

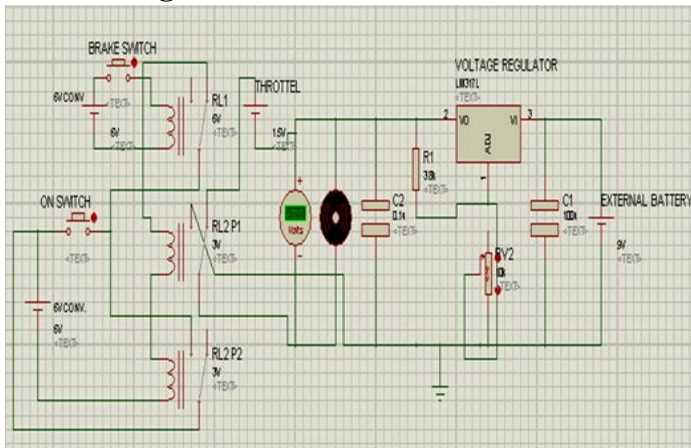
## INTRODUCTION:

Our innovation is mainly to give a better comfort and efficient vehicle which will be user friendly and utilise the maximum energy from the available source.

## CRUIS CONTROL:

Cruise control is a method in which the speed of the motor can be fixed by regulating the current sent to it. A signal is sent from accelerator to controller by means of Hall Effect sensor which in turn controls the speed of the motor. We have used relays to cut the signal and send the same by means of voltage regulator without the driver accelerating the vehicle. The whole system turns back normal when the driver applies brake. The speed of during Cruise control can be set by means of a variable resistor which will be provided through a knob for the driver.

## Circuit Diagram:



In the above circuit the throttle is replaced by a single cell for simplicity. A 2 pole 6V relay and a 1 pole 6V relay is used for switching purpose as shown above. A voltage regulator is used to regulate the voltage to the controller.

During normal times the controller gets information from hall sensor present in accelerator as shown below



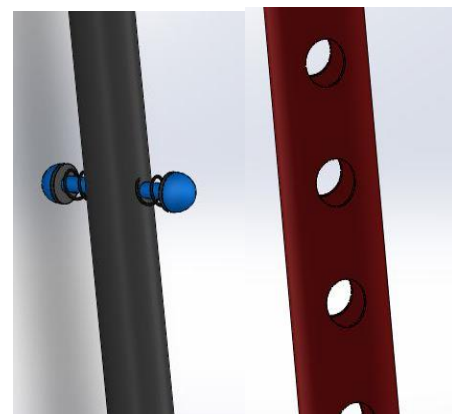
The output wire is toggled between hall sensor and voltage regulator using relays.

Advantages of having cruise control:

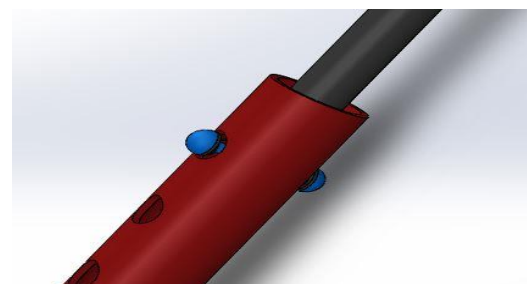
- Long trips can be made more comfortable.
- Driving comfort is increased.
- Input current to motor is made constant thus making increasing its lifetime.
- Discharge of battery is also made constant.
- Performance of the cart increases.
- More distance can be travelled since the voltage is regulated.

## ADJUSTABLE STEERING:

This innovation mainly deals with the comfort of the driver. Usually a compact car will have less space having very less room inside. To avoid this and add comfort the steering system is made retractable. 1. This is done by making a steering column with two different cross section pipes that can freely slide one over other. 2. The inner rod has a stiff spring supporting buttons that projects outward. A small sliding rod supports springs.



The outer rod has holes to allow the buttons out and lock in sliding motion. It also locks the rotating motion.



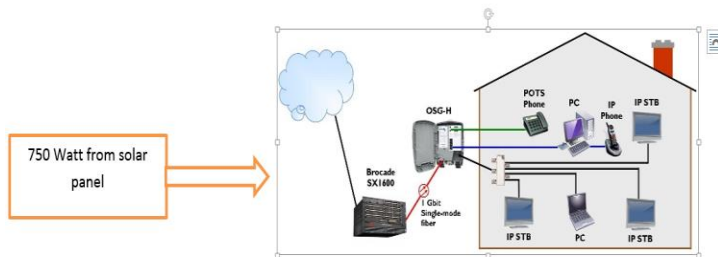
To adjust the retraction length of steering column the button is pressed and the sliding rod easily slides down and can be adjusted. This gives more space for the driver to get off/get in easily.

### ADVANTAGES

- Comfort for Driver
- Quicker egress time
- Easy getting in/getting out
- Adjustable size for different column size depending on driver's height

### CHARGING HOME BATTERIES:

Charging the home batteries is to conserve the wastage of power during parking. This is very simple by just connecting Solar panel to home battery after the vehicle battery was filled.



### ADVANTAGES:

The power can be used for charging home battery

Maximum utilisation of energy

Prevention of wastage of energy

Cost Effective (2 in 1 application)

### FUTURE IDEAS:

Since this vehicle mainly depends on solar energy our future idea is to build a Smartphone app that guides the driver to take a path with more sun light. It will also with Distance to Empty meter.