

Most Frequently Asked Questions

1) What is a Gyroplane?

A very simple definition is that this is an airplane with a wing that rotates (a rotorwing aircraft). A gyroplane, like a fixed wing aircraft, has a propeller powered by an engine that provides forward movement and a wing to provide the primary lift. The rotating wing of a gyroplane provides lift. A gyroplane's rotary wing is unpowered in flight and therefore it provides no reaction torque, as a result the gyroplane is very stable.

2) How long have they been around?

The Gyroplane was the 1923 invention of Juan de La Cierva, an aeronautical engineer in Spain. Harold Pitcairn, an aviation pioneer in his own right, brought the first gyroplane to the USA in 1928 and established Pitcairn Autogyro Company.

3) Why haven't I heard more about them?

This is an interesting question, as the gyroplane is the predecessor to the helicopter. If it had not been for the rotor head design of the gyroplane, it might have taken the helicopter a few more years to be developed. But the U.S. Department of defense persuaded Mr. Pitcairn to release his design for the war effort, thus facilitating the release of the helicopter. The U.S. Department of Defense's early focus on the helicopter rather than the gyroplane has probably been the main reason that gyroplanes have yet attained a strong market presence.

4) What is the difference between "Gyroplanes" and "Gyrocopters"?

Gyroplanes and Gyrocopters are in principle the same. The main difference is how the term is used. If you were referring to a certified gyroplane you would use the term "gyroplane". Non-certified aircraft or recreational aircraft are more often referred to as a "gyrocopter".

5) What is the difference between Certified and Non-certified (experimental) Aircraft?

The certification of an aircraft has to meet the very stringent requirements of the FAA for design and manufacturing. This data must be able to be charted; demonstrate consistency for performance, reliability and safety and must be verified with solid engineering data. The FAA regulates non-certified aircraft but they have a more relaxed set of standards allowing the aircraft builder more flexibility on what, how, and when they can make changes from aircraft to aircraft. All Commercial aircraft require FAA certification.

6) How would you compare the MkIII to other Gyroplanes?

The Pegasus MkIII has a heavy rotor system that gives stable, hands off flying. The duct around the propeller gives 40% more thrust than an un-shrouded propeller and allows a quiet environment inside and outside the cockpit. In my personal experience with flying a few experimental gyroplanes, my concern was the time life and reliability of components used. My reflection on these kit-built, experimental aircraft was that they would be "fun" but I'd want to stay within five miles of the airport. As for other certified gyroplanes, I owned and operated two and I've acted as a Flight Instructor in both, as well as a Pilot Examiner. I found both of these gyroplanes to have some quirky engineering flaws, as well as not being environmentally friendly with regards to noise levels inside and outside the cockpit.

7) What is the difference between Gyroplanes and Airplanes?

The differences are the gyroplane does not require a runway for take off or landing, as does an airplane.

8) What is the difference between Gyroplanes and Helicopters?

Gyroplanes, offers the following benefit over helicopters it naturally more stable, does not require a transition to autorotation, its initial cost is less, proportional greater range and far less direct cost of operation.

9) Why would I select a Gyroplane over airplanes or helicopters?

The response to this is that you have the best of both aircraft. With the gyroplane you have stability, ease of handling, less direct cost of purchase as well as low cost of maintenance which are the reasons most people select airplanes. The helicopter has such features as agility, point-to-point, (runway not required) and exceptional visibility that are also incorporated in the gyroplane.

10) How safe are gyroplanes compared to other aircraft?

Where the gyroplane stands out is that it does not stall and it is not subject to settling with power. It has outstanding agility given its capability of landing in a small area without the need to transition from power flight to autorotation as in helicopters. Additionally it does not need a large clear area for landing as a fixed wing aircraft does.

11) Why would you use a multi-bladed rotor system, when they have the tendency for ground resonance?

We have engineered the rotor head to eliminate the blade from going out of phase, thus no ground resonance. Additional reasons are 1) It reduces the diameter of the rotor (allowing a take-off and landing in a smaller area) 2) The rotor does not require as high an Rpm to produce the same lift (reducing tip noise, thus a quieter flight) 3) The multi-blade system offers a smoother ride (less stress on the pilot and passengers)

12) What happens if the engine quits, or I have another in-flight emergency?

Since this aircraft is flying in autorotation, you would look for a small clearing and land, then address the problem that created the emergency response.

13) Which is right for me?

This is a question that only you can answer. You need to make a decision predicated on your particular needs, how much you are willing to spend, and your level of comfort regarding safety. If safety is of primary concern, a FAA certified aircraft offers more stringent guidelines for the manufacturer.

14) Do I need a pilot's license to fly this aircraft?

Yes: anytime you fly out of ground effect you are required to hold a valid pilot's certificate issued by the FAA (Federal Aviation Administration) or their assigns.

15) If I am already a pilot can I fly a Gyroplane?

Yes: as with any added rating, it will required additional training by a rated Certified Flight Instructor, and the appropriate endorsements, no written test will be required if you are staying within your level of skills, such as a Private or Commercial Pilot. Once your training has reached the level of competency as outlined in the FAR's (Federal Aviation Regulations) your Instructor will make the endorsement required by the FAR's, followed by the check ride with the FAA or their assigns.

16) What is the range of the MkIII?

With a standard fuel tank, the range is 335 nautical miles (385 miles). With an auxiliary fuel tank the range is 609 nautical miles(700 mile). These figures will vary depending on payload, atmospheric conditions and pilot skills.

17) What is the service ceiling for the MkIII?

With standard configuration, the MkIII has a service ceiling of 13,000 feet. Of course, factors such as payload and atmospheric condition must always be taken into consideration.

18) How noisy is the MkIII?

At the time of certification, the sound level in the MkIII cockpit was 68 dBa. The outside sound level, depending on building acoustics and surface, was 74 dBa.

19) How much runway do I need for take off and landing?

The MkIII can store enough inertia in the rotor that by releasing the clutch and pulling the collective this aircraft can jump in excess of 25 feet and land nearly vertical without a roll out. So the answer is none.

20) What are the costs of purchase and ownership?

The basic package for the Pegasus MkIII is projected to list at \$250,000 (plus tax, if applicable, and delivery fees). Avionics, special configuration, paint or upholstery will increase the cost. This price includes flight training for up to 60 hours and an annual refresher program¹. Direct costs range from region to region, but over all average is about \$65.00 per hour.

21) What future enhancements are you considering?

We are always thinking about future design enhancements. Here are a few of our ideas: Moving more to high tech composites materials such as graphite, and Kevlar. When these materials were discussed with Shorty Schroers of NASA , he was confident in stating that by using these materials the noise reduction would be 6 dBa internally and externally. This use of composites would further benefit this design with less weight, tougher airframe and an over all performance improvement of 25%..

¹. Applies to original owner