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# Free Energy Generation Advanced Research

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***Abstract:*** *A mains motor of capacity (1/4horsepower) is used to drive a series of belts and pulleys which form a gear-train which produces over twice the rotational speed at the shaft of an electrical generator. The intriguing thing about this system is that greater electrical power can be drawn from the output generator than appears to be drawn from the input drive to the motor. How can that be? Well, Mr Tseung's gravity theory explains that if a energy pulse is applied to a flywheel, then during the instant of that pulse, excess energy equal to 2mgr is fed into the flywheel, where "m" is the mass (weight) of the flywheel, "g" is the gravitational constant and "r" is the radius of the centre of mass of the flywheel, that is, the distance from the axle to the point at which the weight of the wheel appears to act. If all of the flywheel weight is at the rim of the wheel, the "r" would be the radius of the wheel itself.*

*This means that if the flywheel is driven smoothly at constant speed, then there is no energy gain. However, if the drive is not smooth, then excess energy is drawn from the gravitational field. That energy increases as the diameter of the flywheel increases. It also increases as the weight of the flywheel increases. It also increases if the flywheel weight is concentrated as far out towards the rim of the flywheel as is possible. It also increases, the faster the impulses are applied to the system.*

## Introduction

### 1.1 Introduction

Free energy means energy at no cost, like mechanic energy which drives wind mill, or light in solar cell which is transformed into DC electric current, i.e. wind power, water power, telluric power, and solar power. Free energy generator is a process to generate these types of energy.

Free energy suppression is the notion that corporate energy interests deliberately suppress technologies that may provide energy at very little cost. Remaining so-far-unexploited forces of nature which are well documented in the scientific literature include telluric currents, atmospheric electricity, earth batteries, and pressure system changes.

The energy from fantastical forces considered perpetual motion. These devices utilize quantum vacuum perturbation, quantum vacuum energy, rotating magnets, as well as some purported methods to crack hydrogen.

The term "Free-Energy" generally means a method of drawing power from the local environment, without the need to burn a fuel. There are many different successful methods for doing this and these methods span many countries and many years. The amount of power which can be collected can be very high and the few kilowatts needed to power a household are most definitely within the reach of most of the devices mentioned.

The 'bottom line' is that energy can definitely be drawn from the local environment in sufficient quantities to supply all of our needs. For whatever reason, conventional science appears determined not to accept this basic fact and denies it at every opportunity. It seems likely that vested financial interests are the root cause of this refusal to accept the facts. The true scientific method is to upgrade scientific theory in the light of observed fact and new discoveries, but the true scientific method is not being followed at the present time.

Some of the methods which can be used as the free energy devices are as follows:

- Magnet Power
- Moving Pulsed Systems
- Motionless Pulsed Systems
- Gravity-Powered Systems
- Energy-Tapping Pulsed Systems
- Battery-Charging Pulsed Systems
- Aerial Systems and Electrostatic Generators
- Fuel-less Motors
- Passive Systems

### 1.2Problem Statement

The aim of this project is to recover energy of flywheel by using principle of energy recovery system from flywheel and produce enough energy to run the project set up and also some additional energy to run external power supply.

### 1.3 Objectives

The main objective of system is to utilise a gravitational energy from the flywheel.

The primary step for this is to increase ratio of input speed to output speed.

The secondary step is to use the energy generated by the generator to the load bank.

### 1.4 Methodology

- The Basic idea of project is taken from CHAS CAMPBELL's Generator.
- An AC motor is firstly run with help of AC supply.
- The speed varies with help of pulleys with different diameters.
- After some time the initial AC input supply is replaced by the output supply of generator.

### Literature Review

**[1]. "An Integrated Flywheel Energy Storage System with a Homopolar Inductor**

**Motor/Generator and High-Frequency Drive" by Perry I-Pei Tsao**

This Book introduces the key system design issues for flywheel energy storage systems.

First, the energy storage requirements in hybrid electric vehicles are presented. Then integrated flywheel energy storage systems and their advantages are described. The motor requirements for flywheel systems and homopolar motors are discussed.

This work describes the design of an integrated flywheel energy storage system with a homopolar inductor motor/generator and a high frequency drive for high power applications. A system level design methodology for integrated flywheels and detailed design and analysis of the motor/generator of the flywheel system are presented. In this introduction, background information on applications for flywheels, competing energy storage technologies, different flywheel technologies, and an overview of this thesis are presented.

**[2]. "KINETIC ENERGY RECOVERY SYSTEM BY MEANS OF FLYWHEEL ENERGY STORAGE" by Cibulka, J.**

This paper deals with the design of Kinetic Energy Recovery Systems (KERS) by means of Flywheel Energy Storages (FES). KERS by means of FES are currently under development both for motor sport and road hybrid vehicles. The aim of the work is the optimalization and implementation to the hybrid and electric road vehicles. Testing equipment for the experimental analysis of the simplified FES was designed.

[3]. **"On a Flywheel-Based Regenerative Braking System for Regenerative Energy Recovery" by Tai-Ran Hsu**

This paper presents a unique flywheel-based regenerative energy recovery, storage and release system developed at the author's laboratory. It can recover and store regenerative energy produced by braking a motion generator with intermittent rotary velocity such as the rotor of a wind turbo generator subject to intermittent intake wind and the axels of electric and hybrid gas-electric vehicles during frequent coasting and braking. Releasing of the stored regenerative energy in the flywheel is converted to electricity by the attached alternator. A proof-of-concept prototype called the SJSU-RBS was designed, built and tested by author's students with able assistance of a technical staff in his school.

A new regenerative braking system, the SJSU-RBS was developed with the design, construction and testing of a proof-of-concept prototype. It involves a fast spinning flywheel/alternator unit with a uniquely designed progressive braking system and an epicyclic gear train. This new SJSU-RBS can be readily adapted to power plants driven by renewable energies from intermittent sources such as solar, wind and braking of electric and hybrid gas-electric vehicles during coasting and braking. The SJSU-RBS was proof-tested for its feasibility and practicality for the intended applications. Despite the success in the preliminary bench-top testing of the prototype of the SJSU-RBS as presented in the paper, a few key technical issues remain unsolved. Issues such as the optimal design of flywheel for maximum net recovery and storage of regenerative energies; quantification of aerodynamic and electromechanical resistance to the free spinning of the flywheel, and the effective and optimal control of the motion of the flywheel and the driving shafts, etc. will have significant effects on the performance of the SJSU-RBS or similar regenerative braking system for maximal recovery of regenerative energies in reality. Further research on the detailed design and integration of the SJSU-RBS to wind power generating plants and EVs and HEVs for performance enhancements is desirable. The success of such integration will result in great economical returns to the renewable power generation industry. Efficient power generations by renewable energy sources by RBS will make significant contributions to the sustainable development of global economy and well-being of all humankind.

**Background**

Flywheels have been around for thousands of years. The earliest application is likely the potter's wheel. Perhaps the most common application in more recent times has been in internal combustion engines. A flywheel is a simple form of mechanical (kinetic) energy storage. Energy is stored by causing a disk or rotor to spin on its axis. Stored energy is proportional to the flywheel's mass and the square of its rotational speed.

Advances in power electronics, magnetic bearings, and flywheel materials coupled with innovative integration of components have resulted in direct current (DC) flywheel energy storage systems that can be used as a substitute or supplement to batteries in uninterruptible power supply (UPS) systems. Although generally more expensive than batteries in terms of first cost, the longer life, simpler maintenance, and smaller footprint of the flywheel systems makes them attractive battery alternatives.

Introduction to Flywheel Energy Storage Kinetic storages, also known as Flywheel Energy Storages (FES), are used in many technical fields. While using this technical approach, inertial mass is accelerating to a very high rotational speed and maintaining the energy in the system as rotational energy. The energy is converted back by slowing down the flywheel. Available performance comes from moment of inertia effect and operating rotational speed. Flywheel mass is either mechanically driven by CVT (Continuously Variable Transmission) gear unit or electrically driven via electric motor / generator unit, Mechanically driven composite flywheel, Electrically driven flywheels Devices that directly use mechanical energy are being developed, but most FES systems use electricity to accelerate and decelerate the flywheel.

**2.2 Proposed Work:**

Chas has invented a mechanical device which takes the gravitational energy of Earth and transforms it into kinetic energy. Principally, it uses a wheel having balls in it. It's known that if you grab a steel rod and you want to lift something up with it by using a ground point, you can lift the thing easier if you grab it as much as far from the base point.

"Most people see this as an electrical system, but applying his gravity "lead-out" theory, MrTseungsee this as a gravitational free-energy system and he is building one just like it in China at the present time as he is so impressed by it.

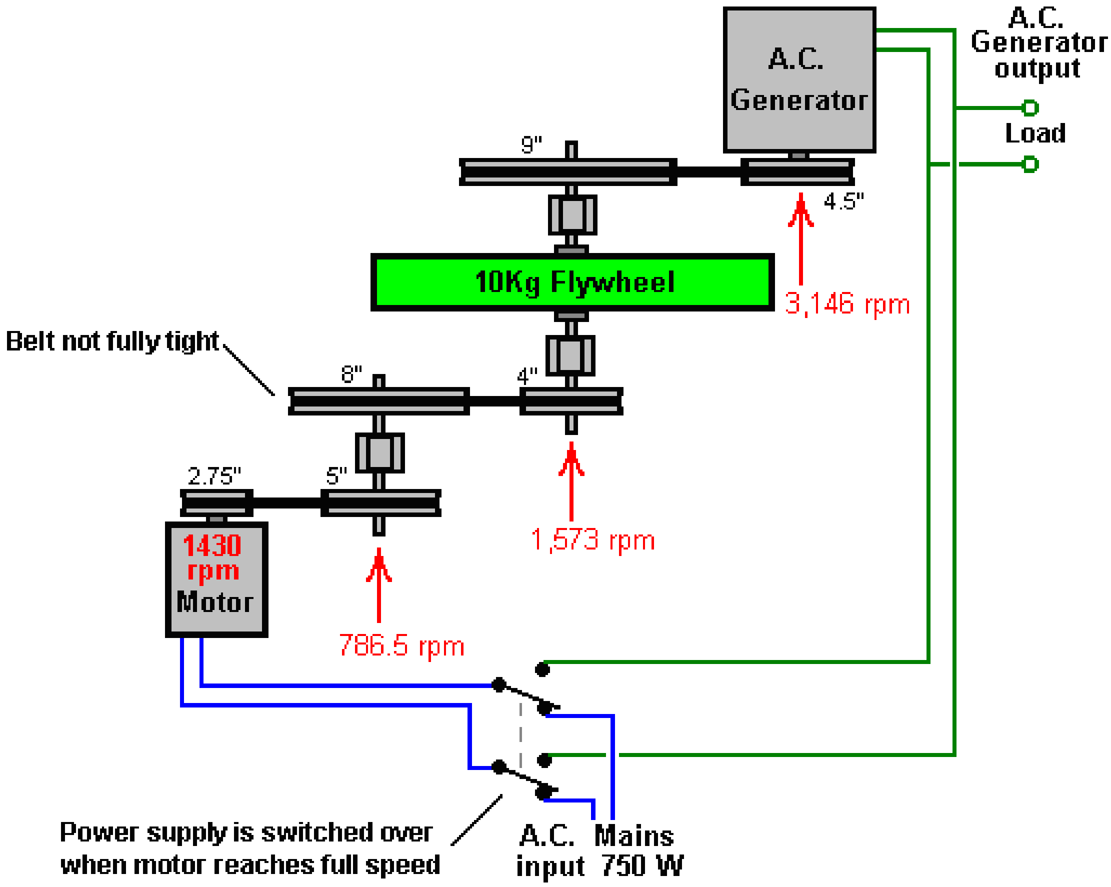
What the sketch above does not show, is that on the intermediate shafts which appear to be just pivot points for standard gearing, other large discs are mounted. These appear to have no practical effect and are just decorative, but that is not necessarily the case.

Let me explain the overall system. A mains motor of 750 watt capacity (1 horsepower) is used to drive a series of belts and pulleys which form a gear-train which produces over twice the rotational speed at the shaft of an electrical generator. The intriguing thing about this system is that greater electrical power can be drawn from the output generator than appears to be drawn from the input drive to the motor. How can that be? Well, MrTseung's gravity theory explains that if a energy pulse is applied to a flywheel, then during the instant of that pulse, excess energy equal to 2mgr is fed into the flywheel, where "m" is the mass (weight) of the flywheel, "g" is the gravitational constant and "r" is the radius of the centre of mass of the flywheel, that is, the distance from the axle to the point at which the weight of the wheel appears to act. If all of the flywheel weight is at the rim of the wheel, the "r" would be the radius of the wheel itself.

This means that if the flywheel (which is red in the following photographs) is driven smoothly at constant speed, then there is no energy gain. However, if the drive is not smooth, then excess energy is drawn from the gravitational field. That energy increases as the diameter of the flywheel increases. It also increases as the weight of the flywheel increases. It also increases if the flywheel weight is concentrated as far out towards the rim of the flywheel as is possible. It also increases, the faster the impulses are applied to the system

Ok, so what are the requirements for an effective system? Firstly, there needs to be a suitable flywheel with as large a diameter as is practical, say 4 feet or 1.2 meters. The vast majority of the weight needs to be close to the rim. The construction needs to be robust and secure as ideally, the rate of rotation will be high, and of course, the wheel needs to be exactly at right angles to the axle on which it rotates and exactly centered on the axle.

**Proposed Block diagram:**




## Calculation

The system consists of design of various parts like Pulley, Flywheel, Belt drive, Shaft, Bearings etc.
At the first stage we selected pulley as per standard specification, so now we are going to calculate Belt drive used for power transmission in system.

1. **Calculation of Belt drives**

We know that a belt drive is useful for the power transmission using pulley. Each pulley has different diameters and speed. The belt, wire (rope) drives are used for the power transmission.

In the project, we are going to use total six pulleys, so we need three different belt drives.

**<u>For the first two pulleys,</u>**

Power to be transmitted = 0.75 Kw
Diameter of driver pulley = $d_1$= 2.75”= 69.85 mm
Diameter of driven pulley = $d_2$= 5”=127 mm
Speed of driver pulley = $N_1$=1440 rpm
We know that,

$$\frac{d2}{d1} = \frac{N1}{N2}$$

So putting values in above equation,

$$\frac{127}{69.85} = \frac{1440}{N2}$$

$$N_2 = \frac{1440}{1.81}$$

$N_2$ = 792.035 rpm

Now select correction factors according to service (service factor) for system,
From table 13.14

Fa=1.2

Design power = $P_d$ = service factor * Power to be transmitted
= 1.2 * .75
= 0.9375 kw

We selected V-belt type according to power transmission,
From figure 13.24 we selected as "A" type V-belt which has,
Pitch width = 11mm
Nominal Pitch Width = 13mm
Nominal Height = 8 mm

Assume center distance between two pulleys
By empirical formula,

C = (d1+d2)+100
= 127+69.85+100
=296.85 ~ 300 mm

Now we find the length of belt used for drive,

$$L = 2C + \frac{\pi(d1 + d2)}{2} + \frac{(d2 - d1)^2}{4C}$$

$$L = 2 * 300 + \frac{\pi(127 + 69.85)}{2} + \frac{(127 - 69.85)^2}{4 * 300}$$

L = 911.9329 mm

From table no 13.14, we selected standard belt length as 990 mm.
Now calculate actual center distance between pulleys,

$$990 = 2C + \frac{\pi(127 + 69.85)}{2} + \frac{(127 - 69.85)^2}{4C}$$

On solving, C = 339.19 mm

Now select correction factors for belt pitch length for system,
From table 13.21

Fc = 0.88

Now calculate the arc of contact for the smaller pulley,

$$\alpha = 180 - 2 * \sin^{-1}\frac{d2 - d1}{2C}$$

$$\alpha = 180 - 2 * \sin^{-1}\frac{127 - 69.85}{2 * 339.19}$$

$$\alpha = 170.34$$

Now select correction factor for arc of contact,
From table 13.22,

Fd = 0.98

Depending upon the type of cross-section, now we determined power rating (Pr) of single V-belt
It depends upon three factors- Speed of faster shaft, pitch diameter of smaller and speed ratio.

Pr = 0.91+0.16
= 1.07 kw

Now number of belts,

$$Z = \frac{P * Fa}{\text{Pr} * Fc * Fd}$$

$$Z = \frac{0.9375 * 1.2}{1.07 * 0.88 * 0.98}$$

Z = 1.2191 ~ 1

We increasing pitch width of V- belt instead of using more number of belts, so we are using only one belt.

**For Third and Fourth Pulleys**

Power to be transmitted = 0.75 Kw
Diameter of driver pulley = $d_3$= 8”= 203.2 mm
Diameter of driven pulley = $d_4$= 4”=101.6 mm
Speed of driver pulley = $N_3$= 792.035 rpm
We know that,

$$\frac{\mathrm{d3}}{\mathrm{d4}} = \frac{\mathrm{N4}}{\mathrm{N3}}$$

So putting values in above equation,

$$\frac{203.2}{101.6} = \frac{N4}{792.035}$$

$N_4$=792.035*2
$N_2$ = 1584.07 rpm

Now select correction factors according to service (service factor) for system,
From table 13.14

Fa=1.2

Design power = $P_d$ = service factor * Power to be transmitted
= 1.2 * .75
= 0.9375 kw

We selected V-belt type according to power transmission,
From figure 13.24 we selected as “A” type V-belt which has,
Pitch width = 11mm
Nominal Pitch Width = 13mm
Nominal Height = 8 mm

Assume center distance between two pulleys
By empirical formula,

C = (d2+d4)+100
= 203.2+101.6+100
=404.8 ~ 450 mm

Now we find the length of belt used for drive,

$$L = 2C + \frac{\pi(d3 + d4)}{2} + \frac{(d3 - d2)^2}{4C}$$

$$L = 2 * 450 + \frac{\pi(203.2 + 101.6)}{2} + \frac{(127 - 69.85)^2}{4 * 450}$$

L = 1384.5127 mm

From table no 13.14, we selected standard belt length as 1430 mm.
Now calculate actual center distance between pulleys,

$$1430 = 2C + \frac{\pi(203.2 + 101.6)}{2} + \frac{(203.2 - 101.6)^2}{4C}$$

On solving, C = 472.88 mm

Now select correction factors for belt pitch length for system,
From table 13.21

Fc = 0.96

Now calculate the arc of contact for the smaller pulley,

$$\alpha = 180 - 2 * \sin^{-1}\frac{d3 - d4}{2C}$$

$$\alpha = 180 - 2 * \sin^{-1}\frac{203.2 - 101.6}{2 * 472.88}$$

$$\alpha = 167.66$$

Now select correction factor for arc of contact,
From table 13.22,

Fd = 0.97

Depending upon the type of cross-section, now we determined power rating (Pr) of single V-belt
It depends upon three factors- Speed of faster shaft, pitch diameter of smaller and speed ratio.

Pr = 1.6885+ 0.1884
= 1.8769 kw

Now number of belts,

$$Z = \frac{P * Fa}{\text{Pr} * \ Fc * Fd}$$

$$Z = \frac{0.9375 * 1.2}{1.876 * 0.96 * 0.97}$$

Z = 0.64 ~ 1

**<u>For Fifth and Sixth Pulleys</u>**

Power to be transmitted = 0.75 Kw
Diameter of driver pulley = $d_5$= 9”= 228.6 mm
Diameter of driven pulley = $d_6$= 4.5”=114.3 mm
Speed of driver pulley = $N_5$= 1584.07rpm
We know that,

$$\frac{\text{d5}}{\text{d6}} = \frac{\text{N6}}{\text{N5}}$$

So putting values in above equation,

$$\frac{228.6}{114.3} = \frac{N4}{1584.07}$$

$N_4$=1584.07*2
$N_2$ = 3168.14 rpm

Now select correction factors according to service (service factor) for system,
From table 13.14

Fa=1.2

Design power = $P_d$ = service factor * Power to be transmitted
= 1.2 * .75
= 0.9375 kw

We selected V-belt type according to power transmission,
From figure 13.24 we selected as “A” type V-belt which has,
Pitch width = 11mm
Nominal Pitch Width = 13mm
Nominal Height = 8 mm

Assume center distance between two pulleys
By empirical formula,

C = (d5+d6)+100
= 228.6+114.3+100
=442.9 ~ 500 mm

Now we find the length of belt used for drive,

$$L = 2C + \frac{\pi(d5 + d6)}{2} + \frac{(d5 - d6)^2}{4C}$$

$$L = 2 * 500 + \frac{\pi(228.6 + 114.3)}{2} + \frac{(228.6 - 114.3)^2}{4 * 500}$$

L = 1545.15831 mm

From table no 13.14, we selected standard belt length as 1430 mm.
Now calculate actual center distance between pulleys,

$$1550 \ = 2C + \frac{\pi(228.6 + 114.3)}{2} + \frac{(228.6 - 114.3)^2}{4C}$$

On solving, C = 502.4396 mm

Now select correction factors for belt pitch length for system, From table 13.21

Fc = 0.98

Now calculate the arc of contact for the smaller pulley,

$$\alpha = 180 - 2 * \sin^{-1}\frac{d5 - d6}{2C}$$

$$\alpha = 180 - 2 * \sin^{-1}\frac{228.6 - 114.3}{2 * 502.4396}$$

$$\alpha = 166.96$$

Now select correction factor for arc of contact,
From table 13.22,

Fd = 0.97

Depending upon the type of cross-section, now we determined power rating (Pr) of single V-belt
It depends upon three factors- Speed of faster shaft, pitch diameter of smaller and speed ratio.

Pr = 3.342+ 0.382
= 3.724 kw

Now number of belts,

$$Z = \frac{P * Fa}{\text{Pr} * Fc * Fd}$$

$$Z = \frac{0.9375 * 1.2}{3.724 * 0.97 * 0.98}$$

Z = 0.31 ~ 1

**Project Plan**

| Sr. No | Activity/month | July15 | Aug | Sept | Oct | Nov | Dec | Jan16 | Feb | March |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Search of topic | | | | | | | | | |
| 2 | Selection of topic and research papers | | | | | | | | | |
| 3 | Finalising of sponsored project | | | | | | | | | |
| 3 | Literature review | | | | | | | | | |
| 4 | Basic diagram and study of components | | | | | | | | | |
| 5 | Cad diagram and starting the calculation of components | | | | | | | | | |
| 6 | Calculations | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|
| 7 | Finalizing the calculations and preparing the final cad diagram with dimensions | | | | | | | | | |
| 8 | Starting manufacturing | | | | | | | | | |
| 9 | Buying the standard components from market | | | | | | | | | |
| 10 | Testing of model | | | | | | | | | |
| 11 | Rough draft of report | | | | | | | | | |
| 12 | Final report | | | | | | | | | |

**Expected outcome:**

We are going to develop a system with no energy required. At initial stage we required some energy for starting the system. Once system started then its output is increased than input and the system is operated by output of generator which is placed after the Flywheel.

**Expenditure:**

Approx Costing: Rupees 18000/-

**References:**

1. “A practical guide to free energy devices”

2. Cibulka, J.,“KINETIC ENERGY RECOVERY SYSTEM BY MEANS OF FLYWHEEL ENERGY STORAGE”,2009

3. Perry I-Pei Tsao ,“An Integrated Flywheel Energy Storage System with a Homopolar Inductor Motor/Generator and High-Frequency Drive”, 1999