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SAILPLANE & GLIDING

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SKILLED FLYING INSIDE THE BOX

Paul Conran reports on the challenges of competing in the Aerobatic World Championships, held this year in Torun, Poland

(Left to right): Paul Conran and Maz Makari at the 2011 Aerobatic World Championships, with team manager Lionel Sole.
The top three positions went to: Jerzy Makula of Poland (MDM-1 Fox), George Kaminskiy of Russia (Swift S-1) and Erik Piriou of France (Swift S-1) (Jyrki Viitasaari)

FLYING AT THE TOP LEVEL IS ENJOYABLE, BUT HARD WORK. IT IS BOTH PHYSICALLY AND MENTALLY PUNISHING

COMPETING in a World Championships is, at the same time, great fun and very serious. This year was no exception as, shortly after the UK Nationals, Maz Makari and I set out for Torun in Poland, where the Championships were to be held some two months later (28 July – 7 August, 2011).

We had both taken time off work and decided this year to pull out all the stops in terms of dedication and practice. The 2011 season saw the arrival in the UK of G-LUPY, a Swift S-1 and the best tool for the job. We were lucky to acquire it as only 28 examples were built, of which about 20 remain in flying condition, and they very rarely come on the market. It has a very useful VNE of 155kts, 'g' limits of +10 and -7.5 and a roll rate of 90° per second.

Our practice sessions in the UK started in earnest in April, on account of the miserable winter we all suffered. The glider is based in Lincolnshire at Buckminster GC, which has a friendly atmosphere, excellent facilities and relatively sparse GA traffic. This year's team consisted of just Maz and myself flying at Unlimited, with last year's Advanced team of six fading to none for a variety of reasons.

Flying at the top level is enjoyable, but hard work. It is both physically and mentally punishing, as well as expensive. This year, the British Aerobatic Association was generous in the extreme with a contribution towards our training and competition entry fees. The physical punishment comes in terms of regularly pulling up to 8g and pushing -5g, often sustained for quite some time as, for instance, you go around an outside loop. The mental punishment comes after you have landed at the end of what you think was a perfect flight to be told by the judges that it was not as good as you had hoped.

Our plans included a 10-day training camp in Nordhorn, NW Germany, where we knew a number of German pilots would be practising for their nationals, as well as for the World Championships. We got there from Lincolnshire via the Channel Tunnel in one very long day. During our stay we managed only 12 flights each, on account of the poor weather. It helped, however, to be alongside two of Germany's top pilots and we wasted no time in sharing tips on how to fly some of the more awkward figures.

This year's 'known program' was particularly difficult. This sequence is always published the previous autumn and the theory is that we have time to practise and perfect it by the following season. This year there were seven figures in the sequence, taking a little over two minutes to fly. The first figure was a relatively simple 45° diving line with a half roll to inverted, followed by a push out to level inverted flight. Figure two was a simple aileron roll through 360° back to inverted.

Figure three, a negative tail-slide, was more difficult. It required a high entry speed of about 150kts and a high negative push of about -4.5g. As you started the push you had to keep the wings exactly level and the yaw string exactly straight. Anything less and the glider will fall awkwardly off the top and the figure will be 'zeroed'. Assuming you make it work at the top and you slide gracefully backwards for a few metres, the next part of this figure is a positive flick roll through 180° in the vertical down-line before pushing out inverted at the bottom at VNE.

Figure four was a loop, first half outside, second half inside, with a two-point hesitation roll at the top. An initial push of at least -4.5 g is required to make this work well.

Figure five was a stall turn with a quarter roll in the up line and a three-quarter negative flick roll in the vertical down line.

Figure six was a rolling turn, starting erect and ending inverted – 180 degrees of turn and 540 degrees of an outside roll (which means you have to roll to the right and turn to the left, or vice versa). The last figure was a simple push to an inverted 45° up-line followed by a pull through to level flight and

Sequences are flown in a 'box' – a kilometre square, 1,000m high and 200m above the ground. Large white markers ensure the position of the box is clearly visible from a 4,000ft release height. Penalty points are attracted for straying outside the box (Tomonari Kaji)

a four-point hesitation roll.

Although we knew we would have to fly several 'unknown' programs and our own personal 'free' program, it was the difficult 'known' program that absorbed us for most of our practice sessions.

After 10 days at Nordhorn, where we had made lots of new friends, become a little bit better at flying the sequences and a lot better at backgammon, we moved on to Poznan in the west of Poland, where we hoped to join the Polish team's training camp.

Aeroklub Poznanski is the home of the new generation of Polish aerobatic pilots. Poznan University, in partnership with the City Council, has generously decided to sponsor a number of young undergraduates by giving them as much flying as they want – for free. Four of these charming students went on to do well in the Worlds and I am sure will, one day, be champions. Sadly, a combination of bad weather and an unfortunate mishap with our tug persuaded us all to move on early to Torun, where we planned to fly in both the Polish Nationals, as guests, and then in the World Championships themselves.

Torun is a significant city on the banks of the Wisla River some 200km west of Warsaw and boasts a delightful enclosed 'Old Town' full of excellent restaurants, historic sites and steamy nightclubs.

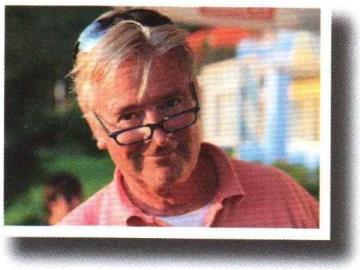
Aeroklub Pomorski, the venue for the competition, lies at the edge of the city which, along with the river, gave us excellent ground references to help us fly our figures in the right direction. There is nothing worse for an aerobatic pilot than a featureless landscape.

For those interested we fly all our sequences in a 'box', which is a kilometre square, 1,000m high and sits 200m above the ground. This box is delineated on the ground with large white markers easily visible from our release height of 4,000ft. We attract penalty points if we stray outside the box. We are judged by up to 10 judges, who sit at the edge of the box and score each figure we fly out of a maximum of 10 points.

The Polish Nationals were fun and we both flew well, scoring 70+ per cent. It was very helpful to have a warm-up competition before the major event. Come the day it all proved worthwhile as we both put in good performances at the Worlds (Paul coming 16th, Maz 17th). We came away having learned a huge amount and are now convinced that we know how to win. Maybe next year – watch this space!

USEFUL WEB ADDRESSES:

- *www.aerobatics.org.uk* – home of the British Aerobatic Association
- *www.glideraerobaticsclub.com* – home of the proposed glider aerobatic club
- *www.civa-results.com* – where all results for 2011, power and glider, can be found



Paul Conran, 59, took up gliding in 1994 and has been competing internationally since 2001. A member of Buckminster GC, Paul is a Full Cat and Advanced aerobatic instructor. He runs aerobatic courses in UK and is the current UK national champion