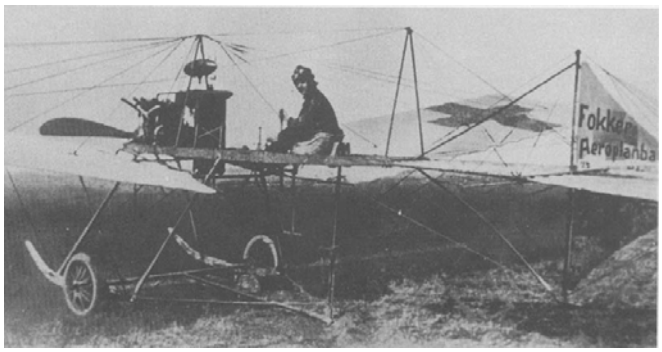
# Fokker Spin 1912 (1st variant) Aircraft in Miniature[1] photo-etched kit

## Monoplane training prototype

Scale 1:72




Although "Fokker Spin" seems a straight-forward reference to the first Fokker aircraft constructed, this certainly is not the case. From various sources it may be derived, that at least 8 variants have been built in the period from October 1910 until March 1913, when the Spin received the formal designation M.1.

The kit probably models the Fokker Spin 1912, 1st variant, a major modification of the Spin III[2]. The instruction sheet states that the model represents the second Spin, which Fokker used to obtain his pilot license and that also flew in Haarlem, the Netherlands, during the festivities on occasion of the Queen's Birthday in August-September 1911. This cannot be correct, because that Spin had lateral radiators and not a central one, as has the model in the kit (see for example Leaman, ref. 4, and Postma, ref. 5). Leaman shows a picture of the first variant of the 1912 Spin, which has a central radiator and shows also the inscription "Fokker Aeroplanbau" on the rudder. The picture on the cover of the instruction booklet in the kit shows a Spin with the word FOKKER in big characters under the wing. It is doubtful that this is the 1912 Spin. This picture and another one in Leaman's book show rather a Spin with lateral radiators. Hegener (ref. 2) states in his book that the Spin that flew in Haarlem was the third Spider. The second Spin had, according to him, a rectangular and a triangular pylon for the wing bracing cables, the third two triangular ones. Other references (Grosz, ref. 6; Engels, ref. 1) are not very useful to establish the real history and chronology of the many Spins that have existed.

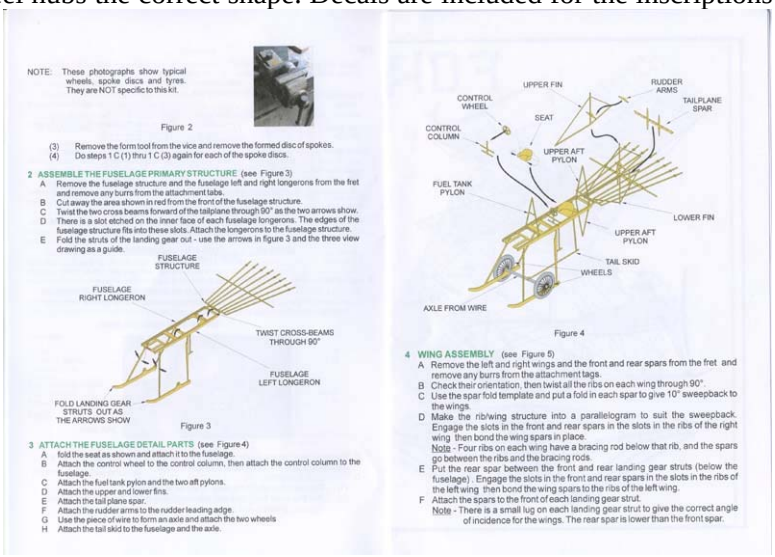

Both the Spin II in Haarlem and the 1912 Spin were single-seaters, but could be adapted to accommodate a second person. In the regular two-seater configuration and equipped with a water cooled engine the Spin was normally equipped with side radiators.

This Spin 1912 1st variant was the prototype for the "standard" training aircraft that Fokker was going to use in his flying school that provided most of the income during the early years of the Fokker factory in Johannisthal, Germany.

The kit comes in a carton box and is very complete. It contains the photo-etched brass parts, nickel-silver parts for the spoked wheels and fuel and water piping, white metal parts for tyres, fuel tank, pilot, radiator and propeller and even a form tool to give the wheel hubs the correct shape. Decals are included for the inscriptions "Fokker Aeroplanbau" and "FOKKER". Liteplan foil is included to cover the wing and tail surfaces.

The nine page instruction booklet gives extensive guidelines by means of exploded views, three-view drawings and photographs and leave not much more to desire. As explained above, the short introduction also included in the booklet, is probably incorrect. There is no mention of references used. Some more pictures of the original aircraft would have been useful.

Engels and Leaman present a three-view drawing of the Fokker Spin 1912, 1st variant.



NOTE: These photographs show typical wheels, spoke discs and tyres. They are NOT specific to this kit.

Figure 2

(3) Remove the form tool from the vice and remove the formed disc of spokes.
(4) Do steps 1 C (1) thru 1 C (3) again for each of the spoke discs.

2 ASSEMBLE THE FUSELAGE PRIMARY STRUCTURE (see Figure 3)
A Remove the fuselage structure and the fuselage left and right longerons from the fret and remove any burrs from the attachment tabs.
B Cut away the area shown in red from the front of the fuselage structure.
C Twist the two cross beams forward of the tailplane through 90° as the two arrows show.
D There is a slot etched on the inner face of each fuselage longerons. The edges of the fuselage structure fits into these slots. Attach the longerons to the fuselage structure.
E Fold the struts of the landing gear out - use the arrows in figure 3 and the three view drawing as a guide.



Figure 3

3 ATTACH THE FUSELAGE DETAIL PARTS (see Figure 4)
A fold the seat as shown and attach it to the fuselage.
B Attach the control wheel to the control column, then attach the control column to the fuselage.
C Attach the fuel tank pylon and the two aft pylons.
D Attach the upper and lower fins.
E Attach the tail plane spar.
F Attach the rudder arms to the rudder leading adge.
G Use the piece of wire to form an axle and attach the two wheels
H Attach the tail skid to the fuselage and the axle.



Figure 4

4 WING ASSEMBLY (see Figure 5)
A Remove the left and right wings and the front and rear spars from the fret and remove any burrs from the attachment tags.
B Check their orientation, then twist all the ribs on each wing through 90°.
C Use the spar fold template and put a fold in each spar to give 10° sweepback to the wings.
D Make the rib/wing structure into a parallelogram to suit the sweepback. Engage the slots in the front and rear spars in the slots in the ribs of the right wing, then bond the wing spars in place.
Note - Four ribs on each wing have a bracing rod below that rib, and the spars go between the ribs and the bracing rods.
E Put the rear spar between the front and rear landing gear struts (below the fuselage). Engage the slots in the front and rear spars in the slots in the ribs of the left wing then bond the wing spars to the ribs of the left wing.
F Attach the spars to the front of each landing gear strut.
Note - There is a small lug on each landing gear strut to give the correct angle of incidence for the wings. The rear spar is lower than the front spar.

| | *Ref.* | *1:72* | *model* |
|---|---|---|---|
| *Span* | 10.97-11.00 m | 152.4-152.8 mm | 158.1 mm |
| *Length* | 7.90-7.92 m | 109.7-110.0 mm | 108.7 mm |
| *Height* | 3.00-3.02 m | 41.7-41.9 mm | 52.3 mm |
| *Engine* | Argus; 70 hp | | |
| *Crew* | 1(+1) | | |

So the span is slightly too large, the length and height are quite all right. The model is well to scale.

**General**

The building instructions recommend to solder the brass parts. As an experiment I will follow that recommendation, as it gives a more solid construction, which may be useful as the Litespan foil and the many bracing cables will undoubtedly stress the structure. I probably will not accommodate a second seat, as that is incompatible with the central radiator version. It is not included in the kit anyhow. First task is to separate the brass parts and to fold them properly.


**Fuselage**

The first part separated from the PE sheet is the fuselage frame. And there the first problem appears: bending the three transverses 90 degrees as indicated in Figure 3 of the instruction sheet deforms the frame itself, so two pliers are the minimum you need to do the job, and even then you still need to correct the frame quite a lot. The longerons fit well, but are slightly longer than the fuselage frame. It seems logical to keep the front end as the position reference. Although I have no experience with it, I have decided to use soldering to assemble the model.

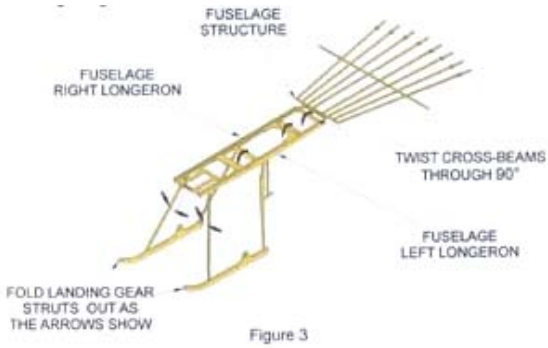
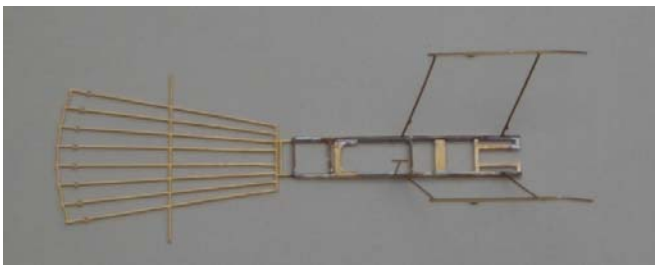
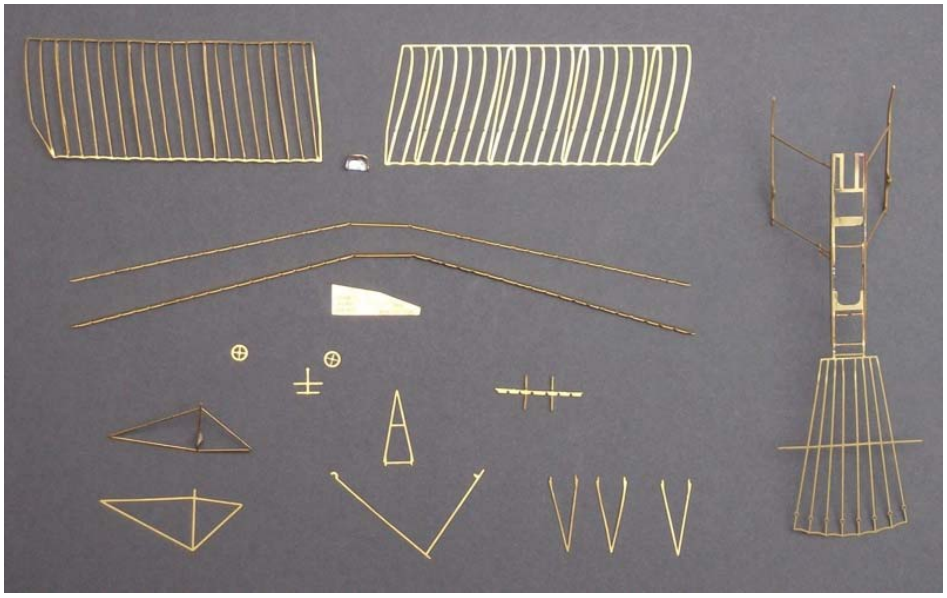


Figure 3



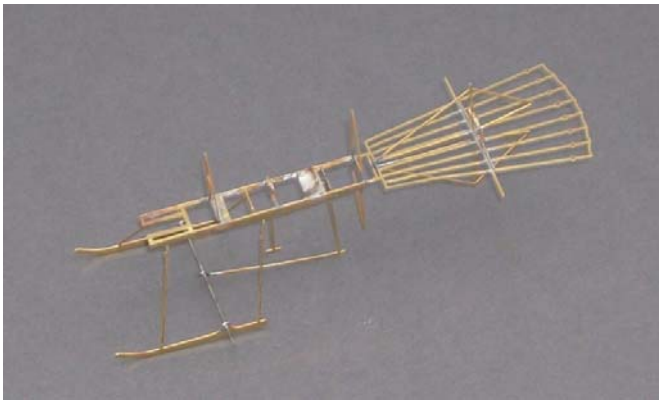
The two longerons of the fuselage frame have been soldered to the horizontal part of the frame with normal resin solder, using a temperature controlled soldering station with a temperature setting of 350 C. I have made the joint at the underside of the frame. Excess solder has been filed away. Al-

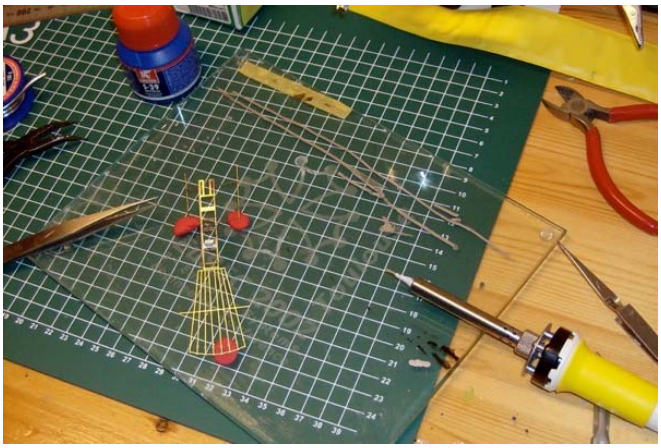


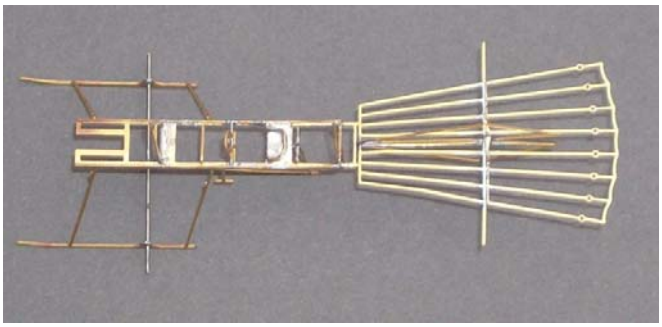
though both solder and soldering iron tip were too crude for this kind of work the result is acceptable.

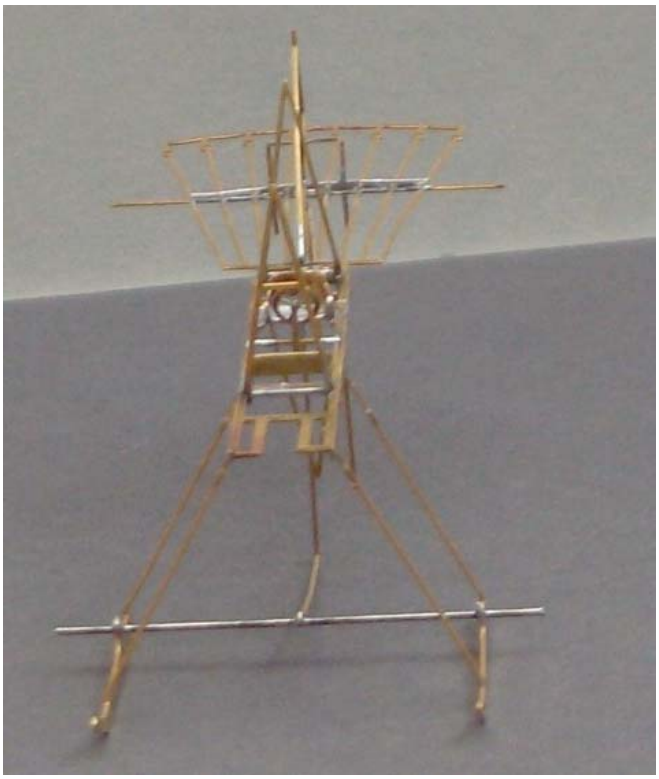
I have removed the remaining parts for the PE sheet and cleaned them. There are some spare parts: the very small control wheel and one of the pylons. I had to correct the pilot seat quite a bit after bending and soldering it. The sides were sticking out a couple of millimeters in front of the bottom. On the picture the right wing is shown at the left, at the right the other wing, which still has to be processed. The flat piece in the middle is a jig to determine the correct wing sweep.

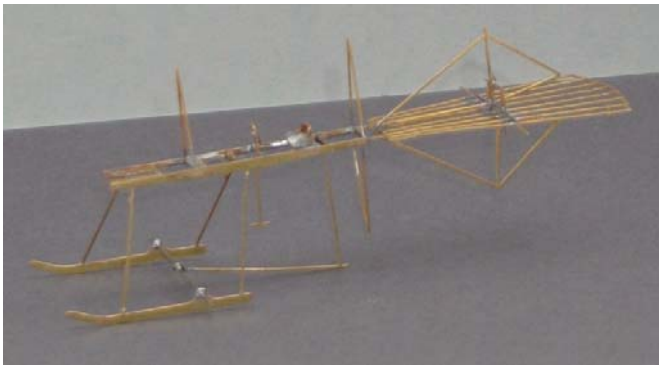
With new soldering equipment (fine point, soldering flux and also plasticine to fix the model while soldering it) I have completed the fuselage. No problems what so ever. I have followed the order as indicated in the instruction sheet.[3]





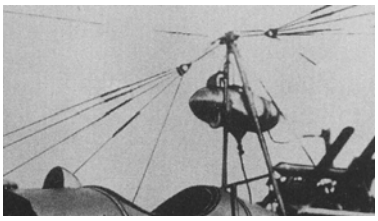






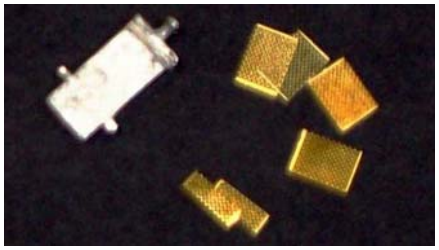
The standard procedure for soldering: apply flux with a fine brush on both locations where the joint must be made, transfer solder to both surfaces, hold the part to be assembled with a set of tweezers on its place and fuse the joint with the hot soldering iron.

I have made the axle from 0.6 mm steel wire. Soldering goes as easy as the brass PE. After completion of the assembly the fuselage should be rinsed with water to remove the excess flux, which will otherwise oxidize the brass.



Inspection of the photographs of 1912 Spins shows that the wing bracing wires have not been attached directly to the forward pylon, but to eyelets, which are attached to the pylon. That is also

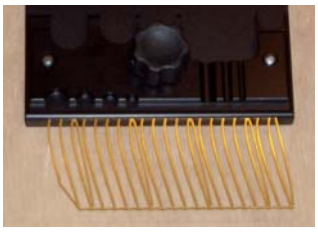
convenient for the model, as some ten bracing wires are attached to the pylon. I have produced the eyelets from 0.25 mm wire, wound around messing wire of 0.5 mm, and soldered them to the front pylon.



I will detail the radiator with PE parts (intended to detail LMG08 machine guns) left over from HR Models kits. The two studs at the side have to be removed to fit it nicely in position in the fuselage.

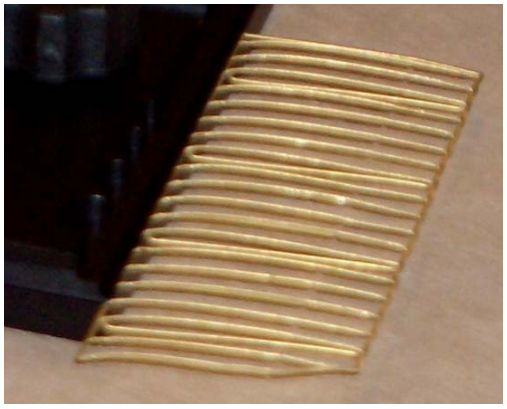
**Wing**

Like the transverses of the fuselage, the ribs of the wings, which are all lying in the same plane as wing leading and trailing edge, have to be rotated 90 degrees to an upright position. Attention must be paid to identifying right and left wing, as that determines the rotation direction of the ribs (the drawings in the instruction sheet are not very clear for this aspect).

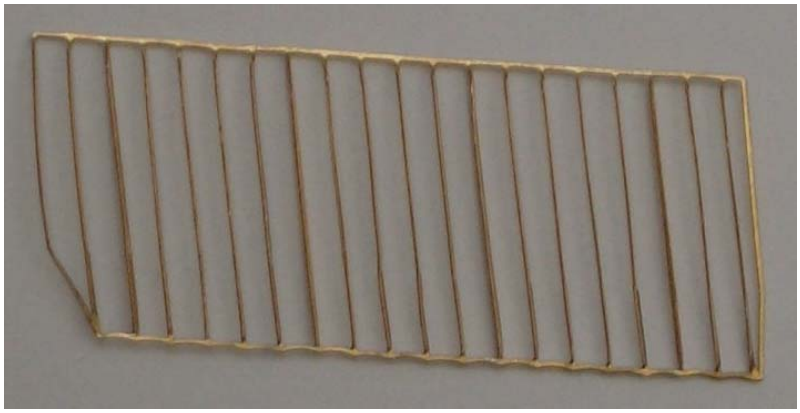


The wing root is where the rib has two slots to locate the wing spars. The wing tip edge has no slots and remains flat.

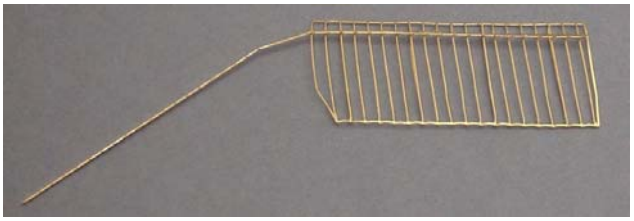
To prevent torsion of the wing leading edge, I have clamped it in a PE bending tool. This helps a little bit, but not really enough. On the picture at the bottom right one can see that the leading edge starts to deform after bending a couple of ribs. So I moved the wing gradually through the bending tool, such that the ribs that will be bent are always in the middle of the tool, where the clamping force is largest. The result is acceptable, but needs much rework by hand.

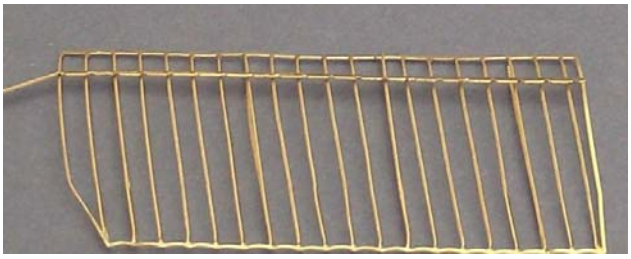


The wing root is at the left. Bending the ribs is rather critical, and should ideally be done right at once. Correcting the rib position a number of times leads fast to fracture, what happened to one of the ribs in my model also.



Next step is fitting the wing spars. This was a disappointment. Sliding the spar between the ribs went well, but rotating the spar upright was impossible. Closer inspection showed that the length of the spar was correct, but the spacing between the rib slots was incorrect. When aligning the front spar to the wing root rib, the slots shift gradually to the tip, where the mismatch is more than a millimeter. This cannot be corrected by rotating the ribs more or less span wise (when I tried to do so, it led immediately to fracture of one of the ribs[4]), because the same defect is present in the lower rear spar and there adjusting the rotation angle has no effect at all.

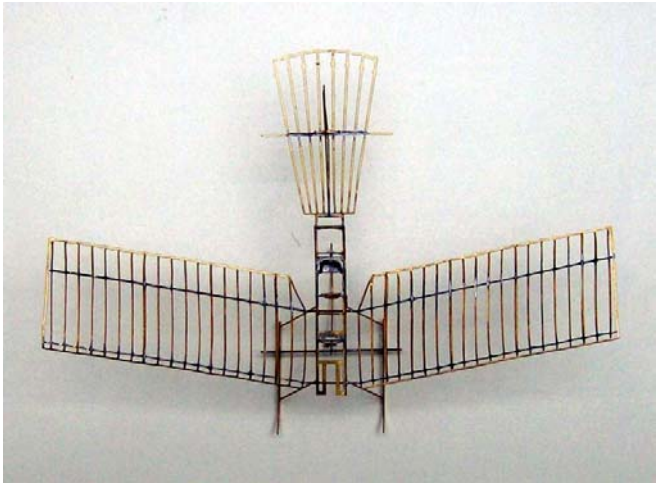


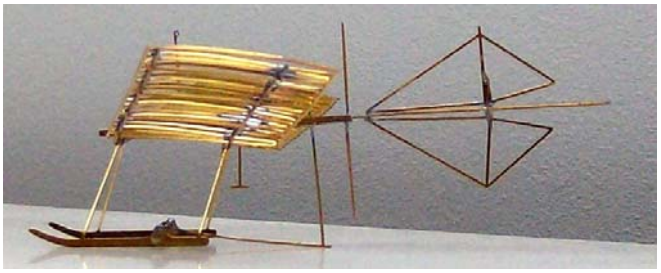


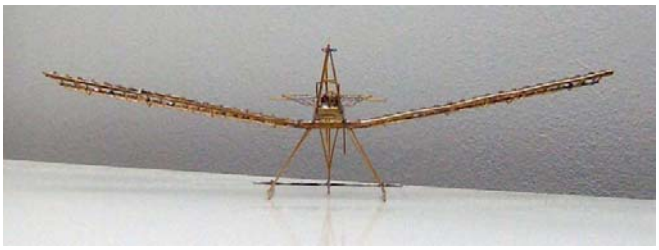
So the slots need to be widened towards the tip. Using a file to do so does not work; it deforms the spars too much. This has been done with a fine grinding disc.

Top left of the picture on the left one of the wings is shown where the spar with adjusted slots has been fitted. As mounting the spars in the wing is a rather difficult job due to the little room between the lower and upper contour of the four full ribs, I have decided to deviate from the assembly order as recommended in the instruction sheet. That prescribes to mount the spars in one wing, then to pass the two spars through the undercarriage legs and solder them in position to the legs and finally mounting the other wing.

I have mounted the spars to the two wings first and given the assembly the right V-shape and sweep (a jig for the correct sweep is provided in the kit), then have cut the two front undercarriage legs and mounted the spar to the four notches on the undercarriage legs. As a last step the cut front legs have been soldered together again. This way the assembly is quite easy and the result is equally acceptable.







Only some rework of the soldering joints is needed, and of course the construction needs to get a Neacid bath to remove remaining flux. The pictures also present the opportunity to check the alignment of all parts (the vertical stabilizer still needs a bit adjustment).

**Undercarriage**

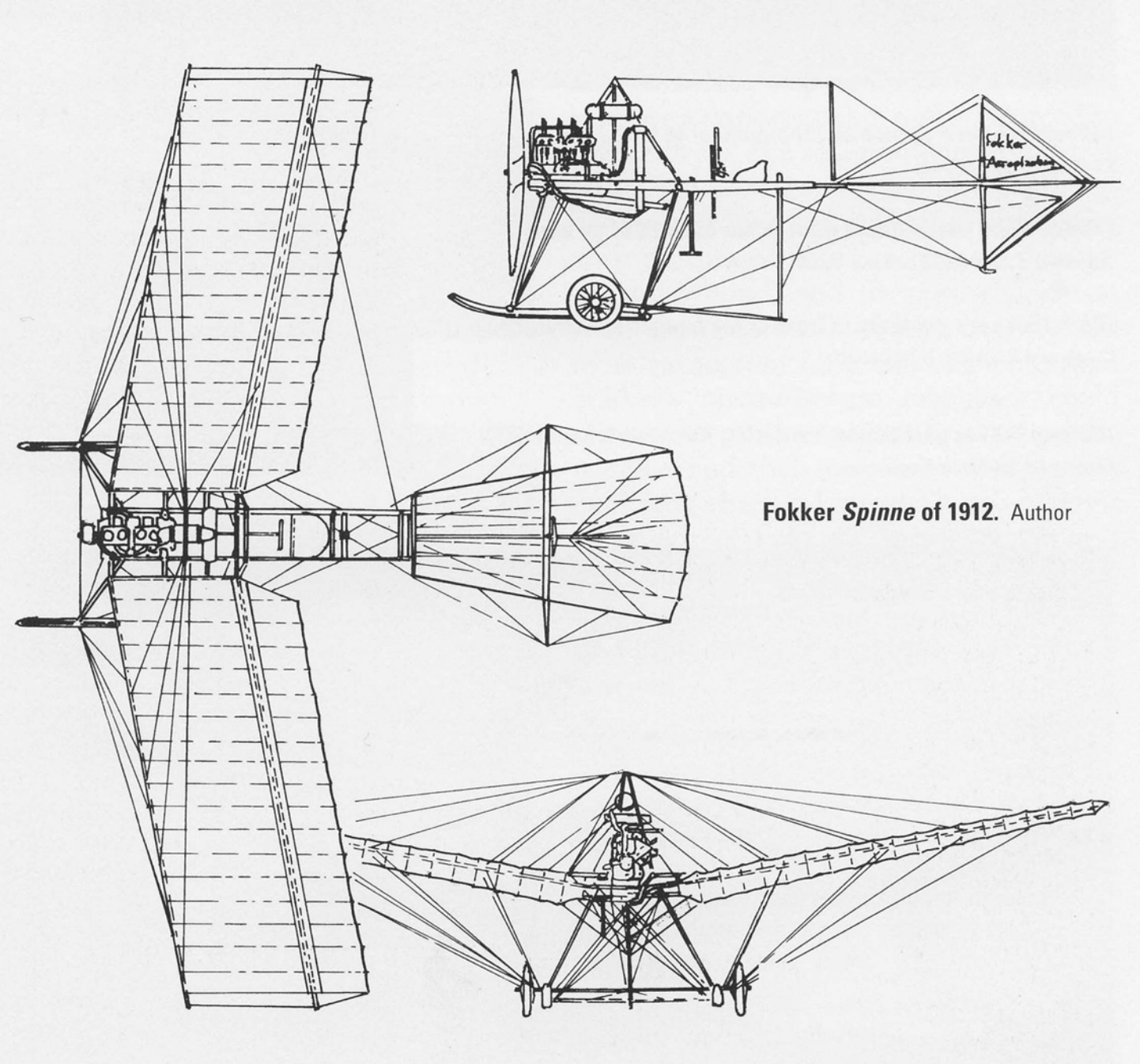
The wheel tires are made of white metal, and are very badly shaped; top and bottom mould apparently have been shifted relative to each other and they are far too wide. Readjusting them does not yield a satisfactory result.

Pressing one of the spoke discs in shape with the white metal tool provided is neither a great success. The tool bends the PE material too sharp and breaks it, the more so because the deformation process is not gradually. For a rather high priced kit better quality white metal parts would be appreciated. So I have decided to use a HR Models WWI wheel set. The 0.5 mm larger di-

ameter is acceptable.

**Final assembly**

I have gone through my documentation to find supporting information for the final assembly, especially the numerous bracing wires that have to be incorporated. Engels, Weyl, Hegener and Leaman show a three view drawing of the 1912 Spin. The first three represent a Spin with a closed fuselage and two cockpits, which is clearly not the subject of this model. Leaman's drawing represents a 1912 Spin with a central radiator and probably has been the source for the kit. I have reproduced it below scale 1:72 and will use it as main reference.

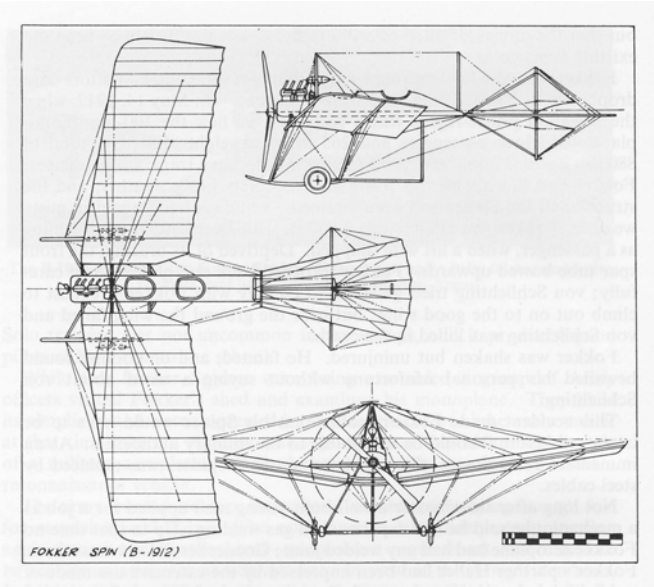


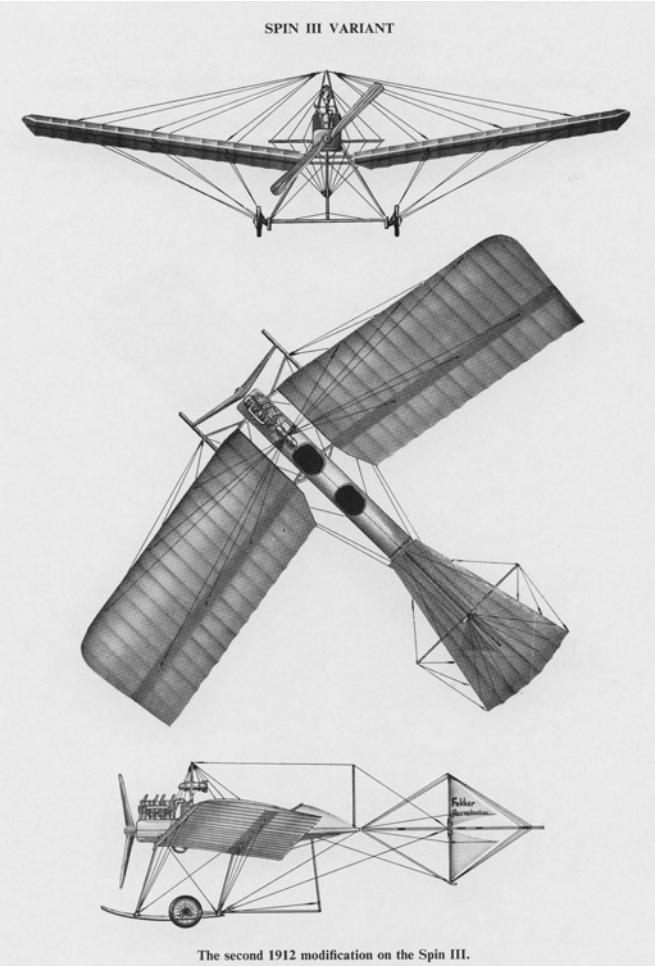

The (detailed) drawings of Weyl and Hegener on the next page I will use as a support when questions arise for the bracing.

***Errors in the model***

*On the Leaman drawing and on the picture in the same reference there is no steering wheel on the control column. This is also confirmed in the text. Also, the four fittings on the elevator are missing both on the picture and the drawing. As with all early Spiders the elevator was actuated by means of a number (in this case eight)*

*cables linked together and routed via one cable over the top and the bottom of the vertical rod of the tail plane frame to the control column. This can be clearly seen on the photograph at the beginning of the report. So I have removed the fittings with a small grinding disc[5]. The bracket for the rudder is shown on the drawing in Leaman, but cannot be seen on the photograph. It might be located below the tail plane, but I have left it as it is in the kit. The rudder is actuated by moving the control stick from left to right; the Spin did not have roll control, and did not gave rudder paddles. Finally, the three-view drawing in Leaman shows two more ribs at each wing root. Another thing that became clear is that the lower pylon, which is included in the model does not exist on the photograph. Also, it has no function; even the kit's instructions show no bracing cable attached[6]. So I have removed it from the model and touched up the "wounds". In fitting the engine it appeared that it should pass through the front wing spar. Probably the height of the engine of the model is not correct. I have repaired this error by grinding a bit from the front spar and by making a cut in the lower part of the engine, so it could slide over the remaining part of the spar.*



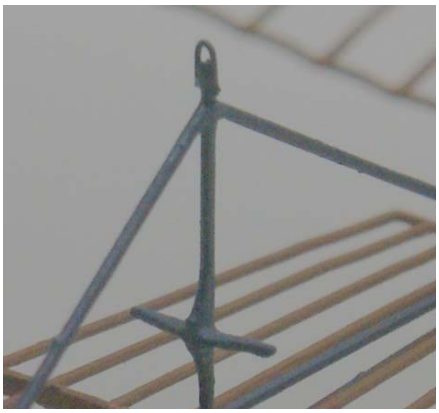

Above the drawing in Weyl (ref. 3), at the right the one in Hegener (ref. 2).

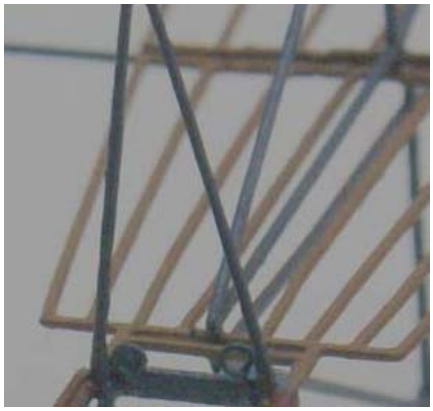
I will use the colour pictures of an original Spin and of the 1936 Spin replica in ref. 7 (one is reproduced below) as a guideline for the painting, although I suspect that the replica uses steel rods for some parts that originally were made of wood. The first step is to paint the whole airframe a wood colour. This is a nasty job as all parts have to be covered on all sides, and I am not an airbrush person.

*Painting scheme (Humbrol colours)*

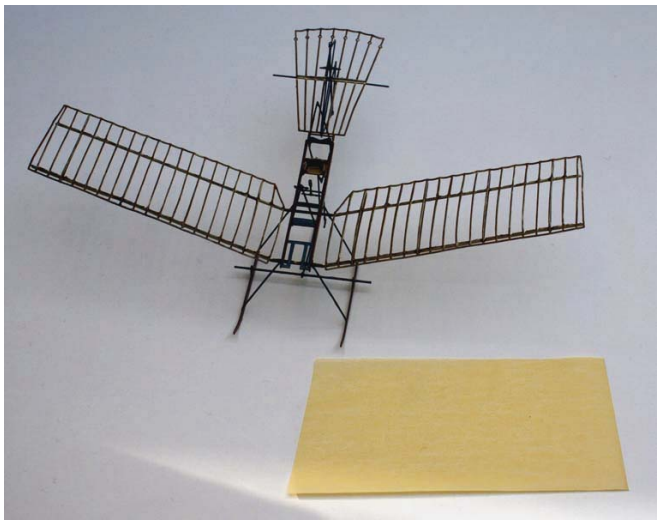
| | | | | | |
|---|---|---|---|---|---|
| 53 gun metal | Engine cylinders | 41 matt linen | Seat belt | 94 matt brown yellow | Pilot seat |
| 119 matt light earth | Wing and horizontal tail plane spars and ribs | 126 satin US medium grey | Pylons, landing gear struts, tail plane frames | 113 matt rust | Fuselage longerons, landing gear skis, propeller |
| 11 silver | Wheel spokes, engine tubing, propeller hub, seat belt fittings | 16 brass | Fuel tank, top of radiator, fuel line | 33 matt black | Tires, radiator surface, cooling tubes |


I have made two eyelets from 0,25 mm wire to give the elevator cables over the top and bottom of the rudder frame and another two to guide the rudder cables smoothly over the horizontal tail plane.

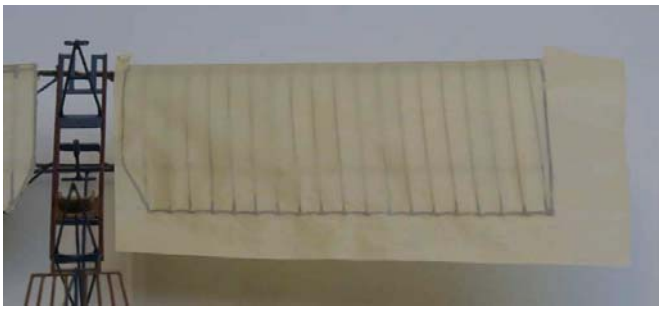




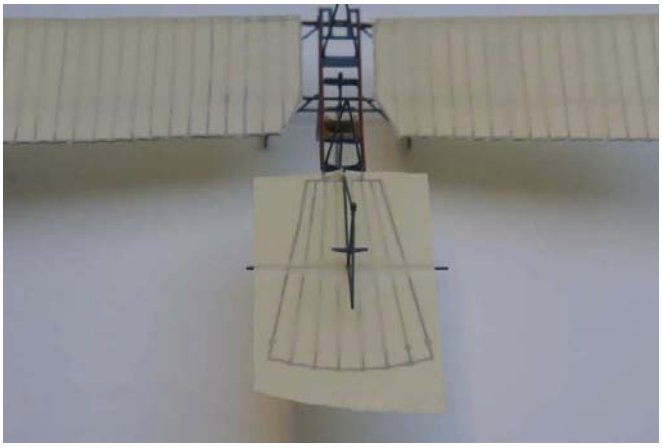
In the mean time I have painted and assembled the wheels. The frame has been painted according to the painting scheme above and I have test fitted the parts. Next step is to prepare for the covering of the wings and tail surfaces with the Liteplan foil.



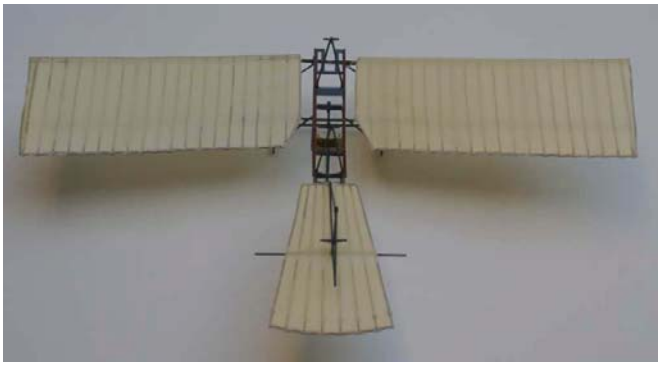
I have cut a piece of foil about 1 cm oversized on all sides relative to the dimensions of the wing frame.



Next thick cyano glue has been applied to the leading edge and the foil has been glued to it with the shiny side down and leaving sufficient material left to cover the underside of the wing until the front spar. When this was well dry the trailing edge has been covered with glue and the foil has been stretched as much as possible over the wing and pressed in the wet glue. When dry the wing root and tip ribs have been carefully covered with glue, using a small piece of wire to apply it, and the foil has been stretched over the ribs and kept so until dry. Finally the foil has been carefully cut in at the location of the four bracing rods under the wing, and glued to the front spar. When everything is thoroughly dry the foil can be cut with a sharp, new blade.



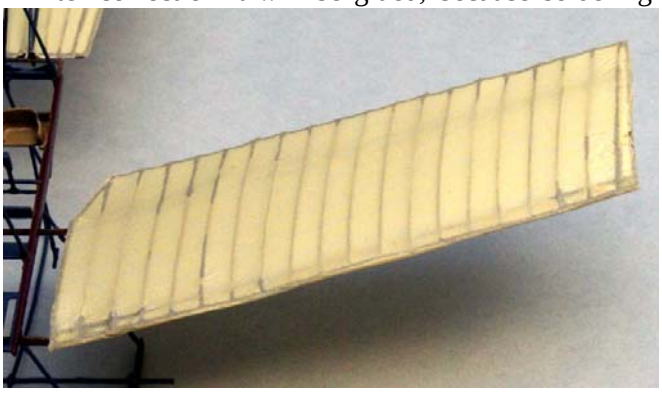
The tail plane is treated the same way. As the soldering joint of the top rudder frame failed (the only one to do so), I could slide a piece of foil covering the whole tail plane under it and glue it to the forward edge, after having made a small cut at the location where the vertical horizontal tail planes were soldered together. Otherwise the tail plane has to be covered in two pieces, which certainly is more difficult to do.

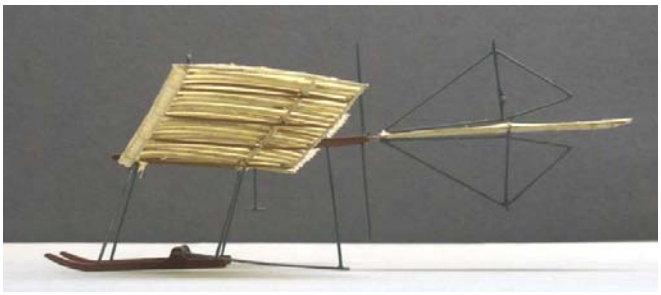


When the glue is dry, the foil has been glued to the sides and trailing edge of the tail plane. Again, trimming when the glue is thoroughly dry.

Finally I have tried to shrink the foil with a hair drier, but the temperature delivered is not high enough to remove all folds, so I have had to resort to the old cloth iron (as usually done for flying models) to achieve an acceptable result. The instructions advise to use a heat gun, which probably works better at the expense of some burnt fingers.

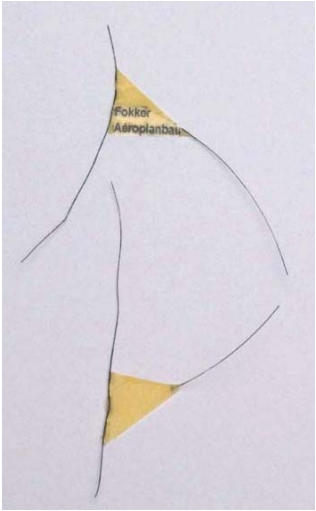
The front and side view are also all right, although the side view shows the lower rudder frame needs some correction; the vertical bars should be in one line. TAfter correction it will be glued, because soldering





does not work any more. I will leave the slight damage to the foil on the left wing tip.

Before applying the bracing wires, the white metal engine, radiator and tank need to be mounted. I have glued two small strips of 0.25 mm plastic to the narrow sides of the radiator to rest it on the fuselage longerons (the original lugs I had removed, because they did not let the radiator pass between the longerons to fit in the correct location). Fitting the tank was fast done; it is much too large to pass through the top pylon. Grinding it down is no solution, as all details will be lost. So a new tank has been made from a piece of 2.3 mm diameter plastic rod. The joints between the tank sections have been simulated by two ringlets, made of 0.25 mm metal strand. The second ringlet can only be attached after the tank is assembled in the pylon. The filling cap is the one of the original tank. It should be noted that the quality of the white metal parts in the kit is far below an acceptable level.



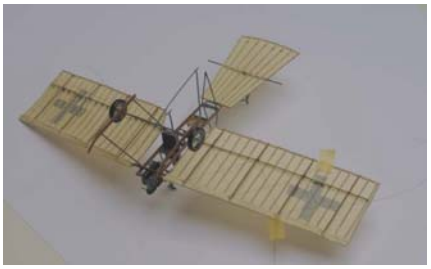

I have cut some pieces of foil to size for the rudder. I have chosen to apply the decal “Fokker Aeroplanbau” on the tail only, as is shown on the only photograph of the 1912 Spin with central radiator that I could identify. There is no proof that it has ever flown with the letters “FOKKER” under the wing.

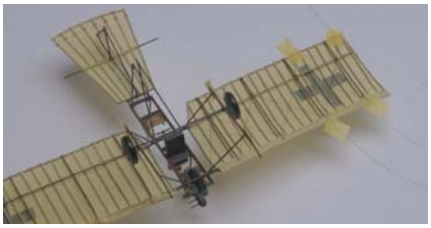
The decal "Fokker Aeroplanbau" fits only just. Because the picture in Leaman shows german crosses on the wings, I have cut two from scrap Malthezer cross decals. I will not apply the crosses on the rudder, because than the Fokker decal is not readable any more (black on black). The foils have been gloss varnished prior to applying the decals with Set. The rudder foils have been attached to black painted 0.08 mm fishing line.

I have finished the wing and tail foils with Humbrol satin varnish, upper as well as lower side. This makes the brown painted top side op the wing and tail ribs visible through the foil, just like the real example.

Radiator, engine and tank have been mounted. Four exhaust tubes have been made out of 0.37 mm brass wire, glued in palce and painted matt black. I have made the fuel line between tank and engine also from brass wire, as well as the cooling tubes between engine and radiator. I find that more realistic than the kit’s flat PE parts. Gluing of all these parts is done with thin cyano glue applied with a 0.25 mm wire strand.

Now the bracing cables at the wing underside can be applied, three crosses under each wing, as well as the bracing cables of the undercarriage (three crosses). Bracing wires are black-varnished 0.08 mm fishing line. The bracing wires are copied from the real size Fokker Spin at the Aviodrome museum in the Netherlands.





When the joints are thoroughly dry, the excess wire is cut with a sharp blade. Below a picture of the engine and fuel tank.

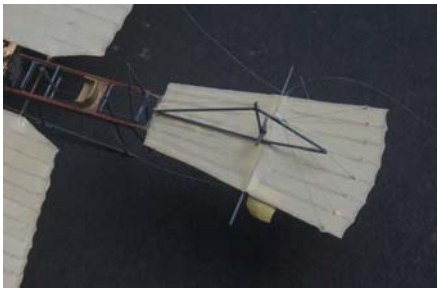
I have produced four eyelets of 0.25 mm metal strand (painted dark grey) at the four joints of the undercarriage struts with the landing gear skids. They simulate the fittings that serve to route the wing bracing wires, as can be seen on the picture of the original Spider at the below.

Next the rudder and elevator control cables, which will be made of silver painted 0.06 mm fishing line. The rudder cables are routed through the two holes just before the horizontal tail plane, along the pilot seat, over the control stick horizontal bar to the two studs at the bottom of the control stick assembly. This fishing line is difficult to handle; it hardy has any stiffness, and even when painted silver it is almost not visible, so it is difficult to route it through small holes.

The elevator cables are complex. From the bottom of the control stick runs a single cable under the pilot seat to the top op the upper rudder frame. Than it splits into eight cables that run to the trailing edge of the elevator, to join again shortly before the bottom tip of the lower rudder frame, from where a single cable runs to the middle part of the control stick.

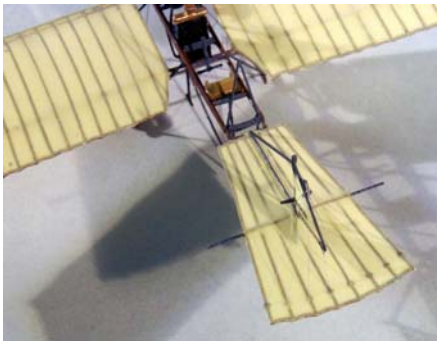
I have tackled this by assembling one long line with seven short ones into a fitting produced from 0.85 mm plastic rod, in which I have drilled an axial hole of 0.3 mm, widened to 0.45 mm, so that it could contain all eight 0.06 mm lines.

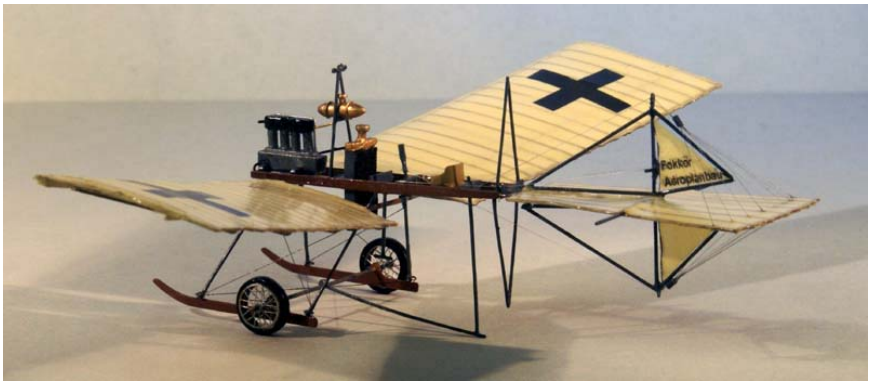
Then this assembly has been glued to the top of the upper rudder frame, and the eight lines through the holes in the elevator, where they have been glued after equally stretching them. This is not an easy job, as pulling one line produces slack in others. I managed to do it decently; only one of the lines shows a bit slack[7].



Then all lines are joined in the second fitting under the elevator and pulled equally taught and secured by a drop of glue. When this is dry, the excess length of the seven short lines is cut, and the long line route to the control stick and glued there. The two fittings are painted dark grey.

When looking at the result it is satisfactory, although I think that for this



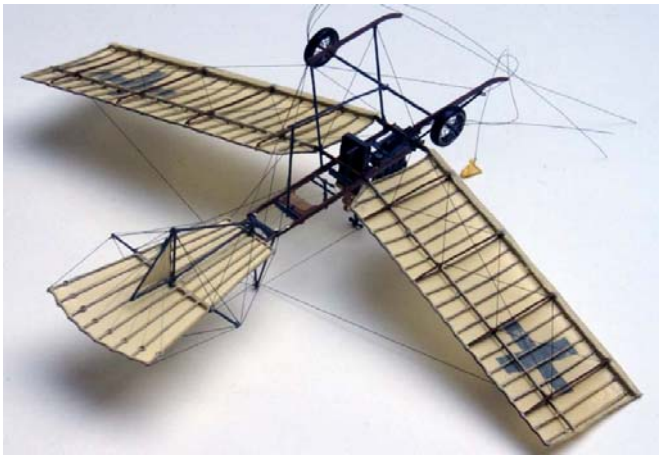


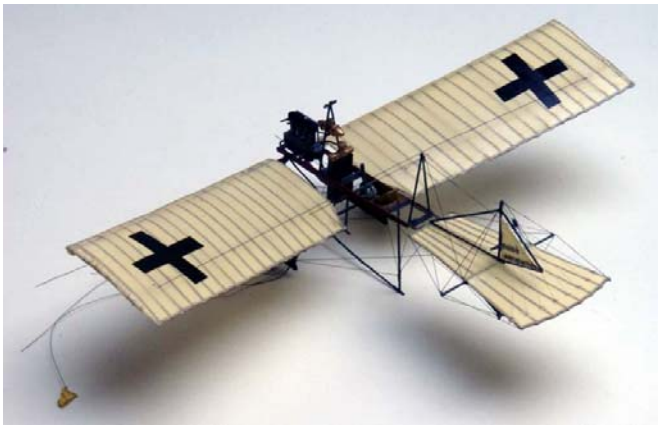
small 0.06 mm diameter lines a black finish is better. With the silver finish they are not sufficiently visible. Note also the eyelets above the undercarriage skids.

Based on the photograph and the three-view drawing in Leaman I have established the bracing line routing.

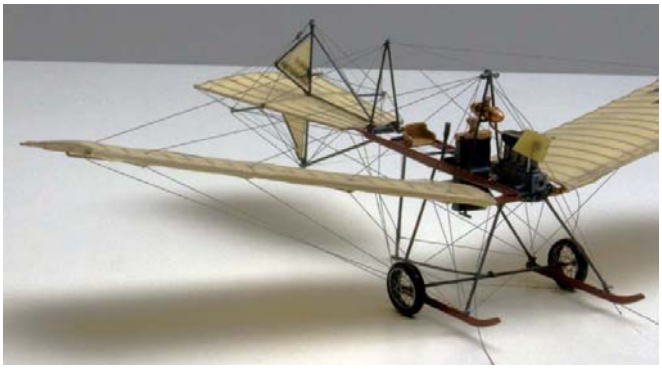
The bracing cable attachment points and the routing are collected in the appendix at the end of this report. For the bracing cables of the tail section I have used the last bits of 0.08 mm fishing line (painted black). The wing bracing is made from black painted 0.06 mm fishing line. Working on a white surface makes the job a lot easier. It is difficult to keep the model from moving when applying the bracing wires; it is very light and has almost no surfaces to attach it to the working surface (except for the foil surfaces, but these are very fragile).

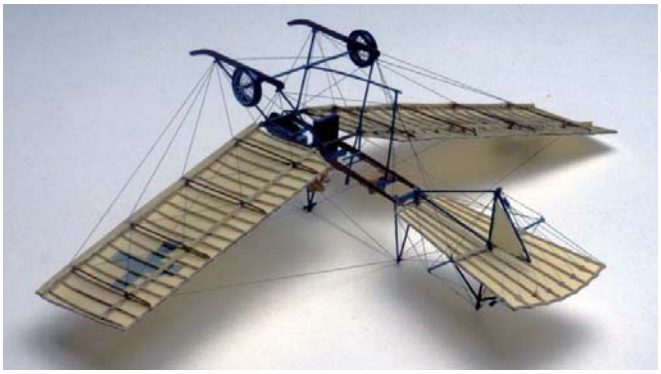
The pictures show the state of the model after applying the bracing wires to the tail section and the rear pylon of the model.



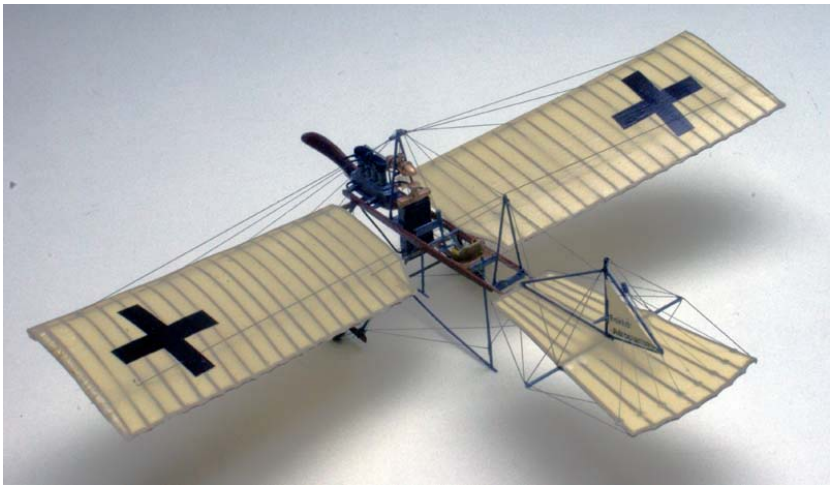


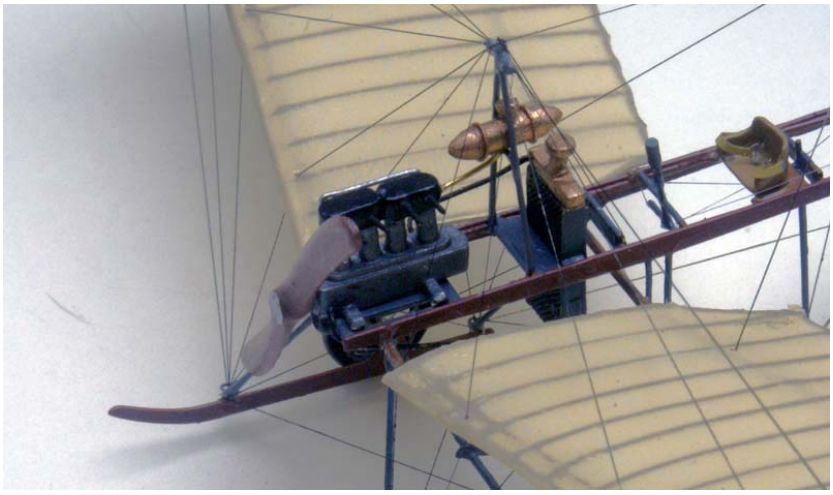
Next the remaining pylon bracing wires and the wing bracing wires are attached. The pictures show the completed right wing bracing and the underside of the model, when all bracing had been applied.

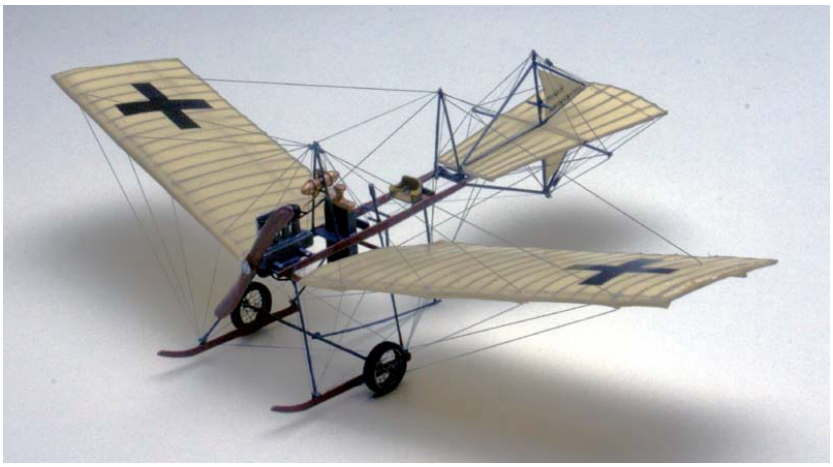


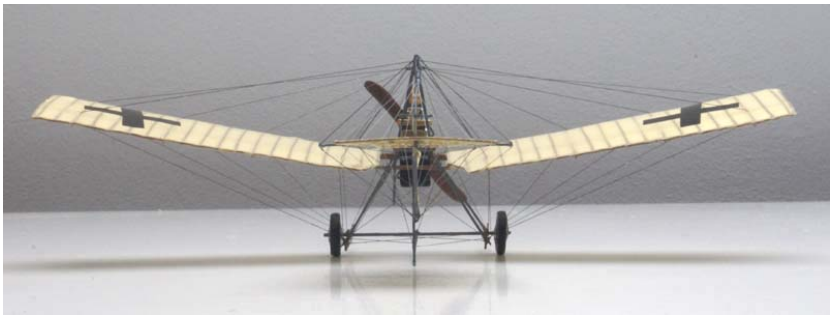


Finally seat belts from HR Models have been attached to the pilot seat and the propeller has been glued in place. Below some pictures of the finished model are shown.









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2. H. Hegener, *Fokker, The Man and the Aircraft*, p. 195, ISBN 0-8168-6370-9, 1961
3. A.R. Weyl, *Fokker: The Creative Years*, p. 24, Putnam, London, 1965
4. P. Leaman, *Fokker Aircraft of World War One*, pp. 15-17, ISBN 1 86126 353 8, 2001
5. T. Postma, *Fokker, Bouwer aan de Wereldluchtvaart*, pp. 8, 12, 15-17, Fibula - Van Dishoeck, Haarlem, 1979
6. P.M. Grosz & V. Koos, *Fokker Flugzeugwerke in Deutschland 1912-1921*, pp. 9, 78, ISBN 3-89880-355-4, 2004
7. H.J. Hazewinkel, L. Kuipers, H-W van Overbeek, R. Soupart & P. Staal, *Een eeuw Fokker, Verhalen en anekdotes uit 100 jaar Fokker geschiedenis*, pp. 16-17, 130-131, 136, ISBN 978-90-808868-0-3, 2011

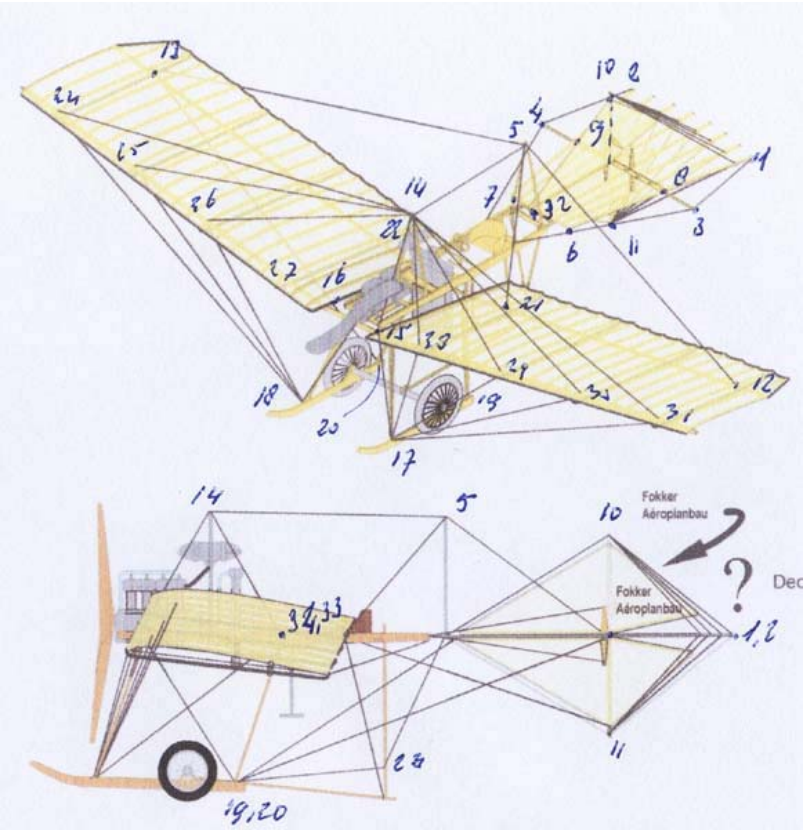

## APPENDIX Order of Application of Bracing Cables Spin 1912

To ease the application of the bracing and control cables it is recommended to provide eyelets on the following locations:

1. Two sideways eyelets at the top of the forward pylon
2. One eyelet at the top of both rearward pylons
3. Four eyelets at the joint between the undercarriage struts and the landing gear skids (glue these only in place after the undercarriage cables have been placed)

**Bracing cable attachment location definition**

| | |
|---|---|
| 1 | trailing edge tail L |
| 2 | trailing edge tail R |
| 3 | tip tail spar L |
| 4 | tip tail spar R |
| 5 | top rear pylon |
| 6 | leading edge tail L |
| 7 | leading edge tail R |
| 8 | mid tail spar L |
| 9 | mid tail spar R |
| 10 | top of rudder upper frame |
| 11 | bottom of rudder lower frame |
| 12 | outer rear wing spar L |
| 13 | outer rear wing spar R |
| 14 | top of forward pylon |
| 14R | top of forward pylon right eyelet |
| 14L | top of forward pylon left eyelet |
| 15 | fuselage at forward wing spar L |
| 16 | fuselage at forward wing spar R |
| 17 | forward undercarriage eyelet L |
| 18 | forward undercarriage eyelet R |
| 19 | rear undercarriage eyelet L |
| 20 | rear undercarriage eyelet R |
| 21 | inner rear wing spar L |
| 22 | inner rear wing spar R |
| 23 | bottom of tail undercarriage strut |
| 24-31 | wing front spar locations |
| 32 | aft fuselage cross bar |
| 33 | fuselage cross bar at aft spar L |
| 34 | fuselage cross bar at aft spar R |




The recommended application order of the cables is (ng = do not glue):

**Tail**

| | |
|---|---|
| a. | 8-10-9-11-8 |
| b. | 3-10-4-11-3 |
| c. | 1-3-32-4-2 |
| d. | 8-20(ng) |
| e. | 9-19(ng) |
| f. | 3-6-23-20(ng) |
| g. | 4-7-23-19(ng) |
| h. | 8-5-13-20(ng) |
| i. | 9-5-12-19(ng) |
| j. | 20-22-5-21-19 (20 and 19 may now be glued) |

**Pylons**

| | |
|---|---|
| k. | 5-14-15-17 |
| l. | 14-16-18 |
| m. | 33-14-34 |

**Wing**

| | |
|---|---|
| n. | 14R-24-18-25-14R-26-18-27-14R (glue 14R only) |
| o. | 14L-28-17-29-14L-30-17-31-14L (glue 14 L only) |

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[1] www.aim72.co.uk

[2] Best reference for the 1912 version is Leaman (ref. 4), who includes several pictures and a three-view drawing.

[3] Note that at this stage the model still has the pylon under the fuselage and the rudder control cable brackets on the tail spar. These were not present on the original Spin 1912, and should not be mounted or should be removed.

[4] I have repaired the broken rib easily by soldering it.

[5] This can be easier done before assembly.

[6] Due to the different number of ribs in the wing in the kit it is not possible to make the bracing at the wing root according to the photograph (Leaman has two more ribs per wing than the kit). The photograph also shows that at the wing root there is four ribs between the root and the first rib with a bracing bar. Of course also the drawing in Leaman is speculative and based on the one available photograph only.

[7] When I tried to pull this line loose from the hole to adjust it, it broke, the first time I have managed to break a piece of thin fishing line by pulling with a set of tweezers. It is the penalty to be paid for the easy bending of this 0.06 mm fishing line.