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Hydrogen engine, multi fuel engine, Continuous rotation engine.

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The Aivar Engine.

I'm releasing this design free for anyone to use. I've named this design after my son so if anyone were to use this design for production or for their own use please refer to it as the Aivar engine thank you.

This engine design was developed specifically to be very easy to manufacture, it is highly efficient and reliable. A variety of fuels can be used including gasoline, butane, propane, and **hydrogen**, a twin fuel line can be used one for liquid fuel the other for a gas fuel to change from liquid to gas use a simple gas or liquid tap on each line. When changing to a different fuel turn the particular fuel tap to open, there is no further adjustment needed.

When using hydrogen it is advisable to use the single ball wheel design. This will give the maximum amount of time for the parts to cool before the next combustion. When using the single ball wheel design with lesser fuels such as gasoline or butane the tube wheel and ball wheel can be made from a **plastic or carbon fibre** with resin this makes for a very light but powerful engine.

The power to weight ratio of this design even using normal materials such as aluminium or sheet steel is very good.

This engine does not require an air filter, oil filter, oil, water, belts, chains, springs and the main engine only has between two and four moving parts depending on if you are using a single ball wheel or three ball wheels, because of this it is extremely reliable and low maintenance.

This design is an engine design of continuous rotation. It is capable of withstanding very high revolutions per minute making it suitable for use in fast boats or aircraft.

Figure 1.

This design uses a ball shape entering a tube. The tube is closed at one end.

At the initial point of the ball entering into the tube the ball diameter will be half way into the tube before the tube is sealed by the ball. As the ball moves further inside the tube it will compress the trapped air. The amount of air compressed is equal to the radius of the ball in measurement within the tube. See below.

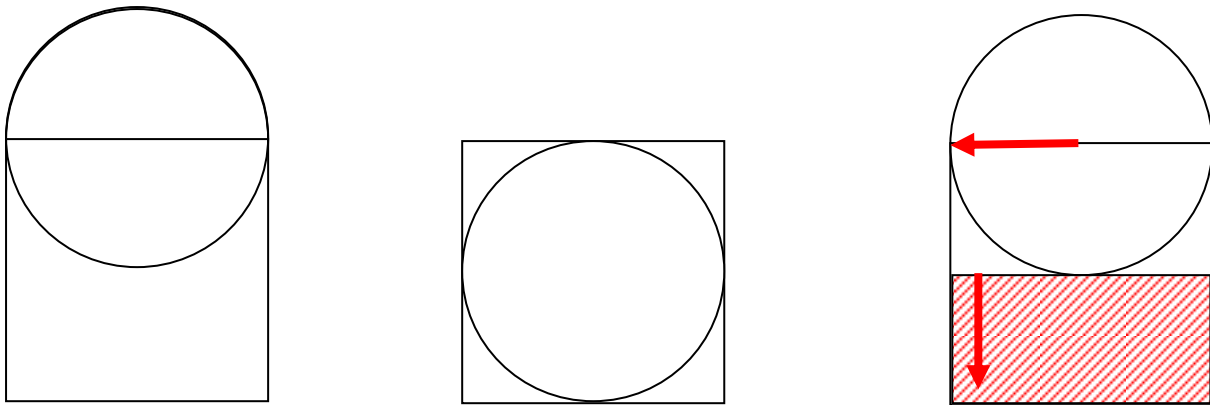


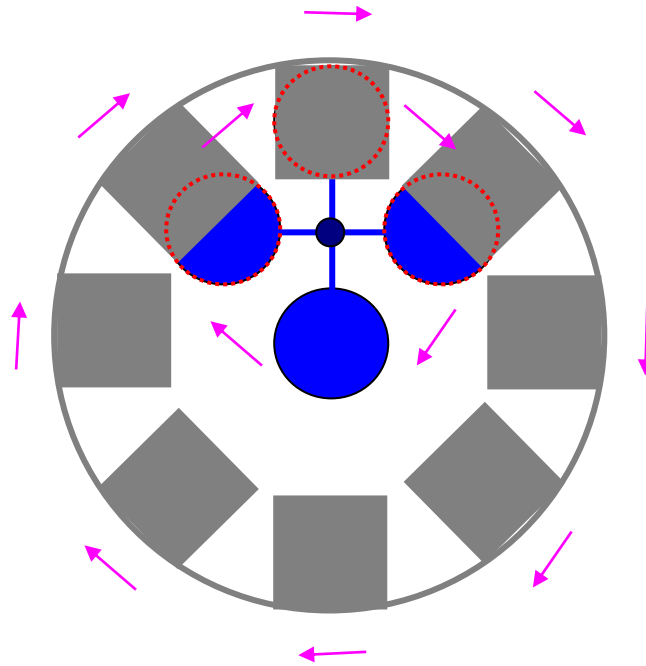
Figure 2.

In this example there is one ball wheel within the tube wheel. The tube wheel is on its own axle/ drive shaft, also connected to this shaft is the starter motor and alternator.

The ball wheel is on a separate axle to the tube wheel. The ball wheel is a free moving axle. As the combustion occurs it will force one ball out of a tube and another into a tube. This action will rotate the ball wheel and by effect also rotate the tube wheel. As you can see there are eight combustions per revolution but each tube is only used once per revolution and each ball only used twice.

The tubes need to be lined with graphite foil. This will help provide heat shielding, self lubricating surface.

See below.



This version is best for use with hydrogen.

Figure three.

In this version there are two ball wheels, this will give more power per combustion cycle. Because there are two ball wheels plus it provides a more even distribution of force onto the bearing.

See below.

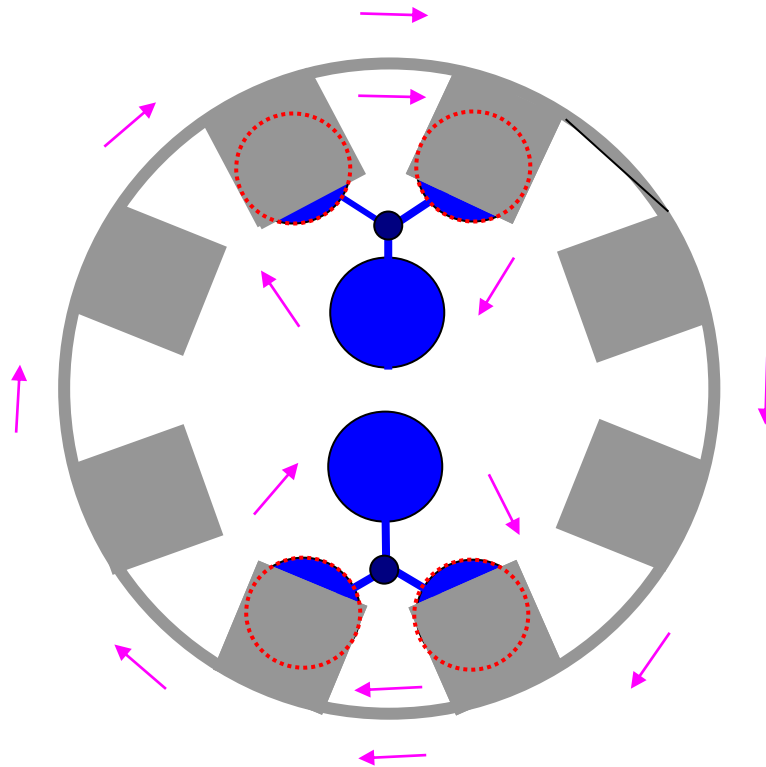


Figure four.

This valve system is used to transfer a liquid or gas onto a moving part. For example to transfer a fuel from a fuel tank onto a moving part where the fuel can then be placed for use on the moving part.

The fuel line is best routed from the ball wheel side, around the ball wheels where this valve can be centrally fitted and the fuel line distributed to the tubes. On each tube there can be a simple valve where at a specific point in its rotation (as the ball first enters the tube) it makes contact with a part to make the valve open and release fuel into the tube, as the tube rotates more and passes that part the valve can return to its closed resting position.

The rotation of the tube wheel will act like a natural fuel pump using the centrifugal effect forcing fuel into the tube also siphoning more fuel into the fuel line.

