SOLAR GRASS CUTTER

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Abstract

A solar powered grass cutter has been intended and created based on the overall mowing principle. This seminar deals with the design of a solar powered grass cutter consisting of a direct present (D.C) engine, a rechargeable battery, a solar panel, a stainless-steel blade and a control switch. The solar-powered grass cutter is controlled by the button on the board that closes the circuit and enables the current to flow to the engine that in turn drives the mowing blade. The battery recharges via the controller for solar charging.

Key words: Solar, grass cutter, mowing blade, battery.

Introduction

Grass cutter or lawn mowing is an inconvenience with a conventional motor-powered lawn mower, and no one takes joy in it. Elderly, younger or disabled people cannot readily cut grass. Due to the noisy engine, motor driven push lawn mowers and riding lawn mowers generate noise pollution[1] and local air pollution owing to the engine combustion. While electric lawn mowers are eco-friendly, they can also be an inconvenience. Electric lawn mowers[2] are also hazardous along with motor-powered lawn mowers and cannot be readily used by everyone. Mowing could be difficult and harmful if the electric lawn mower is corded. A lawn mower that has remote control capacity is the self-propelling electric remote-control lawn mower. This prototype is user friendly robotic and cost-effective.

Methodology

1. *Solar Panel*

   A solar panel is a collection of electrically linked solar photovoltaic modules[3] installed on a supporting framework. A photovoltaic module is a packed, linked solar cell assembly. The Solar cell modules only generate electricity when the sun shines. The cells usually don't store energy, so to ensure electricity flow when the sun doesn't shine, some of the

energy generated must be stored. The most evident alternative is to use batteries that store electrical energy chemically.

2. *DC Motor*

   The DC motor is a mechanically switched direct present (DC) electric engine. By definition, the stator is stationary in space, so is its current. The commenter switches the current in the rotor to be stationary in space as well. This is how the comparative angle[4], [5] between the stator and the rotor magnetic flux is retained close to 90 degrees, resulting in the highest torque.

3. *Blades*

   A blade is that part of an edge-designed instrument, weapon, or machine to cut and/or puncture, stab, slash, chop, slice, thrust, or scrape surfaces or materials. The blade is rarely sharp enough to make a smooth cut. The blade just tears the grass, which leads to brown tips.

FIG.1 Solar grass cutter design

Conclusion

This project is more appropriate for a common person because it has much more benefits, i.e. no fuel costs, no pollution and no residue of fuel, less wear and tear due to the smaller amount of moving parts, solar power can be used to operate this. This will offer the individuals a lot more physical exercise and can be treated readily.

References

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