

Extra special



As luck would have it I chose the hottest day of the year, with temperatures touching 30 degrees, to try my hand at aerobatics. Not what you would call ideal conditions to be in a glass bubble canopy aircraft, but hopefully we would be spending at least some of the time upside down taking advantage of the shade.

I was to spend an hour or so in the company of Luke Hall, Cambridge Aero Club's aerobatic flying instructor. The club caters for the usual ab initio training through to IMC in Cessna 172s, and additional tailwheel and

aerobatic training using their Extra 200. This is a two seat, fully aerobatic aircraft made in Germany and powered by a 200hp Lycoming. The great thing about this set-up is that they actively encourage PPL holders with no tailwheel or aerobatics experience to get checked out and solo hire their Extra 200. With no minimum hours imposed by the insurance policy to get in the way they offer a tailwheel sign-off and aircraft checkout to all PPLs. Once they are happy you can fly it safely, they let you loose to self hire. Of course the whole point of the aircraft is to perform

aerobatics so it would be rude not to take in at least some of the basic manoeuvres during the transition phase.

Having had no exposure to aerobatics save a few loops with my dad in a glider when I was younger, I arrived for a 30-minute introduction to aerobatics at the well appointed training facilities at Cambridge Airport. During the pre-flight briefing, which comprised of a really good chat with Luke about my expectations for the day – and to quell any fears of having to use the doggy bag – I was shown a ten-minute introductory video. The

'It's like you always thought it would be before you were a pilot.' **Paul Ferguson** samples aerobatics in an Extra 200



Air-to-air photos: Keith Wilson

Inverted Paul Ferguson takes advantage of the shade on one of the hottest days of the year

video includes some background on the Extra 200 and its capabilities. The voiceover goes through the do's and don't of the flight, and practicalities like how to get in and out of the aircraft without damaging it.

Safety brief over, I was asked to empty my pockets to ensure that no articles went loose in the cockpit, and to top it off I was offered a Top Gun-esque flight suit. I am not sure this is entirely required, but it probably stops any forgotten-about loose articles from breaking free. I was allowed to take my camera but in the rush of the flight I totally forgot about it. I

did manage a quick picture at the end, taken when we were inverted, but I honestly can't tell the difference if I had taken it from the right way up.

I was expecting a parachute, helmet and uncomfortable harness like you see in the Red Bull race cameras, but climbing into the Extra in my new growbag to rest in a not-uncomfortable reclining seat was a surprise. A pair of Bose noise-cancelling headsets really tops it off. The seating position in the front of the aircraft is comfortable, with your legs spread past the front fuel tank and the stick

perfectly placed within easy reach. I did have a bit of trouble reaching the full authority of the rudder pedals, given that I am a little short in the legs, and this has to be resolved by using cushions as there is no seat or rudder adjustment. The straps are the ratchet type round the waist so Luke tightens them to just past a little uncomfortable, explaining that it would ease off as I move around the seat. Sure enough I didn't find it uncomfortable at all and quite reassuring to be strapped in so tight.

The view from the aircraft is astounding. I learned to fly in Cessnas and have recently

Student starts off in front, but solos from the back seat



learned to fly an Auster so my experience of the visual aspects of flying have been slightly limited. What a change to have a bubble of Perspex around you and a pair of short stubby wings to give you such a panoramic view. I assume that the view must be even better from the back as the rear seat is a little higher. Incidentally the Extra 200 is flown from the back solo, which is why I am in the front and most of the instruments are in the back. Luke says that after a few flights he normally likes to get you flying from the back since this is where you will fly from and where you will learn to

land the aircraft.

So, sitting in the now mid-day sun Luke wastes no time in getting our start-up clearance and we are very shortly taxiing for the extremely long tarmac runway at Cambridge. Being very slick with the radio we back track to the end of the runway with traffic on ILS approach at 4 miles. After a nervous comment from myself about a potential conflict Luke says – “Don’t worry, we won’t be here long”. Clearance approved, Luke opens the throttle, instantly lifts the tail and within what seems like a few breaths we lift off to about six

feet above the runway. Accelerating along to about 130 knots we climb and turn to join a tight downwind at a thousand feet within seconds. Now that is very different to the Auster!

Once I catch my breath Luke asks me to take control and initiate a climb to get above the convection layer where the air is smoother but crucially a lot cooler. I instantly realise how reactive the aircraft is to stick inputs. It doesn’t feel unstable at all, but just goes where you put it. In the climb at 85 knots it takes a few minutes to reach cloud height and it’s time for some gentle turns, increasing to steep turns. Turns out my steep turns are not quite steep enough and after a quick example from Luke I am rolling to more than 45 degrees and pulling hard. In fact this was pretty much how the rest of the flight went. Luke would ask if I wanted to try a manoeuvre, and he would show me once then let me have a go, such is the confidence he has that you can’t really do much to damage the airplane. On the ground Luke had explained that the aircraft is so strong that it is very hard indeed to break it by getting something wrong in the air. That

instilled a lot of confidence in me; so long as I stayed away from the ground I should be okay.

After a few turns Luke asked me to fly level for a little bit to get the last of the fuel from the auxiliary tank out. He did warn me that the engine would sound rough for a little bit, but that still didn't stop the hairs on the back of my neck rising when the engine started to splutter. There's something about a spluttering engine that, as a pilot, I have a built-in reaction to, probably made worse from flying around behind a Gypsy that had a tendency to do a lot of spluttering before we found the problem.

Fuel sorted, it was time to attack the clouds. Luke had first go and picked his target from above with sun behind, like any good fighter pilot, and we dived for attack. Target overtaken we pulled up into a loop to point back at the target inverted. A half roll and we were tearing towards his enemy for another go. Enemy destroyed, Luke handed over to let me try a few manoeuvres to enhance my attack skills. First up the roll. Now I don't know what type

of roll this was, but it was quite simple. From level flight I raised the nose to about 15 degrees above the horizon, then rolled left or right centralising the controls when we were sunny side up. Easy as that. My attempts resulted in a little nose down and accelerating out of the roll, and Luke put that down to a combination of getting the nose at the right angle at the start and the fact I am hesitating a little with the application of the roll element. To illustrate we move straight on to a different type of roll which involves a slight nose pitch-up from level and fast application of full aileron to try and rotate about the aircraft's longitudinal axis. I honestly don't think I got to full aileron before we were right side up again having completed a full roll in a couple of seconds. Really great fun to be flinging the aircraft around like this. It's like you always thought it would be before you were a pilot. Remember those days when you thought – how hard can it be... fast/slow with the throttle, up/down left/right with the stick. It feels just like that. I want to go up, I pull the

stick like I am 12 again and we are shooting up instantly. No lagging around, no whines from the plane of 'Oh do we have to climb?' It just goes.

Having done the rolling bit around the longitudinal it was time for some rotation around the horizontal axis. Loops! From 130 knots, gained by either squeaking the throttle open or a shallow short dive, pull back on the stick keeping wings level. Quick check of the wings in the vertical and keep pulling. As soon as I can see the horizon over the top of my head its time to relax the back pressure to make the loop a bit more rounded, then as we fall through the vertical, time to add the G and recover. We got to 4G at some point in the flight and I think pulling out of these loops was probably where we peaked.

The last manoeuvre to let me try out was a stall turn. Now this was where the application of full rudder was going to cause me trouble. From level flight I pull up to vertical and just sit there, letting the speed bleed off. On a count of '3-2-1-now' from Luke I boot full left rudder in



Steve Copeland



Left: in the Extra 200, most of the instruments are in the back
Lower left: ready to roll – author, in front, prepares doggy bag
Above: tyro and expert – Luke Hall on wing, Paul Ferguson in cockpit



until we are pointing towards the ground, letting the speed build up then pulling through to complete the manoeuvre. Not being long legged enough to get it round quickly left us a little past vertical on my first attempt, but that proved no issue as I recovered as normal with no help from Luke. In fact such is his confidence in the aircraft that he didn't utter the words "I have" once, apart from to show me something. In learning to fly a tail dragger I have become accustomed to regular inputs from my instructor when things are going outside his tolerance levels and I found it harder to learn my mistakes, not being able to discover them for myself. In the Extra 200 I feel that when you get it wrong you know it because it is obvious – too fast, too much tail wagging, earth not in the right place etc. Such is the forgiveness of the plane you can learn hands on what you did wrong and correct it yourself, which I feel makes it so much easier to learn.

Stall turns over we are running low on fuel (Luke advises that if you are going somewhere you can use the installed ferry tanks). Luke takes us back to Cambridge and in the spirit of the day he suggests that we trundle on back inverted. Over we roll and we progress past the race course on our way home. Having felt fine all flight, I found this a very unusual experience, dangling from my lapstraps



Now it's your turn

Cambridge Aero Club train to the AOPA aerobatic syllabi which confer Basic, Intermediate and Advanced certificates and give you a structured learning process and set manoeuvres for which you can be signed off. The Basic course takes eight hours, and Luke Hall thinks that the average pilot reaches proficiency a little before that in the Extra 200 due to the ease of use.

The CAA considered introducing a compulsory rating for pilots who wanted to fly solo aerobatics but recognised instead the revised AOPA course as a practical alternative. This comprises eight hours dual flying with a qualified and approved instructor, and eight hours of ground briefings. Dozens of flying clubs around the country offer the courses – there's one near you. A list may be found on the AOPA website at www.aopa.co.uk/scripts/course_a.php

watching the world go by above my head. Having taken my picture I suggested that we might turn back up again, making some excuse about getting some further pictures on the way back in. Prolonged inverted flight wasn't really my cup of tea. I noticed later that the aircraft is placarded for three minutes inverted flight – presumably the amount of fuel held in the inverted system. Had I known, I would have probably tried to hold out, but in the end I showed my weakness.

Now I am not going to say that I could do it with anything like the accuracy of Luke did but it really did feel like the aircraft had been designed to make things as easy for the pilot as possible. For instance, having recently learned to fly an Auster and coming from a gliding background I was heavy on the rudders. Luke explained that unless the manoeuvre called for yaw at some point, then just leave them alone. He was right – there was no discernable adverse yaw present at the speeds we were flying.

If you had asked me if I thought you could get me to roll, loop and stall turn an Extra 200 within 20 minutes of taking off, I would have thought it a tall challenge, but there I was following really basic instructions like, 'From cruise, pull up to here, move the stick left until we are upright again' to complete a roll. Stunningly inviting and instantly rewarding. Now I have the feeling that I could have done a lot better. When each sortie works out at £100 I would think that early progress would be very rewarding. I know there is a lot more to learn than these manoeuvres, and being unlimited and rated to +/- 10G, there are certainly more manoeuvres in the aircraft's repertoire. But to think that in a relatively short number of hours I could transition to an Extra 200 and be out practising my barrel rolls is very tempting.

As a PPL with a hundred hours in my book post PPL I really did start to run out of places to go and people to fly and gave up flying for a few years due to a combination of this and a new baby. At the time I had only really been offered the IMC or night rating to add further interest, but that wasn't really my thing at the time. Had the school I was renting from had an Extra 200 or similar aircraft and made it so easy to get into I would have certainly entertained the idea of getting checked out and spending half an hour now and then perfecting a manoeuvre or two.

I suspect many pilots get to that same point when they have either flown all their friends and family and visited the local airfields more than once and could do with something slightly different. Of course this doesn't mean to say that the experienced pilot would be any less interested in taking this on, given that the aircraft can do it all.

After just half an hour's aerobatics I'm

Left: 'I pull the stick like I'm 12 again and we go shooting up instantly...'

convinced that the transition from PPL to Aerobatic PPL is made all the more easier by the approach that Cambridge Aero Club is taking with the Extra 200 – so much so that I am clearing space in my diary and saving the money to get checked out at the earliest opportunity.

My thanks to Luke and the team at Cambridge Aero Club for making me feel very welcome.

www.cambridgeaeroclub.com

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