Fokker DVII 1/4 Scale

by John Kastelan

Built in WW1 by Anthony Fokker for the German air force, the Fokker D VII was a very predictable and robust biplane fighter that scored many victories against the allies.

Introduction

The model is a near true to accurate replica of the full size aircraft that is almost ready to paint to the builder's own colour scheme. This is a comprehensive kit that comes with most hardware and also includes beautiful spoked wheels and parts to form a workable sprung undercarriage that only needs assembly. Parts are also supplied for a dummy scale engine. All parts are neatly packed in a box that barely fits in a large station wagon, so get a big car for the trip home!

Though an "almost ready to paint" kit the Fokker still needs critical attention to finish it off if you are looking for that beautiful realistic finish. This is an aircraft best attempted by a skilled builder.

Fuselage:

I started with the undercarriage, basically so I could have stable upright starting point. This model is very large and fortunately for me being 6ft 3"tall, I had little difficulty looking inside the hulk on my workbenche. The undercarriage will probably be the most challenging part of construction with silver and soft soldering needed and careful alignment of those particular parts, the prototype had a working sprung undercarriage and tail skid, highly recommended and all preformed piano wire for the undercarriage is provided.

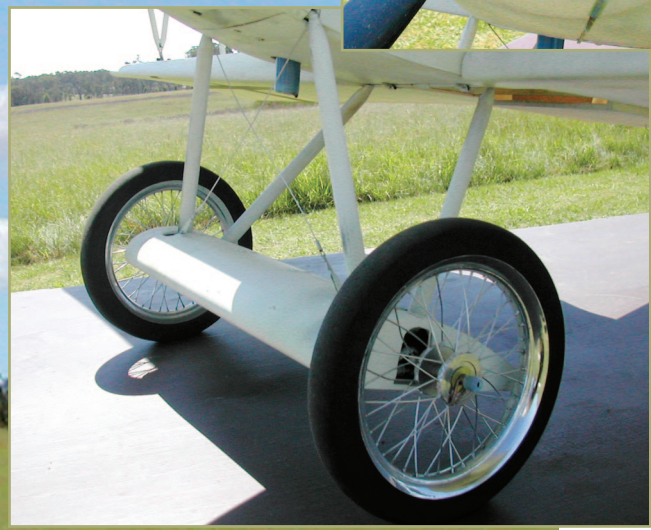
The next stage was to mount the motor which was soft mounted (ST 3000 was used) and a custom muffler and scale exhaust pipe were made, I was not concerned on the amount of metal material used to manufacture this as with a short nose moment on the Fokker, I new that extra weight will be required to balance the CG, this proved to be correct move with extra lead added upfront later.

Next was fitting of the tail plane. Careful thought was required as a closed loop cable system was used as per full-size. You must have access to the tail skid from inside if needed later and this proved a right move as after test flights the mounting ply plate for brackets on tail skid failed and I had to access this area with minium of fuss to glue in another plate over the failed plate. It is highly recommended to do re-enforcing in this department in the assembly stage.

The closed loop cable system is a self design which I have used in past aircraft, a example is my Tiger Moth which has flown for many years now without a hiccup. I use modified bell-cranks from control-line models built on a box then connected by carbon fibre rods (current technology material, replaces wooden dowels)) also using large scale ball-links and clevises connected to high torque servos, 2 servos were used for the elevator halves and one servo for the rudder.

Radio Equipment:

The servo tray was made and placed as far forward as possible, whilst drilling access holes for lower wing bolts. All servo trays I build in all my model are screwed in so that if there is ever a need of servicing or accessing this area, the tray can be easily removed. All my gear is located here including battery packs for radio and the on-board glow system. The throttle servo was located next to the 24 oz fuel tank behind the engine firewall.



Wing Cabanes and Struts:

This is all prefabricated and dressed and ready to dope and paint, as are the struts and undercarriage. I used brass tubing in joining the piano wire but without soldering to add integrity to the assembly. The holes and locating grooves for cabanes are done so set up of top wing is a whole lot easier.

Wings:

Not much work here besides hinging, feeding the servo extension lead and mounting the servos (mini metal geared servos were used for the ailerons). String to pull the servo extension leads through the wing are already factory fitted but still proved a challenge to feed them through, you just have to be patient as the string may break if pulled too hard, then there are all sorts of complications! I spent extra time in simulating rib stitching and tape, this definitely adds to realism. I used the syringe and tissue paper method, and then the wings were doped with the fuse and an extra two coats of dope, with the second coat thinned, being applied. The Fokker is covered in a realistic weaved polyester shrink film that looks great!

Painting and Marking:

I selected a simple colour scheme duplicating Herman Goering's WW1 aircraft, (all white with black markings). How simple is this when you scale research and see all those DVII's with lozenges. Two coats of undercoat enamel was used for the white and Humrol matt black enamel for the markings and weathering then clear satin polyurethane all over for fuel proofing.

The crosses were masked then sprayed with an airbrush, I then experimented with the writing on the sides of the fuselage which were enlarged to scale then photocopied by a commercial photocopier on to tracing paper that was then simply white glued (diluted) in place before clear was added, very convincing. I would like to take this opportunity to thank a fellow club member (Blacktown Aero Modellers Club Incorporated), Lloyd Willis for supplying documentation and giving the right measurements for the markings, Lloyd is a wealth of knowledge in aviation documentation for any scale addict.

Set-up and Flying:

The set-up was pretty straightforward; I was very generous on deflection on the control surfaces with added rates and rudder-aileron mixing. When weighed the Fokker came in at just over 10 kilos.

Flying was a formality though the Fokker was well underpowered. Although this was known before take-off I proceeded nervously, but there were no major vices with the aircraft looking very scale like in flight with the basic manoeuvres accomplished by pushing down to gain airspeed and then executed. The Airborne Engine-Ear guru Brian Winch has just rebuilt the ST 3000 and still needs running in, a new 20 x 8 Bolly wooden prop was ordered after initial flights to replace the existing prop and the addition of nitro to fuel will rectify the lack of power. The landings were very realistic, the Fokker tending to rock from wing tip to wing tip before coming to a halt with sprung undercarriage and tailskid working quite realistically.

This kit from Precision Aerobatics in Sydney is an excellent way of getting into scale without the added frustration that comes in building a half decent large-scale model. Shaun (also a club member) from Precision Aerobatics has other large-scale quality models in his range, check his website or see their advertisement in this issue.