be damaged if stressed or drilled****.*

***Thin CA adhesive*** *(superglue) should be used throughout the build to secure the parts of the model parts.*

**Preparation:**

Remove the photo-etch cockpit floor (1) and baffle (5) from the kit supplied sheet.

Remove any residual tags from the edges of the parts.

Carefully remove the following cockpit parts from their print support structures:

Cockpit frame assembly.

Three cross members for the cockpit floor in the lower wing.

Fuel tank.

Engine firewall.

Ammunition container and front catch tray.

Pilots seat and cushion.

Seat headrest.

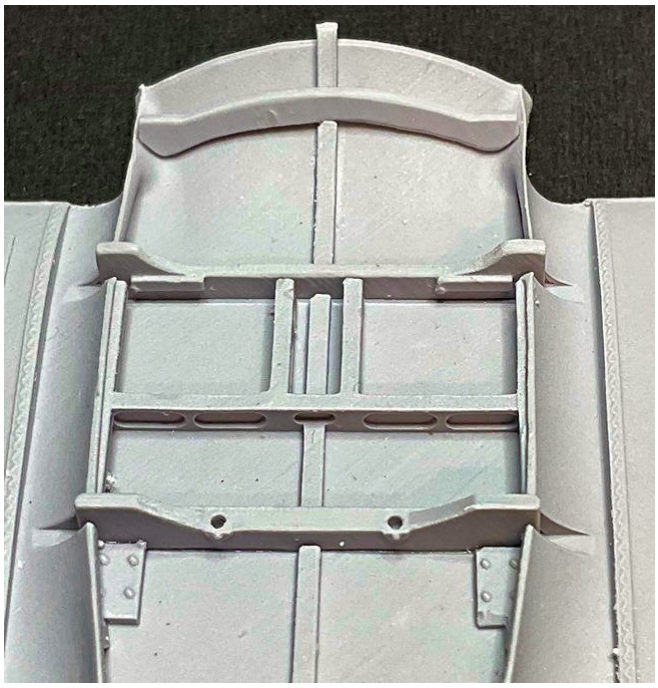
Control column.

Rudder bar assembly.

**NOTE**: *The cockpit instruments, transparent pulsometers and required photo-etch parts will be fitted further on in the cockpit build.*

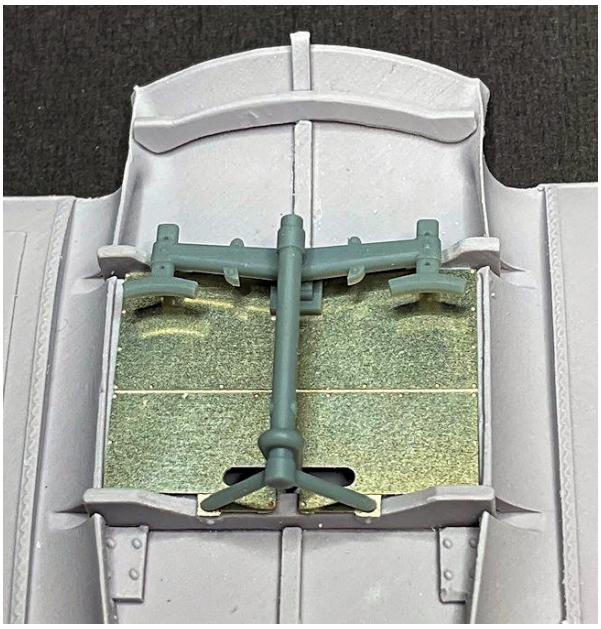
Remove any stubs from the support structures and any 'rough' printed edges from parts.

Secure the three cross members into their locations on the cockpit floor in the lower wing. Refer to the instruction manual for their correct orientation.



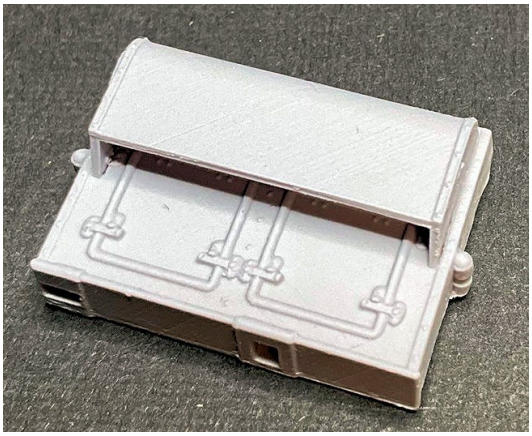
Test fit the photo-etch cockpit floor onto the added middle a rear cross members on the cockpit floor in the lower wing.

With the panel in position, test fit the rudder bar assembly onto the panel with the rear legs through the rear of the panel and into their locating holes in the rear cross member. If necessary, drill out the locating holes using a 0.7 mm diameter drill to ensure a good fit.



Secure the catch tray into its recesses on the lower, rear of the ammunition container.

Secure the photo-etch baffle (5) into the bottom triangular frame of the cockpit frame rear former.



Test fit the fuel tank into its locating notches between the two front cockpit frames.

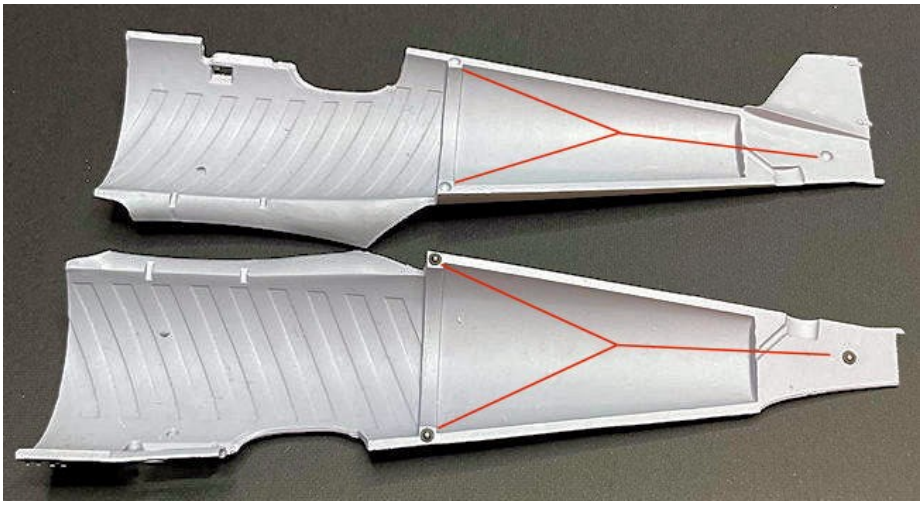
Test fit the ammunition container onto its five locating pegs on the cockpit frame.

**NOTE:** *To aid in the alignment of the two halves of the fuselage, the kit supplies small steel balls, which to be secured into pre-printed recesses in one fuselage half. When joining the fuselage halves together, matching recesses in the other fuselage half fit over the protruding steel balls to align the fuselage.*

Test fit a steel ball into each of the three locating recesses in one fuselage half. Make sure only half of the ball protrudes from the recess. If it protrudes more, use a 1.8 mm diameter drill to slightly increase the depth of the recess.

In one fuselage half, secure a steel ball into the two recesses in the fuselage frame at the rear of the cockpit and a third steel ball into the recess in the fuselage rear.

Test fit the two fuselage halves together to make sure the two halves are in full contact with each other and that there are not obvious gaps in the joint.



Remove the following photo-etch cockpit parts from the kit supplied sheet:

Fuel tank restraining straps x2 (2 and 3)
Top of cockpit tub frame (4)
Shell case deflectors x2 (6 and 7)
Heat deflectors x2 (8 and 9)
Gun supports x2 (10)
Magneto key chain (23)
Fuel advance lever (24)
Rudder bar foot straps x2 (25)
Fuel regulator switch plate (27)
Fuel switch plate (27)
Manometer gauge bezel (28)
Tachometer bezel (29)
Left instrument panel (32)
Right instrument panel (33)

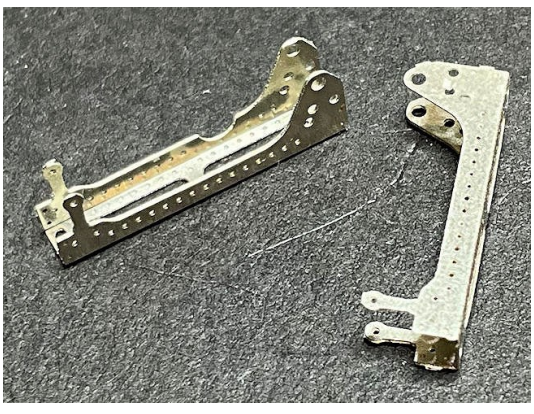
**NOTE:** *The printed fuel switches will be used instead of using the photo-etch fuel switches (30 and 31). The various fittings for the pilots seat harness will be fitted further on in the cockpit build.*

Remove any residual tags from the edges of the parts.

Bend the two fuel advance levers (24) onto each other and secure in position.

Bend the two rudder bar foot straps over a tooth pick to form a semi-circular shape.

Bend the sides of the two gun supports (10) to 90 degrees, as shown in the instruction manual.



Refer to the kit instruction manual and using a suitable tool, bend the two shell case deflectors (6 and 7) to 90 degrees.

**NOTE:** *The following steps are necessary to make sure that with the cockpit frame added, the fuselage halves can be fully joined without any gaps in the join.*

Locate the two halves of the fuselage together, making sure the edges are aligned.

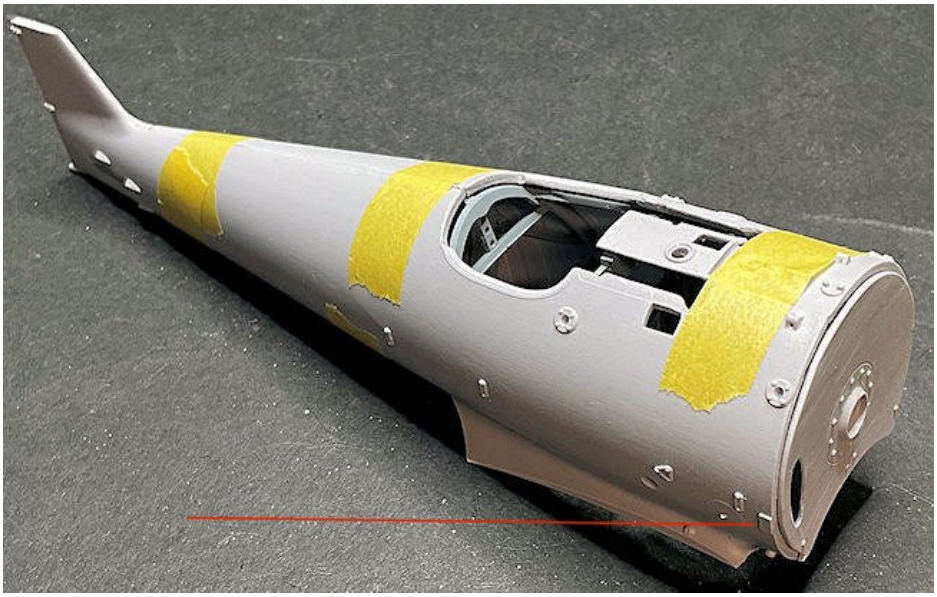
Use masking tape the secure the fuselage halves together, including the top, front of the fuselage.

Slide the cockpit frame into the fuselage until it's rear frame contacts the internal shoulder.

Locate the engine firewall onto the front and central locating recess of the cockpit frame.

Make sure that:

There are no gaps along the joint between the fuselage halves.
The cockpit frame can be fully inserted into the fuselage without restriction.
The engine firewall fully locates onto the front of the cockpit frame.



Remove the rectangular areas as shown in the kit instructions and by the red line in the above photograph (not required).

**Painting:**

**NOTE:** *During the following step, avoid where possible, painting mating surfaces/edges of parts, especially the fuselage halves and ball aligners.*

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

Fuselage halves (inner surfaces only).
Cockpit frame assembly.
Cockpit under floor area in the lower wing.
Fuel tank.
Engine firewall (inner face only).
Ammunition container assembly.
Pilots seat and cushion.
Headrest (cockpit side only).
Control column.
Rudder bar assembly.
The cockpit instruments set.
Photo-etch cockpit floor (1) (cockpit side only).
Two photo-etch instrument panels (32 and 33).

Airbrush the following parts with ‘Tamiya’ Grey-Green (IJN) (XF76) or similar:

Fuselage halves (inner surfaces only).

Cockpit frame assembly.

Cockpit floor in the lower wing.

Control column.

Rudder bar assembly.

Airbrush the following parts with ‘Tamiya’ Dark Yellow (XF60) or similar:

Pilots seat and cushion.

Headrest (cockpit side only).

Photo-etch cockpit floor (cockpit side only).

Two photo-etch instrument panels.

Airbrush the following parts with ‘Alclad’ Duraluminium (ALC-102) or similar:

Engine firewall (inner face only).

Ammunition container assembly.

Airbrush the fuel tank with ‘Alclad’ Copper (ALC-110) or similar.

Brush paint the two formed photo-etch foot straps (25) for the rudder bar with ‘Humbrol’ Leather (62) or similar. Paint the metal fittings with ‘Mr. Colour’ Stainless Steel (213) or similar.

Brush paint the handle of the photo-etch throttle lever with ‘Tamiya’ Hull Red (XF9) or similar.

Refer to the kit instruction manual for the printed strip of cockpit instruments. Brush paint the detailed parts as follows:

**‘Tamiya’ Wooden Deck Tan (XF78)** - Control column hand grips.

**‘Tamiya’ Rubber Black (XF85)** - Starter magneto, Compass body.

**‘Mr. Colour’ Brass (219)** - Fuel selector switches, starter switch.

**‘Mr. Colour’ Stainless Steel (213)** - Trigger tabs on control column, gun support brackets on cockpit frames, compass support, carburettor air intake, altimeter, fuel gauge.

Wood effect:

**NOTE:** *Refer to Part 2 (Wood Effects) of this build log for detail of applying wood effects using the ‘Windsor & Newton’ Griffin Alkyd oil paints.*

Apply the wood effect to the pilots seat ‘Windsor & Newton’ Griffin Alkyd Burnt Umber oil paint.

Apply the wood effect to the following parts by brushing with ‘Windsor & Newton’ Griffin Alkyd Raw Sienna oil paint:

Photo-etch cockpit floor (cockpit side only).

Two photo-etch instrument panels.

*Leather effect:*

Apply the leather effect to the following parts by brushing with ‘Windsor & Newton’ Griffin Alkyd Burnt Sienna oil paint, then while still wet, stippling with Raw Sienna:

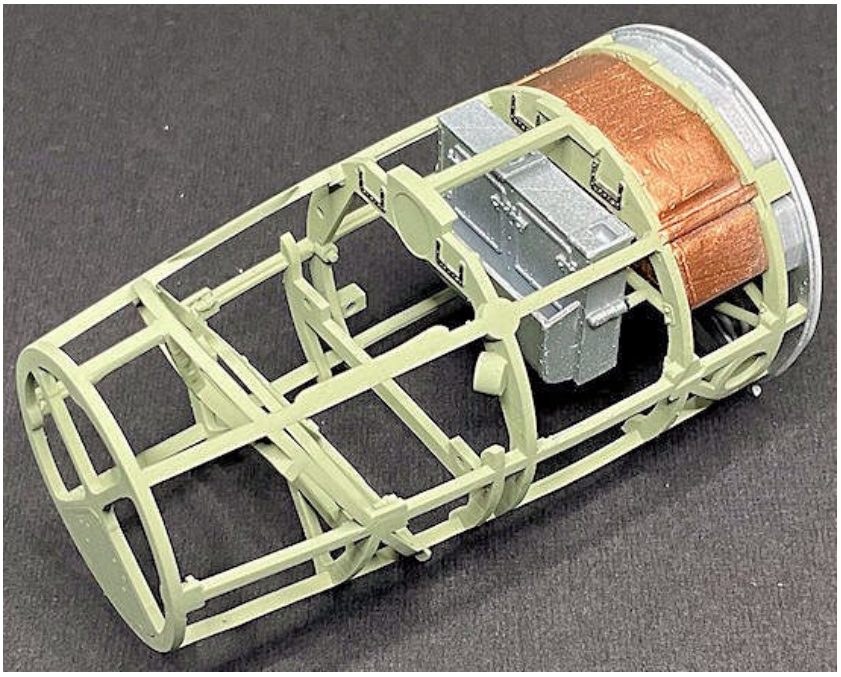
Pilots seat top section, Pilots seat cushion, Top section of the headrest (cockpit side only).

**Assembly:**

Secure the fuel tank into its locations between the first and second cockpit frames.

Secure the engine firewall into its location recesses in and around the front cockpit frame.

Secure the ammunition container assembly onto its locating pegs on the second cockpit frame.



Secure the photo-etch fuel regulator plate (26) over the forward hole in the left instrument panel.

Secure the photo-etch fuel switch plate (27) over the rear hole in the left instrument panel.

Secure the photo-etch Tachometer bezel (29) into its recess on the pilots instrument panel.

**Decals:**

***NOTE:*** *All of the cockpit instrument decals required are separate, except the compass decal. That decal needs to be either cut or punched out from its decal sheet. I chose to replace it with an appropriate decal from the 'Airscale' Generic WW1 Instrument Dials (AS32 WW1) set.*

Apply the relevant decals to the instruments as follows:

Altimeter (decal 9), Compass ('Airscale' decal),
Magneto switch (decal 4), Fuel gauge (decal 8),
Magneto (decal 3).

Apply decal 5 or 6 onto the Tachometer face on the pilots instrument panel.

Apply the relevant decals onto the added photo-etch parts on the left instrument panel:

Fuel regulator plate (decal 1), Fuel switch (decal 2) - left panel.

Apply decal 7 onto the Manometer recess in the right instrument panel.

Brush 'Tamiya' Clear Gloss (X22) onto the Manometer decal and fit the bezel (28) over the decal.

**Pre-rigging:**

**NOTE:** *Refer to Part 6 (Rigging) for information on the cockpit rigging required. At this stage of the build it's best to pre-rig as much as possible before assembly of the model continues.*

*The pre-rigging materials used are:*

*'Modelkasten' 0.2 mm diameter black line (marked as 1.5).*

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

*'Steelon' or 'Stroft GTM' Mono-Filament (0.08 mm diameter).*

*Nickel-Silver or Brass tube can be chemically blackened by immersion in solutions such as 'Blacken-It' or similar.*

Rudder control cables:

Using drill of 0.3 mm diameter, drill a hole through the rudder bar at the two control cable attachment points.

Cut two long lengths of black line.

Pass one end of lines through the pre-drilled holes and secure in position.

Trim away any protruding line at the front side of the rudder bar.

Cut two short lengths of blackened tube.

Slide the tubes onto the lines and up to the rudder bar and secure on the lines.

Elevator control cables:

Using drill of 0.3 mm diameter, drill a hole horizontally through the control column at the molded bolts above the fork section.

Using drill of 0.3 mm diameter, drill a hole horizontally through the molded bolts at the bottom of the fork section.

Cut three long lengths of black line.

Pass one line through the pre-drilled holes above the fork section and arrange the two exposed lines to equal length.

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

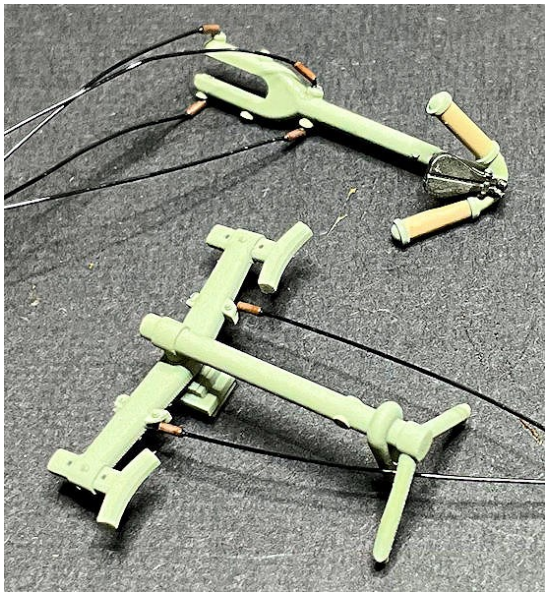
Pass the two remaining lines through the pre-drilled holes at the bottom of the fork section.

Secure the lines in the fork section.

Trim away any protruding line at the inner sides of the fork section.

Cut four short lengths of blackened 0.4 mm diameter tube.

Slide the tubes onto the lines and close to the control column and fork section and secure on the lines.



**Assembly (continued):**

**NOTE:** *Refer to the kit instruction manual for more information on construction of the fuselage.*
***Thin CA adhesive*** *(superglue) should be used throughout the build to secure the parts of the model parts.*

Secure the two foot straps (25) onto the ends of the foot rest bars at the ends of the rudder bar.

Secure the rudder bar assembly into its square opening and rear holes in the photo-etch floor.

Secure the floor assembly into the lower wing with the rudder bar into its floor recess and the rear bars into the two rear holes in the rear of the cockpit floor area on the lower wing.

Secure the control column onto the torsion tube from the rudder bar.

Secure the seat cushion onto the pilots seat.

Secure the two fuel selectors into their locating holes in the left instrument panel.

Secure the magneto onto its location on the right instrument panel.

**NOTE:** *I found that the throttle lever needed to be bent slightly to clear the cockpit frame.*

Secure the following parts in position on the cockpit frame:

Throttle lever onto it locating peg on the left side of the cockpit frame.

Compass mounting into its locating hole in the left side of the cockpit frame.

Compass onto its fitted mounting.

Oil pulsometer into its locating hole in the left side of the cockpit frame.

Left instrument panel in the left side of the cockpit frame.

Magneto starter switch into its locating hole in the right side of the cockpit frame.

Right instrument panel.

**NOTE:** *I chose not to fit the two photo-etch bracing straps to the forward sides of the cockpit as they will not be seen on the finished model. Similarly the top tank strap need not be fitted, although I chose to fit it.*

Secure the tank strap into its locating recesses in the three forward frames.

Cut a long length of 0.2 mm Nickel-Silver rod, such as 'Albion Alloy's' (NSR02) or similar.

Secure one end of the rod behind the bottom of the throttle lever and the other end onto the cockpit frame under the ammunition container.

Drill a hole of 0.5 mm diameter through the cockpit frame below the fitted oil pulsometer.

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

Pass the wire through the pre-drilled hole and attach the end to the bottom om the pulsometer.

Loop the wire down and then secure it wire in the hole in the cockpit frame.

Pass the wire forward and secure it onto the cockpit frame longeron.

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

Secure one end of the wire to the rear of the magneto starter switch mounting.

Loop the wire down the up to the starter switch.

Secure the wire to the starter switch lever.

Drill two holes of 0.3 mm diameter through the upper left longeron above the front edge of the left instrument panel.

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

Pass the wires through the mounting rings around the Altimeter.

Loop the wires back and secure them to themselves.

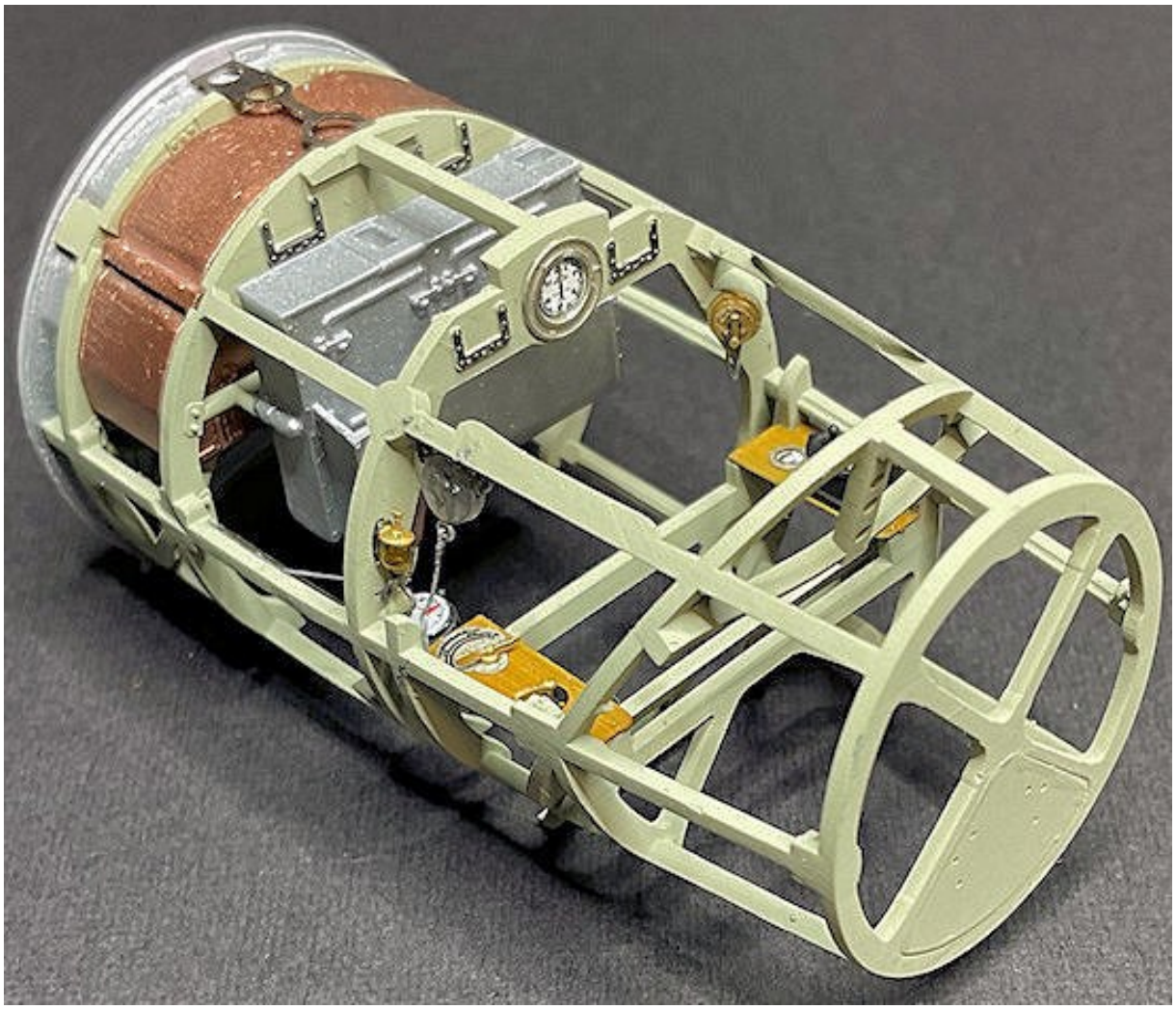
Pass the top two wires through the pre-drilled holes in the longeron and from the inside of the cockpit frame.

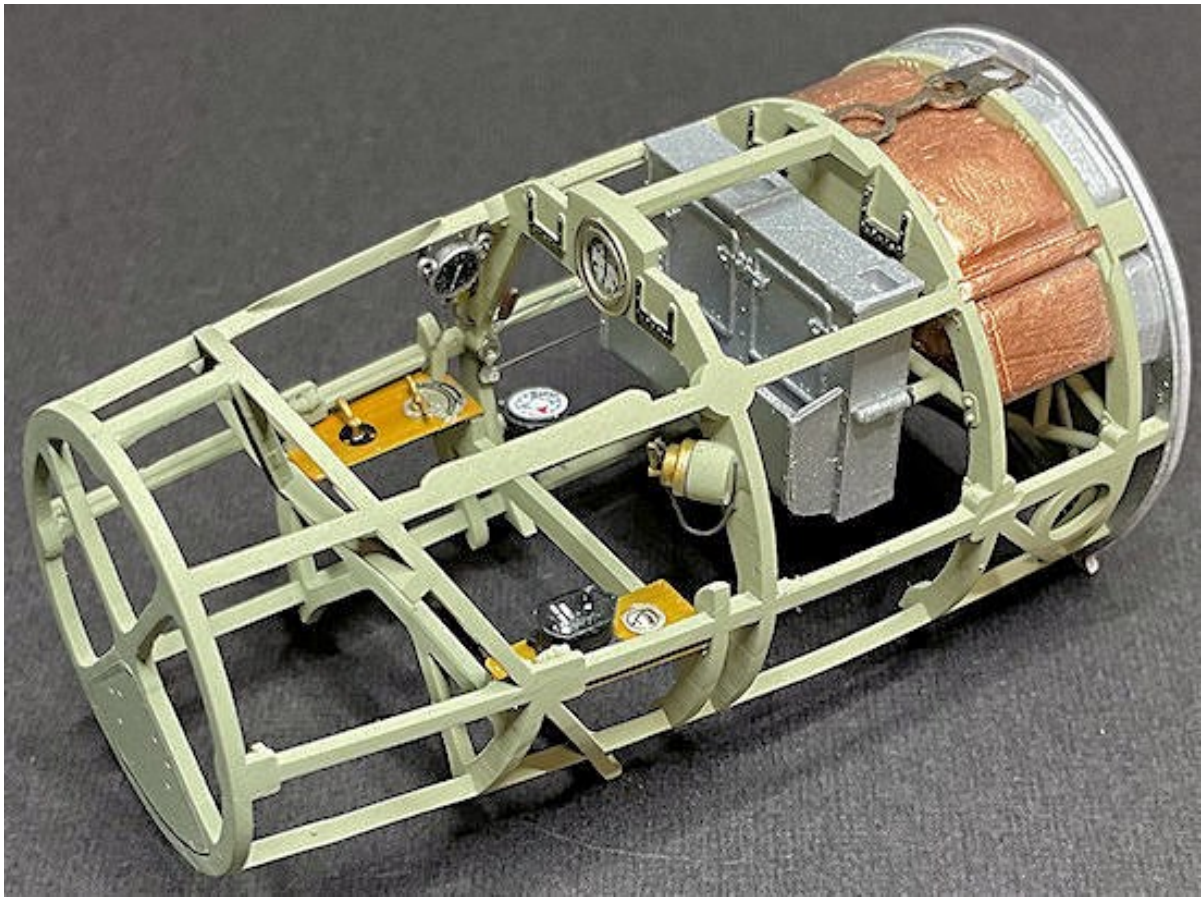
Pull the wires to draw the Altimeter to the longeron.

Secure the wires in the longeron then cut away any residual wire at the outer edge of the longeron.

Pass the third, bottom wire through the gap between the top of the left instrument panel and the cockpit frame.

Secure the wire to the frame then cut away any residual wire at the outer edge of the frame.





**NOTE:** *The kit instructions say to not fit the pilots seat into the cockpit frame until after the seat straps have been made. And fitted. However, I chose to fit the seat at this stage as it helps to position and secure the seat straps more easily.*

Secure the pilots seat centrally onto its cockpit frame supports.

Seat belts:

**NOTE:** *I found that running a sharp blade along the edges of the kit supplied strap outlines helped to peel them off the backing without and fraying at their edges. The long straps are supplied as combined shoulder straps with a cross chest strap. However, the kit instructions show separate shoulder straps. Therefore, the cross strap needs to be cut away from the cross strap.*

Remove two shorter straps and the two long straps from the backing paper.

*Shoulder straps:*

Remove the following photo-etch parts from the kit supplied sheet:

Latches x 2 (16)
Clasps x 2 (17)
Connectors x 2 (21)
Buckles x 2 (20).

Bend the latches to 90 degrees then bend the strap locating 'leg' back under the latch, leaving a small gap for attaching the clasps of the straps.

Pass one end of the straps through the slot in the clasps and bend them back onto the straps, securing them in position using thin CA adhesive.

Pass the other ends of the straps through an outer slot in the buckles then over the centre bars and through the opposite slots. Leave the straps loose in the buckles.

Pass the ends of the straps through the slot in the connectors and bend them back onto the straps, securing them in position using thin CA adhesive.

Hold the straps in position over the fitted pilots seat and note where the buckles should be located on the straps. If necessary, move the buckles on the straps.

*Lap straps:*

Remove the following photo-etch parts from the kit supplied sheet:

Clasps x 2 (18)
Connector (21)
Connector (22)
Buckles x 2 (19).

Pass one end of the straps through the slot in the clasps and bend them back onto the straps, securing them in position using thin CA adhesive.

Pass the other ends of the straps through an outer slot in the buckles then over the centre bars and through the opposite slots. Leave the straps loose in the buckles.

Pass the ends of the straps through the slot in the connectors and bend them back onto the straps, securing them in position using thin CA adhesive.

Hold the straps in position over the fitted pilots seat and note where the buckles should be located on the straps. If necessary, move the buckles on the straps.

Brush ‘Ammo’ Acrylic filters Medium Brown (A.Mig-0823) over the straps to give a canvass appearance. Several coats may be required.

*Fitting shoulder straps:*

**NOTE:** *Thin CA adhesive used during assembly. Refer to the kit instructions for correct placement of parts.*

Secure the two latches onto the underside of the cockpit frame cross member behind the pilots seat.

Locate the locating rings on the claps over the bent ’leg’ of the latches. Make sure the shoulder straps. buckles are facing forwards in the cockpit.

Bend the ‘legs’ over the clasp rigs to hold them then secure the clasps to the latches.

Lay the shoulder straps over the seat back and down onto the seat cushion and in the desired positions.

Secure the straps to the seat cushion.

*Fitting lap straps:*

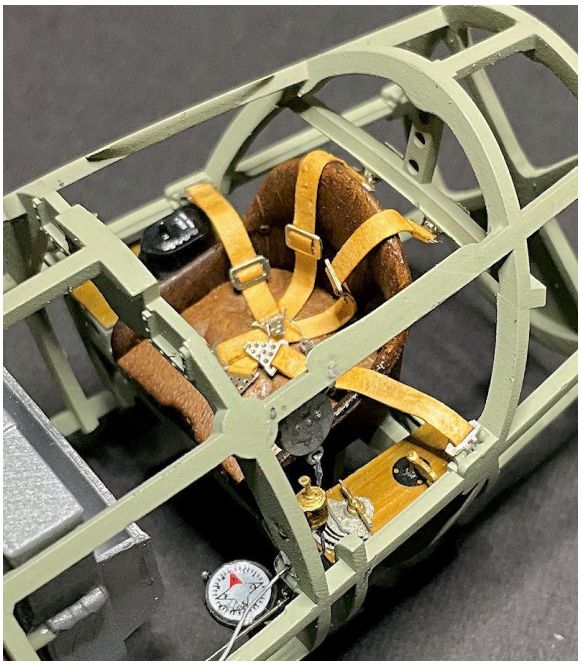
Drill two holes of 0.3 mm diameter into the cockpit side frames at the mountings for the lap straps.

Insert the two ‘legs’ of the clasps into the pre-drilled holes then bend the clasps towards the pilots seat. Make sure the straps are the correct side up. Make sure the strap with the connectors lock pin is fitted the left side of the cockpit frame.

Secure the clasps into the cockpit side frames.

Lay the shoulder straps over the seat back and down onto the seat cushion and in the desired positions.

Secure the straps to the seat cushion.



**Weathering:**

**NOTE:** *Weathering effect is applied before assembly of the fuselage. Refer to Part 3 (Weathering) of this build log for more information.*

To provide a good base for applying weathering, airbrush a semi-matte clear coat, such as ‘Tamiya’ Semi-Gloss (X35) or similar over the following surfaces:

Inside of the fuselage halves

Cockpit assembly

Lower wing centre section.

Brush apply ‘Flory Models’ Clay washes over the surfaces, allow to dry then remove to achieve your desired weathered effects. I chose to use the ’Flory Models’ Dark Dirt wash.

To seal the weathered surfaces, airbrush a light coat of semi-matte clear coat, such as ‘Tamiya’ Semi-Gloss (X35) or similar over the treated areas.

Brush a clear gloss coat, such as ’Tamiya’ Clear (X22) or similar onto the instrument faces represent the glass lenses.

**Assembly (continued):**

Remove any paint/primer from the mating edges of the cockpit assembly and fuselage halves. These are primarily:

Front edge of the fuselage halves locating rib for the rear of the cockpit assembly.

Front edge of the fuselage halves.

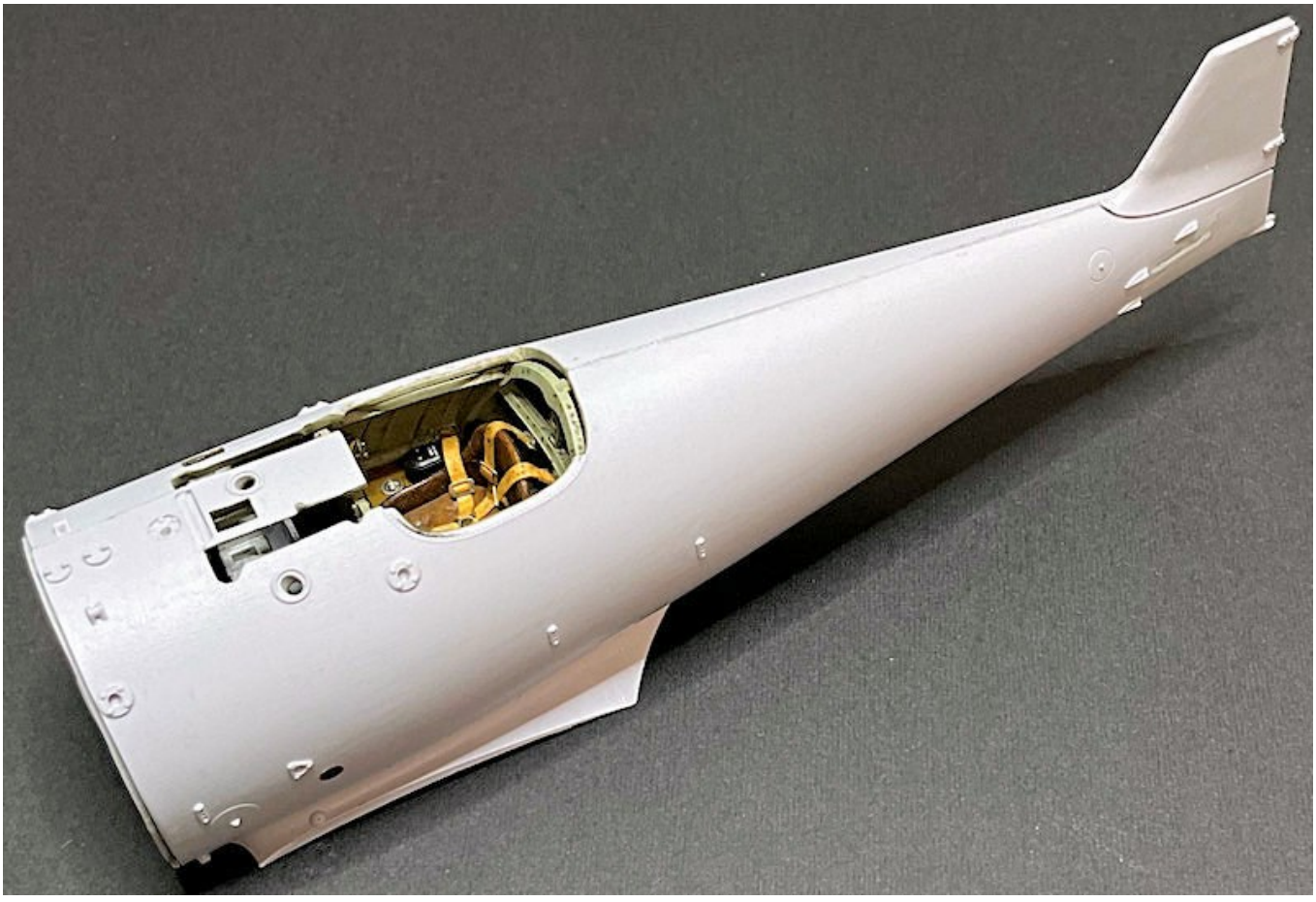
Outer edges of he longerons on the cockpit assembly.

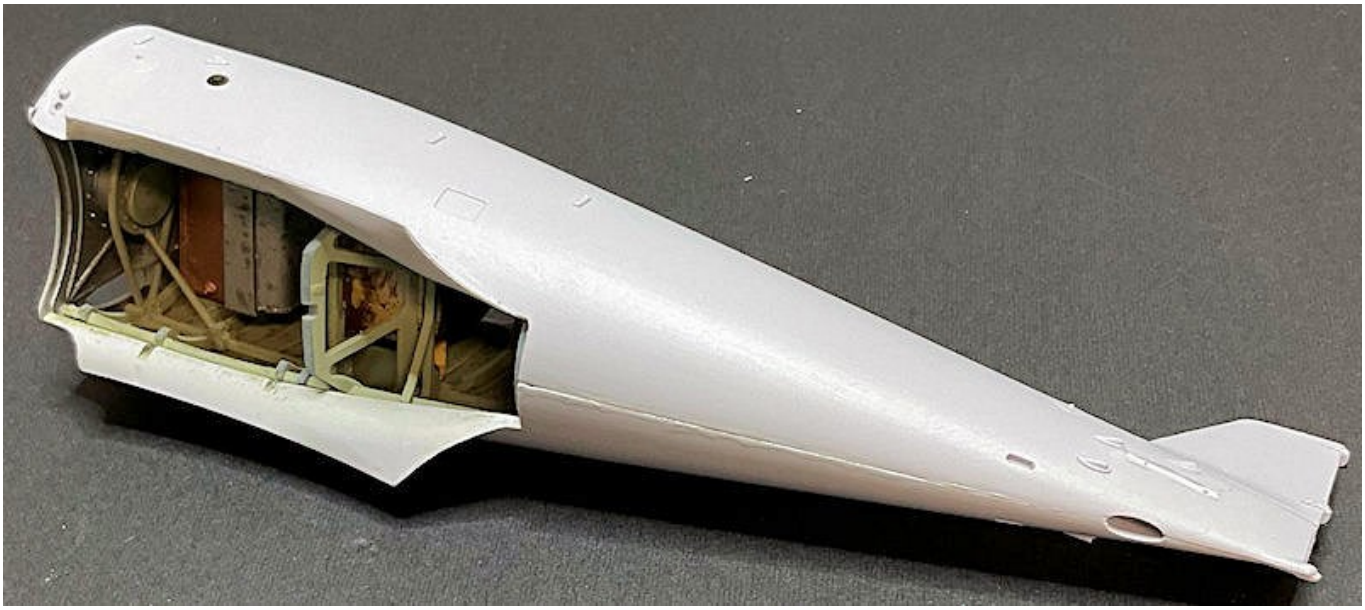
Top centre edge of he pilots instrument panel.

Outer edge of the rear frame of the cockpit assembly.

Mating edges of the fuselage halves.

Test fit the cockpit assembly into the closed fuselage halves, making sure it fully locates and the fuselage halves close fully with no restrictions.





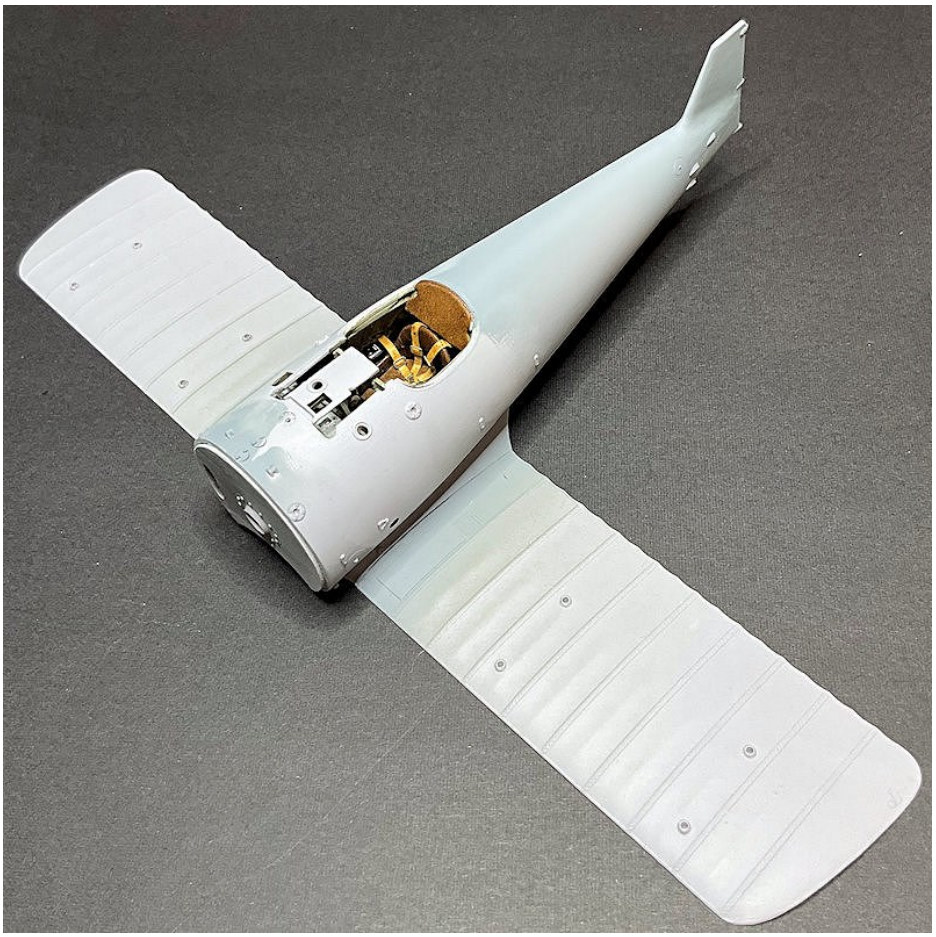
Mask off the open cockpit and gun troughs then airbrush a grey primer, such as ‘AK Interactive’ Grey (AK758) or similar over all of the fuselage/wing joints. This will show any areas of the joints that require further filling and/or sanding.

If necessary:

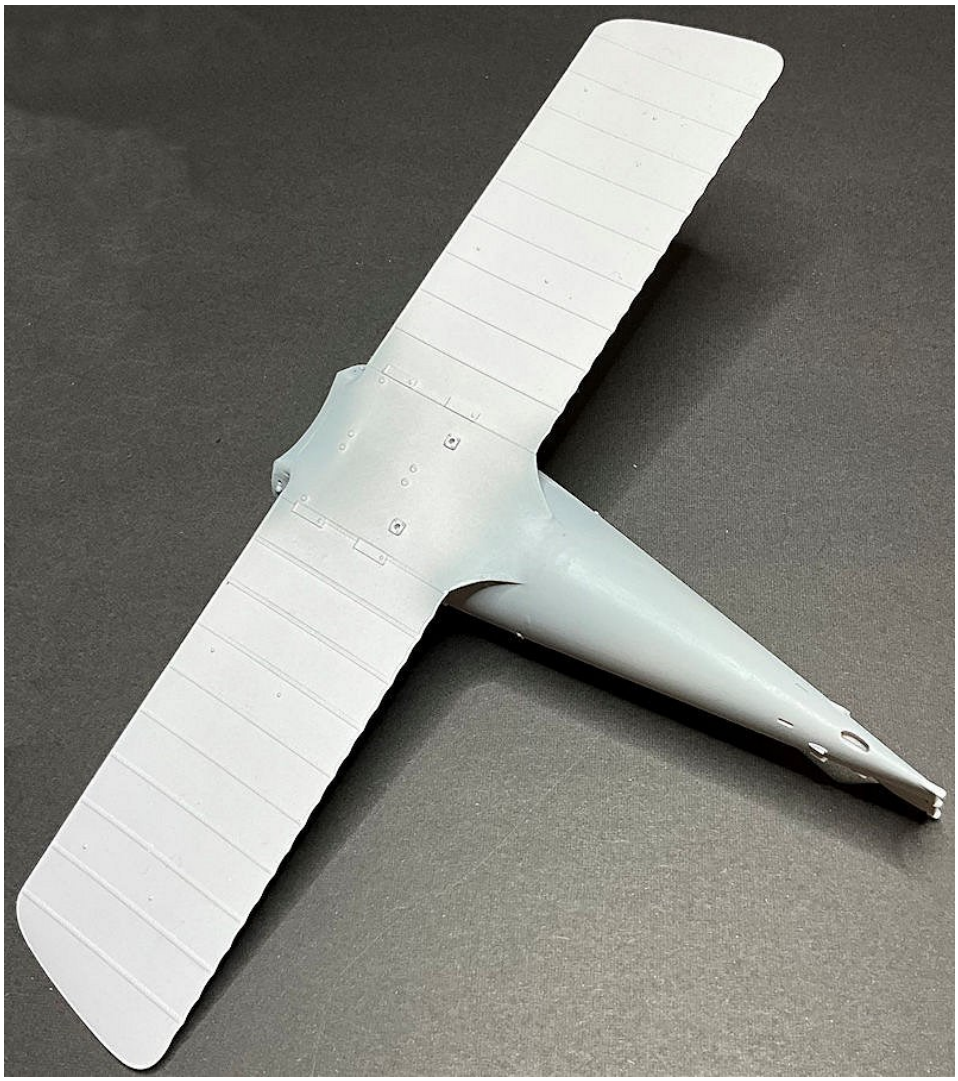
Re-fill any joints.

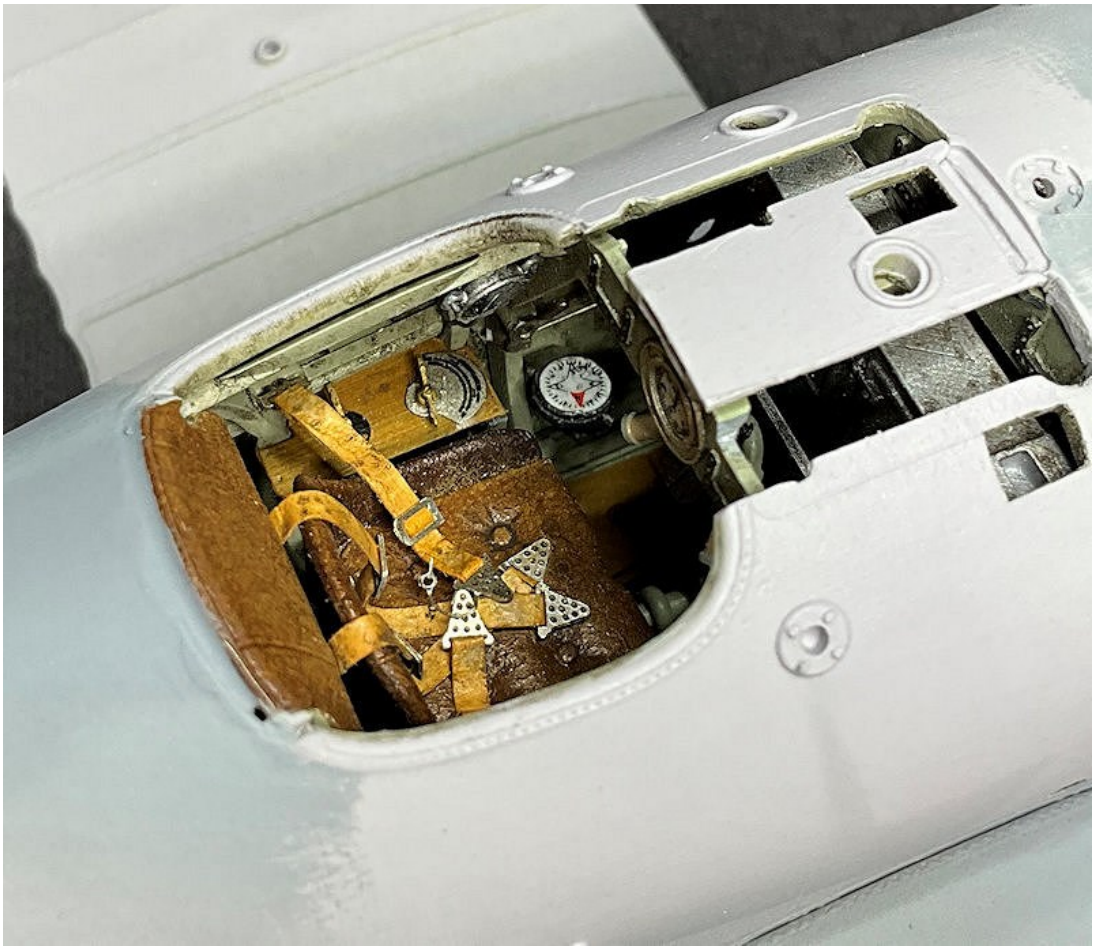
Re-sand those areas to blend them with the surrounding surfaces.

Re-prime the areas and check for gaps.



Remove all masking.





Secure the two carburettor air intakes into their locating openings in the sides of the fuselage.

*Windscreen:*

**NOTE:** *The windscreen will be fitted into the fuselage later in this build.*

Remove the windscreen photo-etch parts (13, 14 and 15) from the kit supplied sheet.

Remove any tags from the edges of the parts.

Use the windscreen template on the kit supplied photo-etch sheet to cut out the windscreen from a thin acetate sheet.

Use a small amount of thin CA adhesive to secure the windscreen frame support (14) onto the bottom edge of the windscreen.

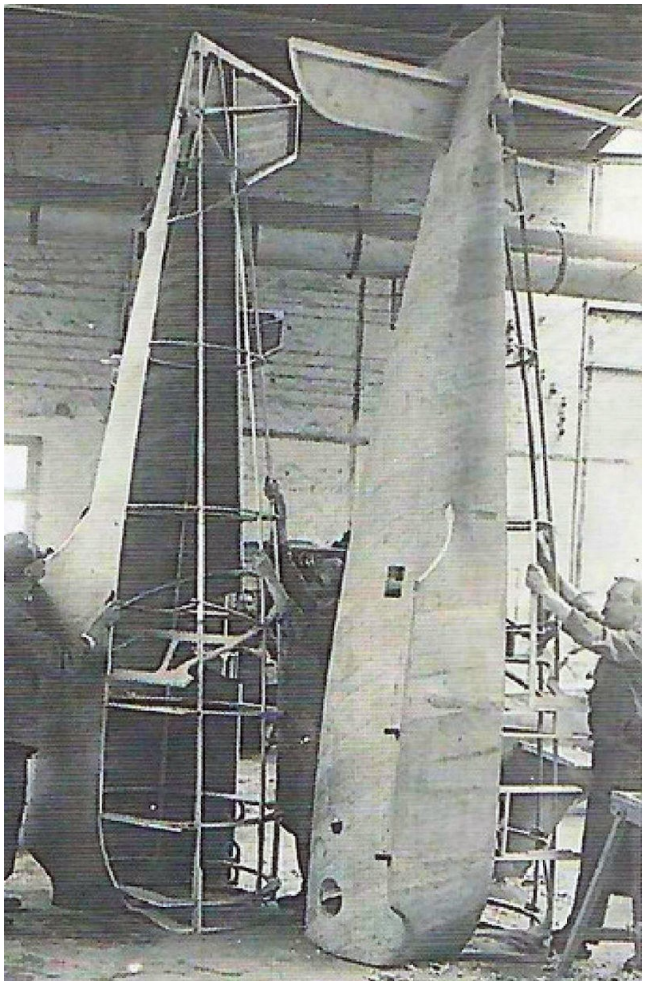
Turn the sheet over and use a small amount of thin CA adhesive to secure the windscreen frame support (15) onto the sheet and aligned to the support (14).

Test fit the windscreen into its locating slot in the top, forward fuselage.

Test fit the windscreen front strip (13) into its locating slot forward from the windscreen slot.

*Fuselage seam strips:*

The fuselage outer 'skin' was produced as two separate halves, which were then joined over and to the fuselage internal structure. Seam strips were fitted along the fuselage joints to protect the joints from the elements.



To represent the fuselage seam strips a used 1.0 mm wide 'Tamiya' masking tape, which were applied along the fuselage upper and lower fuselage joints.

**Painting (continued):**

Mask off the following:

Lower wings at the joint to the fuselage
Open cockpit
Gun troughs
Openings in the fuselage/engine firewall
Inside of the engine cowl.

Airbrush the exposed surfaces with a grey primer, such as 'AK Interactive' White (AK759) or similar.

Airbrush the inside of the engine cowl and engine firewall with 'Alclad' Duraluminium (AK102) or similar.

Airbrush the fuselage with a mix of 'Tamiya' Flat Aluminium (XF16 x2) and Sky Grey (XF19 x1) ratio.

Remove all masking.

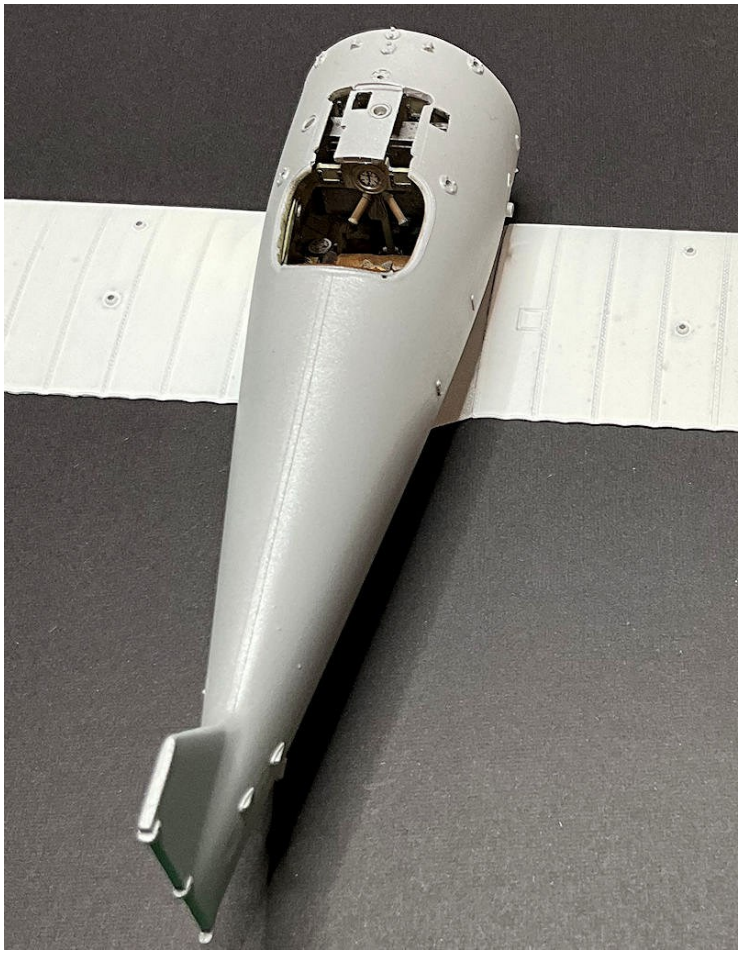
Mask off the fuselage at the joint to the lower wings and the engine firewall.

Mask off the inside of the engine cowl.

**NOTE:** *White primer is used on parts of the model where 'Aviattic' decals are to be applied, as these decals are semi-transparent and the white will help show the linen effect on the decals.*

Airbrush the outside of the engine cowl and lower wings with a white primer, such as 'AK Interactive' White (AK759) or similar.

Remove all masking.



Once the applied paints have fully cured, check that there are no surface imperfections, such as trapped dust, hairs etc, especially over the white painted areas. If necessary, lightly sand the surfaces to create a smooth surface (required for the application of decals).

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

Cockpit padding piece.

Tail skid.

Photo-etch shell case deflectors x2 (6 and 7).

Photo-etch heat deflectors x2 (8 and 9).

Photo-etch pilots foot step (34).

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

Two ammunition feed chutes.

Two ammunition ejector chutes.

Photo-etch gun supports x2 (10).

Airbrush or brush paint the parts as follow:

Tail skid wood - **‘Tamiya’ Flat Earth (XF52)** or similar.

Ammunition feed chutes, ammunition ejector chutes - **‘Alclad’ Steel (ALC-112)** or similar.

Windscreen frame supports, windscreen front strip, tail skid metal fittings, pilots foot step surround - **‘Mr. Colour’ Stainless Steel (213)** or similar.

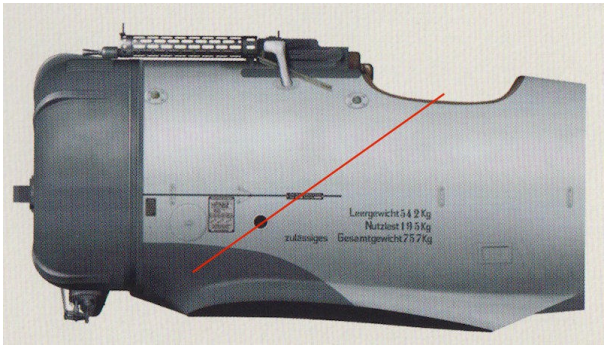
Cockpit padding piece - **‘AK Interactive’ Brown Leather (AK3031)** or similar.

Gun supports - **‘Alclad’ Gunmetal (ALC-120)** or similar.

Fuselage filler caps x 2 - **‘Mr. Colour’ Brass (219)** or similar.

Engine cowl (outer surface) -**‘Tamiya’ Yellow Green (XF4)** or similar.

**NOTE:** *The kit supplies decals 102, 103 and 104 to represent the painted areas of the fuselage where the engine exhaust staining occurred. I chose instead to paint those areas.*



Mask off the fuselage and lower wings to leave only the areas to be painted exposed.

**NOTE:** *I mixed the paint colours to approximate that of the kit supplied decals.*

Airbrush the exposed areas with a mix of ’Tamiya’ IJN Grey (XF75) and Rubber Black (XF85) to a ratio of 80/20%.

Remove all masking.

Brush ‘Flory’ Dark Dirt clay wash over the engine fire wall and over the inside surface of the engine cowl to represent dirt and oil.

Mask off the top and underside of the lower wings, leaving only the walk board and access panels exposed.

Brush paint the exposed walk board and access panels with ‘Mr. Colour’ Stainless Steel (213) . Also brush paint the interplane strut mountings on the top surface of the lower wings. Brush paint the interplane strut mountings on the top surface of the lower wings.

Remove all masking.

**Assembly (continued):**

**NOTE:** *The instruction manual, although of good quality, does lack conventional step by step assembly instructions, relying instead of illustrations and general hints. This is most evident when it comes to fitting the various parts around the weapons. The following sequence is how I fitted the parts, using thin CA adhesive.*

Secure the two machine gun mountings into their locating troughs in the forward fuselage, making sure they rest into their front and rear ‘brackets’.

Secure the heat deflectors to the outer edges of the gun troughs.

Locate the two machine guns into their mountings. The front underside of the weapons have mountings with stubs, which locate into hole at the top, front of the mountings. The rear of the weapons locate inside the rear of the mountings.

Secure the weapons in position in the mountings.

Secure the two ammunition feed chutes through their openings and into their locating recesses, making sure to align the tops with the breach blocks of the weapons.

Secure the two ammunition ejector chutes through their openings, making sure to align the tops with the breach blocks of the weapons.

Secure the two shell case deflectors under the weapon breach blocks and onto the fuselage sides.

Secure the windscreen into its locating slot between the machine guns.

Secure the windscreen front strip into its locating slot forward from the windscreen.

Secure the fuel gauge into its locating hole between the machine guns.

Secure the cockpit padding piece between the machine guns at the rear of the fuselage decking panel.

Secure the pilots foot step into its locating recess in the lower, left side of the fuselage.

Secure the tail skid into its locating recess in the underside, rear of the fuselage.

**NOTE:** *The following step will allow a Brass tube to inserted through the engine cowl and engine, then into the centre of the engine fire wall. This tube will support and centralize the cowl and engine onto the fuselage.*

Point mark the centre of the circular locating ring for the engine on the engine fire wall.

Using the point mark as a guide, drill approximately 8 mm into the engine fire wall, using a 1.6 mm diameter drill.

Make sure the hole in the engine cowl (for the propeller shaft) is clear of resin.

Pass a length of 1.6 mm diameter Brass tube, such as 'Albion Alloy's' MBT16 or similar, through the engine cowl and engine and fully insert the tube into the drilled hole in the engine fire wall.

Slide the cowl and engine onto the fire wall and mark the tube approximately 6 mm from the front of the cowl.

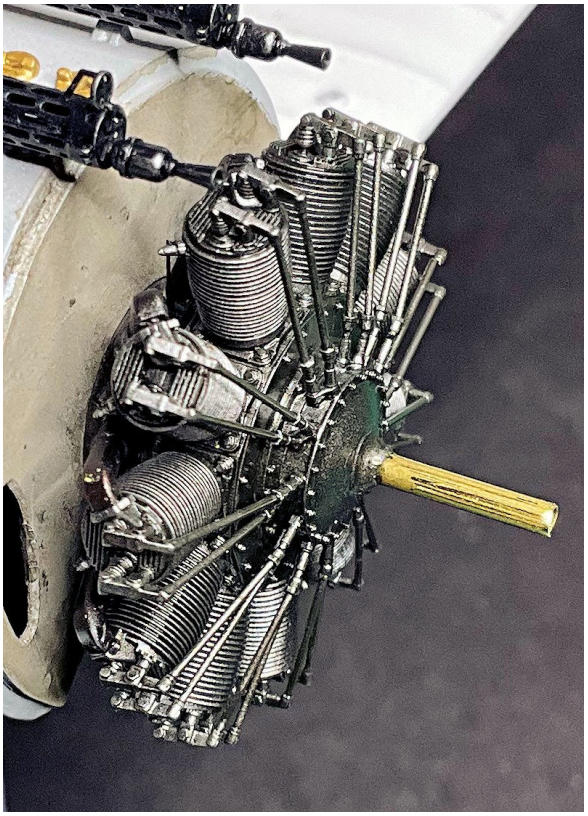
Remove the cowl and engine and cut the tube at the mark.

Pass the tube through the engine and fully into the hole in the fire wall, making sure the engine is fully located into its fire wall recess.

Apply thin CA adhesive to secure the tube in the engine.

Remove the engine/tube assembly from the fuselage.

Apply thin CA adhesive to the engine locating ring and pre-drilled hole in the fire wall and fully locate the engine onto the fire wall, making sure the engine is parallel to the fire wall when viewed from the side and from above.



**Decals (continued):**

**NOTE:** *Refer to Part 4 (Decals) of this build log for more information. The decals used from the kit supplied sheets are:*

***Pfalz D.VIII** sheet:*

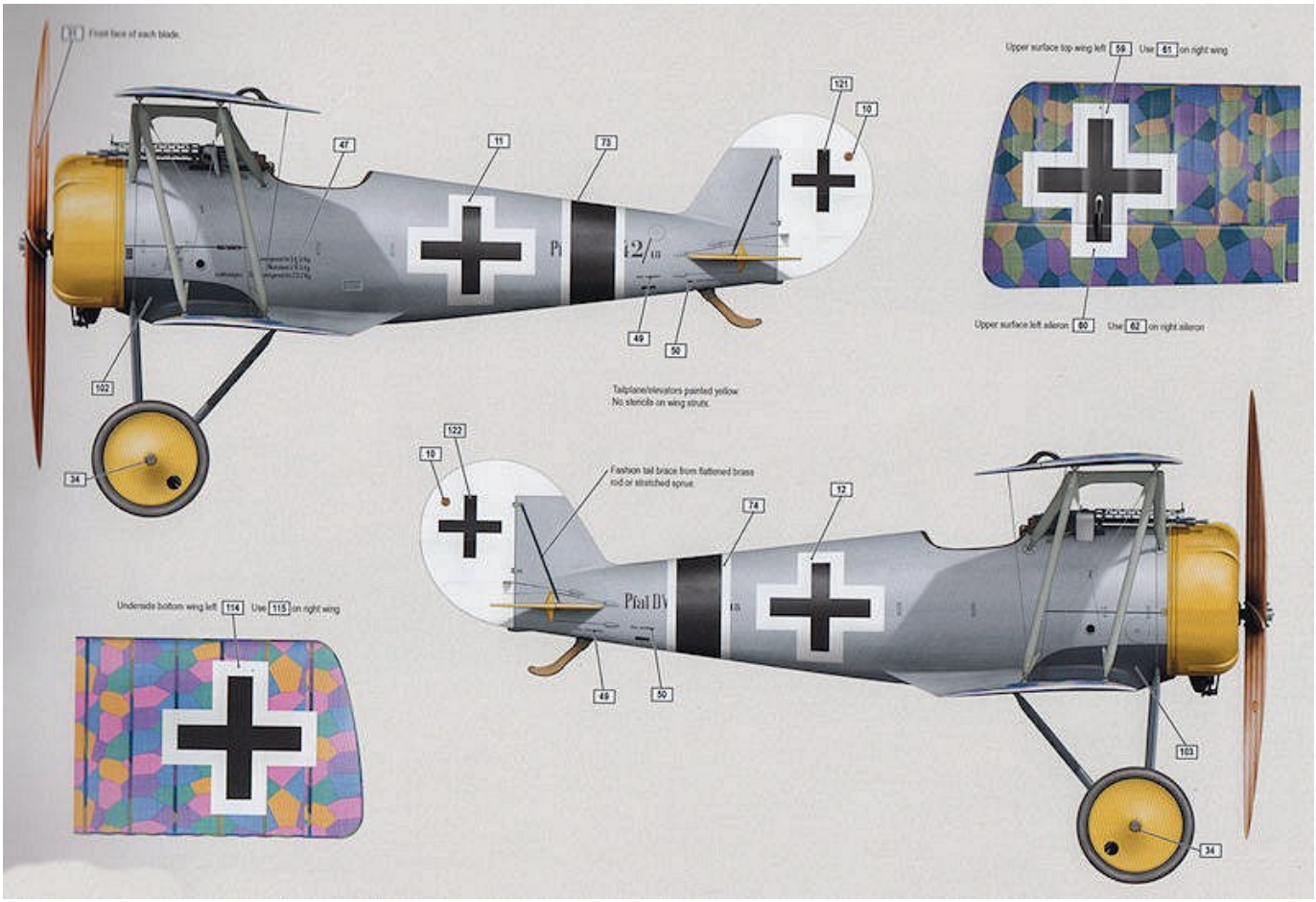
*Fuselage text (49 and 50).*
*Fuselage datum lines (54 and 55).*
*Fuselage band (73 and 74).*
*Fuselage legend (47).*
*Fuselage cross (11 and 12).*
*Lower wing underside cross (114 and 115).*

***'Tarnstoft'** decal sheet (not the alternative decals):*

*Lower wing upper surface.*
*Lower wing under surface.*

Airbrush the fuselage and lower wings with a clear gloss coat, such as 'Mig' A-Stand Aqua Gloss (A.Mig-2503) or similar. Several coats may need to be applied to achieve a thorough gloss finish.

**NOTE:** *Refer to Part 4 (Decals) of this build log for more information. The 'Tarnstoft' sheet of lozenge decals 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 these individual decals from the sheet.*




**NOTE:** *Refer to the above illustration for placement of the decals.*

***'Tarnsoft'** under surface lozenge decals:*

Carefully cut out the lower wing under surface lozenge decals.

Using a sharp scalpel blade, carefully cut out the transparent carrier film for the access panels at the wing root edges.

Apply the decals to both lower wing undersides, aligning the cut-out sections to the wing details.

Apply the lower wing underside crosses (114 and 115).

*'**Tarnsoft'** upper surface lozenge decals:*

Carefully cut out the lower wing upper surface lozenge decals.

Using a sharp scalpel blade, carefully cut out the transparent carrier film for the walk board and access panels.

Using an appropriate sized hole punch, stamp out the transparent carrier film in the interplane strut locations.

Apply the decals to both lower wing upper surfaces, aligning the cut-out sections to the wing details.

***Pfalz D.VIII** sheet:*

Apply the following decals to the fuselage left side:

Fuselage text (49 and 50).

Fuselage datum lines (55).

Fuselage legend (47).

Fuselage cross (11 and 12).

Apply the following decals to the fuselage right side:

Fuselage text (49 and 50).

Fuselage datum lines (54).

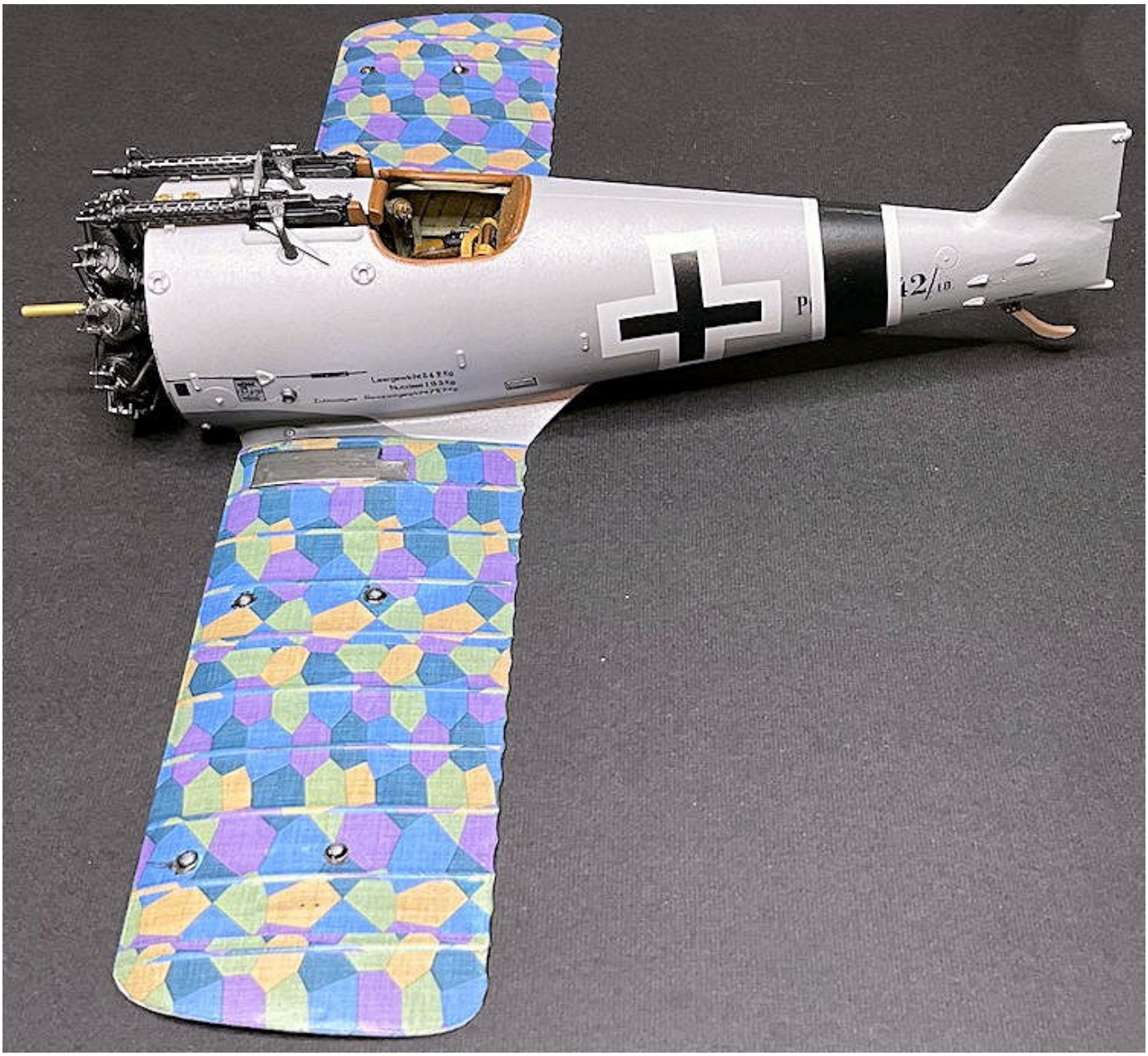
Fuselage cross (12).

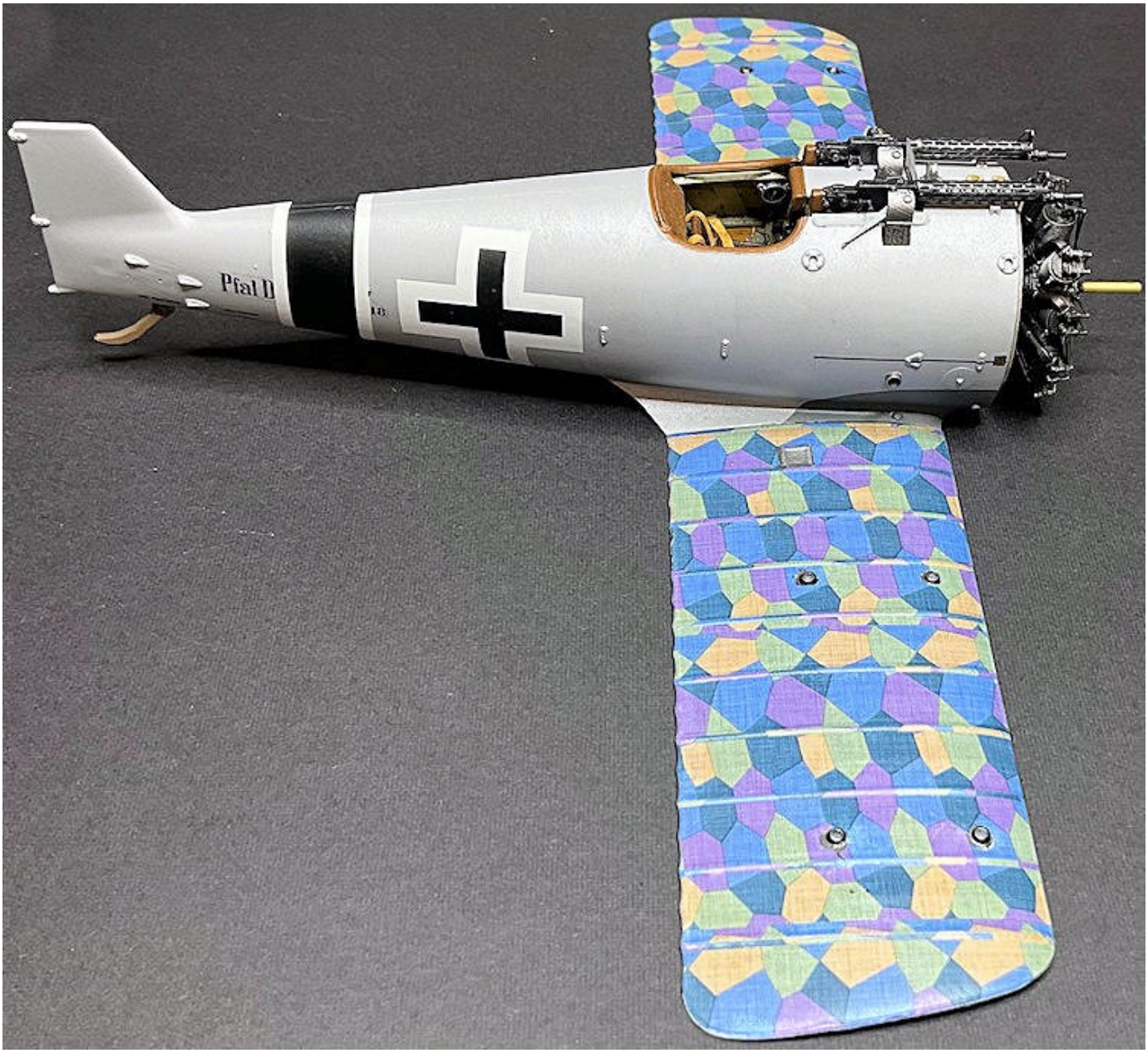
Apply the two fuselage band decals (73 and 74) at the same time as this will allow correct alignment of the decals to each other.

**NOTE:** *Applying too much X20A will melt the decal*.

Check that the lozenge wing decals are fully conformed, especially around the edges of the wings.
If necessary, carefully cut or sand away any overhanging decals at the edges. To conform the decals to the edges, 'Tamiya' X20A thinners can be brushed **sparingly** at the edges. This will soften the decal and conform it to the surface.

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





# PART 11
# CONSTRUCTION

## PART 11 - CONSTRUCTION

References:

'Aviattic' instruction manual.
Pfalz D.VIII (November 2024) - (P M Grosz)
Online resources.

**NOTE:** *Refer to the kit instruction manual for more information on construction.*

*Refer to Part 5 (Resin) of this build log for more information.* ***Handle all 3D printed parts with care, as the resin used and the fine detail on the parts can easily be damaged if stressed or drilled****.*

***Thin CA adhesive*** *(superglue) should be used throughout the build of the model parts.*

**Preparation:**

Refer to the instruction manual and carefully remove the remaining parts from their support structures.

**NOTE:** *I mistakenly removed the locating shouldered ends of the tailplanes. Therefore, I filled the locating slots in the fuselage halves and added rods to locate and support the tailplanes. Consequently from this point in the build, the support rods will be visible.*

Remove any stubs from the support structures and any 'rough' printed edges from parts. The two tailplanes have a slight shouldered inboard ends, which are meant to be inserted into the tailplane locating recesses in the fuselage rear. Make sure **you do** not remove those shouldered ends.

**Painting:**

Airbrush the following parts with a white primer, such as 'AK Interactive' White (AK759) or similar:

- Upper wing.
- Ailerons.
- Rudder.
- Tailplanes.
- Elevators.
- Eight interplane struts.
- Two fuselage cabane struts.
- Two landing gear struts.
- Landing gear axle/fairing.
- Two outer wheel covers.
- Two aileron bell cranks.
- Three control horns (rudder x 1, elevators x 2).

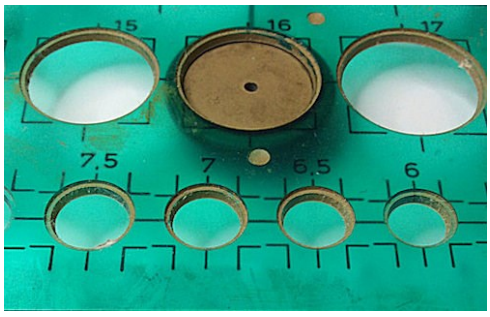
Check (especially the upper wing, ailerons and rudder) are free of surface imperfections, such as trapped dust, hairs etc. If necessary, lightly sand the surfaces to create a smooth surface (required for the application of decals).

Carefully brush paint the interplane and fuselage cabane strut mountings on the underside of the upper wing with 'Mr. Colour' Stainless Steel (213) then buff with a cotton bud to achieve a metallic finish.

Airbrush the tyres of the two wheels with medium grey, such as 'AK Interactive' Grey (AK758) or similar.

**NOTE:** *The wheels supplied in the kit have linen covers fitted on both sides of the wheels. To airbrush the wheel covers without over spraying the surrounding tyres, I used a circle drawing tool (Linex 1217 T). I selected the correct size of hole and positioned the wheel face under the hole.*

Example



Airbrush the following with ‘Tamiya’ Yellow Green (XF4) or similar:

Tailplanes.

Elevators.

Two outer wheel covers.

Two control horns (rudder x 1, elevators x 2).

Airbrush the following with a mix of ‘Tamiya’ Flat Aluminium (XF16 x2) and Sky Grey (XF19 x1) ratio:

Inner wheel covers.

Eight interplane struts.

Two fuselage cabane struts.

Two landing gear struts.

Landing gear axle/fairing.

Brush paint the two aileron bell cranks with ‘Tamiya’ Rubber Black (XF85) or similar.

Brush paint the ‘bungee’ type suspension cords around the bottom ends of the landing gear struts with ‘Tamiya’ Deck Tan (XF55) or similar.

Brush paint the axle hoops at the bottom of the landing gear struts with ‘Mr. Colour’ Stainless Steel (213) or similar.

Brush paint the landing gear axles and protruding axle ends on the outer wheel covers with ‘Tamiya’ Rubber Black (XF85) or similar.

**Decals:**

**NOTE:** *The decals used from the kit supplied sheets are:*

***Pfalz D.VIII** sheet:*

*Rudder cross (121 and 122).*

*PFALZ rudder logo (10 x 2)*

*Upper wing cross (59/60 and 61/62)*

*Axle ends (34 x 2).*

***‘Tarnstoft’** decal sheet (not the alternative decals):*

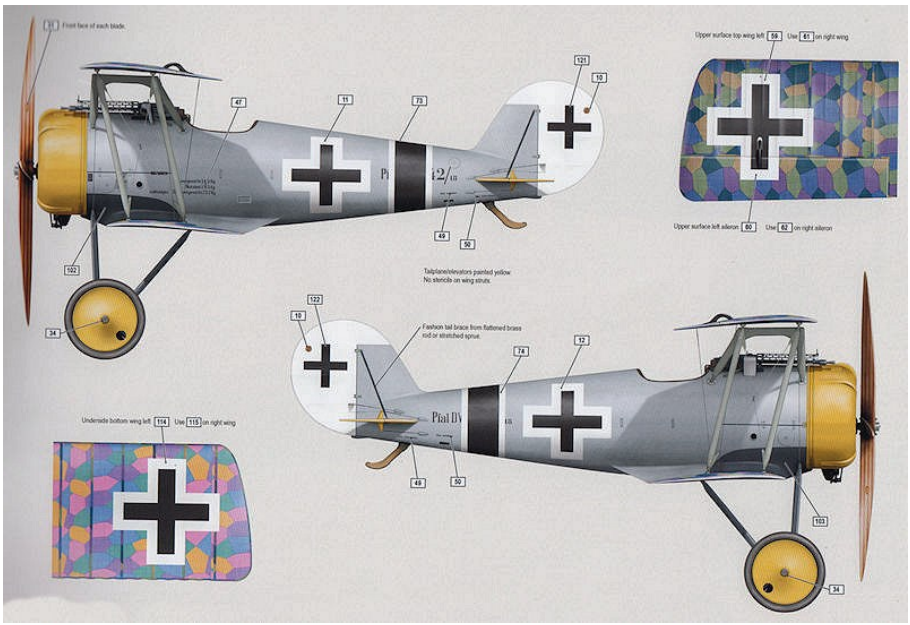
*Top wing upper surface.*

*Top wing under surface*

*Right aileron upper surface.*

*Left aileron under surface.*

*Refer to the illustration in the kit instruction manual for placement of the decals.*



Airbrush the upper wing, ailerons and rudder with a clear gloss coat, such as ‘Mig’ A-Stand Aqua Gloss (A.Mig-2503) or similar. Several coats may need to be applied to achieve a thorough gloss finish.

**NOTE:** *Refer to Part 4 (Decals) of this build log for more information. The ‘Tarnstoft’ sheet of lozenge decals 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 these individual decals from the sheet.*

*‘Tarnsoft’ under surface lozenge decals:*

Carefully cut out the separate top wing under surface lozenge decals.

Apply the decals to the top wing underside, aligning each together and the cut-out sections to the wing details.

Carefully cut out the separate aileron under surface lozenge decals.

Apply the decals to the underside of the ailerons.

*‘Tarnsoft’ upper surface lozenge decals:*

Carefully cut out the separate top wing upper surface lozenge decals.

Apply the decals to the top wing upper surface, aligning each together and the cut-out sections to the wing details.

Carefully cut out the separate aileron upper surface lozenge decals.

Apply the decals to the top surface of the ailerons.

*Pfalz D.VIII sheet:*

Apply the top wing upper crosses.

Apply the rudder crosses to the sides of the rudder.

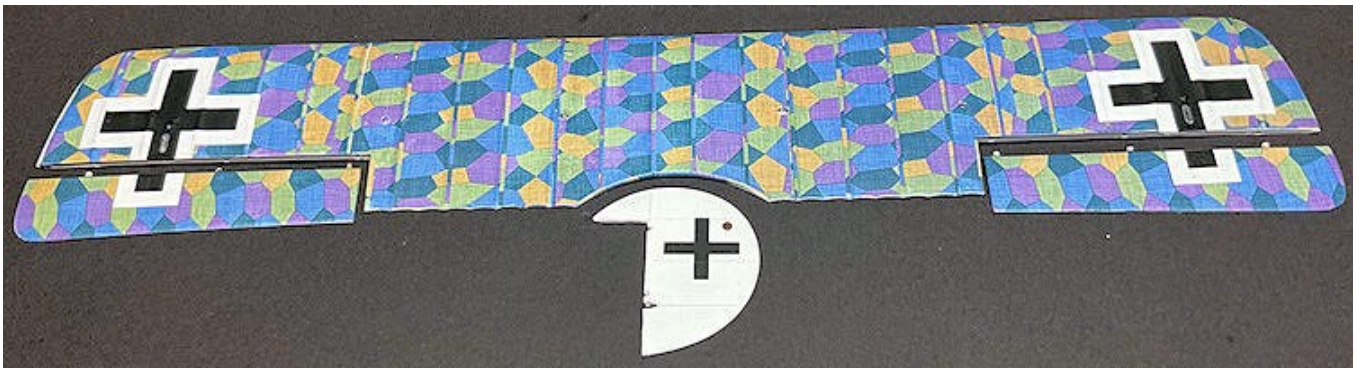
Apply the ‘Pfalz’ logos to the sides of the rudder.

Apply the axle ends to the outer wheel covers.

**NOTE:** *Applying too much X20A will melt the decal*.

Check that the lozenge wing decals are fully conformed, especially around the edges of the wings.
If necessary, carefully cut or sand away any overhanging decals at the edges. To conform the decals to the edges, ‘Tamiya’ X20A thinners can be brushed **sparingly** at the edges. This will soften the decal and conform it to the surface.

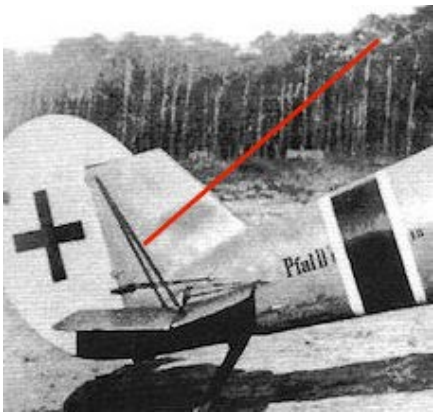
To seal and protect the applied decals, airbrush a semi-matte clear coat, such as ‘Tamiya’ Semi-gloss (X35) or similar, over the decals.

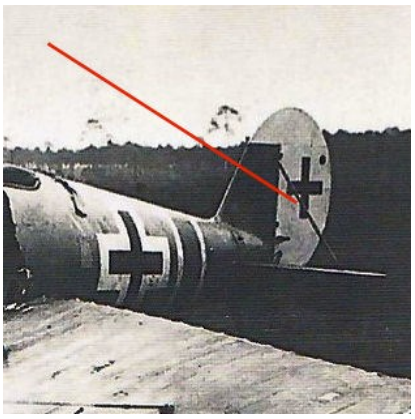


**Modifications:**

*Tailplane struts:*

**NOTE:** *This particular aircraft was fitted with tailplane support struts between the top of the fin and the upper surface of the tailplanes. These struts are not supplied in the kit.*
*I mistakenly removed the locating shouldered ends of the tailplanes. Therefore, I filled the locating slots in the fuselage halves and added rods to locate and support the tailplanes.*





Using thin CA adhesive, secure the two tailplanes onto their locating recesses in rear sides of the fuselage, making sure they are 90 degrees to the fuselage when viewed from above and horizontal when viewed from behind.

Cut two lengths of 0.4 mm diameter Brass tube, such as 'Albion Alloy's' MBT04 or similar.

Trim the length of the tubes to achieve a good fit between the fin and tailplanes.

Using flat nose pliers, flatten the tubes along their total length.

Using a drill of 0.2 mm diameter, drill a hole vertically through both tailplanes, at the trailing edge inboard from the outer elevator hinges.

Using a drill of 0.2 mm diameter, drill a hole horizontally through the fin, forward from the top rudder hinge.

Cut a long length of 0.12 mm diameter mono-filament, such as that from 'Steelon' or 'Stroft GTM'.

Pass one end of the mono-filament through a pre-drilled hole in a tailplane and secure in position.

Slide a tube onto the line then pass the free end of the line through the pre-drilled hole in the fin.

Tension the line and position the tube against the fin and tailplane.

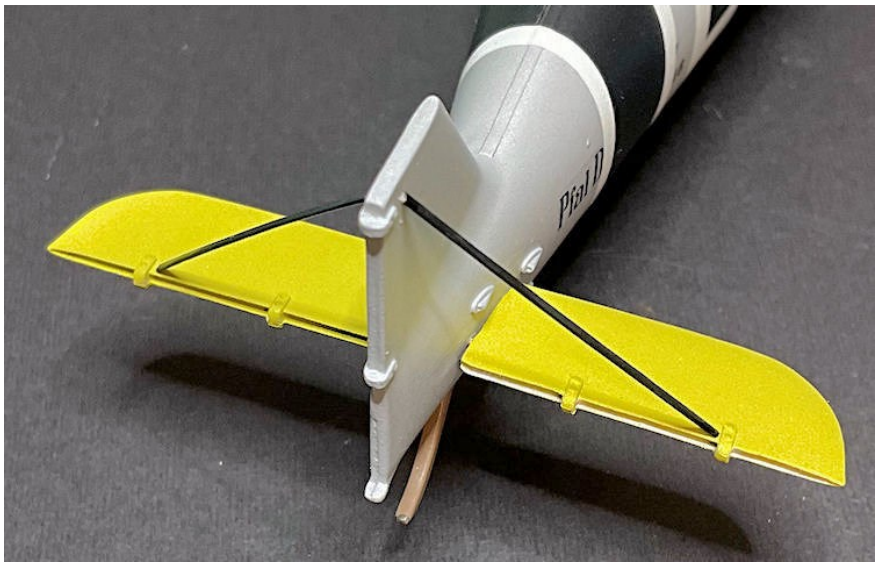
Secure the line in the fin.

Slide the second tube onto the line then pass the free end of the line through the pre-drilled hole in the tailplane on that side of the fin.

Tension the line and position the tube against the fin and tailplane.

Secure the line in the tailplane.

Cut away any residual line from under the tailplanes.



*Aileron animation:*

**NOTE:** *The kit supplied ailerons are intended to fit into recesses in the trailing edge of the upper wing. However, this means that the ailerons are fixed to align with the wing. To have the ailerons in different and opposite angles requires modification.*

Cut away the three locating lugs on both aileron.

Using the witness marks as a guide, drill holes of 0.4 mm diameter centrally into the ailerons.

Using the locating recesses in the upper wing as a guide, drill holes of 0.4 mm diameter centrally into the trailing edge of the upper wing.

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

Secure the rods into the pre-drilled holes in the ailerons.

Test fit the ailerons into their pre-drilled holes in the upper wing and if necessary, trim the length of the rods to allow the ailerons to fully fit against the upper wing.

Carefully bend one aileron slightly down and the opposite aileron slightly up and at the same angle.

Remove the ailerons for fitting later in this build.

**Assembly:**

Secure both aileron into the upper wing and at the chosen angles.

Secure the aileron control bell cranks into their aileron recesses with the front ends into the cut-outs in the upper wing.

Secure the white painted control horn into its slot in the lower leading edge of the rudder.

Secure the two yellow painted control horns into their slots in the leading edge of the elevators.

Secure the two yellow painted outer wheel covers into the wheels by applying the adhesive to the rear, inner face of the wheels, not the edges of the covers.

Secure the front landing gear strut brackets (photo-etch 11 and 12) to the lower, forward fuselage at the strut attachments. Bracket 11 fit on the left side of the fuselage and bracket 2 on the right side.

Make sure all paint and primer are removed from the top locating pegs of the landing gear struts and their associated locating recesses in the fuselage.

Make sure all paint and primer are removed from the landing gear strut locating pegs on the ends of the axle fairing and their associated locating holes in the struts.

Make sure all paint and primer are removed from the wheel locating area on the ends of the landing gear axle and the associated holes in the wheels.

Secure the landing gear struts onto their locating pegs at the ends of the landing gear axle fairing.

**NOTE:** *If the flat bottomed wheels have be used, do not secure them onto the landing axle until after the landing has been fitted to the fuselage. This will ensure the flats on the tyres are positioned correctly before being secured in position.*

Test fit the landing gear assembly into its locating recesses in the fuselage.

**Pre-rigging:**

**NOTE:** *Refer to Part 6 (Rigging) for information on the various rigging required. At this stage of the build it's best to pre-rig as much as possible before assembly of the model continues. The resin Anchors supplied in the kit are of a relatively softer resin. As such and if stressed too much, they are liable to break Therefore, they must be handled with care.*

*The pre-rigging materials used are the kit supplied Turnbuckles (Anchors Type C).*

*Refer to the kit instruction manual for the locations and type of turnbuckles required. The rigging holes should be drilled* ***at the correct angle*** *to align with the opposite end of the line when finally rigged.*

*Interplane struts:*

Using as guides the 'dimples' printed into the rigging end fittings at both ends of the eight interplane struts, carefully drill holes of 0.4 mm into the end fittings, taking care to not drill off-centre to avoid breaking away any of the resin.

*Lower wings top surface:*

Using as guides the 'dimples' printed into the sides of the interplane strut mountings on the lower wings, carefully drill holes of 0.4 mm into the sides of the mountings and also at the wing roots to fuselage rigging point and mounting stub for the landing gear forward struts.

Using as guides the two 'dimples' printed into the top surface of the lower wings, outboard from the rear interplane struts, drill holes of 0.2 mm vertically through the lower wings (for rigging aileron control cables).

*Upper wing underside:*

Using as guides the 'dimples' printed into the sides of the interplane and fuselage cabane strut mountings on the underside of the upper wing, carefully drill holes of 0.4 mm into the sides of the mountings.

*Fuselage rear:*

Using as guides the 'dimples' printed into the rear ends of the rudder and elevator control cable fairings, carefully drill holes of 0.4 mm into the ends of the fairings.

*Cabane bracing wires:*

Drill a hole of 0.4 mm diameter into the centre, side of the rigging stubs on the forward, top of the fuselage (at the forward, outer sides of the machine gun cooling barrels). Also drill a hole at the front, centre of the stubs.

*Control horns:*

Using as guides the recesses printed into the front ends of the rudder and elevator control horns, carefully drill holes of 0.4 mm through the ends of the control horns.

*Ailerons:*

Carefully drill a hole of 0.4 mm through both ailerons (aligned to the control horn in the upper wing) for the rigging line turnbuckles.

*Landing gear axle fairing:*

Point mark the forward, outer ends of the landing forward bracing bar.

Using the point marks as guides, carefully drill holes of 0.4 mm through the ends of the bracing bar.

*Rigging anchors:*

Carefully cut away from the kit supplied turnbuckle set the Type C anchors.

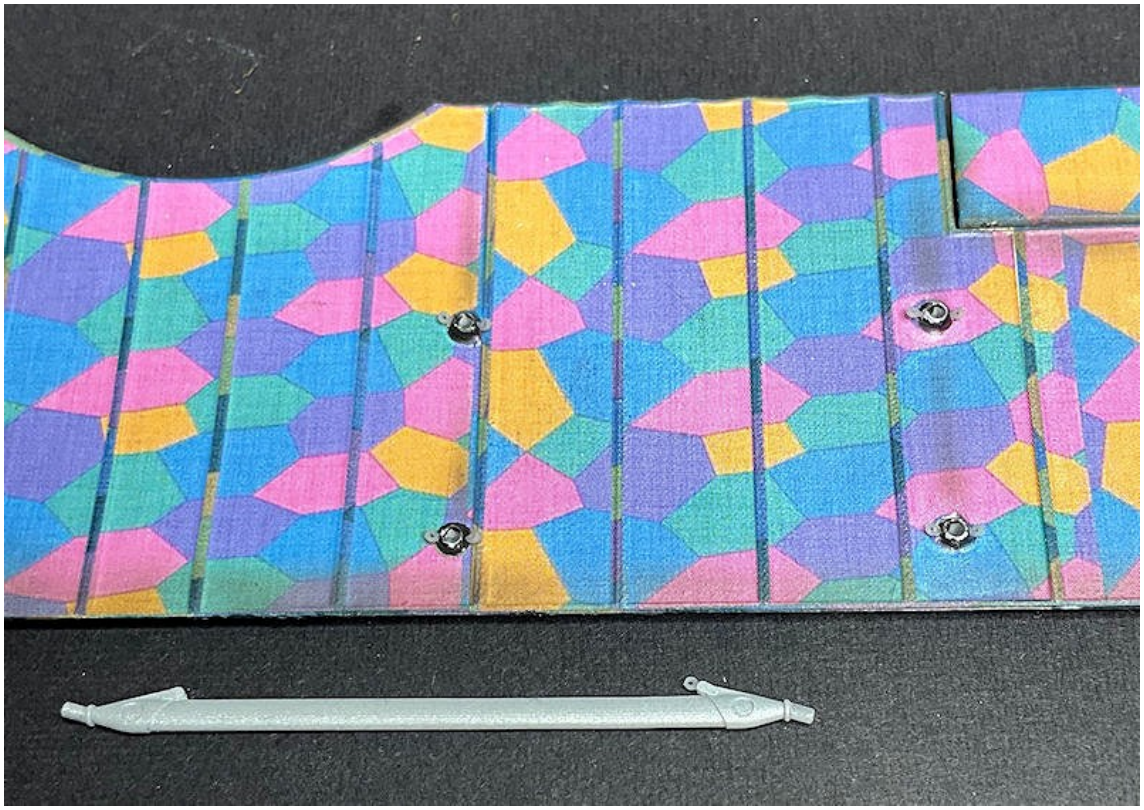
Cut through the centre of each to create two separate Anchors.

**NOTE:** *Test fit each interplane strut into the lower wings to make sure they are in their correct locations and to ascertain which ends of the strut are the top ends. The struts should tilt slightly forwards and their tops slightly outboard.*

Using thin CA adhesive, secure an Type C Anchor into the pre-drilled holes at the following locations:

The interplane and fuselage cabane strut mountings on the underside of the upper wing (flying, landing and fuselage cabane wires).

The **top** rigging fitting on each of the eight interplane struts (incidence wires).



**Assembly (continued):**

Secure the landing gear struts fully into their locating recesses in the fuselage.

Wheels:

*Round wheels:*

Secure the wheels fully onto the ends of the landing gear axle.

*Loaded wheels (optional):*

If using the 'loaded' wheels, first fully locate the wheels onto the ends of the landing gear axle.

Make sure the flat area of both wheels is in full contact with the surface the model is resting on.

With the model and wheels correctly positioned, secure the wheels to the ends of the landing gear axle.

Secure the engine cowl over the engine and onto the front of the fuselage.

Secure the two elevators onto the rear of the tailplanes (slightly drooped down is desired).

Secure the rudder onto the rear of the fin.

**Weathering:**

Airbrush the following with a semi-matte clear coat, such as ‘Tamiya’ Semi-Matte (X35) or similar:

Upper wing/ailerons.
Fuselage/lower wing.
Rudder and elevators.
Landing gear assembly.
Interplane/cabane struts.
Engine cowl.

**NOTE:** *Refer to Part 3 (Weathering) of this build log for more information.*

Brush ‘Flory’ fine clay wash (Dark Dirt) over the parts then allow he wash to fully dry.

Remove the ‘Flory’ wash from the parts to achieve the desired grimy weathered effect. Also flick ‘Flory’ fine clay wash (Grime) over a tooth pick onto the underside of the lower wings, above the wheels, to create dirt or mud splashes.

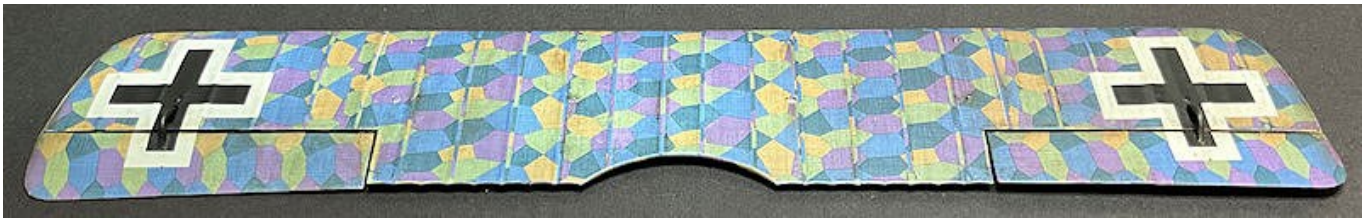
Seal the applied ‘Flory’ wash by airbrushing the parts with a semi-matte clear coat, such as ‘Tamiya’ Semi -Matte (X35) or similar.

Sponge ‘Tamiya’ Weathering Master (Set D - Oil Stain) along wing, ailerons, tailplanes and elevator leading and trailing edges and behind interplane strut mounting points.

Sponge ‘Tamiya’ Weathering Master (Set A - Mud) as desired, around the tyres and wheel covers.

Brush ‘AK Interactive’ Kerosene wash (AK2039) over the ‘bungee’ suspension cords on the ends of the landing gear axle.

Dry brush ‘Mr. Colour’ Super Iron 2 (203) as desired onto the engine cowl.



**Pre-rigging (continued):**

**NOTE:** *Refer to Part 6 (Rigging) for information on the various rigging required. The resin Anchors fitted are made from a relatively softer resin. As such and if stressed too much, they are liable to break. Therefore, they must be handled with care.*

*The pre-rigging materials used are:*

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

*Mono-Filament (0.08 mm diameter), such as 'Steelon' or 'Stroft GTM'.*

*Thin CA adhesive should be used to assemble parts.*

Example:

**NOTE:** *The following example applies to each of the fitted Anchors in the underside of the upper wing.*

Cut a longer than required length of 0.08 mm diameter mono-filament, such as that from ‘Steelon’ or ‘Stroft GTM’.

*Nickel-Silver or Brass tube can be chemically blackened by immersion in solutions such as ‘Blacken-It’ or similar.*

Cut a short length of blackened 04 mm diameter tube.

Pass the line through the tube then through the fitted Anchor in the underside of the upper wing.

Loop the line back and through the tube.

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

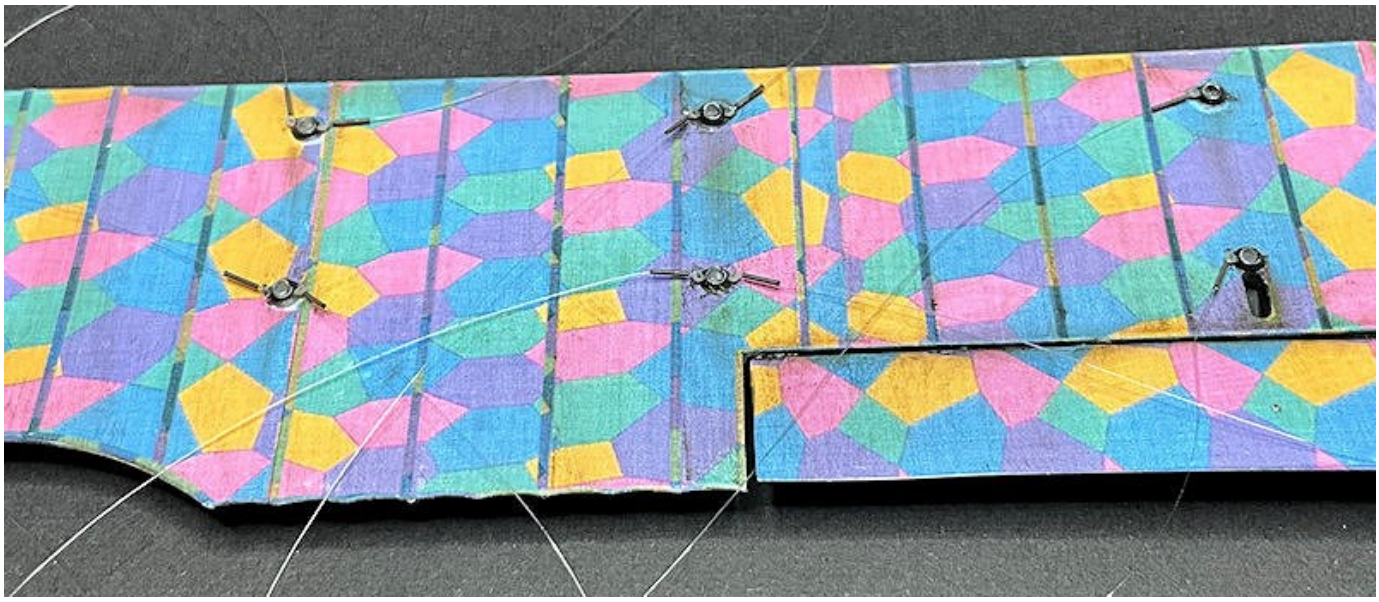
Secure the lines in the tube, using thin CA adhesive applied to the tube end farthest from the Anchor.

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

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

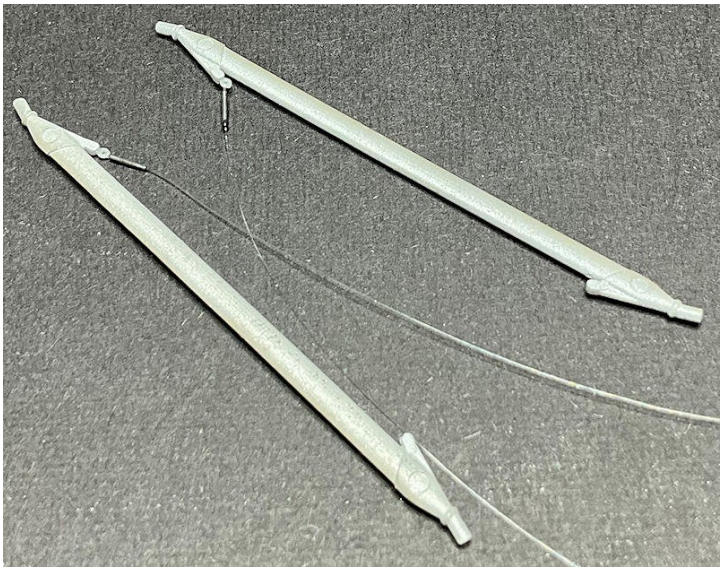
Upper wing pre-rigging:

Using the previous example, attach a line to each of the fitted Anchors on the underside of the upper wing (twenty in total).



Interplane strut pre-rigging:

Using the previous example, attach a line to each of the fitted Anchors in the top of the interplane struts (eight in total).



**Assembly (continued):**

Check that the locating pegs on the top and bottom of each of the eight interplane struts and the two fuselage cabane struts fully locate into their respective locating holes in the upper and lower wings and fuselage. If necessary, use a drill of 1.0 mm diameter to clear the locating holes and allow full fit of the struts.

**NOTE:** *Thin CA adhesive should be used to assemble parts. Check the position of the struts as they are secured into the lower wing and fuselage, to make sure the tops of the struts align with their locating holes in the underside of the upper wing.*

Secure the two fuselage cabane struts fully into their locating holes in the fuselage.

Secure the eight interplane struts, fully into their correct locating holes in the lower wings.

Check that the upper wing can be located onto the interplane and fuselage cabane struts without undue stress or flexing of the struts being required.

**NOTE:** *The following step is necessary to make sure the previously drilled rigging holes in the lower wings are not contaminated with adhesive from fitting the interplane struts.*

Using a drill of 0.4 mm diameter, clear any adhesive from the pre-drilled rigging holes at the base of the fitted interplane struts. These holes (on both lower wings) are:

Inboard from the inner and outer interplane struts (x 4 landing wires).

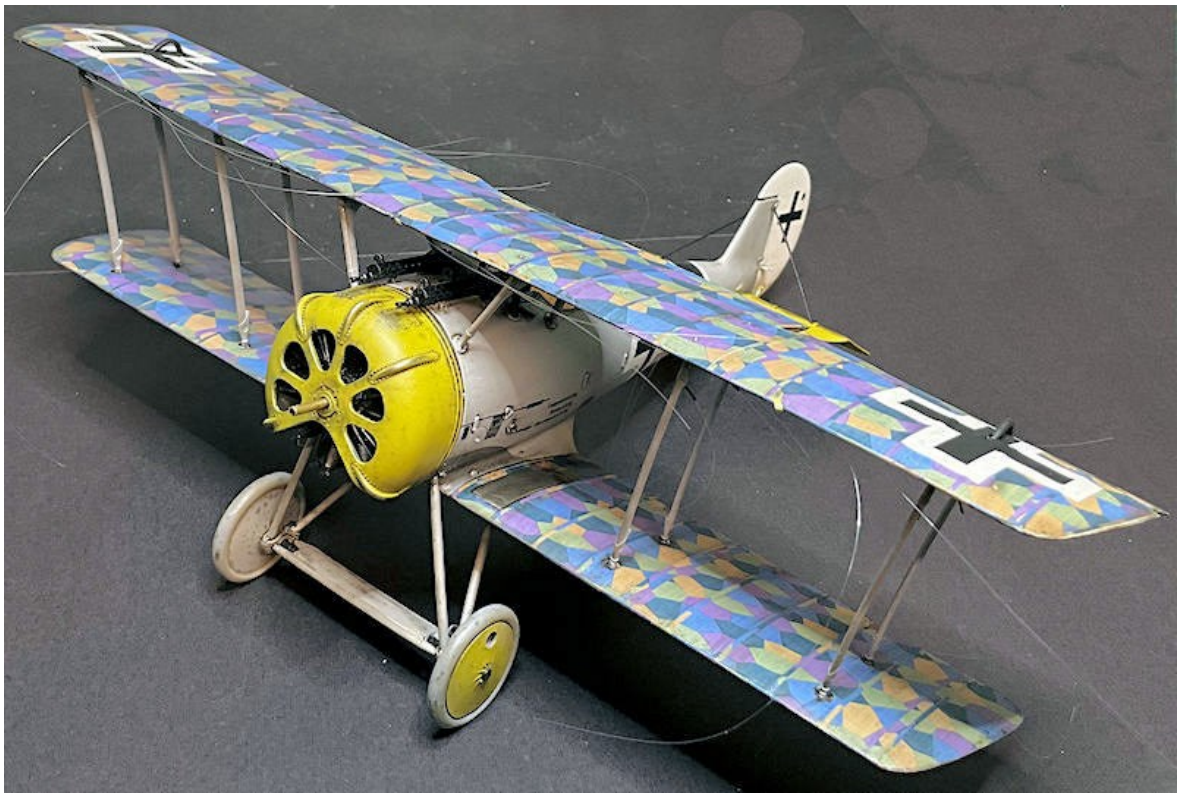
Outboard from the inner interplane struts (x 2 flying wires).

Using thin strips of masking tape, lightly applied, hold the various pre-rigged lines onto the underside of the upper wing and clear of the interplane locating holes.

Lay the upper wing on a flat surface with its underside facing up.

**NOTE:** *During the following step, it may be necessary to support the rear of the fuselage, to allow the struts to align and locate fully into their locating holes in the upper wing. Once fitted, the upper wing should remain located until after final rigging is completed, when the struts can be secured in the upper wing.*

Invert the fuselage/lower wing assembly and carefully locate the interplane and fuselage cabane struts fully into their locating holes in the underside of the upper wing. **Dry fit only** the struts and **do not apply adhesive** at this stage, as this can contaminate the pre-rigged lines on the upper wing.



**Final rigging:**

**NOTE:** *Refer to Part 6 (Rigging) for information on the various rigging required. The resin turnbuckles supplied in the kit are of a relatively softer resin. As such and if stressed too much, they are liable to break Therefore, I chose to use instead metal turnbuckles from 'Gaspatch'.*

*The final rigging materials used are:*

*'Gaspatch' 1:48h scale metal Turnbuckles (Type A and One End).*

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

*Mono-Filament (0.08 mm diameter), such as 'Steelon' or 'Stroft GTM'.*

*Refer to the kit instruction manual for the locations and type of turnbuckles required. The following sequence for final rigging provides the easiest access.*

Incidence wires:

**NOTE:** *The following applies to **each** of the crossed incidence wires (eight in total). Thin CA adhesive should be used to secure the rigging.*

Brush paint the centre barrel of a **One End** turnbuckle with 'Mr. Colour' Copper (215) and Dark Iron (214) to a 70/30% mix to achieve a dark bronze colour.

Slide a blackened tube onto the line then pass the line through the 'eye' end of the turnbuckle.

Loop the line back and through the tube, leaving the loop of line loose.

Secure the 'leg' of the turnbuckle into the pre-drilled hole in the bottom fitting of the diagonally opposite interplane strut, making sure the turnbuckle is aligned to the Anchor in the top of the opposite interplane strut.

Slide the tube down to, **but not touching**, the 'eye' of the turnbuckle, keeping the line taut.

Secure the line in the tube end furthest from the turnbuckle.

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

Landing wires:

**NOTE:** *The following applies **each** landing wire (eight in total). Thin CA adhesive should be used to secure the rigging.*

Brush paint the centre barrel of a **Type A** turnbuckle with 'Mr. Colour' Copper (215) and Dark Iron (214) to a 70/30% mix to achieve a dark bronze colour.

Slide a blackened tube onto the line then pass the line through the 'eye' end of the turnbuckle.

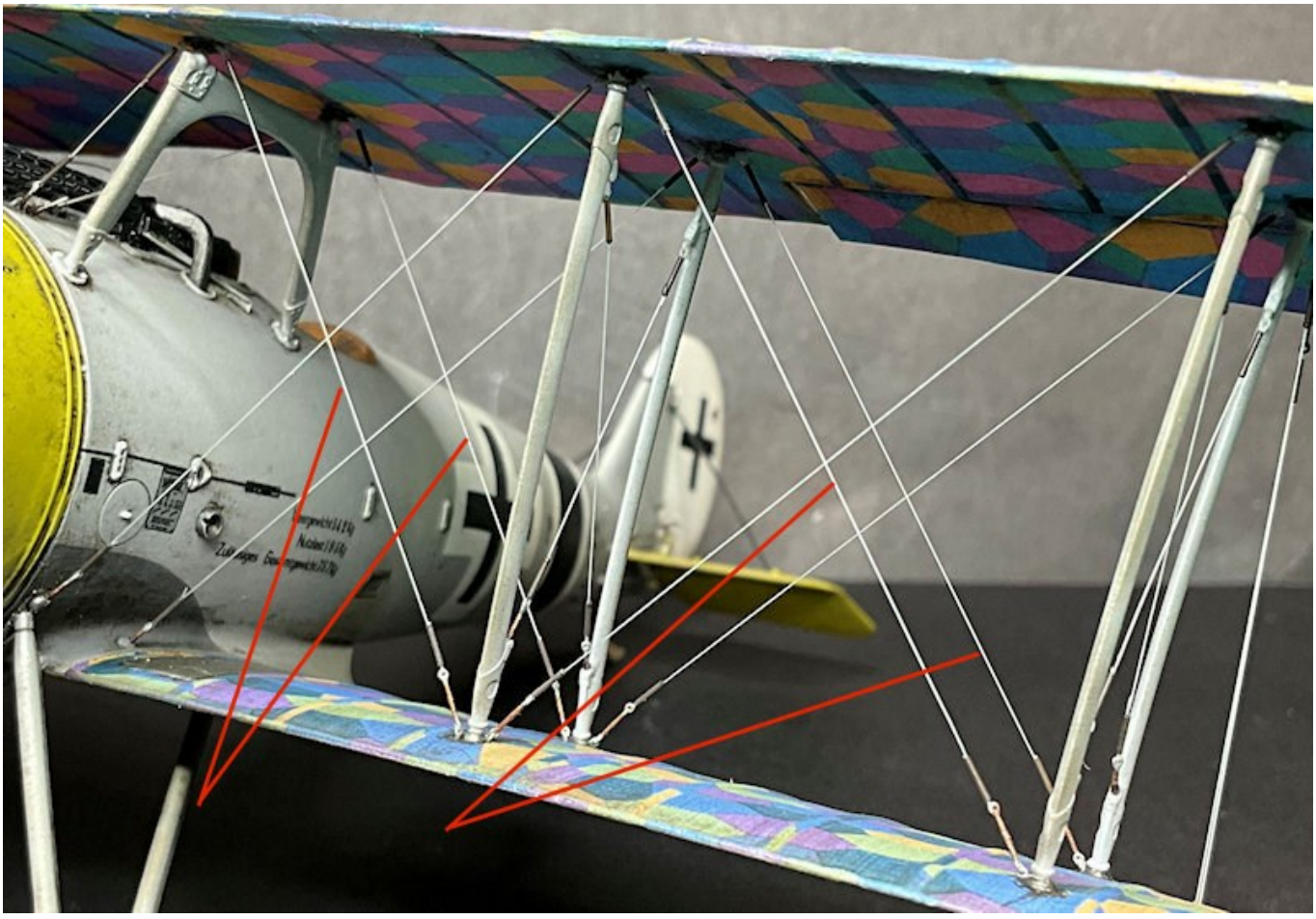
Loop the line back and through the tube, leaving the loop of line loose.

Secure the 'leg' of the turnbuckle into the pre-drilled hole in the base of its relevant interplane strut, making sure the turnbuckle is aligned to its Anchor in the underside of the upper wing.

Slide the tube down to, **but not touching**, the 'eye' of the turnbuckle, keeping the line taut.

Secure the line in the tube end furthest from the turnbuckle.

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



Flying wires:

*Inner flying wires:*

**NOTE:** *The following applies to **each** inner flying wire (four in total). Thin CA adhesive should be used to secure the rigging.*

Brush paint the centre barrel of a **One End** turnbuckle with 'Mr. Colour' Copper (215) and Dark Iron (214) to a 70/30% mix to achieve a dark bronze colour.

Slide a blackened tube onto the line then pass the line through the 'eye' end of the turnbuckle.

Loop the line back and through the tube, leaving the loop of line loose.

Secure the ‘leg’ of the turnbuckle on the **rear flying wire** into the pre-drilled hole at the lower wing/ fuselage, making sure the turnbuckle is aligned to its Anchor in the underside of the upper wing.

Secure the ‘leg’ of the turnbuckle on the **forward flying wire** into the pre-drilled hole in the stub at the top of the landing gear forward strut, making sure the turnbuckle is aligned to its Anchor in the underside of the upper wing.

Slide the tubes down to, **but not touching**, the ‘eye’ of the turnbuckles, keeping the lines taut.

Secure the lines in the tubes end furthest from the turnbuckles.

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

*Outer flying wires:*

**NOTE:** *The following applies to **each** outer flying wire (four in total). Thin CA adhesive should be used to secure the rigging.*

Brush paint the centre barrel of a **Type A** turnbuckle with ‘Mr. Colour’ Copper (215) and Dark Iron (214) to a 70/30% mix to achieve a dark bronze colour.

Slide a blackened tube onto the line then pass the line through the ‘eye’ end of the turnbuckle.

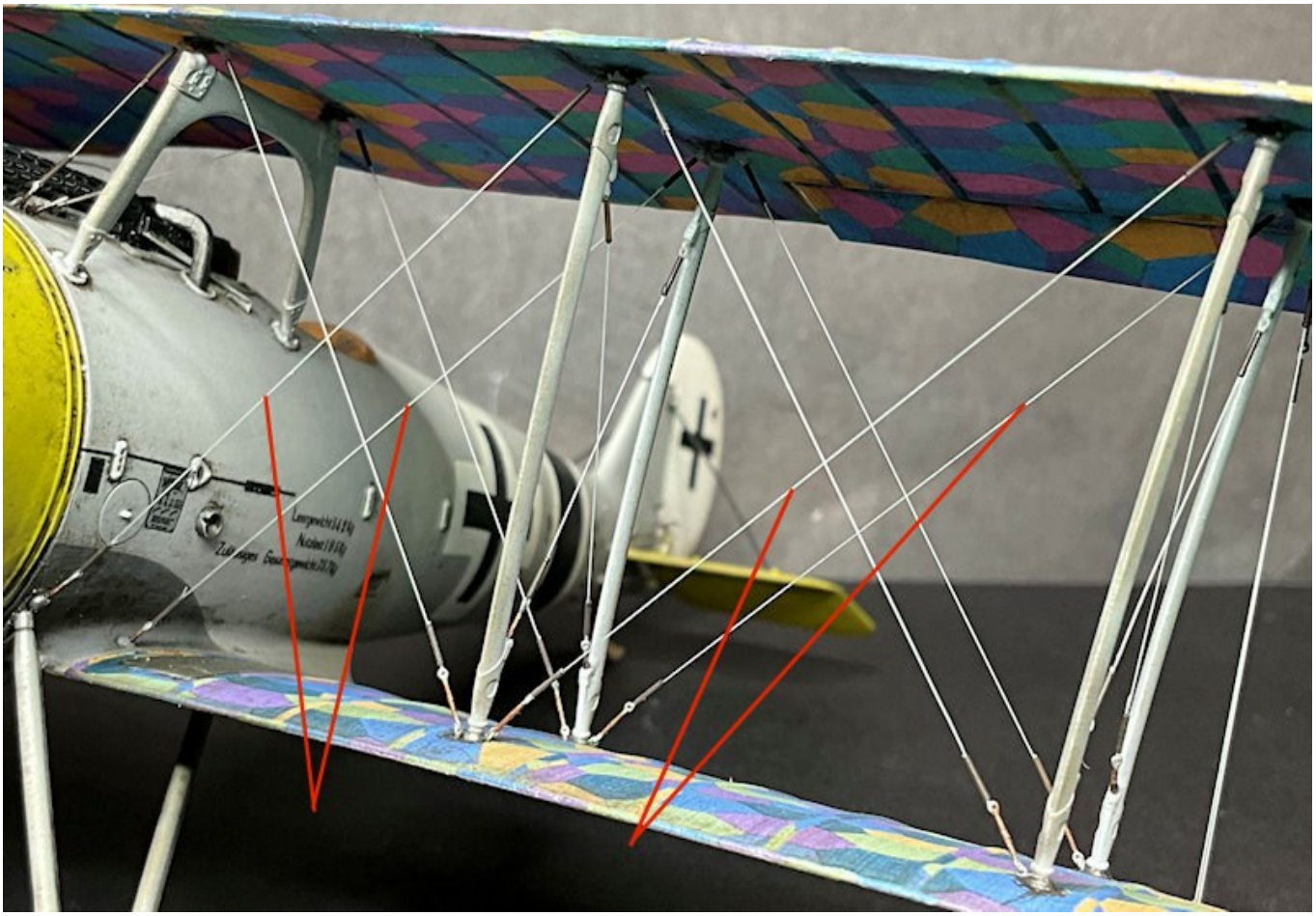
Loop the line back and through the tube, leaving the loop of line loose.

Secure the ‘leg’ of the turnbuckle into the pre-drilled outboard hole at the base of the relevant inner interplane strut, making sure the turnbuckle is aligned to its Anchor in the underside of the upper wing.

Slide the tube down to, **but not touching**, the ‘eye’ of the turnbuckle, keeping the line taut.

Secure the line in the tube end furthest from the turnbuckle.

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



Fuselage cabane strut bracing wires:

**NOTE:** *The following applies to **each** pair of bracing wire for the fuselage cabane struts (four in total). Thin CA adhesive should be used to secure the rigging.*

Brush paint the centre barrel of two **One End** turnbuckles with 'Mr. Colour' Copper (215) and Dark Iron (214) to a 70/30% mix to achieve a dark bronze colour.

Slide a blackened tube onto the lines then pass the lines through the 'eye' ends of the turnbuckles.

Loop the lines back and through the tubes, leaving the loops of line loose.

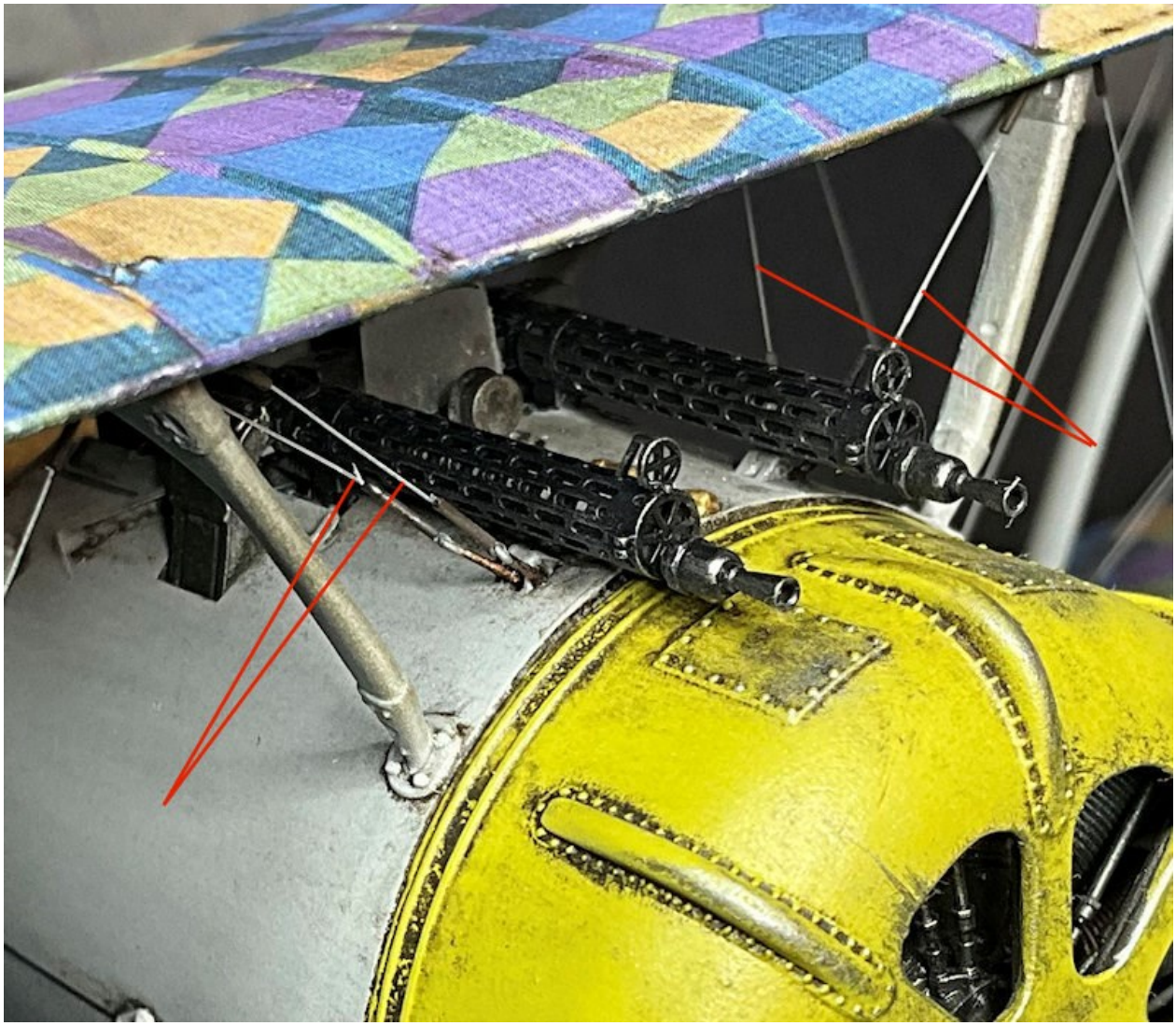
Secure the 'legs' of the turnbuckles into the pre-drilled holes at the stub, outboard from the front of the machine gun cooling jacket, making sure the turnbuckles are aligned to their Anchors in the top of their interplane struts.

Slide the tubes down to, **but not touching**, the 'eye' of the turnbuckles, keeping the lines taut.

Secure the lines in the tubes ends furthest from the turnbuckles.

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

Repeat the procedure to attach the two bracing lines at the other side of the fuselage.



**NOTE:** *The upper wing is now effectively fully rigged and held in position on the interplane and cabane struts.*

Carefully apply thin CA adhesive to the secure the tops of the interplane and fuselage cabane struts into the underside of the upper wing.

Landing gear bracing wires:

**NOTE:** *The following applies to **both** crossed landing gear bracing wires. Thin CA adhesive should be used to secure the rigging.*

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

Slide a blackened tube onto the line then pass the line through the rigging hole in the bottom of the fitted photo-etch bracket, located at the top of the landing gear forward strut.

Loop the line back and through the tube.

Slide the tube up to, **but not touching**, the end of the bracket.

Secure the line in the tube end furthest from the bracket.

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

Brush paint the centre barrel of a **One End** turnbuckle with ‘Mr. Colour’ Copper (215) and Dark Iron (214) to a 70/30% mix to achieve a dark bronze colour.

Slide a blackened tube onto the line then pass the line through the ‘eye’ end of the turnbuckle.

Loop the line back and through the tube, leaving the loop of line loose.

Pass the line diagonally down to the opposite end of the landing gear axle fairing.

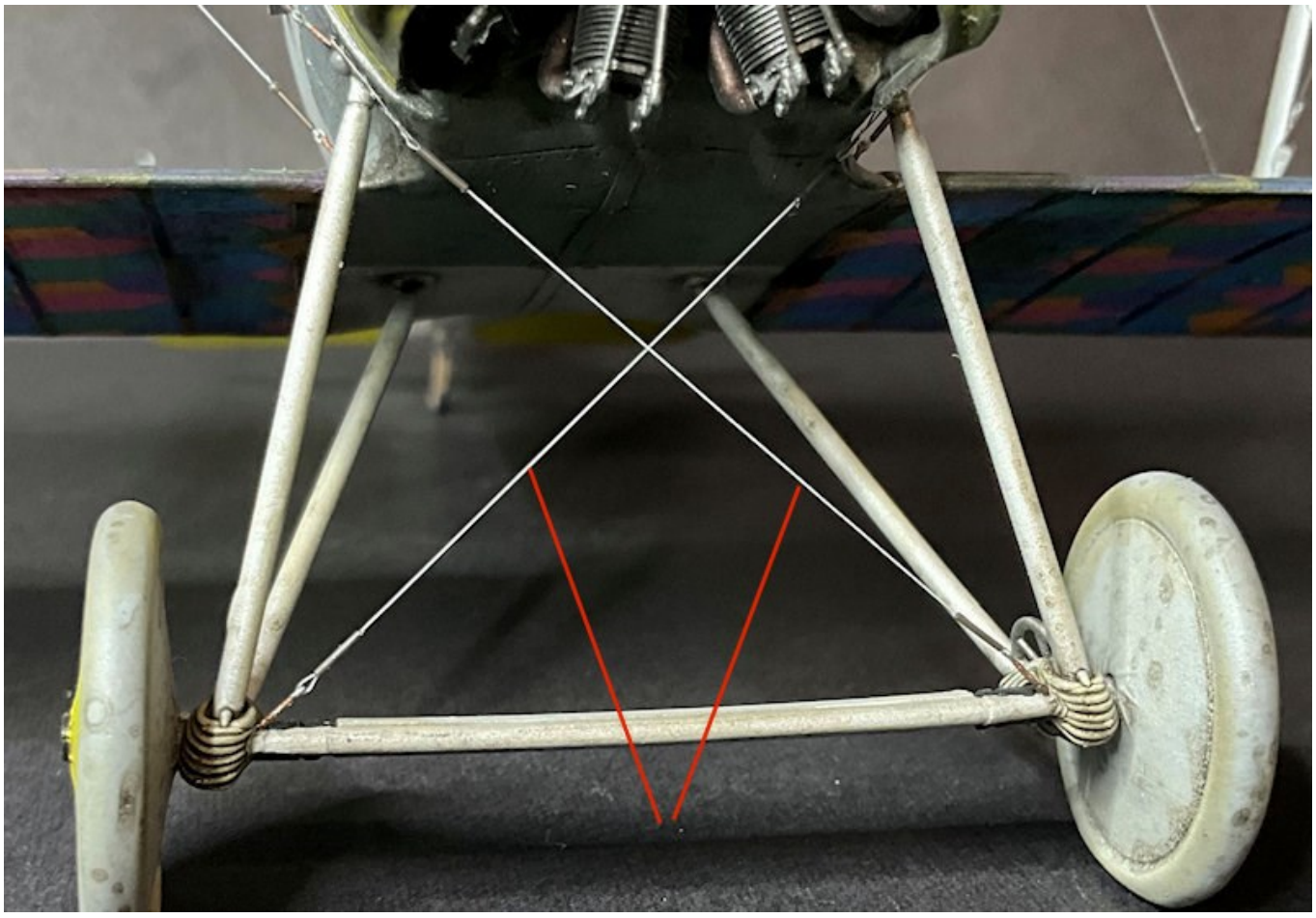
Secure the ‘leg’ of the turnbuckle into the pre-drilled hole in forward, outboard end of the landing gear axle fairing, making sure the turnbuckle is aligned to the bracket.

Slide the tube down to, **but not touching**, the ‘eye’ of the turnbuckle, keeping the line taut.

Secure the line in the tube end furthest from the turnbuckle.

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

Repeat the procedure to attach the opposite bracing wire.



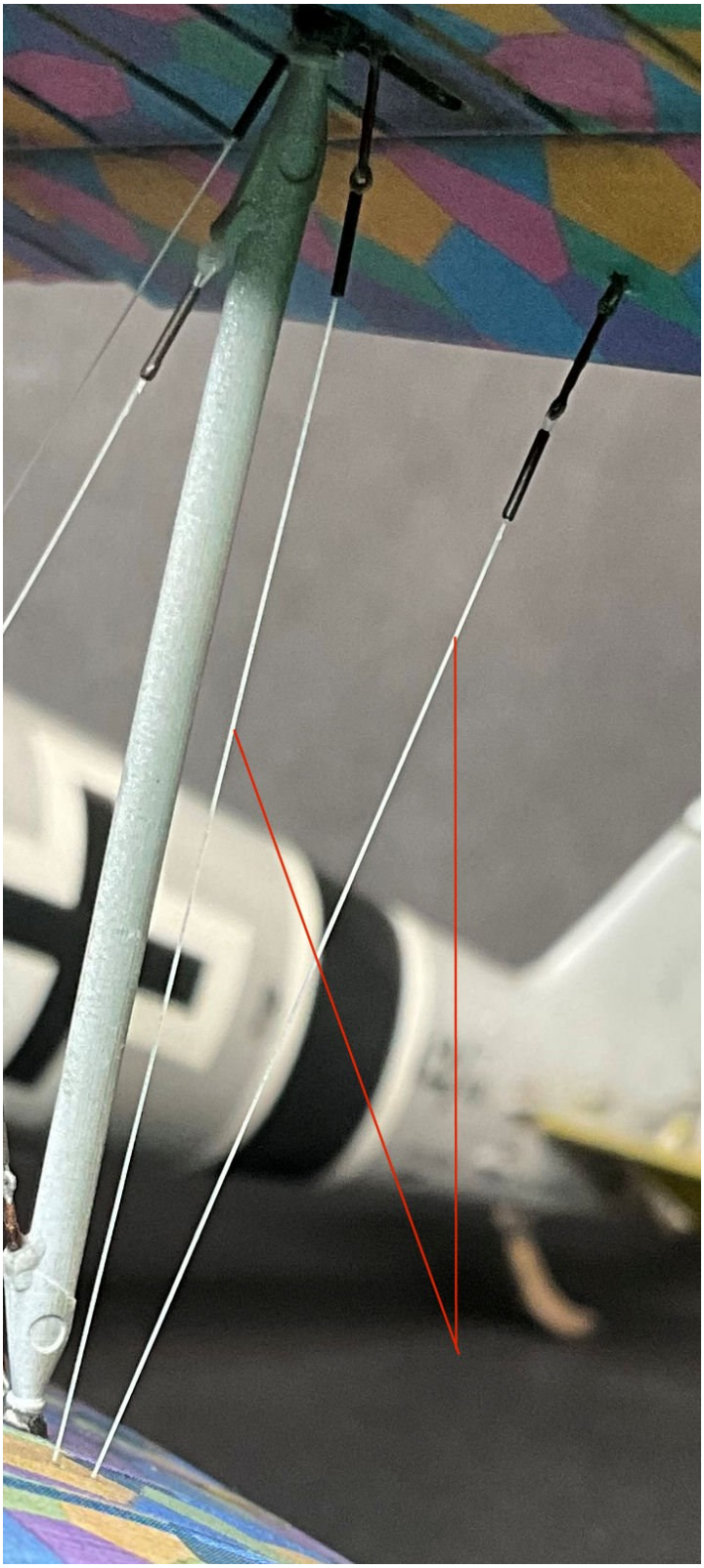
Aileron control cables:

**NOTE:** *The following applies to **each** aileron control cables (four in total). Thin CA adhesive should be used to secure the rigging.*

Cut two long lengths of 0.08 mm diameter mono-filament, such as that from ‘Steelon’ or ‘Stroft GTM’.

Secure the lines into the pre-drilled holes in the lower wing, outboard from the outer, rear interplane strut.

Brush paint the centre barrel of two **Type A** turnbuckles with ‘Mr. Colour’ Copper (215) and Dark Iron (214) to a 70/30% mix to achieve a dark bronze colour.



*Rear control cable:*

Slide a blackened tube onto the line then pass the line through the ‘eye’ end of the turnbuckle.

Loop the line back and through the tube, leaving the loop of line loose.

Secure the ‘leg’ of the turnbuckle into the pre-drilled hole in aileron.

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

Secure the line in the tube end furthest from the turnbuckle.

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

*Front control cable:*

Repeat the procedure to attach the front control cable, but attaching the ‘leg’ of the turnbuckle to the forward end of the slot in the upper wing for the aileron bell crank.

Rudder control cables:

**NOTE:** *The following applies to **both** rudder control cables. Thin CA adhesive should be used to secure the rigging.*

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

Secure one end of the line into the pre-drilled hole in the rear of the rudder cable fairing on the rear of the fuselage.

Brush paint the centre barrel of a **One End** turnbuckle with ‘Mr. Colour’ Copper (215) and Dark Iron (214) to a 70/30% mix to achieve a dark bronze colour.

Slide a blackened tube onto the line then pass the line through the ‘eye’ end of the turnbuckle.

Loop the line back and through the tube, leaving the loop of line loose.

Secure the ‘leg’ of the turnbuckle into the pre-drilled hole in the rudder control horn on the side of the rudder.

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

Secure the line in the tube end furthest from the turnbuckle.

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

Repeat the procedure to attach the control line to the other side of the rudder.

Elevator control cables:

**NOTE:** *The following applies to **each** elevator control cable (four in total). Thin CA adhesive should be used to secure the rigging.*

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

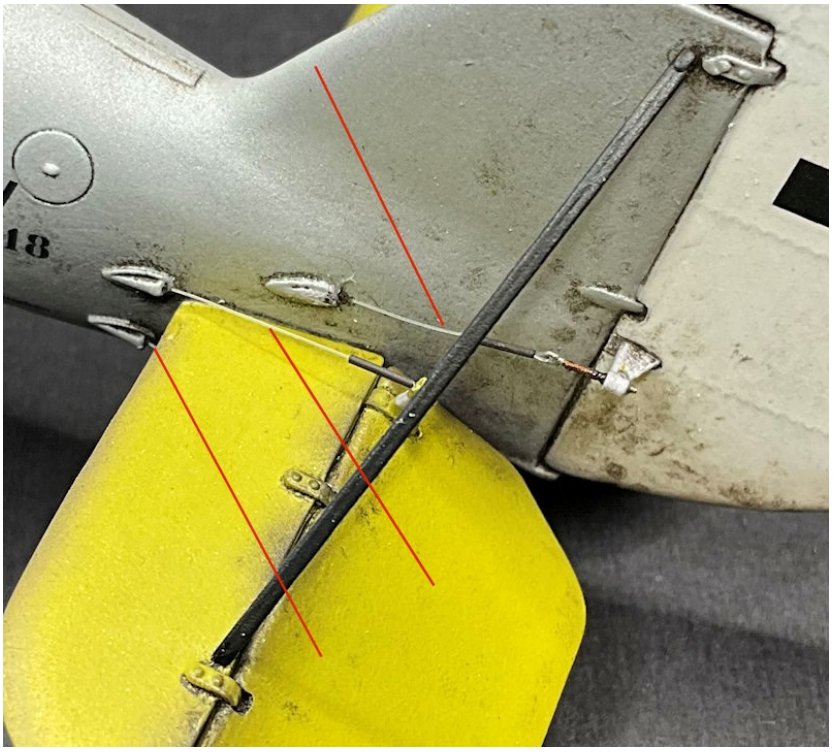
Secure one end of the line into the pre-drilled hole in the rear of the upper elevator cable fairing on the rear of the fuselage.

Brush paint the centre barrel of a **One End** turnbuckle with ‘Mr. Colour’ Copper (215) and Dark Iron (214) to a 70/30% mix to achieve a dark bronze colour.

Slide a blackened tube onto the line then pass the line through the ‘eye’ end of the turnbuckle.

Loop the line back and through the tube, leaving the loop of line loose.

Secure the ‘leg’ of the turnbuckle into the pre-drilled hole in the upper elevator control horn on that side of the aircraft.



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

Secure the line in the tube end furthest from the turnbuckle.

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

Repeat the procedure to attach the lower elevator control line to the lower elevator control horn.

Finish:

To reduce the sheen of the applied rigging, airbrush a semi-matte clear coat, such as ’Alclad’ Light Sheen (ALC311) or similar over the rigging.

**Assembly (continued):**

Propeller:

Check if the propeller will fully locate onto the engine propeller shaft (tube). If not, carefully cut away the excess tube until the propeller fits fully onto the tube and close to the engine cowl.

Using a thicker CA adhesive or a fast setting two-part epoxy resin, secure the propeller, in the desired position, onto the engine propeller shaft (tube).

# PART 12
# FIGURE

## PART 12 - FIGURE

The figure used is that supplied in the kit and sculpted by Doug Craner.

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

**Preparation:**

Remove any molding seam lines or surface artifacts, such as air holes, flash etc. If necessary, fill and re-sand to blend with the surrounding surfaces.

**Modification:**

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

Drill a hole of 0.8 mm diameter centrally up into one of the legs of the figure, making sure to not allow the drill to 'break through' the side of the leg.

Using thin CA adhesive, secure the rod into the pre-drilled hole in the leg. This rod will be used to hold the figure whilst being painted and also to mount the figure on the model display base.

**Painting:**

NOTE: *The figure was painted using 'AK Interactive' and 'Tamiya' acrylic paints. Thin the 'AK' paints with their acrylic thinners (AK712).*

Airbrush the figure with a grey primer, such as 'AK Interactive' Grey (AK-758) or similar.

***Gaiters*** - 'AK Interactive' British Uniform (AK3081). 'Mr. Colour' Stainless Steel (213) buckles.

***Shoes*** - 'Tamiya' Rubber Black (XF85).

***Jacket/Trousers*** - 'AK Interactive' German Uniform Light (AK3092) mixed with German Uniform Base (AK3091) to 50/50%. 'Tamiya' Red (XF7) piping, Rubber Black (XF85).

***Medals:*** - Iron Cross medal 'Tamiya' Rubber Black (XF85)/'Mr. Colour' Stainless Steel (213). 'Pour le Mérit' medal 'Tamiya' Medium Blue (XF18)/'Mr. Colour' Stainless Steel (213).

***Flight Jacket*** - 'AK Interactive' Brown Leather (AK3031) with dry brushed British Uniform (AK3081). 'Mr. Colour' Stainless Steel (213) cuff buttons. Fur edge 'AK Interactive' Faded White (AK3029) dry brushed with British Uniform (AK3081).

***Hair*** - 'AK Interactive' British Uniform (AK3081).

***Goggles*** - 'AK Interactive' Brown Leather (AK3031) with 'Tamiya' Clear Yellow (X24) lenses.

***Flesh:***

**NOTE:** *The 'Citadel' paints used are water based and can be thinned as required using water, which is also used to clean the brushes. It's easier to use a 'wet palette' when applying these paints as this keeps the paint from drying and allows mixing of paints as required. A basic wet palette can be a water proof plastic lid with dampened kitchen roll paper laid inside. The paints are then dripped onto the damp paper and applied from there.*

'Citadel Colour' Cadian Flesh Tone with Kislev Flesh highlights. Moustache 'AK Interactive' German Uniform Shadow (AK3093). Lips 'AK Interactive' Shadow Flesh (AK3014).

***Finish***:

Brush the flight jacket, gaiters/shoes with a semi-matte clear coat, such as 'Tamiya' Semi-Gloss (X35) or similar.

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

Lightly sponge 'Tamiya' Weathering Master Set D (Oil Stain) over the elbows of the flight jacket.

# PART 13
# DISPLAY BASE

# PART 13 - DISPLAY BASE

The display case in made from piano black and clear acrylic sheet of 3mm thickness. The base shoulder, for locating the clear cover, is a second thickness on top of the base plate. This case was purpose built by Paul Moss, who has a retail outlet on Ebay - www.inperspextive.com

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

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

## Grass mat:

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

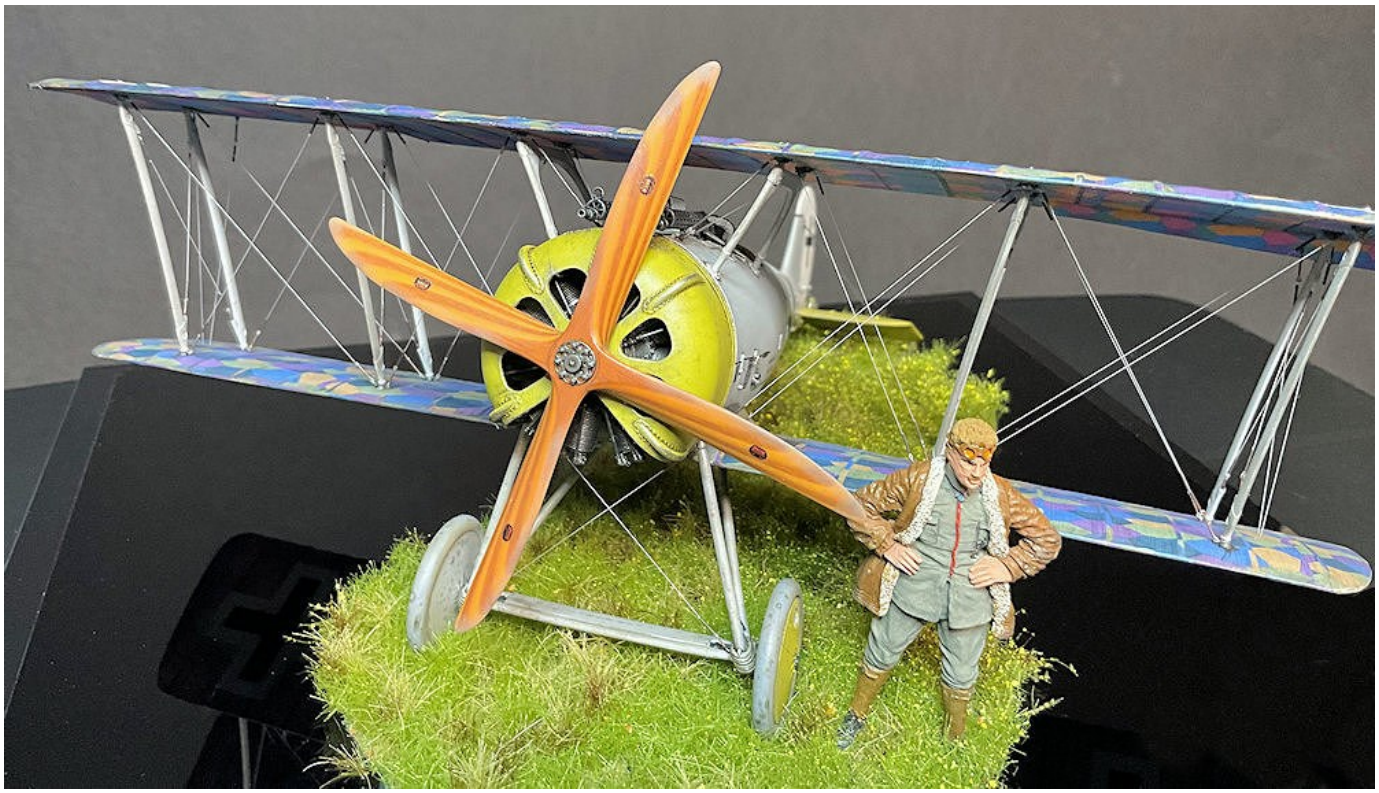
## Aircraft model:

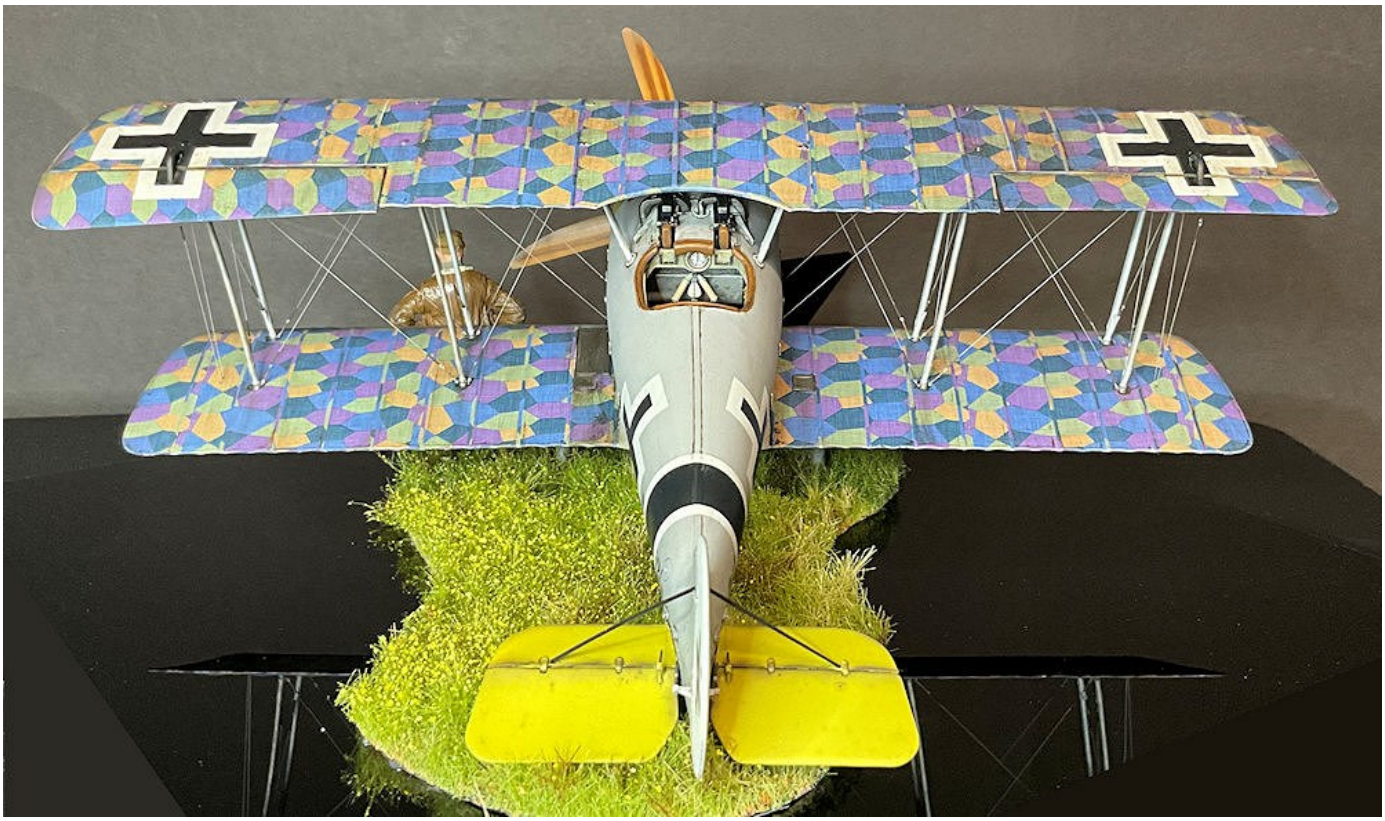
The aircraft was not fixed to the display base, but left as 'free standing'. Although this may not be as secure as fixing the model to the display base, it does mean the model will not be subjected to shock loading when being moved around, as it might be if fixed on the display. However, the location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

## The figure:

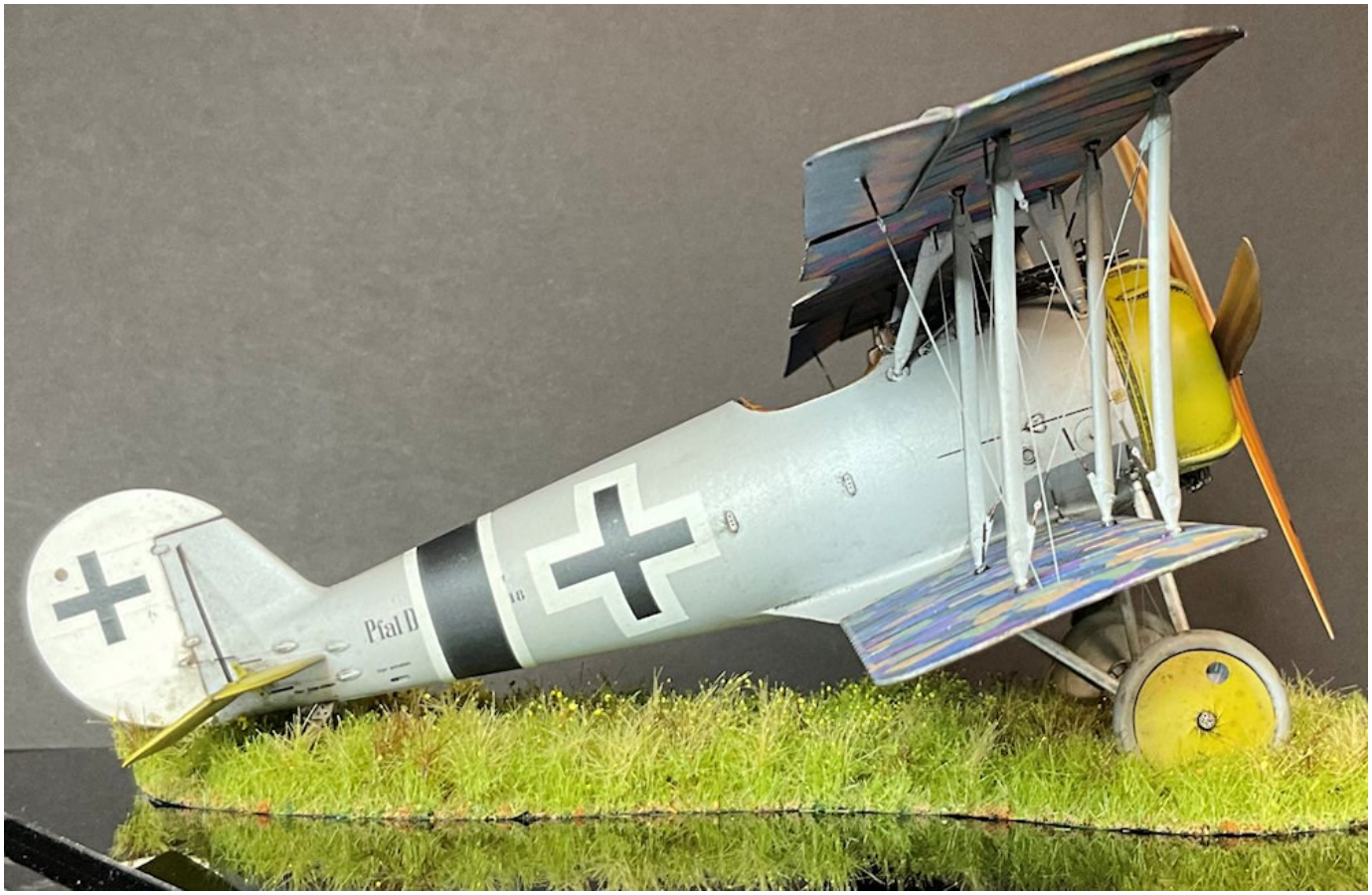
The figure was positioned on the base in its final position and the location of the pin in the leg of the figure was marked on the grass mat. A hole of 1.0 mm was drilled through the grass mat and into (not through) the base. PVA or thin CA adhesive was then applied to the pin of the figure, which was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

# PART 14
# COMPLETED MODEL PHOTOGRAPHS






Pfal D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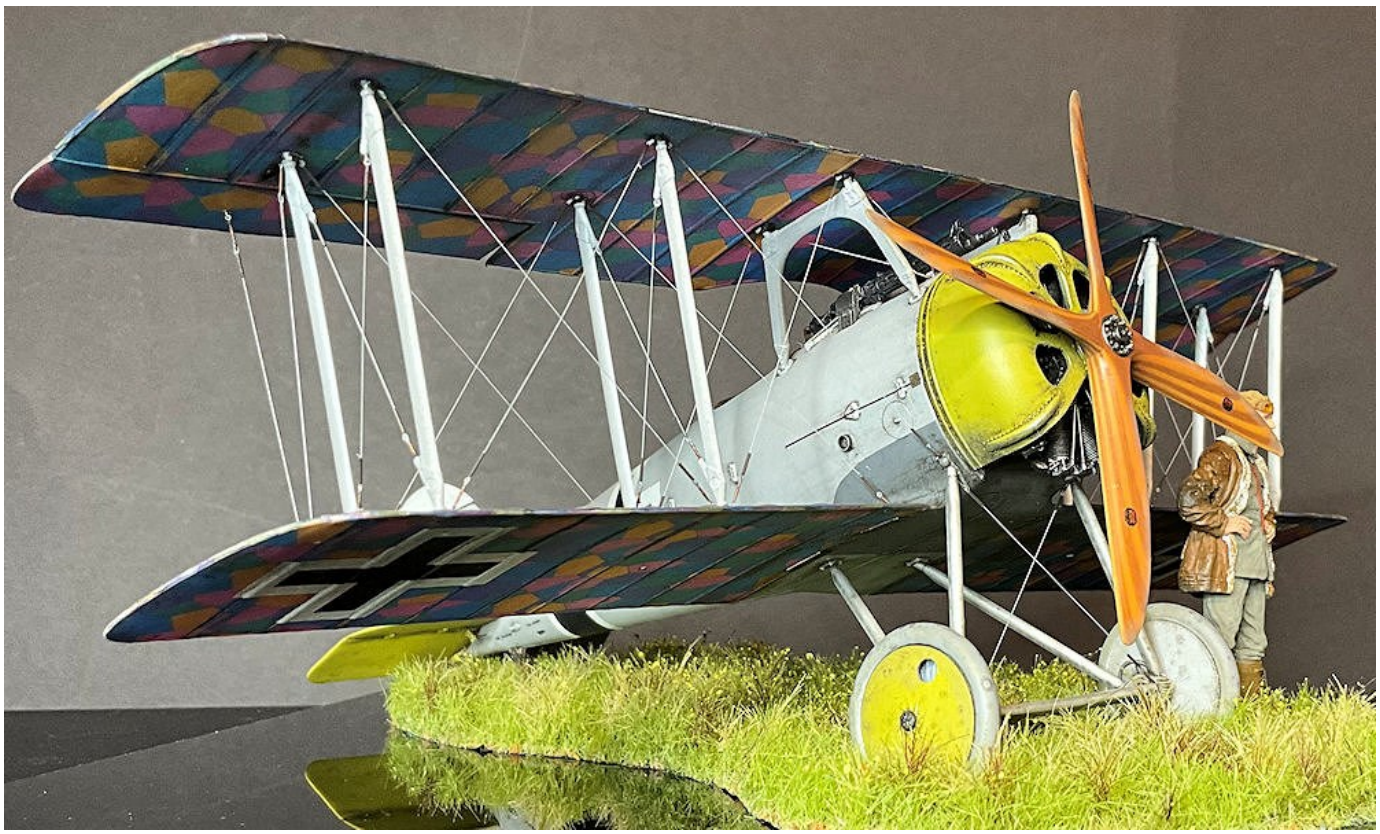

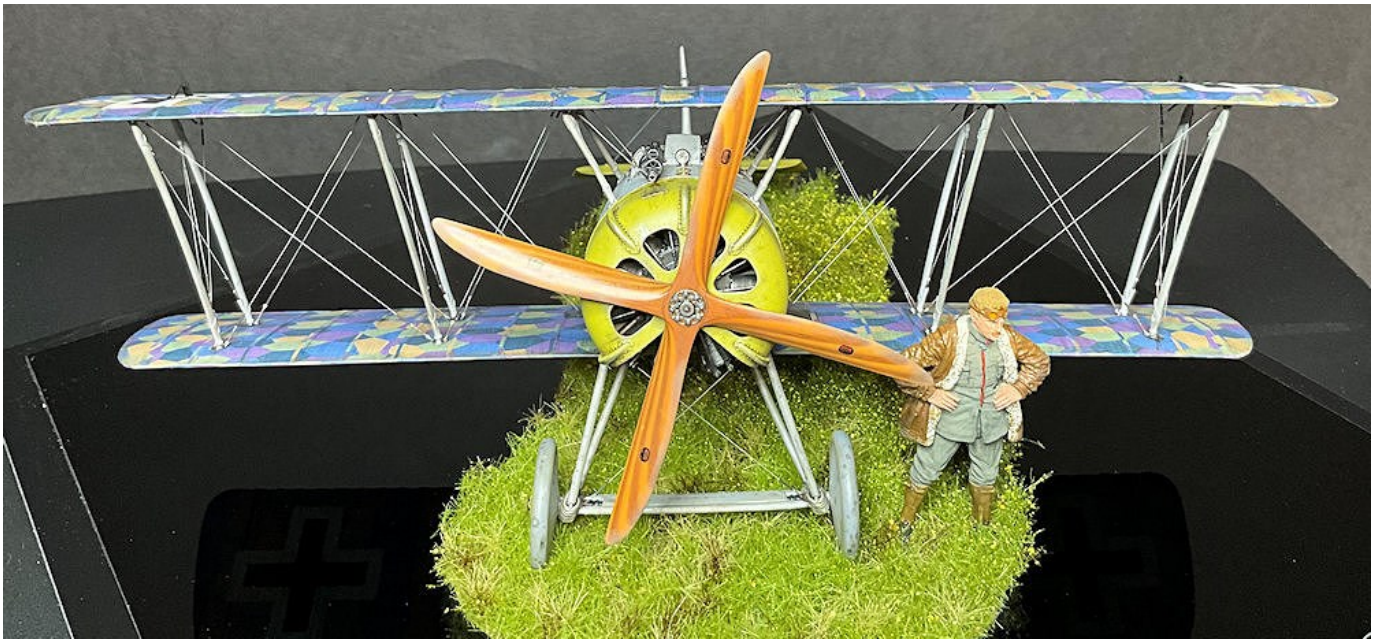

**END**