

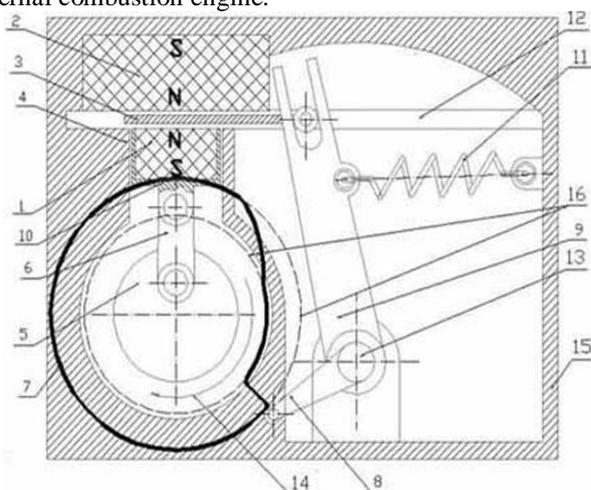
PERFORMANCE INVESTIGATION OF ELECTROMAGNETIC ENGINE

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Abstract: The magnetic engine is according to the concept appears to be a so-called "perpetual motion machine". Here you will find its images, patent, and also you will learn information from his production and testing. The Black pointer on the disk indicates the position of piston. It is evident that with the closed shutter the piston is located stably in the upper position, and shutter renders the valuable screening of magnets, fulfilling the functions described by me. Also presently the demand for fuel has increased and in the nearby future, shortage of fossil fuels is being expected due to the ever growing consumption. So need of alternative energy has become necessary. The main aim of the project is the zero point fuel consumption. The working principle of the engine is the magnetic force principle, magnetic repulsion between the same poles of two different magnets.

I. INTRODUCTION

In this engine, the cylinder head is an electromagnet and permanent magnet is attached to the piston head. When the electromagnet is charged, it attracts or repels the magnet, thus pushing then piston down wards or upwards thereby rotating the crankshaft. This is how power is generated in the electromagnetic engine. It utilizes only repulsive force that allows the field to dissipate completely, and have no restrictive effects on the rising piston. The electromagnetic engine should ideally perform exactly the same as the internal combustion engine.



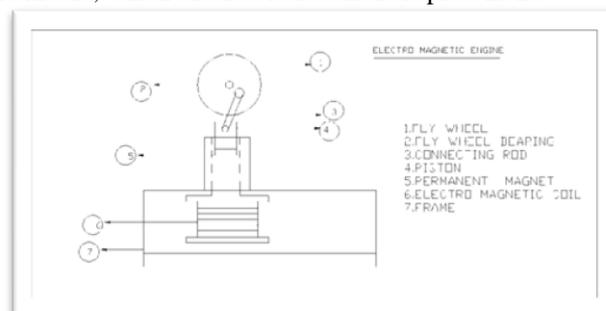
- 1 - mobile magnet (piston);
- 2 - upper fixed magnet;
- 3 - ferromagnetic shutter;
- 4 - cylinder of engine;

- 5 - crankshaft;
- 6 - connecting rod;
- 7 - profile of Cam;
- 8 - rotary pusher;
- 9 - lever to drive the shutter;
- 10 - piston of engine;
- 11- spring of the backward motion of shutter;
- 12- guides of shutter;
- 13- axis of lever;
- 14 - direction of rotation of the shaft of engine;
- 15- engine block;
- 16 - circle of the minimum and maximum displacement of the pusher

The power of the engine is controlled by the strength of the field and the strength of the field is controlled by the amount to finding sand the current that is being passed through it. If the current is increased the power generated by the engine also increases accordingly. The current that is used to charge the electromagnet is taken from a DC source like a lead acid battery.

II. WORKING PRINCIPLE

Magnetic engine, in housing of which are placed the permanent magnets, the first of which is established with the guarantee of a possibility of the accomplishment of reciprocating motion under the action of the forces of magnetic field, in the housing is also established the shaft, connected with the first magnet with the aid of the means, which makes it possible to convert the reciprocating motion of the first magnet in to the rotation of shaft, that is characterized with the ferromagnetic screen, made with the guarantee of possibility of its displacement in the clearance between the magnets perpendicular to the line of forces of magnetic field, ferromagnetic screen is supplied with the means, which ensures it is placement under the action of the rotation of shaft, ferromagnetic careens also supplied with the means, which ensures its recurrent is placement.



(Fig:- Working of Electromagnetic Engine)

Magnetic engine which is characterized by the fact that the mentioned means, which ensures the reciprocating displacement of magnet, is executed in the form of crank gear. By the fact that the second magnet is securely fastened on the housing opposition first, both magnets are oriented by poles counter, magnetic engine is supplied.

III. DESIGN

Basic Design is primary work of project. It is conceptual Design and using trial and error method. Creo Parametric (Previously known as Pro/ENGINEER (Pro/E for short)) is a commercial mechanical CAD/CAM package that is widely used in industry. It is one of the newer generation of systems that not only offer a full 3-D solid modeller, in contrast to purely 2-D and surface modelers, but also has parametric functionality and is fully associatively. This means that explicit relationships can be established between design variables and changes can be made at any point in the modelling process and the whole model train will be updated.



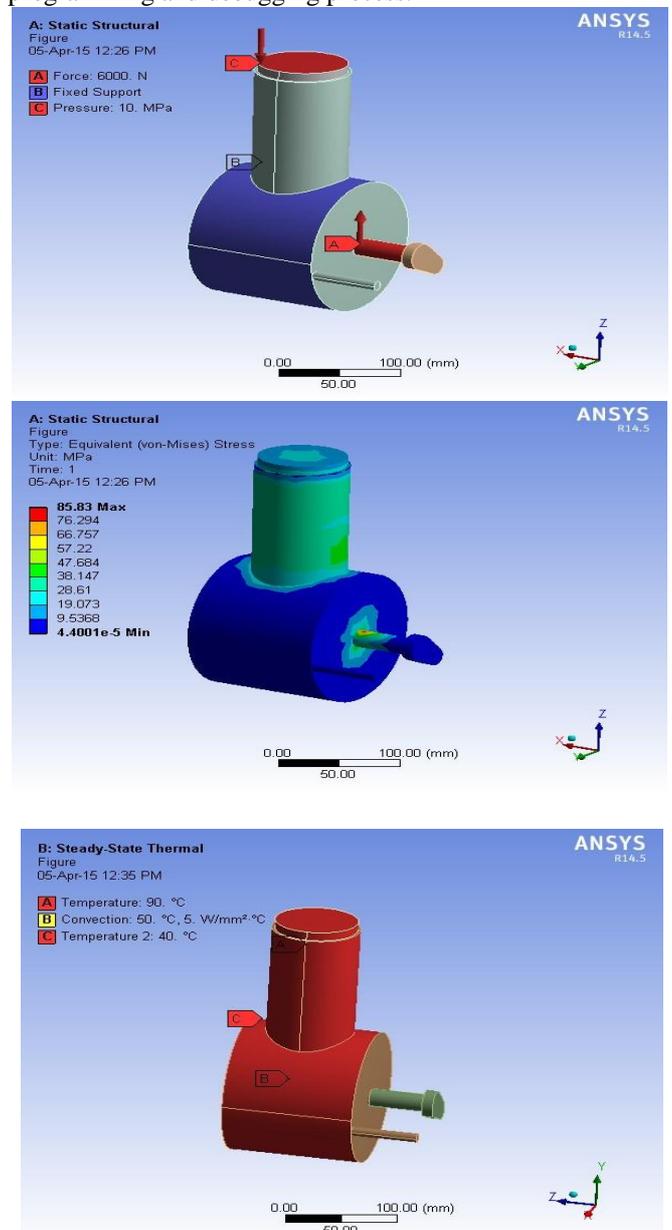
(Fig:- Design Component of Electromagnetic engine)

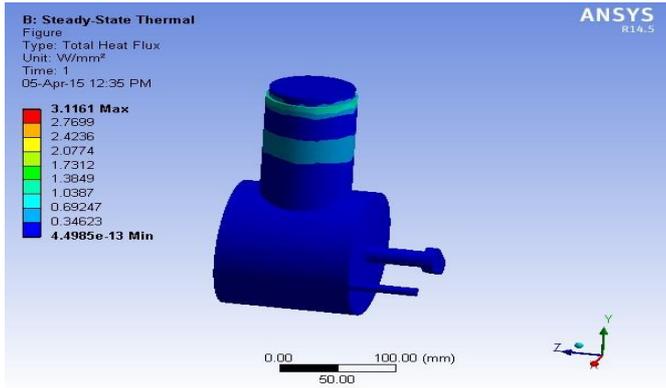
The version used in this course is Creo Parametric 1.0 which has a new icon based user interface, a trend becoming more common in engineering applications. The method of

constructing a model of an object can be considered similar to that followed in the production of a physical component. For example the manufacture of the shaped block in Figure 0:1 would start with the choice of construction environment, the selection of a piece of stock material followed by a series of manufacturing processes, e.g. milling, drilling, welding/sticking. Creo has direct analogues for most of these operations as various types of FEATURES which can be combined to generate a complete representation of a PART, Creo's terminology for a single component. Features fall into three main categories, Datum, Sketched and Pick and Place.

IV. DESIGN ANALYSIS

ANSYS as a software is made to be user-friendly and simplified as much as possible with lots of interface options to keep the user as much as possible from the hectic side of programming and debugging process.





(Fig:- Analysis of Engine)

V. EXPERIMENTAL SETUP

Experiment will be carried out on specification of engine. First experiment carried out with electric system for following parameters.

- Voltage taken by engine or magnetic flux and after define battery of system.
- Messure different parameters of engine(i.e speed, power, torque, forces)

Efficiency output



(Fig:- Experimental setup of Engine)

Experimental setup for performance analysis of electromagnetic engine. After Complete Design and Analysis now trying to Fabricate Experimental Set up. It is Used So many Component in this Experimental work. Initial based using some calculation and also trial and error methods for Fabricating. Here using 12 volt DC series Battery. One Integrating Circuit using for current control. This current is passed on coil. This alculatoin done with Feet of wire, Its Guage, Ohms,Volt,Current. Turns. The Fabricating data comes from analysis and finally some flywheel and cylinder block make first and set is base on model.

VI. RESULTS AND DISCUSION

For the performance investigation of Electromagnetic engine system had been taken i.e.

- Engine construction
- RPM & Torque

- Performances

Using these Electromagnetic engine system power and Torque has been measured under different condition at different speed i.e.

- Initial speed
- Medium speed
- High speed

No.	Variable Parameters	ELECTROMAGNETIC ENGINE
1	CRANK SPEED (RPM)	1200-1800*
2	COOLING SYSTEM	Air COOLED
3	DIMENSIONS	10x6x10
4	TORQUE	150 n.mm**
5	STARTING SYSTEM	Switching Operate
6	WEIGHT	13*
7	CONTROLLING SYSTEM	MICROCONTROLLER
8	POWER BANK	12V DC series battery
9	Currenta-h	16-27ah
10	Pollution	0%
11	Fuel Consumption	0%

(Table 1)

NO.	Hybrid	Electric	Electromagnetic
1	Better mileage	Fuel less	Fuel less engine
2	Less dependence on fossil fuels	Not depend on fossil fuels	Not depend on fossil fuel
3	Lower emissions	Zero emission	Zero emission
4	High initial cost	High initial cost	High initial cost
5	Extra maintenance items	Electric System	Electric + Magnetic systems
6	More Weight due to the battery pack	Less weight	Less weight
7	Disposal of batteries	Disposal of batteries	Disposal of batteries
8	Only Trainer can repair	Only Trainer can repair	Only Trainer can repair
9	Already worked on rod	Already worked on rod	Under process

(Table 2)

VII. CONCLUSION

1. One of the biggest advantage of Electromagnetic Engine over gasoline powered car is that it runs cleaner and has better gas mileage which makes it environmentally friendly.
2. Electromagnetic engine is supported by many credits and incentives that help to make them

- affordable. Lower annual tax bills and exemption from congestion charges comes in the form of less amount of money spent on the fuel.
3. Electromagnetic engine is much cleaner and requires 0% fuel to run which means 0% emissions and 0% dependance on fossil fuels. This in turn also helps to reduce the price of oil in domestic market.
 4. Regenerative Braking System, Each time you apply brake while driving Electromagnetic vehicle helps you to recharge your battery a little. An internal mechanism kicks in that captures the energy released and uses it to charge the battery which in turn eliminates the amount of time and need for stopping to recharge the battery periodically.
 5. Electromagnetic vehicles are made up of lighter materials which means less energy is required to run. The engine is also smaller and lighter which also saves much energy.
 6. With continuous increase in price of gasoline, more and more people are turning towards hybrid/electric/magnetic cars. The result is that these green vehicles have started commanding higher than average resale values. So, in case you are not satisfied with your vehicle, you can always sell it at a premium price to buyers looking for it.

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