QUIETLY BASKING IN THE AFTERGLOW BROUGHT BY THE SUCCESS OF HIS 400-POWERED MASTERPIECE, NIGEL HAWES DONS HIS DESIGNERS HAT ONCE MORE WITH A PUMPED-UP TUCANO FOR 600 POWER

When designing models for sport and club fliers it's very important to do a fair bit of listening to what people want. It's all too easy to create something to fulfil a personal passion for a particular full-size aircraft only to find that others may not share that passion!

I must admit to having had a love affair with the Shorts Tucano from the very first time one flew over my signal box in the early '90s. My enthusiasm spilled over to the drawing board, the result of which was a 400-powered version featured in the June 2001 issue of RCM&E as a free plan. It appears to have been pretty well accepted in electric circles worldwide, with thousands being built. So, I guess something must be right!

REACHING OUT

Perhaps the most gratifying part of the 400 Tucano's success was that it attracted hundreds of seasoned 'i.c. only' flyers to have a go at an electric model (the fact that it had the performance and duration of an average i.c. sports model was obviously a major factor). However the old adage 'you can't please all of the people all of the time' rang true to an extent. For some it was too small and too fast, for others the lack of undercarriage ruled it out for tarmac-only flying sites and advanced flyers saw the lack of a rudder as a shortcoming. Hmm... the seeds were sown for a new design, the concept of which became clearer when considering other factors:

a.) The requirement for a suitable electric model with which the BMFA 'B' certificate can be taken. There are a number of such models on the market, but for some reason none has really come forward as the natural choice in the same way as the legendary WOT 4 did all those years ago in i.c. circles.

b) Whilst many modellers have bitten the bullet and gone for entry-level brushless set-ups there are just as many who either can't afford or simply don't wish to spend too much on their electric models. A design that would effectively make use of both brushless and cheap geared can motors was the key objective for this design.

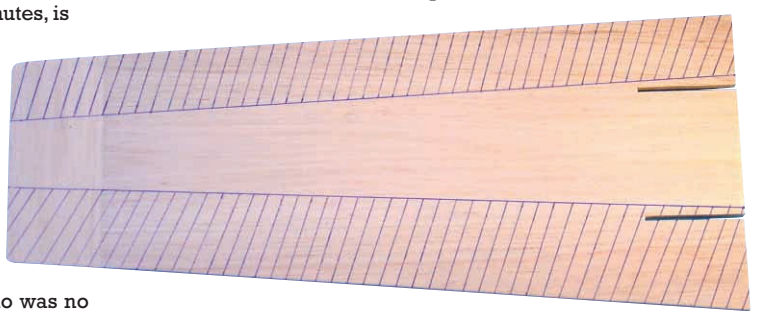
This larger 45" version of the Tucano addresses the points raised above. It has a large and effective rudder, an undercarriage option which can be fitted and removed in minutes, is capable of doing the BMFA 'B' schedule with consummate ease, and it's much bigger. It also has an incredibly low power requirement.

MEASURE FOR MEASURE

Scaling up a model can result in some surprises, and the Tucano was no exception. With a 50% increase in wingspan (30 to 45"), the new version looks more than twice the size of its Speed 400 stable mate! This is due to the volumetric effect of scaling which is disproportionate to just wingspan alone.

There are a number of significant advantages to the larger Tucano besides the rudder and undercarriage option. It has been easier to add certain scale niceties such as the correct nose shape, fin gusset arrangement, wing fairings and two-step rear decking taper, which were too fiddly to incorporate in the smaller model. Although recognisable as a Tucano (perhaps more by colour scheme than shape!) the 400 design was more of a 'cartoon scale' model, whereas this beastie can be faithfully described as 'near scale'. Only the wing chord and fuselage depth have been altered, to make it totally practical and an absolute joy to build and fly.

From a practical point of view this is very much a '600' model; the nearest comparison I can think of in size terms is that of the ever-popular Cambrian fun-fighter range, which many an i.c. flyer has enjoyed for decades! In fact, to a lot of i.c. flyers have said that these fun-fighters are as small as they are prepared to go. Well, this Tucano is actually significantly larger, with amazing low-speed characteristics - and the bare airframe can be achieved for just over half the weight! I was also interested to push the boundary of the flat sheet wing concept, as some suggest that it is only suitable for models up to 30". I already knew this was nonsense as the 40" span Mustprang is extremely well-behaved through a very wide speed range... but a 45" span wing with a hefty root-to-tip taper was a step into the unknown.



Glue the parts for each wing panel together (using the minimum of medium cyano) and mark out the segments to be profiled.

In the event I needn't have worried as the model has the most impeccable manners you'll ever find; fast aerobatics or slow, nose-up passes... it's completely viceless. Whether you're young or old, experienced or just about to take your 'A' test, this model will do anything from docile circuits to crazy aerobatics! Slow speed handling is particularly impressive with no tip stall tendencies, possibly due to the large diameter prop providing a great deal of 'wash' over the surfaces. The Tucano has been specifically designed to perform well using either a low-cost geared 600 can or 'buggy' motor right up to the awesome AXI 2820/10. Whichever you choose to fit, you won't be disappointed!

GETTING STARTED

My philosophy has always been 'don't fix it if it ain't broke' so the construction method and sequence will already be familiar to those who have built either the 400-powered Hawk or Tucano, the main differences

CENTRE: The doublers and upper triangles denote the position of F2, 110mm back from F1. The two smaller triangles increase the adhesion area of the front former.

BELOW: When joining the fuselage sides, only epoxy halfway down F2 and F3 in the first instance to avoid bowing of the fuselage.

Don't be afraid of the profiling process, it'll be over before you know it!