

Design and Development of Alternator Car

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Abstract: - Electric vehicle drives offer a number of advantages over conventional combination engine, especially in terms of lower local emissions, higher, energy efficiency, and decreased dependency upon oil.

Yet there are significant barriers to the rapid adoption of electric car, including the limitation of battery technology, high purchase cost, and the lack of recharging infrastructure. With intelligently controlled charging operation.

The energy need of potential electric vehicle fleets could be covered by existing German power plant without incurring large price fluctuations. Over the long, electric vehicle could represent a sustainable tr Could one create a modest modification that would allow automobiles to interface with a tracked system capable of eliminating the need for drivers or vehicle power for part of the daily commute? It was this inspiration that eventually lead to the Alternator project.

If a “Synchronous Guide way could power and control a car during each leg of the commute, then the vehicle power and weight could be reduced dramatically – so much so that it might be practical to use a mix of human and electric power to propel the vehicle where no guide way was available.

Thus, even without a guide way, the practical use of augmented human power might provide a matrix of ben. We are changing the notion of what features should be considered important. Specifically, the Alternator® Imagine PS Low Mass Vehicle (LMV) introduces a new entrant into the transportation equation.

As an exercise-enabled vehicle, it is possible for one, two, three or four people to operate the bi-directional human-power interface. Alternatively, a single operator may operate the vehicle in electric power mode only – or any combination of human and electric power may be employed.

The Imagine PS may operate as a plug-in hybrid electric vehicle, as an exercise based human electric power station, or in vehicle-to-grid (V2G) mode. Regenerative braking and an advanced power system enhance overall efficiency. Other available features include a human/machine interface (HMI) touch-screen display with GPS and biometric data logging, iPod® integrated sound systems, and Bluetooth® compatible onboard computing/communications devices. The vehicle is especially suited to generate the power required to operate these devices. An all-weather roof shell is available. Fits including health enhancement, teamwork building skills, and improved traffic flow.

I. INTRODUCTION

Besides having so many features the electric vehicles are not a very common name especially in India market. The basic reason why the customers are reluctant to buy the electric vehicle is its efficiency. Such vehicles are not suitable

for long journey, as it is required to recharge after covering certain distance. Whereas with gasoline based vehicle one time fill will last for a long distance depending upon the mileage of the vehicle. Also the fuelling does not take long time but to charge a electric vehicle it takes 6-8 hrs.

Increasing its efficiency can only increase the popularity of the electric vehicle. If the vehicle will run for a long distance after one time charge, people will surely come up to buy the vehicle. The very basic idea by which efficiency can be improved is by charging the battery of the vehicle during running condition. Now the question arises how a battery can be charged when the vehicle is running since it needs continuous A.C current supply to get charged. Well the simple answer to this question is a decades old theory ALTERNATOR.

ALTERNATOR is a device similar to the generator its basic function is to generate electricity Some theory below will clear the concept of electricity generation through alternator. Creative research engineers were expected to suggest projects that might possibly lead to product development at the above mentioned facility. The search for a useful human power interface for vehicle use began with several test devices that could measure the force available from various muscle groups.

It was clear that a bicycle type mechanism, while quite successful as a thigh and calf interface, would not meet the needs of a full-body work out, so early design focused upon a rowing-like motion. The first simple three-wheeled prototype travelled around the area in 1972, and design work began on the remaining components of the entire Guide way concept.

II. OBJECTIVE

- Energy efficient
- Environmentally friendly
- Performance benefits
- Reduced energy dependence
- Driving range
- Recharge time
- Eco frindly

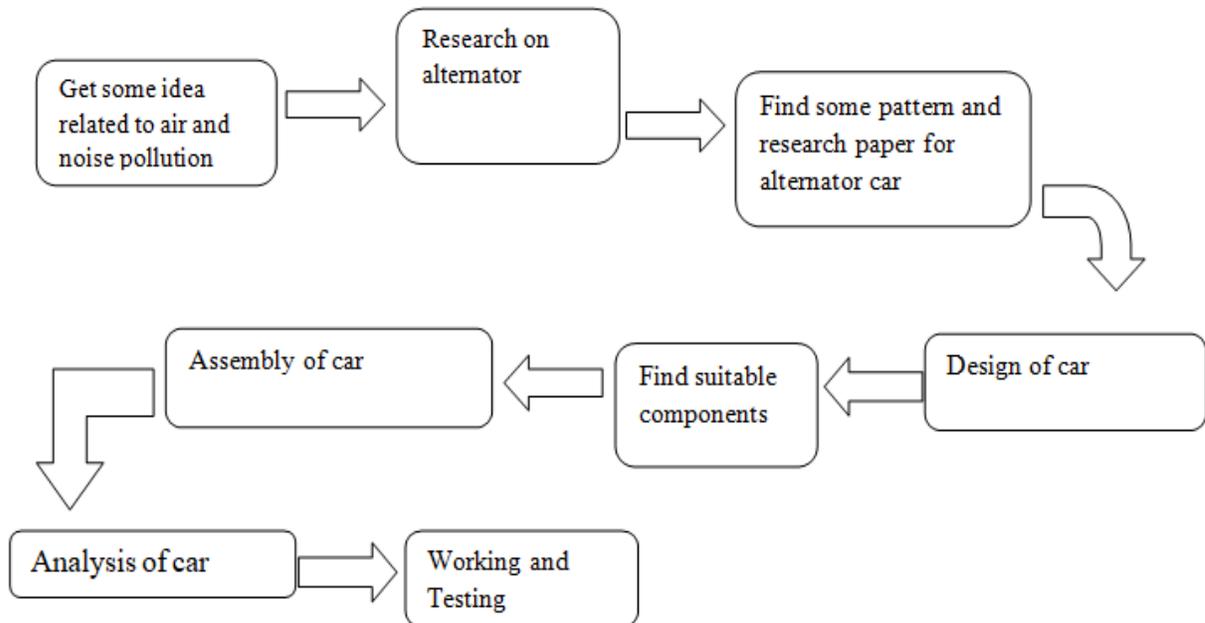
III. SCOPE

- 1 Future scope of alternator car fuel free bike, car, and automobile in india. Increase the overall efficiency of cars
- 2 Number of expected vehicle doubling on the road in the near future the need for this alternative energy is very evident and has promising returns

IV. PLAN ON THEIR WORK

We had plan firstly to get some idea about current ALTERNATOR is a device similar to the generator its basic

function is to generate electricity Some theory below will clear the concept of electricity generation through alternator.



V. MATERIALS AND TOOLS REQUIRED

- alternator
- Guiding wheel
- Car structure
- motor
- battery cell
- controller
- lever mechanism

- *Controller*

The mean function of controller convert electricity AC to DC and also convert voltage .

- *Lever mechanism*

It's a quick reaction starting action..

- *LED indicator*

Its use for indicate Level of power

- *Micro controller*

Microcontroller contain micro chip which is use to control the motor for driving the whole mechanism. Which makes our work easy to handle the machine.

VI. IMPLEMENTATION

- *alternator*
its connected to gear mechanism and given power to battery or motor .
- *Guiding wheel*
Guiding wheel are use to guide the vehicle to move.
- *Car structure*
Its base of car and support to all parts. its making into the CI material.
- *motor*
it's a electrical device. convert to electric energy to mechanical energy.
- *Battery cell*
It's a mean power source of car. in alternator car using no of cell.

VII. WORKING METHOD

As we know that battery run motor and give precise electricity .As we know in this system alternator is a device for generate electricity with help of mechanical energy.

Now lever and gear mechanism attach with alternator .two sets of battery in whole system.

So when one battery is discharging to motors at that time second battery charge up by alternator.

Main part of the system is alternator. when alternator achieved mechanical energy it will producing or charging the battery.

VIII. COMPONENT DRAWING

Battery Cell

Alternator



An electrical power supply used on a motor vehicle is interconnected with the vehicle battery, alternator and regulator. The power supply includes a voltage multiplier for multiplying the rectified output voltage from the alternator, welding sockets for facilitating a welding operation. A multi-pole switch exclusively select the operating mode of the power supply from among normal battery charging, power appliance operation A permanent magnet generator is an electrical machine making the conversion from mechanical energy to electrical energy. We are leading manufacturer and exporter of Permanent Magnet Generator in India.

Permanent magnet generators offer high efficiency energy conversion, particularly at partial load

Structure

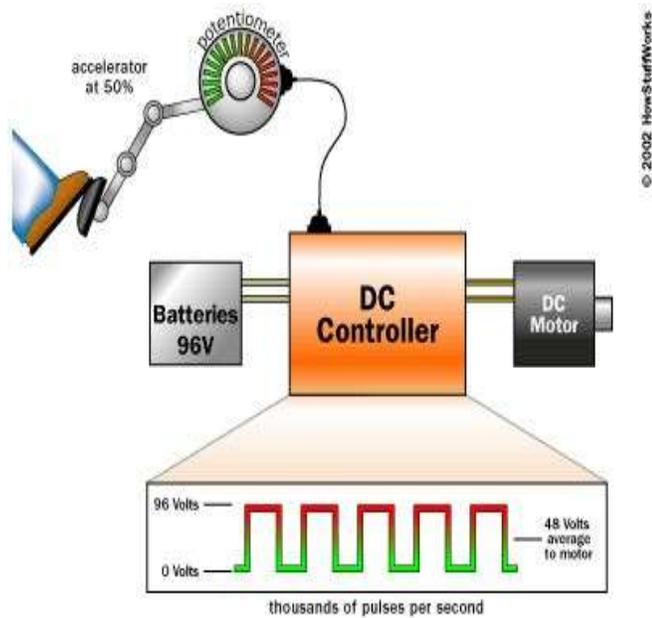


Motor



Controller





A simple DC controller connected to the batteries and the DC motor. If the driver floors the accelerator pedal, the controller delivers the full 96 volts from the batteries to the motor. If the driver takes his/her foot off the accelerator, the controller delivers zero volts to the motor. For any setting in between, the controller "chops" the 96 volts thousands of times per second to create an average voltage somewhere between 0 and 96 volts.

IX. MATERIAL AND METHOD USED

Mild steel

Mild steel containing low percentage of carbon, tough, and effective but not tempered readily. It contains 0.05-0.25% carbon which makes it flexible and elastic to form in other parts easily. So mild steel is used for making frame of the machine to hook up machine from the top of the building

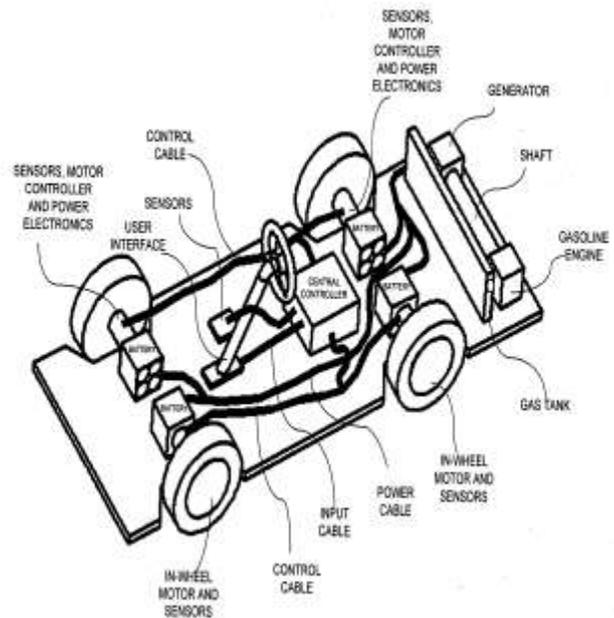
Stainless Steel

Stainless steel is unique from carbon steel by the amount of chromium lives in it. The layer of chromium oxide on the surface it prevents corrosion by blocking oxygen diffusion to the steel face and stops corrosion it usually made of non-alloy carbon steel with 0.4 to 0.95%. this high strength of steel used to support large tensile forces with relatively small diameter

Brush set

It is essential to having main apparatus for cleaning brush is having longer life, and it can be with stand with any environment easily while working. So rubber brush is more reliable and chip for this purpose as it can be available and give more efficiency.

X. EXPERIMENTAL PROCEDURE



XI. OUTCOME

The result is that it is safely non fuel use in this car. Electricity is self generated and no other fuel is used in it.

No pollution and environment free car. safty and easily in maintenance.

XII. CONCLUSION

After getting results from experiment we concluded that produce vehicle do less, have a longer range and use less energy .as we know one day fuel and options are become empty so this one is better option for future car .this car is good for environment and human safety. lower our toxic emission and localize greenhouse effect.

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