Safety and capability

Gyroplanes are a safe, highly manoeuvrable aircraft for low and slow flight. Their ability to fly fast or very slow makes them something of a hybrid, having the good qualities of both helicopters and aeroplanes.

Gyroplanes handle blustery weather conditions very well with their rotors automatically coning and changing their rotational speed in response to wind gusts. Consequently, gyroplanes can be flown safely in conditions that would ground other types of ultralight aircraft.

The autorotating rotary wing of a gyroplane is not dependent on maintaining forward speed to keep spinning and generating lift. So, unlike conventional fixed-wing aircraft, gyroplanes do not stall at low speed and are therefore not susceptible to stalling if their engine fails during take-off.

Gyroplane stability

The gyroplane is a stable flying platform. The fixed-pitch autorotating rotor maintains stable rpm in-flight without needing any attention from the pilot, even in manoeuvres or turbulence.

Gyroplane control systems are also extremely simple. This overall mechanical simplicity means that gyroplanes represent great value for money, with purchase price and hourly costs much less than a comparable light helicopter.

Gyroplanes in flight are always in autorotation. If the engine fails, autorotation continues, and the aircraft can be landed under control from any altitude. In fact, the procedure to land after a power failure is the same procedure as a normal landing, so gyro pilots are training for the unexpected with every landing.

Australian Sport Rotorcraft Association

The Australian Sport Rotorcraft Association Inc (ASRA) is the national association that administers recreational gyroplanes in Australia.

Australian Sport Rotorcraft Association Inc (ASRA)

ASRA and gyroplanes

ASRA is concerned with improving safety standards for pilot training and aircraft. We aim to promote safe and responsible professional practices, while retaining our identity, reducing costs and minimising restrictions.

'Gyroplane' (formerly 'gyrocopter') is an official term describing an aircraft that gets lift from a freely turning rotary wing (rotor blades), and which derives its thrust from an engine-driven propeller.

The original aircraft known as an 'autogiro' was invented by Spanish engineer Juan de la Cierva, with the first successful flight being in 1923.

In Australia, gyroplanes operate under similar CASA regulations as do other recreational aircraft.

Gyroplane aerodynamics

Gyroplanes derive lift from freely turning rotor blades tilted back to catch the air. The rushing air spins the rotor as the aircraft is pushed forward by an engine-driven propeller.

Most modern gyroplanes use a pusher propeller and are light and manoeuvrable. With the engine in the rear, the gyroplane pilot has unobstructed visibility.

A gyroplane can fly more slowly than other ultralights and will not stall. They easily match light helicopters for manoeuvrability but can't hover.

Not being able to hover is a minor issue, because a gyroplane doesn't need all the complex and expensive transmissions and complex control systems that a helicopter needs to do that.

Why not have a go and take a Trial Instructional Flight (TIF) in a gyroplane with one of our qualified instructors.

For more information about ASRA and to contact an instructor in your region please refer to:

https://asra.org.au/ or

Email: **info@asra.org.au**

You can also join our online forum: **http://forum.asra.org.au/**

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