

Examination of the Meng 1/32 Fokker F.I/Dr.I Triplane

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A brief account of the Fokker Dr.I variants

Production of the Fokker triplane was initiated when 20 aircraft were ordered on 14 July, 1917 which included the prototype and three pre-production aircraft plus another 16 initial production aircraft. The initial type designation was F.I but from 105/17 the designation changed to Dr.I, for Dreidecker (triplane) [1].

A further 100 aircraft were ordered in September (what I call here Early Production) and a further 200 Late Production aircraft after that for a total build of 320 aircraft.

The first prototype, called the V.5, was used for destructive structural tests. Three pre-production aircraft followed and two of these were successfully tested in combat by Manfred von Richthofen and others. By the time Olt. Kurt Wolff, Staffelfuhrer of Jasta 11, and Lt. Werner Voss, Staffelfuhrer of Jasta 10, were shot down and killed in each of these aircraft (15th and 23rd of September respectively), the type had accounted for 12 enemy aircraft [1].

After some time in service, wing structural issues became evident on the early production aircraft and flights were suspended from 30th October. After an investigation it was determined that part of the structural issue was due to the wings being affected by internal moisture. Therefore, existing wings were retrofitted with small leading-edge vents added to each of the wings near the wingtip and the modification was applied to new wings when production resumed on 28th November[1].

A study of photos indicates that on early build aircraft these vents were either on the 2nd or 4th rib inboard of the wing tips while on late build aircraft they were predominantly on the 2nd rib. This is discussed further below.

There were four tranches of operational aircraft;

- | | | |
|------------------------|---------------|------------------------------|
| 1. Prototype: | 1 aircraft, | V.5 Nr. 101/17 |
| 2. Pre-production: | 3 aircraft, | F.I Nr. 102/17 to Nr. 104/17 |
| 3. Initial Production: | 16 aircraft, | Dr.I Nr 105/17 to Nr. 120/17 |
| 4. Early Production: | 100 aircraft, | Dr.I Nr 121/17 to Nr. 220/17 |
| 5. Late Production: | 200 aircraft, | Dr.I Nr 400/17 to Nr. 599/17 |

There were a number of minor differences between each of these tranches and a number of modifications and additions for individual aircraft, most of which are catered for in the Meng kit.

The Meng kit

While this is badged as a Meng kit, it has its origins with the now defunct Wingnut Wings (WNW). All the sprues match the test shots displayed at Scale Model World 2019 except for the engine sprue E [2]. It seems that Meng had to develop their own engine sprue.

The sprues include parts for nearly all Dr.Is from the first three pre-production aircraft that saw combat to the final production version, all in the one box. All bar 4 of the parts are featured in the instructions, a third propeller, a mysterious clear part and a second undercarriage wing (2 parts).

From their promotional material, WNW planned to release at least two boxings, Early and Late Dr.Is [3, 4].

Sprue A and B contain common parts applicable to all versions plus some optional parts that depend upon the aircraft you are modelling.

Sprue C contains the clear parts, however, Part C2 is not mentioned in the instructions and Part C1, a reflector gunsight, is mentioned but is not on any version of the aircraft that I have found.

Sprue D sparts for the late build Dr.I, including a propellor, D3, and a short-span undercarriage wing, D2 and D4, that are not mentioned in the instructions.

Sprue E is the Meng produced engine sprue.

Sprue F contains parts for the pre-production F.I, initial build Dr.I and Early Dr.I. Curiously, it also contains parts F7, the grab handles at the lower rear of the aircraft that are common to all versions.

The schemes in the box include the second pre-production aircraft (F.I Nr. 103/17), two early production aircraft (Nr. 202/17 and Nr. 206/17) and one late production aircraft (Nr.425/17).

For the most part the instructions differentiate between each of the versions, however there is at least one error that I have spotted and three steps where it is unclear which version should have what option (or none of them) applied. I'm sure WNW knew what they were doing, but they don't seem to have told Meng.

As noted above, after 28th November 1917, aircraft were fitted with wings that included vents near their wingtips. Although not referenced at all in the instructions, the kit wings have both sets of these vents moulded on as shown in Figure 1.



Figure 1: Wing vents

The instructions indicate options for the different aircraft schemes, some of which are incorrect, but there are three steps where the options are unclear (steps 7, 13 and 14).

Photographs of 89 different aircraft were examined by the author to research the different aircraft configurations and the results are detailed in the following sections [3, 4, 5].

Observations on the kit aircraft schemes

Version A

This is a late production aircraft, Dr.I 425/17. The instructions for this version look to be correct with the following notes;

- Don't drill the hole either side of the nose on the main fuselage parts. This is a locating hole for access hatches, Parts A15 or A31 (the instructions don't indicate which) or their photo-etch equivalents, W1 or W2. These hatches are field modifications and were not present on this aircraft.
- This aircraft had the vents on the 2nd inboard rib of each wing, so remove the vent on the 4th rib on each wing.
- The colour guide shows the aircraft with Part A12, a four-flare rack mounted forward of the cockpit on the starboard side. However, this is not present in the available photos.
- The instructions indicate that this aircraft did not have the seat cushion. A post-crash photo shows the seat which doesn't appear to have the cushion, but as the wreck has obviously been moved from the crash site, this is not conclusive proof.
- The instructions would have you use Part D1, an alternative joystick. However, photos on the Australian War Memorial¹ site shows that the correct joystick for this aircraft is Part A40 [6].
- This aircraft has a different style of tail skid to the other versions. It is not possible to confirm this from the photographic evidence available to me. Nor is it possible to confirm if this is a late-build feature or a one-off example for this aircraft.
- Parts specific to the late build Fokker Dr.I are;
 - Part D5, the late engine cowling.
 - Part C3, the late windscreen. It is difficult to tell from the examined photos, but this is probably correct for this aircraft.

Version B

This is a pre-production aircraft, F.I 103/17. The instructions for this version look to be correct except for;

- Don't drill the hole either side of the nose on the main fuselage parts. There is no evidence that this aircraft had the square (or round) nose access panel as shown in the colour profile.
- This aircraft was destroyed prior to the wing vent solution to address structural issues, so both of these need to be removed on each wing leading edge.
- Parts specific to the Fokker F.I are;
 - F1: Larger ailerons
 - F2: Individual gun pads
 - F3 & F8: Small diameter main wheels
 - F4: Curved leading-edge tail plane
 - F6: Prototype cowling
 - F9 & F10: Prototype rudder
 - E1: The French le Rhone 9J engine face

¹ The AWM also has the compass and sections of the propellor from this aircraft in its possession.

Version C

This is another early production aircraft, Dr.I 206/17. The instructions for this version look to be correct with the following notes;

- Don't drill the hole either side of the nose on the main fuselage parts as this aircraft did not have the forward fuselage access hatches.
- This aircraft had the vents on the 2nd inboard rib of each wing, so remove the vent on the 4th rib on each wing.
- This aircraft did have the curved Heine Propellor, Part B2, as per the instructions. This may indicate it also had the Le Rhone 9a engine as well [5].
- This aircraft had the a four-flare rack, Part A12, but it was mounted aft of the cockpit on the starboard side.
- Parts specific to the early build Fokker Dr.I are;
 - Part F5, the early engine cowling.
 - Part C4, the early windscreen. It is difficult to tell from the examined photos, but this is probably correct for this aircraft.

Version D

This is an early production aircraft, Dr.I 202/17. The instructions for this version look to be correct with the following notes;

- Don't drill the hole either side of the nose on the main fuselage parts as this aircraft did not have the forward fuselage access hatches.
- This aircraft had the vents on the 2nd inboard rib of each wing, so remove the vent on the 4th rib on each wing.
- The instructions would have you use Part B2, a curved Heine Propellor. The author's interpretation of photos is that this aircraft was fitted with the standard straight Axial Propellor, Part B3.
- The colour guide shows the aircraft with Part A12, a four-flare rack mounted forward of the cockpit on the starboard side. However, this is not present in the available photos.
- Parts specific to the early build Fokker Dr.I are;
 - Part F5, the early engine cowling.
 - Part C4, the early windscreen. It is difficult to tell from the examined photos, but this is probably correct for this aircraft.

Alternative parts and aircraft with non-standard features

F.I Nr 104/17

While it is generally thought that there were only two pre-production aircraft, F.I 102/17 and F.I 103/17, which were tested in combat, the Kagero site [1] states that this aircraft also had the F.I designation, so I have included in the pre-production group.

A photo on the Fokker Dr.I site [5] has what is claimed to be a photo of this aircraft with the original ailerons but also having the wingtip skids that were standard on all subsequent aircraft. This aircraft may have been similar to the other pre-production aircraft or it may have been a blend of pre-production and production types.

Gun Pads: Part A1 or A3

While the pre-production aircraft had individual pads on the rear of the machine guns, production machines had these joined by a padded cross-bar. In general, initial and early production aircraft had the pads with the narrow cross-bar (Part A3) while many late production aircraft had the more padded cross-bar (Part A1).

Although not definitive, the following aircraft had the narrow cross-bar pads (Part A3);

115, 127, 141, 144, 146*, 148*, 152, 154, 160, 178, 187, 195, 202, 204, 206, 210, 213, 220, 403, 412, 419, 433, 465, 471, 479, 556, 564 and 591

* Note that Dr.I 146/17 and Dr.I 148/17 had the narrow cross-bar mounted up-side down in at least one photo.

The following aircraft had the padded crossbar (Part A1);

425, 489, 503, 512, 521, 574, 581, 586, 588 and 593

Clock: Part A2

Part A2 looks to be a clock. I haven't seen any photographic evidence to support the fitment of this part and the instructions are vague on its location. However, the Rise of Flight simulation of the Fokker Dr.I has a clock mounted inside the cockpit on the structural crossbar below the guns (Part A59) [7].

Rear View Mirror: Part A10

Dr.I Nr 167/17 and Dr.I Nr 433/17 had what looks to be a round rear view mirror. For Dr.I Nr 167/17 this is mounted to the left of the cockpit and close to the rear cabane strut. For Dr.I Nr 433/17 it is mounted on the starboard side.

4-flare rack: Part A12

As noted above, Dr.I Nr 206/17 had the 4-flare rack mounted aft of the cockpit on the starboard side.

Dr.I Nr 413/17 also had the 4-flare rack, this time mounted forward of the cockpit on the starboard side as per the instructions.

Forward Fuselage Access Panels: Part A15/W1 vs A31/W2

Some aircraft were field modified with access panels on both sides of the forward fuselage. These were not production items. Two types of panels were used, round (Part A31) and rectangular (Part A15). These are also provided as photo etch parts (W2 and W1 respectively).

However, as these were field modifications, the rectangular panels were not a standardised size or in a standard location. It also appears that, except as noted, the panels were left natural metal.

The following aircraft did not have access panels at the time the photograph(s) were taken;

102, 139, 141, 144, 146, 148, 157, 160, 161, 186, 187, 202, 206, 212, 217, 425, 433, 451, 475, 503, 504, 512, 528 and 581

The following aircraft had the round panels at the time the photograph(s) were taken;

147, 154, 178[†], 441[‡], 564 and 577

The following aircraft had the rectangular panels at the time the photograph(s) were taken;

152[†], 403, 423, 472, 484, 525, 527, 556, 558, 586 and 595

[†] Note that the panel on these aircraft is painted the surrounding colour

[‡] Note that the panel on Dr.I 441/17 is mounted much higher than usual.

It may be that the prevalence of these panels was greater than indicated by the above numbers as the aircraft not listed here may have had camouflaged panels that it was not possible to identify in photographs.

6-Flare Rack: Part A19

Dr.I Nr 185/17 and Dr.I Nr 217/17 both have a 6-flare rack forward of the cockpit on the starboard side. Dr.I 436/17 also had a 6-flare rack in the same location [8].

Anemometer: Parts A7 and A20

Dr.I Nr 186/17 and Dr.I Nr 404/17 have an anemometer mounted on the upper port interplane strut, as per the instructions. Dr.I Nr 471/17, however, has an anemometer similarly mounted on the starboard side.

Mounted Flare Gun: Part A24

Dr.I Nr 574/17 had a flare gun fixed to the starboard cockpit side. Note that it also has a vertical rectangle just ahead of the gun pad bar that may be a map and is possibly what Part C2 was intended for [4].

Tubular Gunsight: Part A53

Dr.I Nr 195/17, Dr.I Nr 413/17, Dr.I Nr 503/17 and Dr.I Nr 588/17 have what is either a telescopic or simple tubular gunsight. The scope is mounted high on Dr.I Nr 195/17 and Dr.I Nr 413/17 while it is mounted lower on Dr.I Nr 503/17 and Dr.I Nr 588/17. The first three don't have windscreens fitted while the scope passes through the windscreen on the latter.

Alternate Tailskid: Part A61

Version A has an alternate tailskid (Part A61). Few of the available photographs allowed me to distinguish between this and the other tail skid (See Part B10 below).

Heine Propellor: Part B2

The standard propellor was the Axial (Part A13) but the following aircraft were fitted with the Heine propellor;

148, 152, 204, 206, 423, 426, 450, 451, 484, 528, 569 and 577

Wing Vents: Part B6, B8 and B9

As noted above, not too long after the aircraft entered into service wing vents were added to wings. Some of these modifications were retrospective while some aircraft received new build wings, as did all new production aircraft. The Kagero site [1] states that early aircraft had the vents at the 4th rib in from the wing tip and later aircraft had the vents at the 2nd rib, but that is not supported by the photographic evidence.

The pre-production aircraft, F.I 102/17 and F.I 103/17 were destroyed in combat prior to the structural problems becoming evident so did not have the wing vents.

The following aircraft did not have wing vents at the time the photograph(s) were taken;

104, 114, 115, 139, 141 and 144

The following aircraft had wing vents at the 4th rib in from the wing tip at the time the photograph(s) were taken;

150, 154, 163, 187, 190, 198, 204, 209, 218, 419, 426 and 454

The following aircraft had wing vents at the 2nd rib in from the wing tip at the time the photograph(s) were taken;

157, 160, 170, 183, 185, 186, 202, 206, 212, 216, 403, 404, 425, 433, 441, 450, 451, 470, 472, 477, 486, 504, 512, 525, 528, 556, 564, 574, 577, 586 and 595

Tailskid: Part B10

Two aircraft have photographic evidence for the standard tailskid (Part B10), Dr.I 127/17 and Dr.I 152/17 [3].

Oigee Reflector Gunsight: Part C1 and A11

The Oigee reflector gunsight was tested on one or more Fokker Dr.Is. A search of the internet reveals that one such aircraft was flown by Lt. Greven [8] and it was possibly Fokker Dr.I 436/17 [9].

Flat, Rectangular Windscreen: Part C2 (?)

Dr.I Nr 115/17 has a non-standard, flat, rectangular-with-the-corners-cut-off, windscreen which is mounted further back than usual and just forward of the gun-butt pads (Part A3). I think that this windscreen is the mysterious Part C2.

Dr.I Nr 433/17 also has a flat windscreen, but, unlike Dr.I Nr 115/17, this is mounted in the normal windscreen location.

Windscreen: Part C3 or Part C4

Two types of common windscreen are supplied, a rounded one (Part C3) and a flat topped one (Part C4). As the windscreens are usually transparent and frameless it is difficult to determine if an aircraft has a windscreen and, if it does, which type. Sometimes, however, the windscreen appears to be dirty and are therefore easier to identify. The following are the author's best assessments from the available photos.

Aircraft with no windscreen;

160, 471, 479 and 574

Aircraft with the flat-topped windscreen;

102**, 148, 413, 419 and 593

** Note that the kit instructions indicate that F.I 103/17 does not have a windscreen, one photo shows that F.I 102/17 did have a windscreen.

Aircraft with the rounded windscreen;

127, 144, 146, 154, 204, 403, 423, 489, 504, 512, 527, 556, 564, 569, 577, 581, 588 and 595

Aircraft that seem to have had a windscreen, but the type is uncertain;

152, 187, 202, 206, 213, 425, 466, 484 and 521

Alternative Joystick: Part D1

Part D1 is an alternative joystick to Part A40. A lack of photo evidence makes it difficult to determine which aircraft had which joystick. However, a photo of a crashed Dr.I 591/17 with the cockpit exposed shows a damaged joystick similar to this part.

Narrow Chord Undercarriage Wing: Parts D2 and D4

The wide chord undercarriage wing (Parts A55 and A57) looks to be the standard, but it is difficult to judge this from photos. One aircraft that may have had the narrow chord wing was Dr.I 574/17.

Clerget 9b Propellor: Part D3

Part D3 is probably a captured Clerget 9b propellor. Dr.I 470/17 had both a Clerget 9b propellor and a Clerget engine, which was quite different in appearance to the standard Oberursel UR.II. To build this aircraft you will need to source an after-market engine.

Engine Cowling: Part D5 vs F5 vs F6

Three engine cowlings are provided in the kit.

Part F6 is the pre-production cowling and is evident in photos of F.I 102/17.

Part F5 is a production cowling and Part D5 is an alternative cowling, the difference between the two being a row of raised rivets around the rear of the latter. It is not possible to say which aircraft had which cowling from the available photos.

Le Rhone 9J Engine Face: Part E1

The standard engine was the Oberursel UR.II which was a copy of the French Le Rhone 9J. They were identical except for the engine face (Part E7). F.I 102/17 and F.I 103/17 were fitted with captured Le Rhone engines as were some other aircraft when available. One such aircraft was Dr.I 206/17, according to the Fokker Dr.I website [5].

Central Ring and Bead Sight: No Parts

At least two aircraft were fitted with a ring and bead sight between the guns. This is not represented in kit parts.

The following aircraft had this feature;

433 and 574

Training School Aircraft: No Parts

A number of aircraft were used in flying schools. According to the Fokker Dr.I site they were all powered by a Goebel Goe. II engine, which is not provided in the kit, and were not armed. Photos show the area forward of the cockpit faired over.

The following aircraft were used as trainers;

423, 451, 484 and 569

Conclusion

The above observations and interpretations are from the author's examination of available online photographs. The reader should also keep in mind that any photographs capture the aircraft at a moment in time and the configuration of the aircraft may have been modified after the photo(s) were taken.

Therefore, the model builder should examine photos of the aircraft they intend to build and make up their own mind.