



**ARC**  
AERO SYSTEMS



## A Little History

The gyroplane played a serious role in early aviation. Developed by Juan de La Cierva, and improved upon by Harold Pitcairn, it was performing commercial tasks such as mail transport and delivery between central post offices in the United States in the late 1920's and early 1930's.

Actual point-to-point service was accomplished by using post office building roofs for take offs and landings. In the late 1930's, the U.S. Government pressed Harold Pitcairn to allow Igor Sikorsky to use his improved rotor head design in order to develop the helicopter. At that time, the U.S. Military felt that a hovering aircraft would be important in the coming war (WW II).

Because of Pitcairn's rotor head, the helicopter was successful in capturing the imagination of the military who pressed for its development and use at the expense of the gyroplane. The thinking of the time was that the advantages of hovering, along with vertical take-off and landing capability would, in time, overcome the helicopter's disadvantages of lower speeds, less range, unstable flight characteristics, greater maintenance requirements and difficulty of operation.

As the years went by and the helicopter, as the result of several wars and ongoing military pressure and spending, became more refined and sophisticated, its military use expanded and diversified. The original problems, however, have never been sufficiently overcome to allow its practical, economic use on an expanded scale outside the military and certain limited areas in which hovering capability is absolutely essential and cost is not a consideration.



The fact is that the helicopter has never overcome its original basic shortcomings and as a result remains an expensive and relatively limited aircraft. It is also a fact that the market need has expanded dramatically in areas requiring an aircraft which can take off and land vertically, need not hover, has good range, reasonable cruising speeds while being capable of slow flight, is inherently safe to fly, will not be plagued by unscheduled maintenance and is inexpensive to operate.

## **Pegasus is the answer to these market needs**

Certified under FAA Part 27 Type Certification, Pegasus offers unique flight capabilities with the highest levels of safety.

### **No Runway? No Problem!**

**Pegasus can take-off and Land Vertically from a field next to your house.**

# PEGASUS



**ARC Aerosystems is dedicated to bringing the Pegasus into production by 2025 while offering an exclusive opportunity to potential clients for the first series.**

# Performance

**PEGASUS**

Seating	2
Take off and Landing	Vertical Jump Take off and No roll Landing
MTOW	900 kg
Max Speed	200 km/hr
Min Speed	40 km/hr
Cruise Speed	177 km/hr
Range	610 km
Climb	1500 ft/min
Flight Ceiling	10,000 ft
Payload	270 kg
Rotor Diameter	11.3 m
Fuel Capacity	145 L

# PEGASUS

## Operating Cost

As a gyroplane, Pegasus benefits from free rotation during flight, which not only increases safety but also lowers operating costs because it consumes less fuel and does not require a gearbox, resulting in lower maintenance costs.



## FIXED ANNUAL COSTS

Depreciation (ARC offers a buy back guaranteed price for the first series of Pegasus)	\$	N/A
ARC also subsidizes the insurance cost for the first series to help the buyers		
Estimated Liability Insurance	\$	2,500
Estimated Hull Insurance	\$	7,500
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FIXED COST PER YEAR	\$	10,000

## RESERVE FOR OVERHAUL

2400 Hour Engine Overhaul (\$30,000 ARC exchange)	\$	10.00
2400 Hour Aircraft Overhaul Parts Kit (\$85,000)	\$	28.50
(Includes new bearings, seals, belts, etc., and life-limited components with less than 3000 hours remaining.)		
Labor (180 Manhours @ \$95 per hour)	\$	7.13
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RESERVE PER HOUR	\$	45.63

## DIRECT OPERATING COST

Fuel @ \$5.50 per gallon and 6.0 gph for average use	\$	33.00
Oil	\$	0.90
Periodic Inspections, Labor @ \$95 per hour (every 12 hrs)	\$	7.92
Unscheduled Maintenance, Parts and Labor @ \$95 per hour	\$	7.03
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DIRECT OPERATING COST PER HOUR	\$	47.95

## DIRECT OPERATING COST

Fixed Cost per Flight Hour Based on 500 Hours per Year	\$	20.00
Overhaul Reserve Per Hour	\$	45.63
Direct Cost per Flight Hour	\$	47.95
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DIRECT OPERATING COST PER HOUR	\$	113.58



# PEGASUS

Engine runs November 2023





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Engine runs November 2023



**PEGASUS**

**Use Cases**



# PEGASUS

There are several traits that make Pegasus a unique solution for different use cases.

- ▶ The vertical take-off and landing capability makes Pegasus independent from runways and enables it to operate from helipads.
- ▶ Low operating costs make it a cost-effective solution for operations that would otherwise have to pay at least 20% more for similar alternatives.
- ▶ Pegasus offers unmatched aerial work capabilities with its high range and low minimum speed.

Pegasus is a suitable aircraft for use cases like:

- ▶ Emergency Medical Services
- ▶ Law Enforcement
- ▶ Infrastructure Inspection
- ▶ Environment Monitoring
- ▶ Air Taxi
- ▶ Sightseeing and Recreational Flying





# Law Enforcement

**PEGASUS**

High range, low operating cost, and low minimum speed are capabilities needed for various police operations that involve scanning and inspecting, including but not limited to:

- ▶ Aerial Surveillance
- ▶ Search and Rescue
- ▶ Traffic Monitoring
- ▶ Event Support









# Emergency Medical Services

**PEGASUS**

- ▶ Studies show that almost 75% of air ambulance operations only involve transporting doctors to the scene, while moving casualties is mostly done by ground transportation.
- ▶ Pegasus' ability to carry two passengers, VTOL capability, and high range make it a better and cost-effective alternative to helicopters.
- ▶ Also transporting doctors to rural areas with limited medical access will make providing medical services easier.





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# Opportunity

ARC Aerosystems is providing a unique opportunity for potential buyers to minimise the risk of purchasing a Pegasus aircraft by supporting buyers with trainings, maintenance, Insurance and offering guaranteed buy back value.

If you are interested in procuring the only Part 27 Certified non-helicopters aircraft with VTOL capability in the world, get in touch via:

Email: [Sales@arcaerosystems.com](mailto:Sales@arcaerosystems.com)

Telephone: +44-1234-938255

Website: [www.arcaerosystems.com](http://www.arcaerosystems.com)



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