

SOLAR POWERED VEHICLE
Mr.Darekar R.D.*¹, Mr. Kurhade R.G.², Mr. Ponde C.P.³ & Mr. Neharkar A.M.⁴
^{*1}Dipoma Student, Mechanical engineering, Jaihind Polytechnic, Kuran, Pune, India.

²Dipoma Student, Mechanical engineering, Jaihind Polytechnic, Kuran, Pune, India.

³Dipoma Student, Mechanical engineering, Jaihind Polytechnic, Kuran, Pune, India.

⁴Dipoma Student, Mechanical engineering, Jaihind Polytechnic, Kuran, Pune, India.

Keywords: D.C. Motor, Battery Cycle, Solar Panel, Rheostat Control, Lead-acid Batteries.

ABSTRACT

The renewable energy is vital for two days world as in near future the non-renewable sources that we are using are going to get exhausted. The solar vehicle is a step in saving these non-renewable sources of energy. The Basic principle of solar car is to use energy that is store in a battery during and after charging it from a solar panel. All recent electric vehicles drive on AC power supply motor. During this conversion of DC power to AC power many losses take place and hence the net output is very less and last for smaller duration of time. This have cheaper setup and maintenance. The vehicle designed is controlled by ELECTRICAL means and not by ELECTRONIC means.

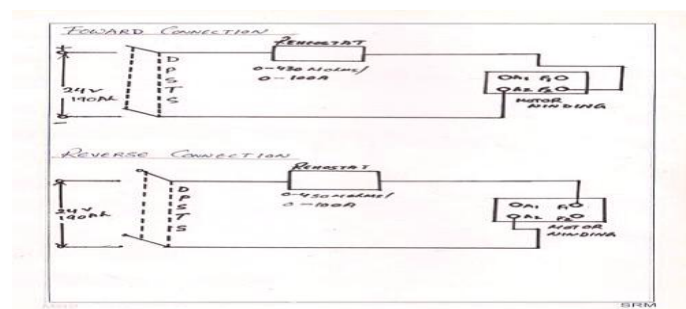
INTRODUCTION

Energy is one of the most vital needs for human survival on earth. We are dependent on one form of energy for fulfilling our need. One such form of energy is the energy from FOSSIL FUELS. We use energy from these sources for generating electricity, running automobile etc. But the main disadvantages of FOSSILE FUELS are that they are not environmental friendly and they are exhaustible. The deal with these problems of FOSSIL FULES, we need to look at the NON-CONVENTIONAL SOURCES of energy. With regard these idea we have designed and electrical vehicle that runs on solar energy.

In these paper presented the concept of solar operated vehicle. In which solar panel are use to absorb energy from sun to store in battery. In which these helps to completing the charging-discharging cycle of battery. This is very important for proper working of batteries.

MATERIALS AND METHODS

- Batteries(Heavy inverter battery range-24v 190Ah, Quantity-2*12v)
- Solar module (range-140Wp, Quantity-1)
- Connecting cable (motor connection-25Sq.m, Quantity-10 meter)
- Motor (High torque DC motor 1Hp=746w, Quantity-1)
-


RESULT AND DISCUSSION

The solar vehicles are the future of the automobile industry. They are highly feasible and can be manufactured with ease. The main advantages of a solar vehicle are that they are pollution less and are very economical. Since they cause no pollution they are very eco-friendly and are the only answer to the increasing pollution levels from automobiles in the present scenario. By harvesting the renewable sources Of energy like the solar energy we are helping in preserving the non-renewable sources of energy. The other main advantages of the solar vehicle are that they require less maintenance as compared to the conventional automotive and are very user friendly.



International Journal OF Engineering Sciences & Management Research

CONCLUSION

The solar vehicle solves many problems related to the Environment and is the best pollution free method. We need to make use of them so that we can reduce our dependence on fossil fuels. Solar vehicles do have some disadvantages like small speed range, initial cost is high. Also, the rate of conversion of energy is not satisfactory (only 17%). But these disadvantages can be easily overcome by conducting further research in this area; like the problem of solar cells can be solved by using the ultra-efficient solar cells that give about 30-35% efficiency. As this field of automobiles will be explored the problem will get solved. The solar automobiles have a huge.

ACKNOWLEDGMENT

We are profoundly grateful to Prof. Mr. Darekar Sir (PROJECT COORDINATOR) for his expert guidance and continuous encouragement throughout to see that this project rights its target since its commencement to its completion. We would like to express deepest appreciation towards Prof. KOHINKAR Sir (HOD, Mech. Dept), whose invaluable guidance supported us in completing this project. At last we must express our sincere heartfelt gratitude to all the staff members of Mechanical Department who helped us directly or indirectly during this course of work.

REFERENCES

1. *M. W. Daniels and P. R. Kumar, "The optimal use of the solar power Automobile," Control Systems Magazine, IEEE, vol. 19, no. 3, 2005.*
2. *"SOLAR VEHICLES AND BENEFITS OF THE TECHNOLOGY", by John Connors, ICCEP paper 2007.*