



World War One Aircraft Models

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

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

I don't consider myself a 'master' of this craft, but hope to be able to pass on what I have learned. As such, here is my build log, which covers the 1:32 scale model of the Siemens-Schuckert (SSW) D.III by 'Roden', converted to the earlier D.III version using the 'Loon Models' resin conversion

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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, games PC and games console.

Sorted



AFTER MARKET

AFTER MARKET

Figures

'Aviatic' "Götterdämmerung" pilot and airman (ATTRES 024).

Weapons

'Gaspatch' 1/32 Spandau 08/15 Extended loading Handle (Late) machine guns.

Decals

'Aviatic' linen effect Lozenge-ATT32108, 32109, 32013, 32073 and ATT32075,
'LF Models' Austro-Hungarian WW1 (C3205) propeller logos,
'Pheon' 32023 - Siemens Schuckert D.III Markings,
'Airscale' Dial Decals (Generic World War 1) (AS32 WW1).

Photo-Etch (PE)

'Bregun' Siemens Schuckert D.III (BRL32014), 'Aviatic' rib tapes (ATTECH 001),
'Airscale' Instrument Bezels (PE32 BEZ), 'RB Productions' 9/32nd BSF wires.

Seat belts

'HGW Models' fabric seat belt (32006).

Resin conversion set

'Loon Models' Siemens-Schuckert D.III early (LO32006).

Propeller

'Wotan' four bladed wood laminate propeller - made by 'ProperPlane'.

Rigging accessories (as required)

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

Sundries (as required)

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

Weathering mediums (as required)

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

Display Base

'Polak' grass mat (Wild Meadow variation 4706), Etched Plaque (name plate),
'Inperspective' custom made Acrylic base and cover.

PREFACE

PREFACE

References:

1. Windsock Data File 29 - SSW D.III~D.IV by P. M. Grosz.
2. Profile Publications No.86 -Siemens-Schuckert D.III-IV
3. Siemens-Schuckert Aircraft of WWI: A Centennial Perspective on Great War Airplanes: Volume 12 (Great War Aviation Centennial Series).
4. 'Pheon' Decals - Siemens-Schuckert D.III (32023).
5. Posts from the 'Aerodrome Forum'.

The pilot:

Joachim von Ziegesar served in 1916 as an observer with Flieger Abteilung (FA) 23 in October of that year he was sent for pilot training and eventually posted back to FA23 in April ,1917. He was then sent for further flight training in June 1917 and later that month was posted to Jasta 33. In January 1918 he was posted again, this time to Jasta 18 until March.

4.Oberleutnant Rudolph Berthold was given command of the Prussian Jagdegeschwader (JG) II wing, which consisted of Jagdstaffeln 12, 13, 15 and 19. Berthold wanted to retain his Jasta 18 'men', so in March, arranged a swap of pilot's between Jasta 18 and Jasta 15.

5.Ltn. Joachim von Ziegesar was one of the pilot's swapped to Jasta 15, where he remained until the end of the war, acting briefly as the Commanding Officer in August 1918.

6.He was credited with three victories, although a possible two more were never confirmed.

Also there's seemed to be some confusion as to whether his second victory was over a SPAD XIII or a De-Havilland DH.4, although the latter is considered the correct aircraft.

Service record:

FFA 23 (Observer) - May16) -10 Oct 16
FEA 11 (Pilot training) - 10 Oct 16 - 26 Mar 17
AFP 2 - 26 Mar 17 - 30 Apr 17
FA 23 - 30 Apr 17 - 3 Jun 17
Flight School I - 3 Jun 17 - 16 Jun 17
AFP 6 - 16 Jun 17 - 17 Jun 17
Jasta 33 - 17 Jun 17 - 17 Jan 18
Jasta 18 - 17 Jan 18 - 20 Mar 18
Jasta 15 - 20 Mar 18 - End of War
Jasta 15 - Stv. C.O. - 13 Aug 18 - 18 Aug 18).

Confirmed victories:

- 1 - 6 Jun 18 - De-Havilland DH 4, 11.40 at Magnelay.
- 2 - 26 Sep 18 - De-Havilland DH 4, 17.40 at Pont-à-Mousson.
- 3 - 29 Oct 18 - Salmson 2A2 at Champigneulle.

Unconfirmed victories:

- 12 Jun 18 - Sopwith Camel - 13.00 at Compiègne.
- 9 Aug 18 - Sopwith Camel - 18.30 West of Le Quesnel.



The aircraft:

This model represents the early version of the Siemens Schuckert D.III (Serial No. 834 to 8359/17) as flown by Lt. Joachim von Ziegesar when serving with Jasta 15 during May, 1918. An early production aircraft that differed from later versions in that it had a full engine cowl, different rudder and tail plane assembly and different wing ailerons. The engine was also improved in later aircraft. Initially the aircraft suffered from engine overheating failures and pilots found it not an easy aircraft to fly, although its rate of climb was best of the fighters at that time. Attempts were made 'in-field' to improve engine ventilation by cutting cooling slots through the lower part of the engine cowl. Later modifications ultimately led to the D.IV version. The aircraft was powered by the Siemens-Halske Sh III engine with a four bladed propeller. The S.S.W D.III was a development of their earlier D.IIc prototype. The D.III was an equal-span sesquiplane powered by a 160 hp (119 kW) Siemens-Halske Sh.III counter rotary engine. Idflieg placed an order for 20 aircraft in December 1917, followed by a second order of 30 aircraft in February 1918. Approximately 41 D.IIIs were delivered to frontline units between April and May 1918. Most aircraft were supplied to Jagdegeschwader II, (Jasta 12, 13 15 and 19.) whose pilots were enthusiastic about the new aircraft's handling and rate of climb. (This version is covered by the Loon Models set LO32006.) After only seven to 10 hours of service, however, the Sh.III engines started showing serious problems with overheating and piston seizure. The problem was later traced to the 'Voltol' mineral oil that was used to replace the now-scarce castor oil. Furthermore, the close-fitting engine cowling provided inadequate cooling to the engine. In late May 1918, Jagdegeschwader II replaced its D.III aircraft with the Fokker D.VII. Remaining D.III aircraft were returned to the Siemens-Schuckert factory, where they were retrofitted with new Sh.IIIa engines, an enlarged rudder, and cutaway cowlings that provided improved airflow and balanced ailerons. A further 30 new production D.III airframes incorporated these modifications. Total production amounted to 80 aircraft.

General specifications:

Speed - 112.5mph (180 km/h)

Service Ceiling - 26,245 ft (8000 m)

Length - 18 ft 8½ in (5.70 m)

Wingspan - 27 ft 7¾ in (8.43 m)

Height - 9 ft 2¼ in (2.80 m)

Wing area - 203.44 ft² (18.90 m²)

Empty weight - 1,177 lb (534 kg)

Max. take off weight - 1,598 lb (725 kg)

Engine - Siemens-Halske Sh.III bi-rotary, 160 hp (119 kW)

Propeller - Four bladed by 'Wotan'.

Weapons - two fixed 7.92 LMG 08/15 Spandau synchronised machine gun.

The aircraft as flown by Lt. Joachim von Ziegesar



Aircraft colour scheme:

The actual aircraft had lozenge linen covering the upper and lower wing, ailerons, elevator and also around the outer wing struts. The forward fuselage and propeller spinner were coloured red and the fuselage, fin, tailplane and undercarriage struts were coloured blue. There is conjecture as to whether the wheel covers were coloured red or blue. The rudder was white in colour.

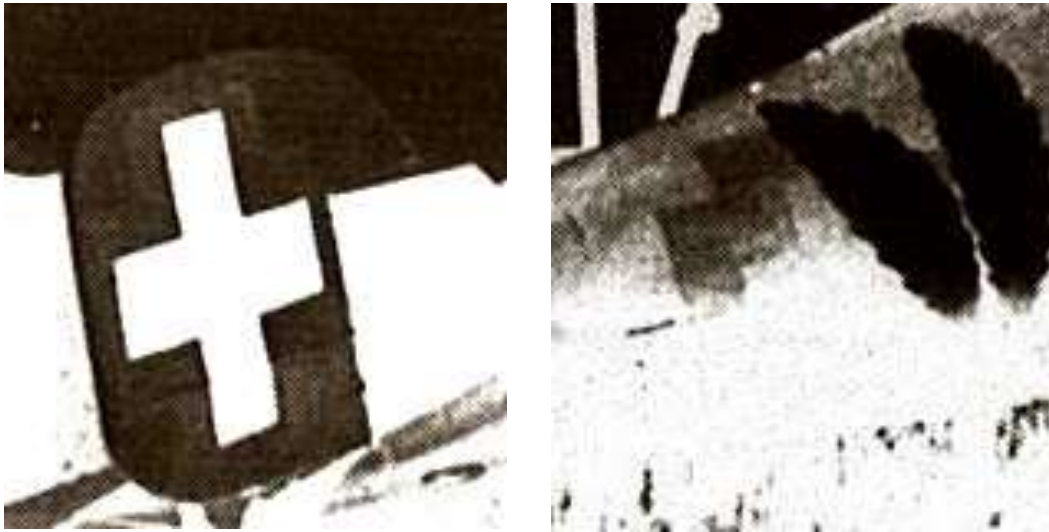
The fuselage of this aircraft was coloured blue and was applied over what were the original National markings (fuselage and rudder). However, the markings were still visible under the applied blue colour and therefore need to be represented on the model. The colour profile of this aircraft and others from Jasta 15 appear in the book 'Siemens-Schuckert Aircraft of WWI: A Centennial Perspective on Great War Airplanes: Volume 12 (Great War Aviation Centennial Series)'. The profile artist does state that he overpainted markings are speculative and based on previous aircraft flown by these pilots in Jasta 15.



The following photograph, although of poor quality, shows a large white cross with the black cross at its centre on the fuselage. The rudder seems to show a very faded black cross under the white coloured rudder with the later black cross superimposed.



The colour profile has the previous rudder marking as the old style 'Cross Pattée'. However, when the photograph changed to a negative, the marking, although difficult to see, does appear to be more of a standard cross in shape.



Between March and May of 1918, the 'Idflieg' ordered that the National markings be changed, but initially no dimensions were given and confusion at the various Jasta's led to a wide variation in the shape of the new cross markings. The older 'Cross Pattée' marking was used earlier in WW1 and I personally doubt that this underlying marking would have been on an aircraft in 1918, especially when you consider that the first production batch of D.III aircraft was placed in March 1918, the same month the 'Cross Pattée' was discontinued. Therefore in Part 13 (Construction) of this build log, I have chosen to use the later cross shape as the underlying marking on the rudder, rather than the older 'Cross Pattée'.

PART 1
MODEL
DESCRIPTION

PART 1 - MODEL DESCRIPTION

(Roden - Kit No:610)

This model is manufactured by 'Roden Models' and is manufactured in styrene (plastic) and in 1:32 scale. The kit instructions, although brief, are clear and concise and include illustrations for the three different decal markings supplied in the kit. This kit is not new and there is a lot of mould 'flash' on parts which needs to be removed before construction begins. The kit contains just four part sprues, decal sheets and an acetate windscreen transparency.

As with most models, there is scope for modifications to enhance the model, using aftermarket parts, such as:

Alternative decals from 'Aviatic' and 'Pheon'.

Fabric seat belts from 'HGW Models'.

Replacement machine guns from 'Gaspach'.

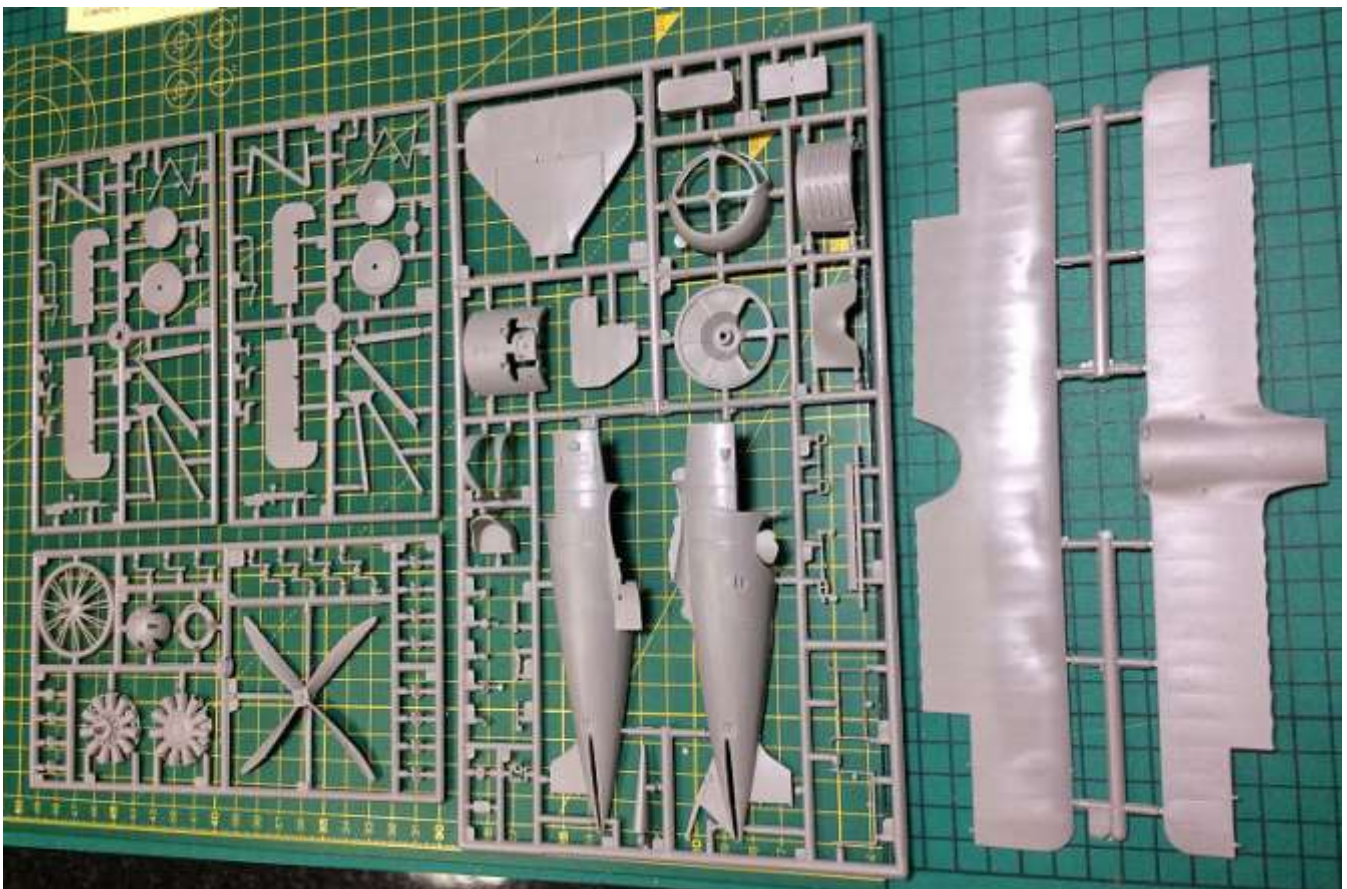
Photo-etch details from 'Aviatic' and 'Brengun'.

Resin turnbuckles from 'Gaspach'.

Replacement weapons from 'Gaspach'.

Resin conversion set from 'Loon Models'.

My own research into this aircraft including the data supplied by 'Pheon' in their decal set, plus changes carried out by other modellers, highlight that there are various issues with the kit parts that the discerning modeller will want to rectify during the build. The modifications are included in this build and are detailed in Part 11 (Preparation), unless they can only be carried out at a certain point in the build, in which case they are detailed in the relevant Part of this build log.



Инструкция

УВАГА - Прочитати обов'язково!

Перед початком роботи уважно вивчіть інструкцію для складання моделі. Деталі з рамок вирізати за допомогою гострого ножа або голострубця. Нумери деталей позначені цифрами 1, 2, 3... Рама, в якій знаходиться деталь, позначені великими літерами літерами: А, В, С... Для деталей, які необхідно фарбувати перед складанням, вказано колір фарби А,В,С... З'єднувати деталі за допомогою клею Plastik CEMENT 3991, 3992, 3999 або FIX 44601, 44602, 44607.

Вказівка для наклеювання декалей: вирізати з аркуша потрібні декалі (за самі номери деталей вказано цифрами у квадратах); покласти їх у посуд з чистою водою приблизно на 1/2 хвилини; накласти декалі на модель, а потім зсувати з аркуша. Для кращого прилягання пригладити їх чистою ганчіркою.

Instructions

ATTENTION - Useful advice!

Read the instructions carefully prior to assembly. Remove parts from frame with a sharp knife or a pair of scissors and trim away excess plastic. Do not pull off parts. Numbers of parts are marked figures: 1, 2, 3... Frames, in which the part is situated, are marked by capital letters: A, B, C... For parts, which should be painted before mounting, are given colors of paint: A,B,C... Use plastic cement ONLY.

Directions for applying the decals: cut out from the sheet the necessary decals (numbers of decals are marked by figures in squares); plunge them into a vessel with pure water for about 1/2 minute; apply the decals on the kit, letting them slide from the paper. For a better adhesion, press them by means of clean rag.

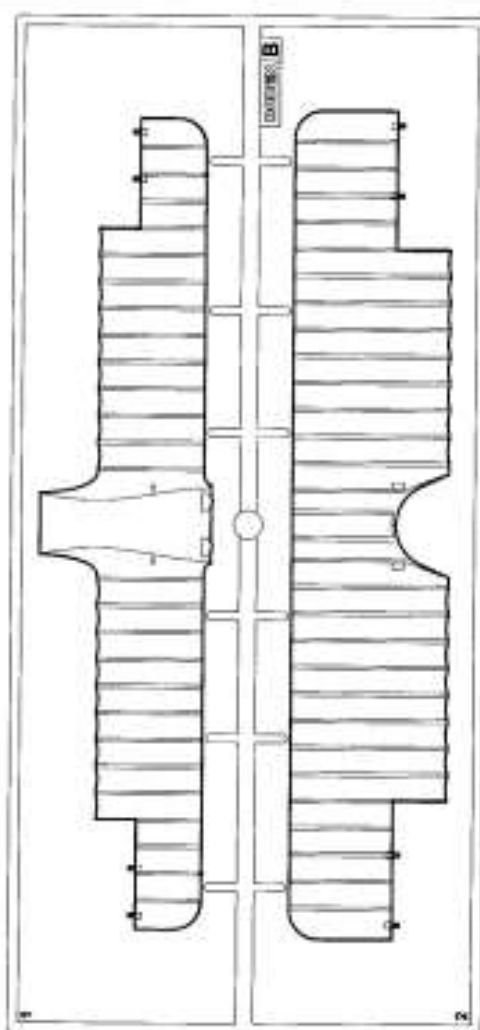
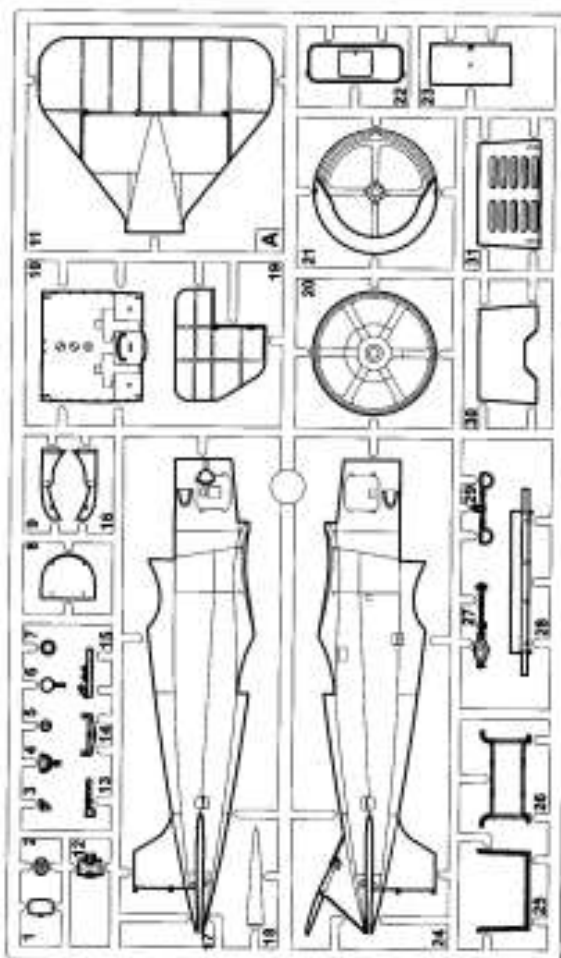
Instruction

ACHTUNG - Ein wichtiger Rat!

Von der Montage die Zeichnung aufmerksam studieren. Die einzelnen Montageteile mit einem Messer oder einer Schere vom Spritzblech sorgfältig entfernen. Nummern der Einzelteile sind als Ziffern 1, 2, 3... Der Rahmen, in welchem sich der Einzelteil befindet, wird als grosser Latienbuchstabe angegeben: A, B, C... Für die Einzelteile, die vor der Montage zu färben sind, wird die Farbe des Farbstoffs angegeben: A,B,C... Bitte nur Plastikklebstoff verwenden.

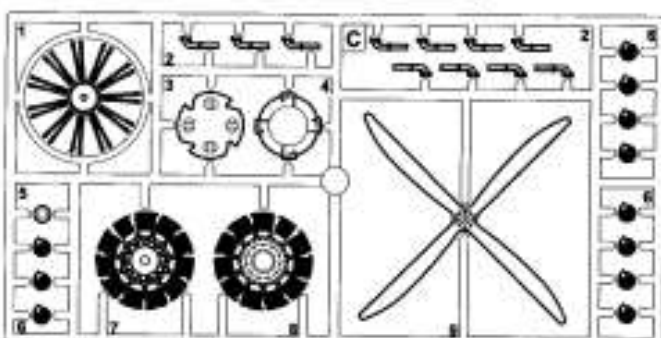
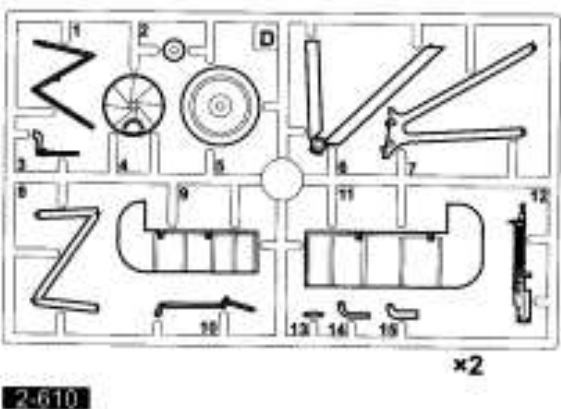
Anweisungen für Abziehbilder-Anbringung: Die benötigten Abziehbilder vom Blatt abschneiden, in ein Glas reines Wasser für etwa 1/2 Minute eintauchen, auf das Modell legen und dann vom Papierbogen abheben. Um eine bessere Haftung zu erzielen, die Abziehbilder mit einem reinen Tuch andrücken.

	Клейти Glue		Не клейти Don't glue		Вирізати cut out		Свердлити Drill		Фарбувати Paint		Нанести декалі Apply decal		Відірвати аркуша Plastic Vaterfen
	Тимчасове з'єднання Temporary joining		Повторити для лівої(правої) сторони Repeat for part(s) left(right) side		Кількість етапів Number of working steps		Змінити форму нагрівом Change form with warm						



Detail up не використовуватися
Parts not for use

- Комплектність:**
- 1. Рама з деталлю - 5 шт.
 - 2. Інструкція - 1 прим.
 - 3. Лекати - 3 прим.
 - 4. Коробка - 1 шт.
 - 5. Пилка прозора - 1 шт.

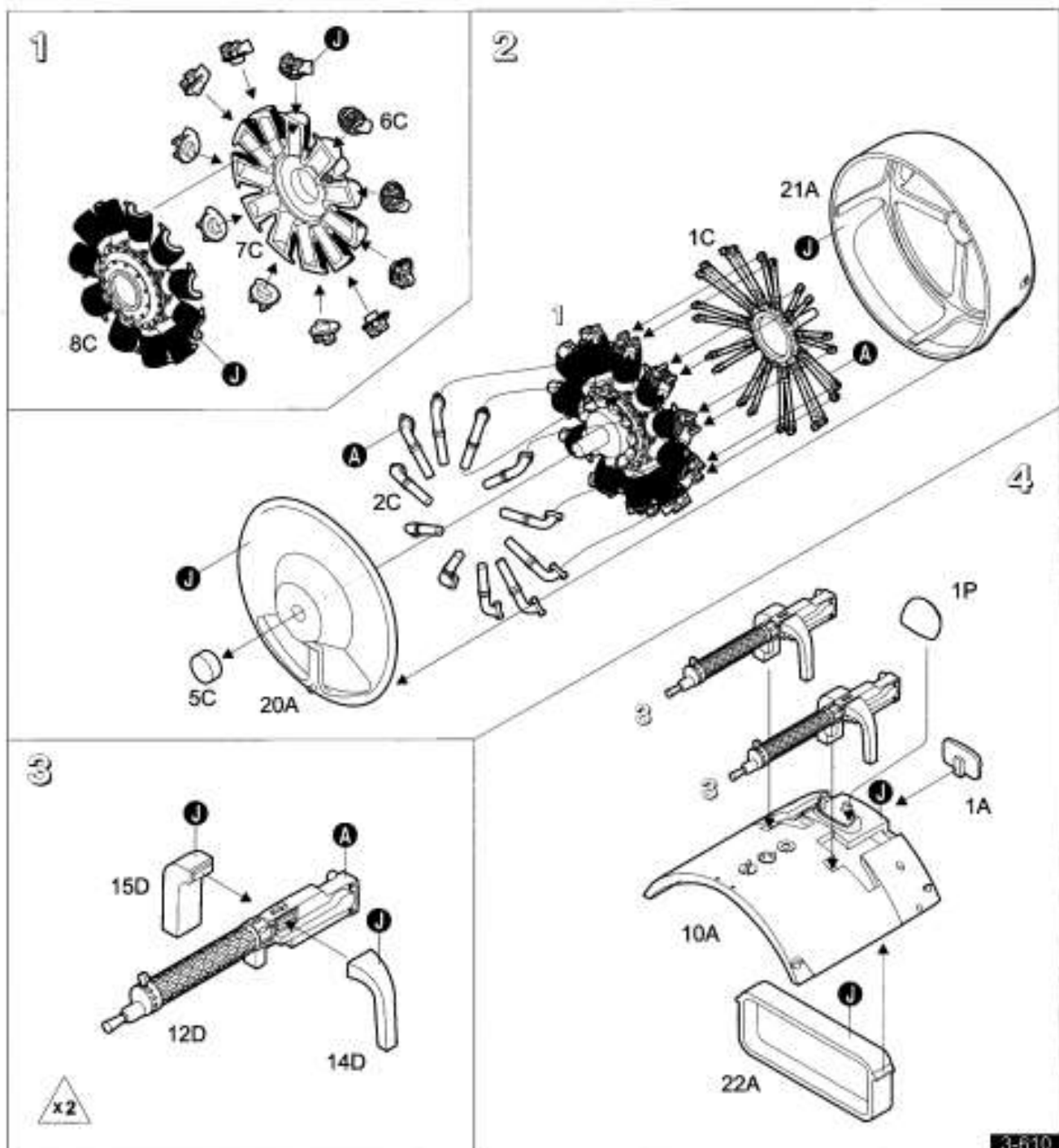


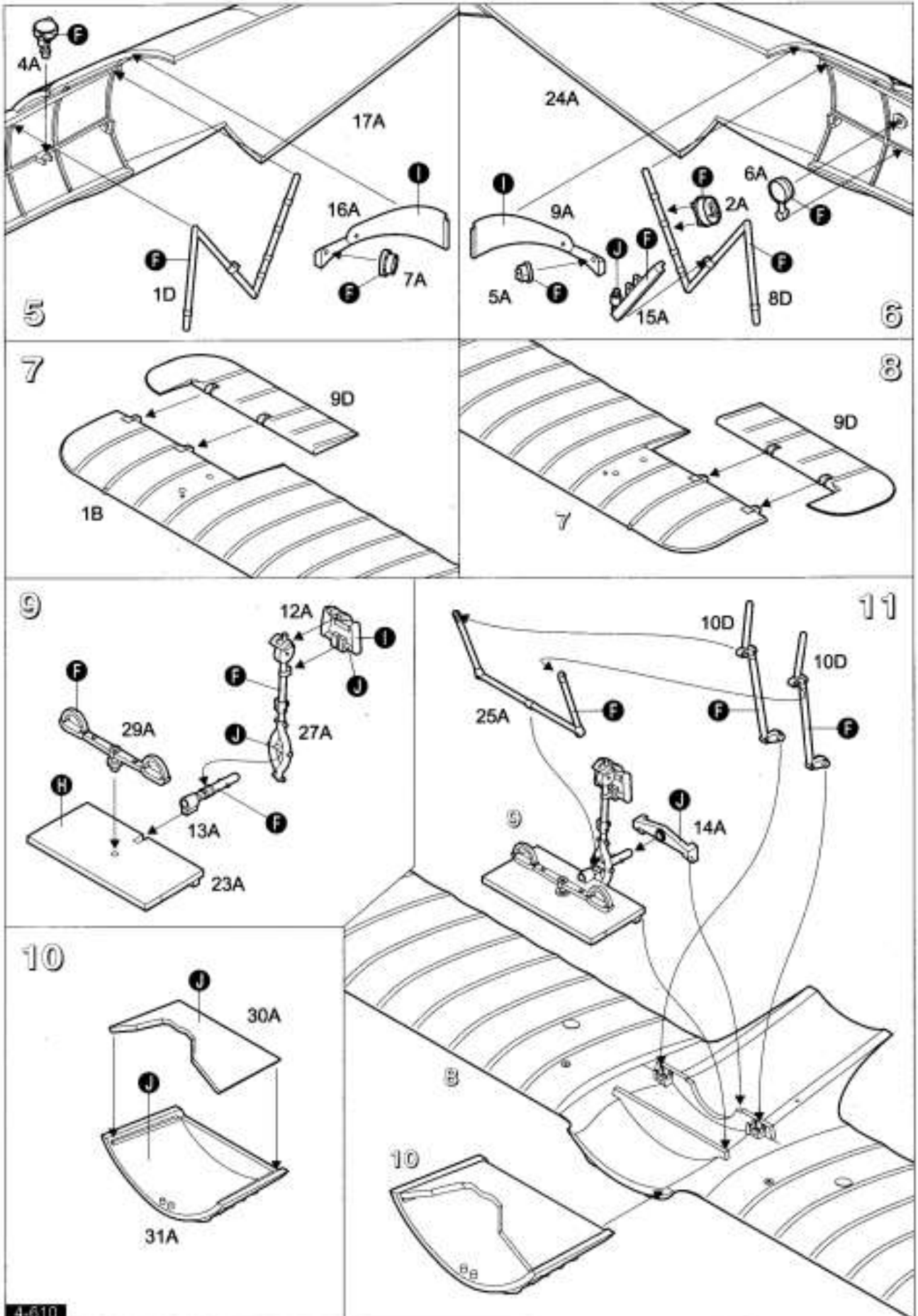
24610

x2

Model Master

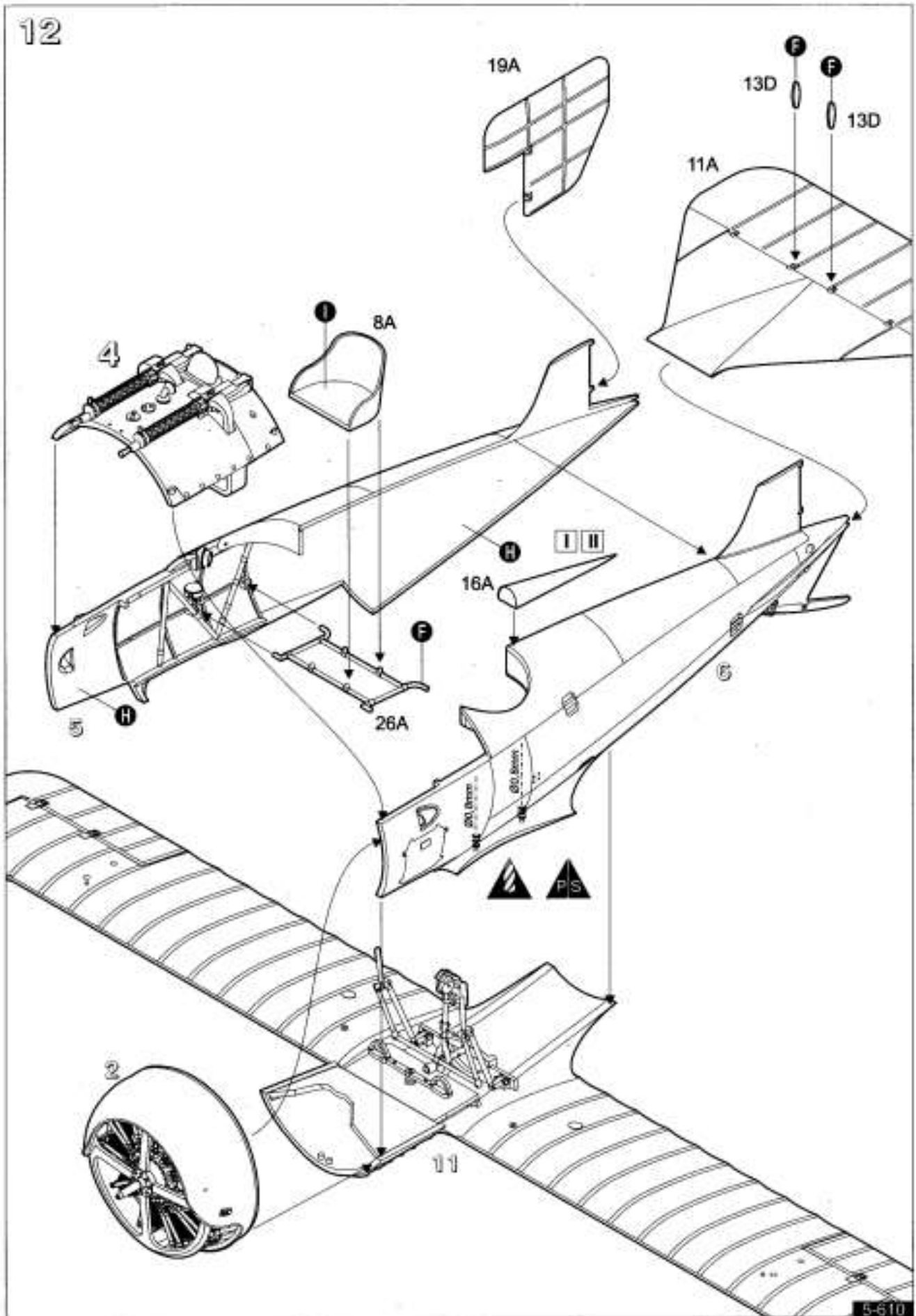
 A 1405 Насветло-сизавел Gunmetal Eisen, metallic	 B 1503 Насветло-красно Bright Red Rotrot	 C 1592 Темно-сизавел Matt Dark Grey Dunkelgrau, matt	 D 1594 Сизавел Salm Blue Blausilk	 E 1596 Белый White Weiß
 F 1587 Насветло Gloss Black Schwarz	 G 1731 Светло-сизавел Aircraft Grey Hellgrau	 H 1735 Натуральное дерево Matt Natural Wood Naturholz, matt	 I 1736 Насветло-красно Red Leather Rotbraun	 J 1780 Сизавел Silver Grey Silbergrau
				 K 2080 Насветло-зелено Black Green Schwarzgrün



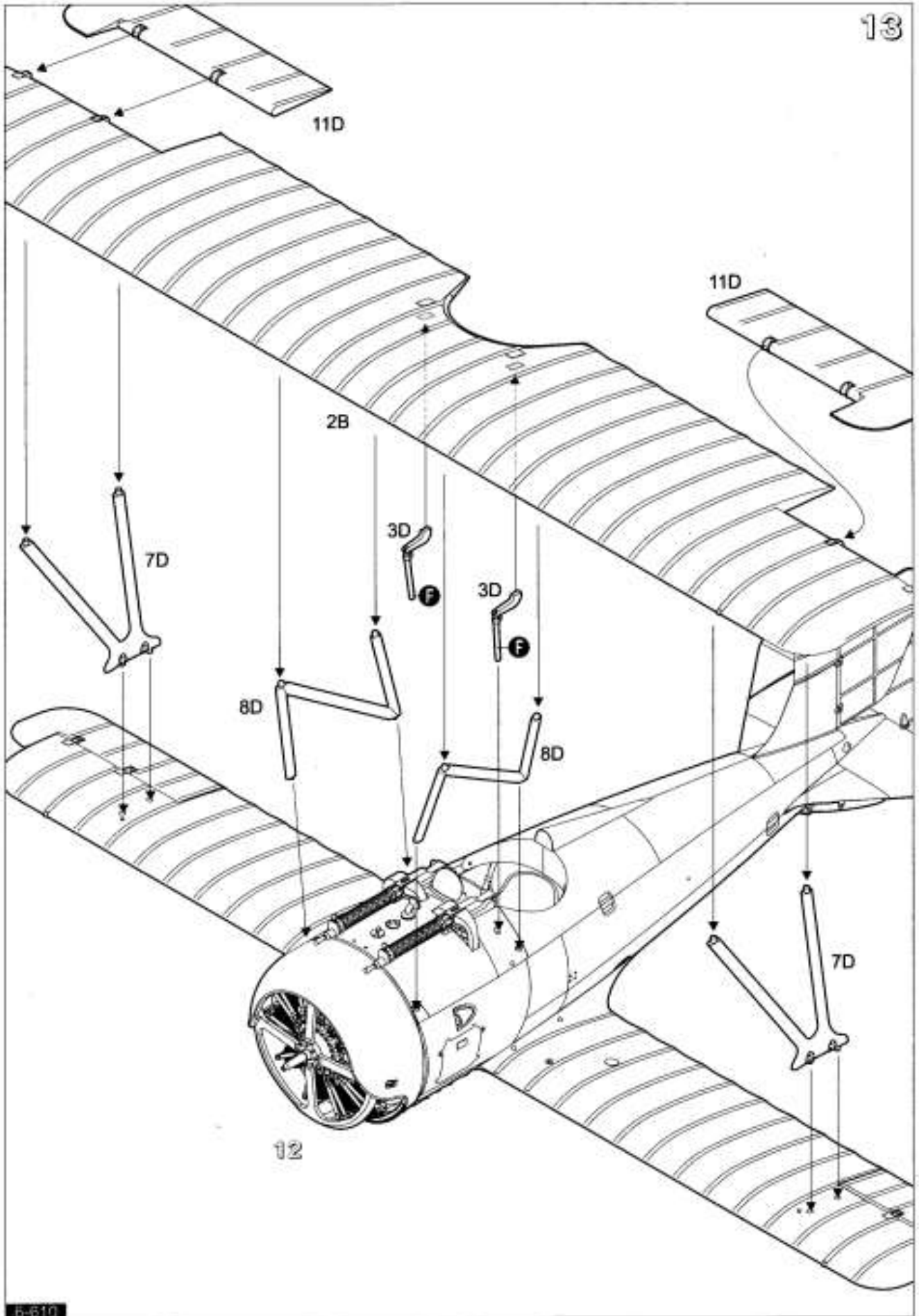


4-610

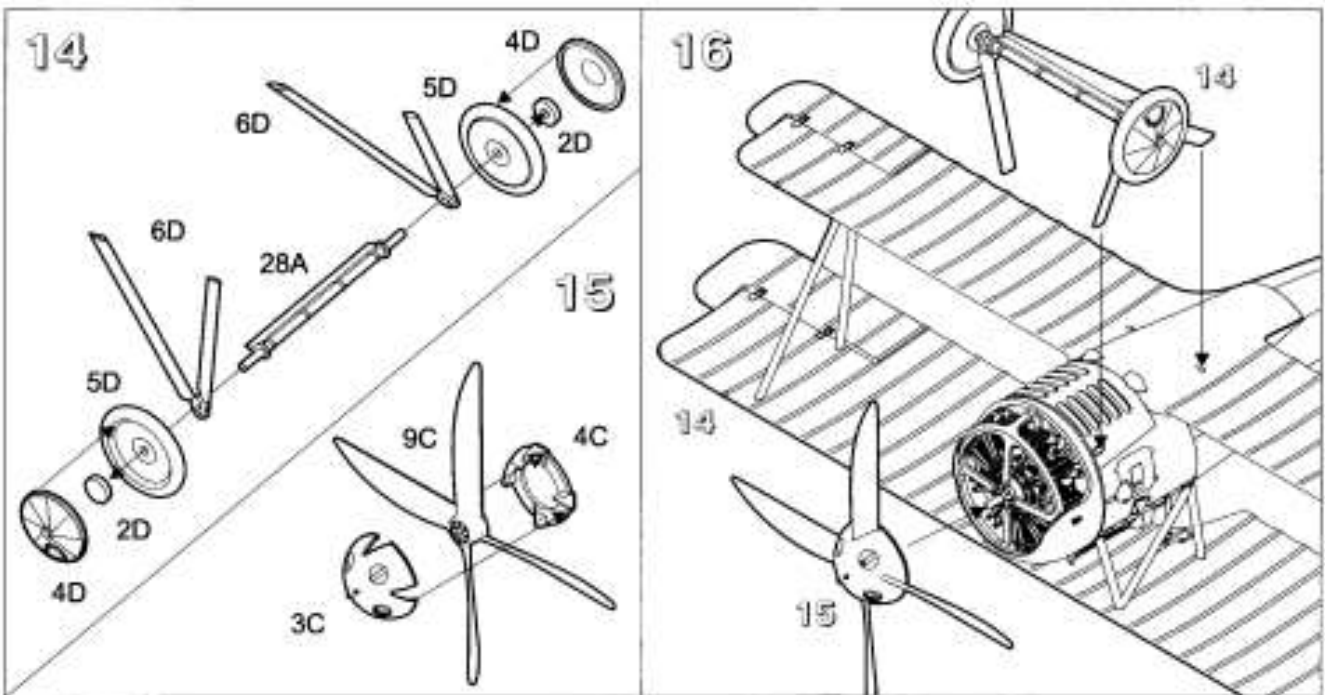
12



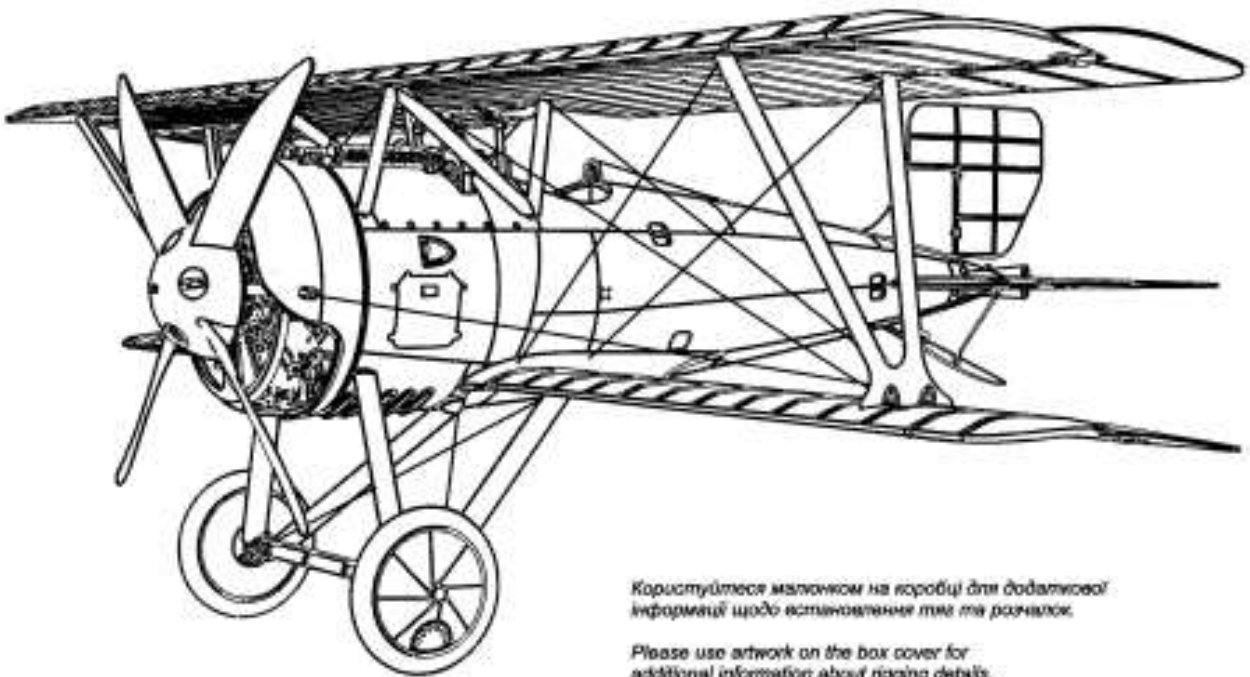
5-610



6-610



Встановлення тяг та розчалок
Rigging
Verspannung



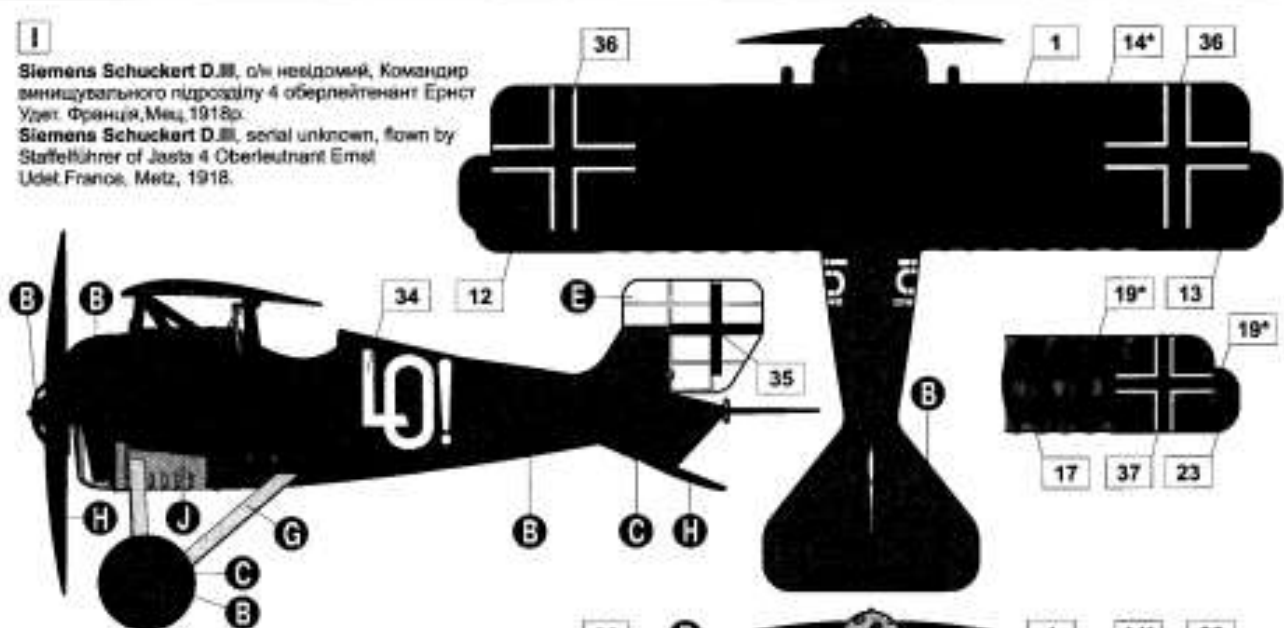
Користуйтеся малюнком на коробці для додаткової інформації щодо встановлення тяг та розчалок.

Please use artwork on the box cover for additional information about rigging details.

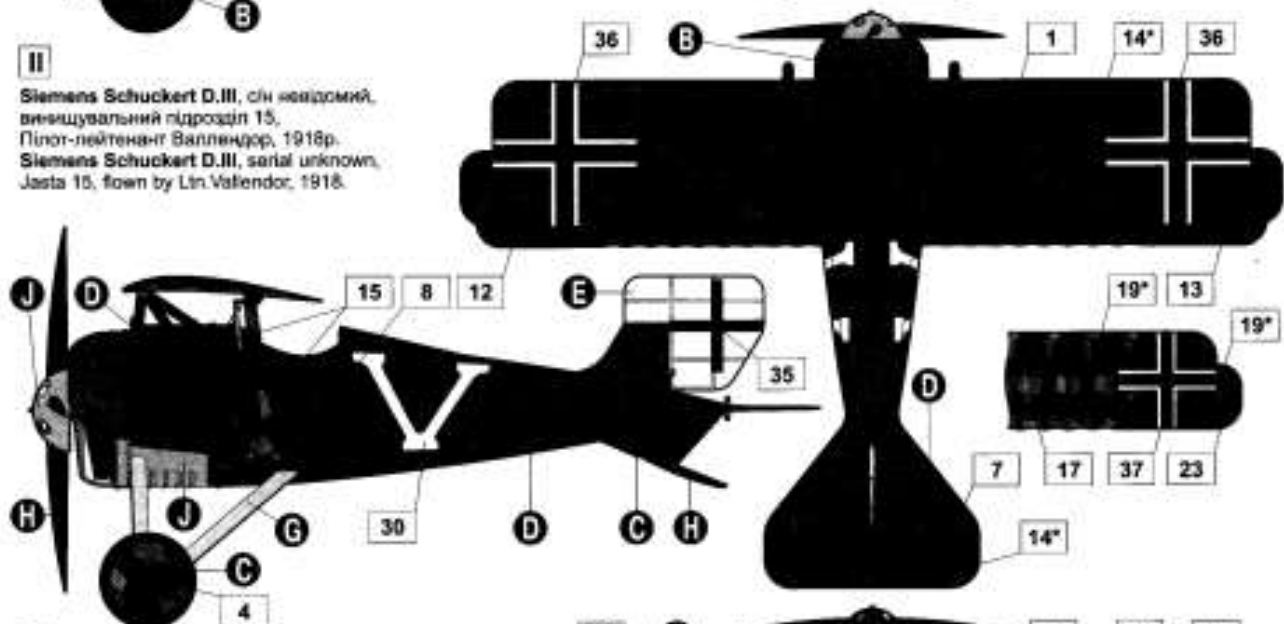
Verwenden Sie bitte die Darstellungen auf der Verpackung für zusätzliche Hinweise zur Verspannung.

I

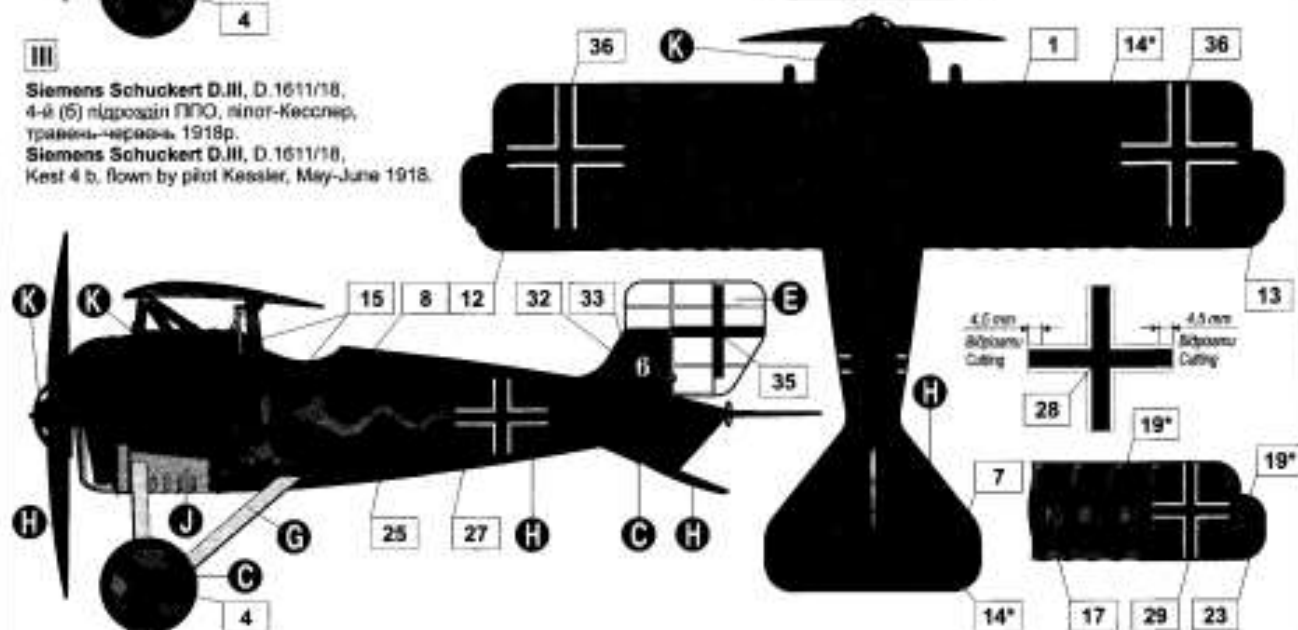
Siemens Schuckert D.III, с/н невідомий, Командир
випускального підрозділу 4 оберлейтенант Ернст
Удет, Франція, Мец, 1918р.
Siemens Schuckert D.III, serial unknown, flown by
Staffelführer of Jasta 4 Oberleutnant Ernst
Udet, France, Metz, 1918.

**II**

Siemens Schuckert D.III, с/н невідомий,
випускальний підрозділ 15,
Пілот-лейтенант Валлендор, 1918р.
Siemens Schuckert D.III, serial unknown,
Jasta 15, flown by Lt. Valendor, 1918.

**III**

Siemens Schuckert D.III, D. 1611/18,
4-й (5) підрозділ ПЛЮ, пілот-Кесслер,
травень-червень, 1918р.
Siemens Schuckert D.III, D. 1611/18,
Kest 4 b, flown by pilot Kessler, May-June 1918.



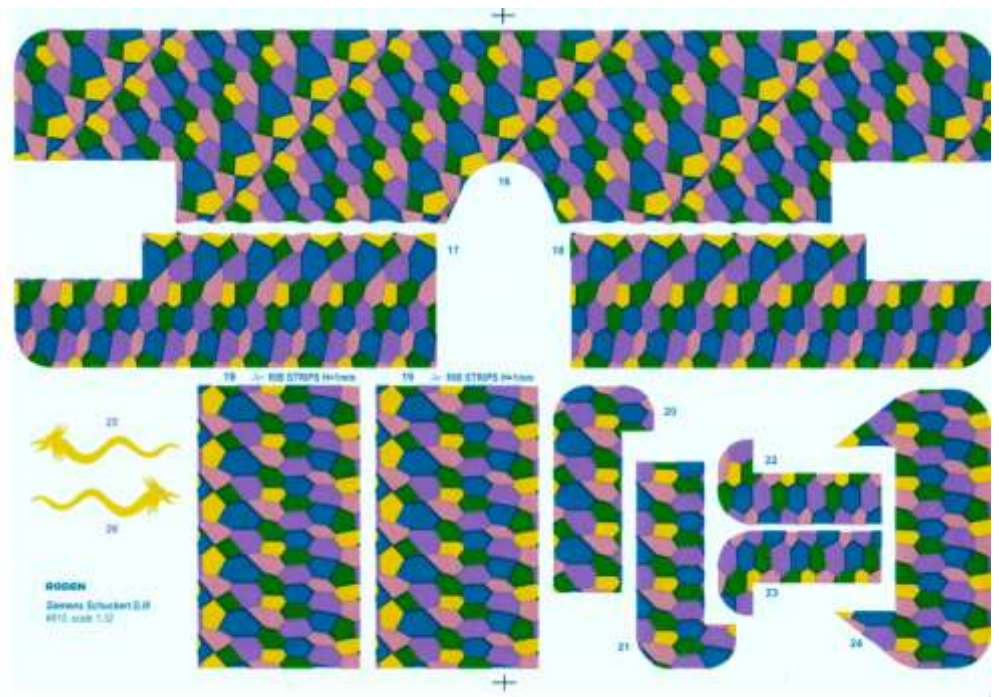
* Кілеві стрічки необхідно вирізати та наклеїти, використовуючи елементи декалей 14 та 19.
* Rib strips can be cut and apply, using decals 14 and 19.

Kit supplied decals

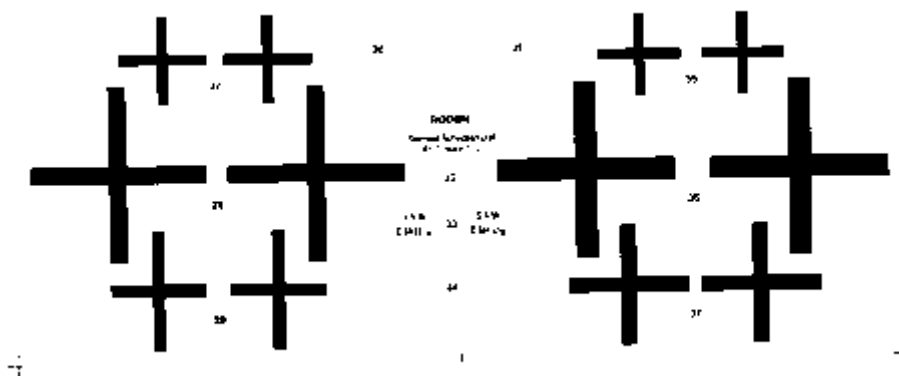
Upper surfaces



Underside surfaces



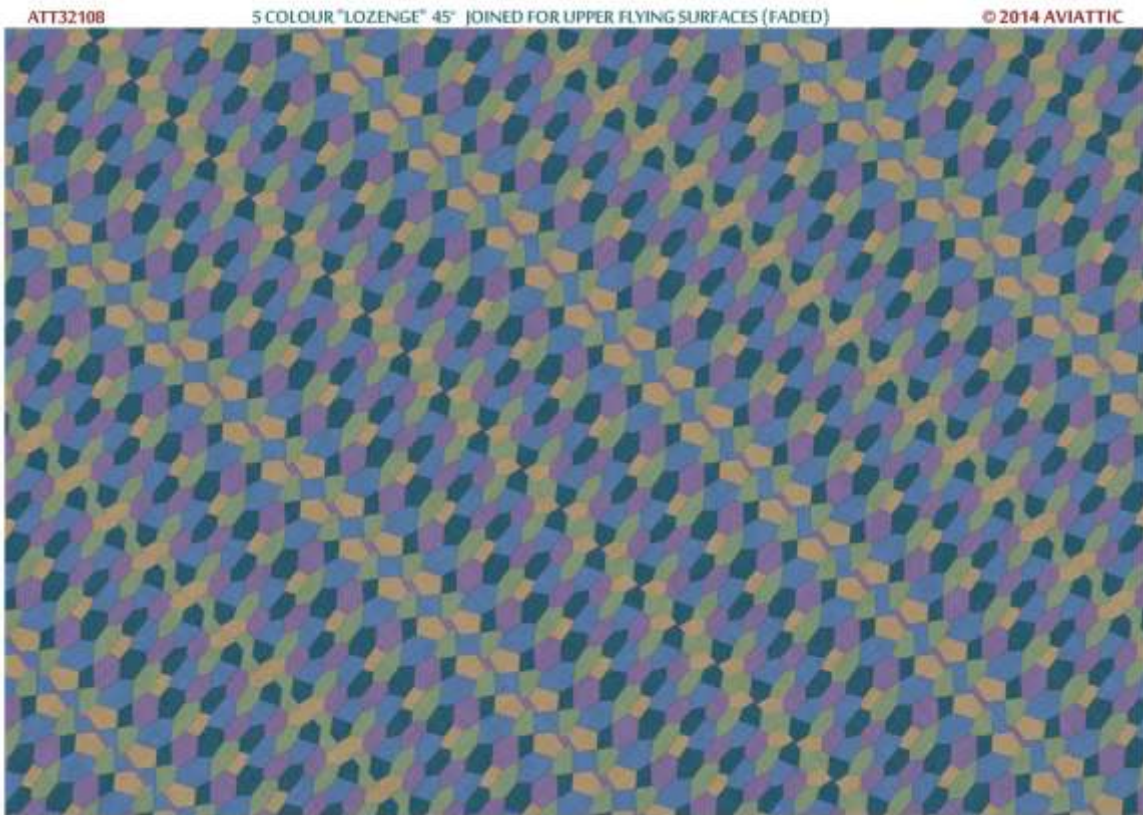
Markings



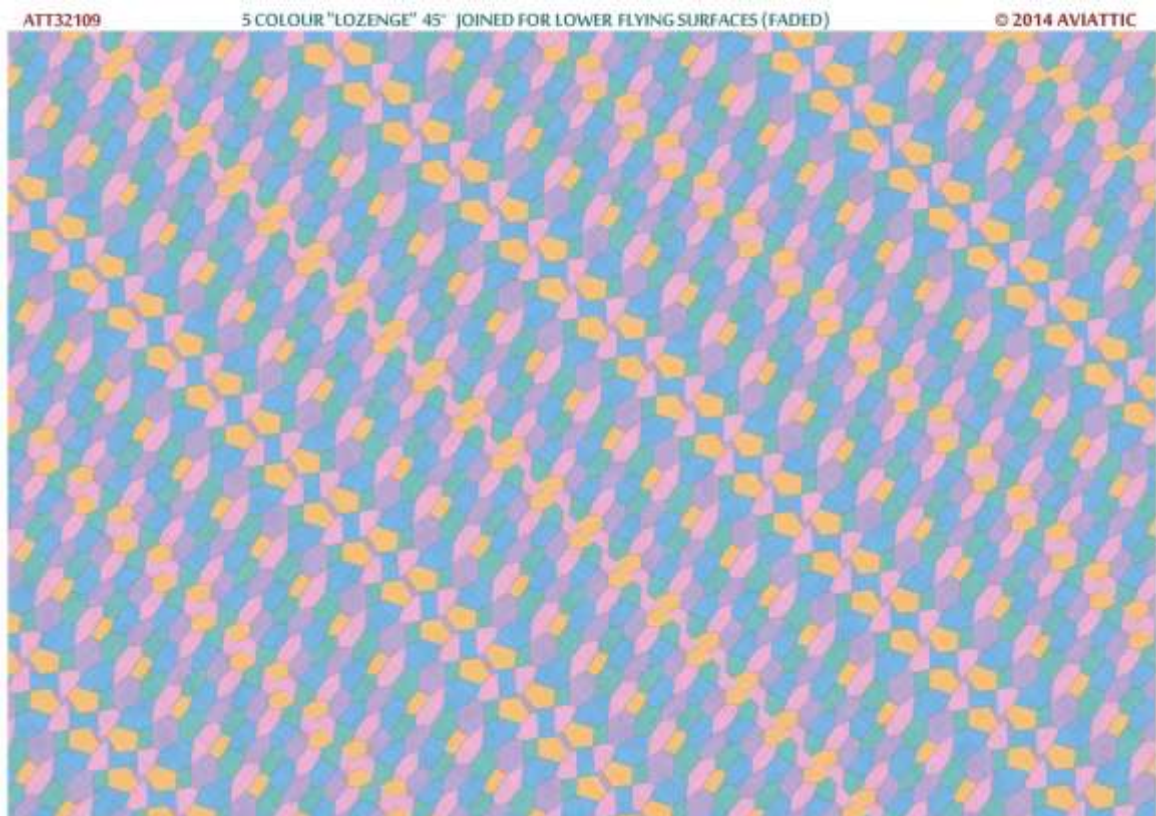
Aftermarket used

'Aviatic' decals

Upper wing - top surfaces



Upper wing - underside surfaces

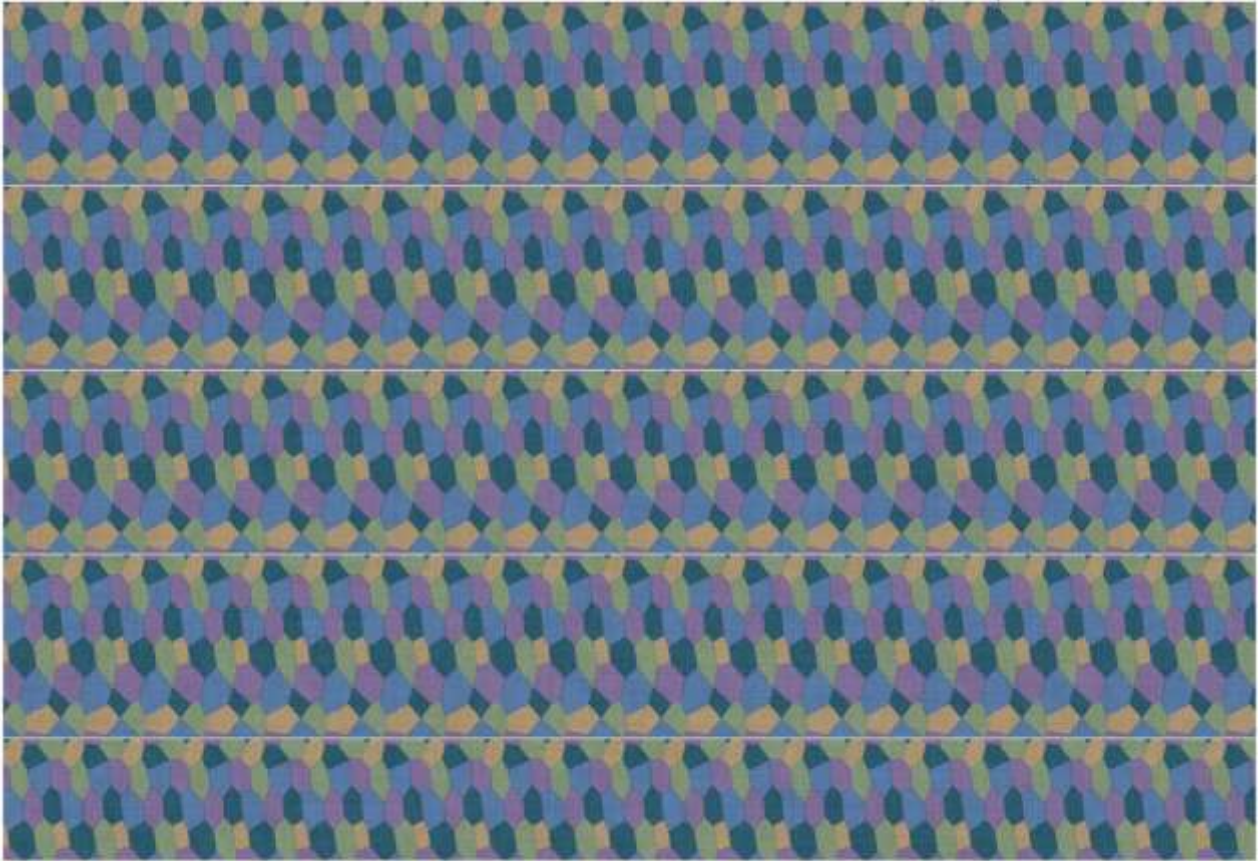


Lower wings - top surfaces

ATT32073 (White Decal Paper)

5 COLOUR "LOZENGE" FULL PATTERN WIDTH FOR UPPER SURFACES (FADED)

© 2014 AVIATTIC

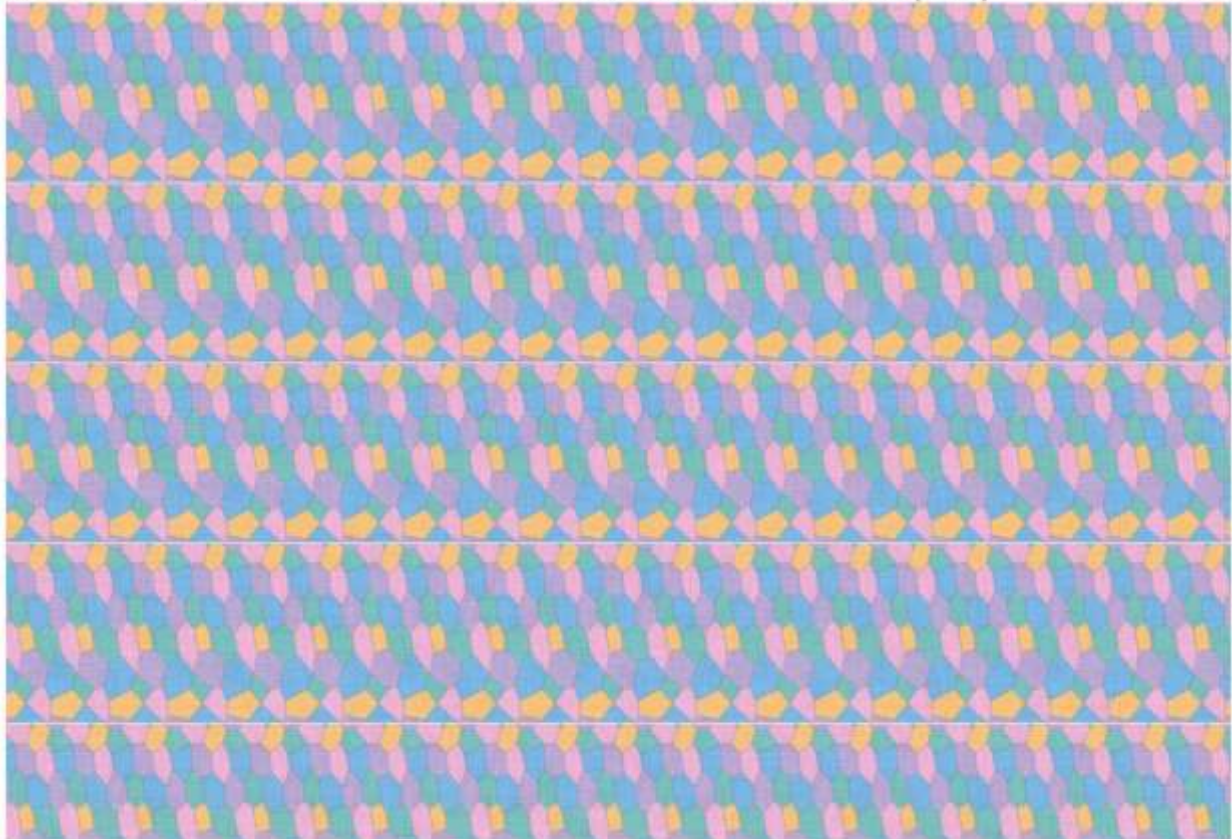


Lower wings - underside surfaces

ATT32075 (White Decal Paper)

5 COLOUR "LOZENGE" FULL PATTERN WIDTH FOR LOWER SURFACES (FADED)

© 2014 AVIATTIC

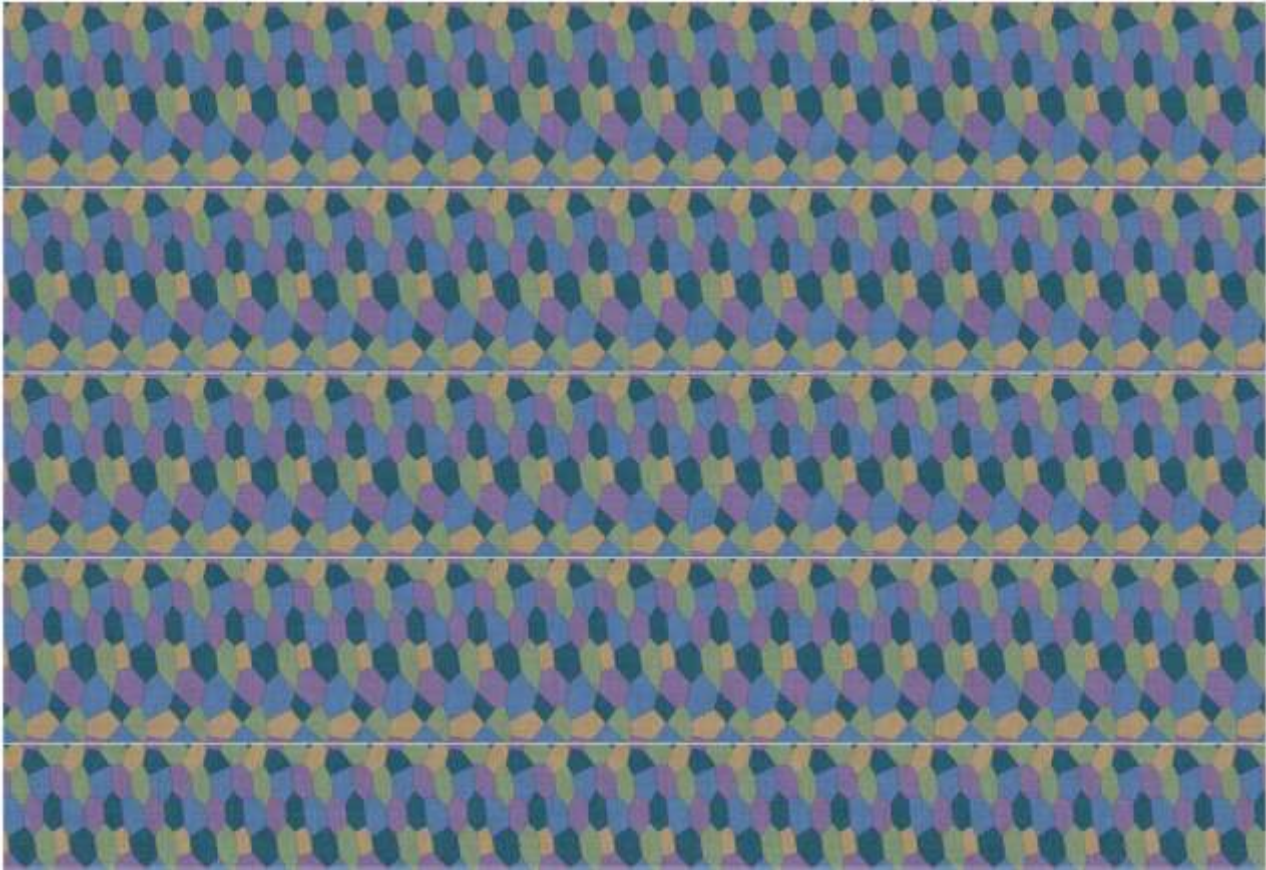


Wing rib tapes (upper surfaces and undersides)

ATT32013

5 COLOUR "LOZENGE" FULL PATTERN WIDTH FOR UPPER SURFACES (FADED)

© 2014 AVIATIC



'Pheon' decals



'Brengun' Siemens Schuckert D.III (BRL32014).



'HGW Models' fabric seat belt (32006).



'Gaspatch' 1/32 Spandau 08/15 guns.



GasPatch' 1:48 scale resin turnbuckles.



'Loon Models' resin conversion set



PART 2
WOOD EFFECTS
(General)

PART 2 - WOOD EFFECTS (General)

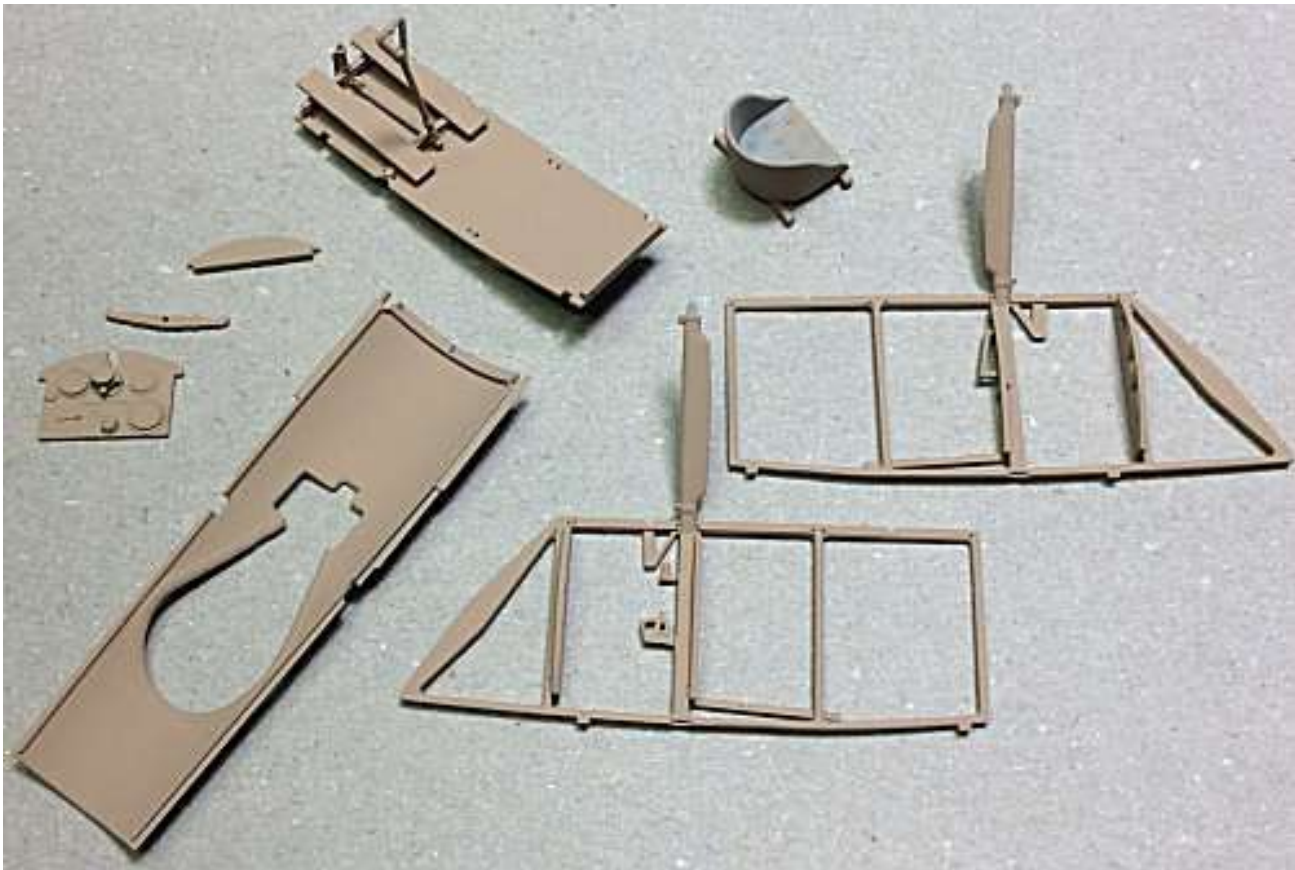
A basic technique:

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

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

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

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



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

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

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

Once painting is complete, clean the brush in water.

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



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

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

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

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

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



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

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

PART 3
WEATHERING
(General)

PART 3 - WEATHERING (General)

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

Flory Model clay washes:

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

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

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

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

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

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

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



Chipping effects:

To give the effect of chipped and weathered paint/varnish to metal engine cowls and forward fuselage panels etc, chipping fluids can be used. To achieve this effect, first prime the areas with a suitable primer then airbrush the metallic finish desired. Once dry, a chipping fluid, such as 'AK Interactive' Medium Chipping fluid or 'Vallejo' chipping fluid is airbrushed over the painted areas. An alternative is to use a cheap hair spray. This forms a barrier which will allow the top coat to be chipped off. Finally the required top coat colour is applied.

Once fully dry, moisten the top coat with water, which softens the paint. Then with a cut down (stiff) brush and wood cocktail stick, gently teased off the top coat paint. Take care when doing this as 'too much chipping' can't really be covered up. In that event you would have wet the top coat and remove it all with an old toothbrush or similar and then when dry, re-spray the top coat and try again. Once the desired effect was achieved, I sealed the surfaces with an airbrushed coat of 'Alclad' Light Sheen (ALC-311).



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



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



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



Water colour pencils:

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



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

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

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

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



PART 4
DECALS
(General)

PART 4 - DECALS (General)

Standard decals:

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

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

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

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

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

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

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

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

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

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

Carefully move the decal into the correct position.

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

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

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

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

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

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

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

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

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

'Aviatic' linen effect decals:

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

However, 'Aviatic' 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 'Aviatic' decals, due to the nature of the carrier film. In addition, the decals need to be cut out from the sheet, so care is required to cut the decals accurately to avoid leaving gaps, especially at the edges, where the white base colour will show. That said, minor gaps may be able to be covered with weathering. For more information, refer to the 'Aviatic' instruction sheet supplied with the decals.

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

Application:

First airbrush a primer coat of 'AK Interactive' primer and micro-filler (White - AK759) on all of the surfaces to have the decals applied.

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

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

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

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

Soak each decal in warm water for approximately 20 seconds.

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

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

Align the decal to the shape of the model part.

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

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

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

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

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

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

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

PART 5

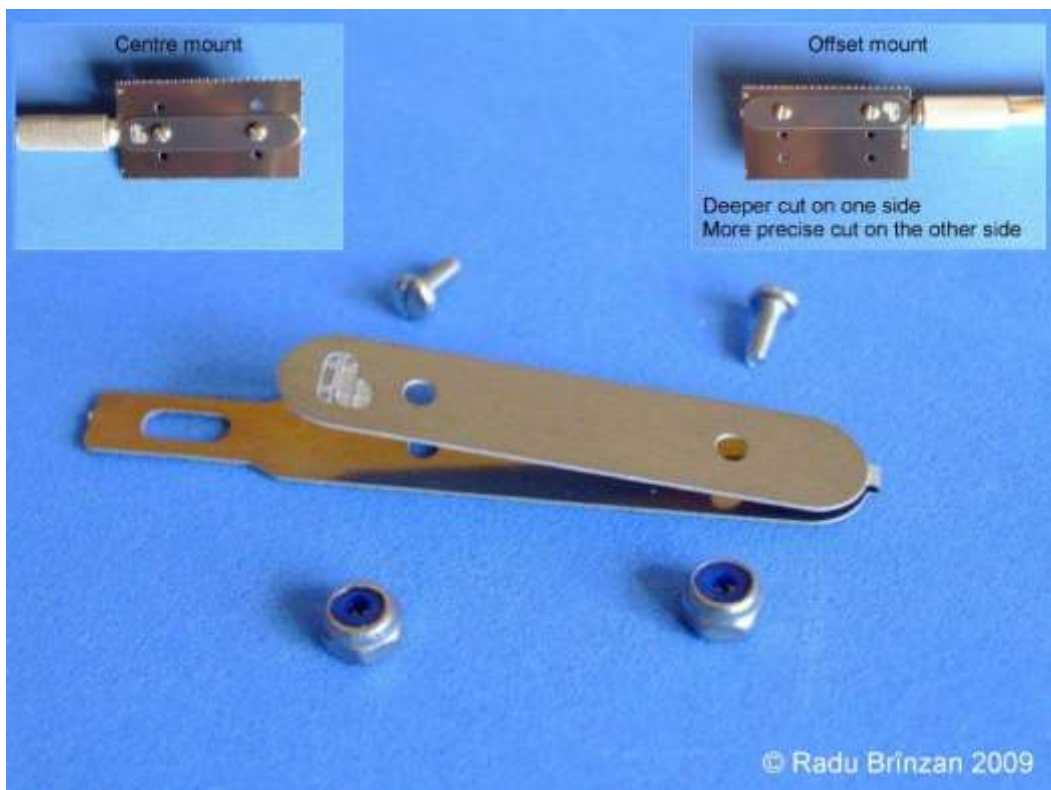
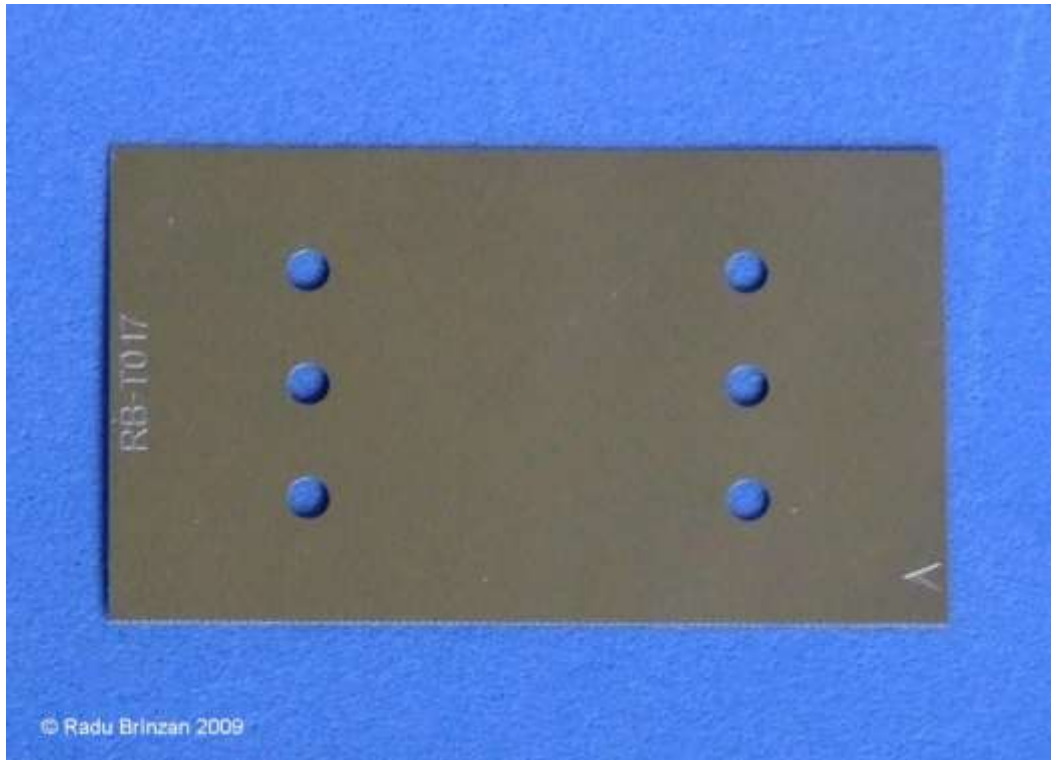
RESIN (General)

PART 5- RESIN (General)

This model contains aftermarket resin parts, as opposed to the normal plastic used. The reason for creating resin kits is that in years gone by, resin kits were able to produce much finer detail on kit parts than the plastic kit equivalents. Even today, there are many producers of resin kits and particularly after market replacement parts. However, plastic kit manufacturers have come a long way now and kits, such as those from 'Wingnut Wings' and 'Copper State' are equal to, if not better than resin kits. Manufacturers of resin kits these days tend to make kits to order or have 'limited' runs, although aftermarket parts are usually readily available. Working with resin does present different challenges to the modeller, especially if it's the first time of building a resin kit. The properties of resin differ radically to those of plastic kits. Below I have listed what I have found to be the primary differences for resin kits from plastic kits:

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

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



PART 6
RIGGING
(General)

PART 6 - RIGGING (General)

General:

The first thing to check is that you have already drilled out the rigging attachment points. Most models have these located on the model, but it's best to carry out research in reference books or research on line before drilling.

Some modellers use micro drills manufactured for drilling printed circuit boards etc and these drill bits sometimes have identifying coloured collars fitted to the drill shanks. I have found that care needs to be taken when using these drills, as they are sharp and instead of easing their way into the plastic of the model, they tend to bite in and effectively 'cork screw' their way in, which causes jamming and lots of broken drills. This is not only expensive but can leave broken drill bits in the model, which are virtually impossible to extract. An alternative is to use High Speed Steel (HSS) drill bits, which are cheaper and have less 'bite' when in use, although again, they are very fragile and can very easily be broken.

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

With your research complete and all necessary holes pre-drilled, the rigging can start. For the primary I used 'Steelon' mono-filament (fishing line) of 0.12 mm diameter and for flight control I used 'Stroft' 0.08 mm diameter mono-filament. These are effectively transparent but do give a look of steel, without the need of painting or colouring with a gel pen. The turnbuckles used are either sintered metal or resin and obtained from 'Gaspatch Models'.

NOTE: *As you work your way through the rigging it is always good to check the rigging attachment points for any damaged paint. This can be rectified before continuing with the rigging, just in case access will be limited once all of the rigging is completed.*

Siemens-Schuckert D.III rigging:

The rigging for the Siemens-Schuckert D.III is as follows and is covered during the relevant parts of this build log.

Elevator control wires:

On each side of the rear of the fuselage were two elevator control wires. These wires exited from the fuselage through openings, the upper wire connecting to the elevator control horn above the elevator and the lower wire to the control horn on the underside of the elevator.

Landing wires:

On each side of the aircraft were two landing wires, which were routed between inboard from the base of the wing outer 'V' struts and the top of the fuselage cabane 'Z' struts. The turnbuckles were located at the base of the wing outer 'V' struts.

Flying wires:

On each side of the aircraft were two flying wires, which were routed between the lower wing roots and the top of the wing outer 'V' struts. The turnbuckles were located at the wing roots, where the two wires passed through openings in the wing roots.

Bracing wires:

Bracing wires were fitted in various locations around the aircraft:

Between the rear undercarriage struts and axle fairing.

Between the engine cowl and base of the wing outer 'V' struts.

Between the top of the rear struts of the fuselage cabane 'Z' struts and cockpit decking.
Between the top of the front struts of the fuselage cabane 'Z' struts and cockpit decking.

Between the rear undercarriage struts and axle fairing:

A bracing wire was attached between the top of the two rear undercarriage struts. The two wires crossed to be attached the opposite end of the axle fairing. The turnbuckles were located at the undercarriage strut ends of the wires.

Between the engine cowl and base of the wing outer 'V' struts:

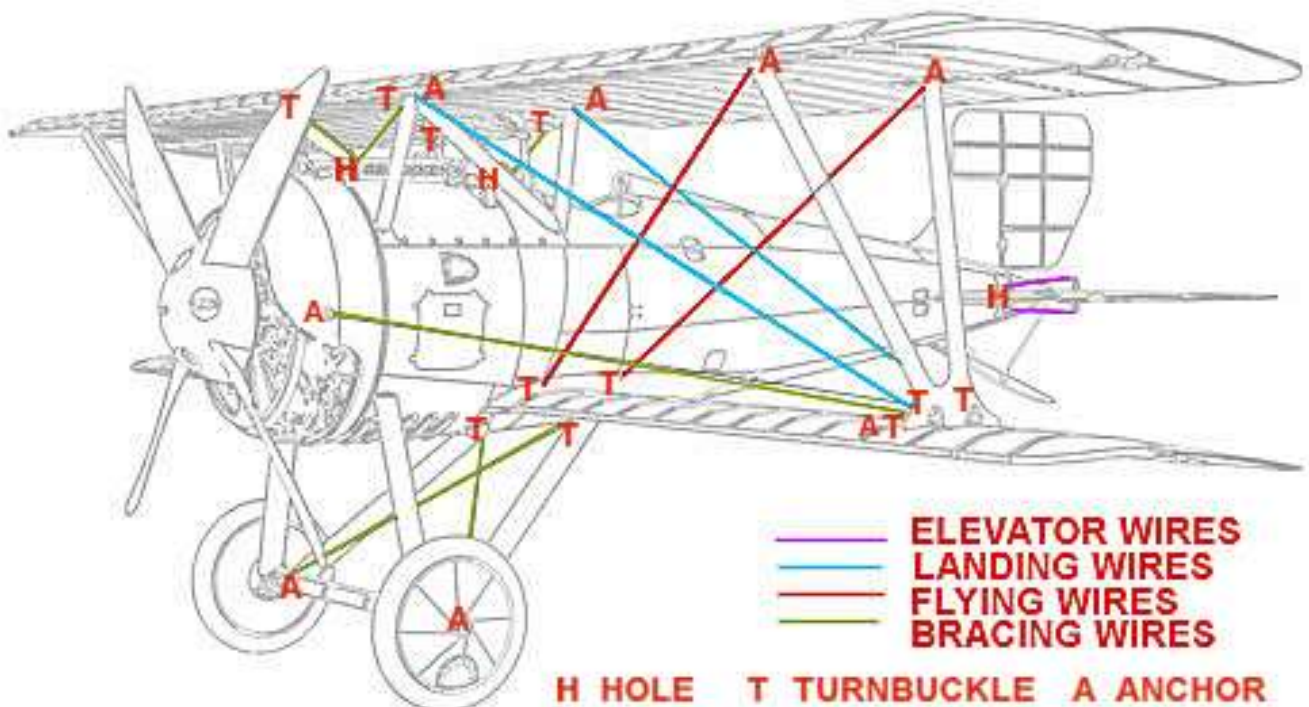
A bracing wire was attached between the centre sides of the engine cowl and inboard from the rear of the base of the wing outer 'V' struts. The turnbuckles were located at the base of the wing outer 'V' struts.

Between the top of the rear struts of the fuselage cabane 'Z' struts and cockpit decking:

A bracing wire was attached between the top of the two rear fuselage cabane 'Z' and a square support frame, located centrally on the cockpit decking, to the rear of the wind screen. The turnbuckles were located at the strut end of the wires.

Between the top of the front struts of the fuselage cabane 'Z' struts and cockpit decking:

A bracing wire was attached between the top of the two front fuselage cabane 'Z' and the cockpit decking, to between the cooling jackets for the two machine guns (kit decking panel has two guide dimples). The turnbuckles were located at the strut end of the wires.



PART 7

ENGINE

PART 7 - THE ENGINE

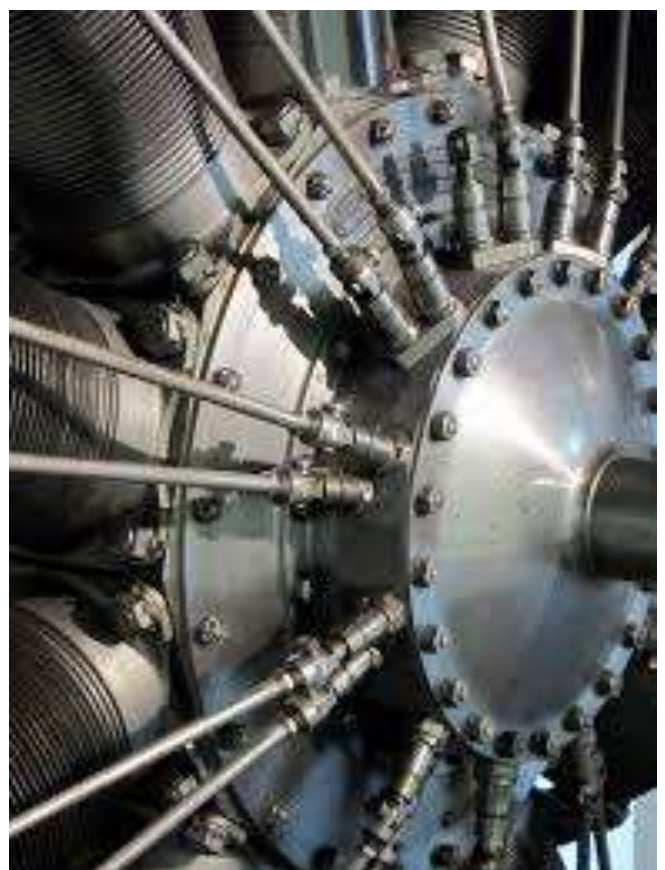
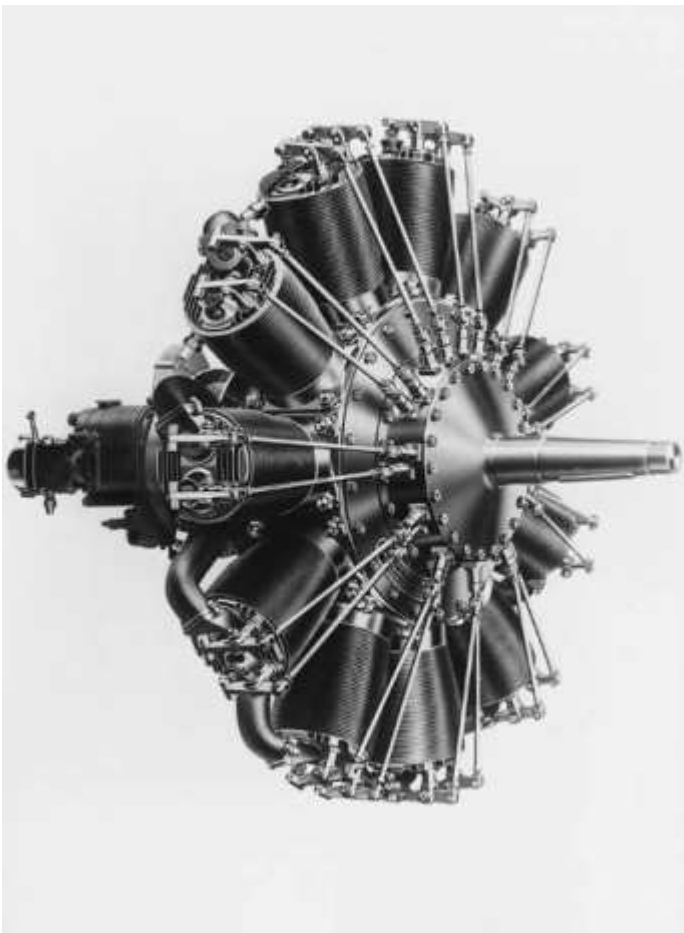
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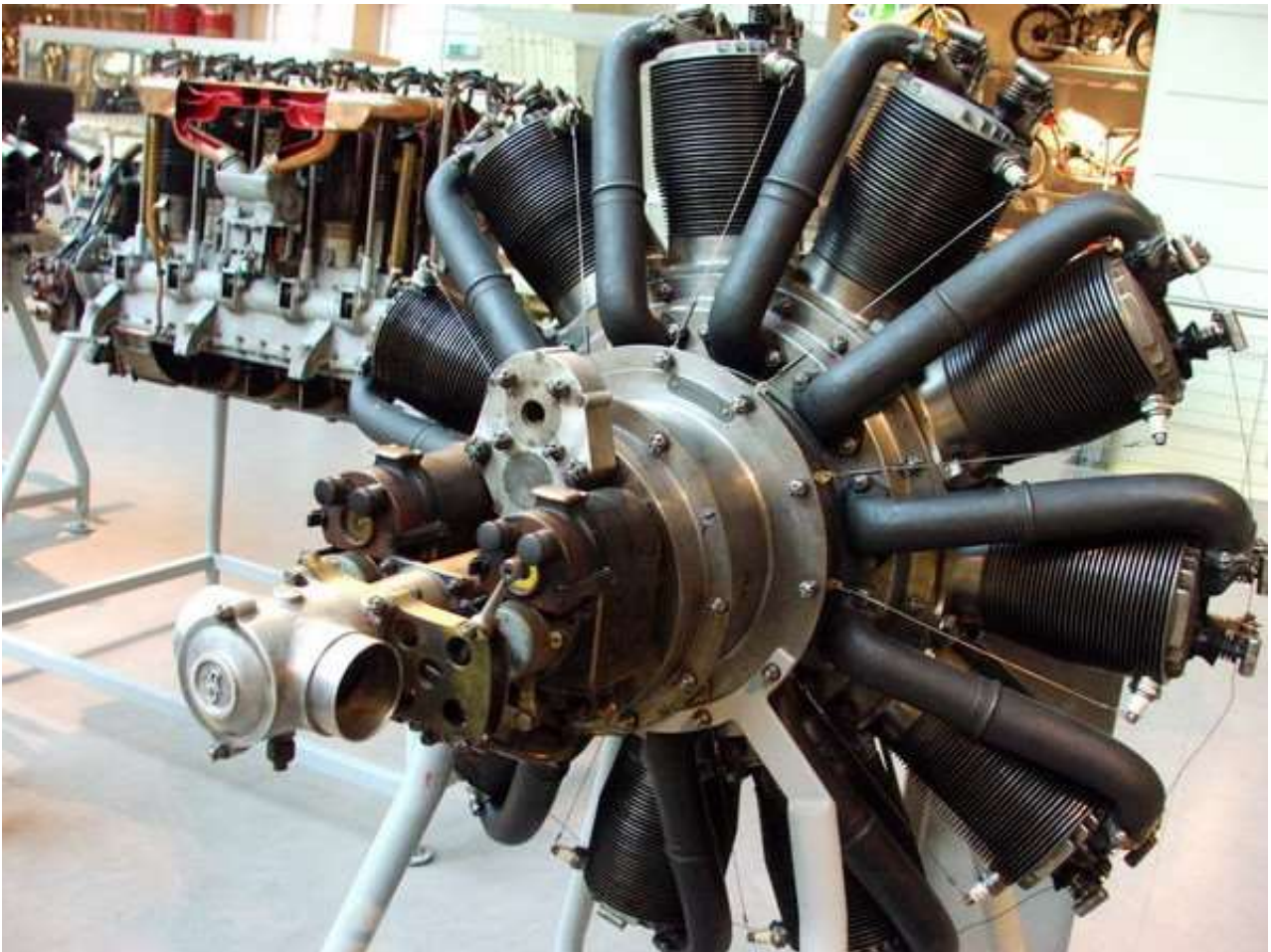
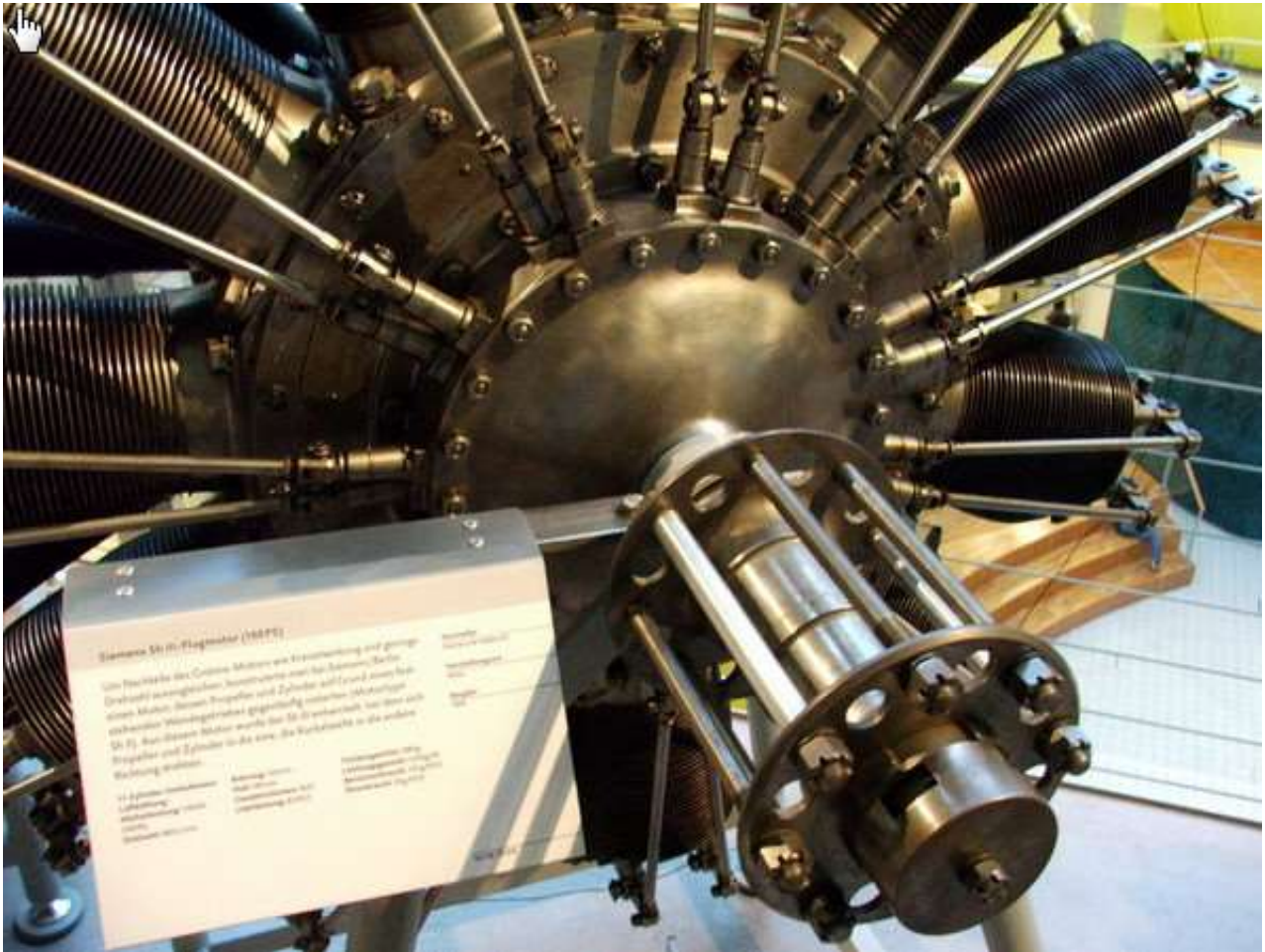
1. Wikipedia.
2. <http://www.idflieg.com>
3. Windsock Data File 29 - SSW D.III~D.IV by P. M. Grosz.

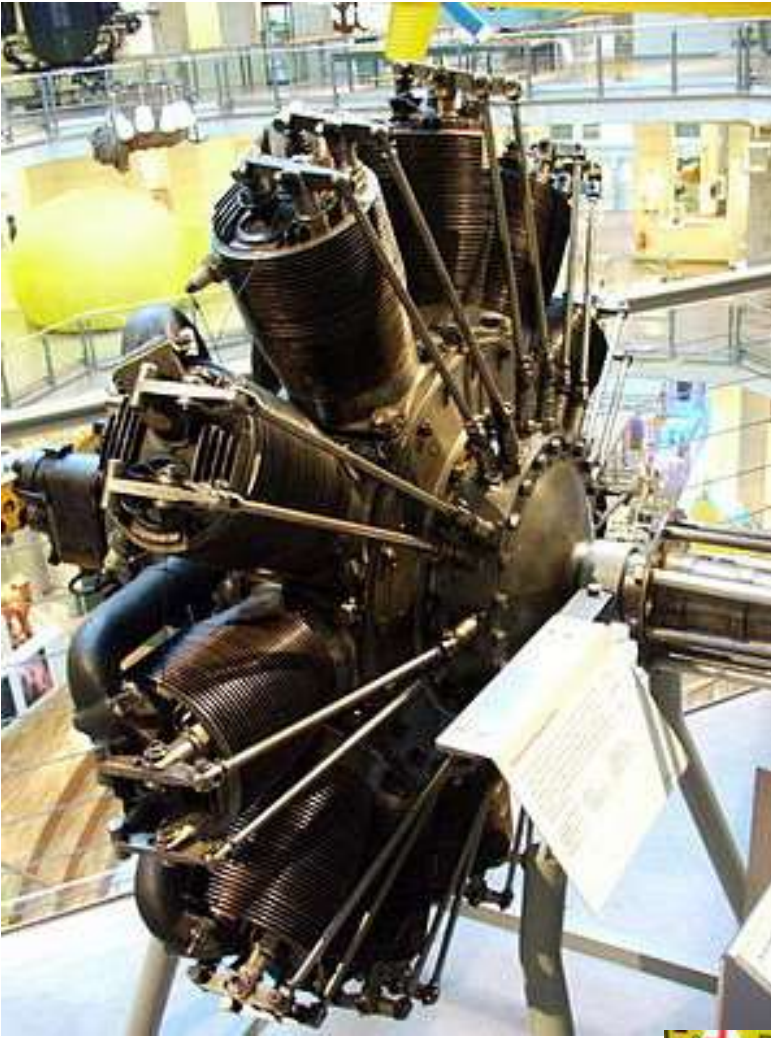
The Siemens-Halske Sh.III engine was an 11-cylinder, air-cooled rotary engine developed in Germany during World War I, and a progression of the Sh.I engine. The Sh.III engine inherited from the Sh.I engine the unusual design feature of having its internal workings parts, such as the crankshaft, connecting-rods, rotating in a clockwise direction as seen from 'nose-on', within the engine, and the crankcase and propeller (still fastened to the crankcase, as is usual for rotary engines) rotating in the "accepted" anti-clockwise direction. Also unusual for a rotary engine was the inclusion of a true throttle control. Engine power was rated at 120 kW (160 hp).

The advantages of the engine were increased propeller efficiency through the reduction gearing effect of having the engine effectively running at 1,800 rpm for only 900 rpm of the airscrew, and excellent high-altitude performance due to the high compression ratio achieved. In addition, the counter-rotating masses tended to cancel out the gyroscopic forces of the engine. This was achieved by using bevel-gears housed in the rear of the crankcase. This "contra-rotary" action also caused the point of ignition in the rotary action of the cylinders to itself slowly rotate in the direction of the crankshaft's rotation as the engine ran. For a normal rotary engine that had its crankshaft fastened to the airframe, the point of ignition always stayed in the same place in the cylinders' as they spun with the crankcase.

Production problems at the Siemens works, and poor quality lubricating oil, gave the Sh.III engines a life expectancy of only seven to ten hours before pistons began to seize. The license-built Rhemag versions of the Sh.III did not have such problems, so the Siemens-made engines were gradually withdrawn from service.





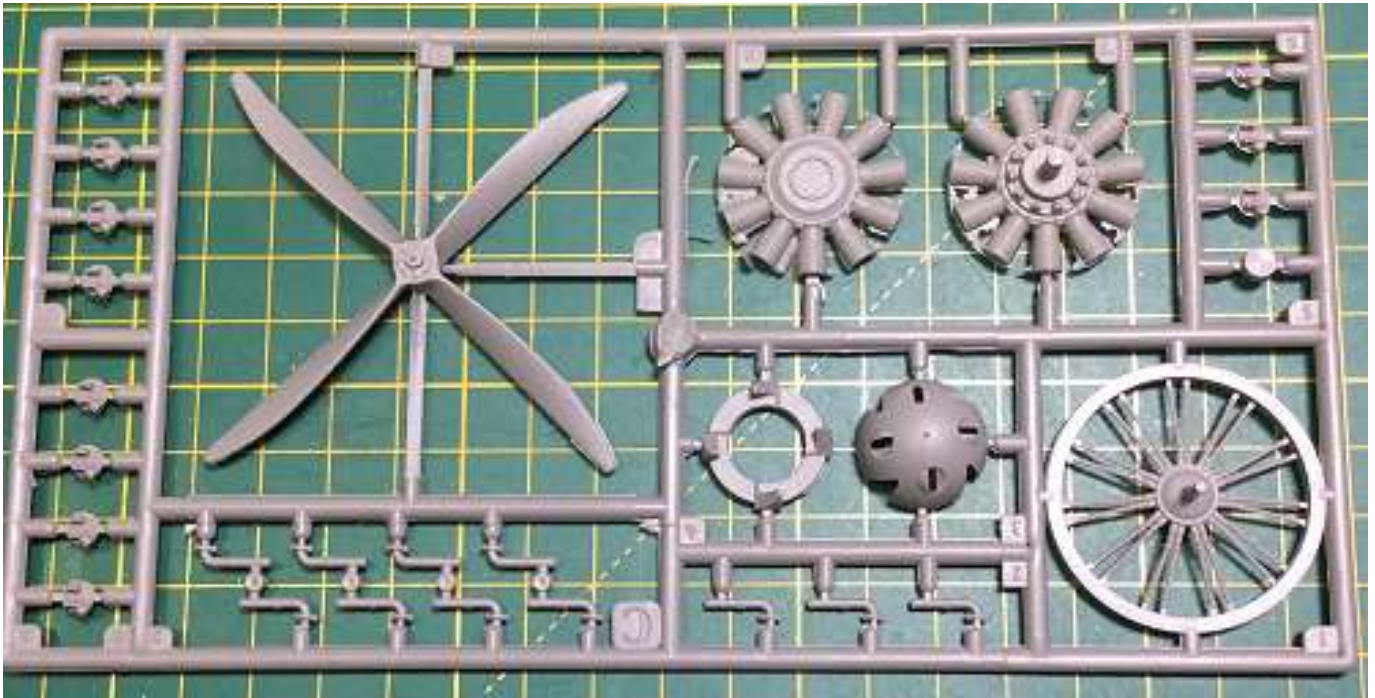




Engine:

The kit supplied engine is generally of good detail, but the moulds used to produce this kit are showing their age, as the engine sprue suffers from 'flash' around parts, such as the cylinder halves. Also the sprue 'gates' are quite pronounced on the cylinder heads. The only parts of the kit engine that should be replaced are the twenty two valve push rods, which are oversized, as can be seen when compared to the previous photographs.

Engine sprue C



Remove the two engine halves and carefully remove any 'flash' and seam lines.

Make sure the half circle locations (the cylinder heads) in engine half (8) are clear.

Cement the two engine halves (7 and 8) together. There are no location pins so careful alignment of the two halves is required.

Remove the eleven cylinder heads (6) and carefully remove any 'flash' and sprue gates.

Cement the cylinder heads (6) into the engine cylinders.

Separate the eleven induction manifolds (2) from the sprue to leave them attached at one side only to a sprue rod.

Carefully remove any 'flash' and seam lines from the eleven induction manifolds (2).

Remove the engine shaft retainer (5) and engine bulkhead (20 from sprue A) and carefully remove any 'flash' and sprue gates.

Cement the retainer centrally onto the rear of the engine bulkhead.

Remove the push rod assembly (1) and carefully remove any 'flash' and sprue gates.

Test fit:

NOTE: *The kit engine cowl is used only for test fitting of the engine, as the 'Loon Models' resin cowl will be used instead.*

Remove the engine cowl (21 from sprue A) and carefully remove any 'flash' and sprue gates.

Insert the engine locating shaft into the hole in the engine bulkhead.

Check that the engine is fully back against the locating cylinder for the engine shaft. If necessary, gradually cut away the rear of the engine shaft until the fit is correct.

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

Locate the engine cowl over the engine propeller shaft and engine.

Check that the engine cowl can be fully located onto the engine bulkhead. If necessary, using a curved scalpel blade, gradually scrape away the inside centre area of the mounting cross members on the engine cowl until the fit is correct.

NOTE: *Do the following step if you intend to use the kit supplied push rod assembly (1).*

Cement the push rod assembly onto the front of the engine, making sure the tops of each push rod aligns with its cylinder head 'lever'.

Replacing the push rods:

NOTE: *Only do the following steps if you intend to replace the oversized valve push rods.*

Cut away all of the valve push rods from the push rod assembly (1), leaving just a slight 'witness' mark where the push rods were.

Cement the remaining push rod housing onto the front of the engine.

Carefully file or sand a slight flat on the top of the two 'lugs' on each cylinder head (for locating the push rods).

Drill two 0.6 mm diameter holes into the outer edge of the housing and at the base of each cylinder, making sure the pairs of holes are drilled staggered at an angle, as with the actual engine (refer to the previous photographs).

Create each push rod from 0.4 mm diameter Nickel-Silver tube (e.g. 'Albion Alloy's' NST04 or similar). Bend each rod at one end then flatten to represent the valve operating levers.

Cut the opposite end of each rod so it will locate into its pre-drilled hole with the bent end at the top, resting on the moulded 'lugs' on its cylinder head.

Cut short lengths of 0.6 mm diameter Brass tube (e.g. 'Albion Alloy's' MBT06 or similar).

Slide a cut tube onto each push rod.

Locate each push rod into its location hole and resting on its cylinder head lug then secure in position using CA adhesive.

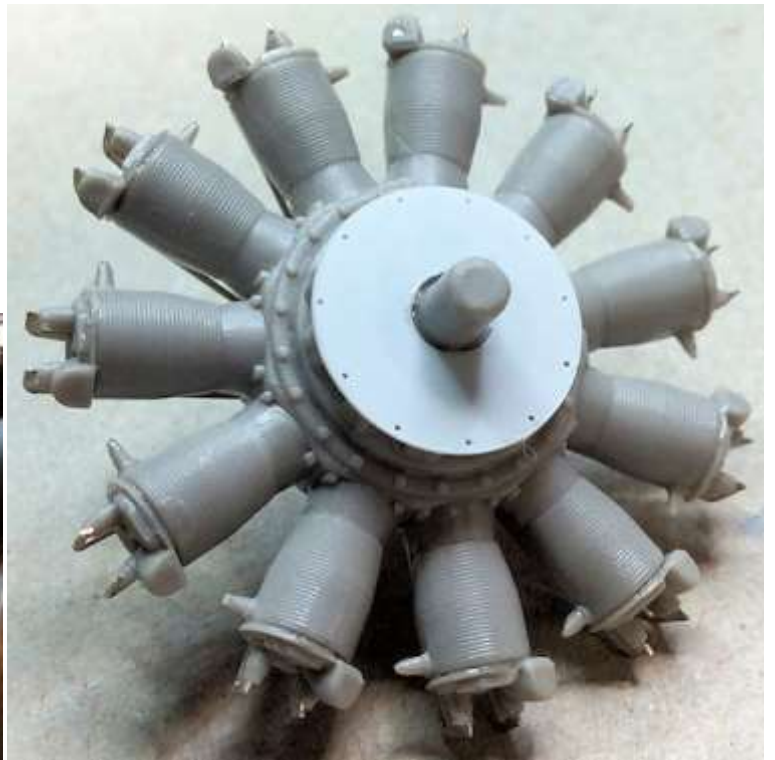
NOTE: *The ignition leads were attached between the individual spark plugs and a 'slip ring' mounted behind the engine. The electric charge was transmitted from the engine magnetos through the 'slip ring' to the spark plugs. The 'slip ring' is not supplied as part of the kit engine.*

Cut a 12 mm diameter disc from 0.5 mm thick plastic card.

Drill or cut a hole in the centre of the disc so that the disc can be slide onto the engine shaft and up against the rear face of the engine block.

Cement the disc in position on the engine shaft.

Drill a hole of 0.3 mm diameter through the disc and between each of the lugs that will be used to attach the bottom of the induction pipes. These holes will be used to attach the spark plug ignition leads.



Painting:

'Alclad' lacquers were primarily used to paint. Only acrylic paint was used on the induction pipes. the engine and are detailed as follows:

'Alclad' Gloss Black primer (ALC-305).

'Alclad' Steel (ALC-112).

'Alclad' Duraluminium (ALC-102).

'Alclad' Copper (ALC-110).

'Alclad' Exhaust Manifold (ALC-123).

'Tamiya' Rubber Black (XF85).

'Tamiya' Deck Tan (XF55).

NOTE: *Lacquer paints contain much finer pigments than acrylic or enamel paints. Lacquer paints are also much thinner so rarely need thinning and can usually be airbrush straight from the bottle. To achieve a good finish, lacquer paints should be airbrushed in several light coats, which dry quickly. The layers should build up to achieve the desired finish. Applying too much lacquer paint at one time will cause flooding of the paint with the resultant pooling and runs.*

Airbrush 'Alclad' Gloss Black primer or similar over the engine assembly, inlet manifolds and the front face of the engine bulkhead. Also inside the resin replacement engine cowl and the engine support frames ('Loon Models').

Airbrush 'Alclad' Duraluminium or similar over the front face of the engine bulkhead. Also inside the resin replacement engine cowl ('Loon Models').

Airbrush 'Alclad' Steel or similar over the engine assembly. Also the resin replacement engine support frames ('Loon Models').

Airbrush 'Alclad' Copper or similar over the intake manifolds.

Airbrush a light 'dusting' coat of 'Alclad' Exhaust Manifold or similar over the intake manifolds, to darken the Copper finish.

Brush paint the spark plugs with 'Tamiya' Deck Tan.

Clean away paint and primer from both ends of each intake manifold.

Cement each intake manifold to its base and the connection at the cylinder head.

Clear out any paint and primer from the 0.3 mm diameter holes pre-drilled through the added ignition 'slip ring'.

Brush 'Tamiya' weathering master set D (Burnt Blue) around the top of the cylinders.

Brush 'AK Interactive' Kerosene wash (AK2039) over the engine, including the spark plugs.

Clean the push rods by gently wiping them with a cotton bud dampened with enamel thinners (e.g. Humbrol' or similar).

Cut eleven long lengths of 'T Force XPS' match sinking line 0.148mm diameter (or similar).

Pass a line through each pre-drilled hole in the added 'slip ring' and secure in position using CA adhesive.

Pull each line up and over its spark plug and keeping the line taut, secure in position using CA adhesive.

Trim away any excess line from the 'slip ring' and spark plugs.



PART 8

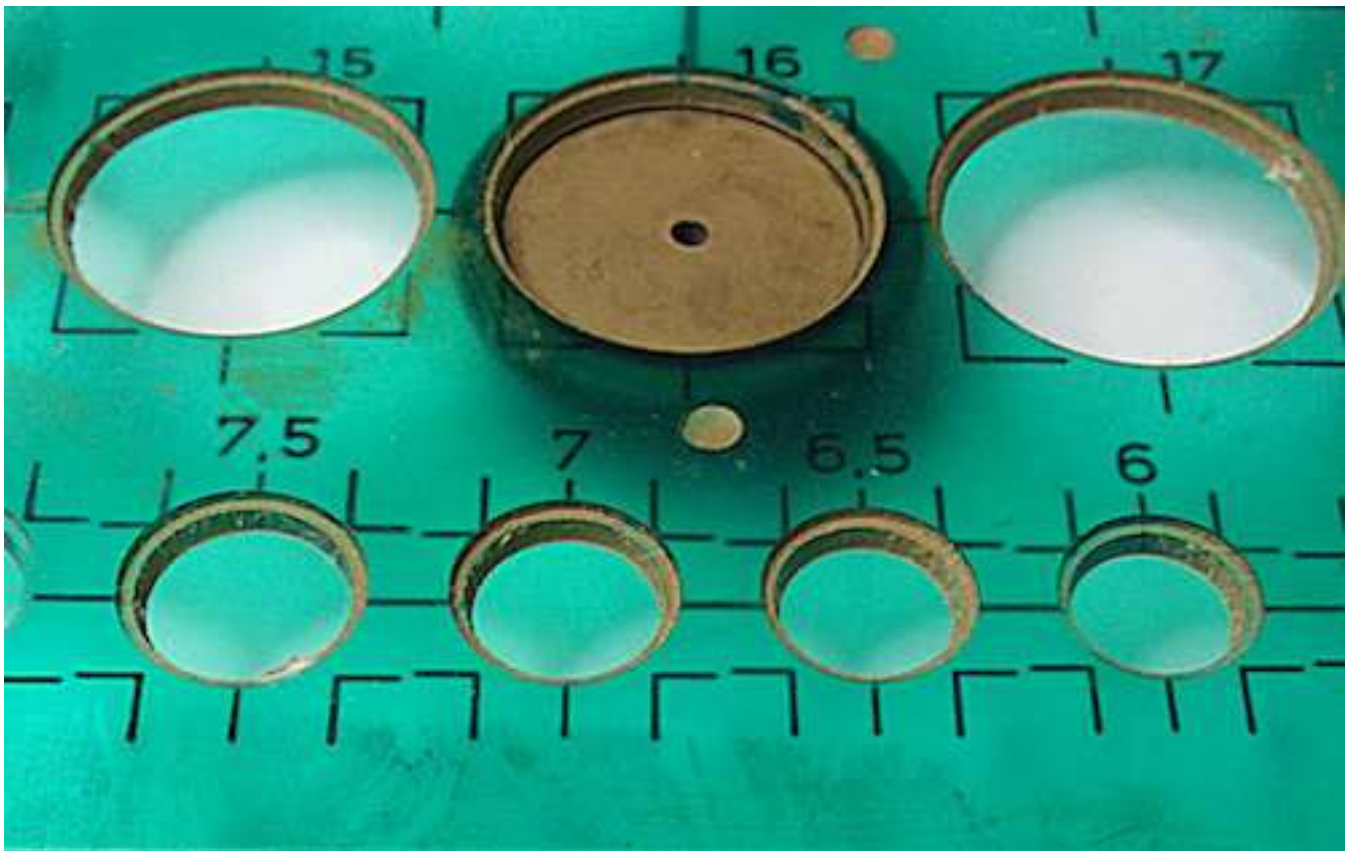
WHEELS

PART 8 - WHEELS

The assembly of the two wheels is straight forward. The outside wheel covers are fitted into the wheel (tyre) recess and secured with Tamiya thin adhesive. Aircraft of the period often had patches sewn into the outer wheel covers, to allow access to the inside of the wheel.

To airbrush the faces of the wheel covers without over spraying the painted surrounding tyres, I use a circle drawing tool (Linex 1217 T). I selected the correct size of hole for the wheel only and positioned the wheel face under the hole, temporarily holding it in position using masking tape. Then I airbrushed the required colour through the hole onto the wheel face. This leaves the tyre colour intact.

Below is an example of using the Linex 1217 T to airbrush the wheel colour, whilst avoiding overspray onto the painted tyres.



PART 9

WEAPONS

PART 9 - WEAPONS

This aircraft was fitted with two synchronized Spandau LMG 08/15 machine guns, which were belt fed from an ammunition box, located below the guns and in front of the pilot (the box forward of this one was used to store cartridges from the fired rounds). The guns supplied with the kit are solid and do not represent the open structure of the guns cooling jacket and barrel so chose Instead to replace them with the 'Gaspatch' 1/32 Spandau 08/15 Extended loading Handle (Late) machine guns (14-36021). These have finely cast detail, but need to be handled with care as they can be easily damaged or broken.



Assembly:

NOTE: *The two ammunition belts supplied with the 'Gaspatch' machine guns will not be Required for this build. The following procedure should be carried out on both machine guns.*

Locate and secure the barrel into the cooling jacket, using CA adhesive.

Secure the padding piece to the end of the breech block, using CA adhesive.

Drill a hole of 0.5 mm diameter centrally into the mating faces of both the kit supplied ammunition feed (15D) and ejection chutes (14D).

Cut a length of 0.5 mm diameter rod (e.g. 'Albion Alloy's' MBR05 or similar).

Secure the rod into the pre-drilled hole in the feed chute (15D).

Position the rod in the feed chute through the aperture in the machine gun, with the mating face of the feed chute contacting that side of the breech block.

Cut the end of the exposed rod at the other side of the breech block, so the ejection chute (14D) can be fully located against its side of the breech block.

Remove the chutes then apply CA adhesive into the aperture in the machine gun.

Relocate the feed chute then apply CA adhesive to the exposed rod on the ejection chute side.

Locate the ejection chute onto the exposed rod.

Align the two chutes so they are in full contact with the breech block and are at 90 degrees to the breech block, when viewed from the side and rear of the machine gun.



Painting:

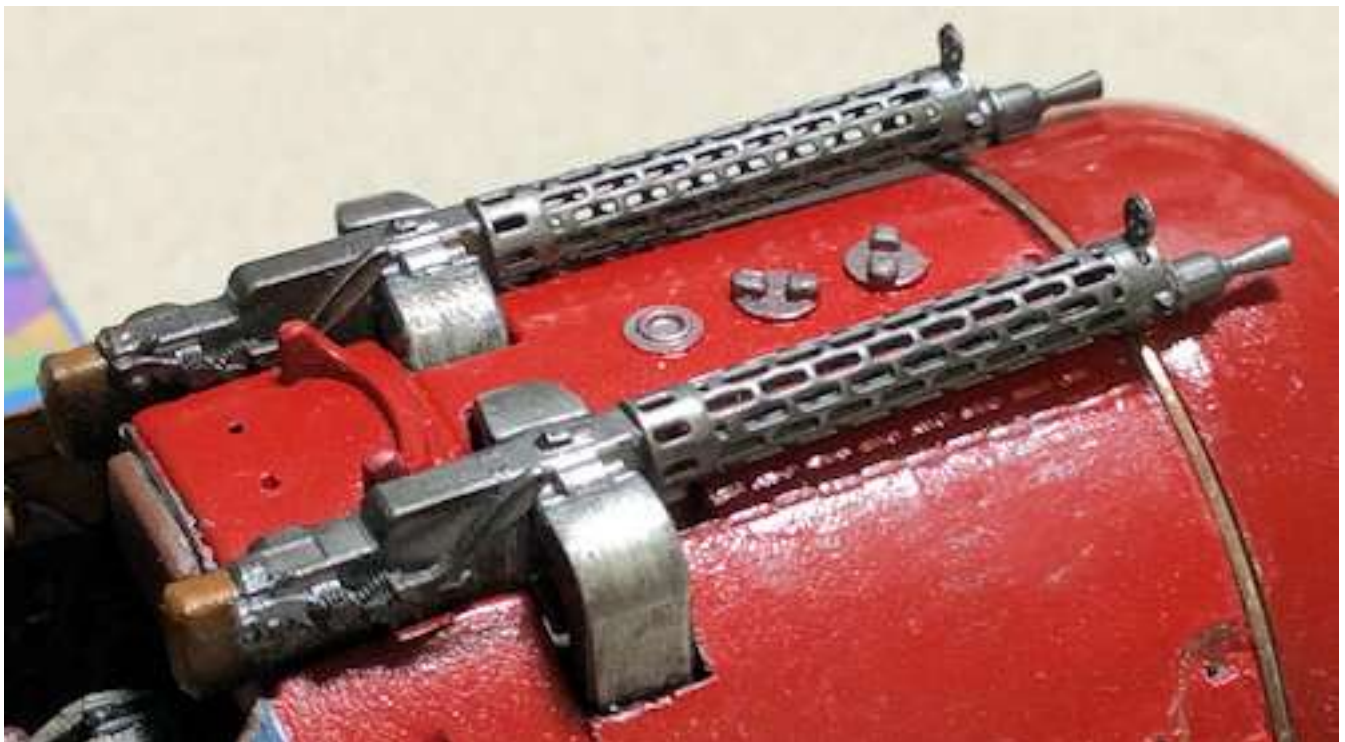
Airbrush prime the two machine gun assemblies with a black primer (e.g. 'Alclad' Black ALC-305-60 or similar).

Lightly airbrush the two machine gun assemblies with 'Alclad' Steel ALC-112 or similar).

Lightly airbrush the ammunition feed and election chutes with 'Alclad' Duraluminium ALC-102 or similar).

Using 'Tamiya' weathering master Set B (Soot), lightly sponge over the gun assemblies to darken the finish.

Brush paint the crash pads on both guns using 'Humbrol' leather (62).

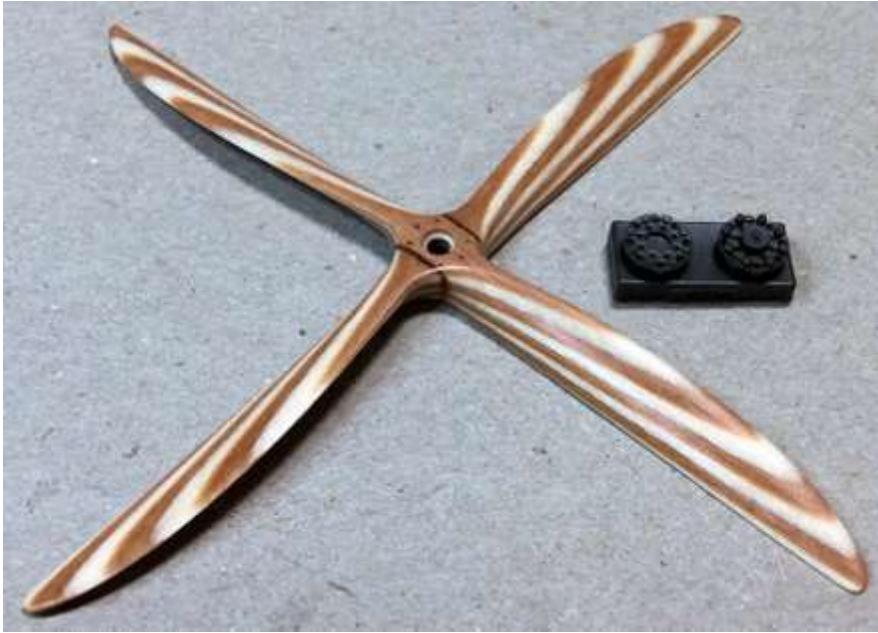


PART 10

PROPELLER

PART 10 - PROPELLER

The kit supplied four bladed propeller is well moulded, but is not quite the correct shape for the actual propeller, manufactured by 'Wotan'. Therefore I chose to replace this with a handmade laminated wood propeller from 'ProperPlane' ('Wotan' type). The following photograph shows the propeller as supplied from 'ProperPlane'.



Spinner:

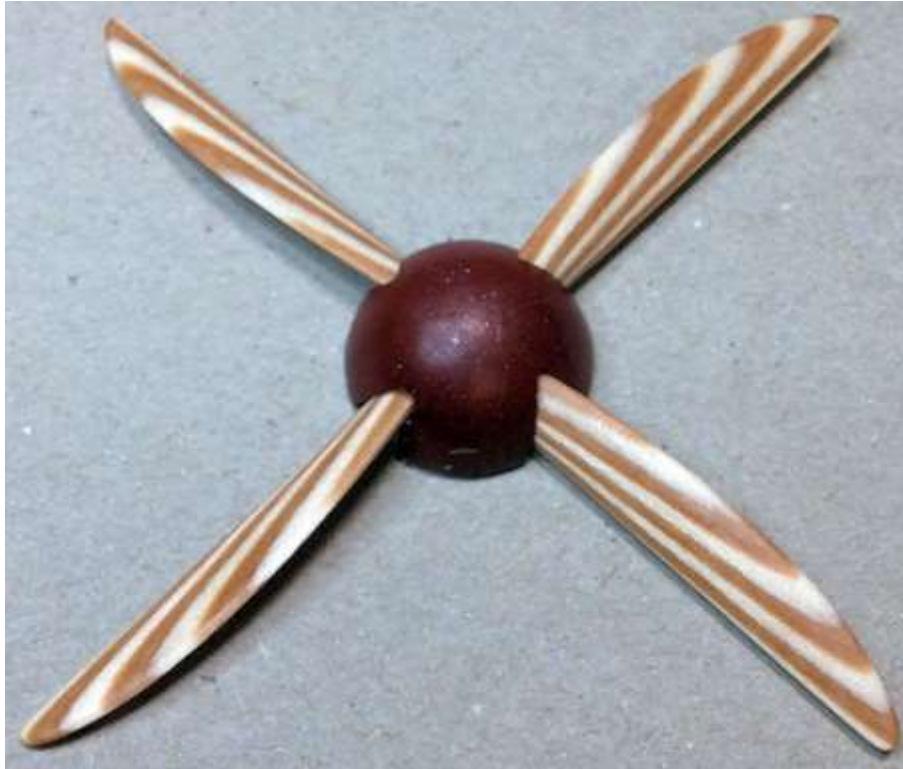
NOTE: *The resin replacement propeller spinner 'Loon Models' requires slight modification to allow it to fit correctly over the more accurate shaped propeller from 'ProperPlane'.*

Using a sharp, straight edged scalpel blade, care scrape/cut away the areas of the 'Loon Models' resin spinner and kit supplied back plate (as shown in the following photograph), to achieve a good and full fit of the replacement propeller into the spinner.



The propeller should locate fully into the four cut outs in the spinner with the rear face of the back plate flush to, or just inside the rear edge of the spinner.

Restore any disturbed surface by brush painting the matching colours.



Propeller:

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

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 sealing coat, such as 'Alclad' Aqua Gloss (ALC-600), 'Tamiya' Clear (X22) with added X20A thinners. This will provide a good surface for applying decals.

NOTE: *The decals from 'LF Models' are not 'cookie' cut and therefore need to be carefully cut out from the supplied sheet, before being applied to the propeller. Also the 'LF Model' decals are somewhat over scale, but are the only decals available and used in preference to printing my own.*

Cut out the 'Wotan' propeller decals from the 'LF Models' Austro-Hungarian set (C3205).

NOTE: Photographs of a typical 'Wotan' manufactured propeller show the works logo was applied to all blades and aligned along the centre line of the blades, rather than across the chord of the blade. The bottom of the logo faced the trailing edge of the blades.



NOTE: Refer to Part 4 (Decals) of this build log for information on applying decals. Refer to the following photographs for positioning the decals.

To slightly blend the applied decals and provide the final surface finish, airbrush a light sealing coat over the propeller of either 'Alclad' Light Sheen (ALC-311) or Semi-Matte (ALC-312) lacquer, 'Tamiya' Semi Clear (X35) thinned with X20A or similar sealer.

NOTE: The resin propeller bosses supplied with the replacement propeller are not required, as the hub of the propeller is hidden inside the spinner.

Position the spinner over the propeller then locate the back plate onto the propeller and spinner assembly. Make sure the back plate can be inserted fully and does not remain proud of the rear edge of the spinner.

Secure the back plate to the spinner using thin CA adhesive.

If desired, lightly sponge 'Tamiya' Weathering Master Set A (Mud) along the leading edges and tips of the propeller blades, to simulate dirt and impact wear.



PART 11

PREPARATION

PART 11 - PREPARATION

Some of the enhancements or corrections to the kit parts can only be carried out during the assembly phases. Corrections or enhancements carried out in this Part of the build log are as follows:

General:

Kit mould 'flash'.

Locating strips.

Upper wing:

Bowed upper wing.

Fuselage:

Forward vertical panel line.

Forward nose panels stand proud.

Forward access panels stand proud.

Panel line depth.

Grab handles.

 Pilot's grab handle.

 Ground crew grab handles.

Right side vent.

Pilot's foot step.

Missing panel lines.

Under panel.

 Panel vents.

 Vented louvres.

 Ejector pipe.

 Access panel.

 Louvre rivets.

 Panel screws.

Engine cowl:

Resin cowl (early).

Cowl cooling apertures.

Resin engine support ring assembly (early).

Resin propeller spinner.

Fire wall.

Flight control surfaces:

Resin tailplane (early).

Resin rudder (early).

Lower wing - resin ailerons and wing tips (early).

Upper wing - resin ailerons and wing tips (early).

Aileron control to upper wing.

 Aileron cut outs in upper wing.

 Aileron control rod/bell cranks.

Padding:

Upper wing padding.

Pilot's head rest.

Pilot's seat:

Lightening holes.

Cushion.

Photo-etch:

Forward decking panel.

Side access panels.

Tail skid brackets.

Cockpit former:

Bottom forward former.

Lower wing joint:

Lower wing to fuselage joint.

Decking panel - rigging attachment.

Rigging attachment frame.

Lower wing.

Wing span.

Cabane struts.

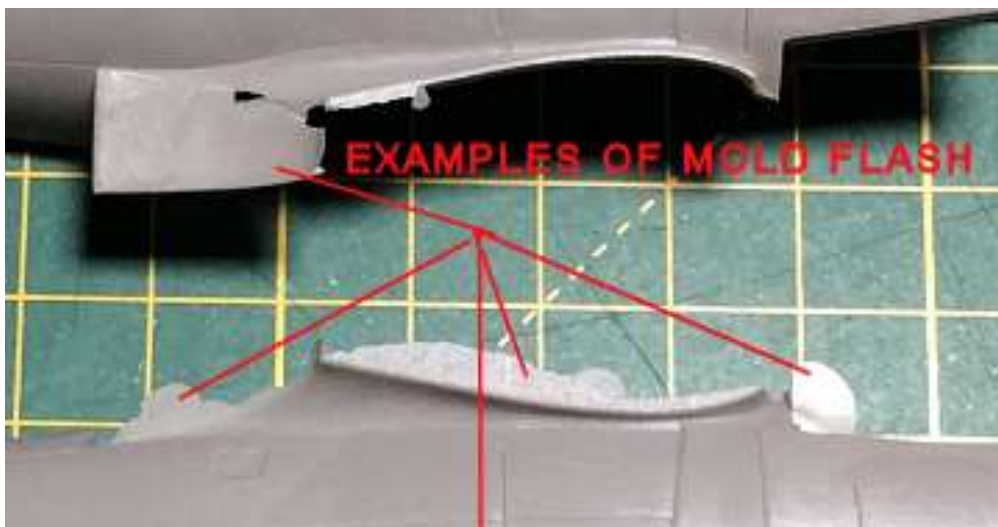
Fuselage attachment.

General

Kit mould 'flash':

The moulds used to produce the kit parts are not new and it shows with regard to the amount of 'flash' around some parts. The photograph below shows some of the worst flashing around the fuselage halves. Although it does not affect the kit parts, this flash will still need to be removed, either by sanding or scrapping, before painting and construction of the model.

NOTE: *Not all kit supplied parts will be used during this model build, as some parts will be either scratch made or replaced by after market items. Therefore not all kit parts need to be prepared, for example: Tailplane, Rudder, Upper wing ailerons, Lower wing ailerons, Engine cowl, Propeller spinner, both machine guns.*



Locating strips:

As the kit fuselage halves have no locating pegs or receptors, you can cement strips of plastic card at locations along the join of one fuselage half and overlapping the edge by a small amount. In this way they will assist in aligning the fuselage halves when they are cemented together.



Upper wing

Bowed upper wing:

NOTE: *The basic upper wing, as supplied in the kit, was bowed at the centre. The underside of that area has a glossy appearance, indicating that the bow in the wing was caused during the injection moulding process. This bow needed to be removed to ensure the upper wing was flat and the wing could be fitted to the lower wing and fuselage struts correctly.*

Using a hair drier on a high heat setting, apply heat across both sides of the centre section of the upper wing for several minutes.

Hold the upper wing towards both ends and apply pressure with your thumbs to the centre Section, holding the wing for a minute, in the opposite direction to the bow.

Lay the wing on a flat surface and check it is flat and level. Lightly press down on various areas of the wing to make sure there is no warping anywhere else on the wing. If necessary repeat the procedure until the bow in the wing has been removed.

Bowed upper wing



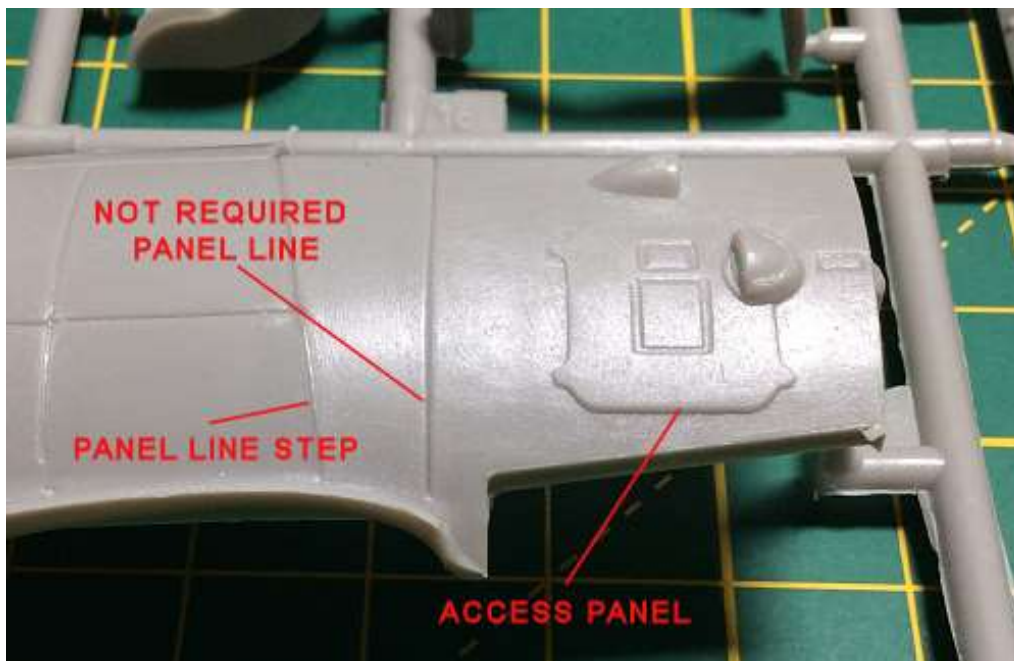
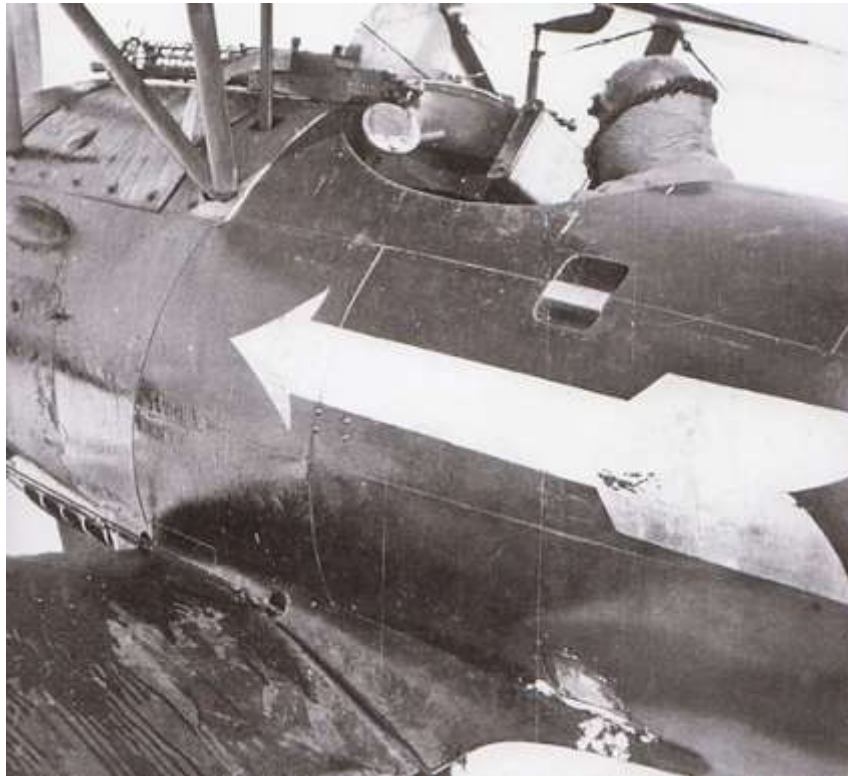
Straightened upper wing



Fuselage

Forward vertical panel line:

The two fuselage halves have a pre-moulded panel line to the rear of the engine access panels. This was not present on the actual aircraft., as can be seen from the following photograph.



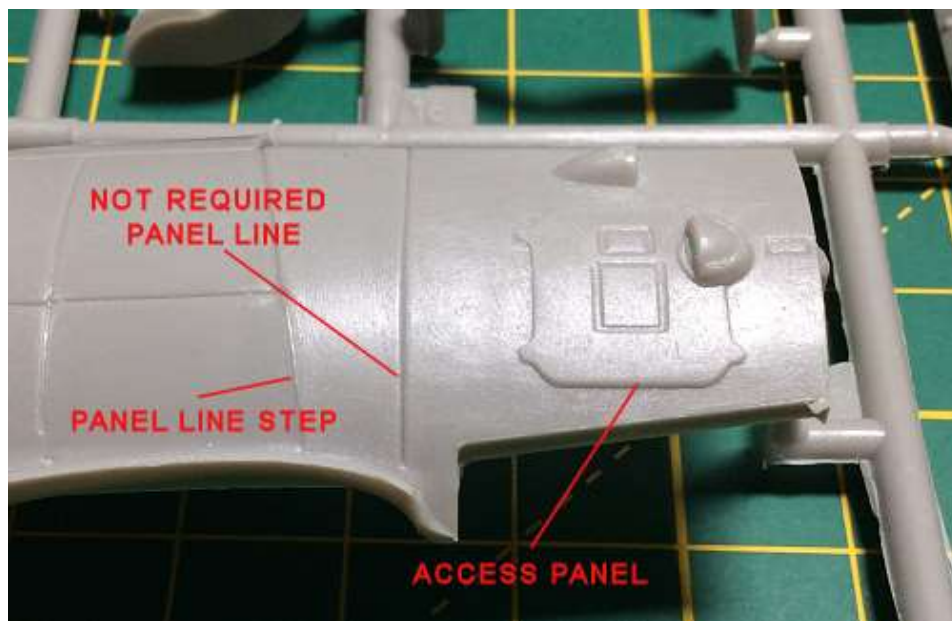
This line can be filled with either thin model putty, CA adhesive or 'liquid plastic', which can be produced by dissolving small pieces of kit 'sprue' in liquid adhesive, such as Tamiya thin, to create a semi-thick liquid plastic. Once fully dried these fillers can then be sanded to produce a flat, line free surface. Alternatively, the line can be removed by sanding away the surrounding area.

Forward nose panels stand proud:

The two fuselage halves have a pre-moulded panel lines to represent the joins between the plywood panels of the fuselage and the forward fuselage metal panel. These panel joints are too 'heavy', forming a slight panel line 'step'. The fuselage halves are thick enough to be able to sand away the surface to reduce the depth of the 'step'.

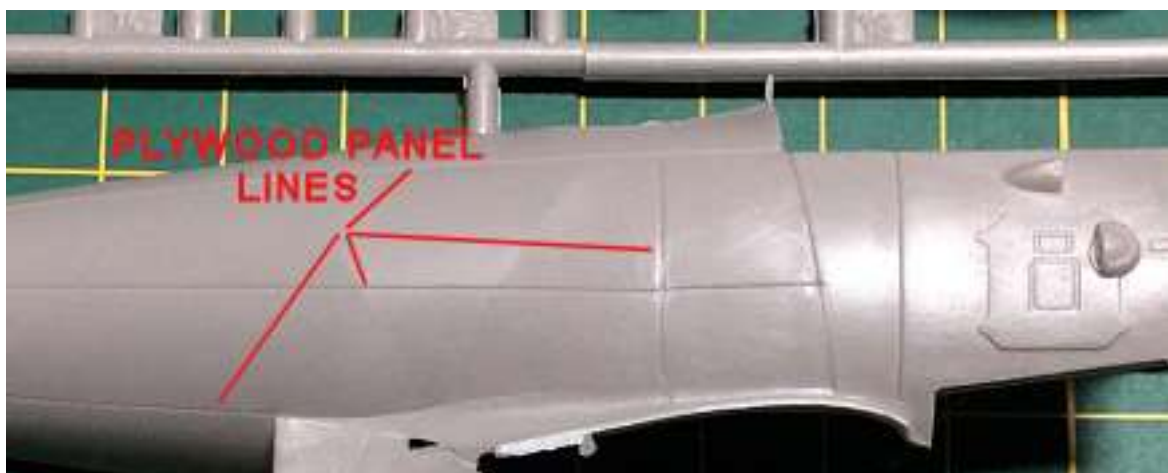
Forward access panels stand proud:

The two fuselage halves have an engine access panel, which is slightly too thick and stands too proud of the fuselage surface. This can be rectified by either sanding down the panel surface to an acceptable level and re-scribing any sanded off detail. Alternatively, the entire panel can be sanded off and replaced by a shaped piece of plastic card and re-scribed detail or, as with this model, by using photo-etch parts. Care should be taken however to avoid damaging or removing the carburettor intake.

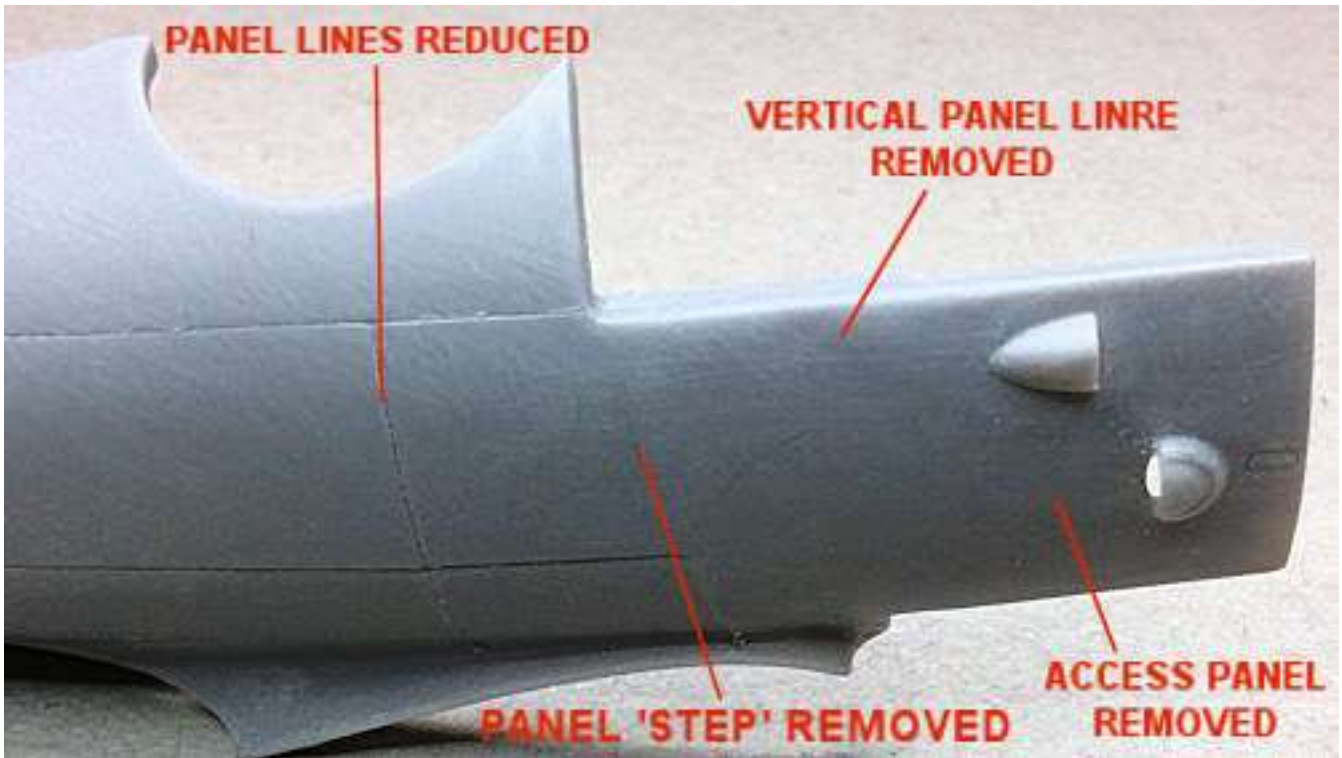


Panel line depth:

The two fuselage halves have a pre-moulded panel lines to represent the joins between the plywood panels of the fuselage. These panel joints are too 'heavy'. The fuselage halves are thick enough to be able to sand away the surface to reduce the size and depth of these lines. Alternatively, the lines can be filled with either thin model putty, CA adhesive or 'liquid plastic', which can be produced by dissolving small pieces of kit 'sprue' in liquid adhesive, such as Tamiya thin, to create a semi-thick liquid plastic. Once fully dried these fillers can then be sanded to produce a flat, line free surface. Then the panel joint lines can be re-scribed to a more representative width and depth.

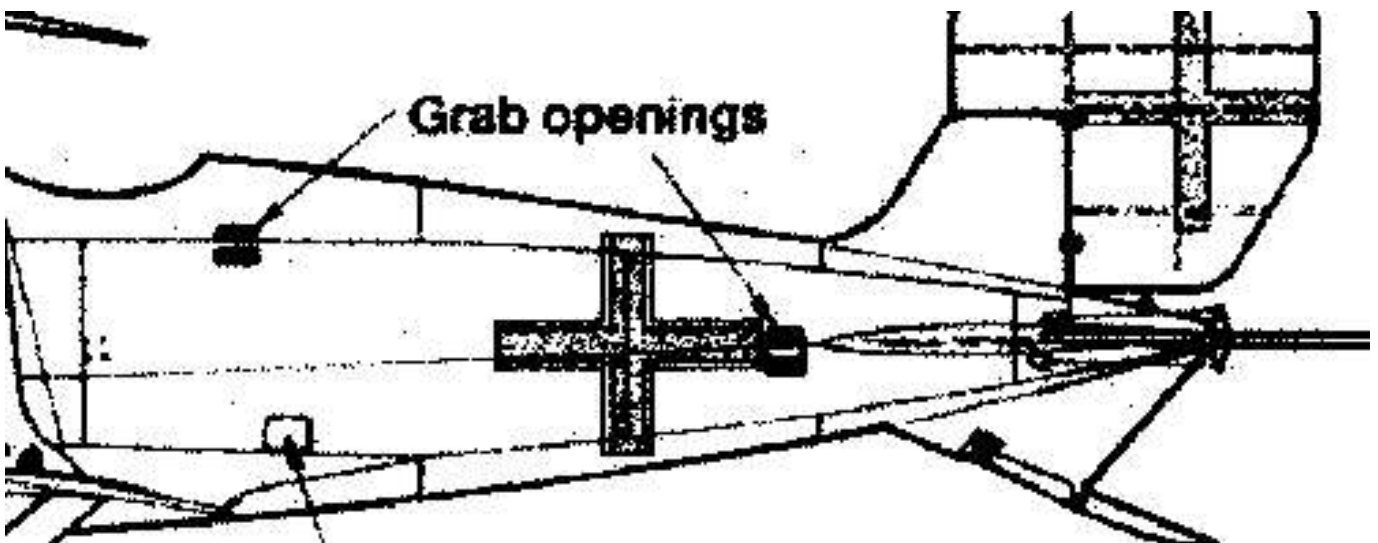


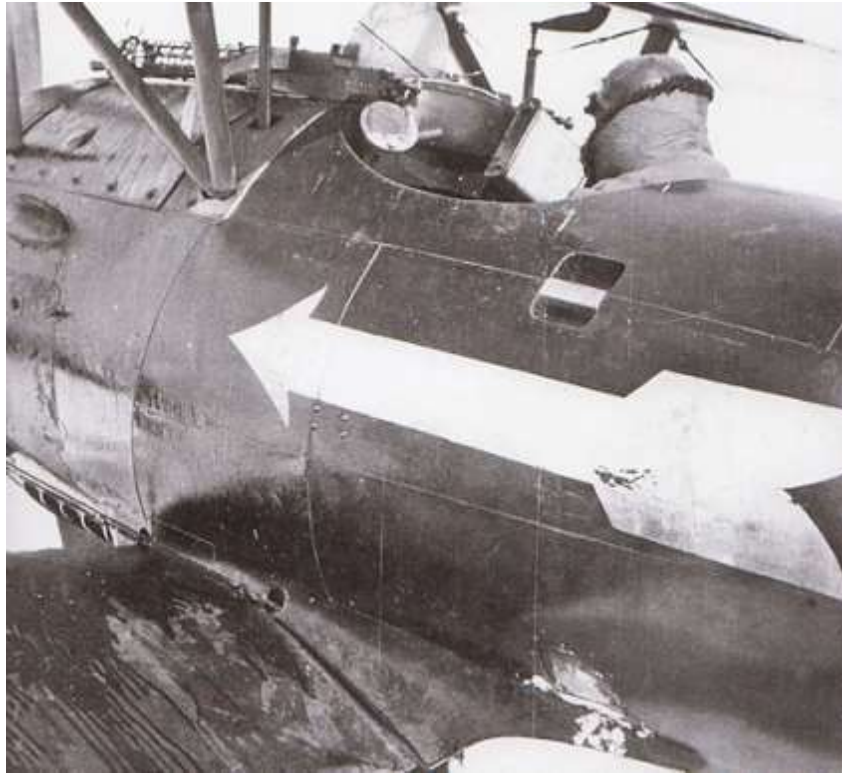
Modified fuselage panel lines and access panel



Grab handles

NOTE: The two fuselage halves have a pre-moulded pilot and ground crew 'grab' handles, used to lift the rear of the aircraft. On the aircraft the ground crew handles were located at the fuselage longeron, which formed the 'handle'. The kit has these positioned incorrectly and at the wrong angle above the longeron location (denoted by the plywood panel join line). Although the pilot's grab handle is positioned correctly located, it can also be enhanced.





Pilot's grab handle:

NOTE: *The pre-moulded grab handles could be filled with either model putty, CA adhesive or 'liquid plastic', then cut out to create the grab handles. However doing this may not create a strong enough repair. Instead I chose the following procedure.*

Drill holes of 0.6 mm diameter through the fuselage, around the inside of the grab handle openings.

Following the pre-drilled holes, carefully cut out the opening.

Clean the edges of the opening.

Scrape away the inside surface of the fuselage to reduce the thickness of the opening to be more representative of the plywood out covering.

Using plastic rod (e.g. 'Plastruct' 0.85 mm wide flat or similar) cement cut lengths at the top or bottom of the opening, as required, to create the correct sized opening.



Fill any gaps using a modelling putty (e.g. 'Vallejo' Plastic Putty or similar).

Sand the outside of the fuselage to blend the added rod and filler to the fuselage profile.

Using plastic rod (e.g. 'Plastruc' 0.85 mm wide flat or similar) cement a cut length across the centre of the opening to create the grab handle.

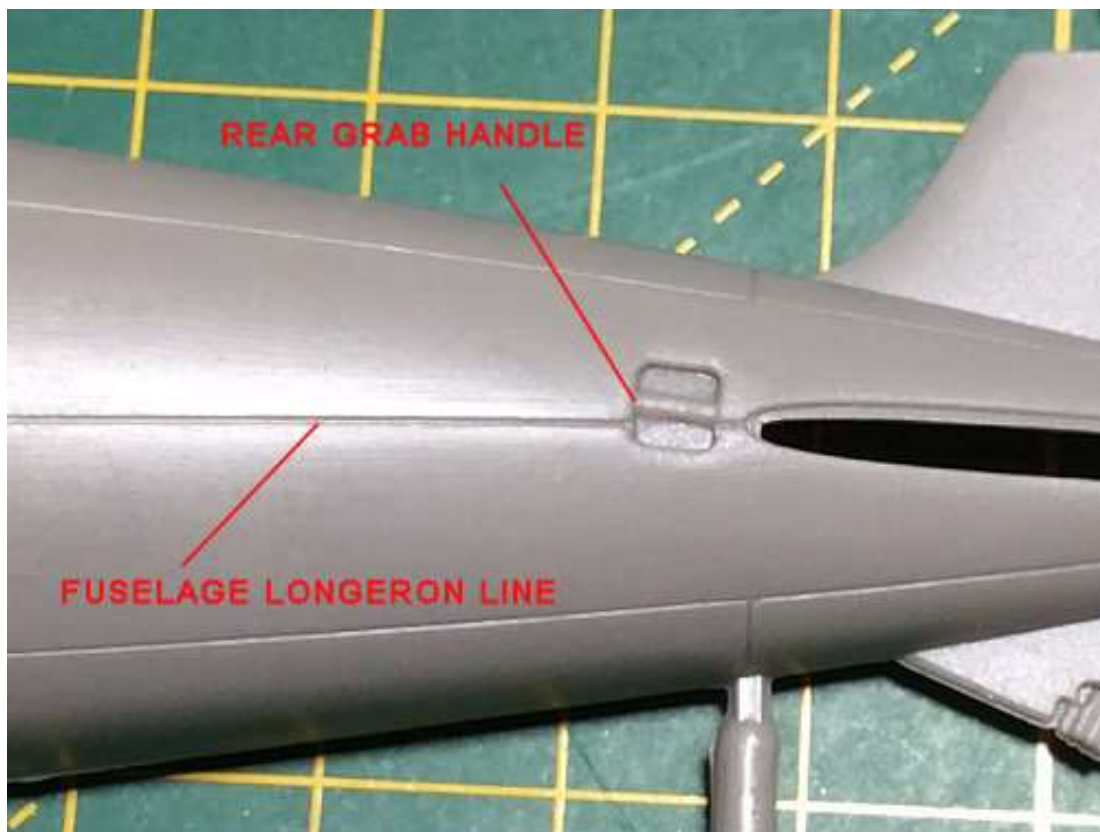
Airbrush a primer over the modified grab handle areas.

Check the primed surfaces for any signs of joint 'ghost' lines and surface imperfections. Any found should be filled and/or sanded to remove the imperfections and then re-primed for a final visual check.

Cement a strip of 0.2 mm thick plastic card cover the inside of the fuselage, to cover the rear of the grab handle opening.

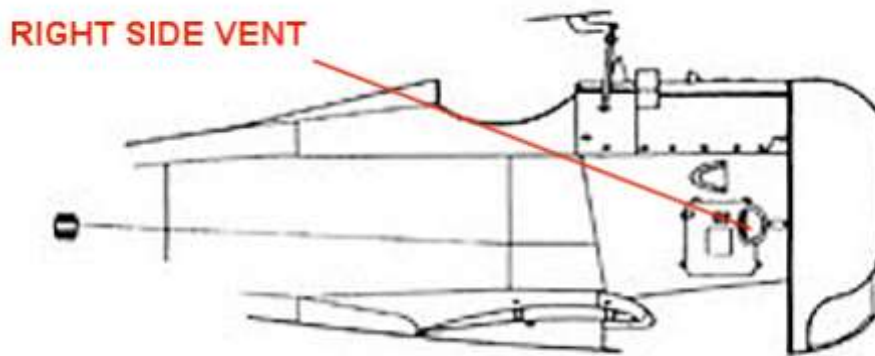
Ground crew grab handles:

The two rear ground crew grab handles are modified following the same procedure used to modify the pilot's grab handle.



Right side vent:

The later version of the D.III had a scooped vent on the forward panel of the right side of the fuselage. The vent partially overlapped the adjacent rectangular access panel. This model represents the early version of the D.III, which did not have this vent.



File and sand away the scooped vent of the forward side panel of the fuselage.

Blank off the inside of the fuselage under the opening of the removed vent by cementing a piece of plastic card over the opening.

NOTE: *Due to the depth of the opening to be filled, using modelling putty as a filler may result in the putty shrinking during curing, which can result in sinking or cracking of the putty becoming visible much later. A better medium to use is home made 'sprue goo', which is basically thin plastic card dissolved in liquid cement. This will form thick but semi-fluid plastic, which when used as a filler, will weld to the styrene part and once hardened, can be treated as a normal kit part.*

Fill the opening with 'sprue goo', making sure enough is used to allow for the 'sprue goo' to sink whilst curing.

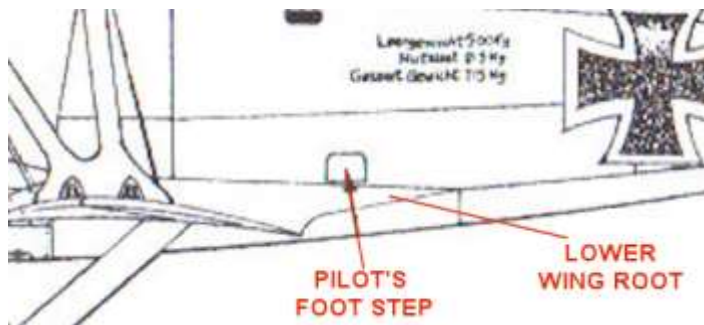
Once the filler has fully set, check there is sufficient filler above the fuselage surface to allow for sanding flush. If necessary, add more filler until the level is correct.

Carefully sand away the protruding and hardened 'sprue goo' to blend the filled opening to the fuselage profile.



Pilot's foot step:

The pilot's foot step was fitted with a retractable flap, which closed the opening once the pilot foot was removed. The step was located in the fuselage left side, just above the lower wing root. The kit fuselage half has the pre-moulded foot step incorrectly located as it is too high above the wing root.



Fill the pre-moulded foot step with 'sprue goo', making sure enough is used to allow for the 'sprue goo' to sink whilst curing.

Once the filler has fully set, check there is sufficient filler above the fuselage surface to allow for sanding flush. If necessary, add more filler until the level is correct.

Carefully sand away the protruding and hardened 'sprue goo' to blend the filled foot step to the fuselage profile.

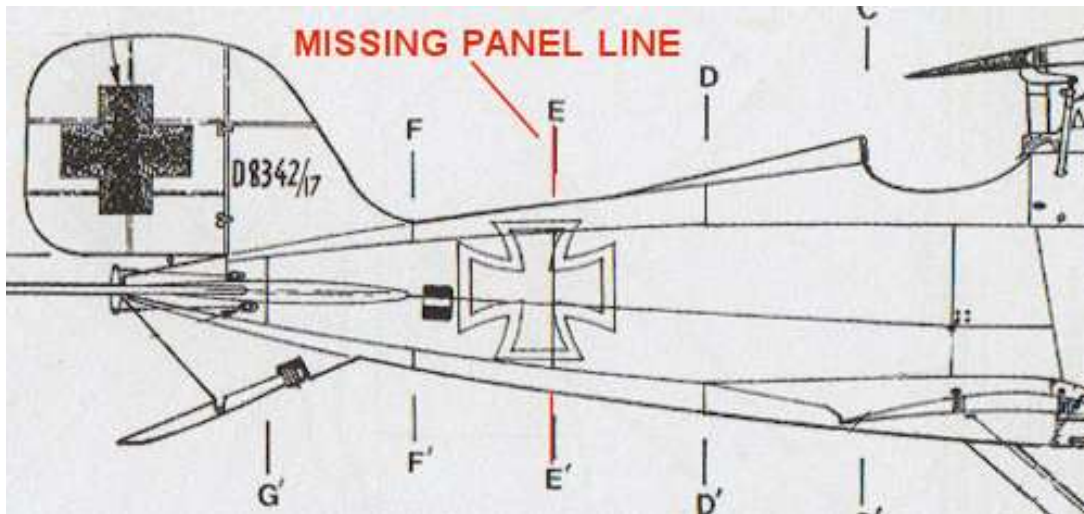
Using a suitable modellers chisel, carefully chisel out a shallow foot step at the correct location.

If necessary, apply sparingly liquid cement inside the created foot step, to help blend any rough edges.



Missing panel lines:

The internal structure of this aircraft was primarily shaped formers made from plywood, joined together by longerons made from pine. The fuselage external panels of plywood were fixed to the formers and longerons. The internal formers (A through H) are shown on the following illustration and as can be seen, the ends of two separate fuselage external panels are secured to fuselage former E. The kit supplied fuselage halves do not have this panel line.



Mark the centre of the top panel line on the fuselage halves. The centre is 17.5 mm from either vertical panel lines.

NOTE: *During the next step make sure the scribed lines are vertical down the fuselage.*

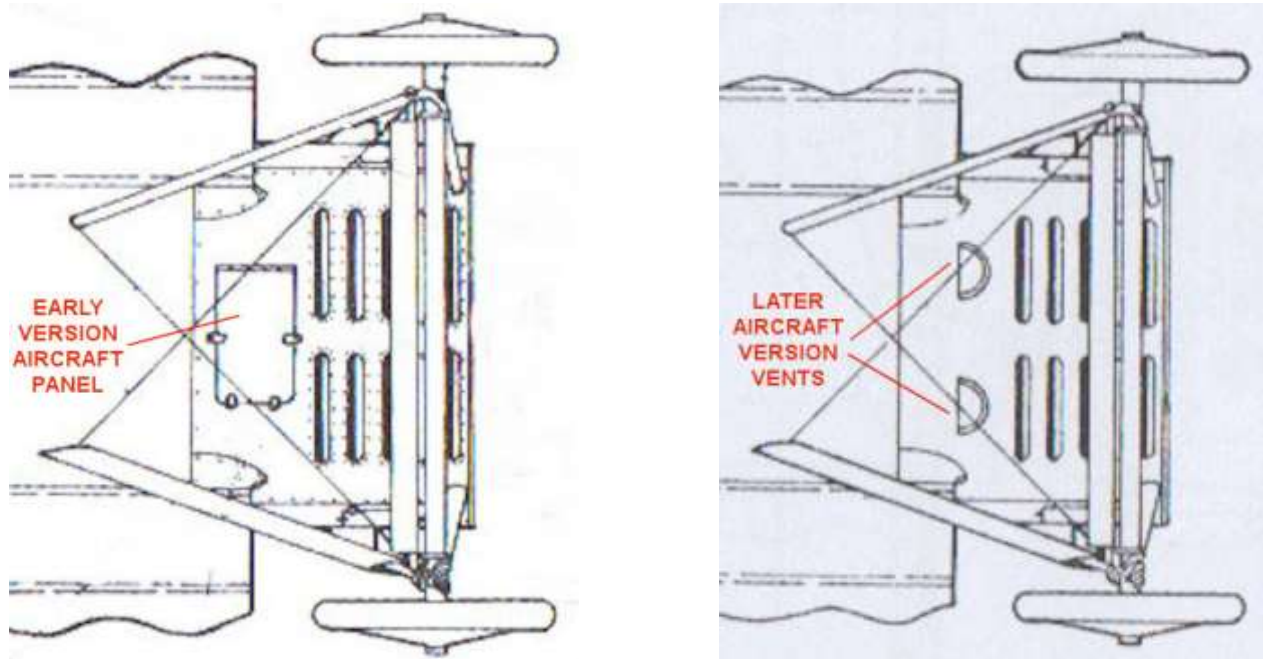
Using a flexible straight edge or use masking tape/Dymo tape as a guide, carefully scrape a new panel line from the mark on the top panel line down to the panel line below, then from there to top of the lower panel line.



Under panel:

The under panel fitted to the early D.III was different to that fitted to the later D.III. The later version had two scooped vents towards the rear of the panel, whereas the early version had no vents, but did have a panel fitted to access the spent cartridge container. As such the photo-etch panel from the 'Bregun' set is incorrect for the early D.III. Therefore I chose to modify the kit supplied panel.

NOTE: *The rectangular access panel on the early D.III aircraft can't be created until the lower wing is fitted to the fuselage later in this build.*



Panel vents:

The two vents are pre-mould, fortunately solid, on the underside of the lower wing. File or sand off the two vents to blend in with the lower wing profile.



Vented louvres:

Point mark a row of hole centres across the pre-moulded louvres.

Use the holes centres as a guide and drill a row of holes of 0.6 mm diameter through the marked louvre.

Carefully cut through the walls of the drilled holes, using a seam scraper or straight edged scalpel blade.

Carefully cut or scrape along the edges of the slit to open out the cooling slot.

From inside the panel, use a curved scalpel blade, scrape away the rear of the cooling slot to reduce its thickness to make it more realistic.

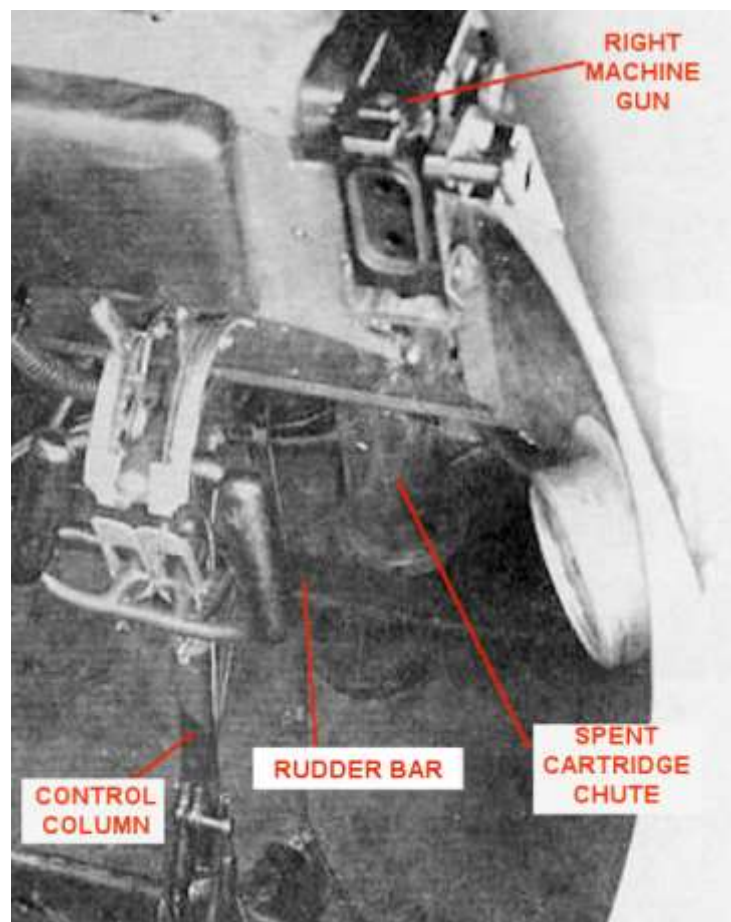
Carry out this procedure to create then ten open louvres.

If necessary, apply liquid cent around the edges of the created slot, to blend any minor surface imperfections.



Ejector pipe:

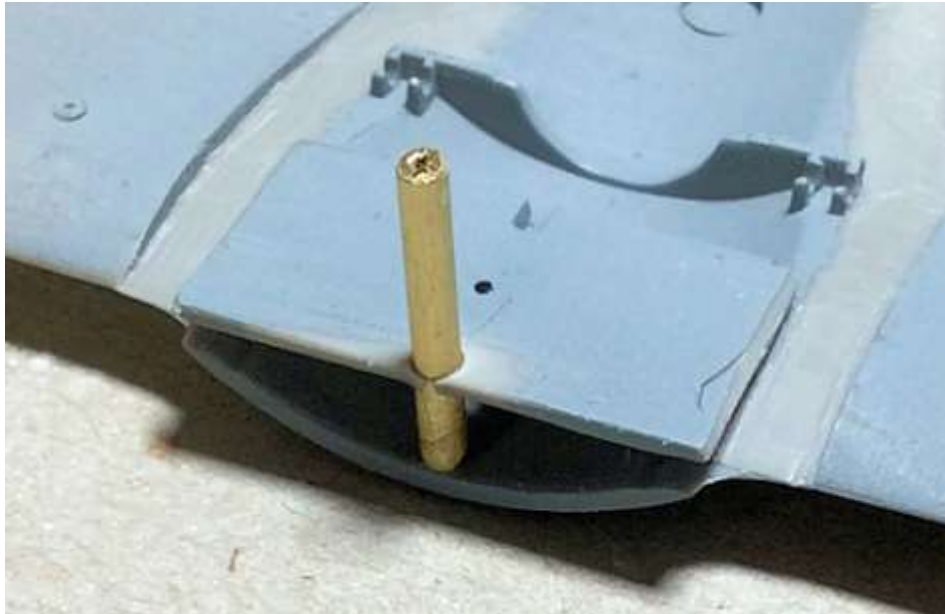
The loaded belts of ammunition for both machine guns were stored in the ammunition container fitted under both guns. The loaded ammunition belts were fed to the gun breech blocks through feed chutes. The empty ammunition belts were directed from the breech blocks through chutes to box containers, which were fitted to the fuselage sides inside the cockpit. All of the empty ammunition cases from both weapons were ejected through a tube connected to the lower front of each breech block and from there into a combined ejection pipe which was routed down to the bottom of the fuselage. On the later aircraft the cases were discharged out of the aircraft from the ejection pipe opening under the fuselage. However, in the early D.III aircraft the cases were retained in a container inside the fuselage and to access the container for emptying, the rectangular access panel was fitted under the fuselage.



Close to the front of the installed rudder bar floor, centrally drill a hole through the floor of 2 mm diameter.

Cut a length of 2 mm diameter tube (e.g. 'Albion Alloy's' or similar) to an approximate length of 15 mm.

Secure the tube into the pre-drilled hole, using CA adhesive.



Access panel:

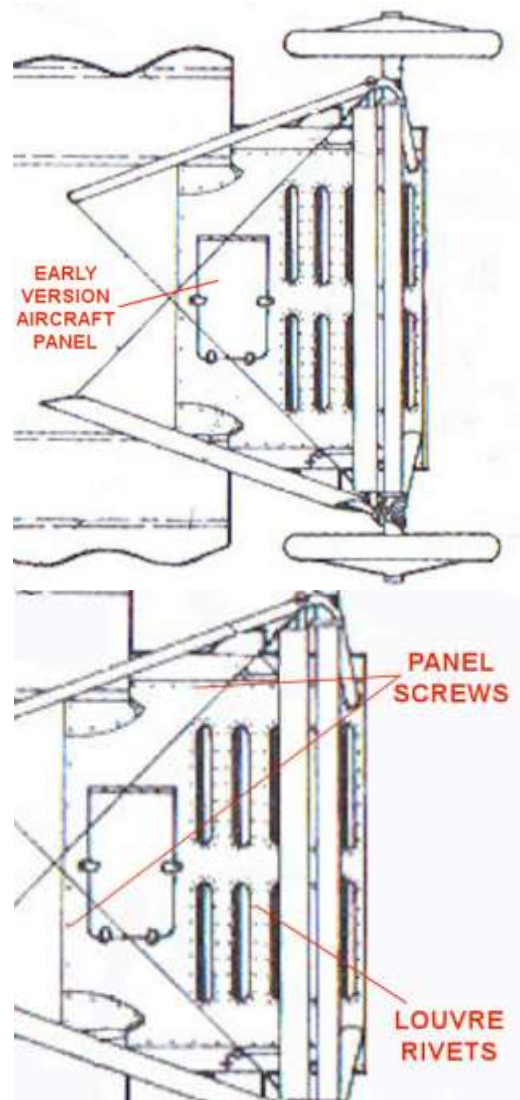
NOTE: *The panel, when fitted, will straddle the join between the rear of the under panel and the front of the lower wing. Therefore the panel itself can't be fitted until later in this build.*

Louvre rivets:

Each of the ten louvres in the under panel were riveted to the panel and these rivets are not represented on the kit panel.

Panel screws:

The four edges of the under panel were screwed to the fuselage. These screws are not represented on the kit panel.



Using a sharp pointer, gently impress the screw and rivet locations around the panel and louvre edges.



Engine cowl

NOTE: Refer to Part 5 (Resin).

'Loon Models' Siemens-Schuckert D.III early (LO32006) resin conversion set.



NOTE: Although the 'Loon Models' resin set contains two identical engine cowls, both of them are extremely thinly cast. Great care is needed when handling these parts to avoid the possibility of damaging or crushing the part.

Carefully remove all resin flash from the selected cowl.

Remove by sanding, any surface imperfections.

Position the cowl onto the engine rear bulkhead and check the fit.

Resin cowl (early):

NOTE: You may find, as I did, that although the resin cowl fits onto the shoulder of the bulkhead, the outer diameter of cowl is slightly undersize, leaving a step between its outer edge and that of the circular bulkhead. If this is the case, the following steps are required to modify the fuselage and bulkhead, instead of the cowl, as the cowl is too thin and fragile to modify.

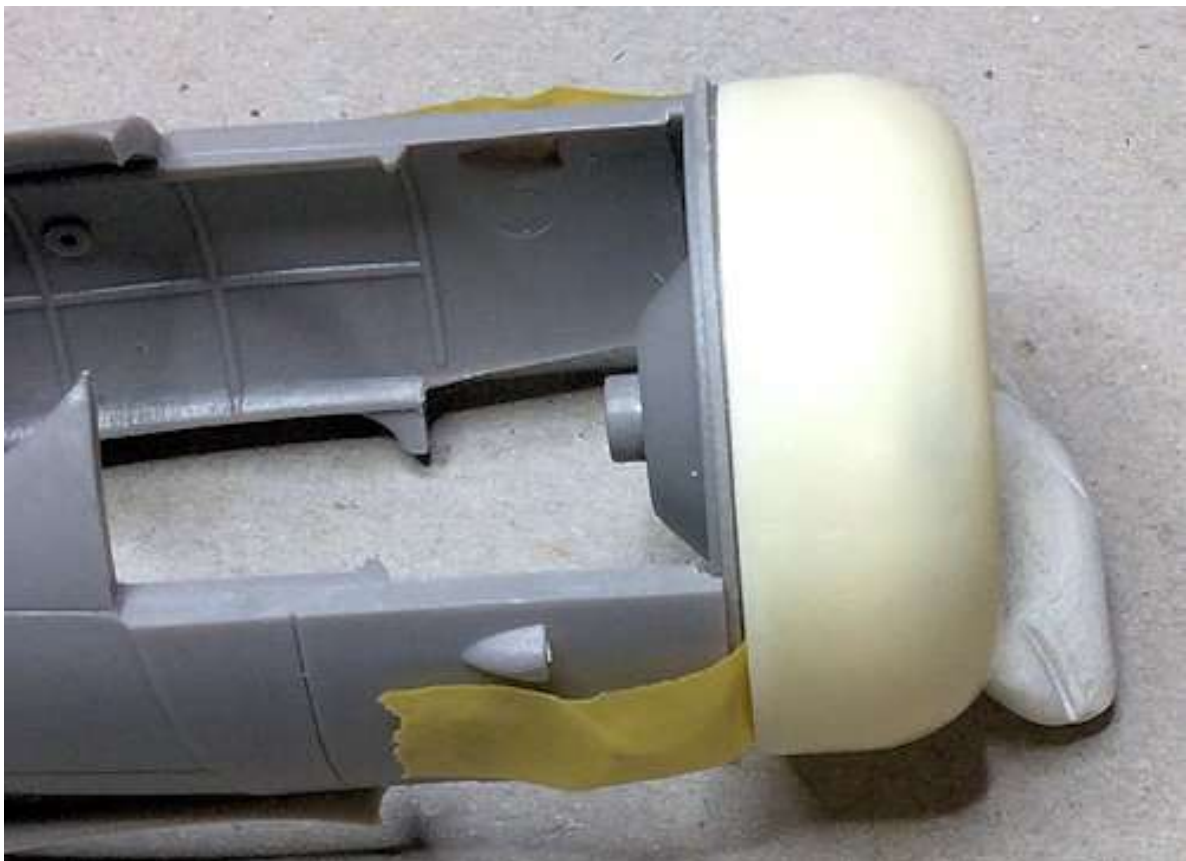
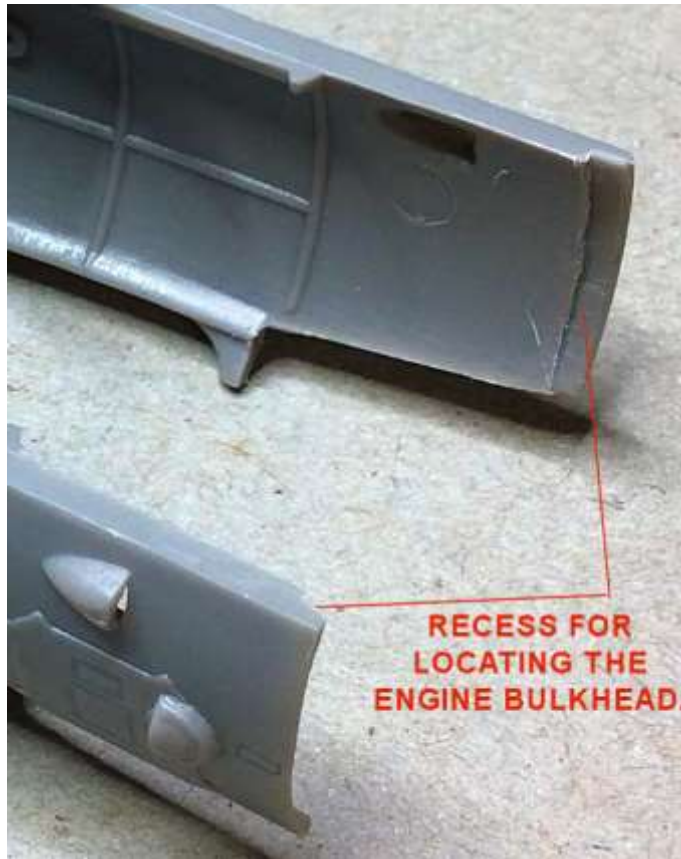
Locate the resin cowl onto the bulkhead and sand or file away the outer edge of the bulkhead, until its diameter matches that of the cowl.



Clean the mating faces of the two fuselage halves of mould gates etc.

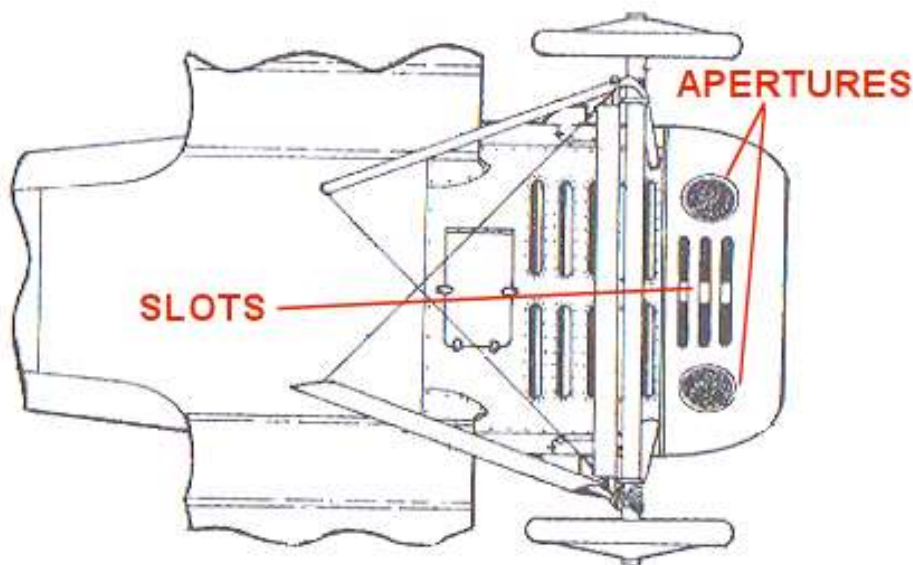
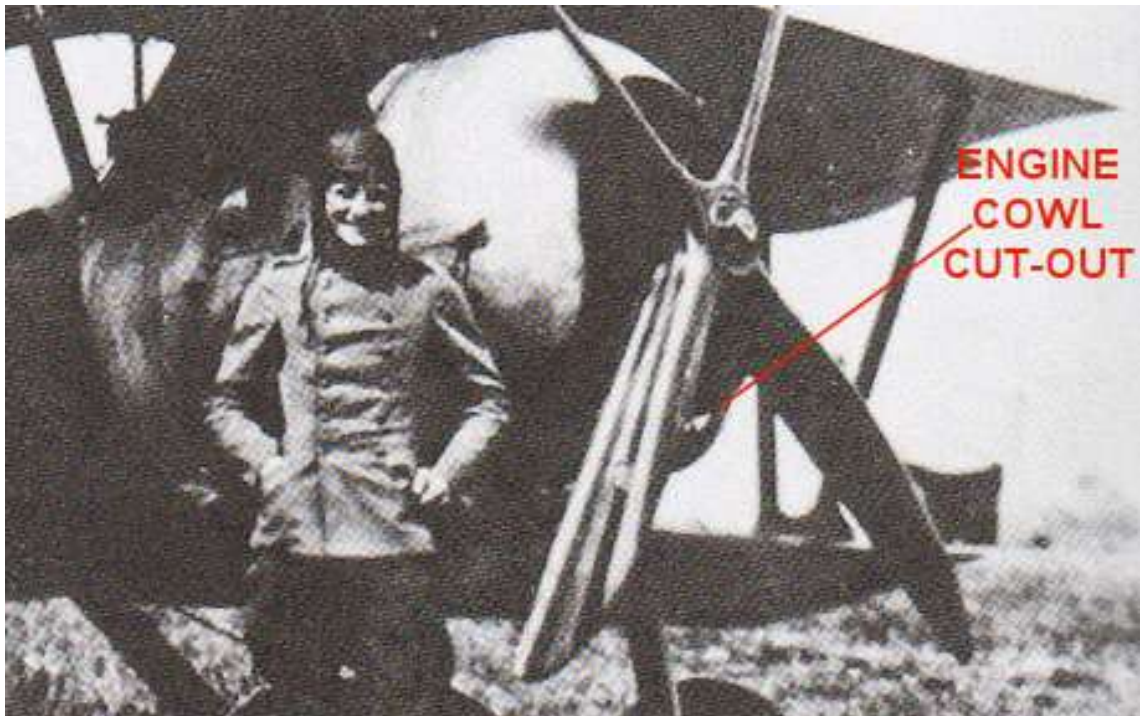
Align and temporarily join the two fuselage halves together, using masking tape.

Scrape a shoulder into the inside, forward fuselage ends until the rear of the bulkhead locates fully with its outer edge matching the outside of the fuselage.



Cowl cooling apertures:

The early production SSW D.III aircraft were fitted with a full, circular cowl around the engine. In addition the propeller was fitted with a large domed spinner. These combined with poor engine lubrication, caused by the use of synthetic 'Voltol' oil, caused many engine failures. In an attempt to increase cooling airflow across the engine, some engine cowls had two oval apertures and three slots cut through the bottom/sides of the cowl. Although I could not find photographic evidence of the this for Jasta 15 aircraft of 'Ziegesar', there is a photograph of the aircraft of Lt.d.R. Alfred Greven of Jasta 12, which clearly shows one of the cooling apertures.



NOTE: The 'Bregun' Siemens Schuckert D.III (BRL32014) photo-etch set has the cowl cooling slots and apertures part. However the 'Loon Models' resin engine cowl is extremely thinly cast and too fragile to attempt to secure a large photo-etch part to it. Besides this would leave a step between the cowl and photo-etch. Instead I chose to create the cooling slots and apertures in the resin cowl itself. Great care is needed when handling the cowl to avoid the possibility of damage or crushing it.

Use the following photograph as a guide.

Locate the engine bulkhead into the rear of the resin cowl and secure in position using masking tape.. This will stop any flexing of the cowl when being worked.

Mark then drill a line of equally spaced holes of 0.4 mm diameter, 1.5 mm from the cowl rear edge and to a row length of 7 mm.

Drill out the holes to 0.6 mm diameter.

Use a thin scraper or similar to carefully cut through the hole walls to create a thin slot.

Use a sharp straight scalpel blade or similar and carefully cut along the slit to open out the cooling slot to 1 mm width and 7 mm long.

Use the same procedure to create a second slot, 1 mm forward from the already cut slot.

Use the same procedure to create a third slot, 1 mm forward from the second cut slot.

Use the same procedure to create three more slots, aligned with the three slots already cut. The two sets of three slots should be separated by 3 mm.

Mark an oval shape 3 mm from the outer edge of each set of slots. The oval should be the 3 mm wide with the ends aligned with the cut slots.

Drill holes of 0.4 mm diameter around the inside of the marked ovals.

Drill out the holes to 0.6 mm diameter.

Use a thin scraper or similar to carefully cut through the hole walls and remove the resin.

Use a round needle file to carefully file the ovals to shape.



Engine support ring assembly (early).

The engine support frame for this aircraft consisted of the forward ring frame, the centre of which supported the engine propeller shaft. The ring frame was attached to the engine bulkhead by four struts. The engine cowl supplied in the 'Roden' kit has the support frame moulded as part of the engine cowl, although in reality the cowl was separate from the support frame, as can be seen in the following photograph.



NOTE: *The four struts that attach the support ring are too short to reach the engine bulkhead. Therefore I did not follow the 'Loon Models' instructions.*

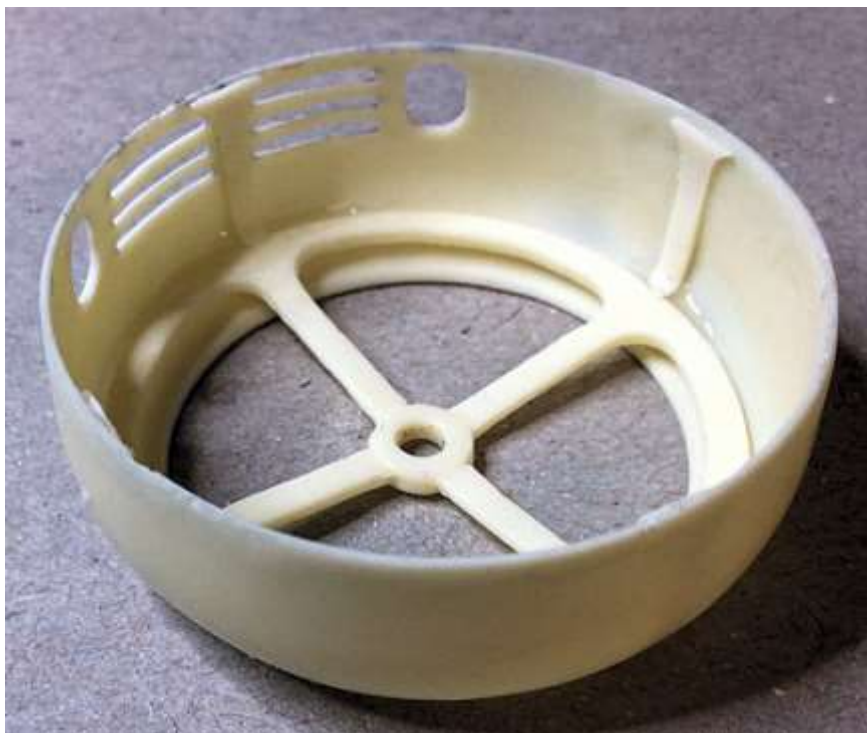
Carefully remove all resin flash from the support ring and from four (of the six supplied) support struts.

Remove by sanding, any surface imperfections.

Insert the support ring into the resin cowl and align one of its struts centrally between the cooling slots.

Position each of the four struts on the inside of the cowl with the flared end to the rear edge of the cowl and the forward end touching the support ring.

Secure the four struts in position using CA adhesive.

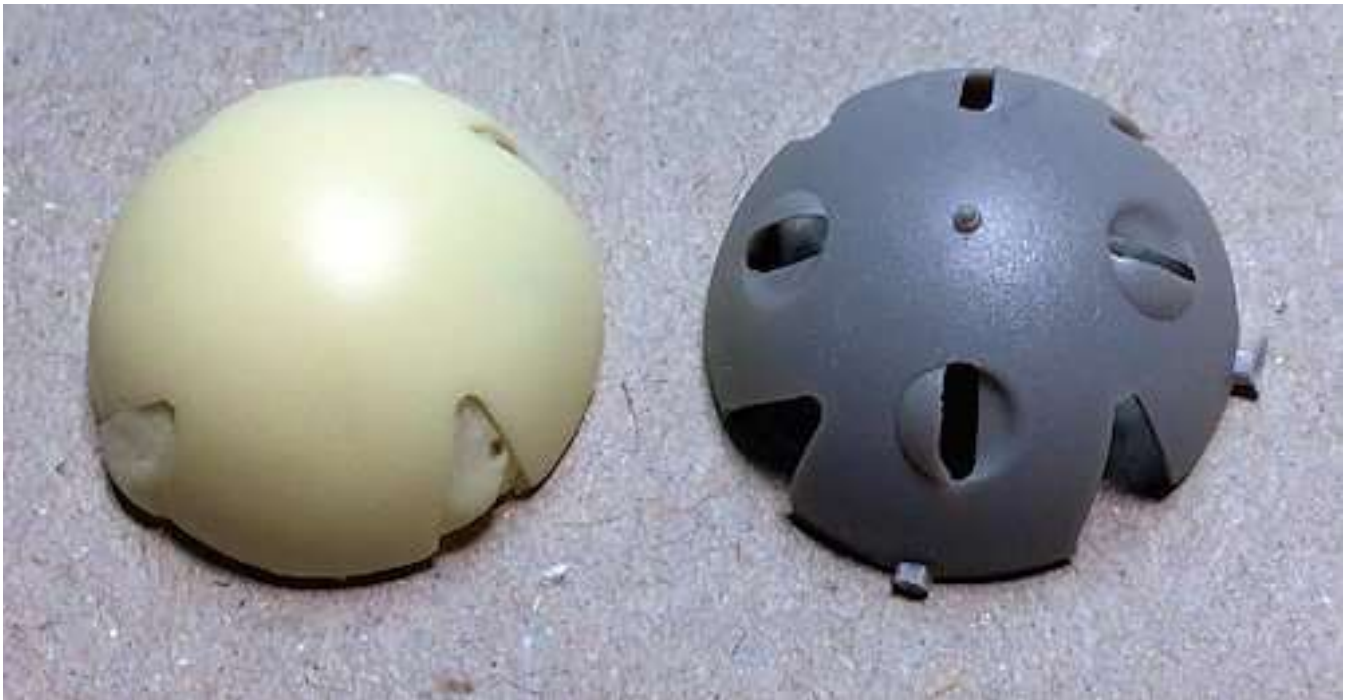


Test fit the engine into the cowl. If necessary scrape the four struts to reduce their thickness and allow the engine to fully locate against the support ring. You may need to cut away the tops of the engine inlet manifolds as well.



Resin propeller spinner:

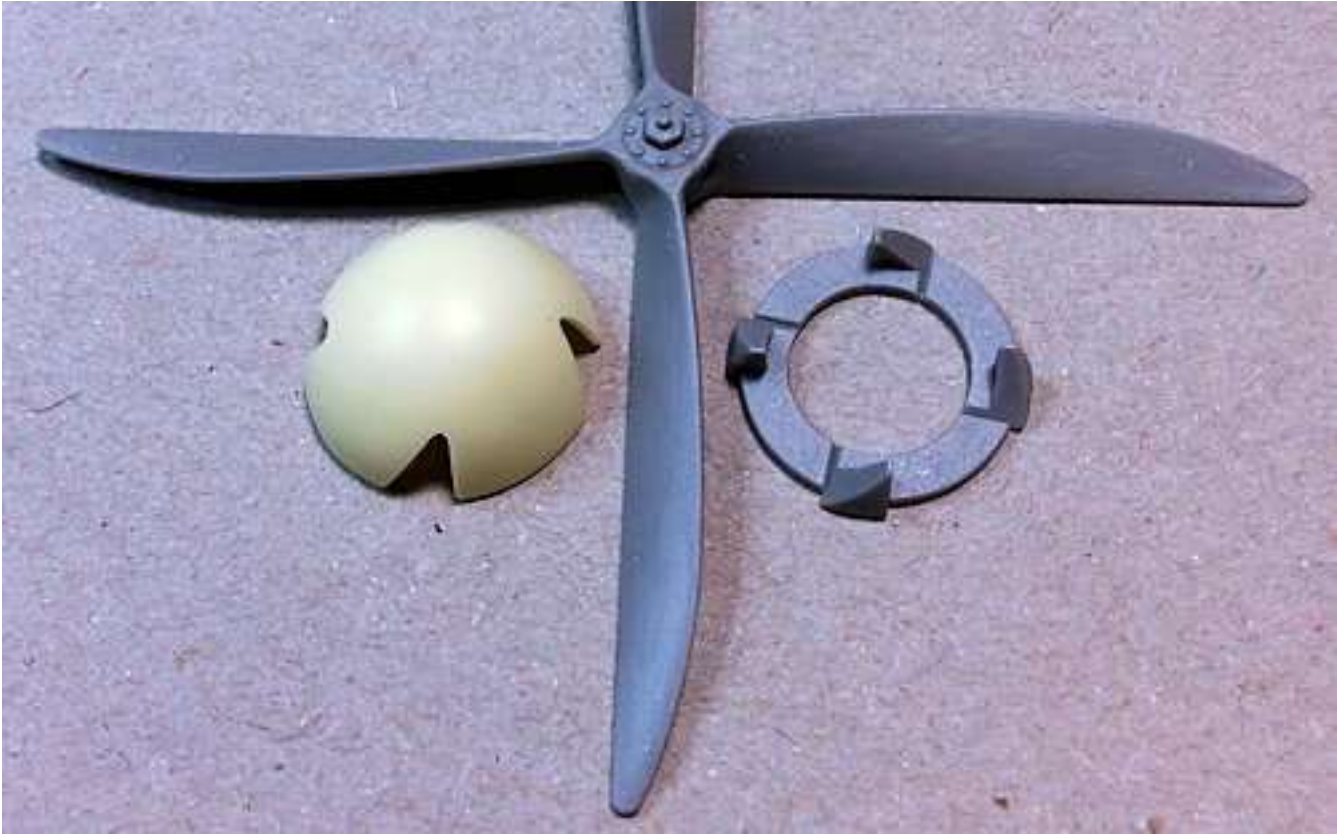
NOTE: Using parts from the resin 'Loon Models' Siemens-Schuckert D.III early (LO32006) set. Refer to Part 5 (Resin).



Carefully scrape, file or sand away the resin flash from the spinner.

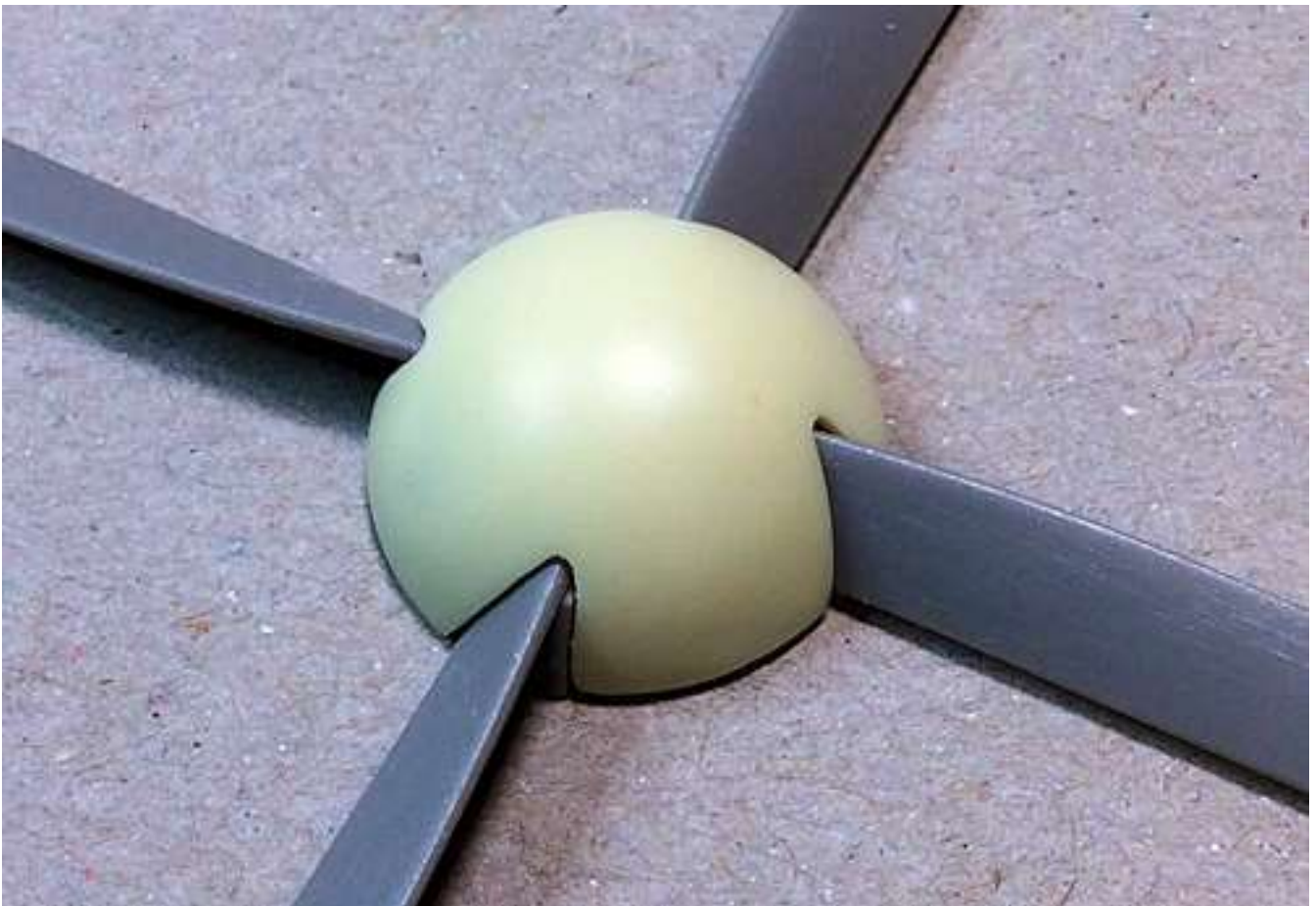
File or sand away any sprue gates and seam lines from the kit propeller and spinner back plate.

Position the propeller onto the spinner back plate.



NOTE: When test fitting the resin spinner, make sure it locates fully onto the spinner back plate with its rear edge flush with the rear of the back plate.

Test fit the resin spinner and if necessary, carefully scrape, file or sand the spinner to achieve a good fit.



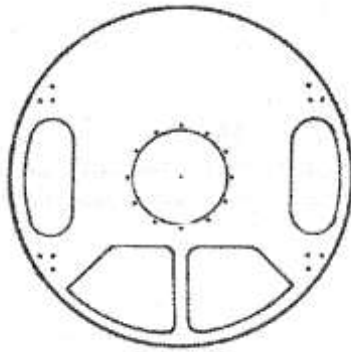
Fire wall:

The kit supplied engine bulk head is correct in that it has the strengthening beams. However the actual bulk head was covered with a sheet metal fire wall, which is not represented in the kit.

Kit engine bulk head



Sheet metal fire wall



'Thinnerline' cutter



NOTE: *To cut discs from plasticard I use a 'ThinnerLine' circle cutter. There is also a similar tool available from 'DSPIAE'. Although I chose to represent the steel fire wall, it will effectively be hidden by the engine and cowl when they are fitted, so you may choose not to add the fire wall.*

Cut a disc from 0.5 mm thick plastic card, to fit inside the front of the kit engine bulk head.

Locate the disc into the bulk head and trace the outline of the bottom two openings.

NOTE: *The illustration of the steel fire wall shows what appears to be an oval shape opening at either side of the bulk head. However, I believe these are actually depressions formed into the fire wall, rather than openings. To have openings in a fire wall would negate its purpose providing a fire barrier from the engine. Therefore these were not represented.*

Remove the disc and cut out the bottom two openings.

Cement the disc onto the bulk head with the openings aligned.

Carefully cut the centre opening following the opening in the bulk head.

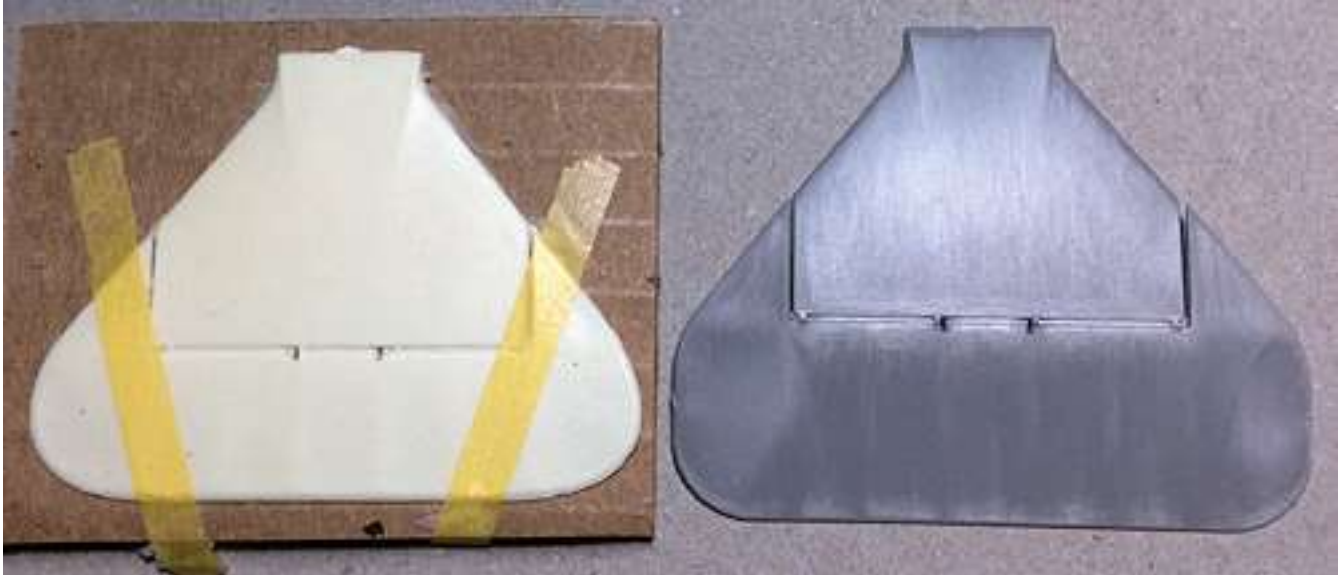
Drill holes through the disc to represent the four groups of three fasteners and the ring of fasteners around the centre opening, using a 0.3 mm diameter drill.



Flight control surfaces

Resin tailplane (early):

NOTE: Using parts from the resin 'Loon Models' Siemens-Schuckert D.III early (LO32006) set. Refer to Part 5 (Resin). The replacement resin tailplane is well formed although there are a few small 'blow holes' that require filling. Also the elevator is moulded with the tailplane, so will require separating if it is to be animated.



Using a sharp scraper blade, carefully cut through the joint between the tailplane and elevator to separate the two parts.

File or sand away the extended hinges on the tailplane.

Remove any resin flash and seam lines from both parts.

Fill then sand smooth any resin 'blow holes' in the tailplane and elevator.

Mark the four hinge locations in the centre of the tailplane trailing edge.

Mark the four hinge locations in the centre of the elevator leading edge.

Using the eight marks as a guide, drill holes of 0.3 mm diameter into the tailplane and elevator.

Cut four lengths of 0.3 mm diameter Nickel-Silver rod (e.g. 'Albion Alloy's' NSR03 or similar).

Secure the four rods into the pre-drilled holes in the elevator, using CA adhesive.

Test fit the elevator into the pre-drilled holes in the tailplane and adjust the pins, if necessary, to achieve a good and full fit.

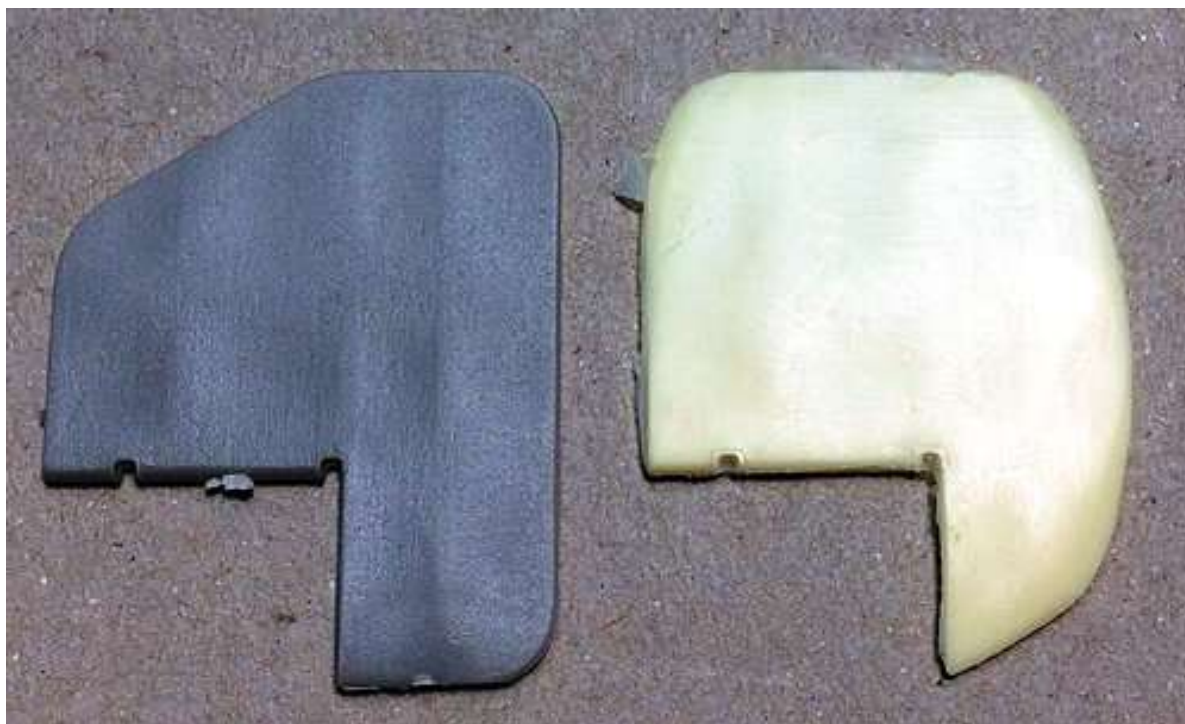
With the elevator located into the tailplane, carefully bend the elevator slightly down.

Remove the elevator for fitting later in the build.



Resin rudder (early):

NOTE: Using parts from the resin 'Loon Models' Siemens-Schuckert D.III early (LO32006) set. Refer to Part 5 (Resin).

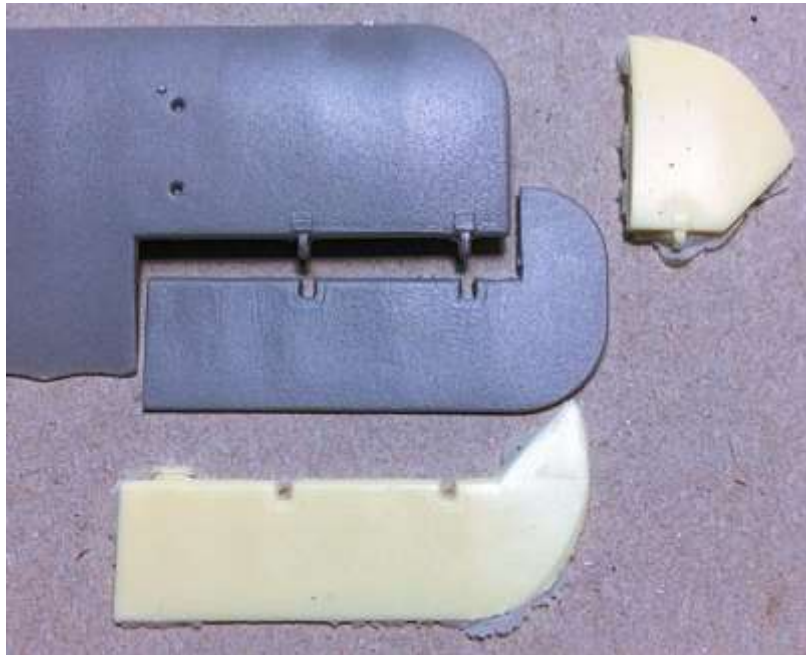


The resin rudder is a direct replacement for the kit rudder. Test fit the rudder to the fuselage halves and if necessary, slightly file or sand the kit rudder hinges to achieve a good resin rudder fit.

Lower wing - resin ailerons and wing tips (early):

NOTE: Using parts from the resin 'Loon Models' Siemens-Schuckert D.III early (LO32006) set. Refer to Part 5 (Resin).

WARNING: After incorporating this modification I found later in this build that the span of the lower wing is too short - refer to page 107 for the subsequent correction. The following procedure can be adjusted to take the wing span correction into account.



The resin parts to replace the ailerons and tips of the lower wings are well made, but do need to be modified to fit correctly to the lower wings. In particular the width of the ailerons are slightly short, which means if aligned with the wing hinges, an unacceptable gap is left between the inboard end of the ailerons and the wings. Also to animate the position of the ailerons it's best to pin them to the wings so that they can then be bent to the desired angles.

Remove all resin flash from the two ailerons.

File or sand away the extended hinges on the two resin ailerons and those on the lower wings, including the square hinge blocks on the upper and lower surfaces.

Draw a line across the wings and at 90 degrees to the wing leading edge. The line should be 7.5 mm in from the wing tips.

Using a modelling saw, carefully cut along the marked lines to remove the wing tips.

Position the resin ailerons and wing tips to the lower wing.

Check the alignment of the aileron and wing tips to the lower wing. Some filing or sanding of either the resin parts and/or lower wing may be required to achieve correct alignment.

Drill a hole of 0.5 mm diameter into each of the hinge recesses of the two ailerons.

Drill two equally spaced holes of 0.5 mm diameter into the centre line of the two resin wing tips.

Cut eight lengths of 0.5 mm diameter brass rod (e.g. 'Albion Alloy's MBR05 or similar) approximately 10 mm in length.

Secure a cut rod into each of the pre-drilled holes in the resin ailerons and wing tips, using CA adhesive.

Trim the ailerons protruding rods to approximately 5 mm beyond the ailerons leading edges.

Trim the wing tips protruding rods to approximately 5 mm.

Position and align the wing tips against the ends of the lower wing.

Mark the position of the pins in the wing tips onto the ends of the lower wing.

Using the marks as a guide, drill holes of 0.5 mm diameter into the ends of the lower wing to approximately 5 mm depth.

Test fit the resin wing tips into the lower wing and make sure they locate fully and have no large gaps or surface steps.

Secure the resin wing tips into the lower wing, using CA adhesive.

Position and align the two ailerons against the aileron cut-outs in the lower wing.

Mark the position of the aileron pins on the lower wing trailing edge.

Using the marks as a guide, drill hole of 0.5 mm diameter and approximately 5 mm depth into the lower wing trailing edge at each aileron cut-out.

Test fit the resin ailerons into the lower wing and make sure they locate fully and align correctly to the resin wing tips. Also they should be flush to the upper and underside surfaces of the lower wing.

If the ailerons are to be animated, carefully bend the aileron on one side of the lower wing slightly down and bend the other aileron slightly up.

Mark the ailerons left and right to clarify their location on the lower wing.

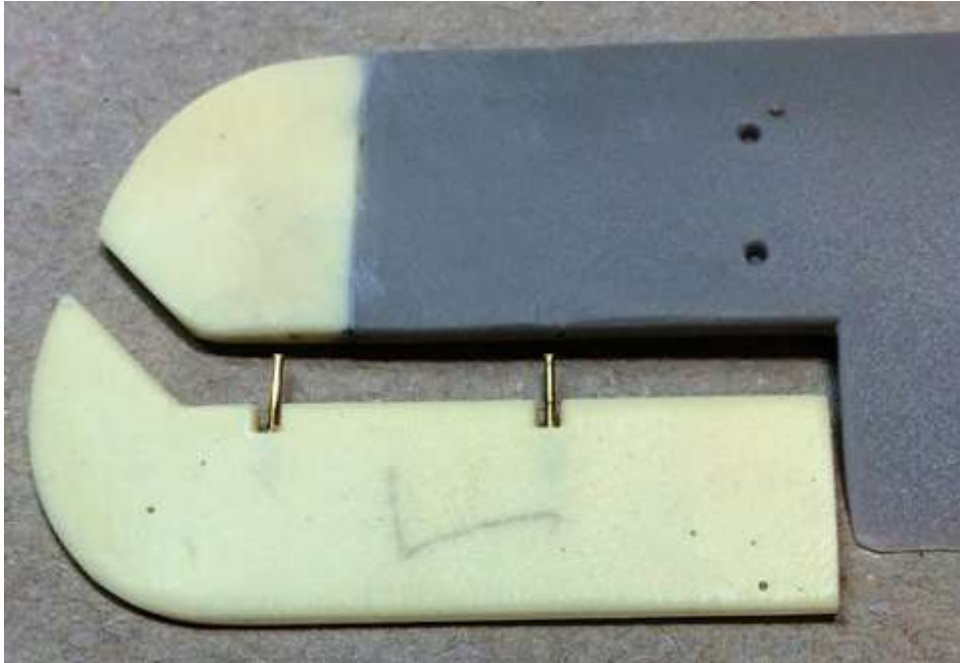
Remove the ailerons.

File or sand the lower wing and resin wing tips to remove any obvious steps etc.

Fill and gaps along the wing tip to wing joint, using modelling putty or similar.

NOTE: *Most fillers will dry and set overnight and can then be sanded. However, filler tend to shrink slightly during curing. Dependant on the filler used and the size of gaps filled, it can be that some time later a filled and sanded joint may show a 'ghost' line where the filler has shrunk during curing. Therefore it's best to leave filled joints etc for as long as possible before sanding, to ensure the filler will not shrink further.*

Allow the filler to fully set then carefully sand to remove excess filler to leave a smooth and flush joint. If gaps or seams are still visible, repeat the fill and sanding to achieve the surface required.



Once the filled joints have fully cured and been sanded, airbrush a primer over the joints and resin wing tips and aileron.

Check the primed surfaces for any signs of joint 'ghost' lines and surface imperfections. Any found should be filled and/or sanded to remove the imperfections and then re-primed for a final visual check.



Upper wing - resin ailerons and wing tips (early):

NOTE: *Using parts from the resin 'Loon Models' Siemens-Schuckert D.III early (LO32006) set. Refer to Part 5 (Resin).*

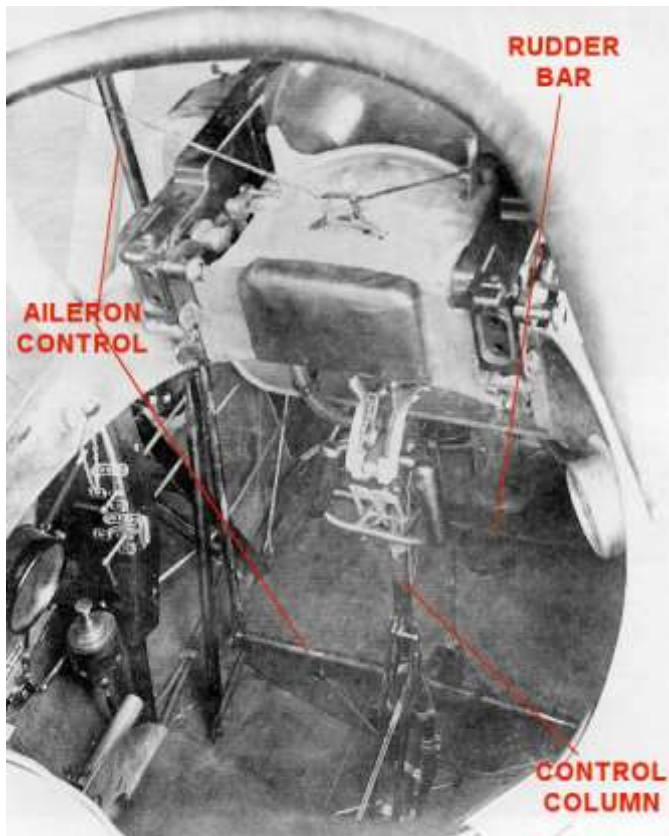
To modify the upper wing ailerons and wing tips, follow the previous procedure used for modifying the lower wing ailerons and wing tips.



Aileron control to upper wing:

Earlier Siemens-Schuckert aircraft designs were basically copied from French Nieuport fighters, such as the Nieuport 11. The method of aileron control used for the Siemens-Schuckert D.III was not the usual cable systems, but was a copy of the French design using control rods from the cockpit to the upper wing.

The pilot's control column was attached to a torque bar, which was located across the cockpit floor. The ends of this tube were attached by universal joints to control rods, which were routed up and out of the cockpit forward decking. The control rods attached to bell crank levers in the upper wing and control rods from these routed outboard to the ailerons.



The cockpit to upper wing control rods/bell cranks are represented in the kit, but only to the underside of the upper wing. Photographs of the aircraft show what appears to be cut outs, which allows the tops of the aileron bell cranks to protrude slightly through the top surface of the upper wing. These cut outs are represented on the kit wing as recesses on the underside and raised solid moulded rectangles on the top surface. Also the kit control rod/bell crank part have round rods, whereas the actual rods were flat sided (streamlined).

Aileron cut outs in upper wing:

Top surface of upper wing



Underside of upper wing



Carefully sand or scrape away the raised solid moulded rectangles from the top surface of the upper wing.

Drill holes of 1.0 mm diameter through the upper wing, using the pre-moulded recesses in the underside of the upper wing.

Using a straight edged scalpel blade or modellers chisel, carefully open up the cut outs to accept the thinned bell cranks of the modified aileron control rod/bell crank parts. The cut outs should be wider than the thinned bell cranks on the control rods.

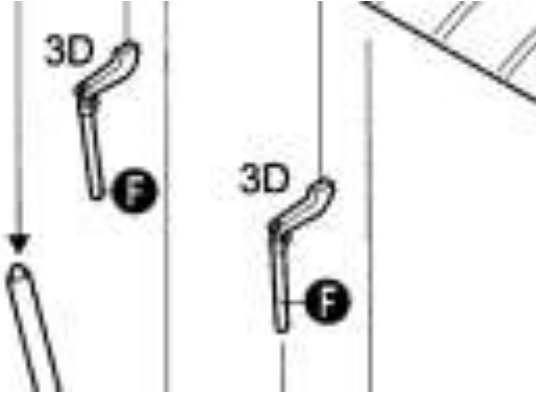


Aileron control rod/bell cranks:

Remove any sprue gates and seam lines from both aileron control rod/bell cranks.

Carefully sand or scrape the outer and inner sides of each aileron control rod/bell crank to create a thinner and streamlined profile.

Carefully sand or scrape the outer and inner sides of each aileron control bell crank to reduce the thickness to approximately 0.8 mm.



Cut two squares of 0.8 mm thick plastic card to fit onto the top of the aileron bell cranks.

Cement the plastic card squares onto the aileron bell cranks.

NOTE: *When shaped, the semi-circular top of the bell crank should be just proud of the top surface of the wing when the bell crank is inserted into the cut out from the underside.*

Once the cement has fully set, carefully sand the added plastic card to blend with the bell cranks and with a semi-circular top.

Mark then drill a hole of 0.5 mm diameter through the bell cranks (for a pivot pin).

Cut two short lengths of 0.5 mm diameter Nickel-Silver tube (e.g. 'Albion Alloy's NST05 or similar). The length should be such that the tubes are a snug fit into the aileron cut outs in the upper wing.

Insert the tubes into the pre-drilled holes in the bell cranks.

Test fit the bell cranks into the aileron cut outs. They should be a snug fit without being forced.

Remove the bell cranks for fitting later in this build.





Padding

The aircraft had protection for the pilot in three areas:

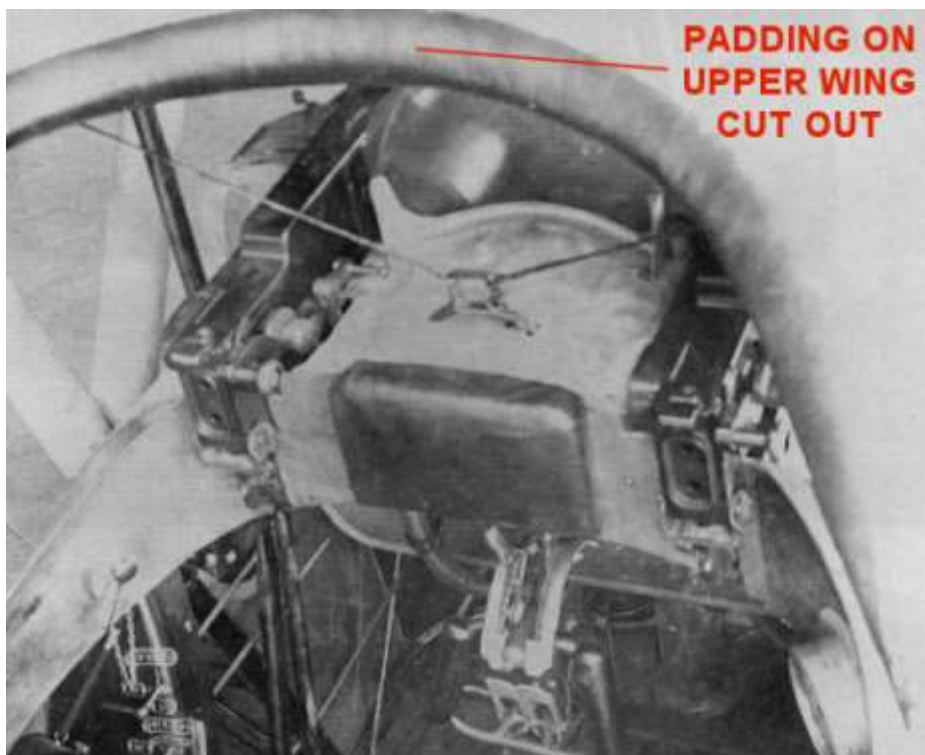
 Padded headrest on the front of the fuselage fairing.

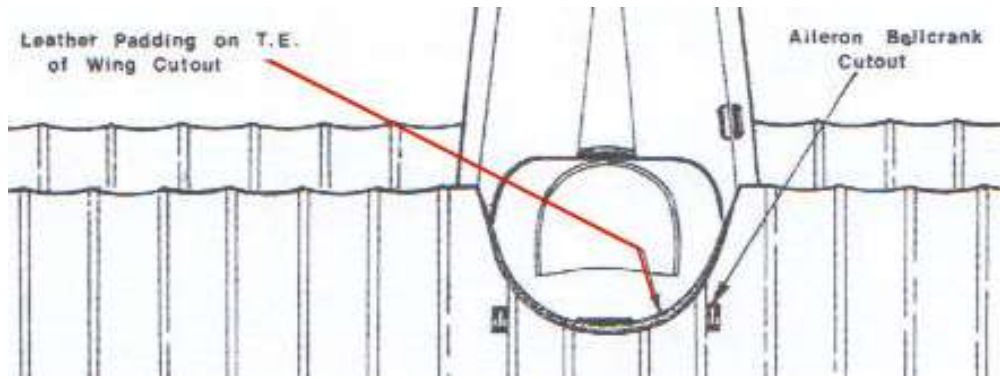
 Padding at the front of the cockpit decking.

 Padding around the centre section cut out in the trailing edge of the upper wing.

The padding on the headrest is moulded on the fairing but is slightly offset and hardly visible. The padding on the upper wing is not represented in the kit.

Upper wing padding:



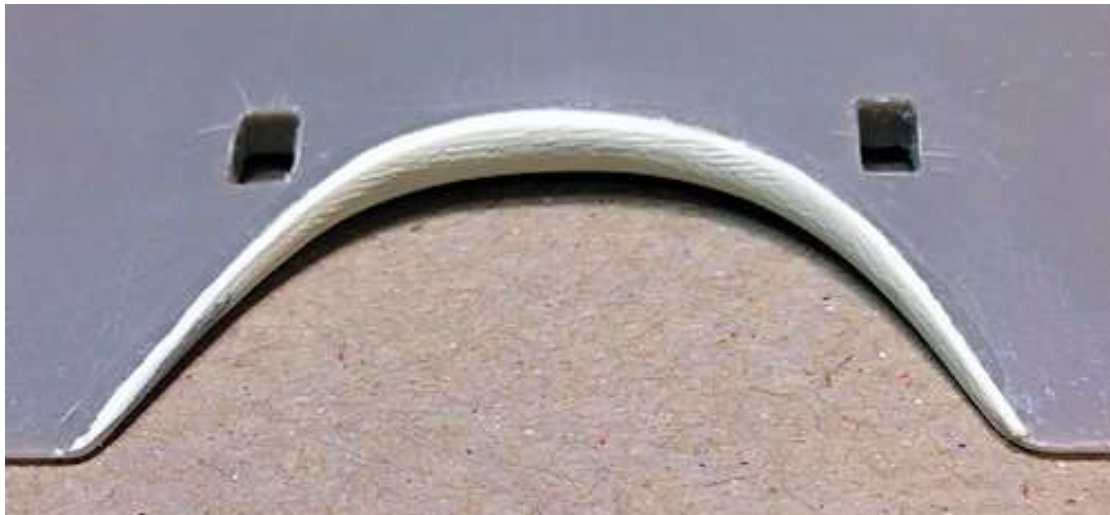


Thoroughly mix 'Milliput' two part putty (50:50 ratio) and roll out into a length of approximately 4 mm diameter and long enough to be able to be applied around the centre section cut out in the upper wing.

Press the putty onto the centre section cut out in the upper wing.

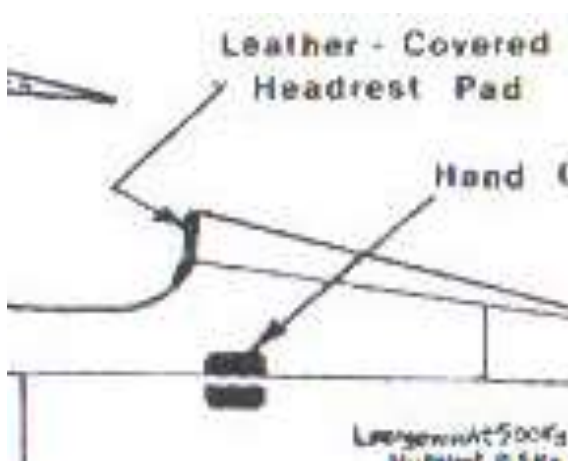
With a wet finger, form the putty around the cut out, making sure to gradually taper it towards the trailing edge corners and slightly over the top and underside of the wing.

Allow the putty to full set and harden.



Pilot's head rest:

The pilot's padded headrest , located on the front of the heads rest fairing, was created using the same method as used to create the padding on the cut out of the upper wing.



Pilot's seat

The 'Brennun' Siemens Schuckert D.III (BRL32014) photo-etch set has the parts to create a pilot's seat. However I chose not to use those parts as photo-etch parts are in some cases too thin to be realistic. The pilot's seat is such as case. Therefore I used the photo-etch seat back as a guide to modify the kit seat.

Lightening holes:

Cut the photo-etch seat back from its backing sheet and file off the edge tags.

Anneal (using a lighter or similar) the photo-etch to enable it to be bent easily.

Bend the photo-etch seat back around the kit seat.

Holding it in position on the seat, mark the position of all of the lightening holes onto the kit seat.

Using a 0.8 mm diameter drill, drill the smaller holes through the seat back.

Using a 1.5 mm diameter drill, drill the larger holes through the seat back.

Clean up the edges of the holes and if necessary, sparingly apply liquid cement around the rims of the holes, which will blend any remaining edges.



Cushion:

To prevent putty contamination, cover the pilot's seat with kitchen wrap film ('Clingfilm or similar).

Thoroughly mix 'Milliput' two part putty (50:50 ratio) and roll out into a ball then flatten to the approximate size and shape of the pilot's seat.

Press the putty onto the pilot's seat.

With a wet finger, form the putty onto the seat, making sure to gradually it is in contact with the inner surface of the seat back and is of the approximate scale thickness.

Allow the putty to partly set and harden then remove it from the seat.

Remove the film wrap and allow the putty to fully set and harden.

If necessary, file or sand the shape of the cushion to fully fit into the pilot's seat with no overlap at the front edge of the seat.

File or sand the underside of the cushion to reduce it to a more in-scale thickness.

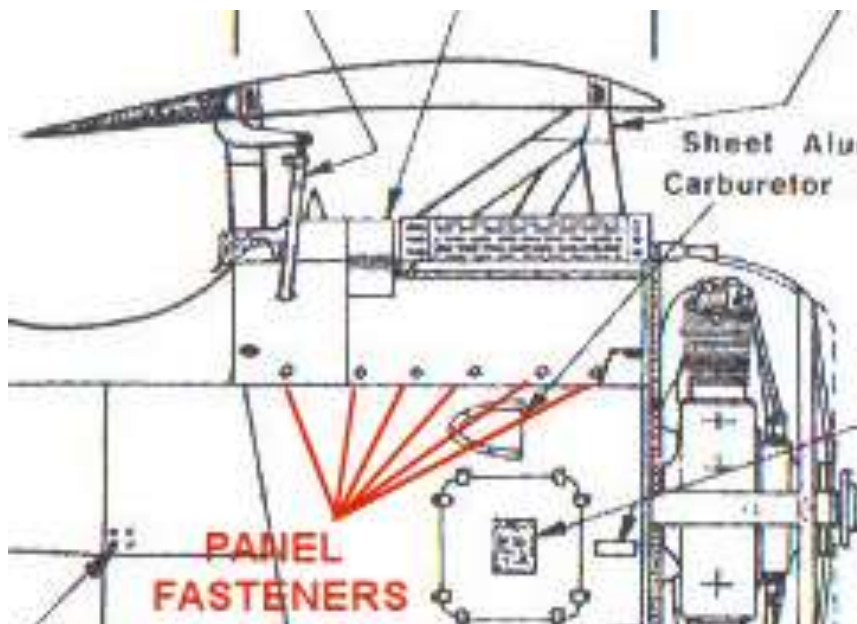


Photo-etch

NOTE: *The photo-etch parts used for this model are from the 'Bregun' Siemens Schuckert D.III (BRL32014) photo-etch set.*

Forward decking panels:

The forward decking panel is secured in position against the fuselage by rows of button fasteners. The panel has the fuel and oil tank filler caps, fuel tank gauge, pilot's wind screen and the machine guns. The decking panel has continuous hinges, which are fitted under the cooling jackets of the two machine guns and span between the front edge of the panel and the forward trough at the gun location cut outs. The kit decking panel does not have these hinges moulded into its surface. These will be represented as part of the photo-etch decking panels.



Sand away the six pre-moulded panel fasteners on the forward decking panel.

Cut the two photo-etch side panels (PE parts 3) from their backing sheet and remove the edge tags.

Anneal the side panels (using a lighter or similar) to enable them to be bent easily.

Lightly sand the mating side (reverse side) of the panels to give a better adhesion surface.

Lightly sand the mating surface of the two fuselage halves.

Bend the panels over a former of approximately 12 mm diameter to create a curve.

Apply CA adhesive to the panel mating surfaces.

Locate the panels onto the fuselage and clamp in position until the CA adhesive has fully set.

If necessary, carefully file or sand the PE panel edges to align with the edges of the kit decking panel.

Cut two of the photo-etch fastener surrounds (PE parts 9a) from their backing sheet and remove the edge tags.

Apply a small amount of CA adhesive to the lower, central location of the sixth, rear most fastener.

Place the fastener surrounds onto the CA adhesive in their correct orientation (same as those on the fitted panels).

Drill holes of 0.4 mm diameter through the fuselage, using the central holes of each fasteners as a guide.

NOTE: *The quarter turn fasteners (PE parts 2 and 9) will be fitted later in this build. This will prevent them being damaged through handling during the build.*



Side access panels:

The access panels fitted to the fuselage forward side panels on the early version aircraft were different to those fitted to the later version. The access panels for the early version aircraft are PE parts 22 and 23.

Cut the photo-etch access panels from their backing sheet and file off the edge tags.

Anneal (using a lighter or similar) the panels to enable them to be bent easily.

Lightly sand the mating side (reverse side) of the panels to give a better adhesion surface.

Lightly sand the mating surface of the two fuselage halves.

Bend the panels over a former of approximately 12 mm diameter to create a curve.

Apply CA adhesive to the panel mating surfaces.

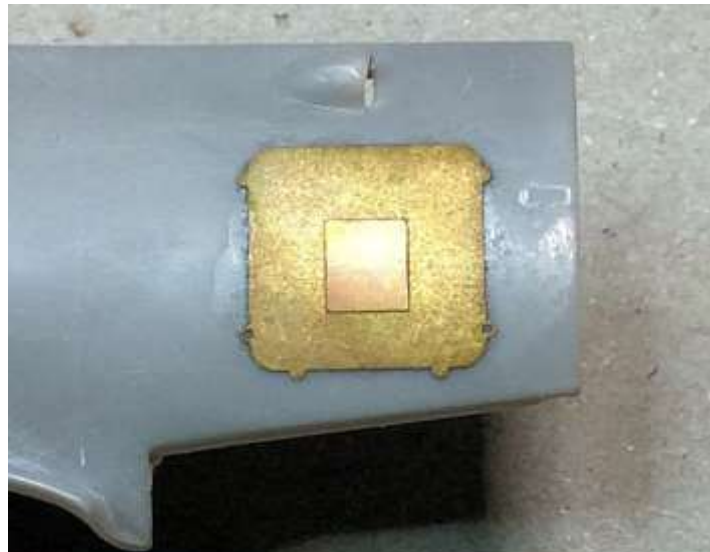
NOTE: *The access panels on the fuselage sides are different. Make sure the panels are fitted to the correct side of the fuselage and with the two fastener holes at the top.*

Locate the panels onto the fuselage and clamp in position until the CA adhesive has fully set.

Drill holes of 0.3 mm diameter through the fuselage, using the central holes of each fasteners as a guide.

NOTE: *The quarter turn fasteners (PE parts 20) will be fitted later in this build. This will prevent them being damaged through handling during the build.*

Right side panel.



Left side panel.



Tail skid brackets:

The access panels fitted to the fuselage forward side panels on the early version aircraft were different to those fitted to the later version. The access panels for the early version aircraft are PE parts 22 and 23.

Cut the photo-etch access panels from their backing sheet and file off the edge tags.

Anneal (using a lighter or similar) the panels to enable them to be bent easily.

Lightly sand the mating side (reverse side) of the panels to give a better adhesion surface.

Lightly sand the mating surface of the two fuselage halves.

Bend the panels over a former of approximately 12 mm diameter to create a curve.

Apply CA adhesive to the panel mating surfaces.

Locate the panels onto the fuselage and clamp in position until the CA adhesive has fully set.



Cockpit former:

The former that spans the floor of the cockpit is moulded solid on the lower wing, whereas the actual former would have had lightening openings.

Draw the outline of the two lightening openings onto the solid frame on the lower wing.

Point mark the outline using the drawn line as a guide.

Drill the outline through the solid frame using a 0.6 mm diameter drill.

Carefully cut through the walls of the drilled holes and remove the centre waste.

Using a sharp straight edged blade, carefully scrape the openings to clean up the surfaces.



Lower wing joint:

NOTE: *The lower wing to fuselage joint is a known fault with this model kit. The lower wing root areas on the fuselage halves are roughly moulded and the lower wing recesses are too shallow. These combine to stop the lower wing fitting to the fuselage, either correctly or fully. Therefore these areas need to be scraped to reduce their thickness and to reprofile them to obtain a good joint. As each kit can vary in the amount of material that needs removing, the photo-graph below shows where on this particular model, the styrene was scraped away, using a curved scalpel blade.*

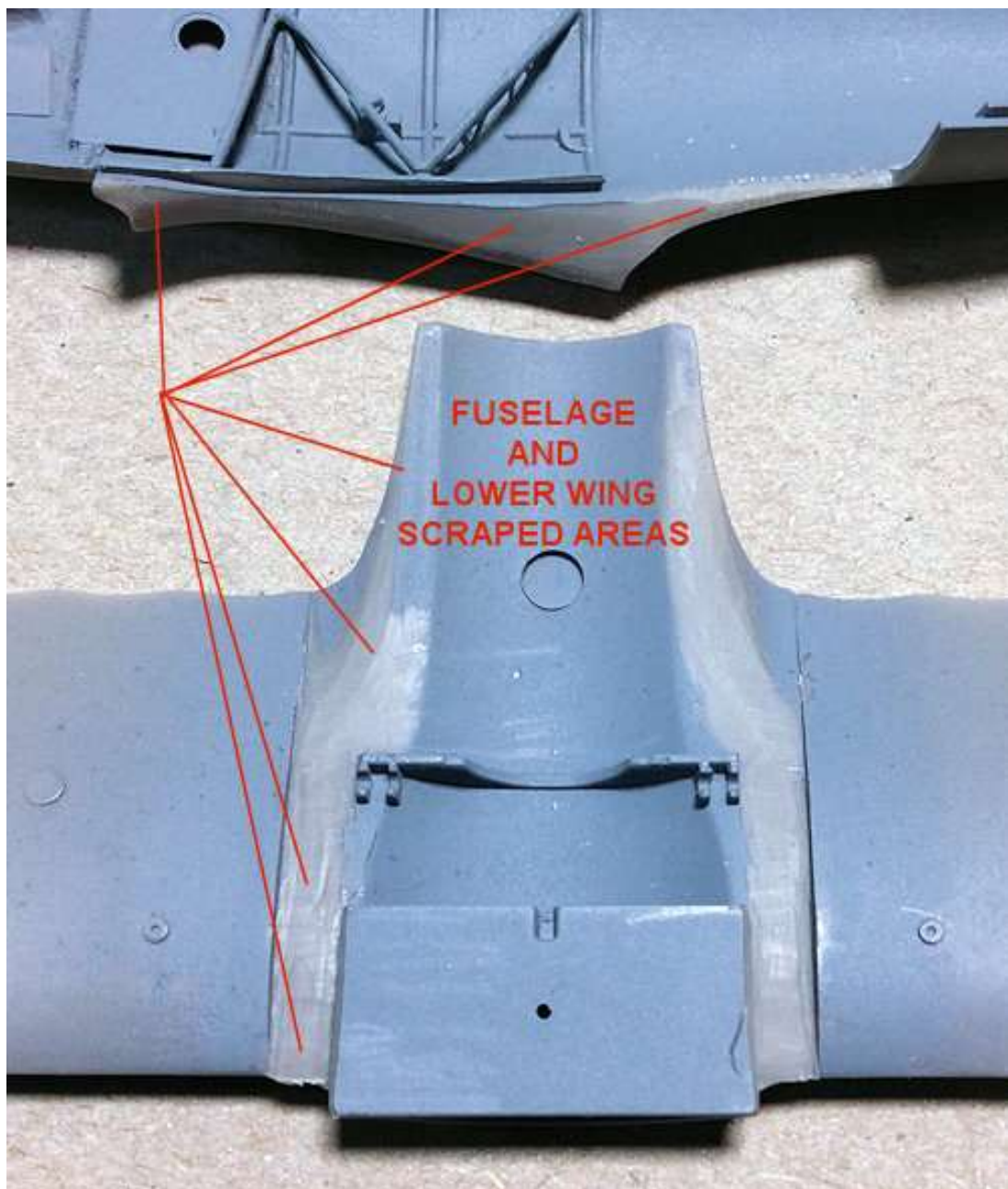
Temporarily join the two fuselage halves using elastic bands to hold them together.

Temporarily fit the engine bulk head onto the front of the fuselage, using masking tape to hold it in position.

Test fit the lower wing into the temporarily assembled fuselage.

Using the photograph below, scrape the areas necessary to remove styrene and obtain a full and good fit.

Remove the engine bulk head and separate the fuselage halves.



Decking panel - rigging attachment.

Cross bracing wires were fitted between the tops of the rear fuselage cabane struts and the inside of the fuselage. These wires were attached to a small rectangular frame, located on the top centre of the cockpit front decking panel. Each of the four separate bracing wires were attached the corners of this frame. The model has the rectangular attachment frame moulded solid, which does not represent the actual frame. The 'Bregun' photo-etch set has two frames, either of which (or both) can be used, but attaching them to the decking panel and rigging is not explained.



Rigging attachment frame:

Carefully file or sand off the existing pre-moulded 'frame' on the front decking panel.

Mark the centre of the panel 3 mm from the rear edge of the front decking panel.

Point mark 1.5 mm each side of the centre mark.

Drill a hole of 0.5 mm diameter, at approximately a 60 degree angle, through the front decking panel at each of the two point marks.

Pass a length of 'Stroft' Mono-filament 0.08 mm diameter through a 0.4 mm diameter tube (e.g. 'Albion Alloy's MBT04 or similar).

Pass the line through the 'Bregun' supplied attachment frame (5) then back through the tube.

Slide the tube up to, but not touching, the frame.

Secure the lines in the tube using thin CA adhesive. **Do not glue the lines to the frame.**

Repeat to create a second line at the opposite corner of the frame.

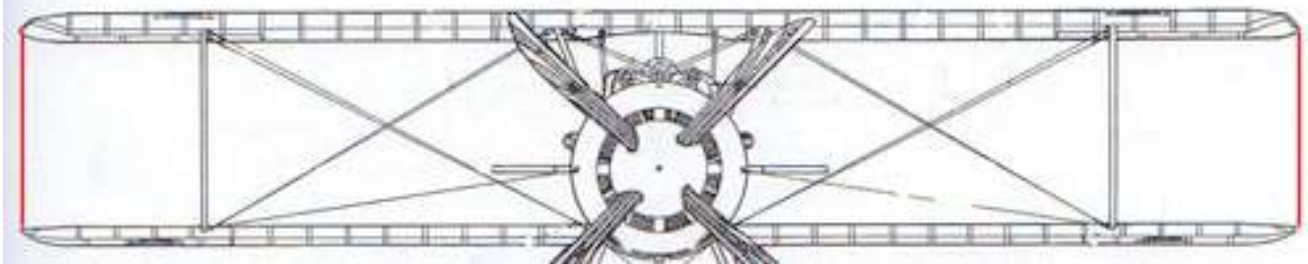
Test fit by passing the lines and tubes through the pre-drilled holes in the front decking panel.

Remove the frame assembly for fitting later in the build.



Lower wing.

NOTE: *Having followed the instruction for embodying the 'Loon Models' resin wing tips for the early version aircraft, I found that the span of the lower wing was 14 mm too short (7 mm at each wing tip). My assumption is either the instructions for cutting away the kit wing tips are incorrect or the wing span of the original kit supplied lower wing is too short.*



Wing span:

Mark a line on each lower wing, at 90 degrees to the leading edge and 30 mm from the wing root edge.

Saw or scribe along the marked line to separate the outer wings from the lower wing centre section.

Clean up the cut edges but make sure they are kept flat.

Cut 12 lengths of 1 mm thick plastic card, 5 mm wide and 38 mm long.

Remove any edge flash from the cut strips.

Align the strips in two packs of six and cement them together.

Point mark one of the outer wings, centrally at 7 mm and 15 mm from the leading edge of the outer wing.

Drill a hole of 0.5 mm diameter and 5 mm deep into the wing marks at 7 mm and 15 mm from the leading edge.

NOTE: *The following rods are used only as markers.*

Cut two lengths of 0.5 mm diameter rod (e.g. 'Albion Alloy's' MBR05 or similar) at 6 mm long.

Insert the two 6 mm long rods fully into the pre-drilled holes.

Push the outer wing against the wing of the centre section, making sure that the leading and trailing edges of the wings are aligned as well as the top and underside surfaces of the wings.

Check that the rods have made indents into the wing of the centre section.

Use the indents as a guide, drill holes of 0.5 mm diameter and 5 mm deep into the wing of the centre section.

Place a plastic card pack on a flat surface (5 mm width facing up).

Position the outer wing onto the plastic card pack, making sure pack overlaps the edges of the wing profile.

Press down on the wing to push the marker rods into the plastic card pack, making two indents.

Remove the marker rods from the outer wing.

Use the indents as a guide, drill holes of 0.7 mm diameter through the plastic card pack.

Cut two lengths of 0.5 mm diameter rod (e.g. 'Albion Alloy's' MBR05 or similar) at 16 mm long.

Secure the rods fully into the pre-drilled holes in the outer wing, using CA adhesive.

Secure the plastic card pack onto the two rods using CA adhesive and against the wing using cement.

NOTE: *During the next step, make sure the leading and trailing edges of the wings are aligned as well as the top and underside surfaces of the wings.*

Secure the wing centre section onto the protruding rods using CA adhesive and against the plastic card pack using cement.

Form the wing profile shape by carefully filing, sanding or scraping the plastic card pack. Make sure the profile of the plastic card pack is flush to and matching the wing profile.

Repeat the procedure to modify the opposite lower wing.

On both wing halves, drill two holes of 1.2 mm diameter into the top surface, aligned with and 6 mm inboard from the existing strut locations.

Fill the existing strut location holes, using modellers putty or home made 'sprue goo'.



Cabane struts.

Fuselage attachment:

NOTE: *The bottom of the cabane struts are intended to fit into recesses on the forward, top sides of the fuselage. However, these kit locations are shallow. I chose to add location rods into the struts.*

File or sand the bottom ends of the two 'Z' cabane struts.

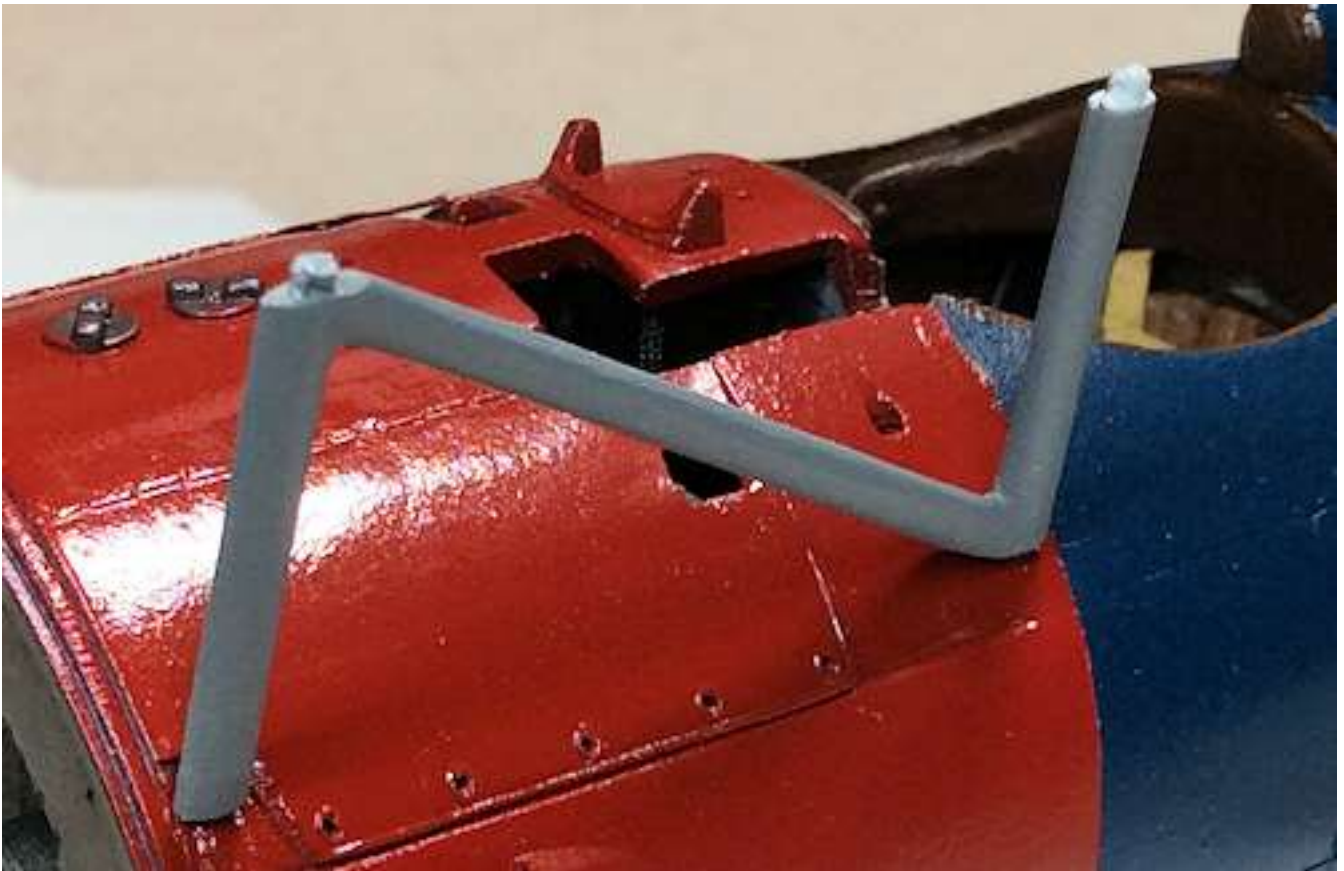
Drill a hole of 0.5 mm diameter centrally into the ends of the struts.

Drill a hole of 0.5 mm diameter into the fuselage at the four strut locations (two each side).

Cut four lengths of 0.5 mm rod (e.g. 'Albion Alloys' or similar).

Insert a cut rod into each pre-drilled hole in the struts and secure in position using CA adhesive.

Insert the cabane struts into their location holes and carefully bend the location rods until the tops of the two cabane struts locate into their locating holes in the underside of the upper wing. Make sure the wing when located on the struts is centrally over the fuselage.



PART 12

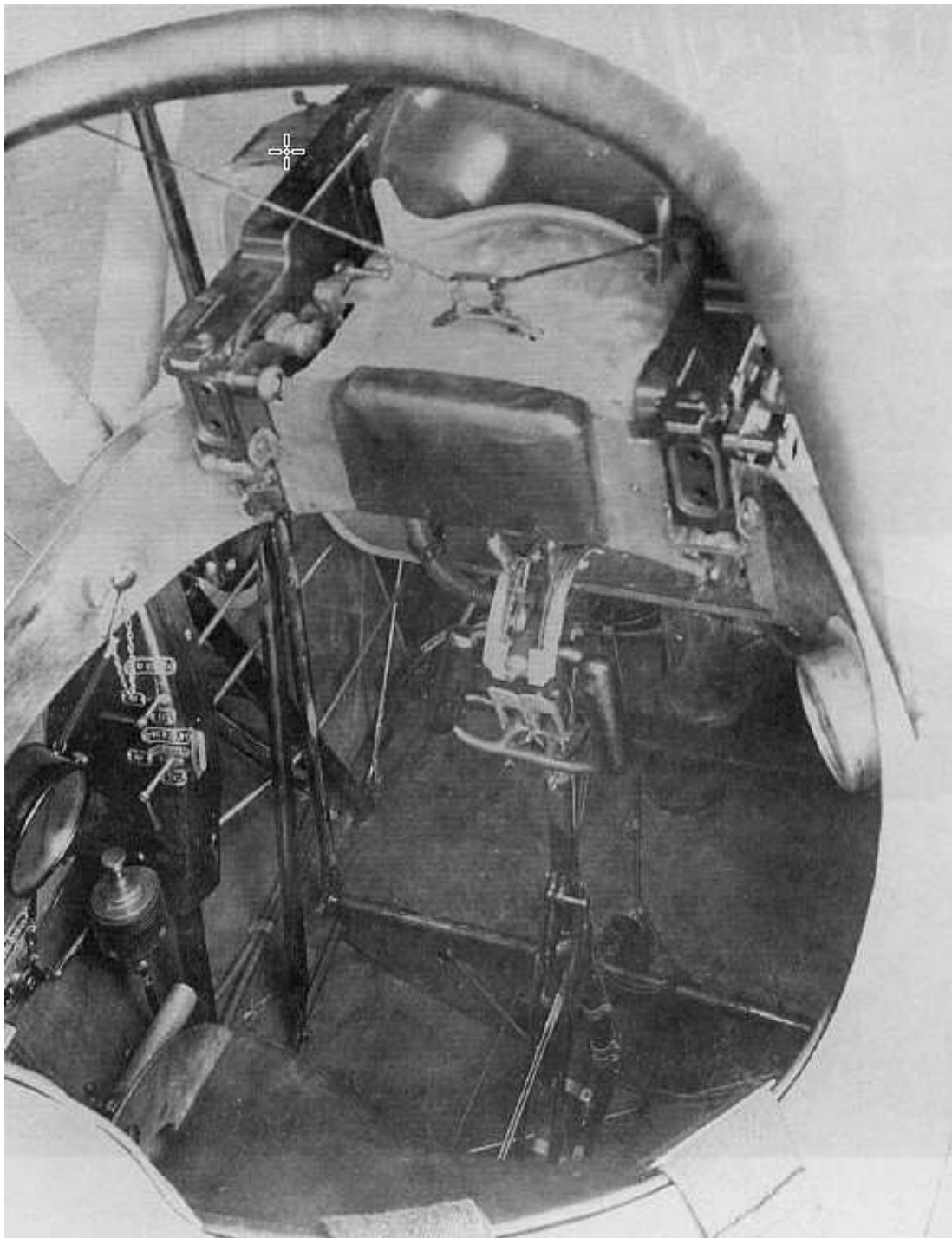
FUSELAGE

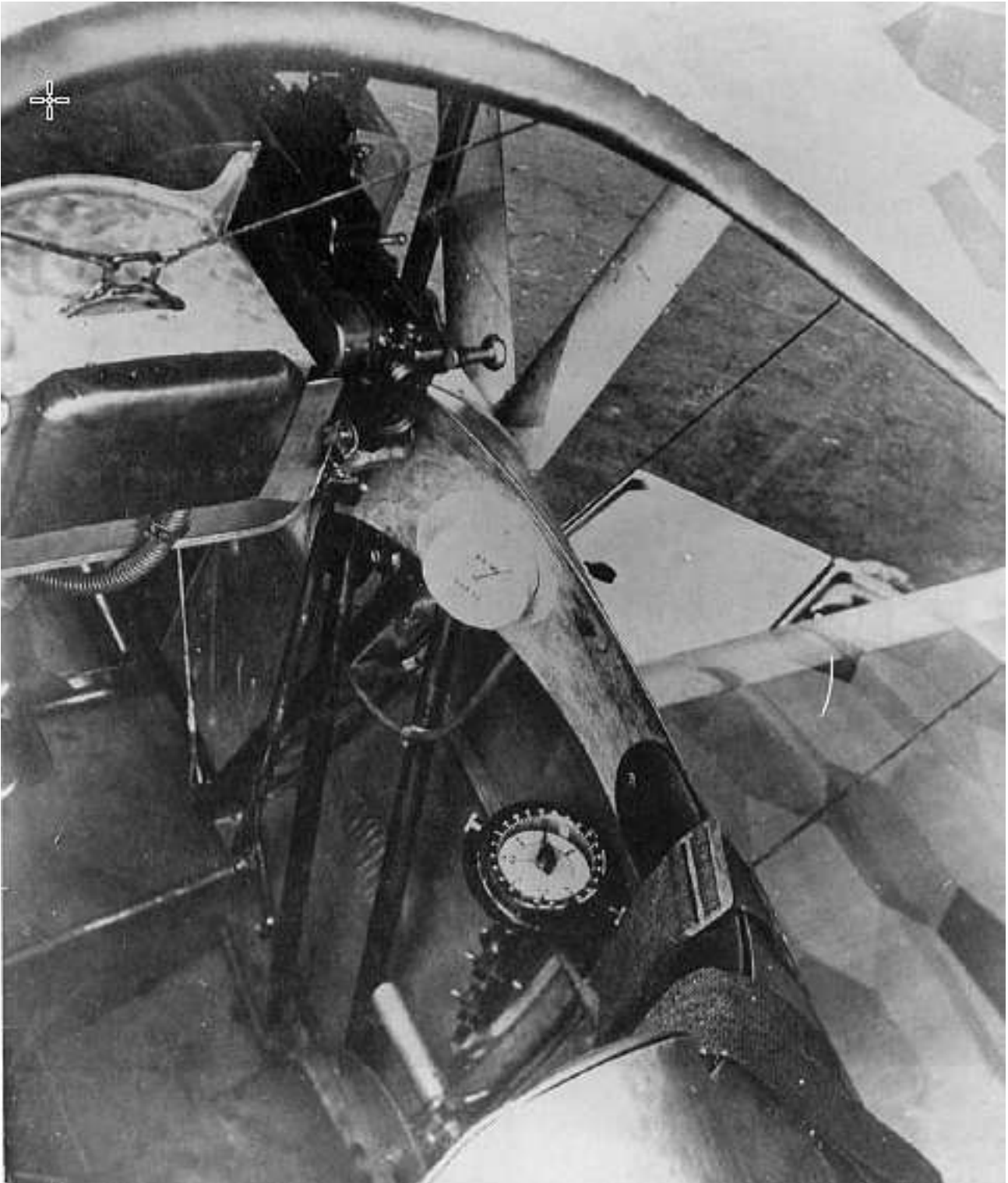
PART 12 - FUSELAGE

This part of the build log covers the construction of the fuselage, including the cockpit and its modifications.

Cockpit detail:

As can be seen in the following photographs, the cockpit of the aircraft has a lot of detail, much of which is supplied in the kit. However, as always, there are extra additions that can be added to enhance the overall look of the cockpit. An example of this would be the two gun synchronisation control runs that are attached to the gun stocks and drop down and under the ammunition tank. Also flight control cables can be added to the rudder bar and the control column, as well as any cockpit frame bracing cables. The ailerons were operated by rods connected from the cockpit controls and up through the fuselage front decking to the underside of the upper wing.





Assembly:

Remove all cockpit parts from the kit sprues and clean off and flash, seam lines and sprue gates.

Remove all cockpit parts from the 'Bregun' photo-etch (PE) set and clean off any tags.

Cement the kits two shoulder pads into their fuselage halves around the rear rim of the cockpit.

Secure the PE cockpit rear bulkhead (18) to a piece of 0.5 mm thick plastic card (to strengthen the PC part and help prevent it flexing).

Cut then sand the outer edge of the plastic card backing on PE bulkhead to blend with the PE.

Drill or cut out the various opening from the PE bulk head through the plastic card backing. Secure the two PE covers (19) to the PE bulkhead using CA adhesive.



Cement the top fairing (30A) onto the modified under panel (31A).

Cement the rudder peddle floor (23A) onto the modified cockpit former on the lower wing (1B). Make sure the floor is horizontal.

Cement the two cockpit 'Z' frames (1D, 8D) into their fuselage halves.

NOTE: *During the next step you may need to carefully scrape the underside on the 'Z' frames and/or sand the photo-etch frames (8, 8b) in order to obtain a good fit.*

Test locate the two photo-etch frames (8, 8b) under the 'Z' frames (refer to the 'Bregun' photo-etch instructions).

Once a good fit is obtained, secure the photo-etch frames in position using CA adhesive.

Bend the sides of the two photo-etch parts (4) over a straight edge to obtain a 90 degree bend on both sides.

Secure the photo-etch parts 4 in position on the fuselage halves (refer to the 'Bregun' photo-etch instructions) using CA adhesive.



Temporarily join the two fuselage halves using elastic bands to hold them together.

Test fit the seat support frame (26a) into its four locations.

NOTE: *I found that the frame was too short and did not reach all of the locations.*

Cut two lengths of 1.4 mm diameter tube (e.g. 'Albion Alloy's' MBT14 or similar). The length of the tubes should be slightly longer than the distance between the mounting pegs for the pilot's seat on the seat support frame.

Cut through the two cross members centrally between the seat mounting pegs on the seat support frame.

Secure the tubes onto the cut cross members on one side of the seat support frame.

Locate the other side of the seat support frame into the open ends of the tubes.

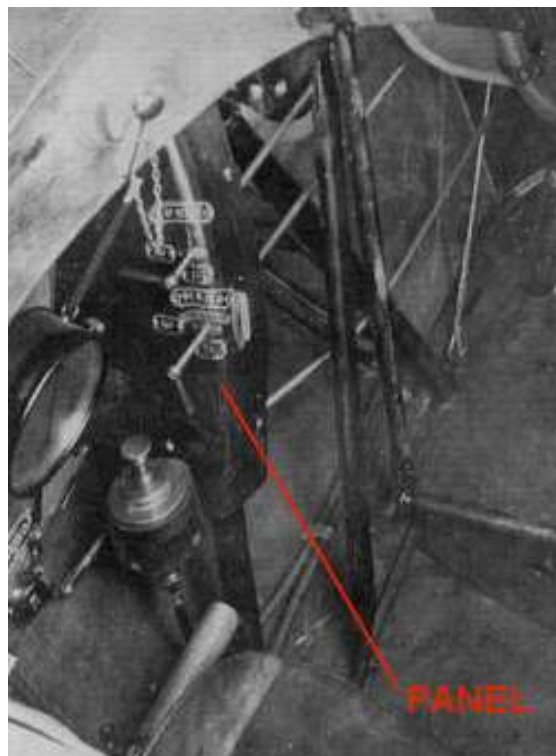
Test fit the seat support frame (26a) into its four locations. If necessary file or sand the open ends of the tubes until the seat support frame locates fully into its four locations in the fuselage.

With the frame correctly located, apply CA adhesive to the ends of the tubes to secure them to the seat support frame.

Separate the fuselage halves.



The photo-etch panel (PE1) in the 'Bregun' set is intended to be fitted to the angled, centre strut on the cockpit left 'Z' frame, as can be seen in following photograph.



Position the panel onto its location on the centre strut of the left 'Z' frame.

Trim the bottom of the panel to leave room for locating the seat support frame.

If necessary file or sand the outer curve to conform it to the curve of the fuselage inner surface.

Using a photo-etch bending tool or a straight edge, bend 1 mm of the long side of the panel to 90 degrees.

Secure the panel onto its location on the centre strut of the left 'Z' frame, using CA adhesive.



Secure the padding support plate (PE6) in the 'Brengun' set to the rear edge of the front decking 10A, using CA adhesive. The panel should be centrally positioned with the top curved edge aligned with the top curve on the front decking panel.

If necessary, file or sand the bottom edge of the panel flush with the bottom edge of the front decking panel.

File away the locating peg on the mating surface of the padding piece 1A.

Secure the padding piece centrally onto the photo-etch plate.

Cement the ammunition container 22A under the front decking panel and aligned with the cut-outs for the machine gun feed chutes (when fitted).



NOTE: *The 'Gaspach' machine guns and/or the front decking panel will need modification to allow the guns to fit the decking panel correctly.*

Test locate the resin 'Gaspach' 1/32 Spandau 08/15 Extended loading Handle (Late) machine guns on the front decking panel.

Where necessary file, cut or sand areas that prevent the guns from being positioned correctly in the front decking panel.

I found that the following required modifying:

- The height of the feed and ejection chutes.

- Removal of the forward part of the pre-moulded cable and linkage under the cooling jacket, front of the breech block.

- Widening of the breech block troughs in the front decking panel.

- Deepening of the rear of the breech block troughs in the front decking panel.

- Widening of the openings in the front decking panel for the gun feed chutes.

Remove the 'Gaspach' machine guns from the decking panel.



Temporarily join the two fuselage halves using elastic bands to hold them together.

Temporarily fit the engine bulk head onto the front of the fuselage, using masking tape to hold it in position.

Test fit the front decking panel assembly. If necessary, file or sand the sides of the ammunition container to enable it to fit between the added photo-etch containers for the empty ammunition belts.

Remove the engine bulk head and separate the fuselage halves.

Painting base colours:

Airbrush the cockpit and fuselage parts with a grey primer (e.g. 'AK Interactive Grey AK-758 or similar):

- Inside the fuselage halves.
- Lower wing cockpit area.

Under panel assembly (30A/31A).
Engine bulk head - both sides) (5C, 20A).
Front decking panel assembly (1A, 10A, 22A).
Pilot's seat (8A).
Created seat cushion.
Photo-etch rear bulk head.
Seat support frame (26A).
Control column, shaft, support, grip (12A, 13A, 14A, 27A).
Rudder bar (29A).
Aileron control rods (10D, 25A).
Instruments (2A, 4A, 5A, 6A, 7A, 15A).

Airbrush the following parts with 'Tamiya' Wooden Deck Tan (XF78) or similar:

Inside the fuselage halves.
Lower wing cockpit area.
Pilot's seat (8A).
Created seat cushion.
Photo-etch rear bulk head.
Rudder bar (29A).

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

Seat support frame (26A).
Control column, shaft, (13A, 27A).
Aileron control rods (10D, 25A).

Airbrush the following parts with 'Alclad' Steel ALC-112 or similar:

Engine bulk head - both sides) (5C, 20A).
Control column support (14A).

Apply wood effect:

Refer to Part 2 (Wood Effects) of this build log and apply wood effect to the following:

NOTE: For this model I chose to use 'DecoArt Crafters Acrylic' (water based) oil paints (Burnt Umber).

Inside the fuselage halves (except the cockpit side 'Z' frames and photo-etch left selector panel).
Lower wing cockpit area.
Pilot's seat (8A).
Photo-etch rear bulk head (not inner panels areas).
Rudder bar (29A).

Painting final colours:

Brush paint the following parts:

Tamiya' Rubber Black (XF85) - Cockpit side 'Z' frames, Starter magneto (2A), Compass (4A), Oil pump body (15A), Altimeter (6A), left fuel/oil selector panel (photo-etch).

'Mr. Colour' Brass (219) - Magneto switch (5A), Oil primer pump top (15A).

'Mr. Colour' Stainless Steel (213) - Control column (12A) throttle levers, Tachometer (7A), added cartridge ejector pipe, Magneto switch lever, Magneto starter handle.

'Tamiya' Hull Red (XF9) - Control column (12A) hand grips.

'Tamiya' Hull Red (XF9) with 'Humbrol' Leather (62) highlights - Pilot's seat cushion.

Assembly (continued):

Cement the Compass (4A) onto its location in the right fuselage half.

Cement the Tachometer (7A) onto its location in the right fuselage half.

Cement the Magneto switch (5A) onto its location in the left fuselage half.

Cement the Altimeter (6A) onto its location in the left fuselage half.

Cement the Magneto starter (2A) onto its location in the left fuselage half.

Cement the cross member (14A) onto its location on the lower wing.

Cement the cross member (14A) onto its location on the lower wing.

Locate the control column (27A) onto the torque tube (13A).

Cement the torque tube (13A) into the floor panel (23A) and against the cross member (14A) on the lower wing.

Cement the control column (27A) to the torque tube (13A).

Cement the rudder bar (29A) onto floor panel (23A) on the lower wing.

Secure the created seat cushion onto the pilot's seat (8A), using CA adhesive.

Locate the two aileron control rods (10D) into their locations on the lower wing. The top rods should be vertical to the lower wing.

Locate the aileron control rod (25A) onto the control column torque tube (13A) and the tops in contact with the outside edges of the control rods (10D).

Once the aileron control rods are positioned correctly, cement the location points in position.

Secure the photo-etch rear bulkhead to the right fuselage half using either CA adhesive or two part epoxy adhesive (e.g. 'Araldite'). The bulkhead should be position behind the rear vertical frame of the cockpit, with the control line apertures in the bulkhead at the centre bottom.

Test fit the fuselage halves together (hold together with an elastic band or masking tape) and make sure the bulkhead does not stop the fuselage halves fully joining. If it does, carefully scrape away the contact area of the left fuselage half until a good joint is achieved.

NOTE: *In the following step you may need to ease the front of the fuselage halves apart to fit the seat support frame.*

Test locate the seat support frame into its four locations in the fuselage halves. If the cockpit side 'Z' frames contact the seat support frame and prevent it from locating correctly, carefully scrape away the inner edges of the contact area on the 'Z' frames until the seat support frame can be located correctly.

Move the seat frame out of its locations in the right fuselage half and apply either CA adhesive or two part epoxy adhesive (e.g. 'Araldite) to the locations.

Relocate the seat support frame fully into its locations and allow the adhesive on the right fuselage half to set.

NOTE: *During the next step you may need to scrape away accrued paints to achieve a fit.*

Test fit the lower wing assembly into the temporarily joined fuselage. Make sure the wing fully locates into the fuselage and no cockpit parts foul the fuselage details.

Separate the fuselage halves and restore any painted areas that have been damaged.

Weathering:

Airbrush a sealing coat of semi-matte finish (e.g. 'Alclad' Light Sheen ALC-311 or similar) over the painted detail on the lower wing, left and right fuselage halves, pilot's seat and the painted photo-etch rear bulkhead.

Refer to Part 3 (weathering) of this build log and apply the desired weathering. For this model I chose to use the 'Flory Models' Dark Dirt fine clay wash.

Seal in the applied weathering by airbrushing a sealing coat of semi-matte finish (e.g. 'Alclad' Light Sheen ALC-311 or similar) over the weathered surfaces.

Additional cockpit details:

Despite most models having sufficient detail, there is usually room for improvement by adding additional detail to enhance the model and make it more authentic. This particular model is no exception.

The cockpit enhancements to be incorporated are as follows:

Fuselage left half.

Oil cock and control rod.
Fuel cock and control rod.
Spark advance lever and control rod.
Oil priming pump pipe.
Magneto switch wire.
Magneto starter wire.
Altimeter suspension springs.

Fuselage right half.

Tachometer drive cable.

Front decking panel.

Machine gun synchronisation drives.

Cross bracing:

Cross bracing - floor.
Cross bracing - fuselage sides.

Controls.

Elevator control cables.
Rudder control cables.

Control column.

Machine gun trigger cables.
Throttle quadrant control cables.

Instrument decals.

Fuselage left half.

Oil cock and control rod:

Using a 0.4 mm diameter drill, carefully drill through the two existing holes in the fitted photo-etch panel on the fuselage left half.

Cut a length of 0.3 mm diameter Nickel-Silver tube (e.g. 'Albion Alloy's' NST03 or similar) to a length of 28 mm.

Bend one end of the tube to 90 degrees then flatten the bend using flat nosed pliers.

Insert the other end of the tube into the top hole in the photo-etch panel then pull it through from the other side of the panel until the bent end is just clear of the panel.

Turn the bent end vertically down then secure the other end of the tube to the forward edge of the added photo-etch box panel.

Trim the tube so it does not overlap the engine bulkhead scrapped area at the front of the fuselage half.

Fuel cock and control rod:

Use the same procedure to create the oil priming pump as tube, using the lower hole in the photo-etch panel.

Spark advance lever and control rod:

Create the spark advance lever from either suitably thick plastic card or from your 'spares' box. I used a spare photo-etch lever.

Using CA adhesive, secure the lever to the rear of the fitted altimeter, on the vertical frame (fuselage left half).

Cut a length of 0.3 mm diameter Nickel-Silver tube (e.g. 'Albion Alloy's' NST03 or similar) and bend it twice, such that it can be passed under the photo-etch panel to the fitted lever and down and through the bottom of the forward photo-etch former and along the bottom of the added photo-etch box panel.

Position the tube and using CA adhesive, secure the tube to the bottom of the added photo-etch box panel.

Trim the tube so it does not overlap the engine bulkhead scrapped area at the front of the fuselage half.

Oil priming pump pipe:

Cut a length of 'PlusModel' lead wire (0.5 mm diameter) and thread it from the bottom of the oil priming pump, behind the side 'Z' frame then along the bottom of the fuselage side.

Secure in position using CA adhesive.

Trim the wire so it does not overlap the engine bulkhead scrapped area at the front of the fuselage half.

Magneto switch wire:

Cut a length of 'PlusModel' lead wire (0.3 mm diameter) and thread it from the forward side of the magneto switch and around the cockpit coaming to the side of the fuselage. Route the wire forwards over the top of the added photo-etch box panel.

Secure in position using CA adhesive.

Trim the wire so it does not overlap the engine bulkhead scrapped area at the front of the fuselage half.

Magneto starter .

Cut a length of 'PlusModel' lead wire (0.3 mm diameter) and thread it from the bottom of the magneto starter then down the side 'Z' frame and forwards along the bottom of the fuselage.

Secure in position using CA adhesive.

Trim the wire so it does not overlap the engine bulkhead scrapped area at the front of the fuselage half.

Altimeter suspension springs.

Cut two short lengths of 'PlusModel' lead wire (0.3 mm diameter) and position them on the top of the altimeter and separated at approximately 120 degrees apart.

Secure them in position on the top of the altimeter and against the side of the fuselage, using CA adhesive.



Fuselage right half.

Tachometer drive cable:

Cut a length of 'PlusModel' lead wire (0.3 mm diameter) and thread it from the forward side of the Tachometer and around the cockpit coaming to the side of the fuselage. Route the wire forwards over the top of the added photo-etch box panel.

Secure in position using CA adhesive.

Trim the wire so it does not overlap the engine bulkhead scrapped area at the front of the fuselage half.



Front decking panel.

Machine gun synchronisation drives:

Cut two lengths of 'ANYZ' 0.5 mm Black braided line (AN011).

Apply CA adhesive to the lines and secure them in position onto the face of the ammunition container under the front decking panel.

Loop the lines under the ammunition container and secure them to the rear face of the container, using CA adhesive.



Cross bracing.

Cross bracing - floor:

Drill a hole of 0.3 mm diameter into the outer corners of the modified former under the rear edge of the rudder bar floor board.

Drill a hole of 0.3 mm diameter into the outer corners of rear cross member on the lower wing.

Cut two lengths of 'Steelon' 0.12 mm diameter mono-filament.

Pass a line through each of the pre-drilled holes in the modified former under the rear edge of the rudder bar floor board.

Secure the lines to the front underside of the floor board, using CA adhesive.

Pass the free ends of the lines diagonally across and through the pre-drilled holes in the rear cross member.

Pull the lines taut and secure in position using CA adhesive.

Cut away any excess line from the ends of the two lines.



Cross bracing - fuselage sides:

Drill two holes of 0.3 mm diameter through the bottom edge of the fuselage sides at the corners of the added photo-etch box panel. Make sure the holes are drill through the mating faces of the lower wing, not through the actual fuselage sides.

Drill two holes of 0.3 mm diameter through the top edge of the fuselage sides at the corners of the added photo-etch box panel. Make sure the holes are drill through the mating faces of the front decking panel, not through the actual fuselage sides.

Cut eight short lengths of 0.4 mm diameter Nickel-Silver tube (e.g. 'Albion Alloy's' NST04 or similar).

Pass a line through the pre-drilled holes in the bottom edge of the fuselage sides.

Secure in position using CA adhesive.

Slide two cut tubes onto each line.

Pass the free ends of the lines diagonally across the added photo-etch panel and through the holes pre-drilled through the top of the fuselage sides.

Pull the lines taut and secure in position using CA adhesive.

Slide the tubes to opposite ends of the lines and secure in position using CA adhesive.

Cut away protruding excess line.



Controls.

Rudder control cables:

Cut two long lengths of 'Stroff' mono-filament 0.08 mm diameter (or similar).

Pass the two lines through the modified former under the rear edge of the rudder bar floor board.

Secure the lines to the front underside of the floor board, 4 mm each side of the centre line, using CA adhesive.

Cut away any protruding excess line at the front of the floor board.

Pass the two lines rearwards and under the rear cross member on the lower wing.

Pull the two lines taut and temporarily secure them to the rear underside of the lower wing.

Elevator control cables:

Cut a long length of 'Stroff' mono-filament 0.08 mm diameter (or similar).

Loop the line around the bottom of the control column.

Pass the two free ends of the line rearwards and under the rear cross member on the lower wing.

Cut two short lengths of 0.4 mm diameter Nickel-Silver tube (e.g. 'Albion Alloy's' NST04 or similar).

Slide the two tubes onto each exposed line.

Pull the two free ends of the line taut and temporarily secure them to the rear underside of the lower wing.

Secure the line to the front of the control column using CA adhesive.

Slide the two tubes up to the control column and secure them in position using CA adhesive.

NOTE: *During the following step, the line should be looped around the control column above the oval tube frame on the control column.*

Repeat the procedure to add the upper elevator control lines.

Control column.

Machine gun trigger cables:

Cut two long lengths of 'PlusModel' lead wire (0.3 mm diameter).

Pass the wires through the modified former under the rear edge of the rudder bar floor board.

Secure the ends of the wires to the two trigger tabs below the hand grip assembly of the control column.

Route the wires down the front of the control column, securing them in position using CA adhesive.

Gently pull the free ends of the wires from the front of the rudder bar floor panel, leaving a slight loop of wire at the rear of the panel.

Secure the free ends of the wires to the underside of the rudder bar floor panel.

Cut away any protruding wire from the front edge of the panel.

Throttle quadrant control cables:

Repeat the above procedure, but securing the two throttle wires to the front of the two trigger lever on the top of the control column hand grip.



Instrument decals.

Choose the appropriate type and size of decal from the 'Airscale' Dial Decals (Generic World War 1) (AS32 WW1).

Apply the Tachometer, Altimeter and Compass decal to those instruments.

Assembly (continued):

Temporarily join the two fuselage halves together (elastic band around fuselage, clip on the fin). Make sure the rudder and elevator control lines are lifted out of the cockpit area to prevent them becoming trapped under the mating surfaces

Locate the fuselage assembly onto the lower wing assembly. Make sure the fuselage and lower wing join fully and without any obstructions.

Apply cement to the right fuselage mating surfaces only. Do not allow cement onto the left fuselage surfaces.

Once the cement has fully set, carefully separate the left fuselage half from the right fuselage half/lower wing assembly.

If necessary apply cement to any mating surfaces that require adhesion.

Pass the two rudder control lines under the pilot's seat support frame and through the left and right openings in the rear bulkhead.

Pass the two pairs of elevator control lines under the pilot's seat support frame.

Pass the upper lines through the top, centre opening in the rear bulkhead.

Pass the lower lines through the bottom, centre opening in the rear bulkhead.

Gently pull the lines taut and using CA adhesive, secure them to the inside of the fuselage half, forward from the cut-out for the tailplane.



Pilot's seat harness:

NOTE: *When assembling the seat straps, use CA adhesive. To avoid the adhesive soaking through the seat belts and sticking to the working surface, assemble the belts on a shiny surface, such as tile. When holding down the belt joints to allow the adhesive to set, keep the belt moving over the shiny surface, which should stop the adhesive sticking the belt to the working surface.*

Following the included instruction card for the 'HGW Models' Albatros D.III/V set -32006), choose the desired shade of straps and cut out the various straps.

Brush over the assembled seat belts with 'AK Interactive' Filters (Wood AK-261) thinned with White Spirits.

Weather the straps by brushing with 'AK Interactive' Filters (Kerosene AK-239) thinned with White Spirits.

Assemble the shoulder straps but do not fit the chest cross strap or the end fittings.

Pass the tops ends of the two straps through the slots at the top of the rear bulkhead and secure them to the its rear surface, using CA adhesive.

Assemble the two lap straps and secure the anchors to the side members of the seat support frame.



Assembly (continued):

Carefully locate the fuselage left half in position against the fuselage right half and lower wing assembly. Make sure the left side of the pilot's seat support frame locates correctly in its locations.

NOTE: *During the following step, hold the assembly together using elastic bands around the fuselage and a clip on the fin. Make sure the forward sides of the fuselage are fully against the lower wing.*

Cement the fuselage left half in position against the fuselage right half and lower wing assembly.

Once the adhesive has fully set, fill any seam or gaps with modelling filler or 'sprue goo', including the join between the cockpit rear leather padding surround.

File or sand smooth any filled seams or gaps

Temporarily masking tape the two shoulder straps out of the cockpit onto the top of the fuselage.

Cement the pilot's seat centrally in position onto to seat support frame.

Remove the masking tape from the fuselage to release the two shoulder straps.

NOTE: *During the following step, you may need to apply slight pressure to the fuselage forward sides to obtain a good fit for the engine fire wall. If pressure is required it's recommended to use two part epoxy adhesive, which provides a stronger bond than normal styrene cement.*

Dry locate the forward decking panel onto the fuselage.

Locate the engine fire wall onto the front opening of the fuselage, with the bottom bar vertically down.

If necessary, apply **slight** pressure to the fuselage forward side, using a suitable clamp, to close the sides around the engine fire wall.

Check that the forward decking panel and engine fire wall are fully and correctly located.

Either cement the fire wall in position or, if fuselage side pressure was required, mix an apply two part epoxy adhesive (e.g. 'Araldite' 5 minute) to fix the fire wall in position.



Pilot's seat harness (continued):

Position the two shoulder straps onto the seat in the desired position and cut the free ends to the desired length.

Secure the two shoulder straps onto the seat using CA adhesive.

Add the photo-etch end fittings to the straps, using CA adhesive.

Position the two lap straps onto the seat in the desired position and secure in position using CA adhesive.



Assembly (continued):

Cement the headrest fairing onto the top of the fuselage with the added head rest just into the cockpit area.

Test fit the louvered under panel between the lower wing and fitted engine fire wall. If necessary, file, sand or scrape the mating surfaces to achieve a full and good fit, with no protrusion of the panels front edge outside of the rear face of the firewall.

Cement the under panel in position.

Once the adhesive has fully set, fill any seam or gaps with modelling filler or 'sprue goo'.

Brush paint the crash padding on the cockpit side of the front decking panel using 'Humbrol' Leather (62) with 'Tamiya' Hull Red (XF9) highlights.

Cement the front decking panel onto the top of the fuselage between the cockpit and rear face of the engine fire wall.

Once the adhesive has fully set, fill any seam or gaps with modelling filler or 'sprue goo'.

Slide the 'Loon Models' replacement resin tailplane into the opening at the rear of the fuselage.

NOTE: *The 'Loon Models' resin tailplane will leave a gap at the leading edge/fuselage joint.*

Position the tailplane centrally (when viewed from above) and level with the rear of the fuselage.

Secure the tailplane in the fuselage using CA adhesive.

Once the adhesive has fully set, fill any seam or gaps with modelling filler or 'sprue goo'.

Surface preparation:

Once all filler has fully set, file, or scrape then sand all filled seams and joints to blend the model parts together. Take care not to create flat areas on the rounded fuselage or damage fitted photo-etch etc.



Underside access panel:

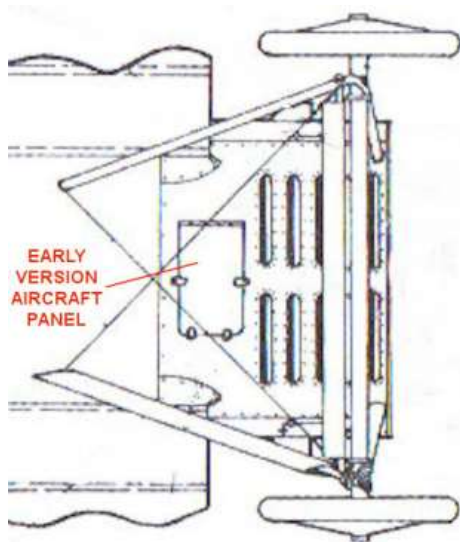
NOTE: *The rectangular access panel required on the under panel needs to straddle the joint between the rear of the louvered under panel and the front edge of the lower wing.*

Cut a rectangular 7 mm by 12 mm access panel from 0.5 mm thick plastic card.

Sand the corners of one end of the panel to round them off slightly.

Cement the access panel centrally on the underside of the lower wing and across the joint to the louvered panel. The rounded corner end towards the left lower wing.

Cut a 7 mm length of 'Aviatic' rib tapes (ATTECH 001) and secure it in position at the end facing the right lower wing.



Panel line re-scribe:

At this stage there will have been filling and sanding of the model and as such, some fuselage panel lines may need to be reinstated, including any additional panel lines required.

Assembly (continued):

Remove the undercarriage parts from the sprue and remove any left over sprue gates and any seam lines.

At the top of the each of the four undercarriage struts, drill a hole of 0.5 mm diameter down into the struts.

Cut four lengths of 0.4 mm diameter rod (e.g. 'Albion Alloy's' or similar).

Secure a rod into each of the pre-drilled holes in the undercarriage struts, using CA adhesive.

Drill a hole of 0.5 mm diameter into each of the four undercarriage strut locations in the both the lower fuselage and wing.

Fit the undercarriage axle into the two under carriage struts, making sure the trailing edge fairing is facing slightly down at its trailing edge (it can be fitted so the trailing edge is pointing upwards).

Locate the rods of the undercarriage struts and axle assembly into the pre-drilled location holes.

Make sure the struts are fully located and that the axle is parallel to the lower wing (viewed from the front).

Cement **only** the axle to the undercarriage struts.

Once the adhesive has set, remove the undercarriage assembly.



NOTE: *The kit wheel retainers (2D) are intended to be glued only onto the axle ends so allowing the wheels to be able to rotate. However, I chose to permanently fix the wheel onto the axle.*

Cement the wheel retainers to the inside of the main wheels making sure its hole is aligned with the hole in the wheel.

Priming and surface check:

Once the surface is blended, mask off all open and internal areas and airbrush a white e.g. 'AK Interactive' White AK-759 or similar) over the assembled model and other model parts. This will show any seams or surface imperfections that require further attention. Rectify any areas found and re-prime until a good surface is achieved.

PART 13

CONSTRUCTION

PART 13 - CONSTRUCTION

NOTE: *In order that the underlying markings on the fuselage and rudder will show through the overpainted blue and white colours, the base coat needs to be of a contrasting colour to the decals that will be applied. Also the forward metal panels need to be prepared for paint chipping.*



Metal panels:

As a final coat, mask off where necessary, the following parts (to avoid overspray) and airbrush with 'Alclad' Duraluminium ALC-102 or similar:

Front decking panel assembly, under panel, both side access panels, underside access panel, propeller spinner, propeller back plate and the engine cowl.

Brush paint the propeller support frame in the engine cowl with 'Mr. Colour' Iron (214) or similar.

NOTE: *(refer to Part 3 of this build log). If the paint on the metal panel is to be chipped, a suitable solution needs to be applied before the paint top coat is applied.. Chipping fluids are available from various retailers but for this model I used just a cheap hairspray instead.*

Lightly airbrush a chipping fluid or lightly spray a cheap hair spray over the metal painted areas.

Remove the applied masking.



Painting:

NOTE: Refer to Part 8 (Wheels) of this build log.

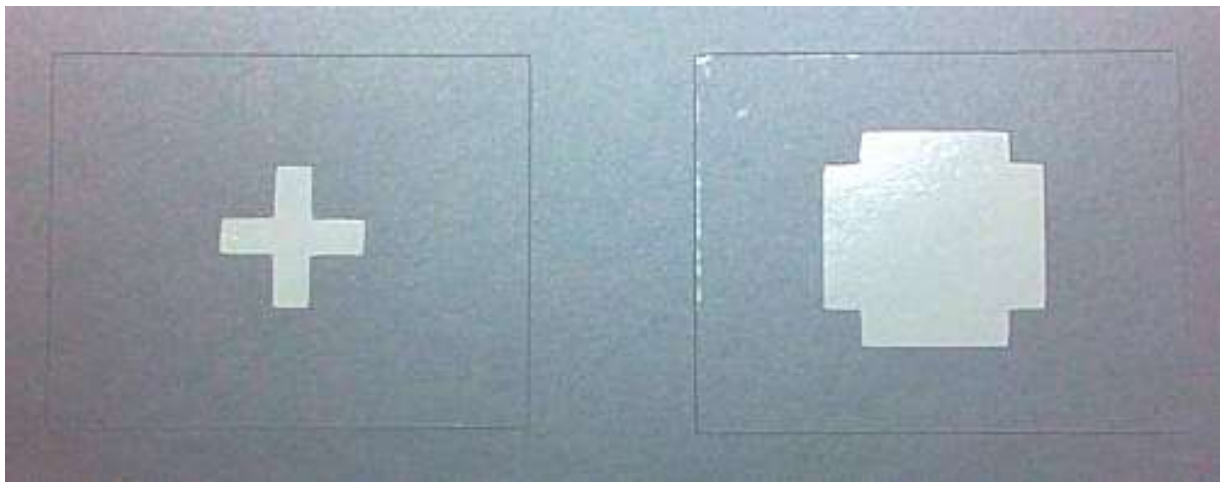
Airbrush the tyres of both wheels and the fuselage cabane 'Z' struts with Tamiya' Dark Sea Grey (XF54).

Refer to the colour profile and mask off all of the aircraft red area, wings and the cockpit.

Airbrush the aircraft unmasked area, undercarriage assembly and wheel cover (both sides) with 'Tamiya' Flat Blue (XF8) mixed with 20% of Rubber Black (XF85).

Over painted fuselage markings:

NOTE: As there is no decal to apply the over painted fuselage markings, I created masks from 'Artool' Ultra Mask sheets using a 'Cricut Air 2' cutting machine, which is able to cut images in various materials, created in 'Paint Shop Pro' software (or similar). The image is then imported into the 'Cricut' software and the image cut. If you don't have access to cutter of this type (there are others) and you don't have an appropriate decal, it would be best not to apply these markings to the model. The masks were cut for the primary white background and the superimposed black cross.



Remove the larger white background masks from its backing sheet.

Refer to the colour profile and apply the mask onto one side of the fuselage and in the correct position. Make sure the mask is fully in contact with the fuselage.

Lightly airbrush a white (e.g. 'AK Interactive' White AK-759 or similar) over the exposed area in the mask. Make sure you avoid overspray to the surrounding surfaces of the model. If in doubt, mask off the surrounding areas before applying the paint.

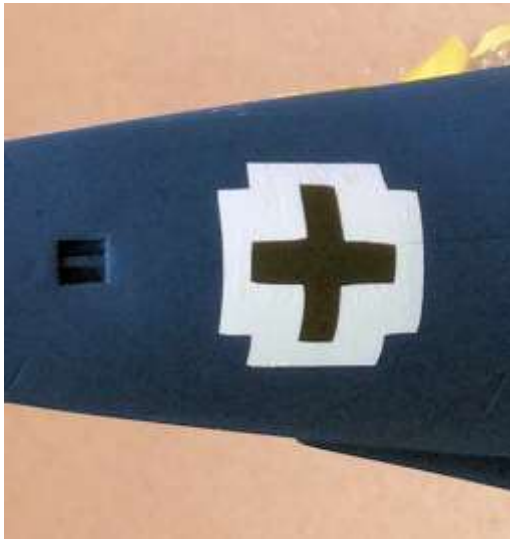
Once the paint is fully dry, apply the cross mask over the existing mask, making sure the two masks are aligned correctly.

Lightly airbrush 'Tamiya' Rubber Black (XF85) over the exposed area of the mask.

Carefully remove both masks from the fuselage.

Repeat the procedure on the other side of the fuselage, making sure the applied markings align with the previously applied markings.

Once the painted markings are fully dry, lightly airbrush over the markings with the previously used paint mix ('Tamiya' Flat Blue XF8 mixed with 20% of Rubber Black XF85). **Airbrush very lightly** as the intention is to fade the markings back into the blue of the fuselage to give the effect of them being overpainted.



Over painted rudder markings:

The masks for creating the over painted markings on the sides of the rudder were created the same way as used for creating the fuselage masks. The markings were applied using the same method and lightly airbrushed with 'Tamiya' Rubber Black (XF85) over the exposed area of the masks. The masks were then removed and the applied markings were lightly airbrushed with a white (e.g. 'AK Interactive' White AK-759 or similar) over the exposed area in the mask, making sure to avoid overspray to the surrounding surfaces of the model. If in doubt, mask off the surrounding areas before applying the paint.



Red areas:

Refer to the colour profile and mask off all of the fuselage blue areas, lower wing, cockpit area, inside the louvred under panel, inside the engine cowl and propeller spinner.

NOTE: *When airbrushing the engine cowl, protect the propeller support frame and inside by inserting a cut paper disc into the front opening of the cowl.*

Airbrush the exposed areas with 'Tamiya' Red (X7) mixed with 10% of Rubber Black (XF85).

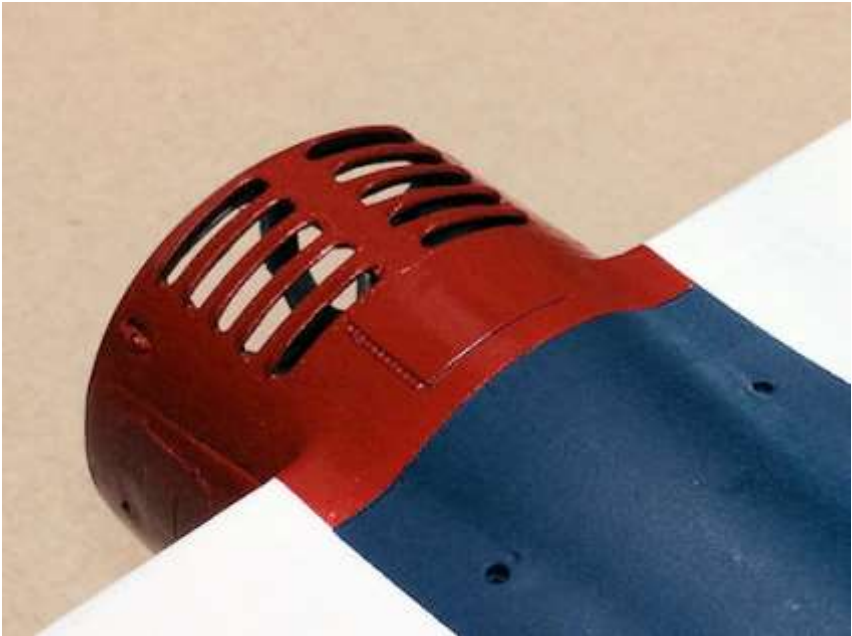
Also airbrush the outside of the engine cowl and propeller spinner.

Remove all masking.

Using the previous mixed paint, touch up any edges etc including the inner edges of the machine gun recesses and openings.

Brush paint the two filler caps with 'Mr. Colour' Stainless Steel or similar.

Where necessary, touch up the leather cockpit surround using 'Tamiya' Hull Red (XF9) with 'Humbrol' Leather (62) highlights.



Decals - general.

I have found Roden decals to be problematic in the past, due to surface damage, thickness of decal and carrier film and in some cases bad registration of colours. As such I chose to replace The kit supplied lozenge decals with the linen effect decals from 'Aviatic' and aircraft markings with those from 'Pheon' - Refer to 'The Model' part of this build log.

Wing lozenge and rib tape detail:

The wings in the kit do not have any surface detail as such, particularly lacking are the rib tapes, which would normally be moulded into the surface of the wings. However, the kit supplied decals do show some rib tapes, but as stated previously, these will not be used and instead the linen effect decals from 'Aviatic' will be used.

It should be noted that for this aircraft, the lower wing lozenge covering was from 'bolts' of linen, applied from the leading to trailing edge with rib tapes similar. However, the upper wing lozenge was applied as a stitched 'sock' of linen, applied across the wing with the joints in the linen at an angle from leading to trailing edge. Rib tapes were then applied from leading to trailing edges in the normal fashion. The underside lozenge for both wings was applied in the same manner as for the upper surfaces.

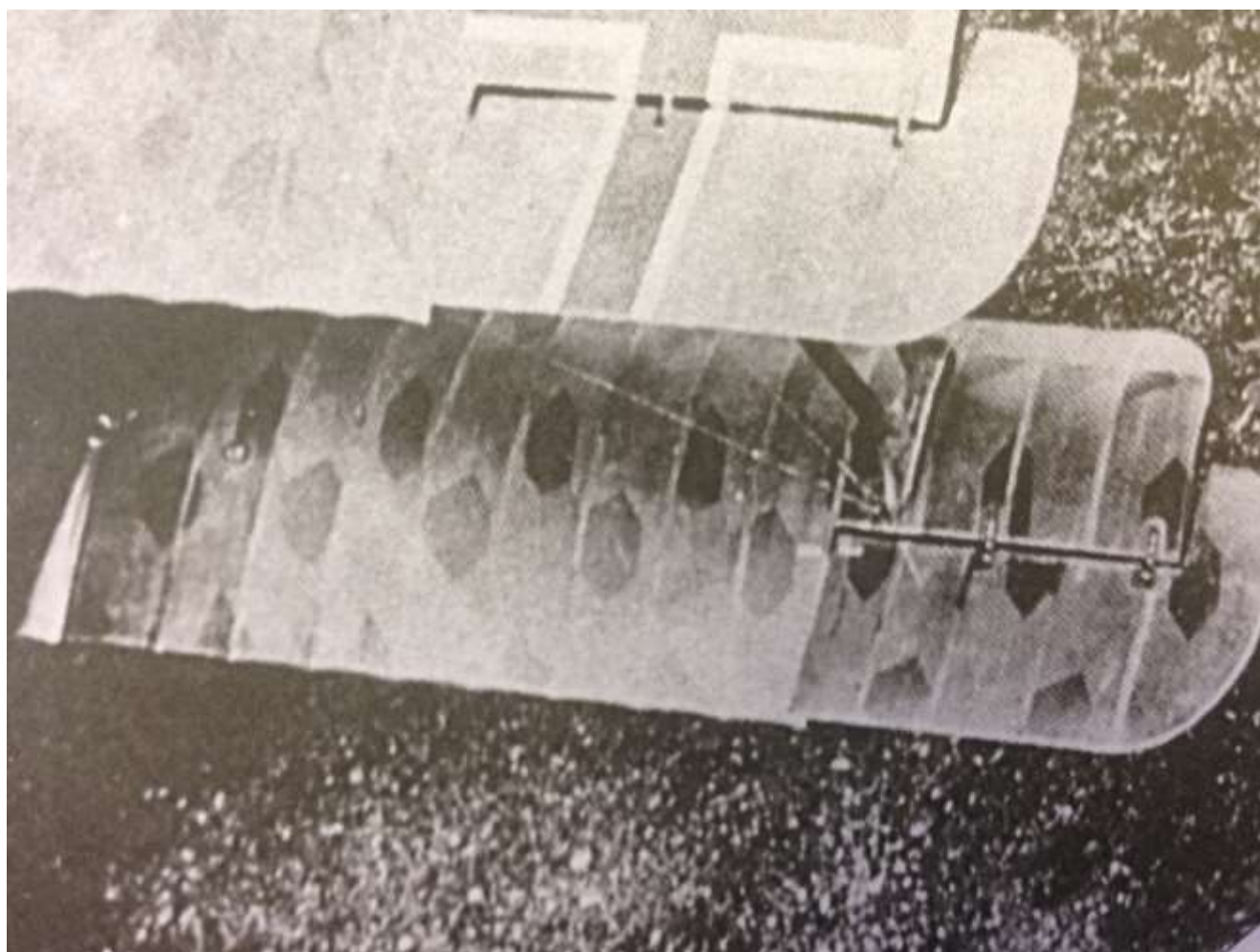
Upper wing Lozenge



Lower wing Lozenge



Below is a photograph of an aircraft that has the lozenge orientation described previously for this model. The upper wing is angled lozenge whilst the lower wing and elevator are standard 'in-line' lozenge.

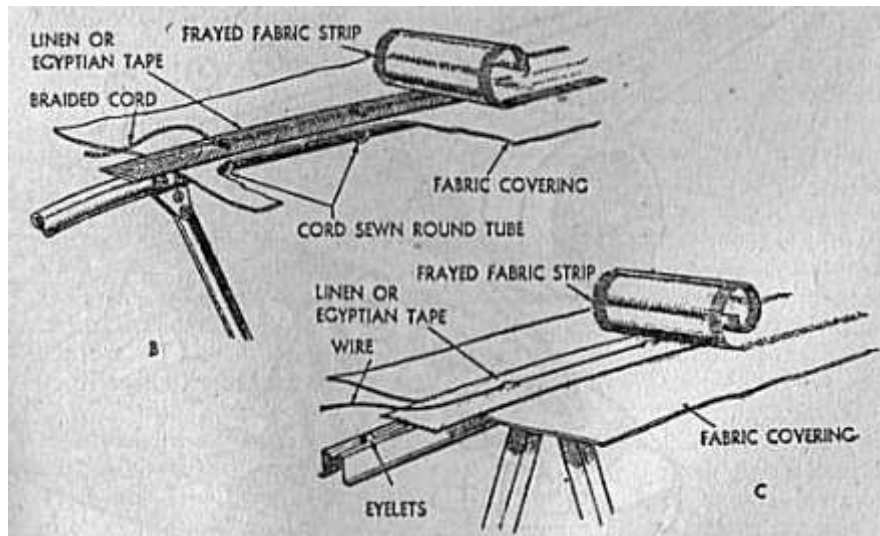


Rib tapes:

The linen coverings for flight surfaces were secured to the structural internal ribs with cord or wire. The joints were again covered with stitched linen strips, known as 'rib tapes'. The rib tapes and their raised stitching were quite noticeable on many aircraft. The relevant flight surfaces supplied with the model do not represent these rib tapes.

NOTE: *The rib tapes covering the attachment of the lozenge linen to the structural ribs of the aircraft were made of either the same or contrasting lozenge linen. Some German aircraft had rib tapes of a totally different colour, such as pink, purple or blue. It was quite common for lozenge rib tapes on both the top surface and the undersides of wings etc to be the same, despite the obvious difference in the colour schemes of the lozenge coverings. The decal sheet used for rib tapes is the 'Aviatic' lozenge sheet (ATT32073).*

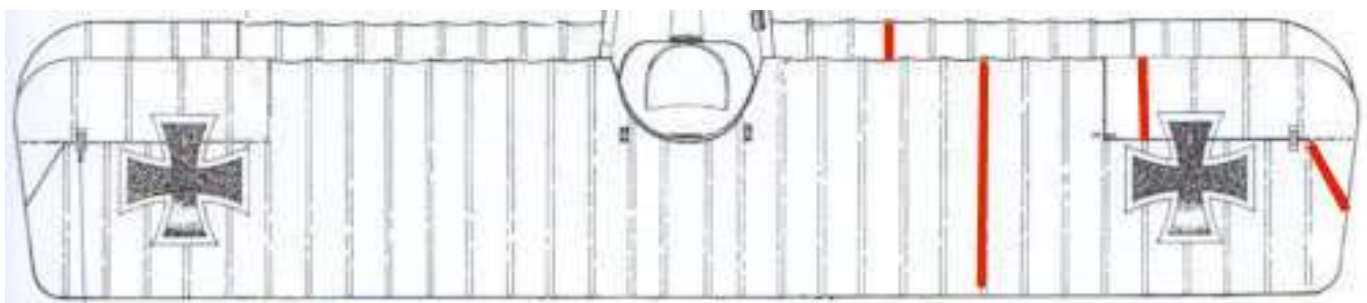
Examples of rib tape stitching



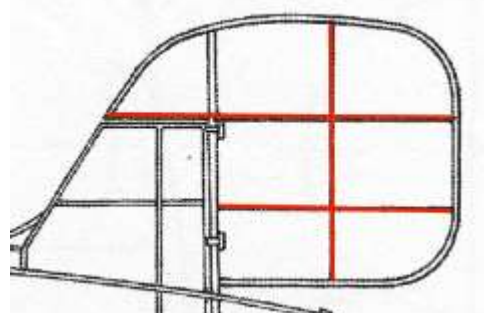
Flight surface rib tapes:

The flight control surfaces that require rib tapes to be added are:

- Upper wing - top and underside.
- Lower wings - top and underside.
- Upper and lower ailerons.



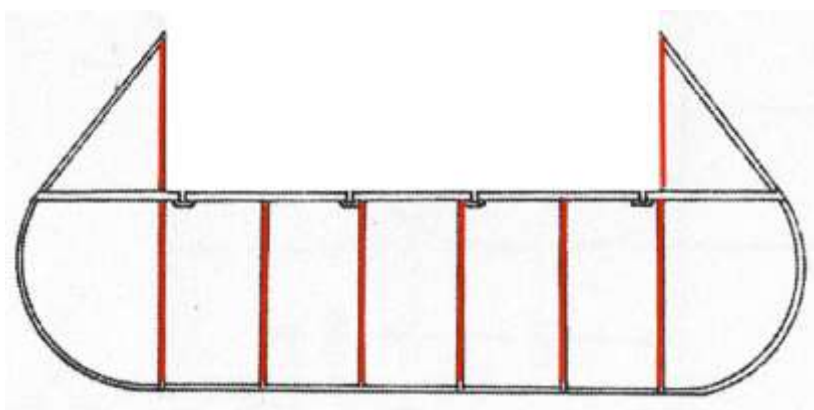
Rudder.



I could not ascertain if the tailplane was covered with plywood or linen. There is a photograph of the pre-production SSW D.III, Serial No. 7551/17, at the first fighter competition in January 1918. This aircraft can be seen to have linen covered tailplane, as the internal ribs are visible through the doped linen.



However, later photographs of the early production D.III and the later aircraft seem to show that the tail planes were then plywood covered, as there are no visible rib tapes. Therefore I chose to show rib tapes only on the elevator.



Decals - application.

Preparation for decals:

Prepare the following parts:

- Fuselage and lower wing (both sides) assembly.
- Upper wing (both sides).
- Rudder (both sides).
- Elevator (both sides).
- Ailerons (x 4) (both sides).
- Outer 'V' wing struts (x 2).

Mask off the cockpit (tape or piece of sponge in the opening).

Check the surfaces for any imperfections such as trapped dust particles etc. If necessary smooth the surface by lightly sanding.

Airbrush the following with a gloss sealing coat (e.g. 'Alclad' Aqua Gloss ALC-600 or similar).

Once dry recheck the surfaces for any imperfections such as trapped dust particles etc and if necessary smooth the surface by lightly sanding.

Re-apply the sealing coat until a smooth, gloss surface is achieved.

NOTE: *Before applying the decals to the wings, it's best to test fit the upper wing onto the struts to make sure the wing fits correctly.*

Dry fit the two 'Z' cabane struts onto the fuselage and the two outer 'V' struts onto the lower wing.

Test fit the upper wing onto the struts and make sure it locates fully onto all of the struts.

Lozenge decals:

NOTE: *The 'Aviatic' lozenge decal sheets are not 'cookie cut' to the required shapes, but are part of the overall carrier film on the sheet. Therefore you will need to carefully cut the individual decals from the sheet, using the models parts as the shape and size guides.*

Underside of upper wing and ailerons:

Lay the upper wing (top side down) onto the decal side of 'Aviatic' lozenge sheet (**ATT32019**).

Using a soft tip ink pen or similar, trace the outline of the wing onto the decal sheet.

Carefully cut out the wing decal from the sheet.

Lay the cut decal onto the underside of the upper wing and check the shape of the cut decal aligns with the wing.

NOTE: *The lozenge on the upper wing was angled across the span of the wing and the separate bolts of linen were joined diagonally from the wing leading edge to its trailing edge. These joins are printed as part of the 'Aviatic' lozenge sheet (**ATT32019**).*

For ease of application, cut the decal diagonally along the printed lozenge join lines, to create separate decals.

Refer to Part 4 (Decals) of this build log and apply the decals to the underside of the upper wing.

Use the same procedure to apply the decals to the underside of both upper wing ailerons.

To protect the already applied lozenge decals and to provide a suitable surface for applying the rib tape decals, airbrush a sealing coat of gloss (e.g., 'Alclad' Aqua Gloss ALC-600 or similar) over the applied lozenge decals.

Underside of lower wings and ailerons:

NOTE: *The lozenge on the lower wings was not angled across the span of the wing, but instead was a single bolt of linen, which spanned the entire wing and the pattern was at 90 degrees to the wing leading edge. The decal sheet used is the 'Aviatic' lozenge sheet (**ATT32075**).*

Use the same procedure to apply the decals to the underside of the lower wings and ailerons. These decals can be applied as a single decals.

Underside of elevator:

Use the same procedure to apply the same decal (**ATT32075**) to the underside of the elevator. These decals can be applied as a single decals.

Top surface of upper wing and ailerons:

NOTE: *The lozenge on the upper wing was angled across the span of the wing and the separate bolts of linen were joined diagonally from the wing leading edge to its trailing edge. These joins are printed as part of the 'Aviatic' lozenge sheet (**ATT32018**).*

Apply the decals (**ATT32018**) to the top surface of the upper wing and ailerons, using the same procedure carried out to apply the decals to the underside of the upper wing and ailerons.

Top surface of lower wings and ailerons:

NOTE: *The lozenge on the lower wings was not angled across the span of the wing, but instead was a single bolt of linen, which spanned the entire wing and the pattern was at 90 degrees to the wing leading edge. The decal sheet used is the 'Aviatic' lozenge sheet (**ATT32013**).*

Apply the decals (**ATT32013**) to the top surface of the lower wings and ailerons, following the same procedure carried out to apply the decals to the underside of the upper wing and ailerons. These decals can be applied as a single decals.

Top surface of elevator:

Use the same procedure to apply the same decal (**ATT32013**) to the top surface of the elevator. These decals can be applied as a single decals.

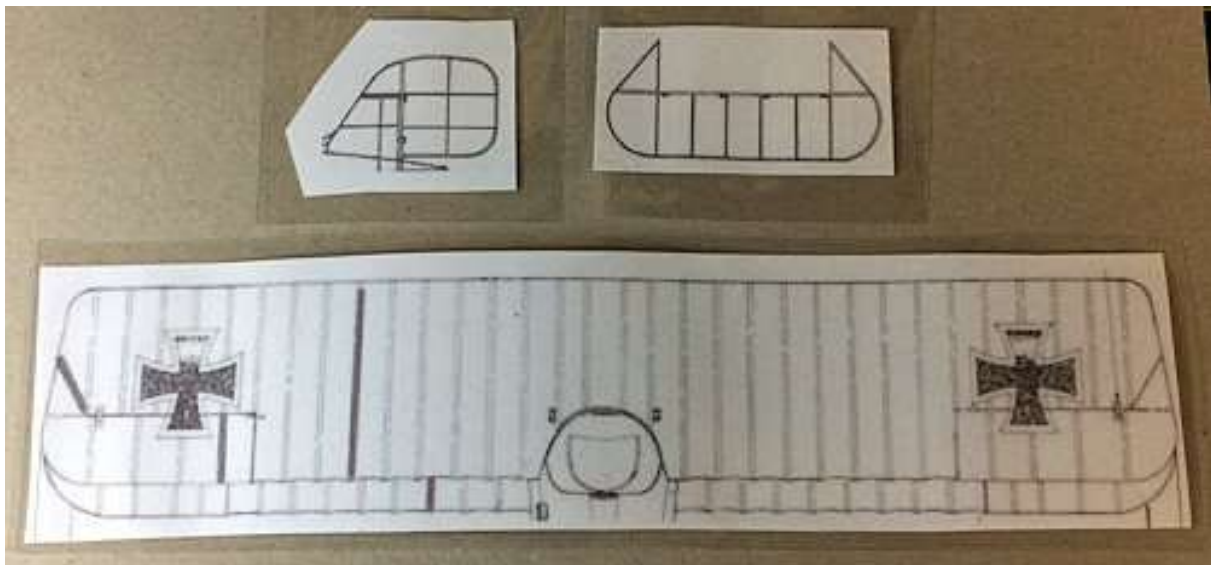
Rib tapes:

To be able to position each rib tape correctly I upscaled drawings of the wings with ailerons, the rudder and the elevator then laminated them in clear sheet. The laminates are taped down onto the work surface. This allows the wings, rudder, ailerons and elevator to be laid onto the various laminates, which are then used as a guide for positioning the rib tapes. Also the surface of the laminates stops the decal rib tapes from sticking to the dry work surface when trimming their length.

Upper wing top surface:

Tape down onto the work surface the upper wing lamination.

Position the upper wing (top surface up) onto the laminate and correctly aligned with the laminate drawing.



NOTE: *The decal sheet used for rib tapes is the 'Aviatic' lozenge sheet (**ATT32073**).*

From the decal sheet, cut strips of 1.0 mm width and 55 mm long (slightly longer than the span from the wing leading edge to its trailing edge).

Dampen the area on the lozenge decal where the rib tape is to be applied.

Soak a rib tape decal in warm water for approximately 20 seconds.

Using the laminate drawing as a guide, slide the decal from its backing sheet onto the wing and position the rib tape.

Roll out any residual water from under the decal, using a cotton bud.

If necessary, gently brush a decal solution (e.g. 'MicroSol' or similar) along the rib tape to help conform it onto the lozenge decal.

Any decal edges or ends that will not fully conform to the surface can be dampened with 'Tamiya' X20A thinners, which will soften and adhere the decal to the model.

Repeat the procedure to apply all of the rib tapes required.

Finally, add 1.0 mm wide decal strips to all of the edges of the wing.

To protect the applied rib tape decals, airbrush a sealing coat of gloss (e.g., 'Alclad' Aqua Gloss ALC-600 or similar) over the rib tape decals. This will also provide a good surface for applying the National marking (crosses) to the wings.

Remaining rib tape surfaces:

Using the relevant laminated drawings as guides, follow the above procedure to apply rib tapes to the following:

Upper wing - underside.

Lower wings - (top surfaces/undersides).

Ailerons (x4) (top surfaces/undersides).

Elevator (top surface and underside).

Painting upper wing detail.

Brush paint the leather crash padding around the centre section, using 'Humbrol' Leather (62) with 'Tamiya' Hull Red (XF9).

Brush paint the inside edges of the two cut outs for the aileron control rods, using 'DecoArt' Burnt Umber or similar.

Brush paint the two 'stacking pads' that are on the wing leading edge, using 'DecoArt' Burnt Umber or similar.

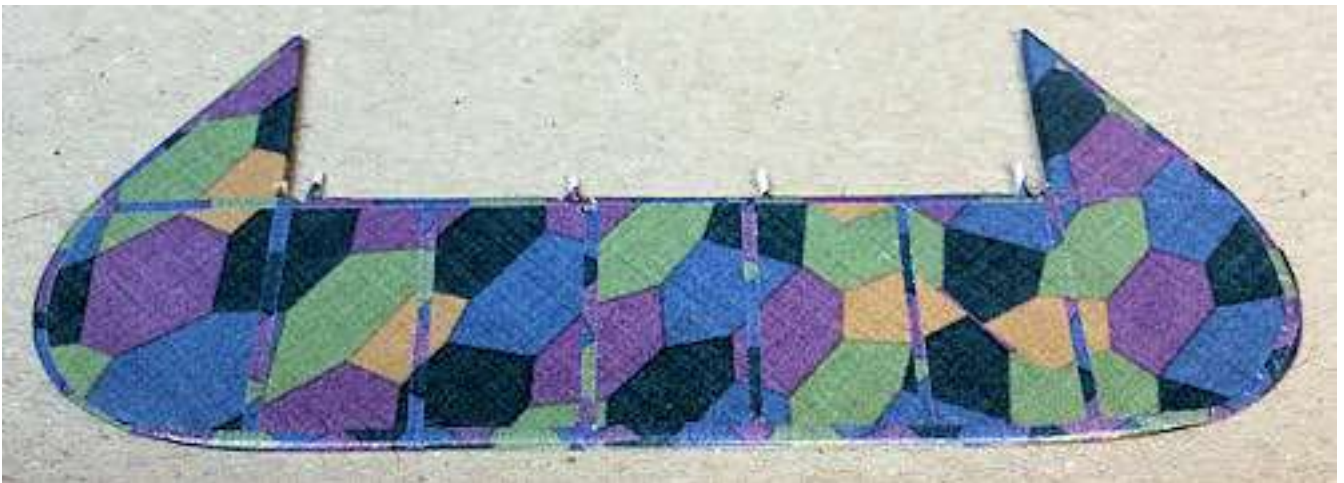
Top surface of upper wing (lower wings similar).



Underside of upper wing (lower wings similar).



Top surface of elevator.



Underside of elevator.



Top surface of an aileron
(all four ailerons similar).



Underside of an aileron (all
four ailerons similar).



Wing outer 'V' struts:

NOTE: *The outer wing support 'V' struts were constructed from tubular steel, which was covered with Spruce wood fairings. The wood fairings were then covered with either lozenge fabric or were brush painted with the lozenge colour scheme. I chose to use the 'Aviatic' lozenge decal sheet (ATT32073), which was used for applying the various rib tapes.*

From the decal sheet, cut a strip of 6.0 mm width and slightly longer than the length between the top of the chosen 'V' strut and where the strut merges with the bottom fairing.

Dampen the area on the strut where the decal is to be applied. Using 'Microscale' MicroSet will help in holding the decal in position whilst you align it to the strut.

Soak decal in warm water for approximately 20 seconds.

Slide the decal from its backing sheet onto the strut and position the decal edge along either the centre line of the leading edge of the strut or its trailing edge.

Roll out any residual water from under the decal, using a cotton bud, gradually rolling the decal around the strut so the two edges of the decal meet.

If necessary, gently brush a decal solution (e.g. 'MicroScale' MicroSol or similar) along the decal to help conform it onto the strut.

Any decal edges or ends that will not fully conform to the surface can be dampened with 'Tamiya' X20A thinners, which will soften and adhere the decal to the model.



Repeat the procedure to apply decals to the remaining strut and the two struts on the other 'V' strut.

Lay the bottom of a strut onto the decal sheet and align it, as far as possible, to the applied lozenge pattern on the struts.

Mark the outline of the bottom fairing onto the decal sheet, making sure to leave an overlap to wrap the decal around the struts.

Using the mark as a guide, carefully cut out the fairing shape from the decal sheet.

Apply the decal to the strut fairing using the same technique as carried out to apply the strut decals.

Where the decal can't wrap around curves to conform to the fairing, carefully slice the decal with a shielded razor blade, then apply 'Tamiya' X20A thinners to the sliced areas. This will soften and conform the decal to the model.

Repeat the procedure to apply a cut decal to the other side of the fairing and to the both sides of the other 'V' strut fairing.

To protect the applied decals, airbrush a sealing coat of gloss (e.g., 'Alclad' Aqua Gloss ALC-600 or similar) over both of the 'V' struts.



Other decals:

The remaining decals to be applied are the crosses on the top surface of the upper wing, the underside of the lower wings, the rudder and the personal marking on the sides of the fuselage. The decals used were from the 'Pheon' 32023 - Siemens Schuckert D.III decal sheet.

NOTE: Refer to Part 4 (Decals) of this build log for information on applying this type of decal. Refer to the following photographs for positioning the decals.





Assembly (continued):

Carefully scrape away any primer and paint from the mating surfaces of the engine cowl and the locating rim on the front of the fuselage.

Insert the support shaft of the assembled engine into the locating hole in the fuselage bulkhead.

Test locate the engine cowl over the engine and onto the fuselage. Make sure the cowl locates fully onto the fuselage.

Remove the cowl and engine from the fuselage.

Apply cement into the engine shaft locating hole in the fuselage bulkhead.

Locate the engine fully into the fuselage.

Apply thin CA adhesive at points around the locating rim of the engine cowl.

Carefully locate the engine cowl over the engine and onto the fuselage. Make sure the cowl is fully located on the fuselage with the ventilation openings and louvres positioned centrally at the underside of the fuselage.

NOTE: If *chipping* is to be applied, three methods can be employed -*hairspray/chipping fluid, sponging or pencil.*

Hairspray/chipping fluid:

If hairspray or chipping fluid was applied under the red painted areas and panels to allow chipping, wet the area with water, then using a short, stiff brush and/or wood tooth pick, gently soften and lift away flakes of red paint to create scratches and chips.

Sponging:

Dab a piece of sponge into a metal coloured paint, such as steel or aluminium and dab off most of the paint onto a tissue.

Gently dab the sponge onto the red areas and panels to create chips.

Pencil:

Using a 'Prismacolor' Verithin Argent Metallique 753 pencil, add scratches and chips over the red painted areas and panels.

Cut a length of 'RB Productions' 9/32nd BSF photo-etch wire (this is to represent the engine cowl retaining strap).

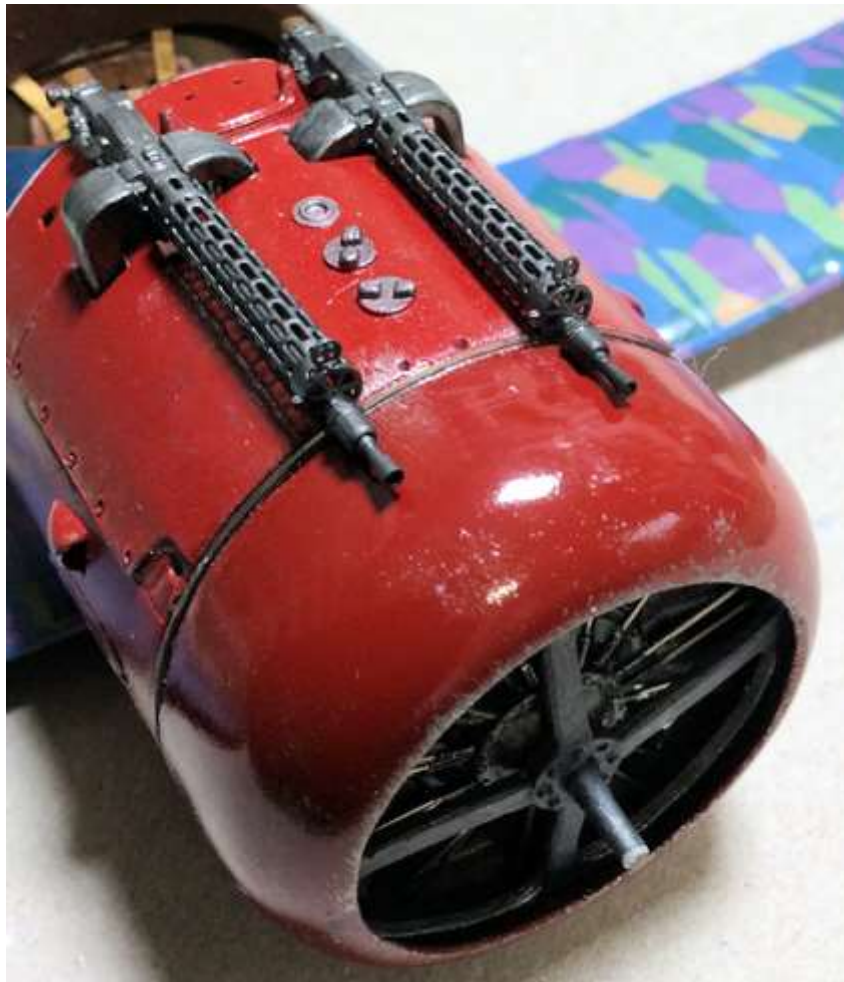
Anneal the wire with heat from, example, a cigarette lighter or candle.

Using CA adhesive, attach one end of the wire to the bottom of the gap between the rear edge of the engine cowl and the fuselage front.

Apply CA adhesive gradually on the mating side of the wire to secure the wire around the engine cowl/fuselage, leaving an overlap at the end.

Apply CA adhesive to the free end of the wire and overlap that end to secure it onto existing wire.

Locate each of the machine gun assemblies into their fuselage locations and secure in position using either cement or thin CA adhesive.

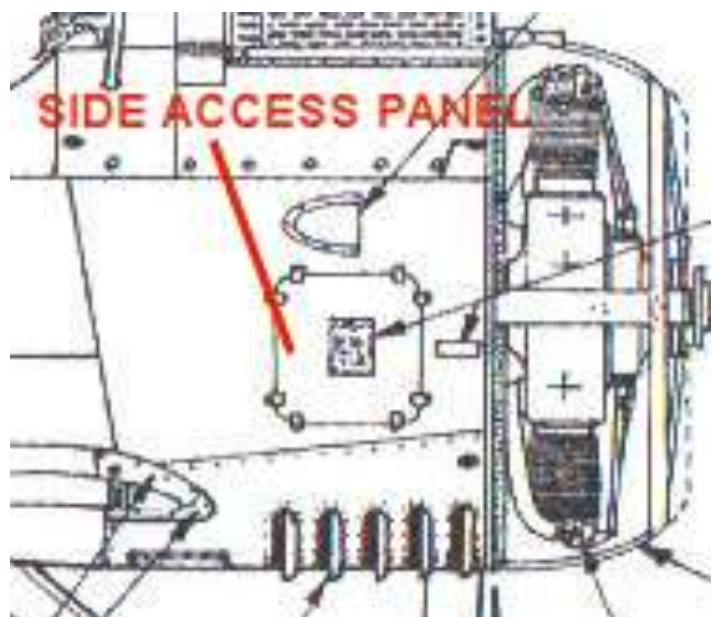
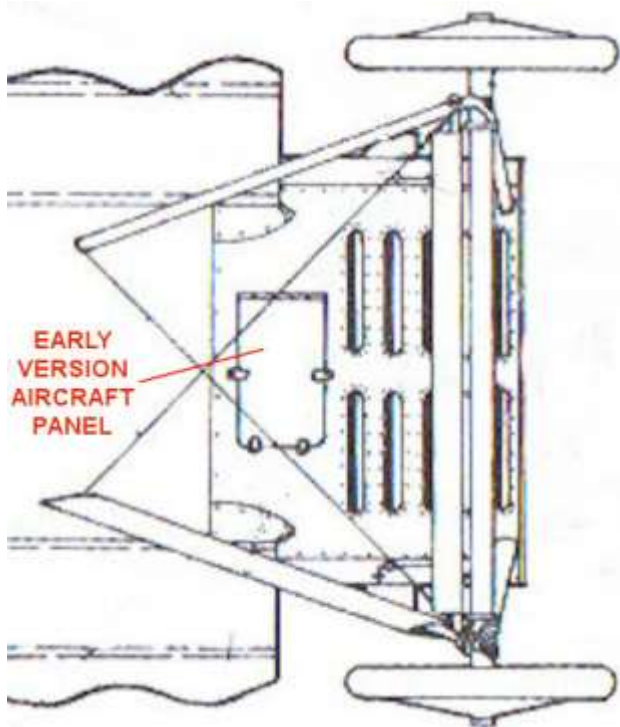
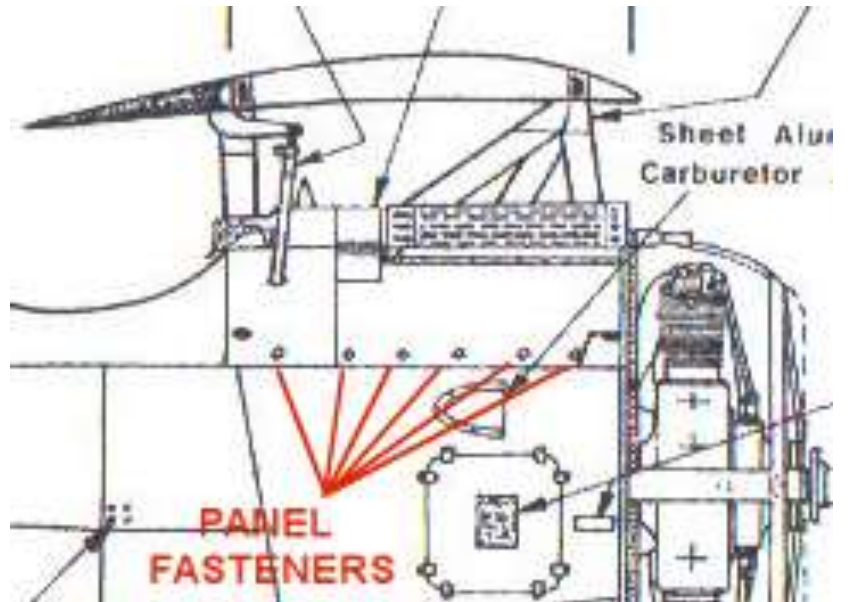


NOTE: The panel fasteners used are the photo-etch parts 9, 9a and 20 from the 'Bren gun' Siemens Schuckert D.III (BRL32014) set.

Ten of the quarter turn fasteners (PE parts 2) are for the bottom edge of the two fuselage panels below the machine guns.

Two of the quarter turn fasteners (PE parts 9) are for the bottom edge of the fuselage panel to the rear of the above panels.

Six of the wingnut panel fasteners (PE parts 20) are for the bottom edge of the two fuselage side access panels and the access panel on the underside of the fuselage.



Cut around the PE parts 2, 9 and 20 to separate them (still attached) from the PE sheet.

Clear the pre-drilled fastener holes by using a 0.4 mm diameter drill.

Carefully separate each part from the PE backing sheet.

Locate a quarter turn fastener (PE 2) into each of the ten location holes at the bottom edge of the two fuselage panels below the machine guns. Align the fastener horizontally along the panel and secure in position using thin CA adhesive.

Locate a quarter turn fastener (PE 9) into each of two location holes at the bottom edge of the fuselage panel to the rear of the above panels. Align the fastener horizontally along the panel and secure in position using thin CA adhesive.

Locate a wingnut fastener (PE 20) into each of two corner location holes at the bottom edge of the two fuselage side access panels. Align the fastener horizontally along the panel and secure in position using thin CA adhesive.

NOTE: *After adding the fasteners to the underside access panel, make sure the model is not rested on the bottom of the fuselage until the undercarriage is fitted. Otherwise the two fasteners will be flattened.*

Locate a wingnut fastener (PE 20) into each of two corner location holes at the bottom edge of the underside access panel (edge facing the left lower wing). Align the fastener to the fuselage and secure in position using thin CA adhesive.

Cement the fuel gauge (kit part 3) onto its location to the rear of the two filler caps at the centre, top of the front decking panel.

Brush paint the fasteners and the fuel gauge with 'Tamiya' Red (X7) mixed with 10% of Rubber Black (XF85).

Select a suitable fuel gauge decal from the 'Airscale' Dial Decals (Generic World War 1) (AS32 WW1) decal sheet and apply it to the rear face of the fuel gauge.

Brush paint the inside of the three hand grab openings with 'Tamiya' Rubber Black (XF85).

Brush paint the three grab handles with 'Tamiya' White (XF2).

Brush paint the steel support bracket on the tail skid with 'Mr. Colour' Stainless Steel (213).

Brush paint the tail skid with 'Tamiya' Flat Brown (XF10).

Brush paint the bungee suspension on the tail skid with 'Tamiya' Buff (XF57).

Brush paint the metal fairings at the lower wing root, leading edges with 'Mr. Colour' Stainless Steel (213).



Secure the lines in the tube by applying thin CA adhesive.

Trim away the protruding excess line.

Pass the other one end of the line through a cut tube then through the 'eye' of the diagonally opposite anchor in the axle.

Loop the line back through the cut tube then slide the tube up to, but not touching, the anchor.

Secure the lines in the tube by applying thin CA adhesive.

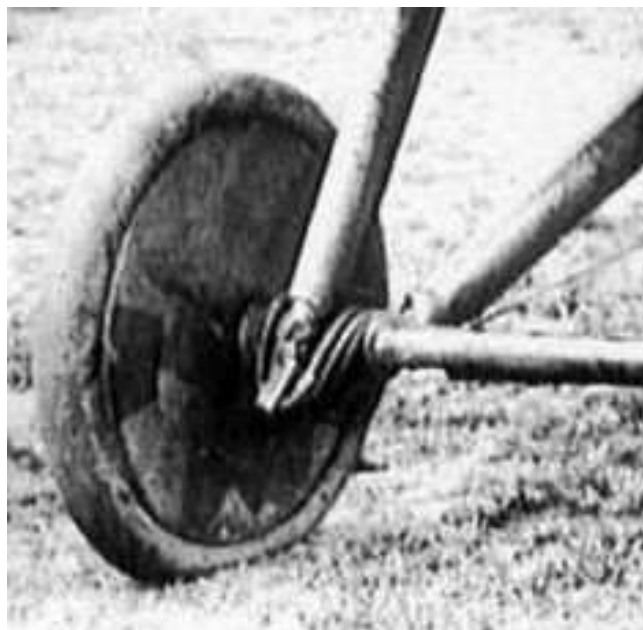
Trim away the protruding excess line.

Repeat the procedure to fit the other bracing wire to the undercarriage assembly.

Brush paint the centre section of the two turnbuckles with 'Tamiya' Hull Red (XF9).

NOTE: *During the next step, make sure the heat source is kept moving along the line and that it does not make contact with any part of the model. If the heat source is kept at one spot along the line, the heat will melt and snap the line. If the heat source touches any part of the model it will melt the model and cause damage.*

Check the two wires for tension. If there is too much slackness, carefully apply heat along the length of the line from, for example, a small electricians soldering iron or other heat source. The heat will cause the line to shrink and therefore tighten.



NOTE: *At this stage of the build I noticed that the axle was rectangular in shape rather than round.*

Use a scraper to round of the axle shape. This will remove the four pre-moulded axle retaining straps.

Cut four lengths of 'PlusModel' lead wire (0.4 mm diameter).

Wrap each wire around the axle to reinstate the four retaining straps and secure them in position with CA adhesive.

Brush paint the undercarriage axle with 'Mr. Colour' Stainless Steel (213).

Sponge the axle with 'Tamiya' Weathering Master Set B (Soot).

To represent the steel bungee suspension cords, cut two long lengths of 'EZ' heavy line (White).



Undercarriage.

NOTE: *In order to avoid damaging the fasteners on the underside of the fuselage, it's best at this stage of the build to fit the undercarriage assembly, including its cross brace rigging. The assembly should already have been airbrushed with 'Tamiya' Flat Blue (XF8) mixed with 20% of Rubber Black (XF85).*

Brush paint the 'bungee' suspension supports with 'Mr. Colour' Iron (212).

NOTE: *For this model I used the sintered metal turnbuckles from 'Gaspach'. Resin turnbuckles are available and are cast better than their metal types. However, I use mono-filament for the rigging lines, as it gives the model rigidity, which stretch lines such as EZ or Prym would not. If the resin turnbuckles are used and not correctly aligned to the rigging line, they could be stressed and therefore break. Whereas the metal turnbuckles are stronger and less likely to break under tension.*

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

Drill a hole of 0.4 mm diameter into the top of the bungee suspension supports at each end of the axle.

Drill a hole of 0.4 mm diameter into the underside of the fuselage at the dimples inboard from the top of the rear undercarriage struts.

Using CA adhesive, secure a 'Gaspach' 1/48th scale anchor into each of the pre-drilled holes in the bungee suspension supports.

Using CA adhesive, secure a 'Gaspach' 1/48th scale type A turnbuckle into each of the pre-drilled holes in underside of the fuselage.

Using CA adhesive, secure the undercarriage assembly into the pre-drilled holes in the fuselage.

If necessary, reinforce the joints by applying cement around the strut to fuselage joints.

Cut four short lengths of 0.5 mm diameter tube (e.g. 'Albion Alloy's' MBT05 or similar).

Cut two long lengths of 'Stroff' 0.12 mm diameter mono-filament or similar.

Pass one end of a line through a cut tube then through the 'eye' of a fuselage turnbuckle.

Loop the line back through the cut tube then slide the tube up to, but not touching, the turnbuckle.

Secure the line in the tube using CA adhesive.

Cut away the excess line tag.

Repeat the procedure at the diagonally opposite end of the line to secure the line to its anchor. Make sure the line is pulled taut before applying the CA adhesive.

Repeat the procedure for the opposite bracing line.

Bungee suspension.

Wrap the EZ lines around and over the axle at the bottom of the struts. Secure in position with CA adhesive.

Brush paint the 'bungee' cords with thinned 'Tamiya' Buff (XF57).

Cement the two wheels onto the ends of the axle.



Assembly (continued):

Locate the locating rods of the two upper wing ailerons partly into their pre-drilled location holes in the upper wing.

Apply CA adhesive to the exposed rods then fully locate the ailerons into the upper wing.

Repeat this procedure to fit the two ailerons into the lower wings.

Weathering.

Airbrush the following parts with 'Alclad' Light Sheen (ALC-311) lacquer, 'Tamiya' Semi Gloss (X35) or similar.

Fuselage/lower wing/ailerons assembly.

Upper wing/ailerons.

Elevator.

Rudder.

Both cabane 'Z' struts.

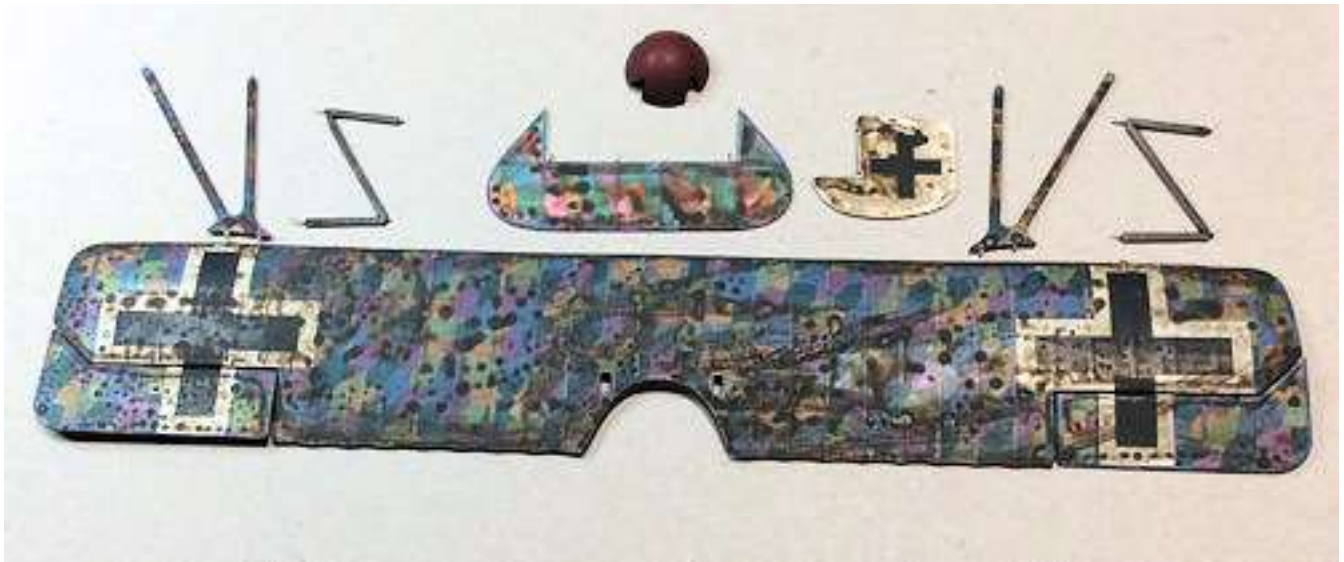
Both wing outer 'V' struts.

Propeller spinner.

Undercarriage assembly (including both wheels).

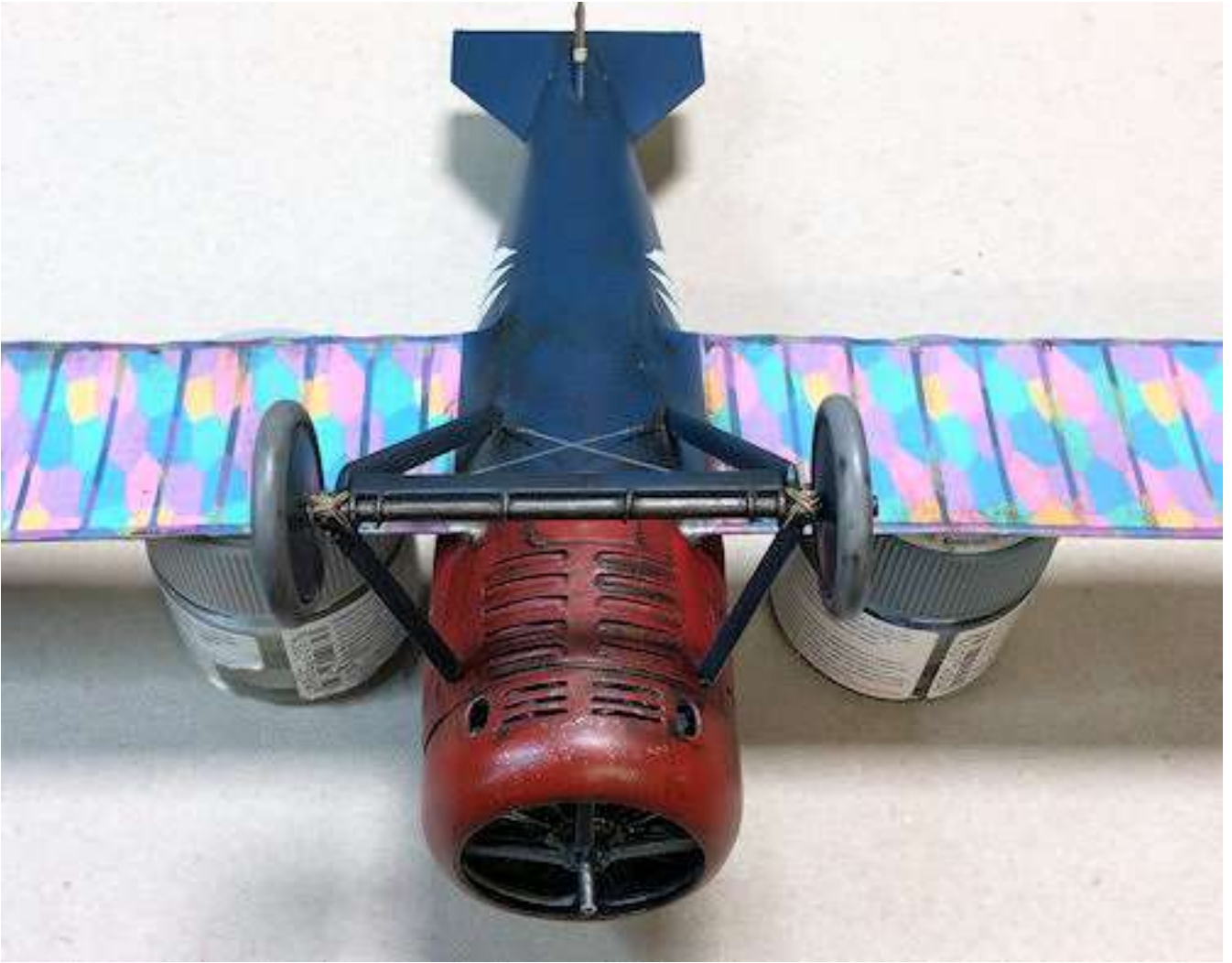
Refer to Part 3 (Weathering) of this build log and apply the desired weathering. For this model I used the 'Flory Models' Dark Dirt fine clay wash.





Once the desired weathering effect has been achieved, seal the weather by airbrushing the weathered parts of the model with 'Alclad' Light Sheen (ALC-311) lacquer, 'Tamiya' Semi Gloss (X35) or similar.







If desired, lightly sponge 'Tamiya' Weathering Master Set C (Silver) over the nose of the propeller spinner.

If desired, lightly sponge 'Tamiya' Weathering Master Set A (Mud) around the rims of the wheel covers, the tyres, the pilots foot step, tail skid and along the bottom edges of the fuselage.

Elevator controls.

Drill a hole of 0.3 mm diameter into the each end of the two elevator control horns (kit parts 13D).

Remove the two elevator control horns from the kit sprue.

Cut four short lengths of 0.5 mm diameter tube (e.g. 'Albion Alloy's' MBT05 or similar).

Cut four long lengths of 'Stroft' 0.12 mm diameter mono-filament or similar.

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

Loop the line back through the cut tube then slide the tube up to, but not touching, the control horn.

Secure the lines in the tube by applying thin CA adhesive.

Trim away the protruding tag of excess line.

Repeat this procedure at the opposite end of the control horn.

Repeat this procedure at both ends of the other control horn.

Carefully open up the two slots in the elevator leading edge where the two control horns fit. Make sure the control horns are far enough into the slots to clear the leading edge of the elevator.

Secure the two control horns into their slots in the elevator, using CA adhesive. The control horns should be vertical to the elevator leading edge.

Brush paint the two control horns with 'Tamiya' Rubber Black (XF85).



Drill a hole of 0.3 mm diameter forwards into each of the four control cable fairings at the rear of the fuselage (two on top, two underneath).



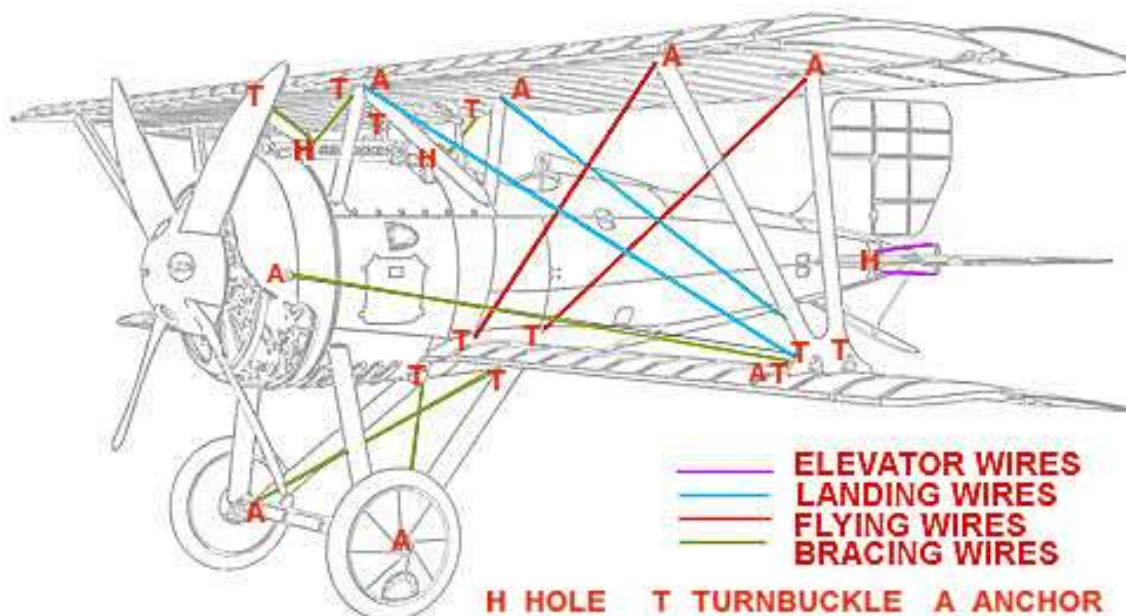
Rigging:

Rigging points.

Before rigging is carried out, the various rigging points need to be drilled into the model for the rigging turnbuckles and anchor points.

NOTE: *It is important to drill the holes for the turnbuckles at the correct angles so that when the rigging lines are installed they align correctly with the turnbuckles.*

Refer to the following illustration and Part 6 (rigging) for more information.



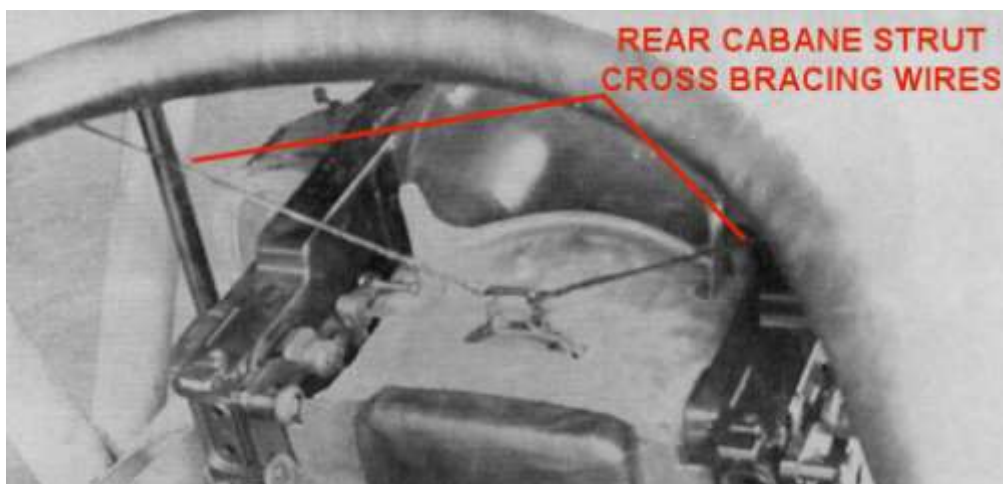
NOTE: *The following step will help get the correct alignment of the landing wires between the base of the wing outer 'V' struts and the top of the fuselage cabane 'Z' struts and the flying wires between the wing root and top of the 'V' struts.*

Temporarily locate the wing outer 'V' struts and the fuselage cabane 'Z' struts into their locations.

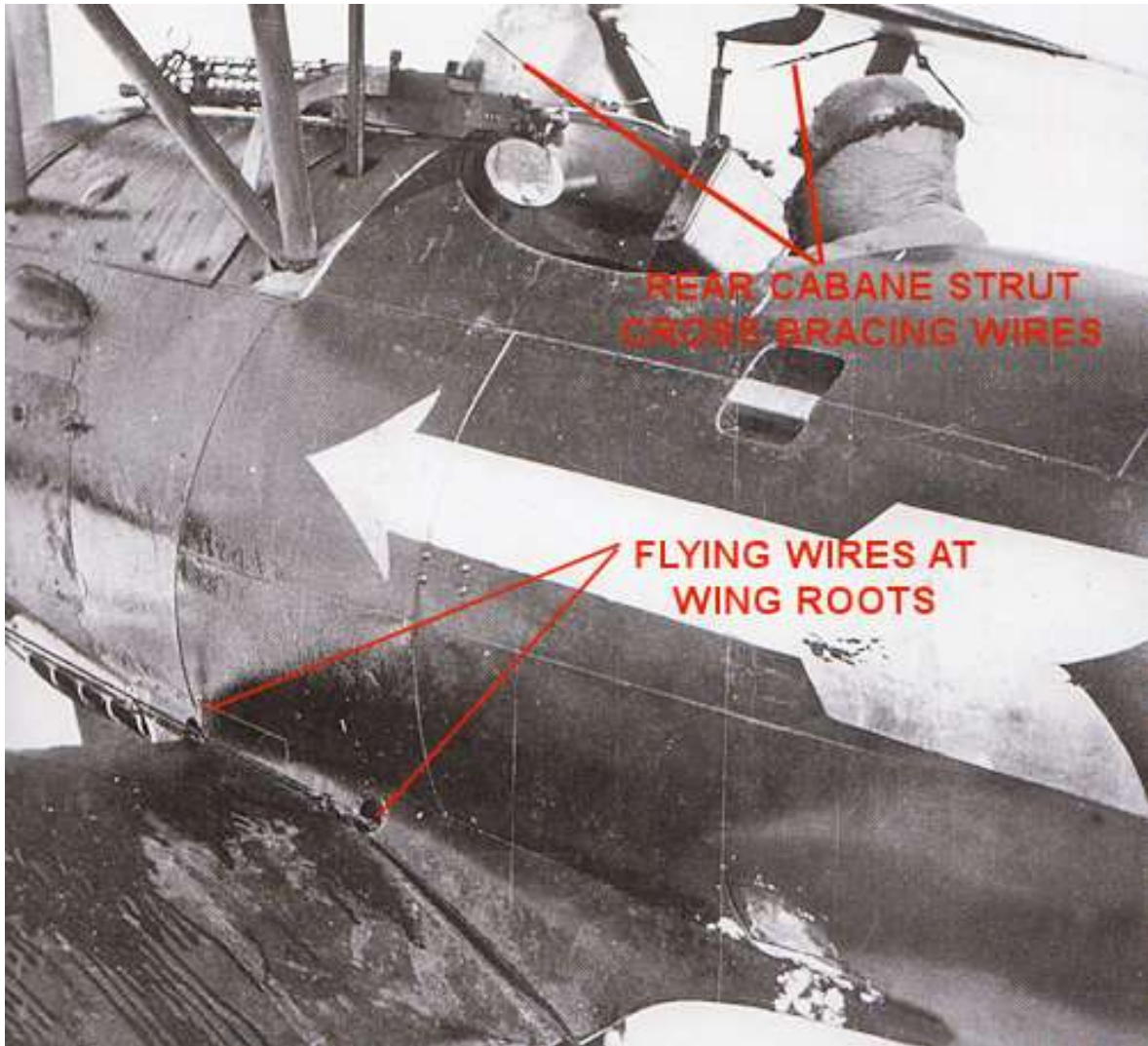
NOTE: *Due to the shallow angle of the bracing wires between the engine cowl and lower wings, the hole drilled into the lower wing must be vertical so that an anchor can be used to attach the turnbuckles.*

Using a 0.3 mm diameter drill, carefully drill location holes into the model at the various locations shown in the above illustration.

Refer to the following photographs for the location of the rear cabane struts location holes in the underside of the upper wing and the location holes in the wing roots for the flying wires.



After drilling the flying wire location holes into the wing roots, open them up using a 0.8 mm diameter drill but only to a depth of 0.5 mm.



Prepare 12 'Gaspatch' 1:48th scale turnbuckles (Type A), two turnbuckles (Type C) and 10 Anchors.

NOTE: On the illustration, the letter 'H' denotes that the rigging will be inserted directly into the pre-drilled hole without an anchor or turnbuckle.

Using CA adhesive, secure the anchors and turnbuckles as follows:

Anchors:

Sides of the engine cowl (x2)

Outboard from the top of the cabane struts (underside of upper wing) (x4).

Inboard from the top of the 'V' struts (underside of upper wing) (x4).

Inboard from the bottom of the 'V' struts (top of lower wings) (for the engine cowl bracing wire) (x2).

Turnbuckles:

Wing root lower wing (x4).

Bottom of the 'V' struts (lower wings) (x4).

Inboard of the forward cabane struts (underside of upper wing) (x2).

Inboard of the rear cabane struts (underside of upper wing) (x2)

Check that all anchors and turnbuckles are secure in their location holes.

Temporarily locate the wing outer 'V' struts and the fuselage cabane 'Z' struts into their locations.

Temporarily locate the wing outer 'V' struts and the fuselage cabane 'Z' struts into their locations.

Check the alignment of the turnbuckles to their respective anchors. If necessary carefully bend the turnbuckles to align.

Brush paint the centre section of each turnbuckle with 'Tamiya' Hull Red (XF9).

Pre-rigging:

NOTE: *Pre-rigging the upper wing will make it easier to fully rig the model, once the upper wing has been fitted. The pre-rigging is carried out at the anchor points.*

Cut fourteen short lengths of 0.5 mm diameter tube (e.g. 'Albion Alloy's' MBT05 or similar).

Cut fourteen long lengths of 'Stroff' 0.12 mm diameter mono-filament or similar.

Pass one end of a line through a cut tube then through the 'eye' of an anchor point or turnbuckle.

Loop the line back through the cut tube then slide the tube up to, but not touching, the anchor or turnbuckle.

Secure the line in the tube using CA adhesive.

Cut away the excess line tag.

Repeat the procedure for the remaining anchor points or turnbuckles.







Insert the two tubes of the prepared wire support for the rear cabane struts into the pre-drilled holes in the front decking panel.

Make sure the photo-etch support is aligned correctly and secure the tubes in position using CA adhesive.



Cowl bracing turnbuckle.

NOTE: *The turnbuckle for tensioning the bracing wire between the sides of the engine cowl and top surface of the lower wing is located between the two landing wire turnbuckles.*

Tie each of the two turnbuckles (Type C) to their anchors, using 'Stroff' Mono-filament 0.08 mm diameter, by passing the line through the eye of the anchor and the eye at one end of the turnbuckle.

Secure the knot with thin CA adhesive, making sure the turnbuckle is aligned with its anchor on the side of the engine cowl.

Cut away the excess line tag.

Brush paint the centre section of the turnbuckle with 'Tamiya' Hull Red (XF9).



Assembly (continued):

Make sure all primer, paint, sealer and decal is cleared from the wing struts, 'Z' cabane struts and their location holes in the lower wings and underside of the upper wing.

Test fit the upper wing and check that the struts fully locate into their location holes and that the wing outer 'V' struts fully locate onto the lower wings.

Remove the upper wing.

Partly locate the two 'Z' cabane struts into their fuselage location holes.

Apply thin CA adhesive to the exposed location rods in the 'Z' cabane struts.

Fully locate the 'Z' cabane struts into the fuselage.

Apply CA adhesive into the four wing outer 'V' strut location holes in the lower wings.

Locate the two wing outer 'V' struts fully into their location holes on the lower wings.

Apply CA adhesive into the eight strut location holes in the underside of the upper wing.

Relocate the upper wing onto the four sets of struts, making sure the wing fully locates onto the struts.

Once the CA adhesive has set and if necessary, apply liquid cement around the joints of the struts at the lower and upper wings.



Final Rigging.

NOTE: *To avoid damage, the elevator and rudder will be fitted after the wings have been finally rigged.*

Flying, Landing and cowl bracing:

Cut ten short lengths of 0.5 mm diameter tube (e.g. 'Albion Alloy's' MBT05 or similar).

Pass one end of a line through a cut tube then through the 'eye' of a turnbuckle.

Loop the line back through the cut tube then keeping the line taut, slide the tube up to, but not touching, the turnbuckle.

Secure the line in the tube using CA adhesive.

Cut away the excess line tag.

Repeat the procedure for the remaining turnbuckles.



Cabane rear strut cross bracing:

NOTE: Due to possible interference between installed cross bracing wires and aileron control rods, you may want to fit these bracing wires AFTER you have fitted the two aileron control rods (page 171).

Cut two short lengths of 0.5 mm diameter tube (e.g. 'Albion Alloy's' MBT05 or similar).

Pass one end of a line from the upper wing through a cut tube then around that top corner of the tension frame and back through the tube.

Slide the tube up to, but not touching, the corner of the tension frame.

Secure the line in the tube using CA adhesive.

Cut away the excess line tag.



Cabane forward strut cross bracing:

Pass the two lines from the turnbuckles down and into their pre-drilled holes between the two machine guns.

Keeping the lines taut, secure them in position using CA adhesive.



Elevator control wires:

Locate the elevator location rods partly into their pre-drilled holes in the trailing edge of the tail plane.

Apply thin CA adhesive to the rods then fully locate the elevator into the tail plane.

Cut the four control lines long enough that they can be inserted fully into the pre-drilled holes in the rear of the fuselage.

Insert the four lines into their pre-drilled holes and secure in position using thin CA adhesive.



Rigging completion.

Brush paint all of the installed tubes with 'AK Interactive' Kerosene wash (AK 2039).

NOTE: *During the next step, make sure the heat source is kept moving along the line and that it does not make contact with any part of the model. If the heat source is kept at one spot along the line, the heat will melt and snap the line. If the heat source touches any part of the model it will melt the model and cause damage.*

Check all rigging wires for tension. If there is too much slackness, carefully apply heat along the length of the line from, for example, a small electrician's soldering iron or other heat source. The heat will cause the line to shrink and therefore tighten.

Assembly (continued):

Rudder:

Locate the rudder onto its location lugs (rudder hinges) on the fin and secure in position using CA adhesive.



Aileron control rods:

Test fit the bell cranks of the aileron control rods into the pre-cut openings in the upper wing. If necessary sand the ends of the inserted tubes in the bell cranks to obtain a easy fit in the openings.

Prime the two control rod assemblies with grey (e.g. 'AK Interactive Grey (AK758 or similar).

Airbrush the two control rod assemblies with 'Tamiya' Rubber Black (XF85).

Insert a control rod into its opening in the upper wing, making sure the vertical control rod is facing forwards.

Cement the end of the vertical control rod into its location hole in the top of the forward decking panel with the bell crank positioned centrally in its wing opening.

Secure the bell crank into its wing opening using thin CA adhesive.

Repeat the procedure to fit the other aileron control rod assembly into its wing opening.

Windscreen fit:

NOTE: *The windscreen supplied in the kit is just a thin outline on acetate sheet, which is not very convincing. Therefore I decided to modify a 'spare' windscreen from my spares box.*

I sanded the replacement windscreen to reduce its width and profile. I also sanded the bottom mating edge so as to lean the windscreen slightly rearwards.

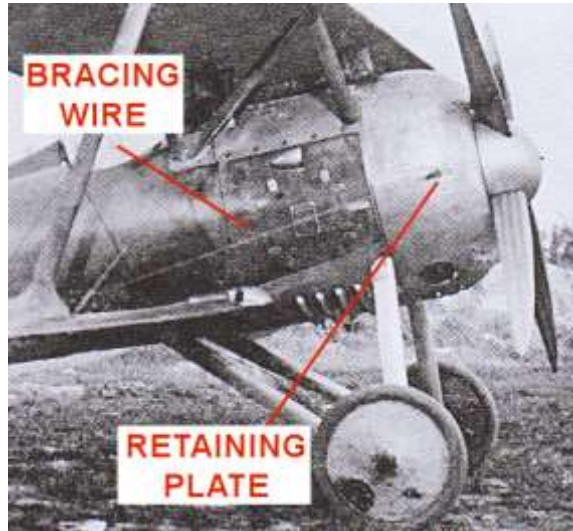
I brush painted the edge 'frame' of the windscreen with 'Mr. Colour' Stainless Steel (212).

The windscreen was secured in position on the top decking panel, using 'Microscale' Micro Crystal Clear.



Cowl retaining plates:

NOTE: *Bracing plates were fitted to the bracing wires attached to the sides of the engine cowl.*



To represent the wire retainers on the engine cowl, I used harness clips from the photo-etch sheet in a spare 'HGW Models' seat belt set.

The tip of each clip was bent to 45 degrees to form the retaining plate.

Using thin CA adhesive, secure the plates onto the side of the engine cowl with the bent end against the bracing wire anchor. The plates should be angled to align with the bracing wire.

Brush 'AK Interactive' Kerosene (AK2039) over the plates.



Airbrush a light coat of 'Alclad' Light Sheen (ALC-311) lacquer, 'Tamiya' Semi Gloss (X35) or similar over the completed rigging.

Locate the prepared propeller/spinner assembly onto the engine propeller shaft in the desired position and secure in position using CA adhesive.

PART 14

FIGURES

PART 14 - FIGURES

The figures I chose to use are the pilot and airman from the 'Aviatic' "Götterdämmerung" pilot and airman (ATTRES 024) set.

NOTE: *The figures are made of resin (refer to Part 5 (Resin) of this build log).*

Assembly:

Ladder:

Remove any resin flash and seam lines from the two ladder halves and the two planks.

Test assemble the ladder using the box art as a guide. Make sure the top plank is horizontal with the 'ground' and the front 'non-step' frame is vertical.

Assemble the ladder using CA adhesive.

Mechanic:

Remove any resin flash and seam lines from the mechanic's body and left arm/parachute.

Secure the mechanic's left arm in position using CA adhesive.

Pilot:

Remove any resin flash and seam lines from the pilot's body, right arm and left hand.

Drill a hole of the appropriate size up into the pilot's left arm until the left hand can be inserted fully into the arm. Make sure the drill does not break through the side of the arm.

Secure the left hand into the left arm using CA adhesive.

Drill a hole of 0.8 mm diameter into the centre of the right arm location on the pilot's body and also down the centre of the right arm.

Cut a length of 0.8 mm diameter rod (e.g. 'Albion Alloy's' or similar).

Secure the rod into the pre-drilled hole in the pilot's body, using CA adhesive.

Locate the right arm fully onto the rod.

Position the pilot with the right foot on the bottom step of the ladder.

NOTE: *The following step is necessary to gauge the position of the right arm between the pilot and the ladder.*

Carefully bend the arm on the rod until the right arm can be positioned with the hand on or near the right edge of the ladder.

Secure the arm in position using CA adhesive.

Once the adhesive has fully set, fill any gaps between the arm and body with a modelling putty.

Once the putty has set, file or sand the arm to body joint to create a natural looking joint.

Airbrush the two figures and the ladder with a grey primer (e.g. 'AK Interactive AK-758 or similar).



Painting:

NOTE: *When brush painting with acrylic paints, add a small amount of thinner in order to keep the paint fluid, otherwise it doesn't brush well onto the primed surface.*

Pilot:

1. Shoes - 'Tamiya' Hull Red (XF9).
2. Flight Suit - 'Tamiya' Desert Yellow (XF59) with Flat Earth (XF52) highlights.
3. Flight helmet - 'Tamiya' Hull Red (XF9) with 'Humbrol' Leather (62) highlights.
4. 'Heinecke' parachute harness - 'Tamiya' Buff (XF57).
5. Flesh - 'AK Interactive' Light Flesh (3012), Faded White (3029) and 'Model Colour' Base Skintone (70.815).
6. Gloves - 'Tamiya' Hull Red (XF9) with 'Humbrol' Leather (62) highlights.
7. Flight helmet and gloves lining - 'Tamiya' White (XF2) with Deck Tan (XF78) highlights.
8. Goggles - 'Tamiya' Clear Yellow (X24).
9. Scarf - 'Tamiya' J.A.Green (XF13).
10. Metal fittings - 'Mr. Colour' Stainless Steel (213).
11. Watch face - Decal from the 'Airscale' Dial Decals (Generic World War 1) (AS32 WW1).
12. To apply various stains or dirt on the figure, lightly sponge 'Tamiya' Weathering Master Set D (Oil Stain) and Set A (Mud).
13. To highlight creases and shadows, brush over the figure 'AK Interactive' Engine Oil (AK 2019) thinned with enamel thinners (e.g. 'Tamiya' X20).
14. Airbrush the figure with a light sealing coat of Matte (e.g. 'Alclad' Flat ALC-314, 'Tamiya' Flat Clear XF86 or similar).
15. Brush a light coat of Semi-Matte (e.g. 'Tamiya' Semi Gloss X35 or similar) over the flying helmet and gloves.

Mechanic:

1. Boots - 'Tamiya' Rubber Black (XF95).
2. Trousers - 'AK Interactive' WW1 German Uniform Base (AK3091).
3. Jacket - 'AK Interactive' Black Uniform Base (AK3002).
4. Cap - 'AK Interactive' German Uniform Base (AK3091) with 'Tamiya' Red (XF7) piping.
5. Flesh - 'AK Interactive' Light Flesh (3012), Faded White (3029) and 'Model Colour' Base Skintone (70.815).
6. Buttons/Metal fittings - 'Mr. Colour' Stainless Steel (212).
7. 'Heinecke' Parachute - 'Tamiya' Buff (XF57).
8. 'Heinecke' Parachute ropes - 'Tamiya' Deck Tan (XF55).
9. Metal fittings - 'Mr. Colour' Stainless Steel (213).
10. To apply various stains or dirt on the figure, lightly sponge 'Tamiya' Weathering Master Set D (Oil Stain) and Set A (Mud).
11. To highlight creases and shadows, brush over the figure 'AK Interactive' Engine Oil (AK 2019) thinned with enamel thinners (e.g. 'Tamiya' X20).
12. Airbrush the figure with a light sealing coat of Matte (e.g. 'Alclad' Flat ALC-314, 'Tamiya' Flat Clear XF86 or similar).
13. Brush a light coat of Semi-Matte (e.g. 'Tamiya' Semi Gloss X35 or similar) over the boots.

Ladder:

1. Brush paint the ladder with 'AK Interactive' Wood (AK263) enamel wash.
2. To apply various stains or dirt, lightly sponge 'Tamiya' Weathering Master Set E (Grey) and Set A (Mud).





PART 15

DISPLAY BASE

PART 15 - DISPLAY BASE

The display case is made from two sheets of 3mm thick Piano Black Acrylic sheet cemented together with a transparent top fabricated from 3mm thick Clear Acrylic sheet. This was custom made for me by Paul Moss at 'Inperspective' (Ebay). The name plaque was also made by an on-line retailer 'The Engraving Shop'.

The grass mat was cut to shape from a sheet of 'Polak' grass mat (Wild Meadow variation 4706). The cut mat was then positioned on the base and the model and figures test placed to achieve the best effect and to make sure the transparent cover of the case would be able to be located without touching the model. The model and figures were then removed with the grass mat left in position on the display base. The edges of the grass mat were then carefully lifted and a soft marker pen was used to mark the outline of the grass mat, but approximately 5 mm inside the mat edge. The grass mat was then removed and the area of the display base inside the marks was scuffed using a coarse grit sand paper, in order to give a key for the adhesive.

NOTE: *When applying the adhesive, make sure it is not applied too thickly and close to the edges of the finally positioned grass mat. Otherwise the adhesive may be squeezed out from under the grass mat once weight is applied to hold down the mat during setting of the adhesive.*

A coat of PVA adhesive (white glue) was applied to the scuffed area on the display base and to the back of the grass mat. The grass mat was then laid onto the PVA adhesive and positioned correctly. Light pressure was applied to ensure the mat was in contact with the adhesive.

A sheet of kitchen 'Cling-Film' was then laid over the grass mat and weighted down (I use books stacked on top of the covering). This was left for several hours to allow the adhesive to set. The weights and covering were then removed and the display base left exposed to fully air dry.

If desired and to add variation to the grass mat, small clumps of 'Mini-Nature' two colour grass tufts (737-22S) can be secured in place with PVA adhesive. Although slightly two tone in colour, these grass tufts can be lightly dry-brushed with Tamiya Dark Yellow (XF60) to enhance the effect of dry grass.

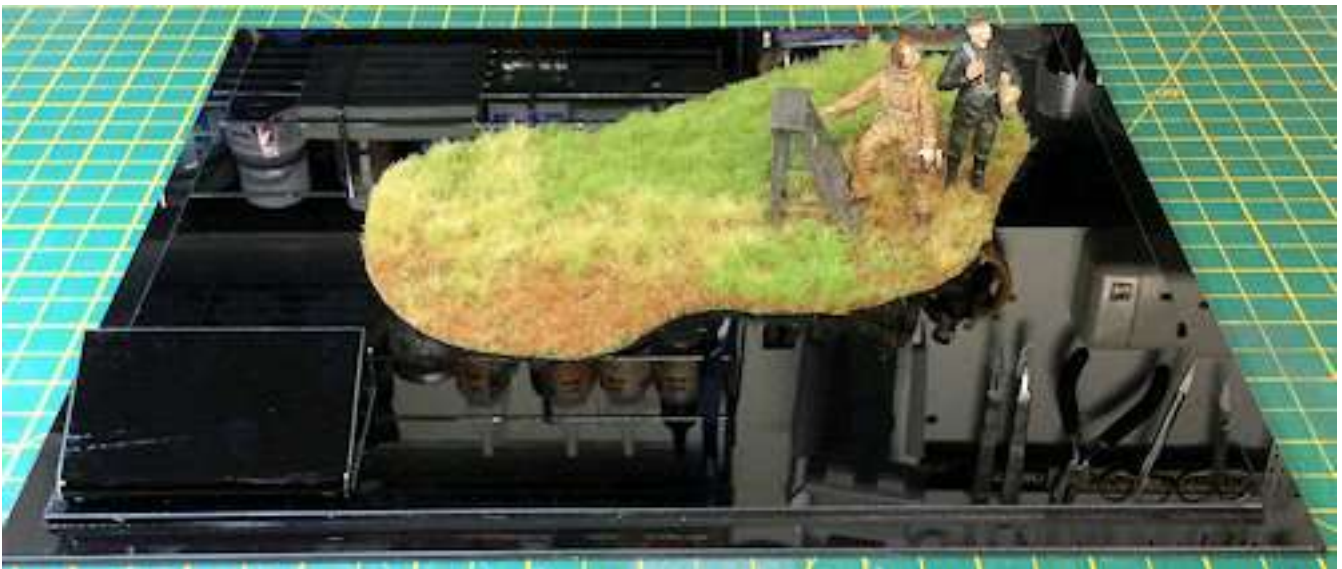
Finally an acrylic plaque stand was positioned to the left, front corner of the display base (just in from the edges of the shoulder for locating the transparent acrylic cover. The area on the underside of the stand and its contact are on the display base were scuffed using a coarse grit sand paper, in order to give a key for the adhesive. A thin coat of contact adhesive was then applied to both scuffed areas and once the adhesive started to set, the stand was carefully position onto the display bae and pressed down to make full contact. The self-adhesive backed information plaque was the positioned onto the stand and pressed to make full contact.



The model and figures were then positioned on the base in their final positions and the support pins in the figures legs marked into the grass mat. Holes of 1.0 mm diameter were drilled through the grass mat and into, but not through, the base. The holes were cleared of residual acrylic to ensure the pins in the figures would fully locate. The figures were then test fitted and where necessary, their support pins were snipped to the required length to fully locate into the display base.

NOTE: *The aircraft model is not secured to the display base as this can cause shock damage to the model if the display is transported to shows etc. For that the aircraft model would be packed separately for transporting.*

Thin CA adhesive or PVA adhesive was then applied to the support pins in the figures, which were then located, in their desired positions, into their pre-drilled location holes. The aircraft itself, being light in weight, will tend to sit on top of the grass on the mat, rather than seat fully down, as would a real aircraft. Therefore the location of the aircraft wheels and tail skid were marked onto the grass mat and those areas scrapped through the mat to create slight and unobstructed troughs, into which the aircraft could be located. The same was applied for any unpinned accessories, such as in this display, the access ladder, which was then secured in position with either CA adhesive or PVA adhesive.



PART 16
COMPLETED
MODEL
PHOTOGRAPHS











END