Re: Electrogravitics is Reality!

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* *From*: William.Mook@xxxxxxxxx
* *Date*: 12 May 2006 10:07:28 −0700

tomcat wrote:

> William.Mook@xxxxxxxxx wrote:
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>>> William.Mook@xxxxxxxxx wrote:
>>>
>>>> Tomcat doesn't realize that SRBs are used to provide additional thrust
>>>> at launch, not provide the efficient increase in speed higher
>>>> performing cryogenics provide. lol.
>>>>
>>>> But just for fun let's do the calculation.
>>>>
>>>> Let's assume the proposed cockpit weighs the same as a Mercury capsule,
>>>> 907.2 kg.
>>>>
>>>> Now the SRBs Gross Mass: 589,670 kg.
>>>> Empty Mass: 86,183 kg.
>>>> Propellants: Solid Thrust(vac): 1,174,713 kgf. Isp: 269 sec. Isp (sea
>>>> level): 237 sec. Burn time: 124 sec.
>>>>
>>>> Wow!
>>>>
>>>> So, tomcat wants to take 4 SRBs and burn them in PARALLEL!!!! (he talks
>>>> about SSTO so they're not staged which would give slightly better
>>>> performance) under an updated version of a Mercury capsule... OUCH!
>>>> The pilot better have a chiropractor... lol.
>>>>
>>>> Take off weight of the four SRB + mercury cluster would be; (hold on

let me get my spreadhseet started...)

TAKE OFF BURN OUT
2,359,587.2 345,639.2 Weight
4,698,852 4,698,852 Thrust
1.99 13.59 GEE

That puppy would put out quite a kick!!!

The specific impulse is 237 sec max. That's an exhaust velocity of;

Ve = g0 * Isp = 9.37 * 237 = 2,327 m/sec

And propellant fraction is;

u = 0.8535

which isn't too shabby... so now we can compute the IDEAL terminal velocity of this setup;

Vf = Ve * LN(1/(1−u)) = 2,327 * LN (1/(1−.8535)) = 4,470 m/sec

Which is about HALF the speed you need.

By the way, this is essentially the same performance as a single SRB flying from liftoff to burnout all by itself;

1.992153238 Gees at take off
13.63044916 Gees at burnout
0.853845371 Propellant fraction

4475.68455 Terminal velocity

During ascent you'd likely lose about 1,500 m/sec to gravity losses (its more like 2,200 m/sec normally but when pulling 14 gees you gain some advantage) so actual performance would be around 3 km/sec. The capsule would come crashing down a little downrange from the same spot the SRBs come crashing down after a shuttle larunch today.

Of course you can do this suborbital flight much much better with a

redstone rocket, like Al Shepard did back in
the early 1960s.

If you want to get to orbit with a single stage
and a minimum capsule,
I'd recommend something like the Atlas
Mercury rocket used by John
Glenn back in the early 1960s. That thing
had 3 rocket engines at lift
off, it dropped two on the way up, and had
one sustainer which got it
to orbit. It was a balloon tank pressurized by
propellant, and worked
very well as a stage−and−a−half. But we
could call it SSTO today. I
always liked the idea of recovering the
engines for reuse. But that's
sort of what the Space Shuttle does today −
except its much bigger, and
the throw away engines are SRBs.

Yes, that was a 'fun' calculation.

Yes.

But mathematics can be deceptive.

My last statement in the quote was "but mathematics can be deceptive."
Let me explain.

Lets not and say you did.

If you launch from near the equator towards the East then you will pick
up about 700 mph because of the Earth's rotation. That is not in the
Tsiolkovsky Equation.

That's because the rocket equation − which you have apparently looked up on the internet and found is also called Tsiolkovsky Equation − haha... speaks only of terminal velocity. All the other bullshit you mention is just that. It doesn't change the need for speed.

Look, if I was given the longitude and latitude of New York City 40 d 45m 6s North and 73 d 39 m 59 s West − and Chicago, 41 d 52 m 28 s North and 87 d 38 m 22 s I could compute a great circle route from one city to the other. I could compute the distance of that arc to be 711.14 miles.

That would be the MINIMUM distance I'd have to travel to get from one point to the other. Now, if I had a car that got no more than 28 miles per gallon I'd be able to say I'd need at least 711.14 / 28 = 25.39 gallons of gas − as a minimum to drive from one city to the other in that car and likely need more.

Now, if you came along and said by driving slower I can use less gas than driving fast, I'd have to say how slow, because if the car just sat still and idled, it wouldn't be going anywhere − and there's an optimal speed, depending on gear, road condition and so forth. That wouldn't change the MINIMUM amount of gas required, changing speeds away from the optimal conditions INCREASES fuel use, so the minimum will not be got around that way.

If you came along and said the car must travel on roads, and the car can turn left and right, and that a car that tavels straight covers more distance than a car that zig zags all over the place I'd have to say that any deviation from the great circle route would increase miles travelled and increase fuel use. So the minimum will not be got around that way either.

If you came along and said that a car going uphill uses more gas than a car going downhill and that if we travelled downwhill all the way we could use less gas, I'd have to say Chicago and New York are on the water, and are pretty much the same altitude, and any up and down the hills will increase fuel use. So, the minimum will not be got around that way either.

JESUS TOMCAT − people are trying to educate you a little bit here − pick up a freakin book on the subject you post about and read it. Do the exercises at the end of each chapter, and check it against the answers in the back of the book. Re read the chapters until you get the right answers and see why. Don't give up, rack your brains, read related books at a libarary, talk to people who wrote the book − THAT'S WHAT I DID WHEN I WAS IN SCHOOL STUDYING THIS SHIT!

You're supposedly a freakin military pilot with a degree? I don't see it. Juding from your responses here you're a freakin' poser in over his head − maybe you carried tools for someone who worked on a military aircraft and dreamed about flying it − maybe that's what you did − but judging by what you've written here − I don't see it dude.

> The size of the vehicle is not in the Tsiolkovsky Equation.

Because the size of the vehicle doesn't determine the final velocity,

> The fact that for every air mile traveled the Earth drops away at point 64 miles is not in the Tsiolkovsky Equation.

Because the properties of the earth don't determine the final velocity of a rocket under ideal conditions.

> The fact that gravity diminishes with the square of the distance is not usually used in calculations.

Depends on which calculation you're doing. Every hear of equipotential? Sheez

> The fact that the Moon has 1/6th the gravity of Earth and this pulls on the surface of the Earth when it is overhead is not normally in the calculations.

Which calculation? You still talking about the rocket equation? If so, the rocket equation gives the amount of propellant you need in a rocket to make it go a given speed. Clearly the properies of the moon don't determine the final velocity of a rocket propelled projectivel under ideal conditions.

> The length of the burn time is not in the Tsiolkovsky Equation.

Because in the absence of a gravity field, under ideal conditions, the length of burn time does not determine the final velocity of a rocket propelled projectile.

> These are just a few of my objections to the calculations that I often see.

They are objections that make no sense. They make no sense because its like someone objecting that it'll take 25 gallons of gas at a minimum to drive to Chicago from New York − and likely more given the great circle distance and the gas mileage.

The rocket equation determines the speed of an rocket of a given ratio of propellant to dry weight burning a propellant of a given specific impulse under ideal conditions. We know under IDEAL CONDITIONS what the MINIMUM speed is to get to orbit. This is the same as figuring out the gas mileage of a car you plan to take a trip in. If you don't have a minimum amount of gas, you ain't going to make the miminum distance needed, See? Same here. If you don't have the right propellant performance and propellant fractdion, you're not going to make it to orbit. Your objections are senseless and reveal a deep seated ignorance and foolishness.

> The Earth dropping away combined with the length of the burn time is an enormous factor.

This is secondary to the minimums. Once you've built a rocket that can go the minimum speed, then you can talk about how to fly it. That's another topic entirely.

If I said I had to drive 711 miles in a car that got at best 28 mph and I said it only held 10 gallons of gas, then, I'd say I'd have to refill the tank before I got to Chicago probably 2 times. That's entirely different than which route I take, or what direction I head out of New York when I leave. That you see a relation there just tells me you don't understand what the word MINIMUM SPEED REQUIREMENT TO ORBIT means.

> Twenty minutes at, say, mach 3 in perfectly level flight −− not relative to the Earth −− relative to the planes orientation at time of takeoff would put that rocket plane at 480 miles of altitude above the Earth −− with just 'level' flight!

Hmm... definitely don't know what equipotential means! lol. Dude, you have a center of gravity for the earth right? And you have spherical surfaces around that point that have the same energy see? You're really a triple 9 mensa? Damn bitch, you don't know this shit?

lol.

THE SAME ENERGY BITCH! Does that suggest anything to you?

If you are on that equipotential surface, then you've only got drag to contend with. If you rise to higher levels, you've got to get the energy from somewhere, and if your engine is putting out constant energy, then its going to come from your speed. If you fall to lower levels, the energy has to go somewhere, and that's likely to go into your speed. If you're rising and accelerating at the same time, you've got to pump out enough energy to add to your potential energy AND your kinetic energy. Fuckin around with wings and shit in an underpowered aircraft just ADDS TO THE MINIMUM SPEED REQUIRED UNDER IDEAL CONDITIONS.

> It is clear,
> therefore,

That you are clueless.

> that the Tsiolkovsky Equation

Gives the relation between propellant performance, propellant frraction, and terminal velocity of a rocket under ideal conditions. Its one of the most useful equations in rocket science. It allows you to compute the terminal velocity of a rocket propelled projectile under ideal conditions. Its like figuring out the basic range of your car given the gas mileage and amount of gas on board. Driving directions don't enter into it.

> and other orbital equations

What other equations? Dude, the great circle route between New York and Chicago is the MINIMUM. The minimum bitch! Monkeying around with driving directions and side trips and hanging flags out the windows − means you need MORE GAS! lol.

> simply do not include all the pertinent factors.

What is more pertinent in a rocket projectile than the MINIMUM SPEED NEEDED TO PERFORM A MISSION?

> Despite the insults,

Dude, if I take an hour and calculate the performance of a rocket that you propose as a SSTO vehicle − and show CONCLUSIVELY that it CAN NEVER attain orbit as you proposed it − how the hell is that an insult? The insult bitch is putting up with your punk ass bullshit.

> I nonetheless, enjoyed the mathematics displayed

Too bad you didn't understand them.

> in the William Mook post. Because of the mathematical discrepancies in current use −− not picking on Mook here −− I have been loathe to use the formulas.

Because you don't understand them.

> Pilots know that thrust to weight tells a lot.

So what? You're still talking about side trips and have ignored the basics. FYI The Brequet range equation in an aircraft, very similar to the rocket equation, tells more.

> And, by the way, take an ion engine with 20 thousandths of a single pound of thrust and fill the rocket plane up with ion engine fuel and Tsiolkovsky's Equation will give it escape velocity and then some.

Yeah, a radium powered rocket producing 1 millionth of a gee force operating for 1600 years would accelerate some 45 km/sec − UNDER IDEAL CONDITIONS − it would go nowhere under normal conditions because its too puny to move itself.

> There is something 'wrong' here.

Yeah, you're clueless. So, we shouldn't be surprised if you are confused at times.

> I say that such a plane would never
> roll down the runway, much less get off the ground.

Well you got that one right genius. Jesus tomcat, you have no pride do you? Weren't you the one arguing that 1.1 gees was just fine in a space craft? And radium makes a dandy rocket?

Asshole.

What's wrong is you don't get it. A rocket under ideal conditions can have a very high terminal velocity. But that's not all you need. You have to have sufficient thrust to overcome gravity without too much loss. Use calculus of variations to figure out what the optimal thrust is at lift off. For most rockets today its around 1.4 gees.

Your proposed saucer is underpowered for that reason.

> But I am still contemplating all of this and will continue this discussion later.

Like I said, call a college bookstore − one serving a good enginering school like MIT − and ask for the reading list for the aeronautical engineering degree program − and order the damn books. Read them, do the exercises until you master them, and THEN post your ideas. Sheez.

> tomcat

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