

Objective Canary Islands 2009

The autogyro is a very special type of aircraft. It was developed by Juan De La Cierva and the first autogyro flight took place in Getafe on 17TH January 1923. It was a short flight, but was a milestone in aviation history as this flight initiated a new kind of aviation: the rotary wing aircraft. The autogyro was a very different solution to the question of flying; it was a real revolution in aviation, promising outstanding safety, agility and performance qualities. It's because of these capabilities that the autogyro aroused great expectations in terms of a universal aviation, a world where everybody would be able to fly their own autogyro. But surprisingly, the autogyro became the best kept aeronautical secret...



The autogyro: the best kept aeronautical secret.

The world was not ready yet for a universal aviation. When Armed Forces of the world's most powerful nations tested the autogyro, they found out that it was slower and more expensive than a conventional plane. While the autogyro was being tested, the main helicopter designers started to use autogyro solutions in helicopters. And, only then, helicopters started to solve the complex aerodynamic problems of rotor wing aircrafts. After WWII the helicopter became a reality and all investigation efforts were dedicated to the development of helicopters at the expense of autogyros.

The unquestionable flight safety, which is the autogyro's main quality, was not valued. The other two main qualities, an easy to fly aircraft, and the independence of huge operation facilities, were not very important to a world where aviation was a question of minorities.

The autogyro has survived thanks to Igor Bensen, who developed home-built autogyros that were bought by thousands of people in the fifties, sixties and seventies. But flying only like microlight aircraft has reduced the possibility of having

a good training (nearly all pilots have learned to fly them by themselves). Furthermore, the original design of these home built autogyros has undergone modifications that have led to an unacceptable accident rate in these machines.

As a result, the autogyro has been unfairly made responsible of these dramatic statistics.

But this is not true: a lot of pilots have built their own autogyro (sometimes with substantial modifications on the original design or invented by them), and have learned to fly autogyros by themselves. Can you imagine what would have happened if home built fixed wing aircraft had had the same story?

But the accident rate of homebuilt autogyros over the last decades has not been amazing. What is amazing is that a lot of non-trained pilots have succeeded in flying their home-built autogyros.

Who is to be credited for these thousands of self-instructed pilots? I'm sure, the credit goes of the concept of the autogyro.

The autogyro today

Nowadays we have good autogyro companies and some (but not many) autogyro flying schools in Europe.

So we can now restore the image of the autogyro to a normal aviation status. The autogyro should have the role it deserves in today's aeronautics. And this is no other than being in the first position regarding private aircrafts, due to its inherent flying safety and capabilities.

The "Escuela Española de Autogiros" is actively contributing to restore the image of the autogyro, by giving specific training, by publishing manuals about autogyros, by giving conferences at universities, by cooperating with producers in improving the autogyro capabilities and by doing great and thrilling flights with the objective to draw public attention.

In 2007 Bernardino Rodríguez and me performed the first flight from Europe to the Canary Islands by autogyro. In 2009 I performed the first direct flight from Europe to the Canary Islands (1307 km overseas) by a rotary wing aircraft. With this flight I broke two autogyro world records.

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Two years ago, when I was planning "Objective Canary Islands 2007", I realized that there was a possibility to reach the Canary Islands from Europe doing a direct flight by autogyro. Ramón Morilla's extraordinary paramotor flight from Cádiz to Lanzarote encouraged me to try a direct flight by autogyro.

My 2007 flight confirmed that the Ela 07 was capable of doing this flight. In the course of this memorable raid I had to fly many times with maximum gross weight and I had to extent my endurance to the maximum limit. Consequently I got a good knowledge of Ela's performances and its expectable endurance. After calculating several routes and starting with a maximum takeoff weight of 500 Kilos I learned that it was possible to reach Lanzarote in no wind conditions and to reach Gran Canaria if I had favourable winds. In this way, step by step, I was changing my first planned

route to a convenient direct one but I had to reschedule my flight from September 2008 to June, in order to take advantage of the Alisio winds. Eventually I would reach the double goal of being the first person doing a direct rotary-wing flight from Europe to Gran Canaria and breaking the distance world record.

On 23th June 2009 and after an intense preparatory phase I took off from Rota Air Navy Base. I was greeted by the Air Base Commander CN José Manuel Torralba and by the World Air Sports Federation observers José María Galindo and Antonio García Martínez. I departed from Rota's small helicopter runway, and after leaving behind Rota's Control Tower I turned left heading south. I immediately overflew the coast line into the Atlantic Ocean, starting the adventure of flying across this enormous sea in a microscopic aircraft. It was very early in the morning, I was expecting a 9 hours flight and a SAR (search and rescue) plane joining me... but this plane never arrived. The plane that was planned to over fly the first half of the route had some technical problems which prevented it from taking off in time.

But I not was alone. Just a few minutes after my departure my radio cracks and a friendly voice from Sevilla Control fills my headset. It's Antonio Toscano and he is going to monitor me for the next hour. Later a direct radio contact would be impossible because my altitude was very low (about 700 feet) and the distance too long.

But then I was surprised by some regular passenger flights calling me... They were asking what my condition was, relaying my answers to Sevilla and encouraging me to continue with my flight. But I had no doubts, the flying conditions, especially the wind, turned out to be much better than expected. In fact I was not expecting a good tail wind component until the end of the 3rd flying hour, but I was getting a tail component of nearly 10 knots from the very beginning.



Something which could abort my attempt was a head wind. In no wind conditions I still was able to reach Lanzarote. But neither of these conditions came up.

In the planning phase I tried to imagine every odd thing or emergency which could happen and I planned an actuation line for any case. So I knew where I would have to go in case of having to abort my flight at any point of my intended route.

I had survival equipment on board, like a raft and an ELT. Fortunately I had not to use it and everything ran smoothly, perfectly accomplishing my plan.

Well, would you like to live a glimpse of this adventure?

“The chronograph reads 07:15 since my take off in Rota and I always see the same picture: sea and clouds merging on the horizon. The wind pushes my autogyro steadily, moving the sea and whipping up waves. That’s wonderful, my GPS still reads 174 km/h of ground speed, but sometimes I’ve been reaching 200 km/h.

For some minutes a Spanish Air Force Search and Rescue Helicopter has been escorting me, flying in formation. It is there, on my left and without apparent movement, except for the rotors. From the open door two rescue men are looking at me. It is very relaxing to see them, after several hours of lonely flight, with the only company of friendly radio calls coming from commercial flights and some ATR’s flying to South America.

My GPS tells me that I’m following my route perfectly and that my ground speed has slightly decreased to 170 km/h. My Air speed indicator reads 105 mph, and a look to my main fuel tank confirms that I still have 60 litres of fuel. This is much more of what I need to arrive at El Berriel, my intended destination airfield.

- Cotos 23, this is autogyro. What is your indicated airspeed?
- 80 knots, Cotos 23.
- Thanks, autogyro.

80 knots... This is very good for a modest ultralight autogyro. The power is set to 85% and the tachometer reads 5200 rpm. The engine sounds smoothly and all parameters look ok.

Then a change, eventually I can see Gran Canaria, whose mountains are visible above the cloudy horizon.

- Cotos, Autogyro, I have Gran Canaria in sight.
- Are you already there.
- I’m very close.
- Autogyro, this is Yankee 6, good morning.
- This is autogyro, go ahead.
- A group of three autogyros will be joining you. They will contact you in 123.1.
- Roger. Thank you very much.

Some minutes later the autogyros establish visual contact with the helicopter and me.

- Fernando, you are flying very fast, reduce speed and we will join you.
- Reducing to 70 mph, autogyro Objective Canary Islands.

Once I reached El Berriel, Dani, flying one of the three autogyros which have welcomed me in the air, performs a low approach to check the wind shear on the runway, a very common phenomena at El Berriel. The turbulence in final approach is hard... but we are already there.”



I had been flying for 8 hours and 7 minutes and I had flown a real distance of 1314 km, although the valid distance for the record was 1307 km.

Apart from having achieved our two planned goals (distance world record and the 1st direct flight to the Canary Islands by a rotary wing aircraft), we also broke the speed world record for this category of aircraft.