TWO WHEEL LEVITATOR

Horace Heffner 2/9/97

If the Podkletnof/Schnurer devices reduce momentum, i.e if a rotating wheel placed partially in the (anti-gravity) beam tends to throw the wheel out of the beam by a force proportional to centripetal force, then there is possibly a means of levitation even if the beam is only vertical, and even if the inertia effect is only about 4% of mass. Vertical lift is achieved by having two wheels spin on an angle to the beam, as shown in Fig. 1.

```
\        /
 \      /
 M\    /M
   \  /
    \/
   ====
```

```
Key:

  \ or /  - spinning wheel, side view (2) wheels shown

  M - motor and shaft attached to spinning wheel

  ==== - antigravity/anti-inertia device

         Fig. 1
```

The significant part of the diagram is the "====", which is the Tampere device or similar device exhibiting inertia reduction in a beam or corridor above itself:

That part of the premise that is a very big "if" is that inertia is affected within the gravity reduction field, the gravity shadow of the Tampere device. It is a long stretch of the imagination, but it is very easily tested because careful weighing/measuring is not required. A very small reduction in momentum will result in a very large force for a high rpm wheel. To test simply stick a running motor into the field.

The above thrustor should provide a Cadillac smooth ride, no bump and grind. Nothing to make for oscillation, vibration, etc., All the two wheels do is rotate. There might be a precession problem if it turned a corner suddenly, but no need to do that to get into orbit.

Suppose you have shielded (reduced inertia) at 4% about half of each of the 1 meter radius wheels or drums which are each at an angle theta from the vertical, 0.5 m

TWO WHEEL LEVITATOR

Horace Heffner 2/9/97

thick running at 3600 rpm, or 60 rps. The mass of each wheel is primarily between 0.5r and r, where r is the radius of the wheel. Assume each wheel is roughly the density of iron (7.9 g/cm^3). The area A of a wheel is (3/4)(pi)(r^2) = 2.4 m^2 = 2.4x10^4 cm^2. The volume of a wheel is 1.2x10^6 cm^3 so the mass is 9.5x10^7 g or about 10,000 kg. The average rotational velocity of the mass of a wheel is v=(3/4)(2)(pi)(r)(50)= 283 m/s. The outer (max) acceleration is a=4(pi^2)(r)(60s^-1)^2 = 1.4x10^5 m/s^2, or about 1400 g's. Every second about 10,000 kg x (60rps) = 60,000 kg/s mass enters the non shadowed section of the wheel at 283 m/s and exits at -283 m/sec, for a delta v of 566 m/s per second. The effective (net) mass doing this is 0.04 x 60,000 kg/s = 2400 kg/s. The resultant force is F = (566 m/s)(2400 kg/s) = 1.35x10^6 N. Converting to kg force (kgf) we get F = (1.26x10^6N)(1/9.8 kgf/N) = 13,900 kgf. Suppose the supporting framework, underlying Tampere cells, and power supply etc. can be placed using 1,000 kg per wheel. This give a total vehicle weight of 22,000 kg. The lifting force L = (13,900 kg)*2(cos(theta)) = (27,800)cos(theta). To hover we have the lifting force L equal to the craft weight of 22,000 kg, which results in cos(theta) = (22000/27800) = .791 and the angle from vertical is cos-1(.791) = 37.7 deg. This is all marginal, but achieving an 8% shielding would definitely give you a VTOL SST orbiter. So would being able to run the wheel at 2800 g's.

The above design is mainly concerned with hovering, etc. Any repulsion of a rotating wheel from the beam proportional to the wheel rpm means maybe you can build an Isp infinity spacecraft. That is an important test. A better test would be to rotate a heavy wheel horizontally through the beam and support the entire apparatus on a wheeled platform and see if the platform and all can be made to move laterally.