Terrific Typhoon

A low cost 27 inch span foamie sport scale model kit from Lite Flite Model Supplies built and flown by Chris Dickens with exceptional results

In this world of RTF and ARTF you don't get many true kits to build, so when I was offered this model to review I had no hesitation in accepting. Okay it's not a real build in the traditional sense as there is virtually no wood in the airframe - just Depron. Now I am a bit of a traditionalist and to me Depron is a fantastic material to build lightweight indoor or calm weather models from, but whether it's a suitable material for a fast modern jet fighter we shall see.

Parts Count

This model is the product of a, new to the scene, small company in the long tradition of British 'cottage industry' businesses and should probably be regarded as a 'pack of parts' for the experienced modeller rather than a true kit as produced by a world-wide manufacturer. It is pretty basic and comes through the post (it's only available direct from the manufacturer) in a substantial brown cardboard box. The parts content is minimal and consists of the main 6 mm thick Depron foam airframe components, wing, fuselage sides, top and bottom, and a sheet of CNC cut smaller parts, again from 6 mm Depron, two pieces of aluminium extrusion for wing and fin spars, a piece of 6 mm wood dowel for the canard pivot, a small bag of ply-wood pieces for canard pivot supports and motor mount plus hinges and control horns, and two big blocks of blue foam for the canopy and nose block. Also supplied are the building instructions which consist of eight A4 pages of words and photos that covers all aspects of building and flying the model, plus a list of additional items you will need to complete the model. Checking my workshop draws I found that I had all the bits necessary, mostly previously used and reclaimed from other models although the receiver had never been used. Talking to the manufacturer to clear up a couple of points revealed that the instructions and contents are continually under review and that I had received an old copy of the instructions, my review will therefore reflect the latest version (at this time), also the manufacturer has taken on board some of the things I have found and indicated that there will be some amendments made to future production.

Construction

The supplied instructions are clearly written, but I did deviate from them slightly in the order that I put the model together. Building started by gluing the fuselage sides to the top using UHU-Por as a contact adhesive, not forgetting to cut the wing slots in the sides first, followed by the two front formers and the cockpit (battery bay) floor. With this assembly set aside to totally dry, the slot was cut in the wing and the aluminium spars were glued in place in both the wing and fin. I found that the 1-hour epoxy used was thin enough, but the instructions do mention warming it up to make it runny.

TOP TIP: To warm the epoxy to make it runny, place both bottles in warm water, normally in colder conditions.

After the epoxy had dried I used some lightweight filler to give a good surface finish for the paint job. The elevons were then cut from the wing; there are marks in the foam to show where to cut them. Hinging can be via the supplied Mylar hinges or using Blendem tape. How you shape the hinge line depends upon the method used; I used the supplied hinges but left the fitting of the elevons until last, the wing can then be slid into place and glued. The instructions are very good at this point and tell you exactly how to do this and get a neat glue line.

The fin fits through a slot in the top of the fuselage and in the wing (both of which you have to cut yourself), followed by the two sides and top of the turtle decking - again all covered in the instructions. Next I chose to fit the cockpit hatch, canopy and nose block; the prototypes and instructions call for the hatch to be retained by a tongue at the front and Velcro at the rear. The instructions do offer the alternative of magnets, which is what I used and modified the supplied Depron pieces accordingly. The canopy and nose block were carved and sanded to shape and epoxied in place.

The canards are probably the trickiest parts of the whole model and take one whole page of the instructions. Essentially the assembly consists of two pieces of Depron joined by 6 mm hardwood dowel running in sheet ply bearing blocks glued to the Depron fuselage sides and utilises two servo discs to stop sideways movement and a servo arm to act as a control horn. It looks and sounds worse than it actually is, and following the instructions closely actually made it quite easy to construct. The wood on wood bearings is a bit 'Heath Robinson' and to my mind aluminium (or carbon) tube and plastic would be better, but it all seems to work and only time will tell how hard wearing it actually is.

The servo for the canard fits in the front of the cockpit area and the fixing method is up to the builder. I stuck it to the front former and built a Depron box around it for further support. The elevon servos fit through the fuselage sides below the wing, the instruction suggest scraps of ply to take the servo screws but I just glued then to the wing and fuselage sides. It is suggested that the ESC is attached to the lower fin inside the fuselage and the receiver fitted to the underside of the wing just in front of the fin, this means that the power leads to the ESC will need extending to reach into the cockpit area and that one long extension lead is needed for the canard servo. I followed these installation suggestions, but what it does mean is that when the fuselage bottom is fitted it is impossible to access the receiver.

With the bottom fitted to the fuselage there is nothing much else to do but to round off all the sharp edges of the fuselage, wings, canards and fin. In my normal manor I left all the trailing edges square (some say that it is aerodynamically better this way) and connected the servos to the control surfaces. I did deviate from the instructions here and instead of using 1 mm wire with bends at both ends I used conventional 2 mm threaded wire and plastic clevises with 'Z' bends at the servos. The elevons were set up level with the wings and slight positive incidence (set visually, instructions say 3-5 degrees) and movement set as suggested maximums with a reasonable amount of exponential added.

Obviously computer radio is a must for this model because as well as the elevon mix you will need to mix the canards with elevator. Now I am using a 6-channel receiver and top end transmitter so setting up an elevator/flap mix with flaps inhibited was easy, but the manufacturer has come up with a novel method of doing this with a 4-channel receiver; the canard is plugged into the rudder channel and elevator/rudder mix programmed, but the clever bit is setting rudder movement to zero. This means that the rudder stick does nothing but you now have two pitch trims; the conventional elevator that controls the elevons and rudder trim that moves the canards - very clever!

Last of all the motor is fitted to the ply plate with nuts and bolts and the plate epoxied to the rear of the fuselage with appropriate reinforcement of the Depron with either balsa or more Depron to give a strong joint. I actually used pieces of 6 mm balsa about 20 mm long vertically between the top and bottom sheets to give support to the motor plate on all four sides.

In its bare white Depron the Eurofighter looked a bit of an ugly duckling. I had some cans of Styrofoam paint on the workshop shelf so choice of colour scheme was dictated by what was left in each can, I don't think it turned out too badly and certainly shows up in the air.

As the C of G looked as though it would turn out to the rear I fitted a ply plate and Velcro strap battery tray in the cockpit area to give a very secure and positive retention system, but even so the completed model balanced just over 200 mm back from the leading edge. Now the instructions do specify 150 mm back but a note says that 'no major difference' is made by moving it back to 200 mm so I decided to not add nose weight before the first flight. All-up weight of the model was 730 g (700-750 g target in instructions). A check with a Wattmeter showed that with a fully charged flight battery the motor I had

decided to use fitted with an APC-E 8" x 4" propeller was drawing 249 Watts (static) so lack of power would not be a problem.

Flying

A nice sunny day, the editor with his camera ready and no excuses not to fly saw me with the model in one hand and transmitter in the other. Following the instructions with half power and a gentle underarm lob the Eurofighter pitched violently up but climbed away vertically. A handful of down elevator pushed the nose down but the pitch response was twitchy to say the least. Luckily the roll trim and response was virtually spot on. Frantic applications of down trim and a couple of circuits soon gave me time to think and deduce too much positive incidence on the canard and a rearward balance were the culprits, so the model was landed as soon as possible.

As described in the instructions a nose high approach and cutting the power just above the ground resulted in a touchdown with very little forward speed.

A quick twiddle of the transmitted programming soon had the canard incidence reduced to something more like the specified 2 degrees (originally it was probably nearer 7 degrees) and the total throw cut to 50%. At this stage, on the field I could do nothing about the rearwards C of G so the model was launched again and although the climb out was steep and there was quite a change in pitch trim it was a much changed model and nicer to fly. Photo passes were now easy and I tried a few simple aerobatics for the camera; the model rolls axially and tracks well through loops, power is ample and on this flight all the flat circuits were carried out using less than half power, and multiple vertical rolls were easy with full power. Again the landing was easy but the propeller stopped vertically and the bottom blade stuck into the soft ground, luckily without breaking.

Back in the workshop 30 g of weight was added to the bottom of the nose block to bring the C of G to 160 mm behind the leading edge. In anticipation of a change in pitch sensitivity I centralized the elevator trim and increased the canard throw. Back at the field the transformation in the model was dramatic, it really grooves now. Okay it's not fast as would be expected with the light wing loading and it's more sports aerobatic than jet, but it is a real pleasure to fly; smooth but maneuverable and capable of all the aileron/elevator aerobatics I can think of (and capable of!) although there is still a slight throttle/pitch couple and it does climb slightly hands off inverted, which does still point to a slightly rear C of G, but I'm not going to change it. What I have done, after breaking two props in two flights, is fit a folding prop that I had spare, it has 8" x 6" blades fitted but only draws 245 Watts static, so it must be more efficient and the model has responded accordingly. It does fly faster for the same power but I think the vertical performance has suffered slightly and some experimentation with blades may be worthwhile.

Finally

As long as you are not expecting a glossy all singing, dancing mega-kit then this British cottage industry product is real value for money. The quality of the supplied parts are good and it is easy to put together to produce a sports model that looks a bit like a Eurofighter Typhoon. As with all sports models it's the flying that matters and if you can fly an aileron trainer then this model shouldn't be difficult to handle when set up right. One advantage that the small manufacturer has is the ability to react quickly to customer feedback, and if you decide to buy a Typhoon kit then the contents and instructions will certainly have been improved and may be different to this one. When I started this review I thought that I would build it, fly it a bit and then dispose of it, but now I'm not so sure; I think I'll keep it as a 'throw in the car' sports model!

Contacts

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INFO

Name:	Typhoon
Manufacturer:	Lite Flite Model Supplies
Distributor:	Direct from manufacturer
Price UK:	£25.00

INFO

Model Type:	Foamie Sport Scale
Rec. Power:	250 Watt brushless
Test Motor:	WASP C3530-1400KV 250 Watt
ESC:	40A
Prop:	8" x 4" APC-E
Battery:	2300 mAh 3-cell LiPo
Construction:	Pre-cut 6 mm Depron and plywood

R/C FUNCTIONS

Servos: three 9 g
1: Ailerons (elevon mix)
2: Elevator (elevon mix)
3: Rudder
4: Throttle (ESC)

SPEC.

Wing Span:	27 in. / 685 mm
Length:	43 in. / 1090 mm
Flying weight:	7 oz. / 760 g

TEST

Dislikes
Nothing

Likes
Easy build
Good quality parts
Flying qualities

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