PROGRESSIVE PILOT | Feature



'A' CERTIFICATE PROUDLY PINNED TO THE SHED WALL? WHAT NEXT, THEN? THE 'B', OF COURSE! ANDY ELLISON KICKS OFF A SERIES THAT'LL TAKE YOUR FLYING SKILLS TO THE NEXT LEVEL



۲

Spend time getting your model trimmed and sorted before the test. The last thing you want is to be fiddling with trims when you're supposed to be concentrating on your 'line'.

۲

Ah, the perfect 'B' machine. The good old Wot-4 has probably helped more pilots through the test over the years than any other type, and for good reason! arlier in the year I presented a series of articles in *RCM&E* that took the novice R/C pilot from the very basics through to the standards required to pass the British Model Flying Association's 'A' Certificate. The 'A' is promoted by the BMFA as the level at which a pilot is deemed safe to fly solo, and is one of many Personal Achievement Schemes run for (and on behalf of) UK model pilots.

The second and more advanced stage of these schemes for R/C fixedwing model aircraft is the BMFA 'B' Certificate. If you've already passed your 'A', perhaps it's time to raise your game? If you believe it is, read on, as over the next few issues we'll explore how to attain this advanced flying qualification, the type of model needed, how to go about preparing





for the test, and what you might achieve at the end of it all.

REMIT

The official remit of 'B' certification is to 'recognise the pilot's more advanced ability and a demonstrated level of safety suitable for flying at a public display', a statement that's often misinterpreted to brand the 'B' certificate as a display licence, which it isn't. However, since the BMFA recommend that pilots of large models and model jet turbines (and any pilot wishing to fly in front of the public) hold a 'B' certificate, the 'display licence' tag isn't likely to be going away any time soon. The test is, in essence, a level of personal achievement that's rated above the 'A' Certificate. But it doesn't end there - beyond the 'B' is the 'C, which is much more aerobatic specific than the 'B'. I won't cloud matters by discussing that here, we'll take a look at it in a separate (future) article.

As is common with BMFA schemes, the 'B' Certificate can be conducted at club level, and UK clubs actively operating BMFA achievement schemes will usually have at least one examiner in place for the purpose of internal flight testing. However, as the 'B' is at a more advanced level than the 'A', the test has to be conducted by two club examiners (the 'lead' examiner must be fixed-wing qualified) or one fixedwing Area Chief Examiner. An application to the relative BMFA area's Achievement Scheme Controller is often required in order to make contact with chief examiners who are available to undertake the

60 RCM&E

www.modelflying.co.uk - DECEMBER 2007

۲

I Andy Ellison





test. Details of Area Scheme Controllers can be obtained from the BMFA's head office.

SCHEDULE

۲

The test schedule itself comprises fifteen distinct parts. Fourteen are associated with the operation and flight of the model, the remaining part being question based. The flight must be completed in one attempt unless an intermediate landing is agreed beforehand with the examiner(s), and only two attempts are permitted in any one day. The test schedule is as follows:

- a.) Carry out pre-flight checks as required by BMFA Safety Codes
- b.) Take off and complete a left- (or right-) hand circuit and overfly the take-off area.
- c.) Fly a 'figure of eight' course with the crossover in front of the pilot.
- d.) Fly into wind and complete one inside loop.
- e.) Fly downwind and complete one outside loop downwards from the top (i.e. a bunt).
- f.) Complete two consecutive rolls starting into wind.
- g.) Complete two consecutive rolls downwind using the opposite direction of roll rotation to that used in (f).
- h.) Complete a stall turn, either to the left or the right.
- i.) Gain height and perform a threeturn spin. The initial heading and recovery heading must be into wind and the model must fall into the spin (no 'flick' entry).
- j.) Fly a rectangular landing approach and overshoot from below 10' (3m). Note that this manoeuvre is a baulked landing, not a low pass.
- k.) Fly a rectangular circuit in the opposite direction to that in (j) at



۲

a constant height of not more than 40' (12m).

- I.) Fly a rectangular landing approach and land - wheels to touch within a pre-designated 98' (30m) boundary.
- m.) Complete post-flight checks as required by the British Model Flying Association safety codes.

In addition, the candidate must then satisfactorily answer a minimum of eight questions on safety matters, based on the BMFA Safety Codes for General Flying, Model Flying Displays and local flying rules.

As you can see it's not an onerous test, however the position of the flight manoeuvres, the height they're performed and the line taken to perform them are all as important as the actual manoeuvres themselves. The standard of flying required to attain the 'B' certificate is much greater than that required to pass the 'A', so be prepared to undertake some practise. On the journey through this series I'll break down the flight into its component parts, highlight the areas where pitfalls can be made and give you a few tips to help you achieve this worthwhile personal goal. However, before getting into the nitty gritty of the test itself let's take a look at the model and how best to set it up for the flight.

MODEL CHOICE

It was always the BMFA's intention to create an advanced flying test that a pilot could complete using his basic VMAR's Escape is an ideal 'B' Certificate design that'll breeze through the test in the right hands.

Go on, add a challenge to your flying and start practising for the B this weekend.

۲

Although the standard required to pass the 'B' is significantly higher than the 'A', the satisfaction that goes with a 'pass' is equally inflated.



DECEMBER 2007 - www.modelflying.co.uk

9/11/07 15:58:18

۲

PROGRESSIVE PILOT | Feature

Whilst the 'B' Certificate isn't a display licence, the BMFA certainly recommend that you have one before flying in public.



trainer, and whilst this ethos remains, the statement does significantly pre-date the march of ARTF, park flyers and low powered electric models. All of these are used much more commonly as first models these days, and some are better suited to other tests in the BMFA's suite of personal achievement schemes.

Whilst the 'Fixed Wing Power B

i.c. powered aircraft, it's now highly

likely that many test candidates will

models. The BMFA have recognised this, and there's an intermittent landing allowed on agreement with

the examiner (however this should

not be seen as 'normal' practice). Li-

Po batteries, longer motor runs and

adequate power for vertical climbs

speaking) it should be possible for

are very much the electric flight

norm these days, so (generally

be flying suitable electric powered

Certificate' (to give this test its full title) was predominantly penned for

Little 3D electric aerobats like this Fury should be able to fly the test without a battery change, although they're not always best suited to the style of flying that's required.

۲

You'll need to correctly answer eight questions to pass your 'B' test. the test flight to be completed in one attempt. The model you choose should obviously be capable of comfortably flying the manoeuvres, and again, while there are certain options within





the test to allow for models of restricted ability, these are not to be viewed as normal procedure. It's key to remember that an examiner is not empowered to change the content of the test to suit your model, and that it's the responsibility of the pilot to select the correct model for the examination. The examiner will be testing you, not your aircraft. As an Area Chief Examiner, I've seen 'B' certificates performed quite successfully with three-channel trainers (no ailerons), but they've been very well set up and flown by pilots of exceptional ability for this particular level.

It's worth noting that the candidate is not expected to build or even own the model that they use for the flying test. (This is predominantly in answer to the issue of modellers once having to 'build' a model to fly the test, which was never well received). Of course, this means that you may have to find a willing model donor who will afford you some airtime to practise your flight, so if you fall into this category it's best to start making your approach now. Mind you, Christmas is fast approaching and suitable ARTF lowwingers can be secured for around £45... Better start dropping some hints now!

۲

Most typical 40-size trainers will be suitable, as will most 4-channel sport aircraft. However, rather than risk the wrath of the reader by advocating a particular airframe, I'll suggest, instead, that your model should be capable of the following:

- A series of rolls at a speed that's slow enough to demonstrate the use of elevator throughout.
- Climbing under power with enough authority to pull through from the bottom of the bunt.
- A spin and controlled exit from a fully stalled condition.
- Tracking well on a vertical up line (this may require some thrust line adjustment).
- A flat field take-off using its own undercarriage.
- Completing the test schedule in one attempt with a reliable motor. An example of this would be an engine that doesn't cut out as throttle is increased (under negative g loading) when climbing from the inverted phase of the outside loop.

ww.modelflying.co.uk - DECEMBER 2007

62 RCM&E

9/11/07 15:58:21

I Andy Ellison



۲

In my experience, lightly loaded fun-fly models (and likewise 3D aircraft with low wing loadings and high control throws) do not make a good choice for a 'B' certificate. Without doubt, most tests that I fail on the flying aspect have messed up the entry to the spin due to the model not being fully or adequately stalled. Models of the aforementioned ilk will simply refuse to deeply stall even if sat hovering into the slightest headwind. Twinkly rolls, tight circuits and tight loops may look good when you're hotdogging at the patch, but they have no place in a 'B' Certificate schedule and will result in a legitimate fail.

۲

Choose your model wisely, practise with it, and make sure that you're familiar with its characteristics and any idiosyncrasies it may possess. Ensure the set-up and control balance is the best that you can achieve, explore its dead-stick handling (just in case!) and make sure that, come the test day, you have spare consumables like wing bands, plugs and pre-balanced props to suit your motor, along with the tools to fit them should they be required. The last thing you want to be doing in front of an examiner is cadging spares and spanners from your clubmates!

PREPARATION

Before committing to the examination your model should be trimmed for straight and level flight or be capable of being trimmed out very quickly once in the air. If it's out of trim and you make no attempt to rectify the situation in a timely manner, the examiner can legitimately fail you on your lack of basic competence. The more time you spend getting the set-up of your model sorted before the test, the less you'll have to tackle poor trim, deviant lateral balance, incorrect C of G, control throw adjustments and, perhaps, a dodgy motor. Get these sorted and you'll be able to focus on flying the manoeuvres and positioning the model in the sky. The latter is a crucial element of the 'B' Certificate and can make the difference between an easy pass and a fail.

Even a model that you've flown many times before can often benefit from set-up adjustments that cater specifically for the 'B' Certificate. Mind you, you may find that the changes required can only really be highlighted by practising the flight with a friend, who can make constructive observations whilst prompting you from the book.

THINK IT OVER

We'll park the 'B' there for now so you can consider what I've said thus

far and mull over your model choice. In the next instalment we'll explore the distinct differences between flying the test compared to your usual club-style flight. Here, then, we'll talk about height, line and those all-important pre-flight checks.

In the meantime visit the BMFA's website (www.bmfa.org) and download the test schedule booklets, the guidance notes for 'B' Certificate candidates, and start reading up on the relevant sections of the BMFA member's handbook and your local flying club rules.

Remember that the 'B' Certificate examination is a test of both flying ability and knowledge. A good performance on the questions alone will not patch up a shoddy flight. In fact if the examiner considers your flying to be a failure he might not even bother to ask the questions. Likewise, if you can't answer the questions it doesn't matter how well you fly... you won't be getting that coveted 'B' ticket! No to the one on the left; yes to the one on the right! Light 3D machines don't really make good test models.

۲

Models like this Rascal can be surprisingly aerobatic - again, a perfect model for the test.

RCM&E 63

DECEMBER 2007 - www.modelflying.co.uk