iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 10 **Issue:** III **Month of publication:** March 2022

DOI: https://doi.org/10.22214/ijraset.2022.40641

www.ijraset.com

Call: 08813907089 | E-mail ID: ijraset@gmail.com

International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 10 Issue III Mar 2022- Available at www.ijraset.com

A Review Paper on Design and Fabrication of Solar Operated Automatic Grass Cutter

Dr. R. H Parikh Prof.[1], Vicky Lonare[2], Sanket Patil[3], Radheshyam Diwate[4], Rhutik Bhiwapurkar[5], Sanjog Saxena[6]
[1]*KDK College of Engineering Nandanvan Nagpur*

Abstract: ***A solar grass cutter could be a machine that uses rotating blades to cut a field. Power consumption becomes essential for future. Solar grass cutter could be a terribly helpful device that is incredibly simple in construction. We have made some changes within the existing machine to make its application easier at reduced price. Our main aim in pollution management is earned through this. The paper deals with solar grass cutter employed to chop the various grasses for the various application. Solar grass cutter could be a terribly helpful device that is incredibly simple construction. We have made some changes within the existing machine to make its application easier at reduced price. Our main aim in pollution management is earned through this. Unskilled person will operate simply and maintain the grass. The paper deals with solar grass cutter are employed to chop the various grasses for the various application.***

I. INTRODUCTION

Moving the grass cutters with a customary motor gives inconvenience, and nobody takes pleasure in it. Cutting grass can't be simply accomplished by old, younger, grass cutter moving with engine produce sound pollution because of the loud engine, and gives pollution because of the combustion within the engine. Also, a motor supercharged engine needs periodic maintenance like dynamical the engine oil. Even if electrical solar grass is environmentally friendly, they can also be associate inconvenience. Together with motor supercharged grass cutter, electrical grass cutters also are venturesome and can't be simply employed by all.

II. WHAT IS SOLAR ENERGY?

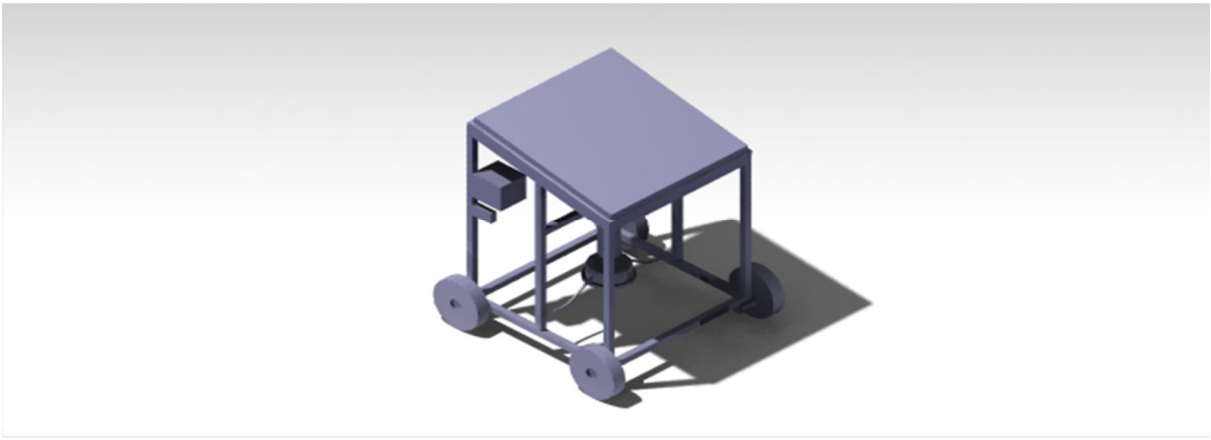
Solar energy is energy that's made by using sun. On a daily basis the sun radiates, or sends out, a colossal quantity of energy. The sun radiates additional energy in one second than peoples have used since the start of time!

III. HOW ELECTRICAL DEVICE WORKS?

Solar power is controlled solar Photovoltaic (PV) technology that converts daylight (Solar radiation) into electricity by semiconductors. Once the sun hits the semiconductor inside the PV cell, electrons measure freed and bus bars collect the running electrons which ends in current.

When the sun shines onto an electrical device, energy from the daylight is absorbed by the PV cells in the panel. This energy creates electrical charges that move in response to an interior electrical field within the cell, inflicting electricity to flow.

IV. CAD DESIGN



©IJRASET: All Rights are Reserved

ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 10 Issue III Mar 2022- Available at www.ijraset.com

V. STATEMENT OF PROBLEM

In the world these days wherever technology is merging with environmental awareness, the majority trying to find ways in which to contribute to the relief of their own carbon foot prints. Pollution is manmade, which may be seen within the day-to-day activities of man. during this a part of the planet, the foremost common forms of grass cutter measure supercharged by petrol engines that square venturesome to the atmosphere thereby resulting in warming and depletion of the ozonosphere.

Gasoline produce noise because of the engine noise, and pollution because of the combustion within the engine. Thus, petrol supercharged grass cutter contributes to air and sound pollution. Hence, alternatives to the utilization of non-renewable energy and polluting fossil fuels has to be taken into thought.

VI. JUSTIFICATION

The solar operated grass cutter is ready to eliminate noise and environmental pollution to the barest minimum. Star operated grass cutter is advantageous over petrol supercharged grass cutter and field mowers as a result of its eliminates environmental pollution that is liable for the emission of gases that results to warming on the planet surface.

Also, with the speed at that fossil fuel product increasing day by day, the utilization of alternative energy are often seen as an affordable observe to the utilization of renewable energy sources to control grass cutter by eliminating the utilization petrol fuels that petrol engines only depends on.

VII. MATERIAL USED

Mild steel could be a part of carbon steel that contains a low level of carbon. Otherwise referred to as low steel, mild steel contains roughly between 0.05% and 0.25% of carbon by weight. this is often against high steel, which may be composed of up to 2.5% carbon by weight.

VIII. PHYSICAL PROPERTIES OF MILD STEEL

1) *Ductile:* The low quantity of carbon to produce soft-cast steel and also the absence of any alloying parts ends up in an awfully ductile product.
2) *Machinable and Weldable:* The ductile nature of mild steel conjointly means it's significantly appropriate for varied steel fabrication processes, as well as attachment
3) *Affordable:* Soft-cast steel needs only a few resources and ingredients, therefore it's a very efficient sort of steel, that several steel fabrication customers use to finish their industrial comes.

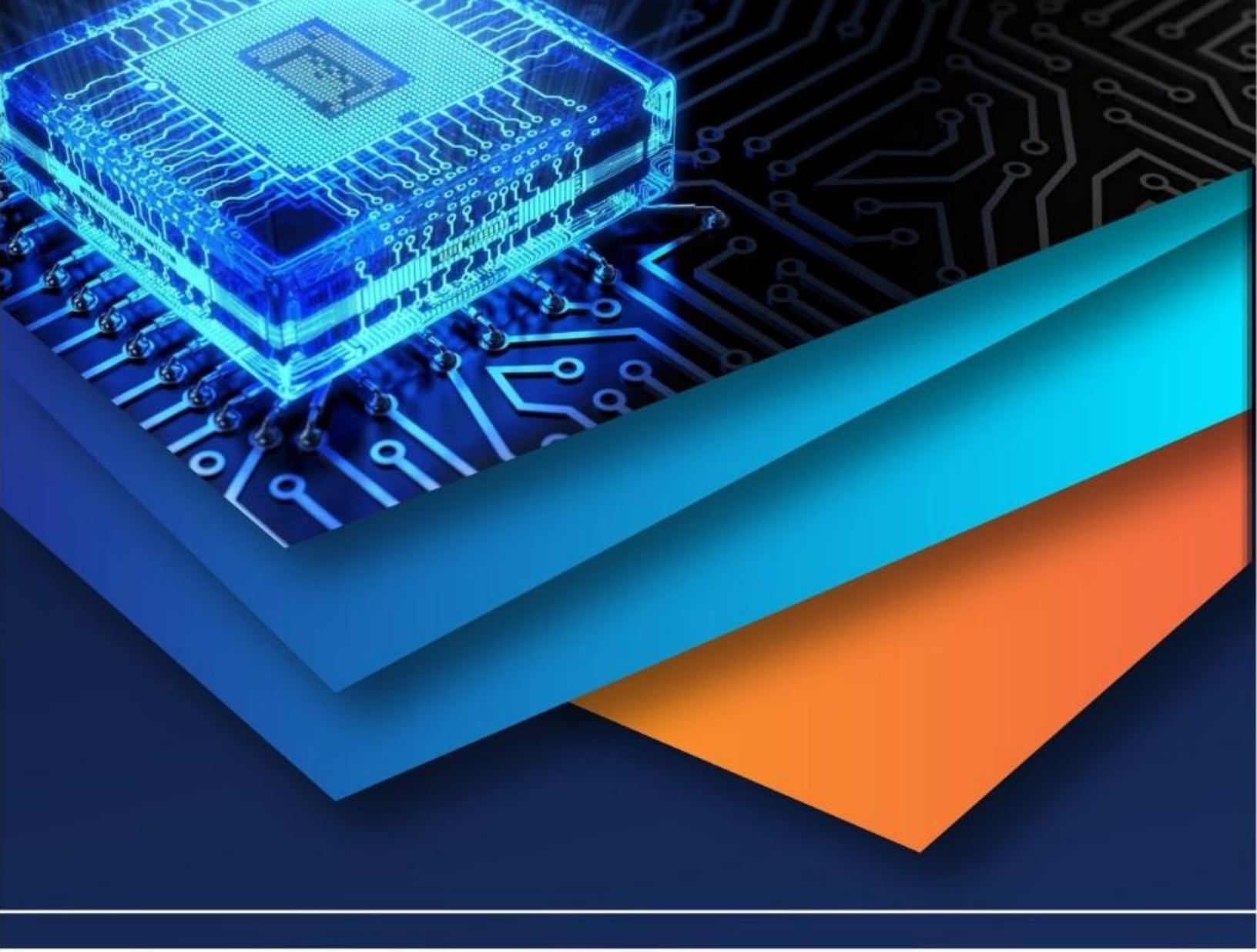
IX. OBJECTIVES

A. The main project objective is to reduce overall weight thereby we are able to move this simply.
B. AC motor produce additional vibrations and have more noise thus to get rid of vibrations and noise we tend to use DC motor that have a less weight and build a less noise.
C. AC motor would like additional power to produce power for operating of machine, we tend to take away this disadvantage by battery and electrical device. electrical device is secondary supply to charge battery
D. Use renewable supply of energy over petrol fluid that turn out pollution and sound pollution.
E. Run mechanically and automatically.

REFERENCES

[1] Ashish Kumar Chaudhari, Yuvraj Saho, Pramod Kumar Sahu, Subhash Chandra Verma, sensible solar Grass Cutter mechanism for Grass Trimming, International Journal of Advance analysis and Innovative concepts in Education, Vol. 2, 2016, 1246- 1251.
[2] Vicky jain, Sagar Patil, Prashant Bagane, Prof. Mrs. S. S. Patil, solar primarily based Wireless Grass Cutter, International Journal of Science Technology and Engineering, Vol. 2, 2016, 576-580.
[3] Ashish Kumar Chaudhari, Yuvraj Sahu, Prabhat Kumar Dwivedi, Harsh Jain, Experimental Study of solar energy Grass Cutter mechanism, International Journal of Advance analysis and Innovative concepts in Education, Vol. 2, 2016, 68-73.
[4] Pankaj Malviya, Nukul Patil, Raja Prajapat, Vaibhav Mandloi, Dr. Pradeep Kumar, Fabrication of star Grass Cutter, International Journal.

©IJRASET: All Rights are Reserved



10.22214/IJRASET

45.98

IMPACT FACTOR: 7.129

IMPACT FACTOR: 7.429

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Call : 08813907089 (24*7 Support on Whatsapp)