HOW TO COMBINE ENGINES TO ACHIEVE HIGH SPEED, HYPERSONIC SPEED, SPEED OF LIGHT AND EVEN HIGHER - APPLICATIONS

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Abstract : When Einstein left us, he left us a really big problem to solve, does anything can travel faster than the speed of light? There hasn't been any way to try this in the past, because there were any technology which could accelerate objects at this speed. What researchers tried to do, was to accelerate particles. But there must be a way to play with speeds so that, as we do math, we may practically multiply the speed by any number we want, we also may practically divide the speed by any number we want. In this paper I will try to show how. Also, In our real life, there might be a need of such high speeds, so that a lot of problems may be solved, as for example the airplane technology, electric power, space travel, car transmission, industrial high temperature and so on …

I do not say for sure that, the object will move faster than the speed of light, but, people who have ability may try to accelerate it at this speed and even faster to see what will happen as now it is very easy to realize. There are two ways; you go to space to do it or, you create a vacuum and move it inside.

Index terms – Speed of light, can we travel to the speed of light?, space travel, Einstein's big question, how to accelerate particles at the speed of light?, is the speed of light possible in atmosphere?, how to go to distant stars, speed multiplication

Introduction.   Nowadays researchers are discovering distant stars and even habitable planets and others are struggling to see if they can breach the speed of light when accelerating particles. The problem is, how to go there or say that particles are they going to take us there? Also, people wonder if there may be any way we can move faster than ever. Considering all these issues, I'd like to propose my Idea to how we can accelerate objects to any speed we want using available and simple technologies.

Available technologies. Consider first of all the bike technology, or the transmissions in cars, these technologies are based on different circles and how many times the circumference of small circles with small diameters can enter in the circumference of the big circle with the big

diameter. Consider the figure below:
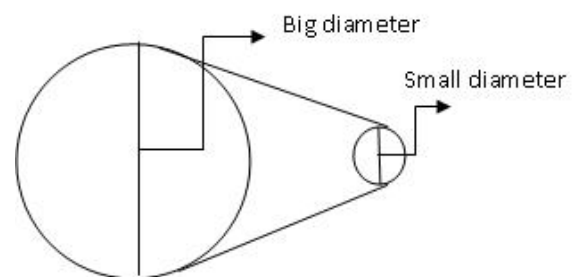
How many times the small circle circumference can enter the big circle circumference?

Consider D as the diameter of the big circle and d the diameter of the small circle, the number of times the small circle circumference can enter the big circle circumference is: n = $\frac{D\pi}{d\pi}$ = $\frac{D}{d}$, which means that if the big circle turns once, the small circle will turn n = $\frac{D}{d}$ times.

If the diameter of the big circle is 1 m, and the diameter of the small circle is 0.1 m, n = 10 and if the big circle turns once, the small circle will turn 10 times. Now, let's associate a big circle to the small one:
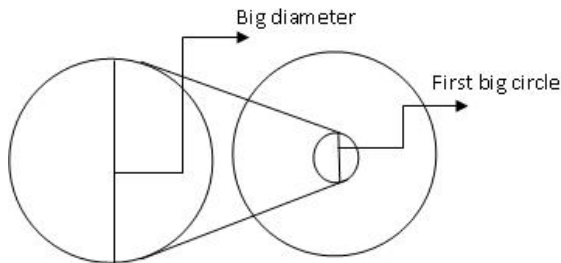

As we can see, if the second big circle turns once, the first big circle will turn ten times. But it may be a little difficult to achieve because there may be a loss of energy, there may be some difficulties for the second big circle to turn the first big circle. That's why we may associate an engine to each big circle and the first big engine must start first, after it achieves the highest speed, we can start the second engine. It means that, if the two engines have the capability to move at 300 km /h, after the second big circle achieves the highest speed, the first will turn at 3 000 km/h because the first big circle can move ten times faster than the second.
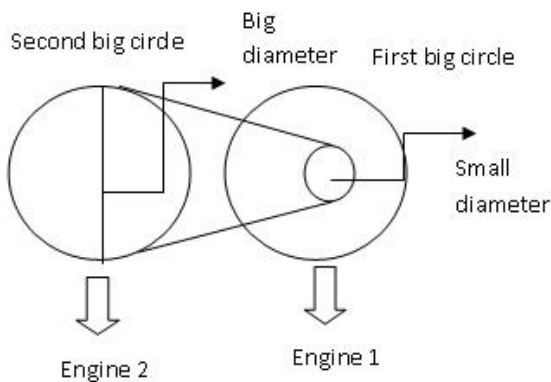
In the beginning, it may be difficult for the second big circle to move the first big circle, but if the first big circle starts first, and after achieving the high speed, we start the second big circle, it will be very easy for the second big circle to turn the first big circle. Because in the beginning the second big engine is still fresh and it has its full energy. It's like when you start a car at the fourth speed from the beginning, the car can't move, but, if you go progressively,

you start by the speed one, you continue to speed two, and then the speed three, it will be very easy to add the fourth speed.

Now, let's add another big circle:
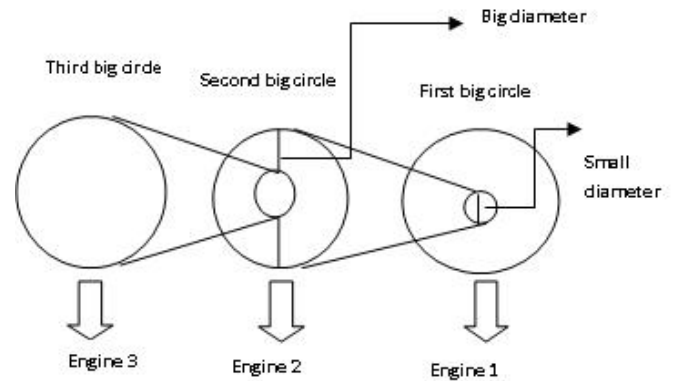
Now, if the third circle moves once, the second will move ten times, and the first one will move one hundred times. When the second engine achieves the highest speed, we start the third engine, at this time, when the third engine achieves the highest speed, i.e. 300 km/h, the second one will move at 3000 km/h and the first will move at 30 000 km/h because, if the third circle moves once, the first will move 100 times.

We can now generalize: If we have 5 engines, and five circles, if the fifth move once, the first will move 10^4 times. If all engines have the capability to move at 300 km/h, the first will move at 3000000 km/h, which means 3000000 km/3600s = 833.33 km/s.

In the same way, if we have 10 circles and 10 engines, if the tenth circle move once, the first will move 10^9 times which means that if all the engines have the capability to achieve 300 km/h, if the tenth engine moves at the speed of 300 km/h, the first one will move at 300×10^9 km/h which means $300 \times 1\,000\,000\,000$ km/h = 300 000 000 000 km /h = ((300000000000 x 1000) / 3600) m/s = 83 333 333 333.33 m/s = 83 333 333.33 km/s

But this speed is not possible in atmosphere because of the air resistance. I think that in space it is possible because there is no resistance. People who have the possibility to go there and work from there may test it. Here on earth, we may only test low velocities like up to 15 000 km/h for example.

For the general formula, if we have n engines, n big circles and n small circles, the general formula is:

$$V_n = v_0 \times 10^{\,n-1}$$

And if the big diameter length is D and the small diameter length is d, then, the formula becomes:

$$V_n = v_0 \times \left(D/d \right)^{n-1}$$

This may have a great amount of applications in real life.

Applications:

In industries:

In some industries, to produce high temperatures, they use electrical power. But this may consume much energy. My principle is just to use high speed to produce high temperatures and melt metals and other materials. It is very simple, we can just put to high speed the object and the high temperatures will be caused by the friction of the object with air.

Space exploration:

Here, we can fill the object with much energy so that it can move by itself to space. We will use the principle of physics which is $E = \frac{1}{2}mv^2$, It is really difficult in atmosphere to move an object at the speed we want, but in space, it is possible since there is no attraction, so it is possible to move at high speed.

a. **How these may work:**
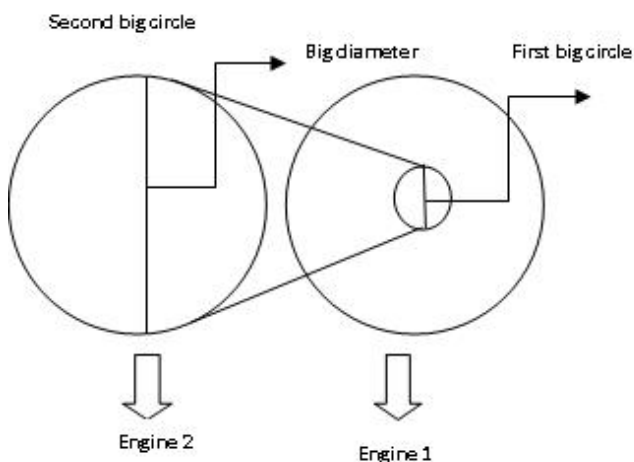
All depends on the diameter as we saw it in the beginning; we may use very very big circles and small circle and very powerful engines to multiply our movement. Let's take for example, the first circle with the diameter of 1km and the small circle of 0.1m.

b. **What will happen?**

When the big circle turns once, the small circle will turn 10000 times. It means that, if our engines have the capability to move at 500 km/h, if the second circle move at this speed, the first will move at 5 000 000 km/h, if we can associate another circle and engine, we can achieve a speed of 50 000 000 000 km/h i.e.(50000000000 x 1000m)/3600s =(500 000 0000 000/36)m/s = 13 888 888 888.88 m/s ≈ 138 888 888.88 km/s

Let us then associate another circle and an engine, we will achieve the speed of 50 000 000 000 000 km/h, which means : 500 000 000 00000 km/3600s ≈ 138 888 888 888 888.88 km/s.
with only four engines, four circles of 1000 km of diameter and four small circles of 0.1m of diameter, we can achieve such speed which is really amazing. To go to distant stars, people propose to built a ship which may have six rockets powered by nuclear reactions, this may cost billions and billions of dollars, and also, the energy which may be needed to get there would be very difficult to find. We can compare these two technologies and see which one is feasible and cheaper and decide. I think that, if all the nations put their energy together, this may be very easy to achieve.

How can we send object in space? We may accelerate the objects on the first big circle and then, leave them to themselves, they can get where we want them to go as they may not face any resistance, we may first of all study the space and see if there is no any obstacle in the way and then leave it. We everyday see a lot of asteroids, and meteors which move in space without any engine, they move and even come back again after years and years in the way. So why not send ours at high speed and see them come back with information about entire universe. This time we can confirm, for sure that, other stars like ours exist and habitable planets are out there as well, why not life!

The movement may be controlled by the computer.
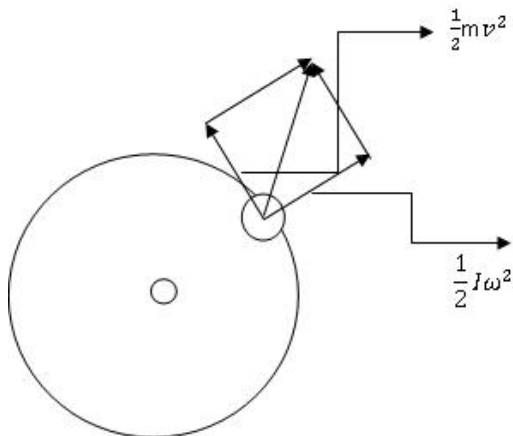
How can those objects send information back to us? We know that information travelling with electromagnetic waves move at the speed of light, so how those objects may be controlled? Or say that how those objects may be contacted?

We can construct another small system inside the object and it can send back information back to us, and we can put an intelligent robotic inside and when it sees greenhouse out there it can send back information to us or it can stock all those information and when they become much enough it can send them back to us.

Airplanes:

In airplanes technologies, what we need is high speed, it means that it depends on which speed the fans are moving on. We know that, for example, the small airplanes fans move at 3000 rpm and the big airplanes fans move at the speed of 4000 rpm. To achieve these speeds, extremely sophisticate and very expensive engines have been developed, that's why airplanes are very expensive. But we can combine two or three engines to achieve those speeds and even achieve higher and at very low prices.

For example, if we combine three engines which can achieve 300km/h, how much the system may cost, and which speed can we achieve?

As we saw earlier, with three engines we can achieve easily 30 000 km/h which means 30000000 m/h = (30000000/3600) m/s = 8333.33 m/s if we have a fan of 1m long, the circumference is 1m x π ≈1m x 3,14 = 3.14 m so the number of revolutions : 8333.33 / 3.14 = 2653.92 which means 2653.92 Revolutions/s

It would be very difficult to have a single engine which can turn at this speed, if the airplane can move at 10cm in one second, the total displacement is 10cm x 2653.92 = 26539.2 cm in one second which means 265.39 m/s = ((265.39 x 3600)/1000) km/h = 955.404 km/h.

For a small plane, this speed is not bad. We can now estimate the cost of such airplane. Suppose that one normal engine cost 3 000 USD, three engines will cost 9000 USD. If all the material and workmanship is 100 000 USD, the cost would be only 109 000 USD. This is for the plane with 3 engines. Now a small plane cost more than 700 000 USD, but using this technology, it can be really cheaper.

If we combine 4 engines, the speed of 300 000 k/h can be achieved. (300000 x 1000)/3600 m/s = 83333.33 m/s the number of Revolutions is 83333.33 / 3.14 = 26539.27 which is 26539.27 Revolutions/s , if at each Revolution the plane moves 10 cm, in one second, it can achieve 265392.7 cm per second. Which means 2653.92 m/s = ((2653.92 x 3600)/ 1000) km/h = 9554.112 km/h which is an hypersonic speed, here we can see instead of constructing a hypersonic plane of 120 000 000 USD, this technology which is cheap may be tested and I can provide a way to deal with the heat very easily without spending a lot of money. Or I can provide a way to construct such plane so that it can travel at this speed in atmosphere. And I guaranty that this airplane will not cost more than 1 000 000 USD

Powerful Tunnels: Before it was very difficult to experiment hypersonic flights, because it was very difficult to achieve high speed so that people can have experience of how hypersonic flights may look like before testing it. The principle is to create the powerful tunnels which can create the winds moving at hypersonic speeds and for sure if we combine four or more engines we can achieve such speeds.

Electric Power : According to the law of faraday, to produce electric power, we need the spirals moving in the magnetic fields and the number of those spirals. All depends on the speed on which those spirals move. If we combine engines, we can produce hundreds of millions of megawatts which may replace nuclear power plants.

Racing cars: For people who want to experience high speed, they can combine two engines to achieve about 1000 km/h. For this you only need two engines of 300 km/h of capacity, two circles of 50cm of diameter and two small circles of about 0.1 meter of diameter.

Car Transmission: Here we can imitate the bicycle transmission and the circles can automatically enlarge or shrink according to the speed we want.

Conclusion : From above discussions we can see that, any speed we want is possible to achieve, it is now the scientists turn to check if the speed of light is achievable or not. I guess it is possible in space or in the vacuum. In atmosphere, we can be sure that this speed is definitely impossible as even at hypersonic it's difficult.

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