



NIEUPORT 11 'Bebe'

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 my build of the Special Hobby 1:32 scale model of the Nieuport 11 B  b  .

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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.



AFTER MARKET

Weapons

Eduard Brassin (632054) Lewis Mk.III.

Rigging accessories

GasPatch Elite Accessories Turnbuckles, 'Steelon' Mono-Filament 0.12 mm diameter,
Albion Alloy Micro-tube (Brass or Nickel Silver),

Sundries

Paints (Tamiya Acrylic, Humbrol Acrylic, Mr Metal), Microscale's 'MicroSet',
DecoArt Crafters Acrylic [water based]), Alclad II Lacquers, PVA Adhesive,
Tamiya Weathering MASTER sets, Cyanoacrylate (CA) glue (thin).

Weathering mediums

Flory Clay washes, AK Interactive engine washes.

Display Base

Model Scene Grass Mats, sharp sand, purpose built Acrylic base and cover,
etched plaque (name plate).

Seat

1/32 scale 'Peach Basket' with cushion from Aviattic (Attres 015).

Figure

Pilot figure (No. F32-003) by Copper State Models

PREFACE

The pilot :



Jean Marie Dominique Navarre (8 August 1895 – 10 July 1919).

Born on 8 August 1895 in Jouy-sur-Morin. Navarre earned Civil Pilot's Brevet No. 581 on 22 August 1911, which allowed him immediate entry into French military aviation in August 1914, when the World War One began. Navarre went on to gain 12 confirmed victories, three flying Morane Saulnier aircraft and nine flying Nieuport aircraft. During this period he became known as 'The Sentinel of Verdun', due to his habit of flying low over the French troops on the ground, which promoted morale at that time. On 17 June 1916, Navarre was shot down and sustained severe head injuries from which he never fully recovered. Navarre's younger brother was killed in a flying accident at about the same time. Navarre was removed from active duty and sent to a sanatorium to convalesce. Nearly two years later he would return to duty, although he would not again fly in combat.

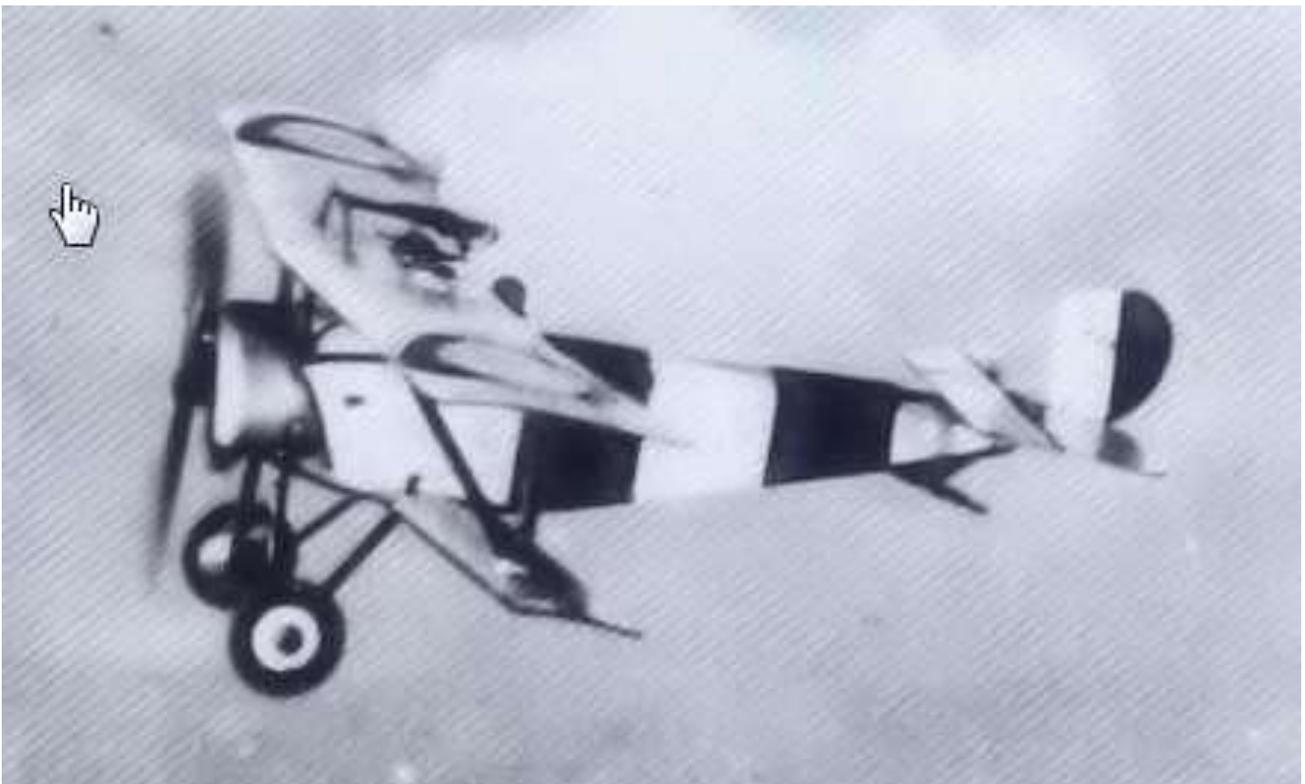
After the end of hostilities, a victory parade was planned on the Champs Élysées on 14 July 1919. However, the high command ordered airmen to participate on foot rather than flying their aircraft. The headstrong 'heroes of the air' took this as an insult. At a meeting in the 'Fouquet' bar on the Champs Élysées, they decided to respond to this affront by selecting one of their number to fly to Paris and through the Arc de Triomphe. Navarre, as the first among the aces, was considered the ideal choice despite his injuries. Tragically, however, while practicing for this stunt, Navarre was killed when his aircraft crashed at Villacoublay aerodrome on 10 July. He was only 23 years old.

Fellow pilot Charles Godefroy would eventually perform the historic flight through the Arc de Triomphe a few weeks later.



The aircraft:

This model represents the Nieuport 11 Béb , Serial No. 576, of Escadrille N.67, during the period 1915-1916 and as flown by Jean Navarre.



THE MODEL

(Special Hobby Kit No. SH 32015)

Although not to the same standard as Wingnut Wings 1:32 scale models, this is of good quality. As can be seen from the photo below, there are only three main plastic sprues plus some resin parts for the engine and cockpit details. Also supplied are photo-etch parts for the engine and other items. The instruction pamphlet is fairly basic but easy to follow and also supplied is an information pamphlet which has the colour schemes and decal locations for the two schemes provided in the kit.

This particular kit is not new and therefore some parts are show the age of the original mouldings. There is flash around some parts and most have moulding seams around the edges. Also some parts have surface imperfections and ejector marks. Some also have pronounced moulding 'tabs', which also need to be removed. There is some flash around the resin parts which needs to be removed. Finally there are no alignment pins/holes or component locations on such as the two fuselage halves and undercarriage, so care needs to be taken when attaching these parts to each other. The plastic of the kit is softer than others and this may cause problems when applying adhesive, as the locating pins that are provided (e.g. wing struts) may dissolve and weaken the joints. Although this all sounds bad, it is to be expected with older kits where original moulds are still used. However this kit does require some modelling skills and may not be suitable for less experienced modellers.

The first aircraft scheme supplied is that of Nieuport 11 'Bebe' Serial No. 42 of Escadrille N12, 1916, as flown by Lt. Pierre Dufaur de Gavardie (6 victories).

The second scheme is that of Nieuport 11 'Bebe' 'Zigomar' of Escadrille N62, 1916, as flown by Lt. Paul Tarascon (12 victories).

However for this model I decided to do the scheme of the Nieuport 11 'Bebe', Serial No. 576 of Escadrille N.67 during 1915-1916 as flown by Jean M. D. Navarre.



PART 1 - MODEL PREPARATION

(MODIFICATIONS)

The basic model has enough detail to satisfy most modellers. However there are areas that can be improved and this can be done before the build starts.

1. The left side of the fuselage has a built in step for the pilot. This step is located at the bottom fuselage longeron, just behind the wing trailing edge. The internal cockpit frame for that side of the cockpit also has this step included. My research indicates the step was open and was essentially a hole that goes through the fuselage skin and into the floor area of the cockpit. To reflect this the fuselage step was modified. I temporarily positioned the internal cockpit frame at its final position inside the left fuselage half and then, using the inside edge of the frame step as a guide, drilled small holes through the fuselage. This showed that the external moulded step does not align with the frame step. Therefore I opened up and shaped the step hole through the fuselage half and then sanded off the moulded external step detail. I then cut a replacement step surround from thin plastic card and attached it to around the external fuselage step opening.

2. The model has two identical 'exhaust tubes', each of which are to be attached to the forward fuselage in the centre of a pre-moulded round panel. These kit parts are basically solid and don't represent tubes. Therefore I drilled out the end of a length of 2mm diameter brass tube (Albion Alloys) to increase the internal bore and then cut off that end of the tube to a around 8 mm length. Once I had made two such tubes, I drilled an appropriate sized hole through each fuselage half, in the centre of the round panel. Each brass tube was then inserted through the holes and secured with CA adhesive.

3. The fuselage halves have pre-moulded outlets for the elevator and rudder control lines. To facilitate rigging these controls later in the build, these outlets were drilled through the fuselage halves, using a 0.4 mm drill bit. The drill needs to be angled to give the rigging line, when fitted, the correct alignment to the relevant control horn on the elevator or rudder. Take care when doing this as it is very easy to break the drill.

4. The rear of the fuselage, when assembled, has no hinges for the rudder. I drilled two 0.8mm holes through the fuselage halves and through the rudder close to its leading edge. These will be used to pass through fabricated hinges later in the build.

5. The kit provides photo-etched control horns (four for the elevator and two for the rudder). There are no locations provided to attach the horns to the plastic surfaces and just attaching them with CA adhesive will not give them a secure enough grip to the plastic, causing them to break away during their subsequent rigging. To give them better surface grip, I cut shallow slots into the elevator and rudder where the horns would be located. The horns were then secured into the slots with CA adhesive.

6. The two lower wings attachment points on the fuselage halves consist of one moulded pin and there are no corresponding holes in the fuselage halves. This is weak attachment considering the added weight of the upper wing through the wing struts.

6 (Cont'd). To strengthen the support for the two lower wings I used 1.0 mm solid brass rod (Albion Alloys). Bear in mind the tubular wing support on the actual aircraft passes through the cockpit floor to each wing. First I drilled a 1.0 mm hole through each fuselage half at the pre-moulded pin locations. Then I cut off the plastic wing pins and first drilled a 0.6 mm hole into each wing, using the mark from the original plastic pins as a guide. I drilled to a depth of approximately 15 mm. I then opened up the holes using a 1.0 mm drill. Care needs to be taken to ensure the drills are correctly aligned as you drill, otherwise you may 'break through' the wing surface.

7. The wing, cabane vertical a V-struts and the undercarriage struts either have no locating 'pins' and corresponding holes for location, or have only a 'dimple' to indicate where the struts are located. Where pins are provided, they are soft plastic and not very strong. Therefore I decided to add brass tube and pins to give good location and strength. I drilled into the locations in the wings (for the wing V-struts), the fuselage (for the undercarriage V-struts) and in the fuselage top decking, forward of the fuselage, for the V-cabane strut and the two front vertical struts. The holes were 0.8 mm diameter and into these holes I secured short lengths of 0.8 mm brass tube (Albion Alloys), with CA adhesive, after which they were sanded flush to the surfaces. The bores of these were cleaned out using a 0.6 mm drill bit.

In the corresponding struts I drilled 0.5 mm holes and cut a short lengths of 0.5 mm diameter brass tube (Albion Alloys) and secured them into the struts with CA adhesive. The struts were then test fitted and the 0.5 mm tubes carefully bent to align with their locating 0.8 mm tubes. The top of each tube was filled with modelling putty and sanded flat, leaving open the end of each tube for attaching the relevant strut. Examples of this are shown in the photo as No.7.

NOTE:

The v-cabane and two vertical struts need to be recessed into the fuselage at their location points, otherwise they will stand proud from the fuselage and look unrealistic. These recesses need to be created before you drill and test fit the struts.

8. The two cockpit side frames have a moulded boss at the front ends. This boss is moulded on both sides and the outside boss stops the frame from seating flush against the fuselage inner side. As the boss is decorative detail and serves no construction purpose, I removed the boss from the outside edge of each frame.

Also each frame has a smaller boss pre-moulded at the bottom, which is used to mount a cross bar from the kit. As the lower wings are modified to have a brass rod (see number 6), which passes through the fuselage at the same location, the kit cross bar and frame bosses are not required. I removed the boss from each frame.

9. To allow rigging between the cockpit side frames and across the seat support structure, I drilled 0.3 mm holes in each corner of the frames and in the second seat support bar from the front of the seat support structure.

The rudder bar also had a hole drilled at each end and two holes into the seat support. These will be used for rudder control lines.

The control bar on which the control stick is mounted, has two pulleys, one at each end. The pulleys appear to be for the elevator control lines. A 0.3 mm hole was drilled under each pulley and one hole drilled in the seat support (between the two drilled rudder control line holes).

10. Although the two ailerons could be attached with adhesive, the mountings are not that strong. I cut away the mountings on the ailerons and drilled 0.7 mm holes at the same locations. Two holes were similarly drilled into the wing recesses. Brass tube of 0.7 mm diameter (Albion Alloys) was secured into the ailerons with CA adhesive. The aileron pins were then pushed into the wing holes and the aileron was gently pushed up or down to bend the brass tubes and position the ailerons to their required angles. Both ailerons were then removed for fitting at a later stage in build.

11. I drilled through 0.3mm holes under the two pulleys on the control column assembly, to allow control cables runs to be added.

Not shown:

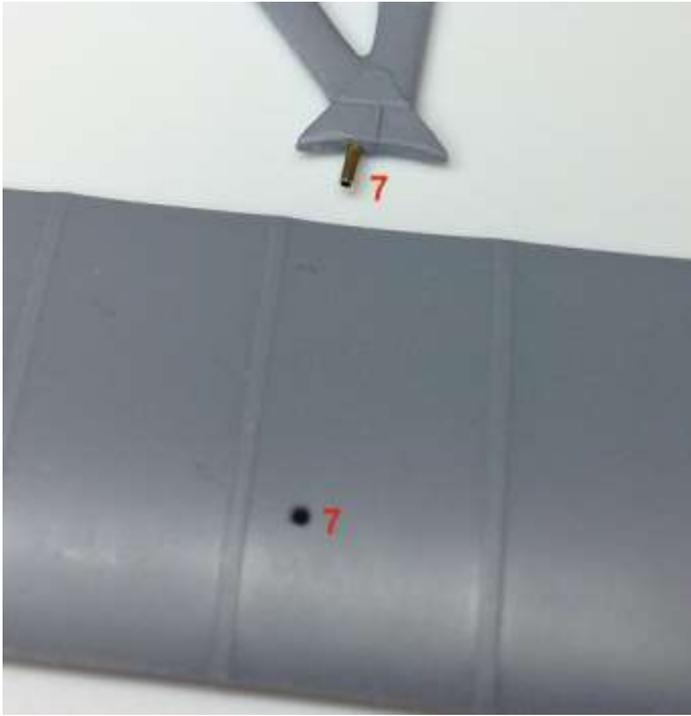
Horizontal stabilizer support struts—kit items replaced with 0.7mm brass tube (Albion Alloys).

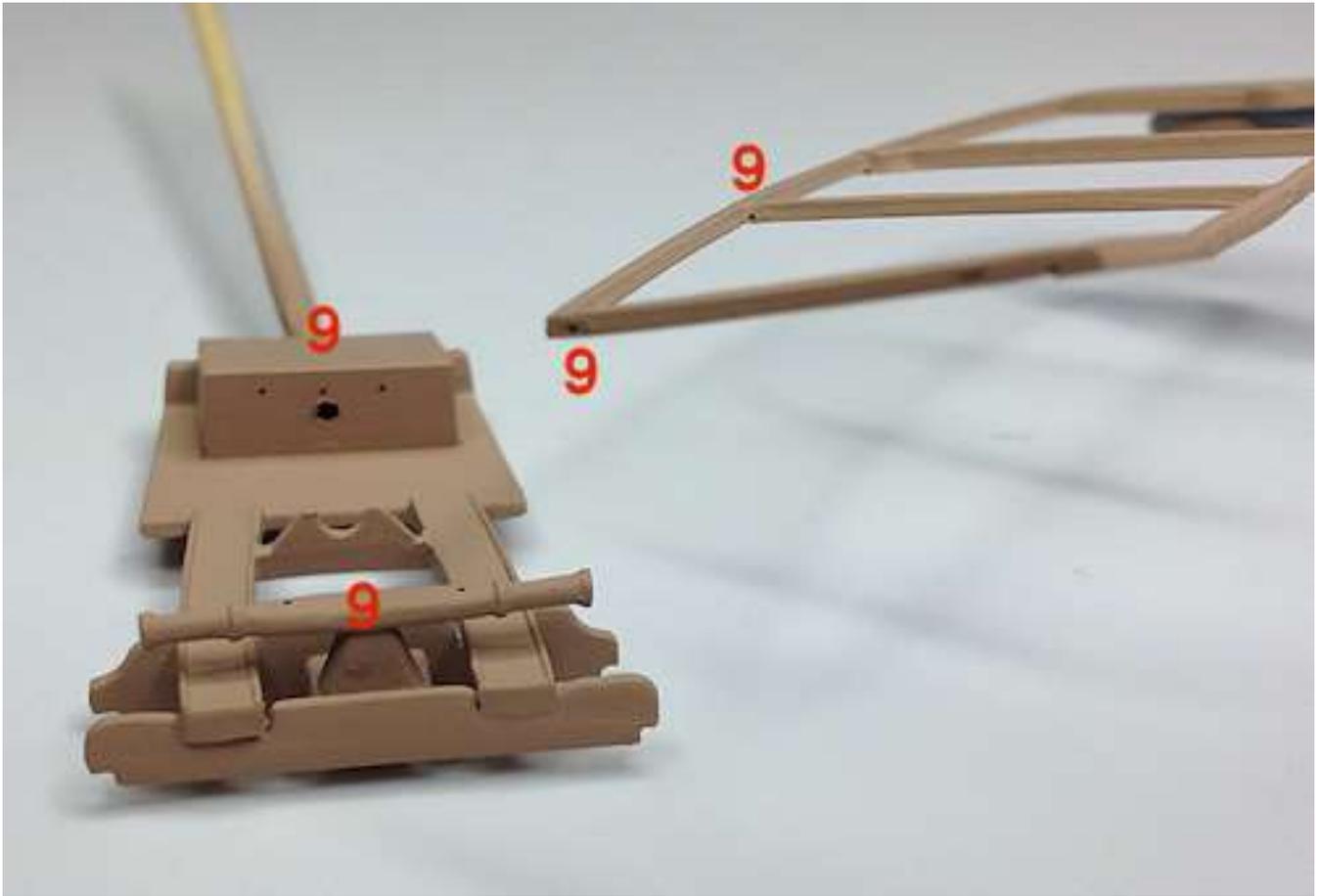
The following photographs show:

1. Modified pilot step opening in the left fuselage.
2. Drilled out brass tubes fitted to replace the kit supplied solid plastic parts.
3. Holes drilled into the fuselage halves for fitting of the elevator and rudder control lines.
4. Holes drilled into the rear of the fuselage and rudder for fitting of rudder hinges..
5. The photo-etch control horns secured in their cut slots with CA adhesive.
6. Lower wing supporting - brass rod.
7. Examples of wing, undercarriage and cabane strut locations - brass tube.
8. Removal of boss (x4) from the cockpit frames.
9. Pre-drilling cockpit frames and seat support frame for control (aileron/elevator) rigging.
10. Replacing aileron mountings with brass tube.
11. Pre-drilling elevator control line holes under control column pulleys (not shown).











PART 2 - THE FUSELAGE INTERNALS

Before starting on the fuselage detailing, remove the moulding tags inside each fuselage half. I removed them with a modeller's 2mm wide chisel then sanded the surface smooth. Most won't be seen once the fuselage is assembled, but removing them now means you'll not have any problems fitting detail parts later in the build. Also check the two fuselage halves align correctly, as there are no location points on the parts.

After being primed, I airbrushed the fuselage halves with Wooden Deck Tan (XF78), to create the colour for Clear Doped Linen (CDL). As with most colouring for World War One aircraft, it's debatable as to the exact colours and tints. New aircraft colours would differ from those that have 'seen service' and age and the ambient conditions would have altered these colours. In addition, the chemical mixture of the various dopes changed throughout the war, due to short supplies of some of the ingredients and the particular aircraft manufacturers take on a particular colour specification. Most colour photographs are of museum aircraft and modern replicas, which may or may not be accurate depictions of the actual colour at the time.

On the actual aircraft, the forward internal cockpit sides were constructed from varnished plywood, with CDL on the outside surfaces. The rest of the fuselage was just covered with CDL. Therefore I airbrushed the cockpit framing with Tamiya XF78 (Wooden Deck Tan) and once dry I applied DecoArt Crafters Acrylic (water based), Burnt Umber (see [Wood Effect](#) in Part 2). Once dry I airbrushed a sealing coat over the painted surfaces using Alclad Semi-Matte (AL-312), which not only seals in the paint, but also gives a good enough surface for applying the Flory Models fine clay wash in order to weather and 'knock back' the CDL colour. 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 very difficult to remove or even to wash it off completely.

The cockpit frames were laid in position inside the fuselage halves and their outlines were lightly marked with a pencil. The frames were then removed and the 'contact' areas were scrapped clean of any paint etc.. The frames were then relocated and clamped in the fuselage frames and Tamiya Thin adhesive applied to the edges to fix the frames in position.



Flory Model clay washes come in various shades and consist of a 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 brush used for oil paint (as the bristles are harder than normal painting brushes) to remove as much of the clay wash as you need to achieve the desired effect. The damp re-activates the clay wash and allows it to be removed or worked as required.

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 and it can be left on for any period, as it is easily removed without any effect on the surface underneath. The wash I used was a mix of Flory Clay Wash 'Grime' and 'Dark Dirt'.



Whatever you use to remove the clay wash, make sure it is only very slightly damp. I dab the brush or absorbent paper onto my tongue, but even then I dab it onto a dry piece of the paper. That's how 'damp' it needs to be. 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 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. Then you can dry the surface and re-apply the clay wash and try again until you are satisfied.

The technique is to brush 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.

If you've not used Flory Clay Washes before, the best thing to do is to experiment first on a test piece. You'll soon get the hang of it.

The fuselage halves were then sealed with airbrushed Alclad Semi-Matte (ALC 312), which dries quickly and does not disturb the clay wash. Below are the cockpit frames in their final positions to show the overall effect.



As the model does not have alignment pins or holes, greater care must be taken when attaching the cockpit items to the fuselage halves and then for aligning and joining the assembled fuselage halves together (see Part 3—The Cockpit). There is room for error in this phase as things can move out of alignment, especially as with this particular kit, the forward end of the right fuselage half is slightly twisted and does not easily align with the left fuselage half (possibly just on this particular kit).

PART 3 - THE COCKPIT

Some modellers work the various pieces whilst they are still attached to the main sprue, but I prefer to remove the pieces first so that I can clean them up more easily. However pieces like the cockpit frames are delicate and can easily be damaged when being removed. If you cut them off with snips, scissors or a blade etc, they can either break or get stressed at the cut point, which causes 'white' stress and/or deforming. I prefer to cut them away using a fine modeller saw, which I find has a more gentle cutting action. There are still fine moulding lines around items like the cockpit frames, but they are only slight and are easily removed using a sharp blade or sanding stick. I use a straight edged scalpel blade to gently scrape off the mould lines. Some of the model items, particularly in the cockpit, are very small and can easily 'fly off' when being handled, so take care. Remember to pre-drill any holes needed for rigging or control lines (there are no cockpit rigging instructions for the kit, so you'll need to research on-line for that data). Although not the cheapest method to prime items, I prefer to use Tamiya's fine surface primer aerosol (light grey). It has good coverage as the base primer for acrylic painting. Take care when spraying the primer as applying too much will result in 'pooling' or 'runs', which would then need to be removed once the primer has dried. Make sure you spray in a well ventilated area or, if you have one, use an extractor booth. To hold items for priming I use self locking tweezers or carefully insert a toothpick into the item. To hold small items I use a small piece of sticky putty, such as 'Blu Tack', on the end of a toothpick. Once applied the primer dries quickly, one of the main advantages of using acrylic paints rather than enamels etc.

Wood Effects:

Once the primer is dry, you can start applying the wood effect to the applicable cockpit items, such the framework, seat support assembly, rudder bar, instrument panel etc.

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.

For most wood effect, I use Tamiya Wooden Deck Tan (XF78), suitable thinned with Thinners (X20A). Allow this base coat to fully dry (if you can't smell the paint, then it's dry).

For the next step I use DecoArt Crafters Acrylic (water based), Burnt Umber, which is similar to Acrylic oil paint, but instead of being oil based, is instead water 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. Also it dries as quickly as normal Acrylic paint, instead of taking days, which I've found to be one of the disadvantages of using true Oil Paints.

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. Apply the paint to the applicable item, using light strokes and in the required direction (e.g. along a wing strut, not across the strut). Only apply a light coat as a second coat, if required, can be applied once the first coat has dried (I applied a second light coat for these items). If you apply too much paint, just brush it off before it dries. Don't try to thin any applied paint with water as although it will lift the paint, it will build it up into clumps. Clean the brush in water.

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. However, I don't use the Tamiya Clear, but instead use Alclad 2 Lacquers. In this case the Klear Kote Semi-Matte (ALC 312). Although it's a lacquer, I've found that it will accept Tamiya 'Clear' coloured Acrylics without separation, which can happen with other mixed-in paints. The Alclad dries fast and provides 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 Orange (X26) into Alclad Semi-Matte and thoroughly mixed it. Only add small amounts to the Alclad in order to control the amount of tint you desire. I set my airbrush air pressure to around 15 PSI and then airbrushed the sealing coat over the various cockpit items. The first coat 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 coat has dried, I airbrushed a coat of just Alclad Semi-Matte, which added a second sealing coat, but more importantly gave the desired semi-gloss 'varnished' finish I was after.

Cockpit detail items:

Once the last layer of airbrushed Alclad Semi-Matte has dried, you can start to paint the Various items in the cockpit. These items are brush painted using Tamiya acrylics and Mr. Metal paint. White Spirit is needed to clean brushes used with Mr. Metal paint, as Tamiya X-20A doesn't touch it. This leads me to believe Mr. Metal paint is enamel based, rather than acrylic. For small items I brush Mr. Metal paint, rather than airbrush. It can be airbrushed for larger area's, but care is needed to thin the paint correctly, otherwise I've found it can clog the airbrush. Once you have brush painted an item and once it has fully dried, the painted surface can be 'burnished' by gently rubbing the surface with a cotton bud, piece of cloth or even your finger. Doing this merges the pigments of the paint to create a realistic metallic sheen.

For this build I decided not to use paper seat restraint straps (by HGW). Instead I used the kit supplied metal PE straps. Once you've separated them from the fret and cleaned up any edges, you'll need to soften the metal PE straps in order to be able to bend them into the desired shape on the seat. This is 'annealing' the metal by applying flame heat (e.g. a candle or lighter) gently over the PE and as soon as it visibly changes to a greyish colour, remove the heat and let it cool naturally. Now the straps can be more easily shaped. Be careful not to apply too much heat or linger over small, delicate parts, or you may actually distort the piece!! Once cool, test fit the straps and bend them to the required shape. Once you're happy with the shape and fit, carefully remove the straps and apply primer. When the primer has dried, paint the straps, but be careful you don't apply too much paint to the straps or you'll 'fill in' small detail with the primer !!

Again I used Flory clay wash to weather the straps and after, secured them in position on the seat, using thin CA glue.

Cockpit Rigging:

NOTE: Before you continue with the model build, it is advisable to make sure you've pre-drilled all of the internal and external rigging attachment points (see Model Preparation - Part1). This will avoid having to try drilling a hole in an inaccessible area once the model is being built.

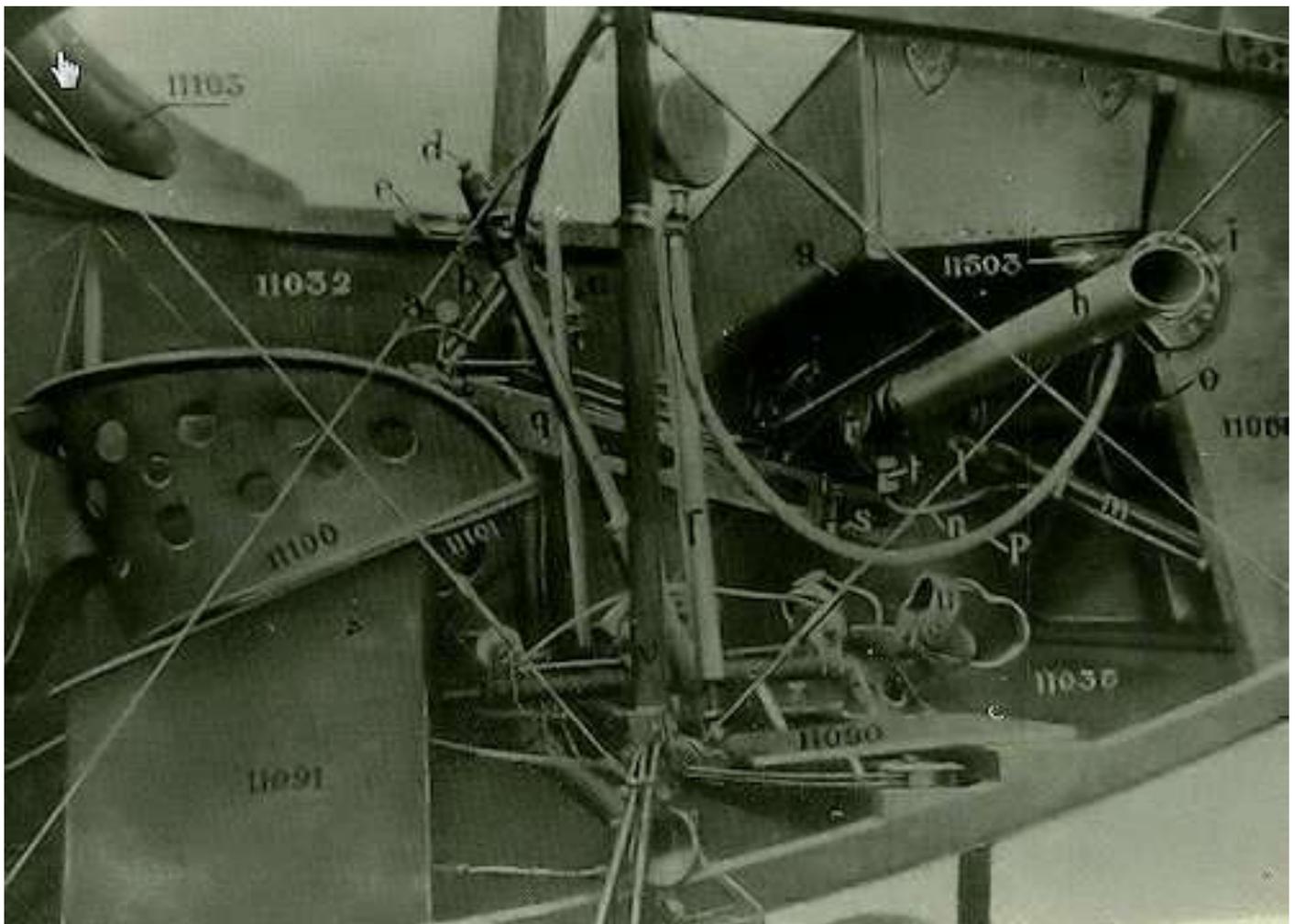
Now it's time to fit the various rigging/control lines to the cockpit floor. There are various methods for replicating rigging, either by using stretchable threads, such as EZ or Prym, using Monofilament (fishing line), stretched plastic sprue or photo-etched rigging. My personal preference is monofilament (Steelon 0.12 mm diameter), as it adds strength and rigidity to the finished model, it is easily threaded through micro-tubing, turnbuckles and the small holes drilled into the model. The only real downside is being nylon, it doesn't accept painting easily. Ink paint pens can be used, but if you can obtain a dark and/or silver coloured line, painting shouldn't be necessary.

The first rigging to install is the cross bracing between the rudder foot boards. This is achieved by passing line through your pre-drilled holes in the seat support frame and securing with CA adhesive. Cut a small length of 0.5 mm Nickel-Silver tube (Albion Alloys). An alternative is to purchase Albion Alloys pre-cut tubes (0.5 mm diameter), from the 'Model Skills' website. These were dipped in 'BlackIt', a solution that tarnishes the metal and saves having to paint them when they are close to the model surfaces, as in the cockpit frames. Pass the line through the tube and then through the pre-drilled hole in the rudder bar (opposite side). Loop the line back through the tube and holding the tube, pull the free end of the line to tension it. Secure the line and tube in position using CA adhesive. Repeat the procedure for the other side.

The control column (see the photo on the following page) has a central bar running along the centre line of the fuselage. On the bar are two control pulleys and a bell-crank. Pass a line through the pre-drilled holes (between the bar and each pulley). At the foreword end, loop the line up and over the front pulley and across the bell-crank, then down and back through the hole under the rear pulley. Insert both ends of the line into the centre hole of the three pre-drilled holes in the seat support (see Model Preparation - Part 1). Pull the lines tight into the hole and secure with CA adhesive.

The cross-over rigging on the cockpit side frames is achieved using the same basic procedure. The only difference being four short lengths of cut and 'blackened' Nickel-Silver 0.33 diameter (Albion Alloys) are added to the line inside each frame (one for each corner) and the line is looped through Gaspach 1:48 scale turnbuckles. Also the line, once secured at one end with either CA adhesive or by tying a knot in the line, can be threaded through the pre-drilled holes in a continuous run. Trim off the surplus ends of the lines with a sharp scalpel or razor blade (use safety razor blade with one of the cutting sides shielded).

NOTE: The line is threaded through all of the frames with the micro-tubes and turnbuckles added between each section of the frame. Once it's all in position, I used clamping tweezers on the free end to apply weight and therefore tension to the line. The line, tubes and turnbuckles can then easily be secured in position using CA adhesive. The free end of the line was then cut away.



Cockpit floor assembly: Airbrushed with Tamiya XF 78 (Wooden Deck Tan) and then had the water based oil applied (see Wood Effect in Part 2). The rudder control bar was painted with Tamiya XF23 (Light Blue). Foot straps were made from thin strips of lead sheet, painted with Humbrol (62) leather.

Panel and tank assembly: Brush painted with Tamiya XF23 (Light Blue), XF16 (Flat Aluminium) and XF69 (NATO Black). Tank cap painted with Mr. Metal Brass (219).

Engine bulkhead and tank assembly: Brush painted with Tamiya XF16 (Flat Aluminium) and XF69 (NATO Black). Tank cap painted with Mr. Metal Brass (219).

NOTE: If you intend to show the finished aircraft model with ailerons and/or elevator in anything but the neutral position, the control column will need to be positioned correctly.

Control column assembly: Brush painted with Tamiya XF23 (Light Blue), XF69 (NATO Black) and Mr. Metal Stainless Steel (218).

Lewis gun ammunition drum: Brush painted with Mr. Metal Iron (212). Strap painted with Humbrol (62) Leather.

Cockpit curved bar: Brush painted with Tamiya XF23 (Light Blue).

Fuel - tube indicator: Brush painted with XF16 (Flat Aluminium), XF69 (NATO Black). The glass tube was painted with both Tamiya X26 (Clear Orange) and X24 (Clear Yellow) mixed with Tamiya Clear (X22).

NOTE: I replaced the kit supplied seat with the 1:32 scale 'Peach Basket' seat and cushion from Aviatic (Attres 015).

Pilot seat and cushion: Wicker seat was airbrushed with Tamiya XF59 (Desert Yellow) and the surround padding with Humbrol Acrylic Leather (62). Seat Cushion painted with Humbrol Acrylic Leather (62) and Tamiya XF9 (Hull Red).

Use the normal method of applying the decals to the instruments. When a decal is in position press out any surplus water, using tissue paper or a cotton bud. Once this is done, brush a small amount of MicroSol over the decal surfaces, as this will soften the decals and cause them to 'weld' to the painted surface. Don't be alarmed if the decals wrinkle at first, as this is the MicroSet taking effect and the wrinkles will disappear once dry.

The various items were given a wash of Flory Dark Dirt and then wiped to create the look of grime or dirt.

Additional Instruments:

There is some controversy over what instruments the Nieuport 11 'Bebe' had in the cockpit. The kit is modelled to have just two, which are not identified, but other resources show more, as can be seen from the picture on the following page.

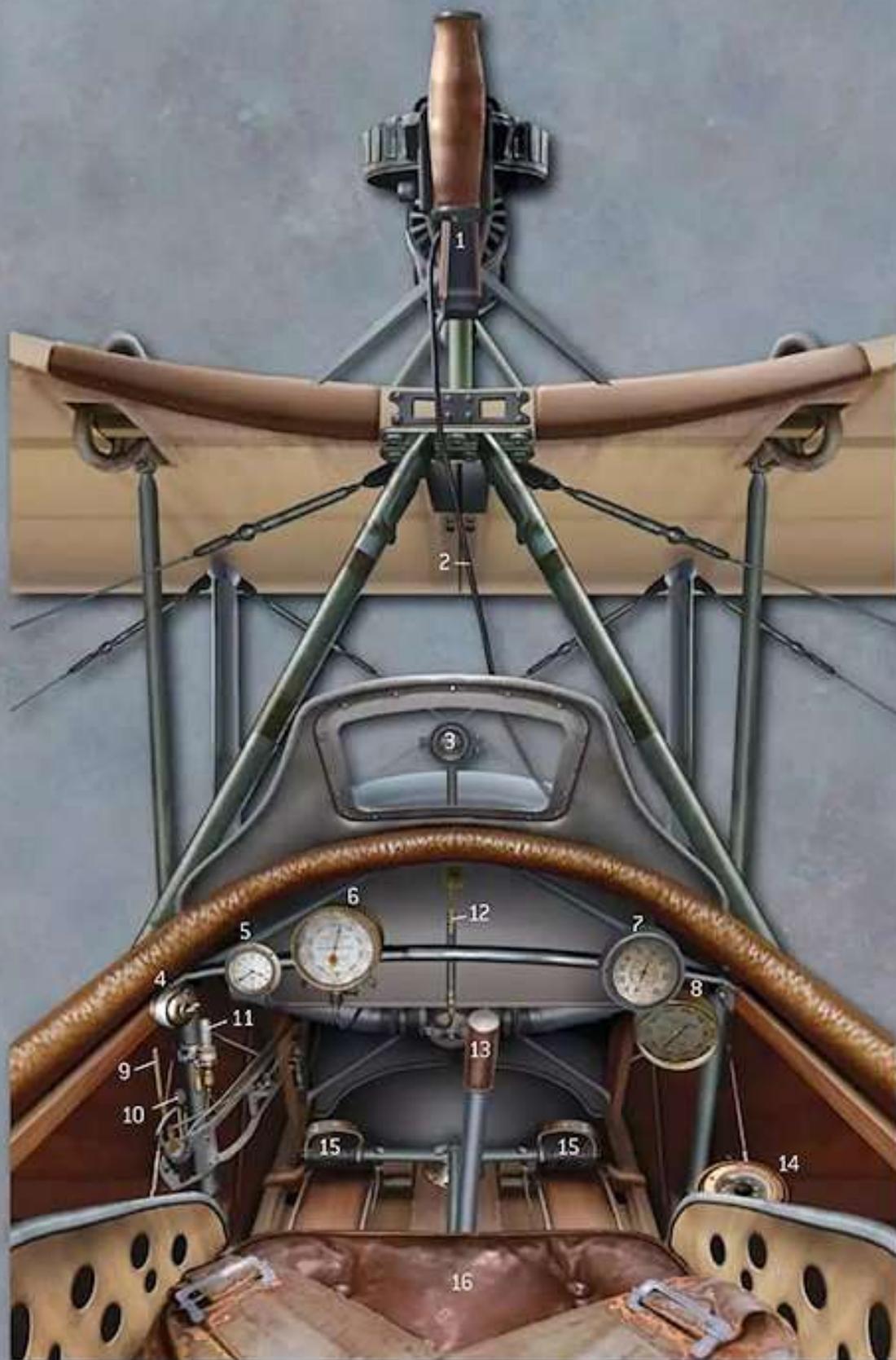
It should be noted that the cockpits shown in the photo and the detail picture have different amounts and locations for their instruments. My personal feeling is that the picture on the following page is a better 'general' in-the-field representation of a typical cockpit, given the amount of actual photos I have seen of pilots seated in these aircraft with the photos clearly showing instruments fitted in upper area of the cockpit, probably of the arched cross-bar.

If you decide that additional instruments are to be fitted, they would need to be made from scratch or from your 'spares' box and modified as required to suit the various instruments. I cut thin slices of plastic sprue and added these to the cockpit cross bar and to the right hand mounted instrument (kit supplied). These were painted with Mr. Metal Brass (218) and Stainless Steel (219). I converted the left hand instrument (kit supplied) to the brass ignition switch by filling its face with modelling putty and when set, I drilled at an angle a 0.3 mm hole. I inserted a small length of 0.2 mm Nickel-Silver tube into the hole to represent the switch. This was then painted with Mr. Metal Brass (218). The instrument faces of the Clock, Tachometer, Airspeed Indicator and Altimeter were from AirScale WW1 instrument decals.

Pipework or tubing can be replicated using either fine copper wire or fine lead wire, either being secured in position with CA adhesive and suitably painted.

Once dry, all of the cockpit pieces were given a sealing coat of airbrushed Alclad Semi-Matte (ALC 312).

NIEUPORT 11 *BÉBÉ* COCKPIT



1. Lewis Mk 1 0.303in machine gun
2. Trigger wire
3. Gunsight
4. Magneto switch
5. Clock
6. Tachometer

7. Airspeed indicator
8. Altimeter
9. Throttle control handle
10. Spark control handle
11. Oil pressure gauge
12. Fuel contents gauge

13. Control column
14. Compass
15. Rudder bar
16. Seat

Cockpit items completed and ready for fitting to the fuselage halves.



Cockpit frames with rigging.



Cockpit prior to closing the fuselage halves.



PART 4 - THE ENGINE

NOTE:

1. The engine is cast in resin, which enables fine detail, but is very brittle and can easily be damaged. For example if the engine is held in order to cut away the casting block, it's possible the spark plugs moulded into the cylinder heads will be broken away with finger pressure.
2. Resin dust is dangerous, especially if inhaled. Always wear a face mask when cutting resin parts and regularly clear away resin dust and residue.

As the engine was a rotary (Le-Rhone 80 HP), it was relatively straight forward to assemble by following the kit instructions. Once the cast engine has been cut from its casting block, it needs to have the rear face removed to enable the plastic back plate to be attached. The best way to remove the remaining resin is to carefully rub the back of the engine over glass paper, making sure you keep checking that you have a flat and level surface. Care must be taken when doing this as there is very little space between the engine back and the rear of the surrounding cylinders, which can be accidentally damaged by being rubbed by the glass paper. Once done the plastic engine back plate can be attached using CA adhesive - the back plate has a slightly larger diameter than the engine face, so you need to make sure the back plate is centralized on the engine.

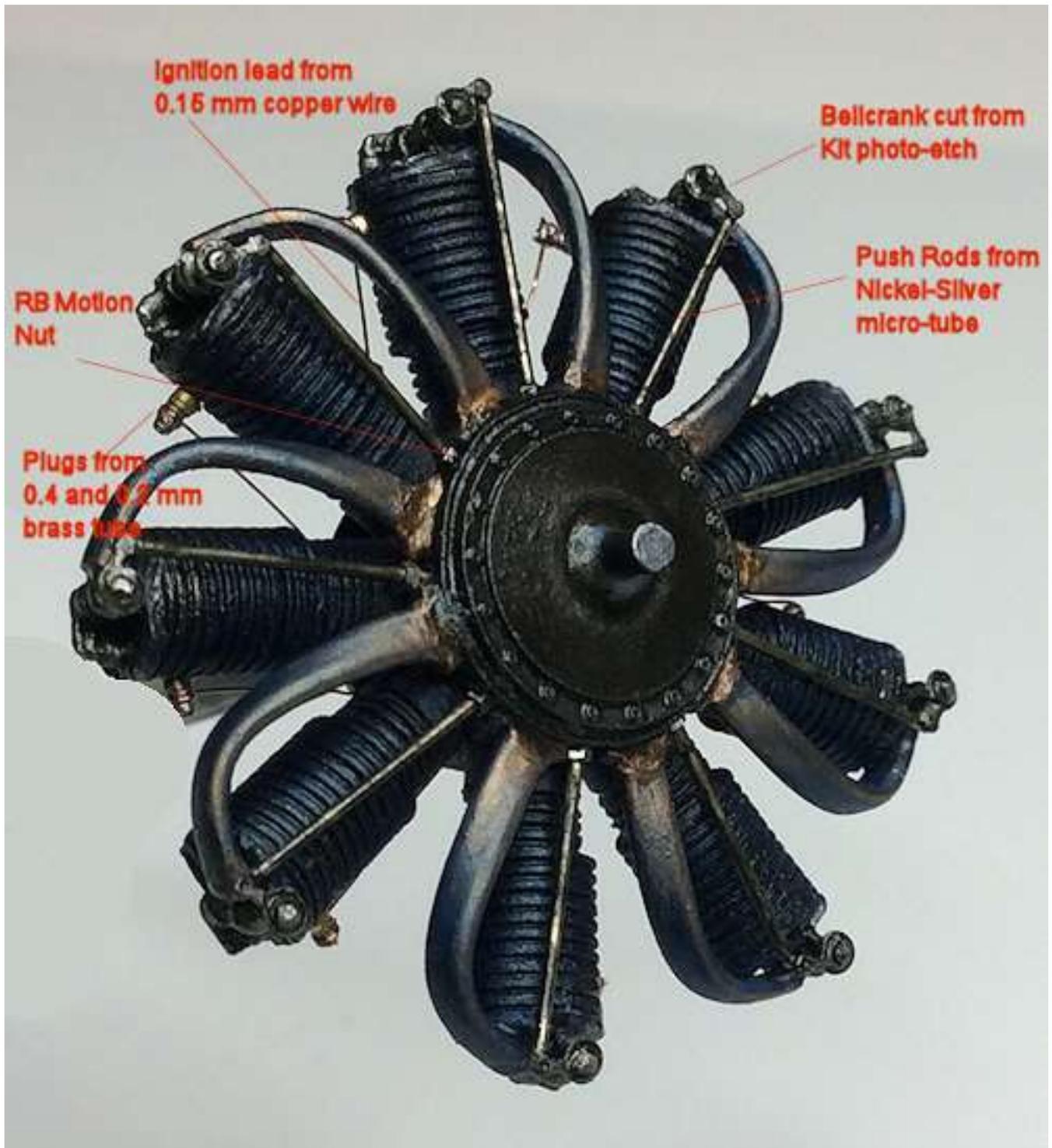
The engine is located on a drive shaft, which protrudes through the engine bulkhead. The bulkhead also has a tank attached and its filler neck passes through a hole in the engine cowl (which needs to be drilled). At this stage I would strongly advise dry fitting of the various parts, to ensure everything aligns before painting.

The engine mounting shaft, once fitted through the engine bulkhead, was cut back so the engine could be correctly located on the shaft.

The assembled engine was then airbrushed with Alclad II Grey Primer and Micro-filler (ALC-302), which is finer than Tamiya primer and leave the detail showing on the resin cast engine. Each of the 9 inlet tubes were primed with Tamiya 'Fine' Grey primer (aerosol) the airbrushed with Mr. Metal Copper (215). The whole engine was then given a wash of AK Interactive 'Leaks and Stains'. When dry I applied Tamiya Weathering Set D (Burnt Blue) to the manifolds and tops of each cylinder, using a short, fairly stiff brush. This was applied to give the effect of heat soak.

The cylinder valve push rods and operating bell crank were kit supplied photo-etch parts. As they were flat, I cut off the rod stems and attached the bell cranks to each cylinder. I then added 0.4 mm Nickel-Silver tubes (Albion Alloys) with RB motion nuts at the base, to represent the push rods. The spark plugs were missing on the engine mould, so I made them using 0.5 mm brass tube with 0.3mm Nickel-Silver inserts (Albion Alloys). These were inserted into 0.7 mm holes drilled into the cylinder heads. The ignition leads were made from 0.12 mm copper wire.

Once the engine is fixed to the forward fuselage bulkhead and the engine cowl is installed, most of this detailing will be seen. Hey Ho — that's modelling.



PART 5 - EXTERNAL SURFACES

For this model I will be airbrushing the surfaces to give the effect of seeing, through the linen covering, to show the shadow/outlines of the various spars, formers and stringers that make up the internal structure of the wings and fuselage.

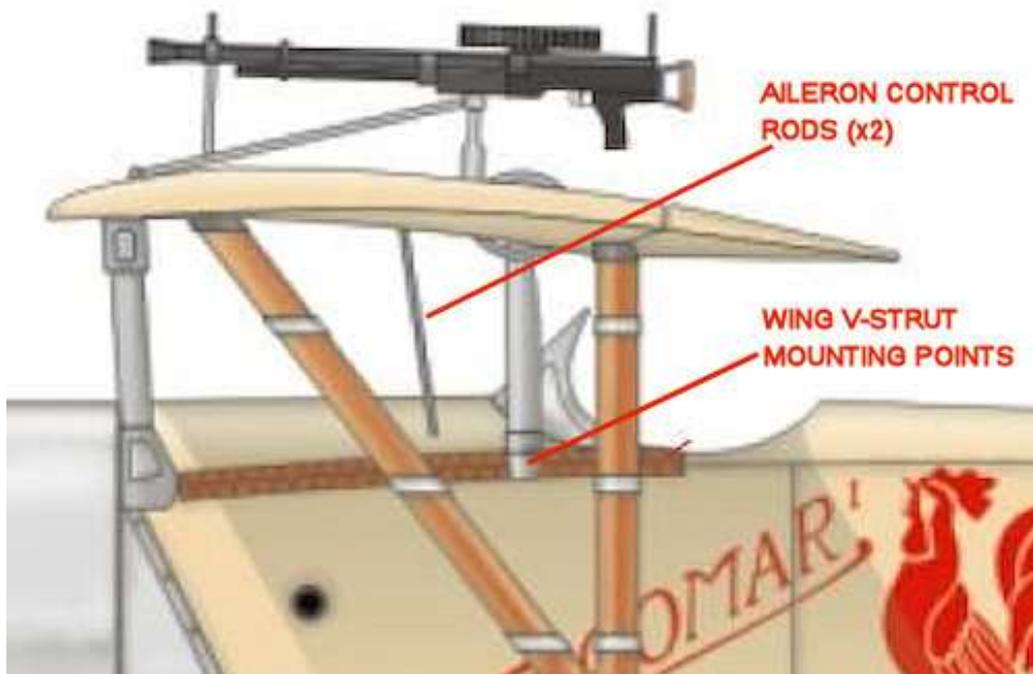
Aileron control rods:

Firstly I cut and filed the two recesses in the fuselage decking, just forward from the cockpit. These were to attach the V-strut for supporting the top wing. Also I did the same at each side of the front of the fuselage for attaching the two vertical wing support struts. Holes of 0.5 mm were drilled into the V-strut and two vertical struts to act as mounting points. Corresponding holes were then drilled into the recessed locations. Brass tube of 0.5 mm was secured into the strut hols with CA adhesive.

The fuselage was secured onto my work surface with 'Blutack' and the wings and all struts were temporarily fitted and adjustments made to obtain the correct positions and alignment.

At this point I used brass tube of 0.8 mm through the aileron slots in the top wing and onto the fuselage below. I marked the fuselage at the position the two aileron control rods would pass through the fuselage and connect to each end of the cockpit control bar. The wings and struts were then removed and two holes drilled through the fuselage for the aileron control rods. When drilling these holes, make sure you get the angle of the holes correctly orientated, as the control rods are angled from the top wing, slightly inboard and rearwards at the fuselage.

The brass tubes in the struts and at the fuselage V-strut attachment points were then filed down so they did not protrude through the wing mounting tubes.



The first job was to mask the cockpit opening and external engine bulkhead. For masking I use a combination of masking tape, 'Blu-tack' and Humbrol 'Maskol'. I then primed all surfaces with Tamiya Fine Primer (Grey).

CDL surfaces:

The entire aircraft surfaces are Clear Doped Linen (CDL). I first airbrushed the fuselage, the fin and the top surfaces of the tail plane/elevators and upper/lower wings with Tamiya Deck Tan (XF55). I airbrushed the bottom surfaces of the tail plane/elevators and upper/lower wings with a mixture of Tamiya Deck Tan (XF55) and Flat Earth (XF52). This was done as I wanted to 'show through' the wing formers and front and rear spars, the tail plane formers and the fuselage formers and lower longerons. Viewed from above these would not show much, although the wing tapes would be slightly lighter in colour. However when viewed from below, the natural light penetrating through the linen surfaces would throw 'shadows' where the spars etc are located and therefore needs to be a darker colour.

Once dry I airbrush Alclad Semi-Matte (312) lacquer over the surfaces to seal the paint.

I then used thin strips of masking tape on the darker, bottom sides on the tail plane/elevators and upper/lower wings to cover all of the wing tapes and where the spars etc would be located. This was achieved using thin masking tape of different widths. The position of the wing spars were masked using tape of 2mm width and the rest using tape of 1mm width.

I then airbrushed Tamiya Deck Tan (XF55) over these surfaces and when dry, removed the masking tapes to reveal the darker wing spars etc.

Once dry, I removed all of the masking tape. This is best done as soon as possible, otherwise there is always the chance the tape will lift the paint underneath if left on for too long. Also the materials used by different manufacturers can react differently with paints/thinners etc. You may find that if left on for too long, paint or thinners can creep under some tapes and may even soften it's adhesion, which will give a undesired finish. The result gives the outlines of the internal structure.

NOTE: I did not use the fuselage or Rudder markings, as the kit decals proved to be very easy to tear on application and also do not adhere to the painted surfaces, even when sealed.

Instead I airbrushed the fuselage and rudder banding. Firstly, I masked off the fuselage area and airbrushed that area and the rudder with Tamiya White (X2). Once dry I sealed these with Alclad Semi-Matte lacquer (312). I then masked off and in turn, airbrushed the 'French' blue bands and finally the red bands (Tamiya Red (X7)) mixed with White (X2) to create the matching red colour with the kit supplied roundels.

Once dry I airbrush Alclad Semi-Matte (312) lacquer over the surfaces to seal the paint.

Next I masked off for the 'brown' fuselage, wing and tail plane border tapes. I then brush painted these areas with Tamiya NATO Brown (XF68) mixed with a small amount of Semi-Gloss Black (X18).

The tail skid was brush painted with Tamiya Deck Tan (XF55) then over brushed with Deco Art Craft Acrylic (Burnt Umber). The metal fittings were painted with Mr. Metal Iron (212).

The undercarriage assembly was airbrushed with Tamiya Aluminium (XF16) with Mr. Metal Iron (212) for the fittings. The suspension 'bungee' cord was made with 0.4 mm lead wire, which was secured with CA adhesive.

The engine side cowls needed to be shaped to fit the contour of the mail cowl and fuselage. All three were then airbrushed with Tamiya Aluminium (XF16).

The wing V-struts were painted as detailed in this build log, (Wood Effect, Part 3, Pages 15 and 16).

All painted surfaces were then sealed with Alclad Semi-Matte (312) lacquer.

To give the impression of wing formers below the wing and tail plane tapes and the fuselage/rudder structure, I used thin strips of masking tape over those specific areas, before applying the Flory clay weathering wash.

For general weathering, I used Flory Model clay washes, which come in various shades and consist of a very fine clay pigment. For more on applying Flory Clay washes, [refer to this build log, Part 2, pages 13 and 14](#). There I describe applying these washes to the internal fuselage surfaces and the same technique was used for weathering the CDL external surfaces.

The wash I used this time was the 'Grime' clay wash, which when dry, gives more of a dirt colour. The undercarriage and wing struts were washed with 'Dark Dirt' clay wash.

When finished I airbrushed Alclad Semi-Matt lacquer in order to seal in the clay wash.

Oil and fuel stains were created using AK Interactive washes (Aircraft Engine Oil and the Leaks Kerosene / Stains [AK 2019]).

The finish I tried to create was one of an in-service, war weary aircraft.



PART 6 - WHEELS

The assembly of the two wheels halves is straight forward. After assembly, the wheels were primed then when dry, airbrushed with Tamiya Deck Tan (XF55) on the rear side and Tamiya White (X2) on the front sides.

NOTE: To airbrush the face of the wheels without over spraying the surrounding tyres, I use a circle drawing tool (Linex 1217 T). I selected the correct size of hole, which in this case was 16 mm diameter, and positioned the wheel face under the hole. Then I airbrushed through the hole onto the wheel face.

Once dry I airbrushed Alclad Gloss lacquer (310) to seal the paint and provide a smooth surface for applying the decals.

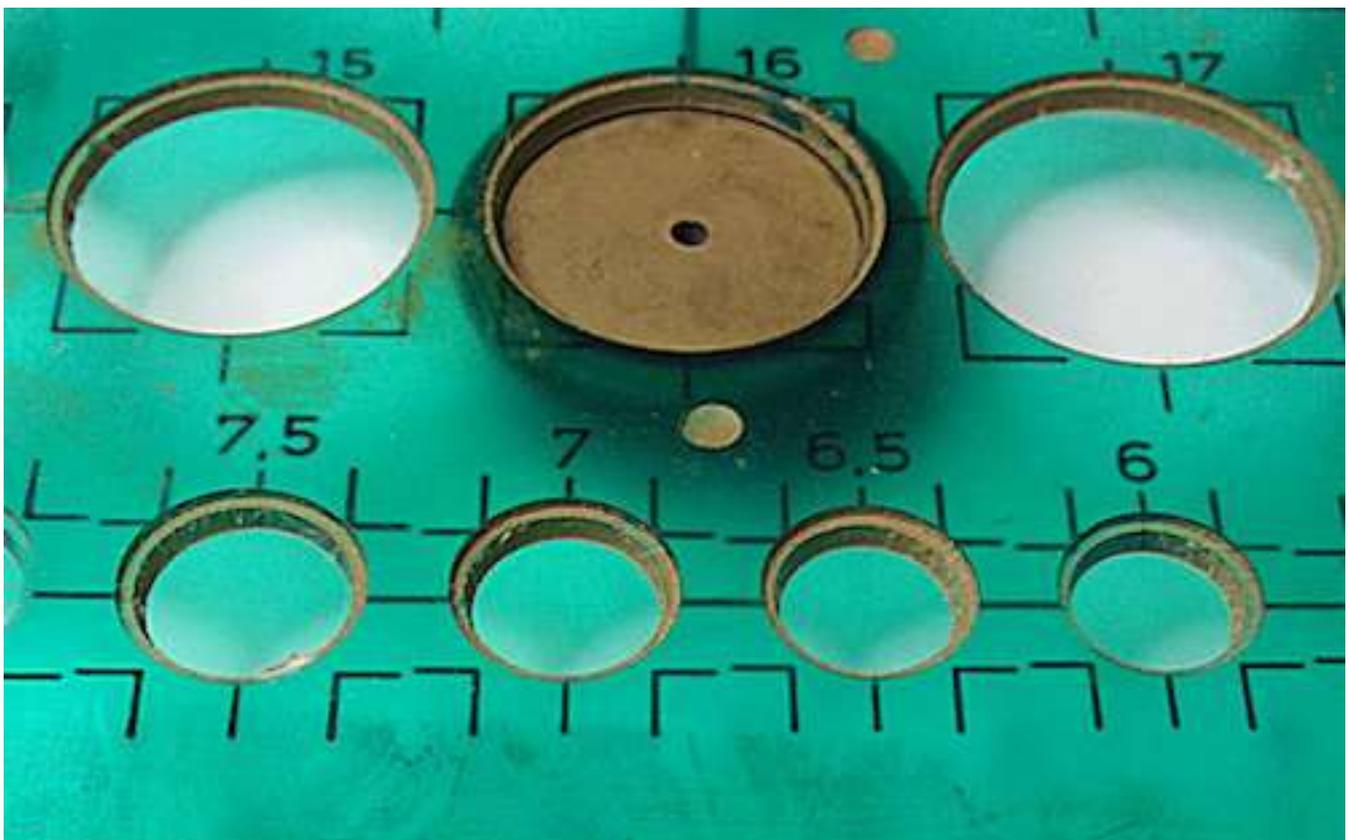
NOTE: I did not use the blue coloured centre disc decal for the wheels, as the kit decals proved to be very easy to tear on application and also do not adhere to the painted surfaces, even when sealed. Instead I airbrushed the blue discs using Tamiya Medium Blue (XF18), mixed with small amounts of Flat Blue (XF8) and White (X2), to create the 'French' blue colour. Then the tyres were dusted with Humbrol Dark Earth weathering pigment.

The wheels were then sealed with Alclad Klear Kote Semi-Matte (ALC 312) lacquer .

Once dry, I brushed a coat of AK Interactive 'Kerosene' around the tyres.

A 0.8 mm diameter hole was drilled through the tyre and towards the centre of the wheel. A short length of paper clip wire was then CA glued into the hole.

NOTE: Don't push the wires too far into the wheels, otherwise they may cross the centre of the wheels, stopping the axle penetrating fully into the wheels. These pins will secure the model onto it's display base.



PART 7 - WEAPON

The only weapon fitted to this aircraft was a Lewis machine gun, fitted to a tripod assembly in the centre of the upper wing.

Although the kit item is good, I opted to fit an aftermarket gun. In this instance it was a gun supplied from 'Gaspatch', who have a range of various WW1 weapons, all of which have well defined and accurate detail.

After that the gun was primed then airbrushed with Tamiya Aluminium (XF16). Once dry I brushed Mr. Metal Iron (213) then painted the ammunition drum handle with Humbrol Leather (62) and the handle grip with Tamiya Flat Brown (XF 10). The Iron surfaces were then rubbed with cotton buds to wear through the colour to show the Aluminium underneath. Finally a light dry brushing of Tamiya NATO Black (XF 69) was applied around the muzzle area to give a sooty effect.



PART 8 - DECALS

NOTE: I did not use the fuselage or Rudder markings, as the kit decals proved to be very easy to tear on application and also do not adhere to the painted surfaces, even when sealed.

The only kit supplied decals I used were those for the wings. Extreme care must be taken when applying these decals.

First the areas to have decals was airbrushed with Alclad Gloss (310) lacquer, to form a smooth surface and reduce the likelihood of 'silvering' under the applied decals. This is caused by air being trapped in the rough surface of the paint, which after the decal is applied and dries, causes the 'silvering'.

Once dry, the decals were loosened in water and slid into position. Soft tissue paper, such as toilet paper, was used to squeeze out surplus water. Then I applied a coating of 'Micro Sol' setting solution all over the decal, including the parts of the decal standing away from the surface they needed to be tucked around. The setting solution softens the decal and allows it to seat down fully on the surface. After a minute or so the decal can be gently pushed around the edges.

NOTE:

1. As the setting solution softens the decal, care must be taken when touching the decal or damage can be caused.
2. The setting solution causes the surface of the decal to wrinkle, but this is normal and the decal, when dry, will be flat. If there are any visible bubbles under a decal, use a sharp pin to prick the bubble then apply more setting solution.

Then a coat of Alclad Klear Kote Semi-Matte (ALC 312) lacquer was airbrushed over them to merge them with the previously applied lacquer and also to seal them.

Once dry, Flory 'Dark Dirt' clay wash was applied over all decal areas and when dry, gently wiped off to create a subtle weathered effect. And a final coat of lacquer was applied to seal the decals.

A final coat of Alclad Semi-Matte lacquer was then applied to seal the clay washes.

PART 9 - PROPELLER

The propeller was airbrushed and the laminated effect was created by use of the RB Productions 'Laminated Propeller Mask'.

Once primed and dry, the propeller is clamped onto the mask and thinned Tamiya paints are sprayed through the mask slots onto the propeller, which is then reversed in the mask to spray the other sides. Although not true laminations, the effect produced is a good representation.

A base coat of Tamiya NATO Brown (XF 68) was applied. The lighter laminations were created using Tamiya Wooden Deck Tan (XF78).

A final airbrushed sealing coat was applied using Alclad Semi-Matte (312) lacquer, mixed with a small amount of Tamiya Clear Orange (X26), to seal and give a varnished effect.

The propeller boss was brush painted with Mr. Metal Stainless Steel (213).



PART 10 - RIGGING



Having attached the wings to the aircraft, I secured in the 'Third Hand' rig, ready for rigging.

For structural strength I used 'Steelon' mono-filament (fishing line) of 0.12 mm diameter. This is effectively transparent but does give a look of steel, without the need of painting or colouring with a gel pen.

Typically for many aircraft of the period, cables were used for flying controls and internal bracing. Even at 1:32 scale, it is difficult to see with the naked eye, any difference between types and sizes of the various rigging used on the actual aircraft. Therefore as a representation only of the rigging, I used just the mono-filament throughout.

To cut the various micro-tubing I rolled a shielded razor blade across the tube whilst applying light pressure. This will easily cut the tube without leaving burrs or blocking the cut end of the tube, which would stop the rigging from passing through.

To replicate the cable swaging I used Albion Alloys 0.4 mm Nickel Silver tube, cut to short lengths.

A long length of line was inserted into a tube then through the cable anchor fixture (Gaspach 1:32 scale Anchor Points). The line was then looped back and through the tube, leaving plenty of free line (to allow tightening later). The other end of the line was passed through another tube and then through the Gaspach anchored turnbuckle (Type A). Again the line was looped back and through the tube. This thine was pulled to tighten the tube against the turnbuckle, then secured in position with CA adhesive.

This procedure was carried out for all of the rigging lines required.

The ends of each line with the Gaspach cable anchor points were inserted into the pre-drilled holes in the underside of the top wing and forward fuselage and secured with CA adhesive (taking care not to get adhesive onto the line/tube).

The other end of each line, with the Gaspach anchored turnbuckles (Type A) was then attached to the upper surfaces of the lower wings and underside of the top wing. Each line was then tensioned by carefully pulling through the line at the 'loose' end to pull the tube against the anchors. These were then secured in position using CA adhesive.

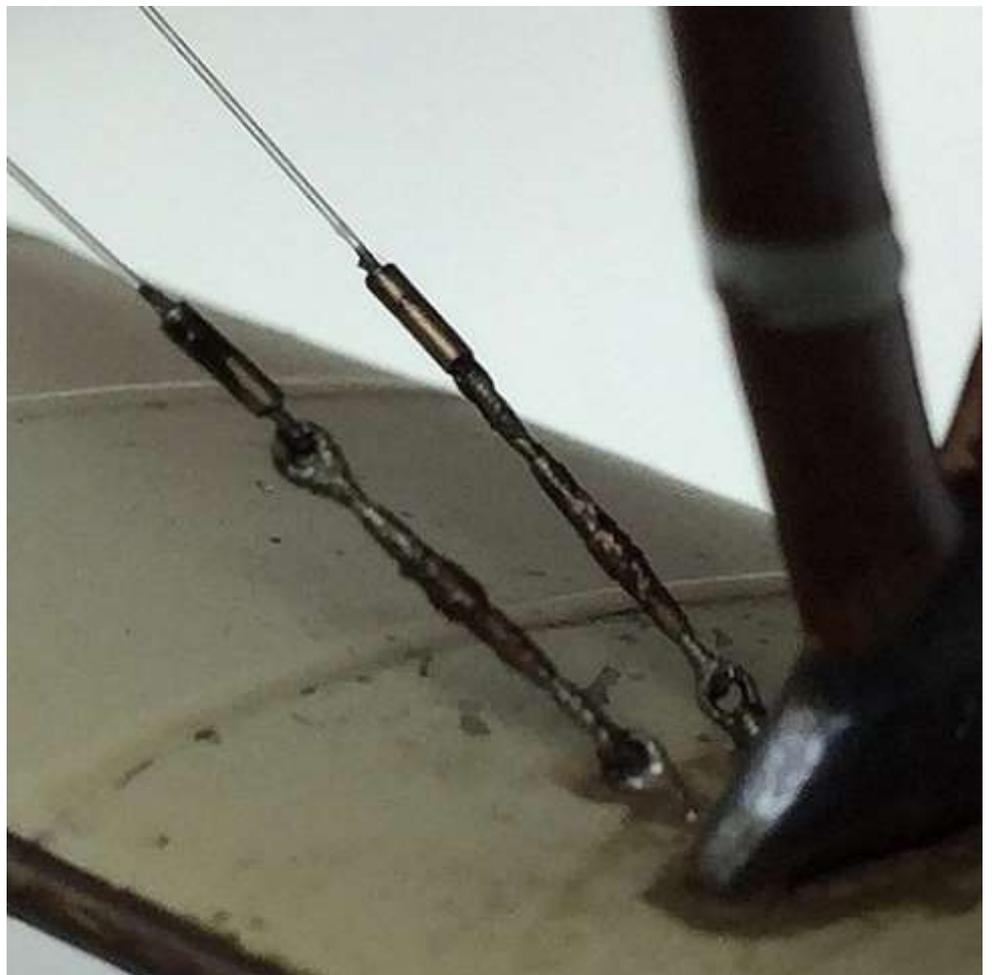
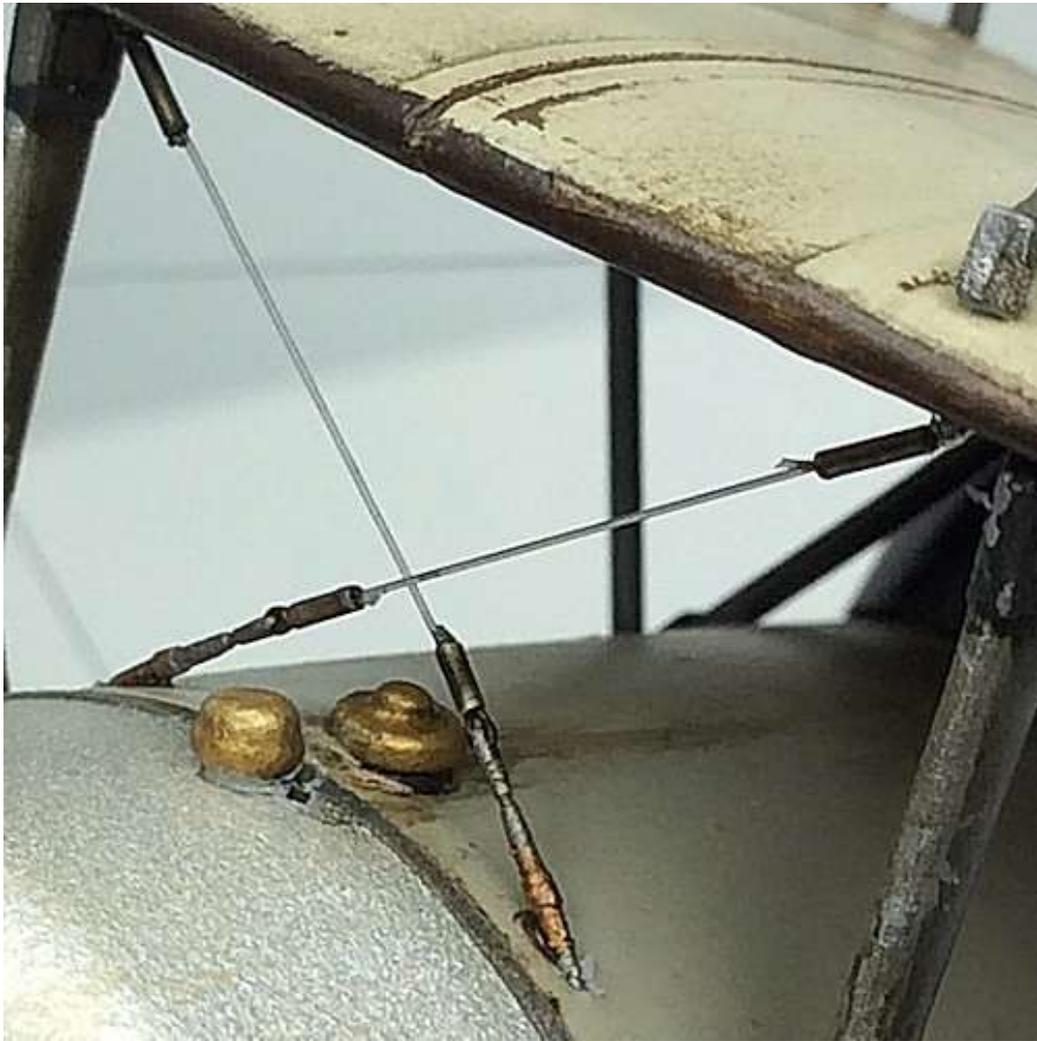
NOTE: As you work your way through the rigging it is always good to check the rigging attachment points for any damaged paint. This can be rectified before continuing with the rigging, just in case access will be limited once all of the rigging is completed.

The exposed Nickel Silver tubes were 'toned down' by applying a light coat of AK Interactive wash (Leaks and Stains).

A final light airbrushing of Alclad Semi-Matte (ALC 312) lacquer was applied to knock back the shine of the mono-filament and give it a look of steel.







PART 11 - FIGURE

The figure I chose to use is the Pilot figure (No. F32-003) by Copper State Models. The figure parts were first washed in warm soapy water using an old toothbrush. This was to get rid of any residual release agent from the figure. Ensure the figure is fully dry before continuing. The figure was then assembled.

NOTE: When brush painting with Acrylics, I always add a small amount of thinner in order to keep the paint fluid, otherwise I find it doesn't brush well onto the primed surface. The shadows and highlights were brushed on while the base coat was still wet, which allows you to blend the paint, rather than ending up with stark contrasts.

Once fully dry the figure was primed using Tamiya Fine Grey primer. The figure was then painted as follows:

Trousers -- Tamiya Flat Blue (XF8) mixed with Tamiya NATO Black (XF69). Shadows were added using the same mixed paint but adding more Tamiya NATO Black (XF69).

Leather coat / boots -- Tamiya NATO Brown (XF-68) mixed with Tamiya NATO Black (XF69). Shadows were added using the same mixed paint but adding more Tamiya NATO Black (XF69).

Helmet -- Humbrol Leather (62).

Puttees/Goggles -- Tamiya Flat Earth (XF52).

Skin -- Humbrol No.61.

Buttons/Buckles -- Mr. Metal Brass (219).

Goggle Lenses -- Mr. Metal Stainless Steel (213).

Helmet Trim -- Tamiya White (X2).

An airbrushed coat of Alclad Klear Kote Semi-Matte (ALC 312) lacquer was applied to seal the paints.



PART 12 - DISPLAY BASE

The display case is made from 6mm thick Piano Black Acrylic sheet and the transparent top is fabricated from 3mm thick Clear Acrylic sheet. This was made for me by an on-line manufacturer. The name plaque was also made by an on-line retailer and was attached to its mount.

The model and pilot figure were positioned on the base in their final positions and the pin locations were marked on the base. Three 1.0 mm holes were drilled into the base to correspond to the paper clip pins in the two wheels and the one in the leg of the pilot figure. Three lengths of paper clip were cut and temporarily located into the three holes.

The grass mat was cut to shape from a sheet of 'Model Scene Grass Mats' (F517). The cut mat was then positioned on the base and with the three pins protruding through the mat. The outline of the grass mat was then lightly scored into the base surface. The grass mat was then removed and the black base was scuffed inside the mat outline with a medium grade glass paper in order to give a key for adhesive. The back of the grass mat was then lightly sprayed with water.

NOTE: If too much water is sprayed onto the grass mat and/or too much adhesive is applied to the base, the result will be that adhesive will show through the grass mat and possibly still be visible once the adhesive has fully dried.

A coat of PVA adhesive (wood glue) was applied to the base over the scuffed area and slightly outside the outline of the grass mat (for applying a sand border). The grass mat was then laid onto the PVA adhesive and positioned correctly, again with the temporary pins protruding through. Light pressure was applied to ensure the mat was in contact with the adhesive. While the PVA adhesive was still wet, dry sharp sand was sprinkled around the edges of the grass mat and lightly pressed into the PVA adhesive.

Once the PVA adhesive was dry, the excess sharp sand was 'knocked' off the base. Don't brush off the excess sharp sand or you may scratch the exposed base surface, which is acrylic sheet and easily marked.

Kitchen 'Cling-Film' was positioned around the grass mat (slightly away to leave the applied sharp sand exposed) and held in position with thin modelling masking tape, following the outline shape of the grass mat (maintain the curved edges of the outline by avoiding straight or sharp edges of the tape). This sand border was then airbrushed with Tamiya Flat Brown (XF10) and once dry was lightly dry-brushed by hand with Tamiya Dark Yellow (XF60) to add colour variation. This border effect can also be achieved by hand brushing, in which case the Cling Film and masking tape would probably not be needed.

To add variation to the grass mat, small clumps of 'Mini-Nature' two colour grass tufts (737-22S) were 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.

The three temporary paper clip pins were then removed and the three holes 'cleared out' with a 1.0 mm drill to ensure the model pins would fully seat into the holes.

White adhesive (PVA glue) was then applied to the two wheel pins and the model was carefully seated into the two previously drilled holes. Light pressure was applied to the wheels and rear fuselage to ensure the model 'sat' naturally on the grass mat. The same was applied to the pilot figure.

EXAMPLE OF MODEL BASE



COMPLETED MODEL PHOTOGRAPHS





French Neuport 11 Bebe, Serial No. N576
of Escadrille N117, during 1915-1916, as
flown by Jean M.G. Navarre (12 victories)







