



Phenix Aviation is a Spanish company established in 1998.

At that time, gyroplanes were not so popular as today but were gradually catching the attention of the general public. There was a lack of both training facilities and available gyroplane manufacturers.

This situation impuled our idea to create an advanced gyroplane complex to give an answer to an increasing demand in this sector.

Our main objective was to develop a fully enclosed gyroplane. Most gyroplanes of that time were open frame and simple designs, similar to Bensen's original idea. We truly believed that the gyroplane could move further and offer fully enclosed comfort.

Since then, we have designed, built and test flown several different types of enclosed gyroplanes. Our team is able to deal with the complete development of modern design gyroplanes from the very first bolt up to flight-testing.

We have tested all kind of different equipment like engines, propellers, rotorblades, hydraulic systems, etc. which has provided us with an extense technical background.

The experience gathered throughout the years has allowed us to improve our qualification and adapt to modern and high tech aeronautical construction.

Today we are specialised in full carbon fibre construction which is the logical step forward in advanced technological companies who wish to correspond to an increasing demand of high quality products.

THE PHENIX GYROPLANE

While other manufacturers only concentrate in gyroplanes for private use, our thoughts began focussing on the idea of producing an advanced gyroplane that could also be used as a working platform.

This was a risky venture and also a challenge for the company but the first ideas from the drawing board arised in 2006. The premises for the project were going to be somehow revolutionary as no other company has ever followed this line of actuation so far:

- Full composite construction
- Forward mounted engine
- Side by side seating



- Wide and comfortable cabin
- Big cargo compartment
- High inertia rotorblades
- Hydraulic prerotator
- Maximum empty weight in the range of 300 kgs.
- Ballistic recovery parachute
- Meet most demanding certification rules (BCAR Section T, EASA, ASTM)

The Phenix first prototype flew successfully 4 years later, proving that our concept was not only viable but also exceeded our expectations. Eventually two prototypes have been built for extensive test flying before entering production.

We have paid special attention to crew comfort. Our designers have carefully studied the ergonomics of our cabin to offer a relaxed work station, specially for long time flying. Together with 4 adjustable air vents, our specially UV and IR treated windshields will keep cabin temperatures in a reasonable range when flying in hot conditions. On the contrary, winter operation will not require heavy jackets and gloves as cabin heating is available. Our fully enclosed cabin has allowed us to create several compartments to store maps, glasses, private objects or even water bottles to make flying more pleasant.

The cabin has wide windshield areas to allow for good visibility in all directions. The engine is located low in the front which benefits forward view during take-off and landing operations.

The cargo compartment is located rear of the cabin and is accesible by two lateral doors. It is spacious and will allow to store diverse material such as travelling bags, sleeping bags, a tent, small cargo, tools, etc. up to a maximum weight of 25 kgs.

TRACTOR vs PUSHER

Although the original De la Cierva's designs were built in tractor configuration, with the engine in front, most of actual gyroplanes have a rear mounted engine with a pusher propeller. This is an inheritance from the Bensen line of design from the fifties. However this is not the ideal setup.

When designing the Phenix, it was very clear to us that it was necessary to recover De la Cierva's original ideas which had already proven it's remarkable flight, safety and handling features.

Tractor configuration is optimal for the general performance on a gyroplane.

These are some of it's positive aspects:

- Thrust: Propeller receives clean air producing more advancing power



- Performance: The Phenix is able to take off in a shorter distance in comparison to any other aircraft in the same size and weight category
- Stability: Thrust line goes directly through center of gravity, ensuring a neutral attitude in all flying conditions
- Safety: In the event of a survivable crash landing, engine and cabin compartment is the strongest part in the aircraft, providing a high protection level for it's occupants
- Cooling: Air is naturally drawn into the engine compartment and coolers allowing for a simple and effective system without complicated setups
- Maintenance: Engine cowlings are easily removed so engine and systems are completely exposed for any inspection

We believe that the combination between streamlined and lightweight composite fuselage together with a forward mounted engine is the most efficient and safe layout for modern gyroplanes.

The reason most manufacturers go for pusher configuration is very simple. Gyroplanes are somewhat limited to light sport operation. Mounting the engine at the rear makes the design of the structure quite simple. All strong elements (engine mount, mast attachments, seating, etc.) are placed in the same central area. The principle works fine but has certain conditionants.

However, we find that the time for a change has come. Today we have new materials, building techniques and the knowledge so there is no reason why the gyroplane should not advance like other aircraft.

Phenix videos

<http://youtu.be/ebvJyWOuNV8>

<http://www.youtube.com/watch?v=2A3paveX40I>

<http://www.youtube.com/watch?v=joktAt3n7B4>

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