DIVISION B – Intertial Propulsion without a Propellant

As noted in the abstract, at the beginning of this publication, the purpose of this article, assuming the existence of the ether, therefore, a real centrifugal force, is to use that real force, along with counteracting three-dimensional mirror-image symmetry to design and eventually construct a reactionless propulsion spacecraft (Centrifugal Inertial Drive = C. I. D).

First: This subsection references websites showing inventors/ experiments that have already demonstrated and proven inertial propulsion.

It is far easier to understand all the above if one can observe relevant experiments, performed by others, moreover, comprehend their function, based upon the ideas just presented, especially that of subsection six of Division A. Therefore, the author references five websites, which in one form or another, display inertial propulsion and some of which are followed by a brief discussion and evaluation.

To comprehend this hypothetical invention, one must be able to mentally visualize in three dimensions. So, to begin with, let us define the coordinate system. Assume the plane of the Earth's surface is represented by the x and y axes. Presume the z axis is oriented perpendicular to this plane with one side oriented away from Earth (+z) and on the other side towards its center (− z).

→ *Furthermore, for purposes of orientation, hypothecate that the direction of motion of all the experimental devices as shown in the YouTube videos is defined as the +y direction* ←. The author references the following two YouTube video sites since it is much easier to understand what occurs by watching a video rather than evaluating a written dissertation.

https://bit.ly/3ByYHPg
and
https://bit.ly/3av3u8y


After reviewing these two sites, take note, these inventions possess only one axis of freedom of motion, the y axis → *defined as the direction of their motion* ←. Be cognizant of the fact that these experiments cannot move in the z axis due to gravity and the blocking effect of the Earth's surface. And they cannot move about in the x-axis due to fixed orientation of the wheels. The only direction of freedom of motion is in the y axis. Bear in mind, this is crucial; relative to the y axis the centrifugal force is greater in the +y direction compared to the −y. So, the devices then →*propel*← in the +y direction (→*defined by the author as the direction of motion* ←). After comprehending all the above, again review the above websites and apply the principles as just explained.

The author now references this second set of videos.

https://bit.ly/3oMADVx
https://bit.ly/3oLGxpX
https://bit.ly/3iXZBg7



After viewing all six videos, it should be obvious to all that there is in indeed a true centrifugal force; otherwise, the inventions would not function as observed. True or false?

Second: The author hypothecates two forms of spacecraft using a along with counteracting three-dimensional mirror-image symmetry to then propel those devices devoid of a propellant.

It is far easier to comprehend the following set of illustrations if one first understands what is occurring in the YouTube videos as just referenced. The ensuing illustrations are a modification of what occurs in those videos. Fundamentally, the author uses three-dimensional mirror-image symmetry to counteract all forces except those asymmetrical forces oriented in the y-axis. And since the centrifugal force in the +y direction is greater than −y, the inertial propulsion force without a propellant overall is then in the +y direction. Voilà! There you have it in a nutshell. A hypothetical inertial propulsion spacecraft system is now presented using differential rotational rates/centrifugal forces as well as counteracting three-dimensional mirror-image symmetry.

To begin, imagine a rotating wheel with an attached solitary mass positioned at its inner periphery. Now, the faster the rotational rate, the greater the centrifugal force exerted on that object. This basic idea is used to explain how a reactionless inertial propulsion engine can be designed and created. However, before proceeding, please re-review the YouTube video as shown below.

https://www.youtube.com/watch?v=53rURZsFlZI

This is only a partial explanation of what occurs in that video.

If you watch this video very carefully, you will note that the rotational rates of both symmetrical peripheral masses are greater in the +y direction (defined as the direction of motion) compared to − y; so then too are the centrifugal forces also greater in the +y direction versus −y. Counteracting mirror-image symmetry and the fixed position of wheels prevents any motion in the x axis and gravity and the earth's surface blocks movement in the z axis. All that is left is a → *net* ← inertial/ centrifugal propulsion force oriented in the +y direction (again defined by the author as the direction of motion). This concept will now be

expanded to include counteracting three-dimensional symmetry as demonstrated in the following set of illustrations.

To start, see Figure 11 below which illustrates the physical structure of the device.

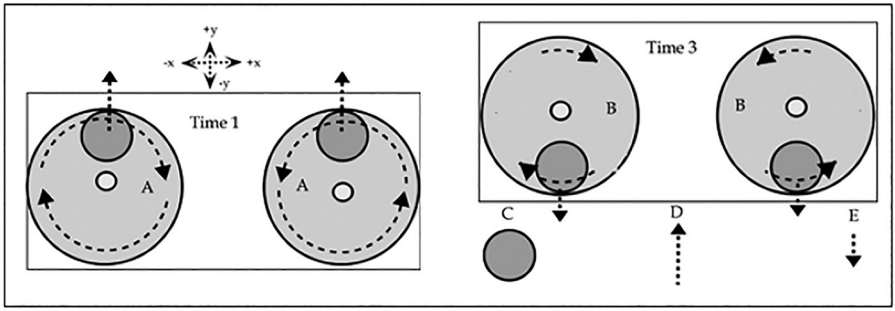


Figure 11

- Time 1 = the platform (rectangle) encompassing two *counteracting* identical and symmetrical *rapidly rotating wheels,* each of which is associated with an attached peripheral mass as shown (+y direction). See length of curvilinear arrow within wheels = rapid rate.
- Time 3 = the platform at later time 3, encompassing two *counteracting* identical and symmetrical *slower rotating wheels,* each of which is associated with an attached peripheral mass as shown (− y direction). See shorter length of curvilinear arrow within wheels = slower rate.
- (A) = Time 1: the counteracting symmetrical wheels are rotating → *rapidly* ← clockwise with respect to the left wheel and correspondingly counterclockwise relative to the right wheel.
- (B) = Time 3: the counteracting symmetrical wheels are rotating → *slowly* ← clockwise with respect to left wheel and similarly counterclockwise relative the right wheel. At Time 3, their rotational rates are still identical but now slower compared to Time 1.
- (C) = Symmetrical/identical rotating peripheral masses.
- (D) = Time 1: the strength of centrifugal force exerted on the two masses with the same rapid rate of rotation specifically oriented in

the +y direction; the more the force the longer arrow.

- (E) = Time 3: the strength of centrifugal force exerted on the two masses with the same, but now slower, rate of rotation oriented specifically in the -y direction; the shorter arrow.
- The dotted semicircular arrows located peripherally within the wheels symbolize the direction as well as the rotational rate—the longer the arrow, the faster the wheel's rotational rate.
- The centripetal forces are not displayed in Figure 11.

Please see the Figure 12 below which illustrates the function of the apparatus but only with respect to the y axis (–y and + y directions).

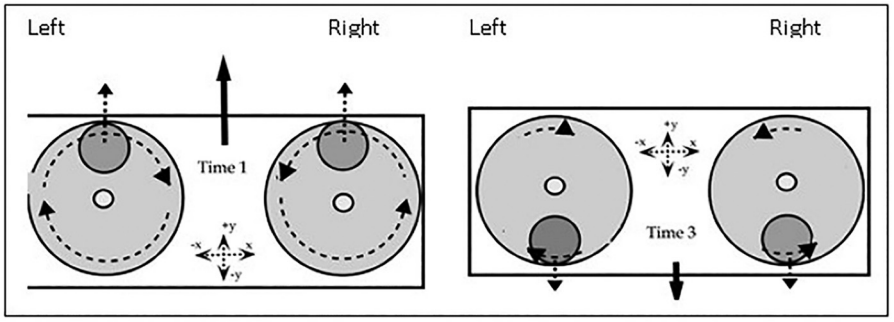


Figure 12

- At Time 1, the counteracting symmetrical wheels and attached masses are rotating rapidly (on the platform = rectangle). The left wheel is rotating clockwise, whereas the right wheel is rotating counterclockwise at an equally rapid rate. The straight dotted solid-tipped arrows associated with the peripheral masses denote the centrifugal forces oriented specifically in the +y direction. The length of the arrows symbolizes the strength of that force. The greater the rotational rate, the more the centrifugal force and the longer the arrow. The single solid straight arrow located at the center of the platform, in the +y direction, represents the sum vector force of the two centrifugal forces from the wheels and attached masses. The centripetal forces are not displayed in Figure 12.

- Later, at Time 3, the counteracting symmetrical wheels are now rotating slowly (on the platform = rectangle). The left wheel is rotating clockwise whereas the right wheel is rotating counterclockwise, at an equally slow rotational rate. The straight dotted solid- tipped arrows, associated with the peripheral masses, denote the centrifugal forces but this time specifically in the −y direction. The length of this arrow represents the magnitude of that force. Observe that the length of this arrow is shorter compared to Time 1; since the rotational rate is slower, so the centrifugal force is less. To be specific, the slower the rotational rate, the less the centrifugal force—the shorter the arrow. The single thick solid straight arrow located at the center of the platform in the −y direction, represents the sum vector force of the centrifugal forces from the two wheels. The centripetal forces are not displayed in Figure 12.
- Be cognizant of the fact that, and this is crucial, the sum vector centrifugal force in the +y direction is greater than −y based upon the different rotational rates (+y > −y).

Please see the following sets of figures, which utilize this basic concept but now include counteracting three-dimensional mirror symmetry to describe how to propel a spacecraft with reactionless propulsion.

To explain counteracting three-dimensional mirror-image symmetry, the author will use this approach.

- First, there is a written description.
- Second, four illustrations depicting the written explanation are presented.
- And finally, a further clarification of the illustration is discussed.

The written description. (See figure 13.)

Instead of one, there are now two platforms oriented in the z axis, one above the other with mirror image symmetry.

With respect to each platform, there are two counteracting symmetrical (functional and structural) rotating wheels with attached peripheral masses as shown in Figure 13.

With respect to each platform, the counteracting wheels with their masses rotate faster in the +y direction (Time 1 in the illustrations) when compared to the −y direction (Time 3 in the illustrations). Therefore, because the rotational rates are greater in direction + y versus −y, the centrifugal forces exerted on the masses are also greater in the +y direction compared to −y.

With respect to each platform, this also means that when oriented in the x axis (+x and − x) (Time 2), the rotational rates of both counteracting wheels with their masses are decreasing as they transverse from direction +y to −y.

And conversely, with respect to each platform, the rotational rates of the wheels and masses are increasing in the x axis (+x and −x) (Time 4) when traversing from direction − y to +y.

Counteracting mirror-image symmetry prevents any → net ← centrifugal force in the x axis. In addition, again the overall structure consists of an upper and a lower platform with mirror-image symmetry but now in the z axis.

Therefore, in summary, not only is there counteracting mirror-image symmetry in the x axis but also in the z axis.

1. Be aware and this is crucial: All centrifugal forces are counteracted except those forces in the y axis being greater in the +y direction compared to the −y direction.
2. Accordingly, there is then a net inertial propulsion force without a propellant in the +y direction.

For a better perspective, the following two images are nonfunctional mockups of the first proposed device so one can picture its physical structure in three dimensions then followed by time-interval illustrations.

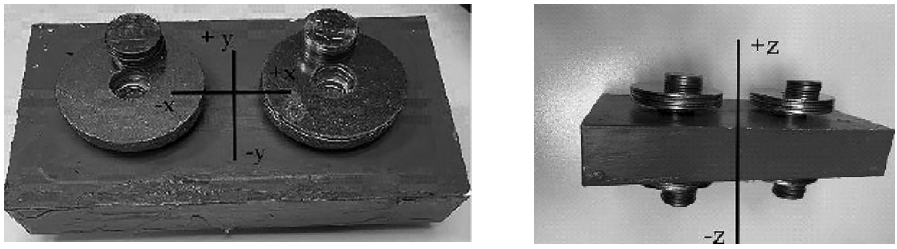


Figure 13 - A

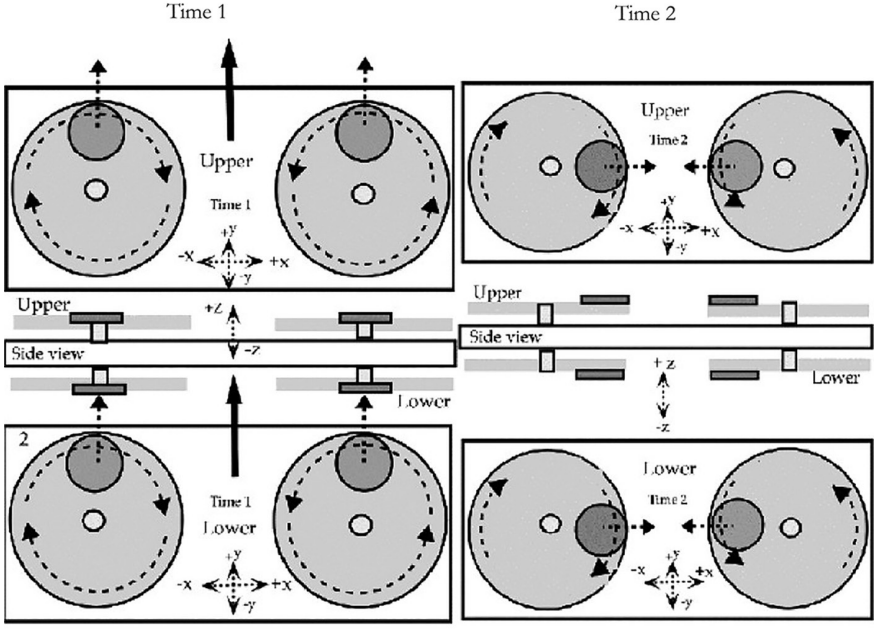


Figure 13 – B

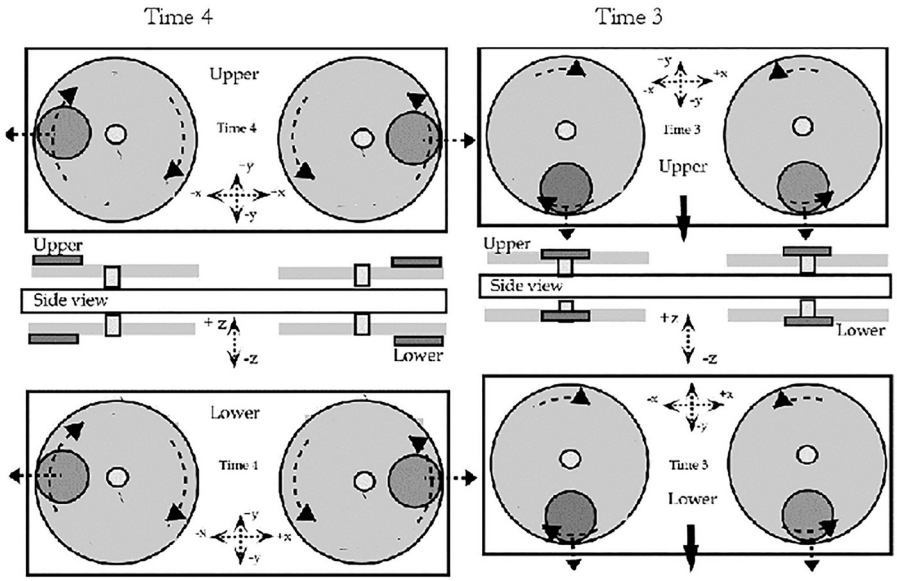


Figure 13 - C

Further clarification of the illustrations.

As illustrated in Figure 13 above, the following dialogue explains the function of this hypothetical invention from different rotating time frames. All four wheels on both platforms with their attached masses possess a maximum rotational velocity in the +y direction and a minimum rotational velocity in the –y direction. Counteracting mirror-image symmetry negates all centrifugal forces except those forces in the y axis (the x and z axes are negated). And the forces in the y axis are asymmetric being greater in the +y direction compared to the –y, thus inertial propulsion without a propellant. The following narratives clarify each separate time frame of Figure 13.

- Time 1 is when the counteracting wheels with their attached peripheral masses of both the upper and the lower platforms are all oriented specifically in the +y direction, moreover, at a rapid rotational rate.

The centrifugal forces are at a maximum in this position, because the rotational rates are also at a maximum.

- Time 2 is when the counteracting wheels with their attached masses of both the upper and the lower platforms are oriented specifically in the x axis. The rotational rates of the wheels and attached masses are now decreasing as they traverse from the +y direction to –y. Observe in the illustration that there is mirror-image symmetry of the upper and the lower platforms. Additionally, with respect to both platforms, the centrifugal forces counteract one another in the x axis (right = –x, left = +x). So overall with respect to the x axis, there is then no →*net*← centrifugal force.
- Time 3 is when the counteracting wheels with their attached peripheral masses of both the upper and lower platforms are all oriented specifically in the –y direction but now at a slower rotational rate. The centrifugal forces are at a minimum in this position, because the rotational rates are also at a minimum.
- Time 4 is when the counteracting wheels and their attached masses of both the upper and lower platforms are again oriented specifically in the x axis. The rotational rates of the wheels and attached masses are now increasing as they traverse from the -y direction to +y. Observe in the illustration that there is symmetry of the upper and lower platforms. Additionally, with respect to both platforms, the centrifugal forces counteract one another in the x axis (right + x, left -x) So overall, with respect to x axis, there is once again no →*net*← centrifugal force.
- In summation, combining all four time frames into one overall imaginary pictorial image, there is mirror symmetry of the upper and lower platforms in the z axis, and there is also counteracting mirror-image symmetry of the right and left sides of both platforms in the x axis. Therefore, the only remaining asymmetry is in the y axis with the centrifugal force being greater in the +y direction compared to the -y direction = C. I. D = reactionless propulsion.

A second hypothetical inertial propulsion invention is now provided, this time using differential/true centrifugal forces based upon the length of the radius of a rotating wheel, as well as counteracting three- dimensional mirror-image symmetry.

To start, please see Illustration 14 below.

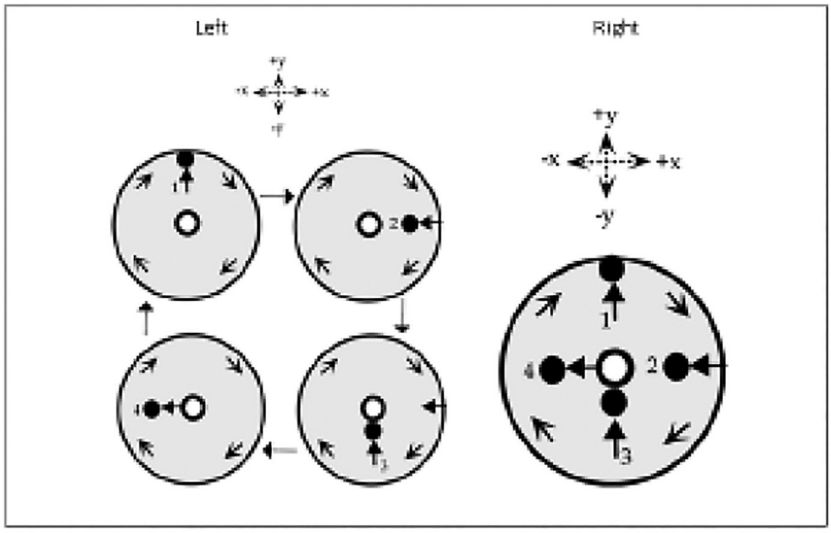


Figure 14

The image on the right is a summation of the four different rotational time frames as presented on the left.

As in Figure 14, envision a rotating wheel with a mass (object) initially positioned adjacent to its circumference, specifically oriented in the +y direction as shown above (1). Presume as the wheel rotates clockwise, through the x axis (2), the mass gradually moves by force inwards towards the center. So eventually, when finally, it reaches the –y direction, it is then located directly adjacent to the pivot (3). Subsequently, presuppose as the now more-central mass continues to rotate clockwise, again through the x axis (4), it gradually begins to move outwards towards the wheel's circumference. Finally, visualize when it is again located at the wheel's periphery, the mass is once more oriented specifically towards +y.

So, let's expand this concept by using the same principle but now also along with the use of counteracting mirror-image symmetry.

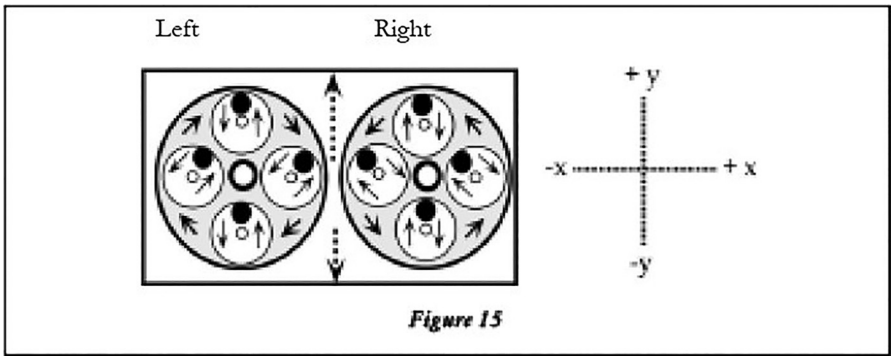


Figure 15

Refer to Figure 15 above which illustrates the basic physical structure of this hypothetical invention.

- The overall rectangle represents the platform encompassing two counteracting symmetrical rotating wheels (shaded) each of which contains four inner smaller white wheels (with an attached peripheral black mass) all of which are counter rotating in the opposite direction relative to its own larger shaded wheel.
- With respect to the left versus right sides, there is overall structural, as well as functional, mirror-image symmetry (x and y axes).
- The large left shaded wheel is rotating clockwise defined as the large left wheel.
- The large right shaded wheel is rotating counter-clockwise—defined as the large right wheel.
- Referring specifically to the left side, all four of the inner smaller white wheels including their peripheral masses are rotating counterclockwise, while at the same time the large left wheel is rotating clockwise.
- Referring specifically to the right side, all four of the inner smaller white wheels including their peripheral masses are rotating clockwise, while at the same time the large right wheel is rotating

counterclockwise.

- In addition, the left and right sides have counteracting mirror-image synchrony.

The synchronization function is pictured in Figure 15. The following pertains to the left and right sides →*individually and separately*←.

- Relative to the large, shaded wheel during its rotation in one direction, as each of its four counter-rotating inner smaller white wheels reaches the +y direction, its peripheral mass is located at the periphery of its own shaded wheel, specifically oriented towards +y.
- Relative to the large, shaded wheel during its rotation in one direction, as each of its four counter-rotating inner smaller white wheels reaches the − y direction, its peripheral mass is now located towards the pivot of its own shaded wheel, specifically oriented towards −y.
- Furthermore, when each of the four smaller white wheels reaches x axis, the position of its peripheral mass at that time is then located approximately halfway between the center and the circumference of its own large rotating wheel. But observe carefully in the above illustration: In this case, relative to the large (shaded) wheel, their position is located more towards direction +y compared to −y.

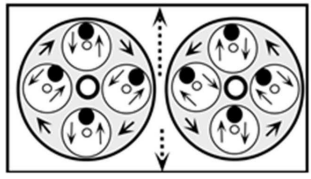


Figure 16A

Be cognizant that the overall function of each of these separate counteracting wheels, as pictured in 16A above, is → *somewhat analogous* ← to the basic principle, as presented in Figure 14, now illustrated again in Figure 16B below. See the comparison.

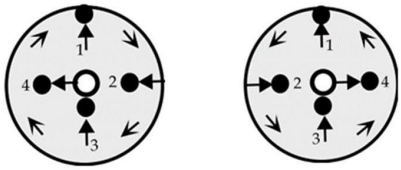


Figure 16B

Notice the similarity of function between the upper images compared to the lower images.

Now recollect, the centrifugal forces exerted on equal masses positioned at the periphery of a rotating wheel are greater than if the masses were located towards the pivot, assuming identical rotational rates. See Figure 17 below, a repeat of Figure 10. Take note, A1 is greater than B1.

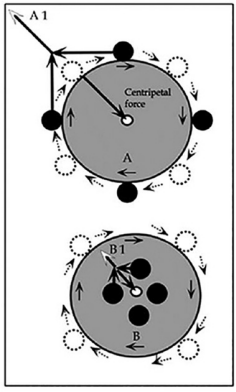


Figure 17 (repeat of Figure 10)

- A1 represents the centrifugal force exerted on the outer black masses of rotating wheel A.
- B1 represents the centrifugal force exerted on the inner black masses of rotating wheel B.
- Observe that A1 is greater than B1.
- This is assuming the rotational rates of both wheels are identical.

See the websites referenced below for examples of differential centrifugal forces based upon the length of radius of a rotating wheel.

Propulsión De Fuerza Centrífuga – YouTube

Inertial Thruster Moving 6kg – YouTube

This is only a partial explanation of the websites:

If you watch these two videos carefully, you will observe that the radius of the rotating mass/masses is/are greater in the +y (defined as the direction of motion) compared to the −y direction, so then the centrifugal force/forces is/are also greater in the +y direction compared to –y.

These inventions possess only one axis of freedom of motion—the y axis. Furthermore, these apparatuses cannot move in the z-axis due to gravity and the blocking effect of the earth's surface. And they cannot move about in the x-axis due to fixed orientation of the wheels. The only direction of freedom of motion is in the y-axis. Notice, this is crucial; relative to the y- axis, the centrifugal force is greater in the +y direction compared to the –y. So, the devices then → *propel* ← in the +y direction. Most importantly these videos demonstrate that there is in fact a true net centrifugal force in the +y direction (defined by the author as the direction of motion). See Figure 18 and the following dialog for a summation.

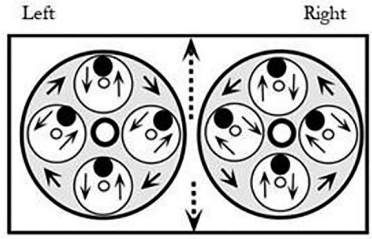


Figure 18

- The straight single dotted arrow on the platform directed specifically towards +y represents the sun vector force of all the centrifugal forces from all the masses (black circles) oriented in the + y direction.
- The straight single dotted arrow on the platform specifically directed towards -y represents the sum vector force of all the centrifugal forces from all the masses (black circles) oriented in the -y direction.
- The sum of the vector forces is greater towards +y compared to –y.
- Counteracting mirror-image symmetry in the x-y plane negates all other centrifugal forces.
- Therefore, there is a C.I.D. in the +y direction.

So, let us assemble these concepts into one overall picture. If one carefully examines Figure 18 above, you will notice, due to counteracting mirror-image symmetry between the left and right sides (x axis,) all centrifugal forces are annulled except those forces in the y-axis. And those forces are greater in the +y direction compared to the −y direction. Thus, there then exists inertial propulsion devoid of a propellant in direction + y.

And as for the conservation of angular momentum, if you again observe Figure 18 very carefully you will note that with respect to both the left and right sides that any motion of the four black peripheral masses (of the inner white counter-rotating wheels) to and from the pivot relative to its own larger shaded wheel, when summed together over 360 degrees, offset one another. As a result, due to this counteracting anti-symmetry, moreover, as a function of the law conservation of angular momentum, there is no change in the angular velocity of either large, shaded wheel.

The descriptions given above encompass only two dimensions. This will now be expanded to three dimensions. So now see Figure 19 below.

Again, for a better perception, the following two images are non-functional mockups of the second proposed device, so one can picture its physical structure in three dimensions then follow illustrations and descriptions.

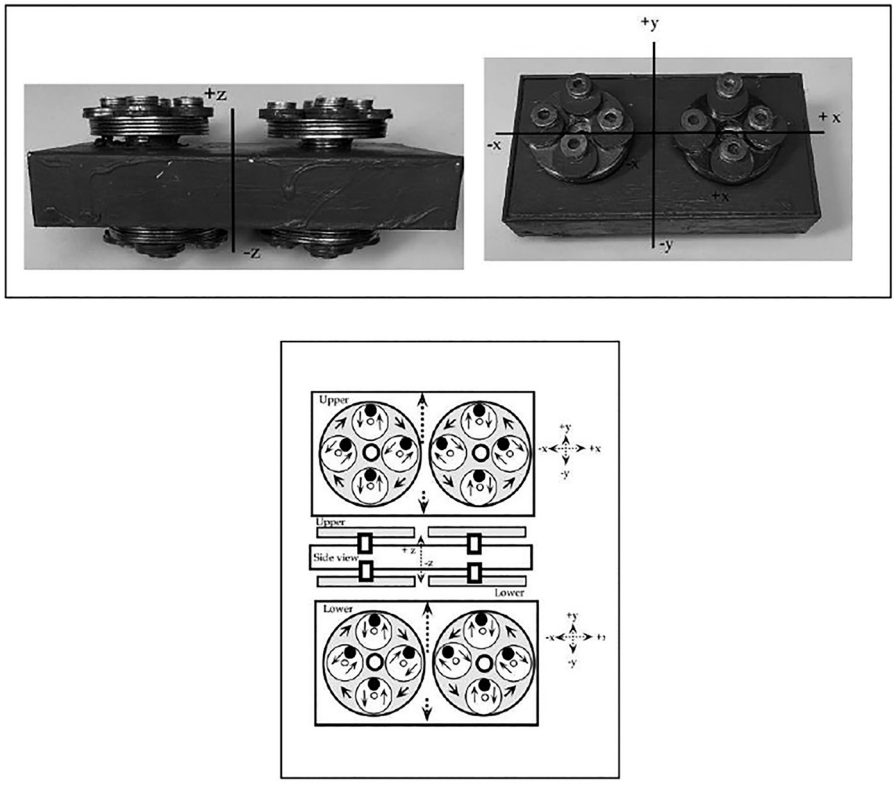


Figure 19

- The entire apparatus consists of two planes, an upper platform and a lower platform, therefore, relative to each other oriented in the z-axis.
- There is mirror-image symmetry of the upper platform versus the lower platform in the z-axis.

- There is also counteracting mirror-image symmetry of both sides of each platform in the x axis.
- Thus, all centrifugal forces annul one another except those unbalanced forces oriented in the y axis.
- The centrifugal forces in the y-axis are greater in direction +y compared to −y.
- Consequently, overall, there is net centrifugal force oriented in the +y direction = propulsion without a propellant.

In Conclusion

As posited by this entire article, these two different hypothetical inventions, employing the ether as an external force, demonstrate that it is possible to build reactionless drive spacecraft (devoid of a propellant) by using a Centrifugal Inertial Drive System along with counteracting three-dimensional mirror-image symmetry. The idea that a closed system cannot exert a net force upon itself (classic physics) is false.

ADDENDA

The More Certain About What You Know, The Less You Can Discover

More on Inertial Propulsion

There are many assumed irrefutable laws of physics. One of these is the law of conservation of momentum. So, given this assumption, inertial propulsion without a propellant is not possible. In essence, a closed system cannot exert a net force upon itself.

Set 1

It is posited by mainstream physics that the centrifugal force is not a real force but rather a fictitious force. For a complete explanation, please review the video as presented below.

https://bit.ly/3jcnoZA

Set 2

Now, please refer to this second set of videos.

- *4-wheel Mov 1 - YouTube*
- *New Space Engine: Dean Spacecraft Propulsion - YouTube*
- *Dean Space Drive - YouTube*

These two sets of videos seem to contradict one another. If you believe that the law of conservation of momentum is irrefutable, then read this following explanation.

Oscillation Thrusters

The oscillation thruster, also describable as a stiction drive, internal drive, or slip-stick drive, is a commonly suggested device that uses the motion of internal masses to create net thrust. One of the most famous oscillation thrusters is the 1959 "Dean Drive" described in Patent 2,886,976 (ref. 10). A more recent and simple example is shown in figure 1 (ref. 11). Further still, figure 2 displays an example that uses rotating masses (ref. 12). Although there are many versions, all oscillation thrusters have the following common components:

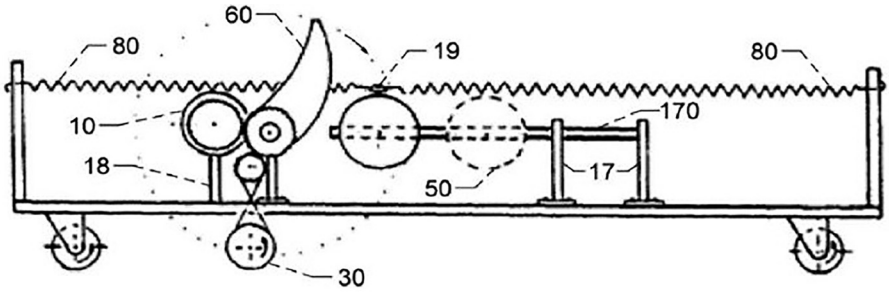
- Chassis to support a system of masses
- Conveyor that moves the masses through an asymmetric cycle
- Power source for the conveyor

A crucial feature is that the internal masses go through a cyclic motion where the motion in one direction is quicker than in the other. The result is that the whole device moves in surges across the ground, giving the appearance that a net thrust is being produced without expelling a reaction mass or having a direct driving connection to the ground.

Because it would constitute a breakthrough to be able to move a vehicle without using a reaction mass (ref. 2), these devices appear to be breakthroughs. Regrettably, such devices are not breakthroughs since they still require a connection to the ground to create net motion. The ground is the reaction mass and the frictional connection to the ground is a necessary component to its operation.

More specifically, it is the difference between the static fiction (sometimes called stiction) and the dynamic friction between the device and the ground that is required for their operation. Static friction, the amount of friction encountered when contacting surfaces are not moving relative to one another, is typically greater than the dynamic friction between the same materials. Dynamic friction is the amount of friction when the contacting surfaces are moving relative to one another.

Recall that the device's internal masses move fast in one direction and slow in the other. When the masses move quickly, the device has enough reaction force to overcome the static friction between itself and the ground, and the device slides. When the internal masses return slowly in the other direction, the reaction forces are not enough to overcome the static friction and the device stays in its place. The net effect is that such slip-stick motion causes the device to scoot across the floor.



Linear Oscillation Thruster

This is a typical example of an oscillation thruster, specifically from Patent 5,685,196 from Richard Foster (ref. 11) [Fair Use]. As the cam (60) rotates, a mass (50) moves slowly in one direction and is allowed to return quickly in the other. The reaction force from one part of this cycle is sufficient to overcome static friction, while the reaction force is insufficient in the other part of the cycle. This leads to one-directional motion, giving the illusion of net thrust.

NASA:

https://quantumdynamicsinc.com/scientific-papers

On the other hand, if you still don't believe that inertial propulsion is real? How do you explain the boat example in the websites below, based upon friction and gravity?

https://www.youtube.com/watch?v=nIt661hfr9c
and
https://www.youtube.com/watch?v=-uhOtDlXkcU

After viewing the boat example in the second link, consider this. There is no friction or stiction between the boat and the Thorsen inertial drive device (located within the boat) given the fact that there is no relative movement between the two, because the device is physically attached to the boat. Yet there is more momentum in the direction of motion; hence the boat moves in only one direction. Most importantly, the resistance from the water is greater in the direction of motion. Take note, this overall function violates the law of conservation of momentum.

In addition, using the concept of stiction and friction, how does one explain the following YouTube video starting at 1 minute 44 seconds *(New Space Engine: Dean Spacecraft Propulsion - YouTube*) whereby there is a loss of weight?

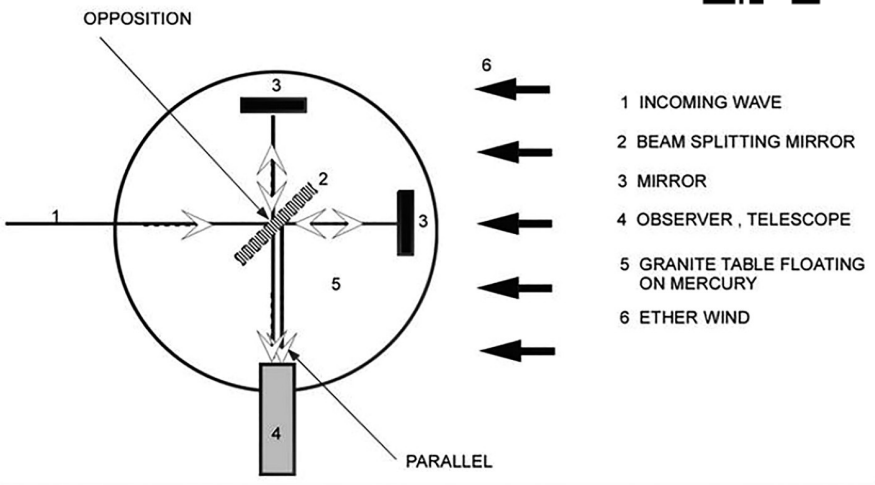
If you cannot, then here is another theory: there is a true centrifugal force = a true ether as posited by the book *The Ether by Ramsey* (see *theetherbyramsey.com*).

The More Certain About What You Know the Less You Can Discover.

Is It Time to Change the Laws of Physics?

The original classic interpretation of the MMX performed by Michaelson and Morley, assumed incorrectly that the interference pattern occurred at the **telescope/observer** with respect to **two parallel waves** that shift back and forth every 90 degrees thorough 360 degrees of rotation. (**However, parallel- only with respect to time in the equations of the MMX**—not in reality only mathematically.) But this author believes the interference pattern initially occurs at the **half-silvered mirror** from **two waves traveling in actual physical opposition** to one another, after their reflections from the peripheral mirrors.

The mathematical outcome of the classical Michaelson-Morley interpretation versus this alternative assumption by the author are different. They are not the same, so the consequence is different. Thus, the null result regarding the classical interpretation presumed by Michaelson and Morley is then in erratum = there is a true ether. Read more about this topic at *https://bit.ly/3Au59HC*.



True Centrifugal Force vs Pseudo-Centrifugal Force

Can we assume there is a true centrifugal force?

Please view this video which demonstrates the 4 Wheel Slow Speed Thorsen Drive.

https://bit.ly/3iXZBg7

Now, assuming there is a true centrifugal force, the device depicted in the above video will function on the surface of the earth, as well as in outer space, since there is more momentum in one direction compared to the opposite direction—most importantly, as a function of a true centrifugal force.

However, in contrast, presuming only a pseudo-centrifugal force, not a real force as classically hypothesized by mainstream physicists, the apparatus shown in the video will only function on the surface of the earth and not in outer space. **It will oscillate in outer space but not propel linearly in one direction = no net motion over time.** The reasoning is as follows. Presupposing no real force, it is the difference between stiction in one direction and friction in the other direction that causes the device on the table to move in one direction. A more thorough explanation is given below.

A crucial feature is that the internal masses go through a cyclic motion where the motion in one direction is quicker than in the other. The result is that the whole device moves in surges across the ground, giving the appearance that a net thrust is being produced without expelling a reaction mass or having a direct driving connection to the ground.

Regrettably, such devices are not breakthroughs since they still require a connection to the ground to create net motion. ***The ground is the reaction mass and the frictional connection to the ground is a necessary component***

to its operation. *More specifically, it is the difference between the* **static fiction (sometimes called stiction) and the dynamic friction between the device and the ground that is required for their operation**. *Static friction, the amount of friction encountered when contacting surfaces are not moving relative to one another, is typically greater than the dynamic friction between the same materials. Dynamic friction is the amount of friction when the contacting surfaces are moving relative to one another. (NASA)*

Recall that the device's internal masses move fast in one direction and slow in the other. When the masses move quickly, the device has enough reaction force to overcome the static friction between itself and the ground, and the device slides. When the internal masses return slowly in the other direction, the reaction forces are not enough to overcome the static friction and the device stays in its place.

On the other hand, it is my hypothesis that there is a true centrifugal force **based upon a true ether,** therefore, inertial propulsion is real and practical.

Also see the website The Ether by Ramsey.
(*theetherbyramsey.com*)

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FRICTION VS. STICTION

Who is Brandson Thorsen? Let's google him. Hmmm. Nothing there except an obituary. Why do you suppose? He was a noted inventor; we've all heard of the Thorsen inertial propulsion drive. Yet "Google and Wikipedia have totally censored his existence, literally making him no longer exist!" according to the International Space Agency (ISA) LinkedIn page.

Why do you suppose that is? This author knows that the reason reflects the scientific community's reluctance to believe that inertial propulsion is real. It boils down to stiction and friction. Let's first look at the definition of each—both of which, according to standard physics, is part of the propulsion process (F= ma). In physics, stiction is the static friction that needs to be overcome to enable the initial relative motion of stationary objects in contact. It takes considerable force to start a stationary object moving. Friction is similar: a force that resists the persistent relative motion of two bodies in contact; once the same object obtains enough force to start that motion. The force of stiction is greater than the force of friction. In other words, it takes a greater amount of force to induce motion of two objects in contact compared to the amount of force that maintains that motion once it has been initiated.

Yet Thorsen's inertial propulsion drive requires neither to propel an object.

You may now want to look at the following YouTube video to get a better appreciation of the Brandson Thorsen's Inertial Drive Engine. *https://bit.ly/3iXZBg7*

The classic interpretation of the one-way movement of the Thorsen inertial drive is that there is stiction in the direction of non-movement and friction in the direction of movement. Stiction is greater than friction, so it only moves in one direction.

The author believes this concept is in erratum.

Now, watch this video *https://bit.ly/3oLGxpX*.

It features a demonstration of the Thorsen inertial engine, shown propelling a canoe through a swimming pool during testing of the Thorsen drive, one of many mechanical-implementations inertial propulsion concepts. This clip supports claims of its workability. After viewing the boat example consider this. There is no friction or stiction between the boat and the Thorsen inertial drive device (located within the boat) given the fact that there is no relative movement between the two, because the device is physically attached to the boat. Yet there is more momentum in the direction of motion; therefore, the boat moves in only one direction. Most importantly, the resistance from the water is greater in the direction of motion. Take note, this overall function violates the law of conservation of momentum. Where is the stiction? Where is the friction?

See the following two YouTube sites for further understanding and elucidation.

https://www.youtube.com/watch?v=nIt661hfr9c

https://www.youtube.com/watch?v=-uhOtDlXkcU

Classic modern-day physics posits there is no true centrifugal force only a pseudoforce therefore inertial propulsion cannot exist. The author believes that that there is a true centrifugal force based upon the ether. Now again view *https://bit.ly/3iXZBg7*.

The author's explanation for the above video is as follows. To comprehend this hypothetical invention, one must be able to mentally visualize in three dimensions. So, to begin with, let us define the coordinate system. The z axis is to and from Earth. The x and y axes are the plane of the surface of the Earth.

After reviewing this site, take note, this invention possesses only one axis of freedom of motion, the y axis →defined as the direction of their motion.← Be cognizant of the fact that this experiment cannot move in the z axis due to gravity and the blocking effect of the Earth's surface. And it cannot move in the x-axis due to fixed orientation of the wheels. The only direction of freedom of motion is in the y axis. Bear in mind, this is crucial; relative to the y axis the centrifugal force is greater in the +y direction compared to the –y, because the mass is located more peripherally in the + y direction compared to the -y direction thus more centrifugal force in that direction. So, the devices then →propel← in the +y direction (→defined by the author as the direction of motion←). It is the author's hypothesis that this invention moves because there is a true centrifugal force based upon the existence of the ether and not because of the difference between stiction in one direction versus friction in the other direction.

The Dean Drive

In addition, the following YouTube site explains and demonstrates the Dean drive, which is another inertial propulsion invention by Norman Dean.

https://www.youtube.com/watch?v=r1JIAlrgfgA

So now, using the concept of stiction and friction, how does one explain the following YouTube video starting at 46 seconds (Dean Space Drive) whereby there is a loss of weight?

New Space Engine: Dean Spacecraft Propulsion - YouTube

If you cannot, then here is another theory: there is a true centrifugal force = a true ether as posited by the book *The Ether by Ramsey* (see *theetherbyramsey.com*).

The author's explanation for the Dean Drive is as follows. The oscillating masses, with respect to the central bars, move with momentum in both directions. But because there is an intermittent clutch in the direction of motion, then that momentum is partially transferred to the entire device only in that direction, moreover not in the other opposite direction whereby there is no clutch.

Read more about inertial propulsion without a propellant at *https://www.inertialpropulsionbyramsey.com/*