



**SKYWORKS
AERONAUTICS
CORPORATION**

GyroLiners & GyroLifters

Runway Independent

VTOL Commuter Airlines

and

VTOL Heavy Lift Cargo & Military Transports

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GyroLiners and GyroLifters

Skyworks Aeronautics can also use its **Existing Advanced Gyroplane Technologies** to develop these modern “Runway Independent Aircraft” (RIA).

Unlike transmission driven rotorcraft limited by the laws of physics, this technology is scalable to Heavy-Lift and Ultra-Heavy-Lift VTOL aircraft.

VTOL Commuter
Airliners:
The Skyworks
Aeronautics
GyroLiner



Ultra-Heavy-Lift Gyrodynes: the Skyworks Aeronautics GyroLifters

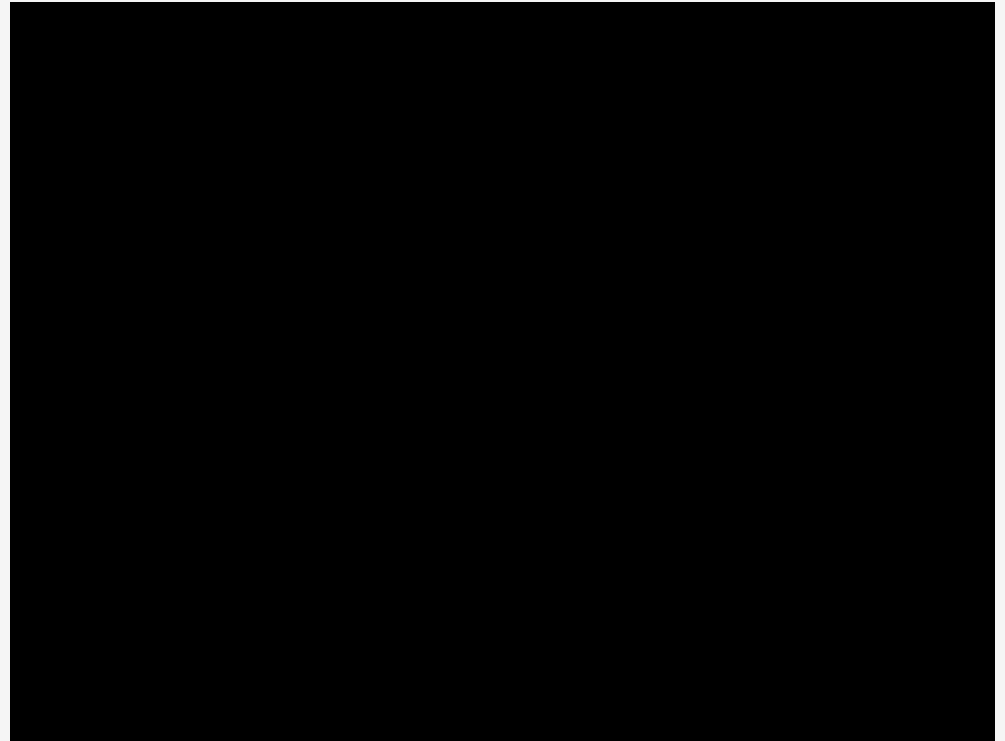
GyroLiner History - The Fairey Rotodyne



Even today, the Rotodyne would still be the fastest way to get from downtown London to downtown Paris!



The world's first Runway Independent Airliner!



200 mph when most helicopters could barely fly 100 mph!

The Fairey Rotodyne

Rare Fairey Rotodyne Video



Watch promotional Video of the Rotodyne, by Fairey
Click: <http://www.youtube.com/watch?v=y9633v6U0wo>

Explanation of the Rotodyne program end. Click:
<http://www.youtube.com/watch?v=wKIOfpCw8aE>
(Including interview of Sir David Gibbings, the Chief Flight Test Engineer on the Rotodyne and a long friend of David Groen.)

The Skyworks Aeronautics GyroLiner



Modernization of the Rotodyne

ELECTRONICS

Glass Cockpit
(Man-Machine interface)
FMS, AFCS & FBW
Engine monitoring system
Rotor/Wing lift sharing optimization
Rotor RPM optimization
A/C L/D Optimal trim
Health usage monitoring
Structural load management
in manoeuvres

ROTOR HEAD

Stiff in-Plane
Tilt mast
Faired Inside rotor-
system controls

ROTOR BLADES

Composite construction
High heat resistant materials
Optimised blade profiles

SILENCERS & MATERIALS

Advances in silencer
technology
Ejector (tip-jets)

ADVANCED VIBRATION CONTROL

Rotor & fuselage tuning
Frequency adaptive active
systems

ADVANCED PROPELLER TECHNOLOGY

Improved performance

PROPELLER GEARBOX TECHNOLOGY

Reduced weight
Long life

ENGINE TECHNOLOGY

Improved SFC
Lower weight
FADEC

COMPOSITE STRUCTURES

New materials offer stronger
structure and lighter weight



Runway Independent!

Runway Independent Airliners will:

- Transform Airline Industry by Providing Rescue from Airport Gridlock

- Currently nearly 50% of runway operations are commuter distances: 350 miles or less
 - Nearly all of these can be operated 'off runway' by Skyworks' GyroLiner runway independent aircraft
 - This nearly doubles runway capacity for large aircraft and should more than double human thorough-put

➤ Create City-Center to City-Center Airline Transport

- Airline passenger terminals downtown **without need for runways**
- Creates **massive opportunities for real estate development** in city-centers
 - Replacing 'blighted areas' in major cities qualifies for **Government Grants and Subsidies**
 - Opens up adjacent property for '**high human-traffic throughput**' economic development



Runway Independent (continued)

Runway Independent Airliners are desirable because of:

- Vertical Take-off and landing
- Trip times comparable to regional jets over a 300 mile segment (no time lost to taxi and runway lineup or Air Traffic Control stack)
- Straightforward integration into Airport and Air Traffic Control environments
- Large Size possible due to absence of scale-limiting helicopter transmissions
- Mechanical control simplicity and costs comparable to an airplane with airplane mission readiness
- The safety and stall-free characteristics of a gyroplane



Baseline Design Criteria

- Size
 - From 19 Passengers to 100 Passengers with Baggage
 - Cargo Variants in similar sizes to the passenger versions
- Performance
 - 350 mi Range with IFR Reserve
 - 240 mph (378 kph) Cruise
 - 1.5 hrs to fly 350 miles
- Operations
 - Vertical Takeoff and Landing (VTOL), or
 - Ultra-Short Takeoff and Landing (U-STOL), both permitting “runway independent aircraft” (RIA) operations
 - Pressurized Comfort with All Weather Reliability: flight into known icing conditions which is rarely possible in other rotorwing aircraft (helicopters, tiltrotor, and compound helicopters)
 - Safe, Low-cost, Low Maintenance, and Reliable High Mission Readiness

