

Fokker F.IV V.L.E. Modelsⁱ vacuum kit

Passenger monoplane

Scale 1:72

The Fokker F.IV was a large, single engine monoplane for one pilot and ten passengersⁱⁱ built along the same principles as the F.III. It was, however, too large for the passenger air transport market at the moment of appearance in 1921 shortly after the Fokker F.III. Only two copies have been built, both for the U.S. military, where it got the designation T-2. The first one became famous for executing the first U.S. coast-to-coast flight; extensive modifications were required to extend the range of the F.IV from the normal 750 km (modified by the factory already into 1500 km for this special purpose) to XXXX km (additional oil, water and fuel tanks in the cabin, accommodation for the second pilot and his flight controls, which were located in the passenger cabin, and some structural reinforcements, as the aircraft maximum weight went up considerably due to the fuel required. The second aircraft has been modified into an ambulance plane with the U.S. Air Corps designation A-2.



V.L.E. MODELS

FOKKER T-2 1/72 SCALE

The kit is delivered in a plastic bag and includes several sheets with vacuum parts, some lengths of metal wire, excellent decals for the T-2 version in its coast-to-coast flight livery, a sheet of (protected) clear plastic for the cabin windows some white metal parts for the exhaust, wheels and the propeller (TBC), resin parts for the undercarriage struts (TBC) and an instruction sheet. The instruction sheet consists of a very extensive description of the building steps to be taken and a detailed drawing of the T-2 flight aircraft (taken from ref. 10), with some limited information on the A-2 version of the F.IV. I have built the T-2 version.

Alting (ref. 1), Hegener (ref. 2), Hooftman (ref. 3), van der Klaauw (ref. 4), de Leeuw (ref. 5), van de Noort (ref. 6), Wesslink (ref. 7), Arnken (ref. 9), Casey (ref. 10) and Fokker Bulletin (ref. 19) report dimensions, while Hegener, Weyl (ref. 8) and Casey present a three-view drawing. Quotes for the span fall in two classes; the difference between both groups is too small to be explained by span including and excluding ailerons. For the actual T-2 Casey (his book contains a wealth of information) is the most reliable reference; all dimensions he is quoting are those of the T-2 exposed in the Smithsonian museum. His book does not mention any modification of the span in the US during the adaptation of the F.IV for the coast-to-coast flight. Dimensions have been collected in the table below.

	Ref.	Ref. 10 (Casey)	1:72 (Casey)	model
Span	24.23-24.30/24.80-24.81 m	24.23 m	326.5mm	mm
Length	14.92-15.00 m	15.00 m	208.3 mm	mm
Height	3.34-3.71 m	3.61 m	50.1 mm	mm
Engine	Packard Liberty V-12, 423 hp			



V.L.E. MODELS
FOKKER T-2 1/72 SCALE

During May 2-3, 1922, Lts. Oakley G. Kelly and John A. Macready of the U.S. Army Air Service piloted the Fokker T-2 to complete the first non-stop Coast-to-Coast flight across the United States. With an elapsed time of 28 hours 50 minutes, they contributed another chapter to the already impressive World Records for distance, duration, speed, and load-carrying capacity. Had these records been maintained during coast flights, these records and the Coast-to-Coast flight represent significant milestones in the history of U.S. Aviation and are, as well, a testament to the design and reliability of Fokker aircraft.

PLEASE READ ALL INSTRUCTIONS BEFORE BEGINNING!

Remove parts from sheet as required. It is helpful to outline parts with a permanent marking pen where they meet the surface of the mold plastic sheeting through the plastic. From the opposite side, just until the mark becomes visible, will mean to faster to remove parts and insure more accurate dimensions.

WINGS

- From edge of sheet the wing parts are: lower surface (L), leading edge, upper surface, and spar. Mark the lower side of leading edge (insert fuselage markings) for identification. Carefully remove from sheet and sand edges on a flat surface until straight and smooth. (Spar) - remove the spar leading to the wing sheet. Do not fit into the back of the fuselage sheet. Do not cut or sand. DO NOT SAND THE SPAR INTO THE U.S. Cover the spar in a section of scrap plastic sheet to double its thickness and sand off the edges.
- cement scrap sheet 1/8" x 2" into one wing panel adjacent to the aileron cutout.
- Remove wing panels, but DO NOT REMOVE the overlapping shoulders of front of panel. These shoulders are required for attachment of L.E. Cement the rear shoulder of the wing sheet, abutting the inside of the shoulder. You may wish to add some support of the wing sheet to make this more rigid. When cement is set, fit covering wing half, trimming edges of shoulder until rear contacts wing lower surface all along the length. Sand trailing edge of wing outer face to desired thickness. Some non-solvent filler may be put into last 1/8" of wing tip and sanded out so wing surfaces are assembled. First by cementing along the edge of the spar and then cementing the trailing edge.
- Fit a good line to do only one half of the trailing edge at a time, clamping it to a flat surface until cement is thoroughly set. The trailing edge to the other half, due to the differing angles which must be maintained relative to the structural small center section.
- The U.S. may now be fitted over the shoulders of wing panels and cemented in place, securing that lower edge to covering to rear panel. The joints should require minimal filling, if properly fitted. Remove all wetting strips.

FINISHING

- Carefully remove fuselage halves from sheet.
- Remove radiator from sheet and square up the screen areas, but DO NOT REMOVE the surrounding plastic material. The surrounding plastic material may be removed to ensure the radiator screen fits snugly into the opening in the fuselage. Sand front of nose section smooth. Flat. Cement radiator into fuselage half.
- Cut window section from clear sheet, trimming closely at bottom and top edges.
- Cut out window opening in fuselage sheet. A slightly bent manicurist's sanding stick may be used to remove ridges remaining on the inside of the fuselage.
- Remove bulkhead "B" from sheet, trimming off the excess plastic edges at bottom (arrow), and removing the triangular Pilot Access flap within the bulkhead structure. Cement this bulkhead into the fuselage half, aligning it with the scribed lines on the exterior of fuselage.
- Do bulkhead "C" from sheet. Bulkhead "C" is cemented into L fuselage half with pieces of screen mesh and TBC behind the rear-most window. Bulkhead "C" is similarly located in the bulkhead "B".
- Cut out cockpit opening.
- Remove Pilot's cockpit floor and engine valve gear cover from sheet. Cut a small rectangle of screen and cement it into the underside of the valve gear cover. Cement the valve gear cover to the top of engine block with an adhesive floor. Add a scrap plastic seat back to the Pilot's seat. Fit the Cockpit floor into the L fuselage half and cement in place between radiator and bulkhead "B". Add cockpit sheet as desired.

ENGINE

- Remove stabilizer and rubber struts from sheet. Sand from leading to trailing edges to obtain approximately 1/8" trailing edge and cement surfaces together.
- Cement stabilizer into rubber at rear of fuselage. Cement rubber to end of fuselage. Stabilizer struts of stretched sprue or wire are installed.

AILERONS

- Ailerons are assembled in a similar manner to stabilizer and cemented to appropriate wing sections.

LANDING GEAR

- Carefully sand out the landing gear struts and refine to rounded off edges. When cleaned up, tape or otherwise hold them with their long ends firmly together. Drill an (3/64" Ø) hole centered at lower strut junction. Then drill (3/64" Ø) hole in center of the other end of the center line hole to accommodate the spreader bar.
- Trim the ends of the struts sections and slide a 2' wire into the hole to secure the center line hole to bearing the ends. Insert the spreader bar into the hole and attach the wheels. Insert the axle into the hole and attach the wheels. Insert the axle into the hole and attach the wheels. Insert the axle into the hole and attach the wheels.
- Cement upper ends of struts to nose of fuselage and when firm, cement the opposite side. The tail wheel may be fastened of wire or brass and cemented at the appropriate location.

WING TO FUSelage

- Align the wing and fuselage. Some filler may be required for proper alignment, but DO NOT fill the trailing edge into the fuselage. It will be filled in later and the trailing edge is very distinct.

EXHAUSTS

- Exhausts may be assembled from parts supplied or made from tubing. Note the unusual angles and the fins on the exhaust pipes.

PAINTING

FINISH: Brown to exacted shades. 53
FINISHING: Stabilizer, Rudder, Ailerons Between (Paints) #30005
 #32015 & #32019 Mil. Med. Brown in a fair match

INTERIOR: Light gray
 Prop: Varnished wood 1/8" each side of hub, with
 bright aluminum blades
ADJUSTERS: Screens dull black, valve gear, valve
 struts at the end of frame
EXHAUST PIPES, ENGINE COMPARTMENT: aluminum
WHEEL DISCS: aluminum discs
AILERON: aluminum discs
ENGINE CYLINDERS: medium gray, valve gear cover
 regularly spaced slots (about 20)
CONSOLE: bright aluminum, bulkhead wiring
CONSOLE: black, black, black
DOOR: black, black, black
SECTIONS: (top center of engine)
 brass or steel

NOTE: Color schemes are based on observation of the aircraft as presently displayed at the MDR.

Home instruction file from 100th 110th of sheet. All drawings courtesy of the SMITHSONIAN INSTITUTION

	<i>Ref.</i>	<i>Ref. 10 (Casey)</i>	<i>1:72 (Casey)</i>	<i>model</i>
<i>Crew</i>	1			
<i>Passengers</i>	8-12			

General

The vacuum parts have been removed from the sheet in the usual way, first outlining the parts with a felt pen, then sanding the individual pieces on sandpaper glued on a flat surface, until they come loose of the plastic sheet. Joints have been filled with Milliput putty, and sanded carefully avoiding damaging the softer plastic of the model.

Painting

I have used the painting scheme as given in the instruction sheet and used the Humbrol colours in the table below.

Orange-ish finished plywood (wing)	63	Light grey (interior)	129
Medium brown (fuselage, stabilizer, rudder, ailerons ⁱⁱⁱ)	72	Varnished wood (propeller)	110
Gloss black (propeller tips, U-shaped engine wiring conduit)	21	Matt black (radiators)	33
Brass (radiator edges, engine cooling, water connections)	54	Aluminium (exhaust pipes, engine crankcase, wheel disks)	56
Burnt copper (oil cooler)	12	Medium/dark grey (engine cylinders)	53
Bright aluminium (engine cylinders)	11		

Cockpit

<text>

Fuselage

<text>

Wing

The wing dihedral is not accurate. The spars of the wooden Fokker wings were built “upside down”, so that the top of the wing was flat, giving the wing a slight V-shape. The wing in the kit has a flat lower side.

Undercarriage

<text>

Final assembly

I have first tried to cut the cabin windows to size from clear plastic sheet, using the fuselage (prior to the attachment of the wing) as a template. As the shape of the windows is very irregular, I did not manage to get the windows fitting well, so in the end I decided to produce the windows with Humbrol Clearfix. Although the size is on the edge of what can be covered with Clearfix and it never dries really fully transparent, the result is quite acceptable.

Below some pictures of the completed model.





References

1. P. Alting, *Van Spin tot Fokker 100*, pp. 16-17, 60, Rebo Producties, Sassenheim, 1988
2. H. Hegener, *Fokker, The Man and the Aircraft*, pp. 42, 66, 124-125, 188, 220, ISBN 0-8168-6370-9, 1961
3. H. Hooftman, *Alles over de Fokker Friendship, Fokker Verkeersvliegtuigen van F.1 tot F.28*, pp. 16, 20-21, L.J. Veen's Uitgeverij N.V., Amsterdam, 1963
4. B. van der Klaauw, *Fokker verkeersvliegtuigen 1920-1940*, pp. 18, 78, Avia reeks Nr. 1, Uitgevers Wyt, Rotterdam, 1978
5. R. de Leeuw, *Fokker Verkeersvliegtuigen, Van de F.I uit 1918 tot de Fokker 100 van nu*, pp. 30-33, 186, 207, ISBN 90 269 4074 2, 1989
6. P.F.A. van de Noort, *Fokkers 'Roaring Twenties', De vliegtuigen van de Amerikaanse Fokker-fabrieken*, pp. 10, 62, Rebo Producties, Sassenheim, 1988
7. T. Wesselink & T. Postma, *De Nederlandse Vliegtuigen, Alle vliegtuigen ooit in Nederland ontworpen en gebouwd*, p. 23, Unieboek B.V., Bussum, 1982
8. A.R. Weyl, *Fokker: The Creative Years*, pp. 376-377, Putnam, London, 1965
9. R.A. Arnken, *Luchtvaartkennis voor Iedereen*, p. 470, Gottmer, Haarlem, 1946
10. L.S. Casey, *The First Non-stop Coast-to-Coast Flight and the Historic T-2 Airplane*, pp. 3, 12, 16, 24, 35-39, 41-45, 49, 53, 68-69, 72, Smithsonian Annals of Flight, Vol.1, No. 1, Smithsonian Institution, Washington DC, 1964
11. R.A. Arnken, *De Ontwikkeling van het Vliegtuig*, p. 91, Gottmer, Haarlem, 1946
12. E. Franquinet, *Fokker, Een leven voor de luchtvaart*, pp. 196, 202, N.V. Uitgeversmaatschappij "De Pelgrim", Eindhoven, 1946
13. H. Hooftman, *Fokker, Bekende en onbekende vliegtuigtypes van A.H.G. Fokker, Neerlands grootste vliegtuigbouwer*, p. 47, ARTI beeld encyclopedie 36, Alkmaar, 1959
14. J. van Huijstee, *Vervlogen jaren van Fokker*, p. 32, Van Soeren & Co, Amsterdam, 1979
15. T. Postma, *Fameuze Fokker Vliegtuigen*, p. 27, Luchtvaart in Beeld nr. 1, Omniboek, Kampen, 1978
16. T. Postma, *Fokker, Bouwer aan de Wereldluchtvaart*, pp. 54-55, Fibula - Van Dishoeck, Haarlem, 1979
17. W.C.J. Westerop, *Fokker en de twintigste eeuw: een historische relatie*, p. 21, ISBN 90-9011870-5, 1998
18. P. Leaman, *Fokker Aircraft of World War One*, p. 175, ISBN 1 86126 353 8, 2001
19. Fokker Bulletin, *Fokker, Nederlandsche Vliegtuigenfabriek 1919-1929, Vol. V, Nos. 9, 10, 11 and 12*, pp. 61-62, NV Nederlandsche Vliegtuigenfabriek, Amsterdam, 1929

ⁱ vlemodels.tripod.com

ⁱⁱ Some references quote a crew of two pilots, others a passenger capacity of eight up to twelve. The two planes actually built did however have only accommodation for one pilot. The cabin was large enough to accommodate ten to twelve passengers.

ⁱⁱⁱ Only in writing this building report, I noticed that I should have painted the ailerons grey as the fuselage; I didn't, I left them the same colour as the wing.