



Your name on the **Schneider Trophy?**



Photo: Trousseau/Wikimedia Commons

*Why not make 2012 the year you try air racing?
Whatever your skill level, you have a chance of winning.
Geoff Boot* throws down a challenge*

Air racing – what’s it all about? Non-pilots think first of the Red Bull Series. Who says sponsorship doesn’t work! Well no, that’s not air racing, it’s more time trialling and sadly it seems to have dropped off Red Bull’s agenda. No, we air race with the Royal Aero Club Records Racing and Rally Association (3Rs) in the traditional way, against other aircraft in a closed circuit.

A little taster to set the scene – this is

the last air race of the season in September 2011 hosted by the small Channel Island of Alderney, a real jewel in the crown of venues. It’s over 24 minutes since the first aircraft rocketed down the runway heralding the start of the race. All right, not so much rocketed as trundled, as it is a Cessna 150! Although in saying that I must add that, ably piloted by Malcolm Montgomerie, it had won the prestigious King’s Cup earlier in the season.

We are marshalled on to the start line, controls full and free, seatbelts done up, canopy closed, a quick scan of the instruments – all in the green – and a final check that our portable GPS is turned on; no GPS data at the end of the race, no result.

The starter’s flag goes up, I stamp hard on the brakes; Suzie, my wife and navigator, watches the flag intently as I quickly ease the throttle forward: the 260 horses under the cowl growl in anticipation; the aircraft lurches down and the nose leg olio compresses under the strain: something needs to happen, and after 10 long seconds it does. Down comes the flag, brakes off, hold the aircraft

This photo: a good lookout is essential at all times!
Inset: everyone has a chance to win the famous Schneider Trophy
Lower right: Red Bull racing is more of a time trial, with only one aircraft in the air at any one time
Bottom: Alderney's race circuit; note the very steep turn at the Casquets lighthouse



straight, airspeed increasing, ease our mount in to the air adding a bootful of right rudder; undercarriage and flaps up in ground effect, making the best of Alderney's short, undulating runway which soon comes to an end, dictating a prudent climb towards the first scatter point.

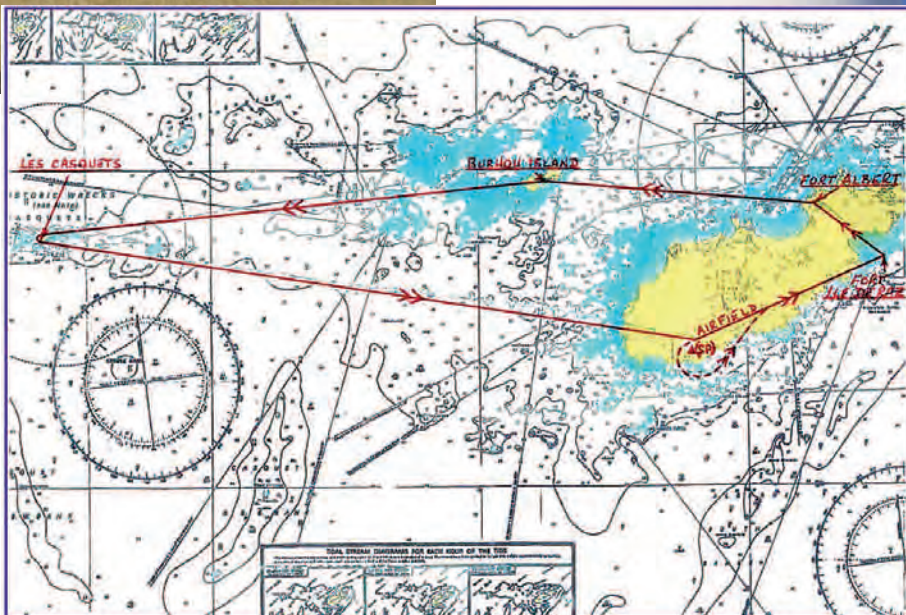
Because of the wind we are taking off in the opposite direction to the race course and have to make a left 180° turn around scatter points to get us back on to the left hand circuit. Siai Marchettis don't like steep turns at low speed so we stagger round until we are able to drop below the cliffs, battling the turbulence at 120 knots, and we're good for a 60° pull and we're climbing again on track to Fort Raz – the first turn point.

That's just the start.

Six hard flown laps later and let me tell you, pulling 4G round the infamous Casquets lighthouse at max speed is no

easy task, as on each occasion Suzie comes out of the turn with temporary tunnel vision. Around it for the last time we're approaching the finish. It's normally a sharp dive to the finish line at 100 ft but on this occasion as Alderney's airfield sits on the cliffs we only have a couple of hundred feet to play with.

Although we've passed other aircraft we can see our closest competitor, Essex boy Neil Cooper in his Bulldog, diving for the line. It seems an impossible distance to make up even though we're closing at over 70 mph. We flash by the edge of the cliff, almost on the airfield boundary and fortunately, before the finish line, pass him: the race is ours. Or is it? It wouldn't be the first time during the season that we've been first over the line only to see someone in the distance ahead of us, or get penalised after the GPS data is downloaded for height or turn



infringement. But this time all is well and about an hour later, after a much earned cold drink (non alcoholic I hasten to add!) we are confirmed winners. Not only that: over the weekend we have secured the British Air Racing Championship for the first time, and this race concluded the European series which meant that we were European Champions as well.

A great season and a great ending to my 20th year of handicapped air racing.

So what is handicapped air racing? The UK, or Great Britain as we used to be, is the only country in the world that runs a regular programme of handicapped air racing and it all happens under the auspices of the Royal Aero Club Records

Racing and Rally Association.

The handicapped concept was first encapsulated in the famous King's Cup air race in 1932 when the rules were drawn up that would allow aircraft of different performance to compete on a level playing field. It was obvious from the 1920s that if air racing was to continue without massive expenditure and state of the art military input there was a requirement to make it possible for aircraft of any speed to compete.

The rules drawn up in 1932, with the exception of the way in which the handicap is now derived using GPS data, are basically the same as those we use today. Any fixed wing aircraft capable of over 100 mph in level flight and propeller driven can compete (there are now maximum speed limitations for safety reasons) and that includes singles and twins. The Royal Aero Club racing season comprises seven or eight venues around the UK, Channel Islands, Ireland, Isle of Man, Europe, including France and Menorca on occasions. Each venue hosts two races where up to 50 aircraft can participate but an average field is around 12 to 15.

The great thing about the handicapping process is that all types of aircraft compete and can win. An eclectic collection of types: Austers through Cessnas 152 to 172, PA28s, Beagle Pups, Bulldogs,



Top: a wide variety of aircraft taxi out in start order
Above: the flag is raised on Alderney's short and undulating runway
This photo: under starter's orders – the flag is raised and in less than 10 seconds the race will start

Slingsbys, Siai Marchettis, Beech Barons with differing speeds take part. A cursory inspection of the race records over the years reveals that it's not just the fastest aircraft that win the races, it's a combination of aircraft and pilot skill – but even this is not necessarily a precursor to automatic wins.

Air racing is a skill and like any other it takes time to learn the tactics. This is not

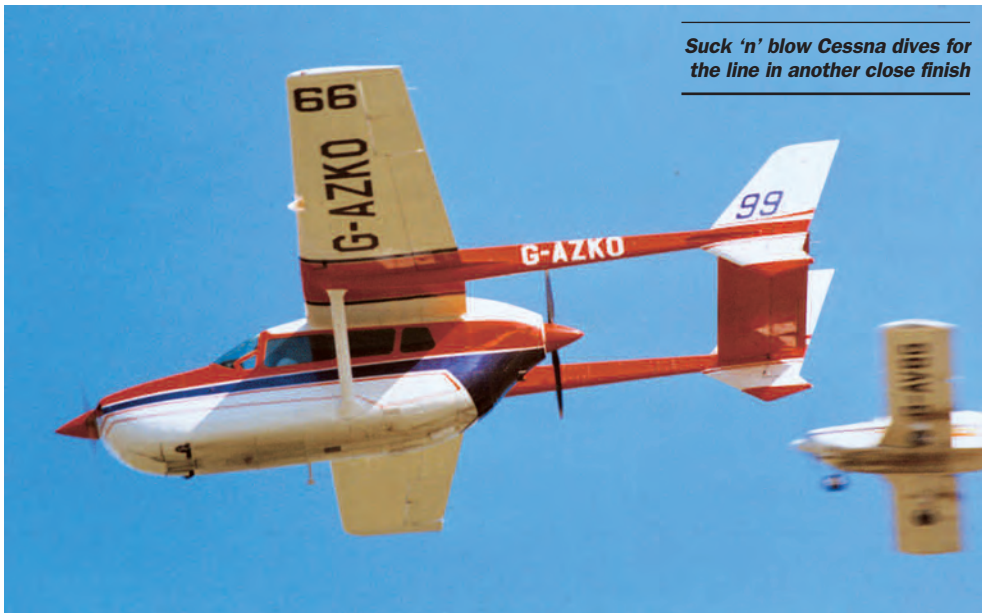
point to point flying in the conventional sense, it's about reading wind gradients, overtaking other aircraft in the most expedient fashion, flying the shortest possible distance around the turn points. There is also a balance to be struck between bank angle and loss of performance when it comes to turning. As the old adage goes, "it's funny but the more I practise the luckier I become".

A typical race comprises a 120-mile course with four to six laps around an approximate rectangle, but that's not always the case. The turn points are generally defined by orange tents with wind socks on top and when easily accessible are manned by race marshals. Each aircraft has to subject itself with the pilot to what is termed a supervised octagon. This is an octagonal figure flown at maximum speed with 30 second legs monitored on GPS to determine the aircraft's maximum speed on the day of the race: the start order is dictated by the maximum speed, the slowest aircraft taking off first and the fastest last.

Unlike aerobatics, or even Red Bull, air racing can be a social affair as the 3Rs actively encourage pilots to carry navigators. This isn't navigating in the conventional sense of the word – a practice period prior to the race should leave all pilots with a good knowledge of where the turn points are and how to find them. It's about maintaining a good look out, keeping the pilot on line in selecting roll out points for maximum turn performance.

What do we race for? Occasionally there's some prize money in the pot, but mainly we do it for the glory. There are some wonderful trophies up for grabs, including the aforementioned King's Cup, probably the most prestigious race of the season. Then there's the Schneider Trophy,

Suck 'n' blow Cessna dives for the line in another close finish



Stream landings are the order of the day to get all aircraft on the ground as soon as possible after the race



originally run as a state of the art, cutting edge race but now run on a handicapped basis and many other prestigious trophies that are part of our living aviation history. A look at the base of some of the cups reveals famous names like Geoffrey de Havilland and of course Geoffrey Boot!

Each season culminates in the British and European Championships. There are few sports where what might be termed rank amateurs can compete at national and international level with a good chance of winning, without spending a fortune on specialist equipment/machinery or rigorous training schedules.

The other great thing about air racing is it's a social aspect. Most venues host a function of some sort on the Saturday night, an opportunity to discuss the

proceedings of earlier races or discuss the future and of course the perennial elephant in the room – the handicapping system.

As well as pilots and navigators there is also a requirement for ground marshals and race officials, which leaves an opening for non aviators, those who just wish to immerse themselves in an aviation environment.

So if you're fed up with that £150 cup of coffee every few weeks or the bored look that your partner gives you when you suggest another circumnavigation of the local area, why not attend this year's Air Race School open to pilots and navigators run by the Royal Aero Club 3Rs at North Weald on 24 March 2012. For a modest £25 the organisation sets out its stall and gives you the basics required to join the team. Gone are the days when I started air racing when you're almost an outsider for two or three years and no-one shared the collective experience. Nowadays new pilots are "buddied in", given a thorough check flight and sufficient knowledge to be competitive from Day One.

OK, it might take a while to win the British or European Air Racing Championships or the King's Cup. It really is sometimes a matter of taking part rather than winning – after all there aren't that many people who can say that they've either won or competed for these trophies.

For further information: Royal Aero Club Records 3Rs – www.airraceuk.co.uk. The Royal Aero Club 3Rs also administers fixed wing world records, which will be the subject of a later article.

**Geoffrey Boot is Vice Chairman of UK AOPA, Chairman of AOPA Isle of Man Region and Chairman of AOPA Instructor Committee, and has been air racing for 20 years with the Royal Aero Club 3Rs. He was Chairman of the organisation for three years, currently administers the world records for the 3Rs and himself holds 24 world aviation point to point records. ■*

Geoffrey and Suzie, winners at the 2011 Battle of Britain Trophy – Suzie has craftily demoted Geoffrey's right shoulder to 1st Officer!

