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Research Paper

Power Generation by Using Cycle RIM

Engineering

KEYWORDS : Rim, Dynamo, Charge, Gear Motor

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ABSTRACT

This project helps us to generate the power by using cycle rim. By giving small input of D.C supply to the system, we can easily produce large amount of power. In this project we are using 12 volts of D.C battery which is connected to a D.C series gear motor which having a very high starting torque for rotational move.Gear motor is attached to a cycle rim which is moving with high r.p.m speed nearly (600-700) r.p.m. Then by the rotation of the cycle rim the smaller wheel of the dynamo starts rotating, where cycle rim has large size compare to dynamo wheel so that while rim takes single rotation simultaneously the dynamo wheel takes 10-15 rotation which produces a very large amount of output current. Dynamo output again connected to circuit which converts the dynamo small input to a large output of A.C current upto (220-240) volt. Without any fluctuation of current/voltage.By this we can give various loads to household components such as T.v ,fans tube lights. Main advantage of this project is it will never discharge the battery before discharge of the battery the dynamo makes it fully charged so we can get continuous rotation of the cycle rim.

1. INTRODUCTION

This project helps us to generate the power by using cycle rim .By giving small input of D.C supply to the system, we can easily produce large amount of power. In this project we are using 12 volts of D.C battery which is connected to a D.C series gear motor. D.C motor which having a very high starting torque for rotational move, There is a series Gear motor which is attached to a cycle rim which is moving with high r.p.m speed nearly (600-700) r.p.m. So that by the rotation of the gear motor the cycle rim gets rotate ,when gear motor tends to rotate the cycle rim then on the other side dynamo is fixed & attached with the cycle rim,there when the cycle rim rotates mean while the dynamo also starts rotating. & hence power generation takes place.Here some wheel ratios are present, the smaller wheel of the D.C gear motor having radius of same as wheel of dynamo but ,the speeds & rpm of the motor plays a major role to rotate the cycle rim as well as dynamo wheel in an effective manner. Since the rpm of the gear motor is much greater then the dynomo,therefore when gear motor starts rotate at that time the cycle rim rotates simultaneously. And when cycle rim attains a single rotation then the dynamo rotational movement occurs there & thus the dynamo get 10-15 rotation which produces a very large amount of output current) at full speed of rpm.& generate the power in an effective way.Dynamo output again connected to circuit which converts the dynamo small input to a large output of A.C current upto (220-240) volt. Without any fluctuation of current/voltage.By this we can give various loads for the household electric appliances such as T.v,fans tube lights etc.The main advantage of this project is, it will never discharge the battery & before the battery gets discharge the dynamo makes it fully charged so we can get continuous charging of battery & thus we can get rotation of the cycle rim continuously.

CYCLE RIM WITH STAND

Cycle Rim With Stand

Cycle rim is the main part of the project. As cycle rim rotates it helps to drive the alternator or generator, which in turn cause the generation of electric power. In our cycle rim it consist of 42 spokes which helps to drive the wheel smoothly without any much deviation. It also includes ball bearings in it.

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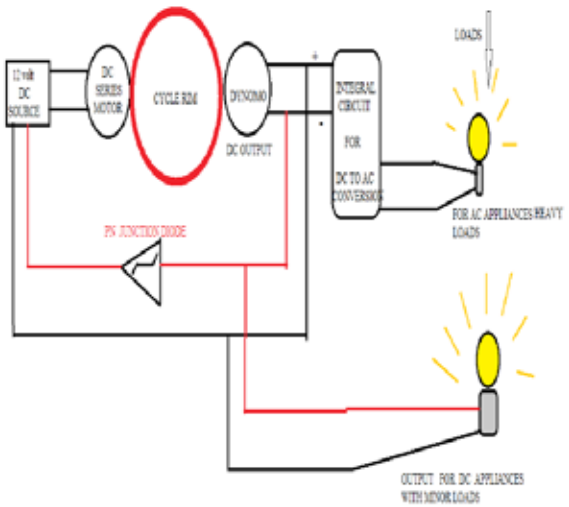
BLOCK DIAGRAM



Block Diagram Of Project

DETAILS ABOUT WORKING PRINCIPLE

This project helps us to generate the power by using cycle rim. By giving small input of D.C supply to the system, we can easily produce large amount of power. In this project we are using 12 volts of D.C battery which is connected to a D.C series gear motor which having a very high starting torque for rotational move.Gear motor is attached to a cycle rim which is moving with high r.p.m speed nearly (600-700) r.p.m. Then by the rotation of the cycle rim the smaller wheel of the dynamo starts rotating, where cycle rim has large size compare to dynamo wheel so that while rim takes single rotation simultaneously the dynamo wheel takes 10-15 rotation which produces a very large amount of output current. Dynamo output again connected to circuit which converts the dynamo small input to a large output of A.C current upto (220-240) volt. Without any fluctuation of current/voltage.By this we can give various loads to household components such as T.v,fans tube lights etc. Main advantage of this project is it will never discharge the battery before discharge of the battery the dynomo makes it fully charged so we can get continuous rotation of the cycle rim.By giving small input of D.C supply to the system, we can easily produce large amount of power. In this project we are using 12 volts of D.C battery which is connected to a D.C series gear motor. D.C motor which having a very high starting torque for rotational move, There is a series Gear motor which is attached to a cycle rim which is moving with high r.p.m speed nearly (600-700) r.p.m. So that by the rotation of the gear motor the cycle rim gets rotate ,when gear motor tends to rotate the cycle rim then on the other side dynamo is fixed & attached with the cycle rim,there when the cycle rim rotates mean while the dynomo also starts rotating. & hence power generation takes place.

Here some wheel ratios are present, the smaller wheel of the D.C gear motor having radius of same as wheel of dynamo but the speeds & rpm of the motor plays a major role to rotate the cycle rim as well as dynamo wheel in an effective manner.since the rpm of the gear motor is much greater than the dynamo,therefore when gear motor starts rotate at that time the cycle rim rotates simultaneously and when cycle rim attains a single rotation then the dynamo rotational movement occurs there & thus the dynamo get 10-15 rotation which produces a very large amount of output current) at full speed of rpm.& generate the power in an effective way.Dynamo output again connected to circuit which converts the dynamo small input to a large output of A.C current upto (220-240) volt. Without any fluctuation of current/voltage.By this we can give various loads for the household electric appliance such as T.v,fans tube lights etc.The main advantage of this project is, it will never discharge the battery & before the battery gets discharge discharge the dynamo makes it fully charged so we can get continuous charging of battery & thus we can get rotation of the cycle rim continuously.

COST ESTIMATION

COMPONENTS

SR.NO	COMPONENTS	QUANTITIES	COST
1.	D.C BATTERY	1	350 /=
2.	D.C SERIES MOTOR	1	850 /=
3.	DYNOMO	1	1500 /=
4.	CIRCUIT	1	650 /=
5.	DIODE	1	25 /=
6.	BULB & HOLDER	1	100 /=
7.	CYCLE RIM WITH SATAND	1	500 /=

ADVANTAGES

❖ **USED FOR DOMESTIC APPLICATIONS.**

This project helps to run all the home appliances such as.TELEVISIONS,TABLE FANS, LIGHTS,PERSONAL COMPUTERS etc.

❖ **NO DISCHARGE TAKES PLACE IN DC BATTERY.**

We already discussed about its working principle where the battery will not get discharge before it comes under discharge condition the dynomo present there makes it fully charge so that we can get continuous generation of power.

❖ **WE CAN PRODUCE 220-240 VOLTS OF A.C.**

Directly get, dc power for lightning purposes.Here from dynamo outputwe can get dc output directly which can be used for lightning purposes

❖ **LESS NOISY COMPARE TO..ENGINES & GENERATORS.**

DISADVANTAGES

➢ It cannot handle the heavy loads such as Motors,Irons, Heater, Refrigerators, etc.

APPLICATIONS

➢ It can easily run the house hold items such as,television, table fans, tube lights,personal computers.etc effectively.

➢ We can implement this type of ideas & project in rural areas where it can easily run some appliances such as lights,fans,etc.

FUTURE SCOPE

➢ It can save money.

➢ We can implement this project in rural areas..where the peoples are suffering lot with electricity problems.

➢ By this we can easily run the common hose hold appliances such as tv ,fans,lights,etc.,, at home itself it is working as a mini generator.

CONCLUSION

➢ The main advantages of the project is that it can generate the power continuously without any fluctuations of voltage & current.

➢ It is very useful for the rural areas where electric problems are there,,& by that people are suffering lot with electricity.