

## WR 080305

---- Original Message ----

**From:** [James L. Bailey](mailto:James.L.Bailey)

**To:** [pgijs@onsnet.nu](mailto:pgijs@onsnet.nu)

**Sent:** Thursday, September 01, 2005 11:21 PM

**Subject:** human-powered-rocket-belt?

Dear sir: I am a long time hovercraft, hang glider, back-pack para-glider and ultralight aircraft builder. I studied Nuclear engineering at T A&M and general sciences at several other colleges and universities.

I also do theoretical propulsion physics and have found a new type of rocket belt motor you may be of interest in. I will tell you more about this propulsion breakthrough if you so desire it.

The primary reason I am writing this is to inform you of a buried project I did years ago for a human powered vehicle rally in Michigan.

I live in the Texas & Oklahoma area of U.S.A.

It was always my dream since high school in the 70's to go to my prom wearing a jet pack. The concept was based on expanding liquid nitrogen in a nozzle for thrust.

It was impossible growing up in Houston, Texas to find any engineer willing to help me in this project.

I could just as easily fly a hang-glider off a local hill side and therefore had to forget about the jet pack project.

Years later after strapping motors on my back to propel a hang glider into the air, I returned to the jet pack or jet belt project.

I now had years of engineering study behind me and conceived of a design that would create a sensation at a human powered vehicle rally.

It was well understood by this time that man could fly an airplane by human power alone, long distances.

The human powered helicopter is just now being tested all over the world and has managed brief muscle only powered flights.

**BUT WHAT ABOUT A HUMAN POWERED JET PACK???**

I began to realize the inherent danger of hydrogen peroxide and unbelievable cost of small gas turbine engines.

Piston back-pack engines are very noisy and have high vibration.

All that is required to thrill an audience is a "FEW SECONDS" of flight with one of these contraptions.

Therefore the creation of a brief thrust output human powered flying belt became possible.

I discussed the feasibility with MIT professors who felt a turbine would not provide enough thrust.

He believed a piston was the only solution for the human-powered rocket belt. I originally proposed using a jet tip powered ducted fan.

Here is the concept as it stands. I worked on this over 15 years ago.

I am very curious if you have heard about this before?

I have not put the concept on the internet for fear of juveniles and home inventors building one.

It is far more dangerous than it looks.

The concept is based on the principle of dynamic resonance as found in the common pogo stick.

Human weight and muscle energy is used to compress a large spring or elastic band which bounces the operator into the air. This is a simple conversion of gravitational potential energy into spring compression resulting in a dynamic bounce.

The height reached is approx. 5 feet!

But sir, what about a jet pack or rocket belt?

The method is the same! If we instead compress air inside a large bellows placed beneath each flight boot. We can obtain a form of compressed air.

Yes, it is much simpler to compress air inside a sealed chamber. The air is highly elastic and recoils like a spring.

I am not saying this is an energy efficient process!

There is also the danger of eventually shattering your leg bones as greater height is achieved.

I am only explaining a complex physical effect that would allow us to make safe but brief flights into the air without jet belt fuel or combustion.

So we have a source of energy. That energy is the muscle power found in the human leg.

This energy is both gravitational potential energy (pogo stick analogy) and human muscle in nature.

This is the energy wasted every time a man jumps and leaves a boot print.

A pogo stick is working half on the energy stored in the falling weight of the operator and half from each new muscle contraction in his leg.

We simply absorb this energy in a pair of bellows below the flight boots of the human-powered jet pack operator.

The bellows compressed air then can be blown by air hose into a variety of appliances for flight.

I have derived several prototypes for this.

One method simply exhausts the bellows air into a standard jet belt nozzle.

The problem is simple, the fall opposing jet blast happens at the same time the bellows is being compressed. Therefore you know have two forces working against each other. This limits the thrust of the jet belt.

One way around this is to spring mount the jet belt nozzle and allow it to accelerate "OUT OF PHASE" with the boot compression bellows.

**The next experiment was to engage a large ducted fan. The ducted fan would be above the operators head on a back harness. As puffs of compressed air are generated from the boot bellows, the air would spin the ducted fan by a tip jet.**

**I can easily demonstrate this by jumping on the bellows and sending compressed air through an air hose to a remote ducted fan test stand and lift it in the air.**

Beyond this experiment with our so-called boot bellows compressed air source, I also designed a centrifugal compressor powered by this effect. The compressor is brought up to speed by a small boot bellows motor. This motor is in common use the world in industrial shops.

**Basically the large centrifugal compressor stores energy from the boot bellows like a flywheel and then through a hand control valve discharges that energy for a brief jet belt flight.**

There are serious problems with gyroscopic effects in this design. It is best to use two opposite rotation centrifugal compressors.

The final permutation of this boot bellows powered concept is to add helicopter blades. In this way we greatly increase the thrust efficiency.

I long ago obtained plans for the propane jet back pack helicopter.

Therefore I am very familiar with its design theory.

Each bellows compression from the flight boots results in Rpm being added to the back pack helicopter blades. The blades are simply jet tip powered.

The only requirement is a small tail fin to prevent rotation from bearing friction.

The blades are based on a full cyclic and collective configuration.

By keeping the jet tip powered helicopter blades at a neutral pitch angle enough flywheel energy is obtained for a brief human powered helicopter flight.

I hope you now understand the concept of a human powered jet belt is not a fantasy.

My problem is a simple one. I am not a corporation and have no legal protection if a child or foolish adult builds one.

I live in the law suit capital of the world. Lawyers like hungry wolves wait for any incident that can be litigated.

America is becoming a country of legal instigators who have no interest in scientific progress, only redistributing wealth without earning it.

About the new aircraft engine I mentioned. There is a way of deriving almost unlimited power from the atmosphere in the form of a pyro-magnetic convection engine.

This engine requires no fuel and is based on a very advanced understanding of convection currents as are used by sailplanes and soaring birds. In other words solar energy. The energy is focused by the heat produced by the pyro-magnetic convection engine as it operates in the atmosphere.

It was found using both a back pack and boot mounted version of this new aircraft motor a man can fly in the same way a jet belt does.

The suit can be made of an iron fiber material and produce a ground opposing magnetic field.

That is called the **Thompson transformer effect** or **Oersted ring effect**. All you need is a novel form of electric power. We now have that power source.

This is "NOT" science fiction.

If you take the concept of the rotating parachute just one step further, you will find that energy is obtainable from convection cells.

It requires a special magnetized steel chamber of a flexible design. Aircraft wings are at this time being used that can change shape in flight. This is not a new idea.

In this case a small turbine is placed above the aero shell and spun up by rim or side area induction porting.

These exhaust ports are from a well known Bernoulli effect and can be found in wind generation technology.

The turbine then charges a capacitor that in turn activates a large electromagnet and changes the shape of a steel compressor membrane from convex to concave. Do to a useful pyro-magnetic effect the membrane begins to resonate and power is built up for flight.

This engine can operate for extreme periods if made from the correct materials. It is as powerful as any fuel driven aircraft or rocket engine.

A drawing can be found in Electric Spacecraft Journal # 29. It is listed under experimental pyro-magnetic aircraft engine concept.

The only reason I bring this to your attention is to warn you there are alternatives to fuel powered jet packs.

The engine develops power from atmospheric convection. The faster you fall, the more power it generates. The same thing can be said about a rotating parachute. The faster you fall the faster it spins and the more gravity opposing lift it generates!

I have only taken the rotating parachute to its next level with my engineering level concept.

You must understand just one point. When you generate thrust you also generate waste heat.

If you are capable of understanding this, you are also capable of understanding that waste heat can be re-cycled into the next thrust event. It is a resonance based type of propulsion.

Your rocket belt and jet belt readership only understands the "BRUTE FORCE" aspect of a high powered rocket or jet turbine engine. What I am explaining to you is that you can accomplish the same goal by resonantly producing thrust and then re-generating in a parachute like fall until a very high power level is reached.

I only ask that you consider what I have said in this e-mail.

There is another way. You in effect are "BOUNCING" off of the air as does a man on a pogo stick. This "DOES NOT" require any fuel to do so.

The human powered jet pack is a reality. It is also like other jet packs you know of buried in the red tape of my litigation prone society.

If you want to see more of my research please e-mail me. I never charge anyone anything for my time. I give out my aviation research freely.

I have dozens of diagrams of these devices on other web sights and have had for years. They are reluctant to release them.

I am very careful about giving exact technical diagrams of my human powered jet belt research.

Every child in the world would be using one! Every lawyer in my home country would be suing me. It is very easy with a jet tip powered boot bellows driven back pack helicopter to decapitate another child's head! **YES THERE IS ENOUGH ENERGY STORED IN BLADE ROTATION IN THE SEVERAL HUNDRED RPM RANGE TO DO THAT!** Myth busters just did a show about ceiling fans striking children jumping on beds. That is why I have not released my research.

I think your web sight is fantastic and a credit to the internet. I wish you all of the luck in the world. I have lived in the Houston area for many years and remember a quote from an actual rocket belt pilot who I believe retired there on the news.

He said "IF YOU WANT TO IMPRESS A GENERAL THAT'S IT, IF YOU WANT TO GO DOWN TO THE CORNER DRUG STORE FOR A QUART OF MILK, THAT AIN'T IT".

Keep only one thing in mind. If you had perfectly efficient spring, using human muscle energy alone you could jump over the astrodome!

That is what I am attempting to explain to you. The solution to the personal flight problem is resonant like a pogo stick. It involves bouncing off the atmosphere. It also involves strong ground opposing magnetic fields as is found in the physics of the Thomson transformer or Oersted ring effect.

You do not need a constant source of thrust to fly! You can resonantly build up flight energy from the natural convection currents in the atmosphere. That is the real solution you are looking for.

A final time, a human powered jet belt is possible. It has very limited flight duration. It uses boot type compression bellows and the energy stored in a back pack flywheel turbine or centrifugal compressor.

I only wish I had demonstrated it at the Michigan Human powered vehicle rally 15 years ago. I am sorry that liability made that impossible. Once you design a human powered jet belt there is no limit as to how many people can have one. Therefore the liability is also unlimited-limited. Remember it bounces like a pogo-stick, the higher you jet, the farther you fall and more you compress the boot bellows to power the next leap.

Perhaps Sir, one day my research can be publicly demonstrated. For now the lawyers in my country hold my head in a vice grip.

The last problem I face is old age. As "OBI WAN" said in the first Star Wars movie "I AM GETTING TOO OLD FOR THIS SORT OF THING".

You may not know it but hundreds of aircraft have been flown by both civilian and military pilots that have never been released to the general public. My aviation research is only one such example.

The human powered rocket belt? Believe me it's very limited in flight duration, but real.

Mr. Bailey