

The background features a dark, textured surface with faint, light-colored technical drawings of mechanical parts, likely gyroscopes or aircraft components. The drawings are overlaid on a dark blue and black gradient background. The text is centered in the upper half of the image.

# Gyroplanes Gyrocopters and Autogyros

Aviation's best kept Secret

# Gyrocopter, Gyroplane, Autogyro?

Do they all mean the same thing?

- In general **YES**.  
However, there are  
minor technical  
differences.



# Autogyro (Autogiro)

- The term Autogyro is used to describe the first style of gyroplanes.
- These are tractor-style gyroplanes that have a fuselage that looks like a conventional aircraft.



# Gyrocopter

- This is the most common term used by the general public.
- The term gyrocopter is a **product name** owned by the Bensen company.
- Sort of like the term Kleenex is a brand name but not all tissues are Kleenex some are just tissues.



# Gyroplane

- In the United States the FAA's official term is gyroplane.
- Gyroplane is the term most used by the pilots and people in the hobby



# What is a Gyroplane?

- Gyroplanes are a cross between a helicopter and an airplane.
- Mostly *like* a helicopter the gyroplane is a rotorcraft and uses rotorblades as a spinning wing to fly.
- *Unlike* a helicopter the rotorblades are not powered directly by the engine and they use a propeller for forward movement.

# So what are we going to talk about?

- What is so good about gyros?
- Where did gyros come from?
- Where are gyros going?
- Are gyros safe?
- How much do they cost?
- What kinds are there?
- Where do I get info?

# What is so good about gyros?

- Gyros are safe
- A Gyroplane can maneuver and land in a very small area.
- A well made and stable gyroplane can handle wind better than almost all general aviation aircraft
  - if piloted by an experienced pilot.
- Inexpensive to purchase and easy to build compared to other sport and general aviation aircraft.
- Easy to store and transport.
  - It is common practice to keep your gyroplane in the garage and trailer it to a local airport to fly.
- Gyros are FUN!



# Where did gyros come from?

- Spanish inventor Juan de la Cierva built the first "Autogiro" in 1923
- Cierva's patents were used to develop the helicopter, vertiplane and rotordyne type aircraft. (many patents were stolen from Cierva)
- Autogyro kites were 'secret weapons' used by German WWII Submarines and under development by the English.
- 1953 saw the rebirth of interest in the gyroplane with the invention of Dr. Igor Bensen's patented "Gyrocopter."



# Where are gyros going?

- Carter Copters are breaking the rotorcraft speed record!
- Groen Bros are developing Heavy Lift Gyroplanes and Super-safe, Super Cheap alternatives to helicopters
- The Monarch is an inexpensive kit that can land vertically at great speed without damage to the airframe
- Homebuilders have created true VTOL gyros



# Are gyros safe?

- Gyros are safe, in fact virtually the safest aircraft type there is.
- However, the safest aircraft is still no match for an untrained or unsafe pilot.



Consider an in flight engine out scenario on a fixed wing aircraft, helicopter and gyro.

# Engine Out! Fixed wing aircraft:

- When the engine stops in flight, you must descend to hold your airspeed. Even with the slowest of airplanes you'll need a few hundred feet of flat open ground to land safely.

# Engine Out! Helicopter:

- The pilot must quickly transfer to autorotation. If at any point, the rotor blade rotation speed decays too much, all control is lost.

# Engine Out! A Gyro:

- Is ALWAYS in the autorotation mode. If the engine stops in flight, simply hold your airspeed and pick your landing spot. At landing you “flare” to trade the stored energy of the blades for a soft no-roll landing. A gyro has full control and makes a normal landing even without engine power.



# How much do they cost?

- Good stable single place gyroplane kits and used gyroplanes start at about \$8K and up to about \$18K.
- The average cost of an open cockpit 2-place gyroplane starts at about \$15K through about \$50K.
- Enclosed 2-placed gyroplanes start at around \$18K and go up and up and...





# What kinds are there?

- There are dozens of gyroplane kit manufacturers and models. Here are just *a few* of the most popular in the US.
- Air Command
- Butterfly (Monarch)
- Dominator (Rotorflight Dynamics)
- LittleWing
- Magni
- Star Bee Gyros (gyrobee)
- Sparrow Hawk
- Xenon



# Where do I get info?

- For more information contact [www.PRA.org](http://www.PRA.org)
- <http://www.prachapter34.com>
- <http://gyrowiki.com>
- **NOTE:**
  - Even if you are an experienced pilot you still **must** get lessons from a gyroplane certified instructor.
  - Gyroplanes are relatively easy to fly but are not fixed wing aircraft or helicopters. Gyroplanes have some very unique attributes that **require** gyro specific training!

# Join The PRA!

- [www.pra.org](http://www.pra.org)
- Worlds largest homebuilt rotorcraft org.
- The voice of the hobby.
- Lots of information, conventions, chapters.
- Founded by Igor Bensen
- Publishes *Rotorcraft* Magazine.
- More!

