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Six stroke engine with repelling magnetic wing

Kavali Govinda

klkgkavali@gmail.com

Visakha Institute of Engineering and Technology,
Visakhapatnam, Andhra Pradesh

ABSTRACT

Demand is growing for the need for alternative fuels for transportation. Permanent magnetic engine with six-stroke engine with its versatile applications is being utilized to switch from conventional combustion vehicles to six stroke magnetic engine vehicles. The scenario of traveling is changing rapidly with a decrease in fuel consumption. Basically, it indicates that fuel is being used almost everywhere to drive our life. But the current machines we use today are low in efficiency. Hence we require products with more power but also with higher efficiency. Magnetism possesses a magnificent opening for development. Electrical vehicles and hybrid vehicles using the technology of magnetic levitation have proved the strong nature of electromagnetic fields. Keeping in mind the arising needs of the industry, in this project we tried to design an experiment, a system called Repelling magnetic wing with six stroke Engine, which makes use of magnetic force to drive a load. The working principle is based on compression and repulsion between a two permanent magnet. The forces thus developed are used to generate mechanical power. Successful development in this field can actively help to support IC Engines. A six-stroke engine which has the air intake in 5th stroke and which helps to take out the remain flue gases in 6th stroke and thereby an increase in performance and increase in two strokes. The magnetic engine helps to increase performance and supports six stroke engine to balance the 5th and 6th stroke and to decrease fluctuations.

Keywords Six-stroke engine, Internal combustion engine, Repelling magnetic wing

1. INTRODUCTION

In six stroke engine with repelling magnetic wing are two developments one is six strokes internal combustion engine and the second one was repelling magnetic wing.

Repelling magnetic wing the name itself says that it is the support engine to the internal combustion engine to increase in torque, mileage, and performance of a vehicle.

The disclosed subject matter relates generally to a magnetic energy producing apparatus. More particularly, the present disclosure relates to a repelling magnetic wing is used to increase the torque and performance of a vehicle.

Vehicles include engines that may be stopped and started while the vehicle is in motion. The vehicles, for example, two-wheeled vehicles (for e.g., motorcycles and bicycles), three-wheeled vehicles, four-wheeled vehicles, six-wheeled vehicles, battery-operated motorcycles, battery-operated four or three-wheeled vehicles, hybrid electric vehicles, heavy vehicles, etc. The engines are configured to convert one form of power into another form of power. The Engines of having various designs and configurations which are, for example, power automobiles, lawn mowers, generators, compressors, aircraft engines, vehicle engines (for e.g., internal combustion engines), gas turbine engines, internal combustion engines, and the like. The engine with diesel, steam, electric, compressed air, magnetic, and turbine engines can be used to propel various kinds of vehicles to transfer power into motion. The engines using today are either internal combustion engines or magnetic engines.

The magnetic engine comprises a housing structure, cylinder assembly, crankcase assembly, crankshaft assembly, electro-magnetism system, and an electrical system. The magnetic engine consists of a coil assembly arranged stationary in the housing. The magnetic engine includes the rotation of the crankshaft in a predetermined direction after the initial activation of the crankshaft by an assembly of applying a short period of the external force. There are no available magnetic engines without using electromagnets to increase the torque and performance of the vehicle. The external electric force is required to generate the repulsion in the existing magnetic engines.

In light of the aforementioned discussion, there exists a need for a certain device with a novel methodology without using the electromagnets to improve the torque and performance of the vehicle.

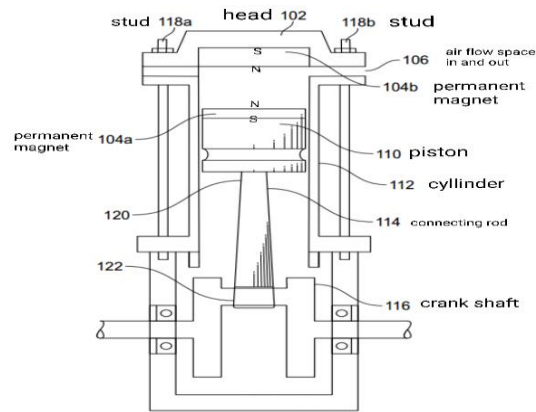


Fig. 1: Sectional view of magnetic engine

The device contained two permanent magnets one situated in the head and one is on the piston which is facing like poles so they have repelling force. So to compress the magnets it is engaged with rotating device i.e, IC engine. Initially, it takes more load and after 2-3 strokes the counter weight in crank shaft is helped to compress the magnets and it takes less load from an external device and gives more output power in repulsion force of the piston which is used as a mechanical force to drive the vehicle or any other source.

Six stroke engine consists of one suction stroke one compression stroke one power stroke one exhaust stroke one atmospheric suction stroke and one flue gases exhaust stroke.

The 4 strokes are suction, compression, power stroke, exhaust. The fifth strokes are air suction from atmospheric through air filter through the air suction valve and in the sixth stroke, the air and remaining flue gases left are taken through the exhaust valve.

This six stroke engine is three valve system one valve is inlet valve and another valve is exhaust valve and in the middle of these two valves, there is air inlet valve.

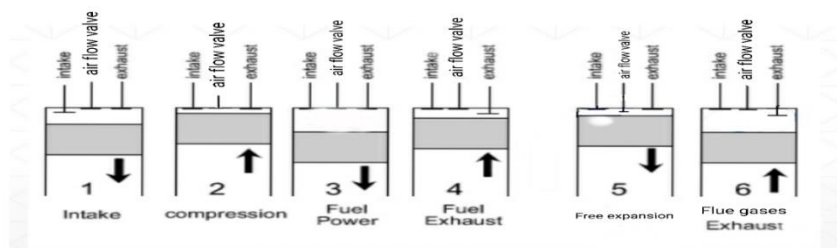


Fig. 2: Sectional view of six stroke engine

2. MODIFICATIONS OF CAMSHAFT

The cam shaft design is similar to the four-stroke engine and there are three cams on the three valves and the shape is in a triangular shape. The shaft will be above or below to the center of the triangular cam. There will be 3 cams one is an inlet valve which opens only once in six strokes and one is on exhaust valve which opens two times in six strokes and one is on air inlet valve which opens ones in six strokes.

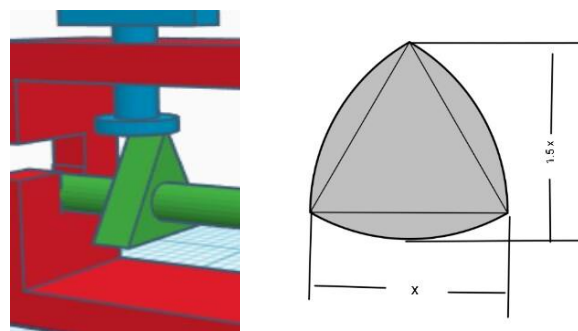


Fig. 3: View of cam design

3. VALVE TIMING DIAGRAM

- Inlet valve open 5 degrees before TDC,
- Inlet valve closed 20 degrees after BDC,
- The fuel exhaust valve opens 20 degrees before BDC,
- Fuel exhaust valve closed 5 degrees before TDC,
- Air intake valve open 5 degrees before TDC,
- Air intake valve closed 10 degrees after TDC,

- Flue gas exhaust valve open 10 degrees after TDC,
 - Flue gas exhaust valve closed 10 degrees after TDC.
- (IVO = inlet valve open, IVC = inlet valve closed, EVO = exhaust valve open, EVC = exhaust valve closed)

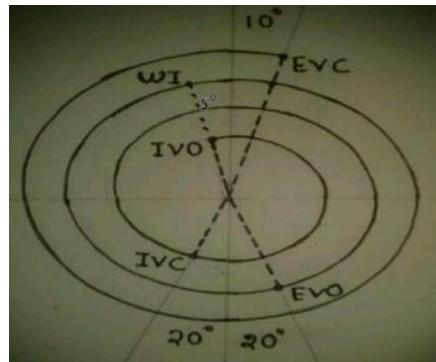


Fig. 4: Valve timing diagram

4. SIX STROKE ENGINE WITH MAGNETIC ENGINE

The magnetic engine will act as a supporting engine which increases in performance of the vehicle. By the increase in the size of the permanent magnet, the performance will increase.

In six stroke engine, the performance of the engine will increase as from four strokes there is an increase in two strokes totally six strokes. So overall 35% - 40% will increase.

Magnetic engine increased the performance of a vehicle when added to a four-stroke engine by 40% - 45%. This magnetic engine acts a supporting engine and stored energy device which help during the load taken by the vehicle and decrease in friction loses and increase in performance and it needs some energy to compress so it is coupled to the internal combustion engine.

So when piston reaching the top it means that the magnets are going to compress and repelling force stated and due to fall off the crankshaft having counterweight downside the magnets are compressed and due to repulsion force it moves Down bottom dead center and reaches up to the middle position that means it travels 3/4 part of one cycle. And repeated. But to compress the magnets by moving crankshaft we need some external energy like any rotating drives. To compress magnets for the first two to three cycles it requires a lot of energy. But thereafter the energy of flywheel will become more and it requires less load to compress but the repulsion force will be more compared to compression.

Initial load taken by external source will be more but after it requires very less energy and give output more energy. Work done by magnets is infinity.

These acts as supporting drives take energy but give more output energy that makes an increase in performance. Depending upon the size of the magnet the output energy depends.

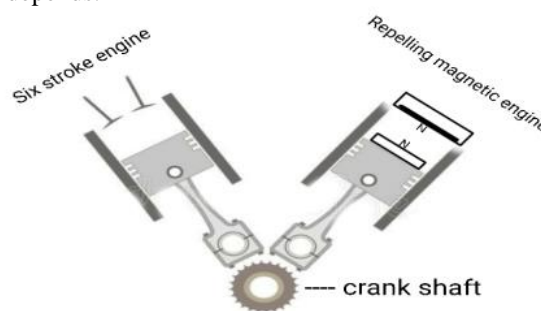


Fig. 5: Six stroke engine with magnetic engine

Table 1: Performance of the vehicle with six stroke engine with magnetic engine

Source used	Performance
With magnetic engine to 4 stroke engine	Increase in 40%-45%
With magnetic engine with 6 stroke engine	Increase in 50%-55%

5. CONCLUSION

This six stroke engine with repelling magnetic engine makes the increase in performance of a vehicle and decrease in emission of pollution oxidants from the engine and it is environmentally friendly.

6. ACKNOWLEDGMENT

The repelling magnetic engine had applied for patent and patent is pending the application number in Indian patents Application number: 201741044198.

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