



Historic Wings

1:72 Metal Kit of the



© Copyright unknown

1911 Curtiss-Ely

History, Notes and
Assembly Instructions

History

On 18 January 1911, Eugene Ely landed his Curtiss pusher aircraft on a platform on the USS Pennsylvania, which was anchored in San Francisco Bay. He used the first ever tailhook system, designed and built by circus performer & aviator Hugh Robinson. Ely told a reporter: "It was easy enough. I think the trick could be successfully turned nine times out of ten."

The aircraft was a Curtiss Model D with extended wingspan and floatation bags under the lower wing, adjacent to the main landing gear attachment. Ely wore inner tubes on his chest as a primitive floatation device.

Introduction

This Historic Wings kit is made from etched brass for the main structure, with cast metal detail parts. The flying surfaces can be covered with the Litespan film supplied, although many modellers may prefer to leave the structure uncovered to show the details.

Brass components can be soldered together, or joined with cyanoacrylate (SuperGlue) or 5-minute epoxy. If you have the skills and equipment we recommend soldering.

To remove parts from the etched fret, you can use a pair of side cutters, or put the fret on a ceramic tile or similar hard flat surface, and press down on each attaching tab with a sharp knife. If you use the 'knife & tile' option, put the attaching tab with the half-etched side of the tab downwards. Whichever method is used, it may necessary to remove the burr of the attachment tab with a needle file afterwards.

CAUTION - MAKE SURE THE ORIENTATION OF THE WING IS CORRECT BEFORE YOU TWIST EACH RIB.

The wings are etched with integral ribs. Hold the leading in a vice or clamp, and then hold each rib in turn with a pair of fine flat-nosed pliers, and twist that rib through 90 degrees while you hold the trailing edge with another pair of flat nose pliers at the same time. This is to stop the wing structure curling as the ribs are turned. When all the ribs have been turned, make sure that the wing is straight and true.

If the model is to be covered with Litespan film (the film):

- (1) Cut a piece of the film which is larger than the panel.
- (2) Apply a continuous layer of cyanoacrylate adhesive (superglue) to the structures where the film will be attached.
- (3) Attach the edge of the piece of film to one long edge of the bay and press it down so that it is smooth, and without creases.
- (4) When the superglue has attached the film securely, apply more superglue to the other three sides of that bay.
- (5) Pull the film smooth and attach the other three sides of the panel of film, so that it is smooth and not slack.
- (6) When the film is securely attached, use a sharp blade to trim off the excess film.
- (7) Do this procedure again for all the other panels to be covered.

Parts List

Cast Metal

Form tool - female	1 off
Form tool - male	1 off
Engine	1 off
Figure - pilot (Eugene Ely)	1 off
Flotation bag	2 off
Fuel tank	1 off
Propeller	1 off
Radiator	1 off
Tyre	3 off

Etched metal

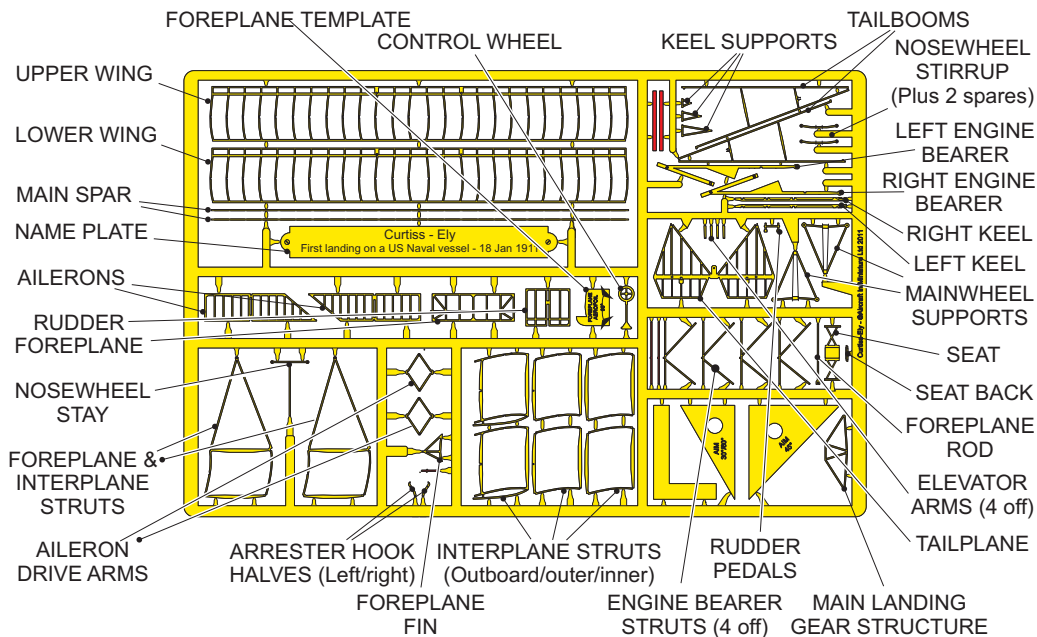
Fret 1 - brass	1 off
Fret 2 - nickel silver	1 off

Miscellaneous

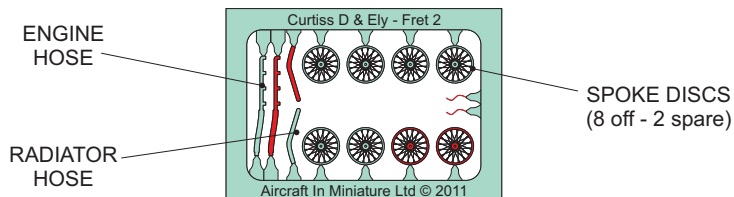
Cream Litespan film	1 sheet
Instructions	1 set
Stainless steel wire	1 length

PARTS SHOWN IN RED ARE SPARES, OR ARE NOT USED IN THIS KIT

Fret 1



Fret 2



1 ASSEMBLE THE SPOKE WHEELS

- A Remove the six spoke discs from the fret and remove any burrs from the attachment tabs.
- B Form each spoke disc.
 - (1) Put each disc into the cavity in the female form tool.
 - (2) Put the male form tool into the cavity and press the disc into a cone..
 - (3) Remove the form tool from the vice and remove the formed disc of spokes.
 - (4) Do steps 1 B (1) thru 1 B (3) again for each of the other spoke discs.
- C Assemble the wheels.
 - (1) Paint the appropriate tyre areas of the cast metal tyres matt black. Do not paint the recesses where the spoke discs will be attached.
 - (2) Apply your preferred adhesive in the recess on one side of a cast metal tyre, then attach the conical spoke discs.
 - (3) When the adhesive is dry/cured, turn the wheel assembly over and attach the second spoked disc to the other side. Leave this adhesive to dry/cure.
 - (4) Do steps 1 D (2) and 1 D (3) again for the other wheels.

2 WING ASSEMBLY

- A Remove the upper and lower wings, wing spars, interplane struts, ailerons and aileron drive arms from fret 1 and remove any burrs from the attachment tags.
- B Fold all the ribs on each wing through 90°.
- C Engage the slots in the wing spar in the slots in the ribs of each wing. Make sure that they are symmetrical, then bond the wing spars in place.
- D Attach the interplane frames between the upper and lower wings to form the wing assembly as shown in Figure 1 below. The interplane struts attach to the outboard face of the applicable ribs.
- E Spring each aileron drive arm (arm) open until an aileron will slide inside the arm. Move the arm along the aileron until it clips into the slots in the leading and trailing edge, then bond the arm at right angles to the aileron top face.

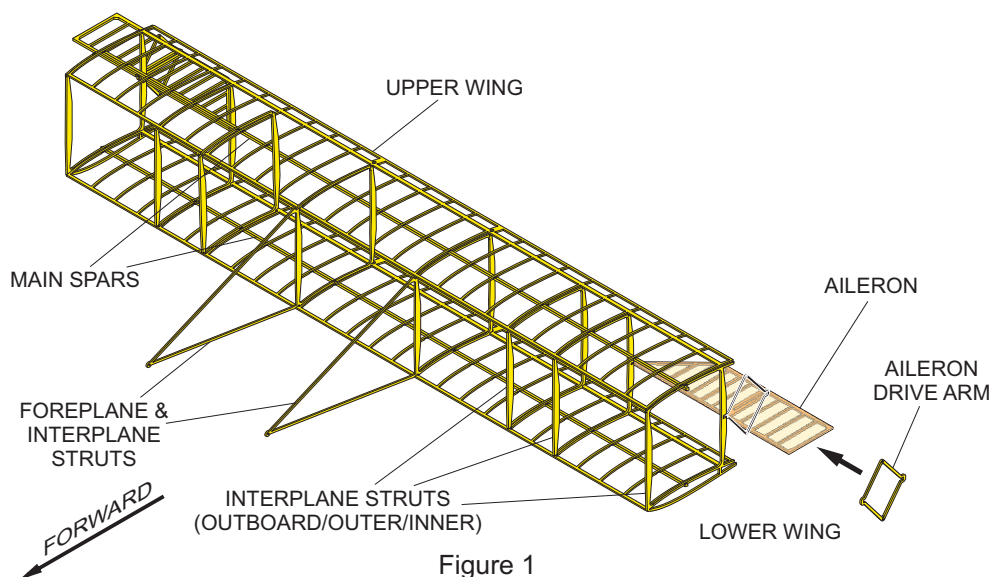


Figure 1

- F If the structure is to be covered with the Litespan film, apply the film to the wings and ailerons now.
- G Put the pin on the inboard end of each aileron and then engage the slot in the trailing edge of each outboard aft interplane strut and bond that aileron in place.

3 ENGINE/CENTRE STRUCTURE ASSEMBLY

- A Bond the two halves of the keel together, then attach the two halves of the arrester hook in the recesses at the rear end of the keel (see Figure 2).
- B Bond the three keel supports in the slots in the top of the keel.
- C Engage the sockets on the inboard faces of the engine bearers with the pins on the ends of the keel supports. bond these parts together.
- D Engage the pins on the bottom of the control wheel with the sockets in the engine bearers and bond the parts together.

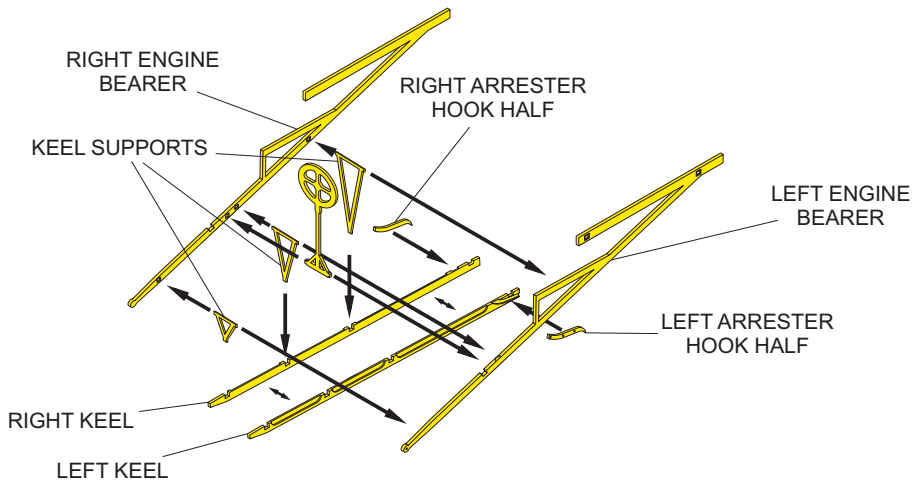


Figure 2

- E Engage the rudder pedals in the slots in the top of the engine bearers and bond them in place (see Figure 3).
- F Fold the sides of the seat through 90°, attach the seat back, then bond the seat assembly to the engine bearers.
- G Engage the pins on the inboard side of the four engine bearer struts with the sockets in the engine bearers and bond them in place.
- H Engage the main landing gear structure in the slot in the top of the keel assembly and bond it in place .

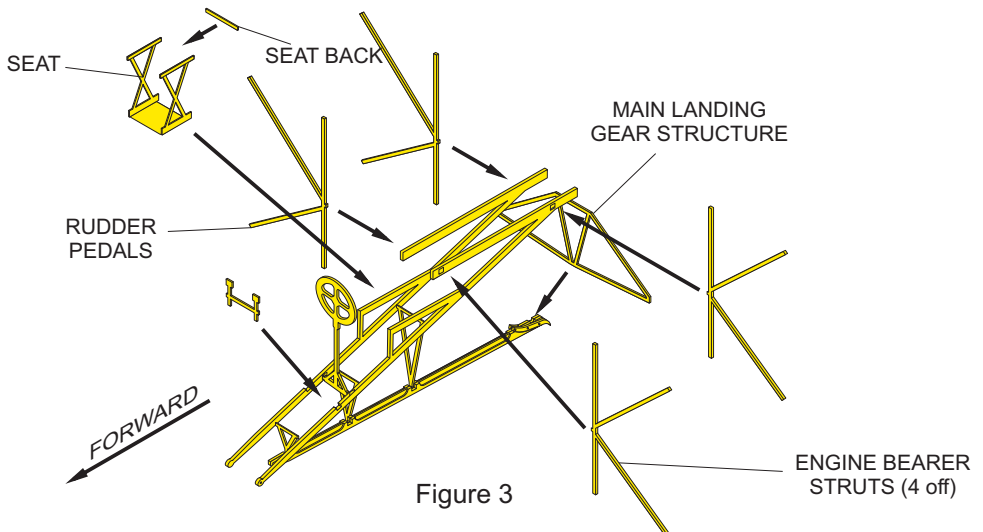


Figure 3

- I Paint the engine and radiator. The engine is a dark grey crankcase with bronze cylinder jackets, while the radiator has matt black grills. Attach the engine and radiator to the engine bearers (see Figure 4).

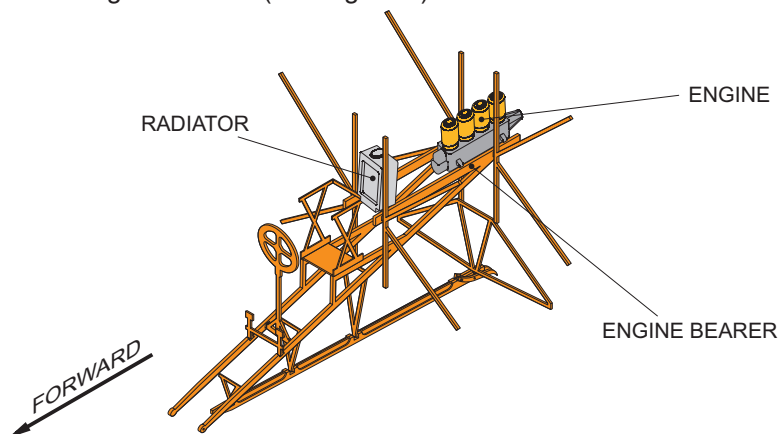


Figure 4

- J Attach the engine/centre structure to the wing assembly (see Figure 5).
K Attach the fuel tank to the underside of the upper wing.
L If necessary, drill small holes to suit the wire supplied in the hubs of the mainwheel supports (for the wire which will form the axles for the wheels).
M Fold the mainwheel supports, then attach them to the landing gear structure and to the underside of the lower wing.
N Paint the mainwheel supports gloss black before you attach the wheels.
O Put one wheel into each mainwheel support and put a short length of wire through the holes in the support hubs and the wheel. Bond the wire in place.

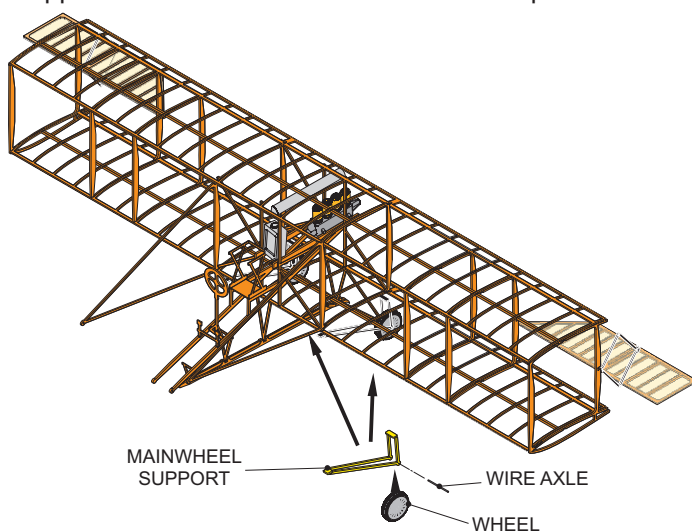


Figure 5

4 EMPENNAGE AND CANARD ASSEMBLIES

- A Remove the foreplane, foreplane fin, rudder, tailplane and tailplane booms from the fret and remove any burrs from the parts.
- B If the model is to be covered, apply the Litespan film to each side of the foreplane, foreplane fin, rudder and tailplane and taughten the film.
- C Attach the tailbooms to the wings (see figure 6). There is a small peg on each boom at the wing/boom interface and holes in the wing surfaces for these pegs.
- D Clip the tailplane into the rear end of each tailboom and bond it in place when you are happy with the fit.
- E Clip the Rudder to the tailplane and bond it in place.
- F Use the foreplane template to curve the foreplane into an aerofoil section.
- G Attach the foreplane fin to the foreplane.
- H Clip the foreplane to the foreplane struts and bond it in place.

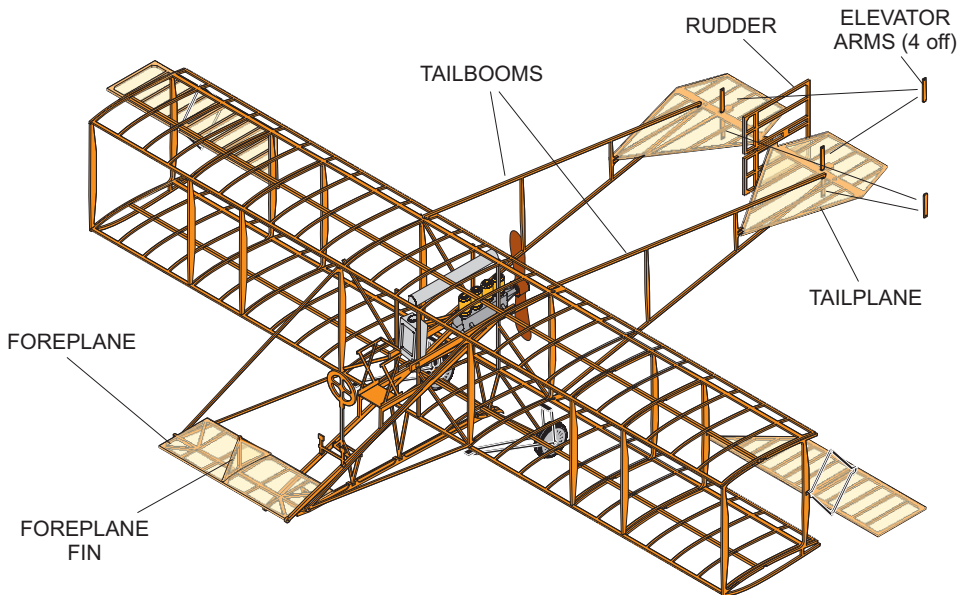


Figure 6

5 DETAIL PARTS AND PAINTING

- A Nose landing gear.
 - (1) Remove the nosewheel stay and nosewheel stirrup from the fret and remove any burrs.
 - (2) Fold the stay and stirrup as shown in figure 7. Drill holes in the hubs of these items and through the nose of the engine bearers, to suit a wire axle.
 - (3) Put the wheel, stay and stirrup together and put them between the engine bearers, then put a wire axle through the assembly and bond it in place. Attach the stirrup to the front of the keel, and attach the stay to the foreplane.

- B Attach the foreplane rod between the top of the foreplane fin and the centre of the control wheel.
- C Attach one flotation bag under each lower wing, outboard of the main wheels.

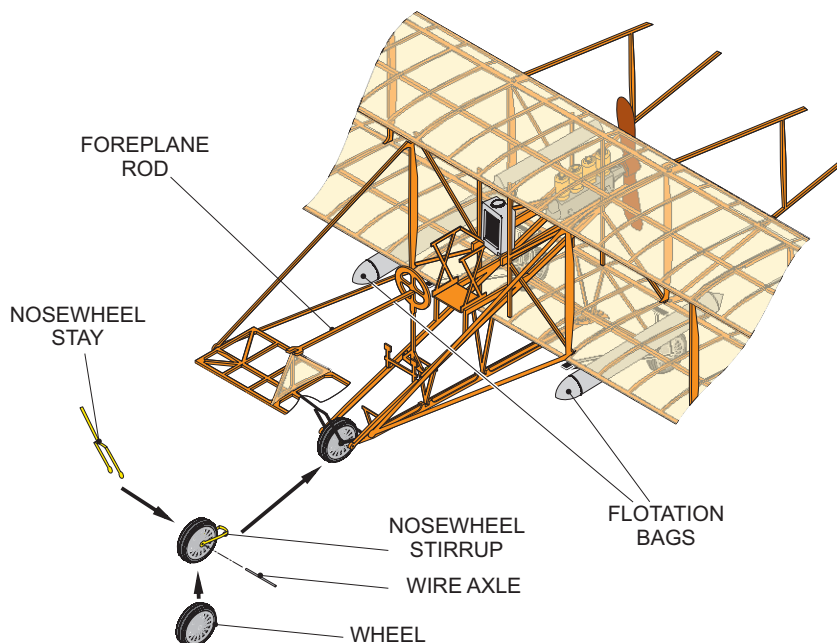


Figure 7

- D Paint the wing covering aluminium for the centre five bays of the upper and lower wings (see Figure 8).
- E Add rigging as required. We recommend that you refer to as many photographs as possible for improved accuracy. Black monofilament gives convincing rigging.
- F Use the radiator and engine hoses from fret 2 and attach them as shown on the side elevation of the 3-view drawing.

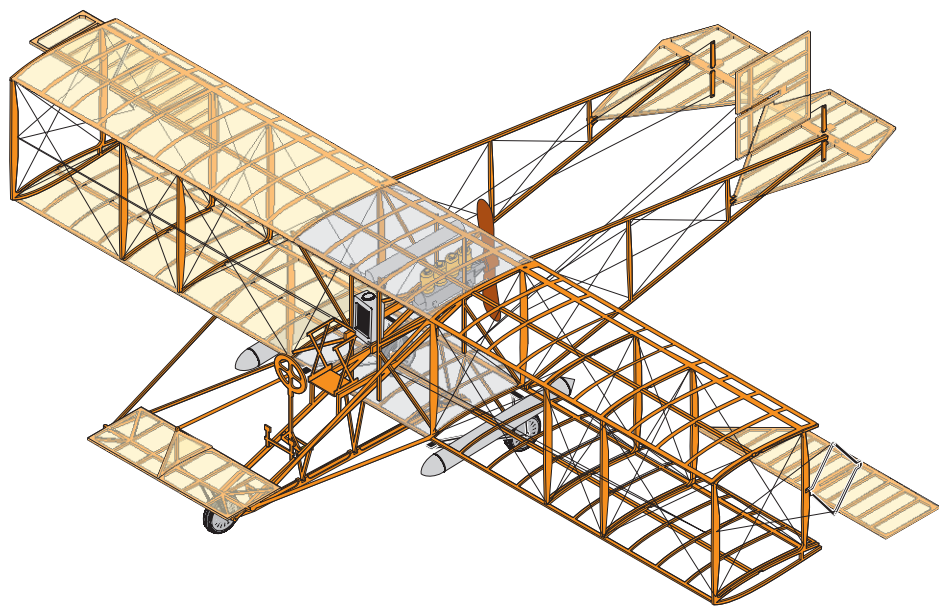


Figure 8

NOTES

OUR INSTRUCTIONS ARE SOMETIMES REVISED
AS A RESULT OF FEEDBACK FROM
OTHER MODELLERS.
THE LATEST VERSIONS OF THESE INSTRUCTIONS
CAN BE DOWNLOADED
FROM OUR WEBSITE AT
www.aim72.co.uk

© Aircraft In Miniature Ltd 2010 - Initial Issue - 21st May 2010

*The manufacturers reserve the right to alter parts; add to, or delete parts without prior notification
in the interests of quality control, production, or product improvement.*

This kit is manufactured in the United Kingdom by

Aircraft In Miniature Limited

19, Watling Street, Nuneaton, Warwickshire, CV11 6JJ, England

Email: info@aim72.co.uk - Web site: www.aim72.co.uk