

HUNT AVIATION

The Second Hundred Years Of Flight

Fuel-less Gravity Powered Flight



[CLICK HERE OR ON THE IMAGE OF THE AIRPLANE TO SEE THE GRAVITYPLANE FLY](#)



[CLICK HERE OR ON THE IMAGE OF THE WIND TURBINE ABOVE TO SEE THE LATEST PROTOTYPE DISK WIND TURBINE VIDEO](#)

NEW SEA GLIDER PATENT



[CLICK HERE OR ON THE IMAGE OF THE SEA GLIDER ABOVE TO GO THE THE SEA GLIDER PAGE](#)

[For an Update of Wind Turbine Prototype Work and Thermal Engine Work Being Conducted by Inventor Robert Hunt Click on this LINK to go to the Encore Clean Energy Website](#)



The idea that an airplane can fly endlessly carrying heavy loads of passengers and cargo without burning any fuel, can stop and hover in place weightless at any time, and can takeoff and land vertically is a radical departure from accepted thought concerning aviation. This new reality that is made possible by the invention of Robert Hunt's astounding new hybrid aircraft is Hunt Aviation's vision of the future of aviation. Our aircraft is a rigid glider made of lightweight composite materials. The new hybrid "gravity-powered aircraft" is formed by merging the capabilities of the following devices into a single new aircraft apparatus: (1) an aircraft capable of aerostatic (lighter-than-air) lift to gain altitude; and, (2) a glider aircraft capable of aerodynamic lift, having a high glide ratio to accomplish long range gliding; and, (3) an innovative new extremely low drag vertical axis wind turbine that is capable of harnessing the force of the wind to generate power as the aircraft glides upward via positive buoyancy and glides downward via gravity acceleration.

Robert D. Hunt, the Chairman of Hunt Aviation, has filed for international patent protection for an innovative new phase change hybrid airship design powered by the thermal energy in the air. The energy to power gliding flight is obtained from the atmosphere itself. An efficient power cycle is created using the natural temperature difference from a low altitude to a higher altitude. Heat energy is taken from ambient temperature air at a lower altitude to power the GravityPlane and heat is rejected to colder air at high altitude to complete the power cycle. This Atmospheric power cycle can be repeated indefinitely to allow the craft to stay aloft virtually forever.

A proprietary low-boiling-point-liquid is vaporized into a low density lighter-than-air lifting gas using the heat in the air near the surface. This creates buoyancy that allows the buoyant aerostat to upward glide. The air becomes very cold when high altitude is reached and the lifting gas is cooled and changes phase to high density liquid that is heavier-than-air. Lift is lost and the aircraft glides back down toward the surface where the Atmospheric Power Cycle is repeated as the low altitude warmer air vaporizes the liquid back into a lifting gas to create lift again. Phase change is performed by heat exchangers that take in heat or reject heat to the atmosphere. The aircraft is insulated to prevent premature condensation or vaporization of the working fluid while climbing or descending.

Power is generated by wind turbines aboard the hybrid aerostat glider during both upward and downward gliding. A portion of the wind turbine generated power can be stored and brought back to earth for later use and may be used for propulsion during take-off and landing for example. In the alternative, power may be used while flying to produce hydrogen via electrolysis or to produce other

valuable chemicals or goods. These products can be manufactured while traveling enroute to deliver the products to a purchaser. The GravityPlane can become a flying factory that can generate the power to run a manufacturing process from the atmosphere!

This thermodynamic process is fully detailed in a technical paper authored by Robert D. Hunt that will be presented to the American Institute of Aeronautics and Astronautics (AIAA) 5th Aviation, Technology, Integration, and Operations Conference (ATIO); 16th Lighter-than-Air and Balloon Systems Conference to be held in Arlington, Virginia. The paper titled, "Atmospheric Power Cycle", will be presented in Session: LTA/B-4 (Session 14) on September 26, 2005. The finished manuscript will subsequently be published in the AIAA Journal. A draft of the paper is available for pre-publication review to qualified interested parties upon request and participants are invited to request a private conference with Mr. Hunt after the session.

Additional information regarding the conference may be seen at:
<http://www.aiaa.org/content.cfm?pageid=230&lumeetingid=1137>

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