Teaching Aerobatics 2008 seminar & competition

Aerobatics seems to be a progressively growing past-time with more and more schools offering PPL's and students the chance to experience this exciting form of flying. If the Red Bull Air Race that was held in London over the River Thames last year was anything to go by it seems that the folks in the UK have a taste for aerobatics and fast aircraft. Of course not everyone can be a Paul Bonhomme or a Nigel Lamb but most can enjoy the sensation of flying aerobatic manoeuvres in a variety of aeroplanes at their local flying school.

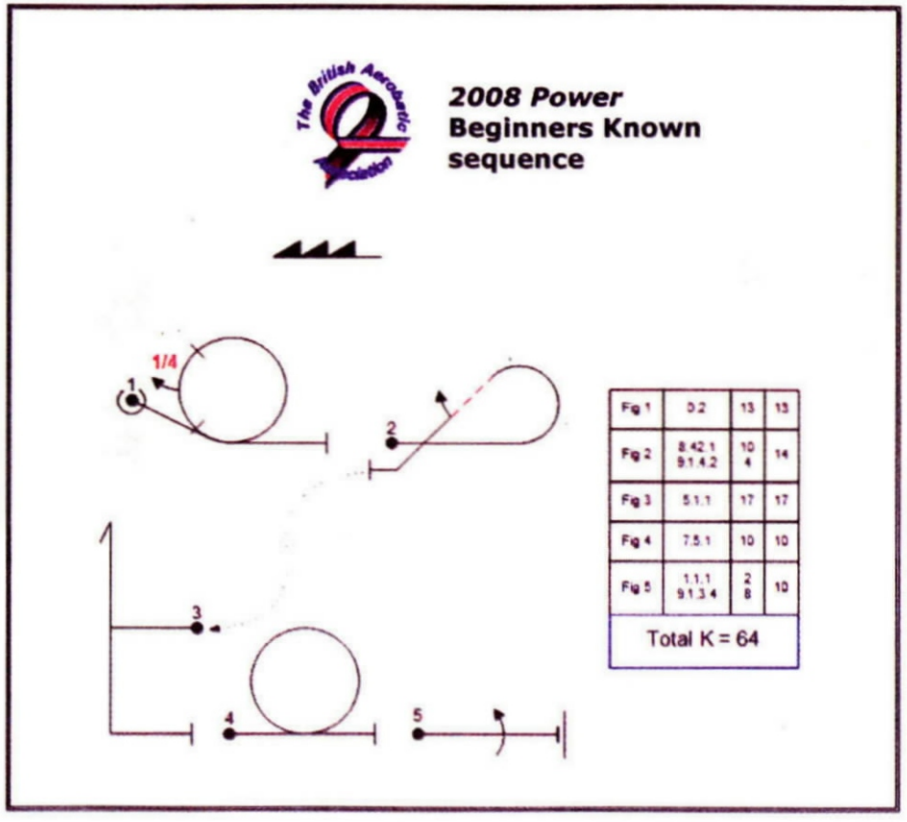
There appears to be a general rise in the number of aerobatic trial lessons being conducted at flying schools in the UK even though, with the ever increasing fuel costs, people are showing more restraint in their spending.

The British Aerobatics Association (BAeA), the body that promotes competitive aerobatic flight in the UK, held another successful Aerobatic Instructor Seminar in partnership with On-Track Aviation at Wellesbourne Mountford Aerodrome on the 18/19 June 2008. The one day Seminar was designed to introduce flying instructors to the world of competition aerobatics so that they in turn may pass on this information to their students.

In the UK there isn't an aerobatic rating that a pilot can add to his/her licence to allow them to go and fly aerobatics. However, most schools that teach aerobatics do so using the AOPA Aerobatic Certificate Syllabus. This is not a formal qualification but is recognised by most schools as a necessary qualification for pilots wishing to self fly hire an aerobatic aeroplane. The AOPA Syllabus has now been developed in conjunction with the BAeA into two distinct elements; Basic and Standard. The idea being that it re-energises their commitment to flying whilst giving them a new challenge that is both stimulating and fun.

The Instructor Seminar is open to all aerobatic instructors and consists of an informal evening seminar conducted by Alan Cassidy to explain the concept of Competition Aerobatics followed by a training day where each instructor is given the chance to fly the BAeA Beginners Known Sequence both in the local flying area and then over head the airfield in the Aerobatic Box. The flights take place in a variety of aeroplanes such as the Robin 2160i, Yak 52 and Extra 200 under the supervision of a BAeA coach. Mike McKinley, one of On-Track Aviation's instructors and an ex-RAF pilot, said he found the entire Seminar most enjoyable and the flights great fun and so different from what he had done in the RAF.

In the afternoon a mini aerobatic competition was held amongst the instructors which was judged by Steve Green, Head of BAeA Contests, using the same criteria as in a BAeA Competition.



anyone wishing to progress onto competition aerobatics can do so after they have completed the Basic course. All training for this aerobatic qualification must be conducted by an appropriately qualified instructor at an AOPA Corporate Flying Training Organisation which is registered to conduct courses for the AOPA Aerobatic Certificate, such as the aforementioned On-Track Aviation.

The Basic course involves 8 hours flight training and 8 hours of ground tuition which culminates in a Competency Check. The Competency Check is conducted around the BAeA Beginners Known Sequence (Fig 1). Those wishing to further improve their ability and skill can complete the Standard course (a further 6 hours flight training and 6 hours of ground tuition) after successfully passing the Basic Competency Check thus allowing pilots a phased progression through the basic manoeuvres up to the more difficult ones. Once again the Standard Competency Check is conducted using the BAeA Standard Known Sequence (Fig 2).

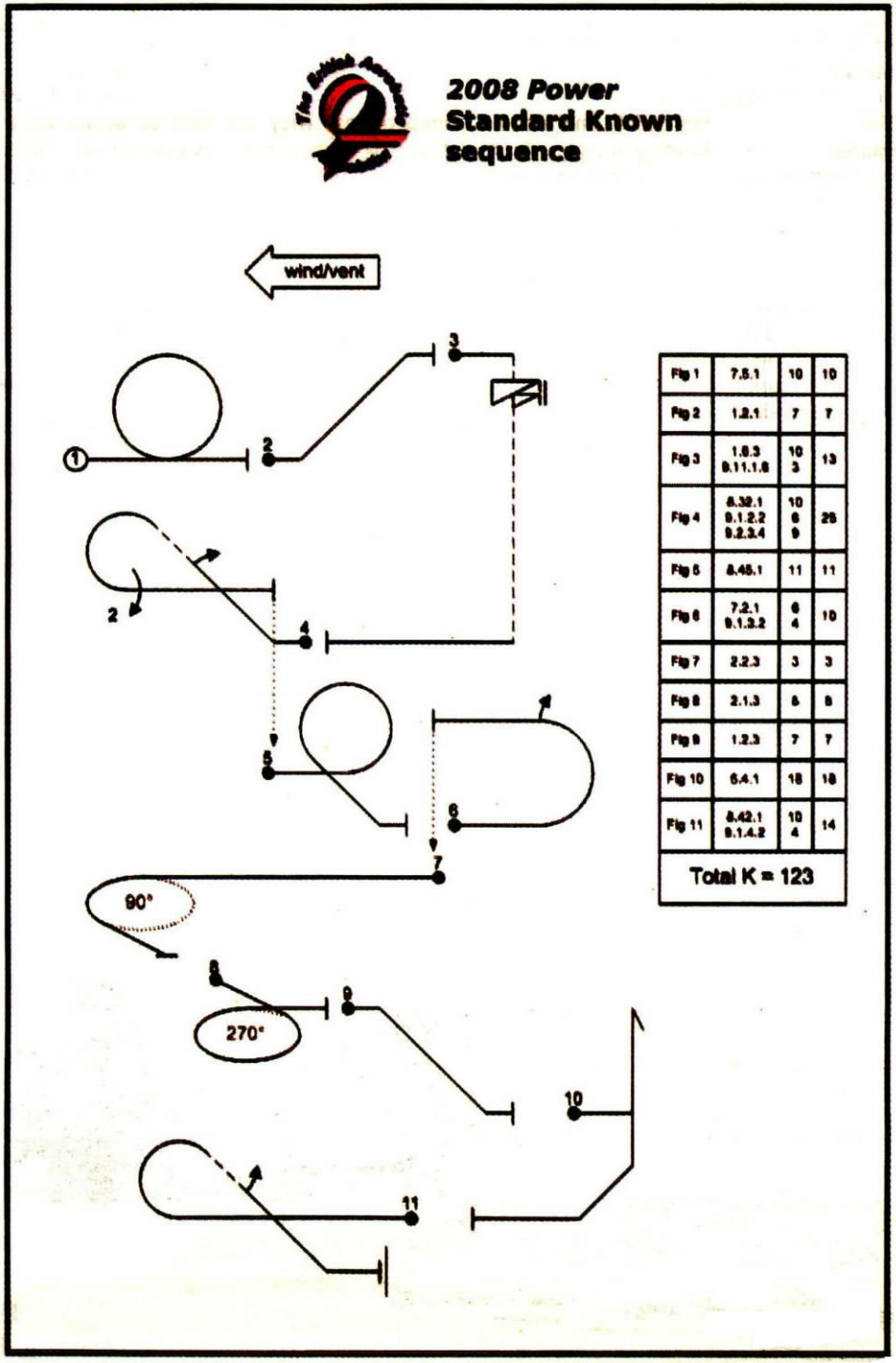
The World Aerobatic Championships are to be held in the UK at Silverstone in 2009 and this event should do for aerobatics what the 2012 Olympics are doing for sport in the UK. Alan Cassidy, Chairman of the BAeA, said that these Instructor Seminars really help to promote competition aerobatics at club level and hopefully will encourage more people to take up the mantel. Most new PPL's after completing a few flights across the Channel and have taken their friends flying find that the novelty wears off over time. By taking up aerobatics they find that

On-Track Instructors Sequence - Results
1 Alan Newton, Yak 52
2 Mike McKinley, Yak 52
3 William Greenwood, Vans RV-7

Alan Newton, head of training at On Track Aviation, said it was a great experience to fly some different types and to be able to experience first hand an Aerobatic Competition scenario. Flying aerobatics at 1500 ft in a 1 km square box over head the airfield is quite a different challenge to flying the same manoeuvres at 3000 ft in the local area. A thoroughly enjoyable event, he said.

The Seminar culminated in a BBQ on the airfield where the highlight of the evening were aerobatic displays by Radio Model aeroplanes flown by Tony Hooper the Chief Examiner of the Large Model Aircraft Association and James Morris the British Model Aircraft Aerobatic Champion. A raffle was held at the BBQ and which raised £90 for the British Disabled Flying Association (BDFA). The cheque was presented to Shona Bowman, CFI of the BDFA by Alan Newton.

The following day, Friday 20 June 2008, the BAeA ran a Standard level competition which attracted 24 pilots who competed for the On-Track Trophy. Unfortunately the weather intervened at the start, with the first take off being delayed until 11.00. Once the first competitor was airborne the rest followed in quick succession as the weather improved throughout the day. The aerobatic flight attracted a lot of interest from local pilots and visitors alike. It was a hard fought competition with the lead changing on several occasions throughout the day. The



pilots were required to fly a Known Sequence first which they had been able to rehearse prior to attending the competition and then in the afternoon they had to fly an Unknown Sequence which was only given to them on the day of the competition.

As with all these BAeA events every competition pilot is required to attend a formal briefing in the morning; non attendees are not allowed to fly in the competition. Alan Cassidy said that the BAeA has a 100% safety record for these competitions and that is why no one may take part if he/she has not attended the formal briefing.

The briefing is run by the Contest Director, Eric Marsh on this occasion, and contains briefings on the Weather, Airfield, Aerobatic Box position and holding area, Safety and Judging information. Once the briefing is complete an order of play is published so that each pilot knows when they are going to fly.

This is perhaps an aspect of the competition that is not so well understood by many outsiders. The pilot competitors are required to get airborne such that they are in the holding area ready to be called into the Aerobatic Box by the Chief Judge in the appropriate order. So each pilot needs to work out a plan of action so they height correctly when judging each pilot's sequence. It is unacceptable for any pilot to fly below the minima height and if they do they can be disqualified. Steve Green, Head of Contests BAeA, explained that this is a very important safety requirement. Furthermore, each pilot has to make a decision about the weather and cloud base before commencing his sequence. If it is not suitable then they will not fly the sequence. Obviously if they are already half way through the sequence and the cloud becomes a factor it is acceptable at this level to break the sequence and reposition or indeed end it.

So there is a lot more to competition aerobatics than just flying the manoeuvres. As Alan Cassidy explained during the Seminar pilots must consider many aspects when flying in competitions. They are akin to actors on a stage. They are performers whose flying skills are being judged from the ground using internationally agreed criteria. Pilots must consider Clarity, Placement, Performance and Accuracy when flying their routines.

Speaking to some of the competitors it was obvious that there are some tricks of the trade. However, they are not always easy to use as some aeroplanes don't allow the pilots any room for error. Now of course you may consider in a bit otherwise you could find yourself in the next county let alone outside the Box with some penalty points. The more sedate T67 and Robin 2160i are easier to keep within the confines of the Box but are harder to fly around the manoeuvres with accuracy. So its swings and roundabouts as to which mount you prefer.

Most of you aspiring aerobatic champions will probably think that you must have a Pitts or an Extra to compete. Well this is not the case at all. Most club aerobatic aeroplanes are capable of doing the Beginners Sequence and probably the Standard one as well. As one of the Judges explained the Beginners Sequence can be flown and won by pilots using a Cessna Aerobat. The idea is to allow as many people as possible to enter a competition with nothing more than the Club aerobatic aeroplane.

When I am faced with an exam or indeed any test I like to rehearse. I often find myself talking to the wall paper or walking around in circles as I go through the drills. Well aerobatic competition pilots are no different; and I thought I was mad.

Many of the pilots like to practice their routines, like actors on the stage. They each find a space on the grass near their aeroplanes and walk through the sequence of aerobatic manoeuvres. To the untrained eye it looks comical and fascinating all at the same time; with the dips and the twirls as they simulate loops and stall turns with their bodies and hands. Occasionally as they stop you get a glimpse of their face; eyes tight shut picturing the movement of the aeroplane around the manoeuvre and over the ground; how the wind will affect each manoeuvre and most importantly how the Judges will view it.

Paul Eldridge, who completed the AOPA Aerobatics Certificate with On-Track Aviation, was one of the many competitors at the event. Paul, who was flying a T67 Firefly, said that he had only just started competing at Standard level and found it really exciting and challenging. He said he was particularly pleased to be returning to Wellesbourne Mountford for the competition.

There were 6 Judges; Lynne Westnage (Chief Judge), Phil Atley, Alan Cassidy, Howard Fawkes, Martina Willis and Nick Buckenham supported by a team of scribes who wrote down the scores and remarks that the Judges gave to each competitor as they flew their sequence in the Aerobatic Box overhead the airfield. These score cards are then collected up and the results fed into a computer by Jen Buckenham to produce the final score as a percentage mark. This well oiled BAeA machine went on throughout the day with only a short break to eat lunch.

No wonder most of them are well tanned. All that sitting in the sun looking up at the sky; sunglasses glued to their faces like Goose and Maverick from Top Gun. There critical eyes picking up each and every mistake; too shallow, to positive, wings not level, score 7.1. It reminded me of the Judges at an ice skating competition as they awarded their marks for technical merit and performance.

As with all competitions there has to be a winner. The competition result was very close with the margin between the top pilots only very small; measured in fractions of a percentage point.

Standard Level On-Track Trophy - Results
1 Charlie Kimbell, Pitts S-1T
2 David Thomson, Decathlon
3 Stuart Reeves, Pitts S-2C

The Aerobatic Instructor Seminar and the BAeA Competition has now become a well established event at Wellesbourne Mountford Aerodrome and in the BAeA calendar. So if you are an aerobatic instructor and would like to know more about aerobatic competition flying and have the chance to fly some interesting types put these dates into your diary; Aerobatic Instructor Seminar and Competition 20-22 May 2009.

do not miss their allocated slot; easier said than done. With a large number of competitors in a competition this requires some thought.

- How long will it take to pre-flight the aeroplane?
- How long to fit the parachute and strap in?
- How long will to warm the engine if selected to be at the beginning?
- How long will it take to start the engine and taxi to the runway holding point?
- How long will it take to get airborne and climb to height and position the aeroplane in the holding area?

Lots of questions which require each pilot to plan ahead and be ready in good time. As always plans do have a habit of breaking down and the weather can play a large part in this breakdown. So the answer is to be flexible and keep ahead of the game.

The first pilot to fly his/her sequence is also asked to do a height check for the Judges. This involves flying through the Aerobatic Box at the lowest competition height say 100 ft above the aerodrome for Standard competitions. This allows the Judges to evaluate the minimum

these types to be the Pitts or the Extra; all high performance aerobatic aeroplanes. Well this is where you could be wrong. For example when a Pitts is climbing in the vertical any slight movement out of wings level is hard to detect because the wing is so short when compared to the T67 which has very long thin wings and would show this fault easily. So does this make a T67 pilot better than a Pitts pilot? Well possibly. (Pitts pilots please don't send in any hate mail as your aeroplane is also hard to fly well but for different reasons) What I am really trying to say is that anyone winning a competition in a T67 has really worked hard to achieve this – in my view.

Each aeroplane posses its own problems when flying in a 1000 m square box only 1000 ft above the ground. A fast aeroplane like the Extra is quite a handful and needs to be reined