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Design and Fabrication of Magnetic Powered Vehicle

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ABSTRACT: This paper presents a comprehensive review on study of “**DESIGN AND FABRICATION OF MAGNETIC POWERED VEHICLE**”. The vehicle is like an electric vehicle, which produces power by itself. By the use of a magnetic generator the vehicle produces its power for charging the battery. Electric vehicle mainly consists of an electric motor, battery, control unit, transmission system, frame and wheels. It requires an external power source for charging the battery. But in the magnetic powered vehicle, the external power source is not required instead of that a magnetic generator is placed in the vehicle itself. This power source is an eco-friendly source which produces the power required for the vehicle.

More than 90% world's power is being generated using electromagnets based on the Faraday's law of electro-magnetic induction. Many new technologies were discovered with time which led a drastic change in the perception of electric energy. Energy becomes free only at a point after which we don't have to pay for power generation after commissioning the unit. By using the magnetic force of magnets the power is generated continuously. In hybrid electric vehicles there is a conventional power producing unit like petrol, diesel or gasoline engines. This vehicle is also like a hybrid electric vehicle the only change is that, the conventional engine is replaced by a magnetic generator.

The main advantage of this type of vehicle is that, it does not use any external power source or fossil fuel for the production of electricity. It uses the magnetic field as a key for production of charge.

I. INTRODUCTION

There is no such thing as Free Energy. Electric power from Solar cells, Wind, Tidal, Geothermal, and Hydro-electric are some of the free energies. Energy becomes free on when we do not have to pay charges for electric power generated through these non-conventional methods for generating electric power. Hence the concept of using magnets in generation of electricity has been developed and being used. For many years simple magnets have been used for their magnetic field to produce electric power. They are placed in the inside core of motors & generators. The basic principle of power generation lies under the magnetic effect. It states that “When a conductor is rotated in a magnetic field, a voltage is induced in the conductor”. So here we will be dealing with such conductors. Magnet Engine free energy generator is an easy device to generate electrical energy. It works on the principle of Neodymium Magnets. In a simple motor, magnetic field is created by the electric coils generally Cu, Al coils. These motors continuously need electrical supply to produce magnetic field. There are huge amount of energy losses. But the Magnet Motor Consists of no such coils. Hence there will be minimal losses. It uses the permanent magnetic field of the magnets to generate the required force to move the motor. This concept of generating magnetic field from the permanent magnets became practical only after introducing Neodymium magnets which are much power full than the previous Ferrite magnets. The main advantage is that it does not require continuous electric supply.

A hybrid electric vehicle combines a conventional (usually fossil fuel-powered) powertrain with some form of electric propulsion. Usually it uses a diesel, petrol or gas engine to electrify the electric motor. A plug-in electric vehicle is any motor vehicle that can be recharged from any external source of electricity, such as wall sockets, and the electricity stored in the rechargeable battery packs drives or contributes to drive the wheels. Most electric vehicles use lithium ion batteries. Lithium ion batteries have higher energy density, longer life span and higher power density than most other practical batteries. Complicating factors include safety, durability, thermal breakdown and cost. Li-ion batteries should be used within safe temperature and voltage ranges in order to operate safely and efficiently. Increasing the battery's lifespan decreases effective costs. EVs are on the road in many functions, including electric cars, electric trolley buses,

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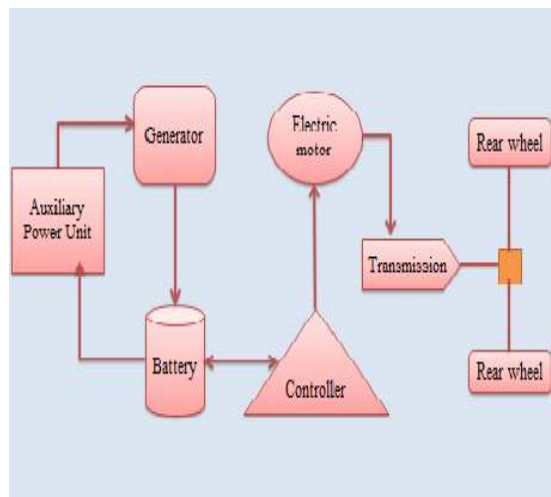
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electric buses, battery electric buses, electric trucks, electric bicycles, electric motorcycles and scooters, neighborhood electric vehicles, golf carts, milk floats, and forklifts. Off-road vehicles include electrified all-terrain vehicles and tractors.

The magnetic powered vehicle is also a one type of hybrid electric vehicle in which conventional chargers like petrol, diesel and gasoline engine is replaced by a magnetic generator. The magnetic generator produces the power same like conventional chargers. This type of generator does not require any fuel. So this is a eco-friendly method of producing electricity. The power generated by the generator is continued for long time as required. The power generated from the generator is not directly used. It is stored in a battery. Then the stored energy is retrieved and it is used to run the electric motor.

II. METHODOLOGY



III. MATERIAL DESCRIPTIONS

There are some main components used in the vehicle. They are as follows:

1. Magnetic generator
2. Battery
3. Electric motor
4. Control unit
5. Frame

Magnetic generator:

The magnetic generator is the main component of the MPV. This generator produces the power required for charging the battery. The generator mainly contains permanent magnets, coils etc. The permanent magnetic generator requires initial torque to rotate by itself. After the initial rotation the generator continuous to rotate. The generator produces power continuously with the help of the coil wounded at the bottom of the generator. The generator has several poles wounded by the copper coil.

Battery:

It is used to power the propulsion of the battery electric vehicle. Vehicle batteries are usually a secondary battery. Electric vehicle batteries differ from starting, lighting and ignition batteries because they are designed to give power over sustained period of time. Batteries for electric vehicles are characterized by their relatively high power-to-weight ratio, energy to weight ratio and energy density, smaller lighter batteries reduce the weight of vehicle and improves the performance. Lead acid batteries are most commonly used EV batteries. Automobile batteries are designed to provide starter batteries high charge rates, for fast charges while deep cycle batteries requires multi stage charging.

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Electric motor:

The electric motor is used to produce the rotational motion and it is transmitted to the rear wheels of the vehicle through transmission system. The electric motor draws power from the battery. The control system is used to control the speed of the vehicle as required. The installation of DC motor is very easy and inexpensive. For an AC motor, generally it requires a three phase 240 volts supply, which requires a 300 volts battery backup.

Control unit:

The control system consists of a rheostat which contains several coils and produces power raise and fall as required. With the help of an accelerator the current is varied in the rheostat. The output of the rheostat is connected to the electric motor. In automotive electronics, electronic control unit is a term for any embedded system that controls one or more of the electrical systems or sub systems in a motor vehicle.

Frame:

The frame is the basic structure of MPV. The frame contains the generator, motor, control unit, battery and wheels. A simple frame is used in the MPV to reduce the cost of the vehicle.

IV. CONSTRUCTION

The motor, battery, transmission system and the magnetic generator is placed in the frame. The front wheels are attached with a steering system. The rear wheels are provided with a transmission system. The motor is coupled with the transmission system. The battery is connected to the control system which controls the speed of the vehicle.

The magnetic generator is placed near the wheels of the vehicle. The initial torque can be given separately or by using the electric motor which is already installed. Start and stop switches are provided in the vehicle to start and stop the vehicle. An accelerator is used to accelerate the vehicle.

The brake system is also provide in the vehicle. A seat capable of carrying a human on it, is also provided.

V. WORKING

In this vehicle the electric motor is started with the help of a starting switch. The power from the motor is transmitted to the wheels of the vehicle. When the vehicle is moving on its way the magnetic generator is rotated with the help of a belt drive. This is because, the magnetic generator requires a starting torque. When particular speed is attained by the generator it starts producing electricity with the help of an alternator. At this stage the faraday's law of electromagnetic induction, which states that "whenever a current carrying conductor is placed in an continuously varying magnetic field electromotive force is induced in the conductor" is used. The battery is charged by the electricity from the generator.

The electric motor is connected to a control unit that controls the speed of the motor. A rheostat is used for varying the speed of the motor as required. The power from the motor is transmitted to the wheels with the help of a propeller shaft and a bevel gear. There are many types of electric motor is available. For this vehicle DC series motor is used. It has the properties such as high starting torque and load carrying capacity.

VI. CONCLUSION

The "magnetic powered vehicle" was designed. In future these types of vehicles are very much needed. This vehicle is highly eco-friendly in nature. This vehicle does not uses any fossil fuels. The fuels are going to be exhausted. The future generation will not have fuels to use. This is an alternate method for the production of power and this can be used for a very long time. The petrol, diesel and gas is highly used for the transportation. These are used by the Lorries, cars, busses and trains. They produce high air pollution. By the development of this project the environmental pollution very much decreased. Only time and technology will tell which vehicle will excel in future.

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