



# Fabrication of Treadmill Bicycle for Energy Storage

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## Abstract:

In modern day, treadmill is the most useful device, which is generally used for exercise and walking. We have tried to make it more useful as energy storage system while using. This paper deals with the conversion of a conventional bicycle to treadmill bicycle with energy storage system. In this the treadmill bicycle is completely modified with yo-bike motor to run the bicycle, dynamometer and battery for storage system. As the speed increases the energy produce by dynamometer will be stored in battery. This energy can also be used for different purposes or for battery backup.

**Keywords:** Yo-bike motor, battery, rollers, treadmill belt, dynamometer, walking bicycle.

## I. INTRODUCTION

Exercise is advised for health promotion and prophylaxis for many cardiovascular diseases and also for rehabilitation after an episode of disease. To do exercise many method are available for example: running, jogging, walking, cycling and others. Among different mode of exercise in the modern busy life the cycling and treadmill exercises are the commonest to perform as indoor. In these project we have tried to make treadmill bicycle with energy storage that can be run outsidewhile exercising on treadmill bicycle the energy produce by the dynamometer will be stored in battery and that energy will be used for different purposes.

## II. COMPONENTS

**Rollers:-**bicycle rollers are a type of bicycle trainer that make it feasible to ride a bicycle. Roller are connected to frame by using MsRod. PVC bush are placed in roller and deep grove ball bearing 6000 which is used in light weight operation the roller will help the treadmill belt to run effectively.

**Frame:-** The material used for frame is mild steel because of its strength frame design is done according to the tread belt size as per space availability and clearance for reduction of friction.

**Motor:-** motor is an electric machine that converts electric energy into mechanical energy .for these we had used Yo- bike motor to run the belt which is mount on the rollerthe motor is mount on the back side of the bicycle

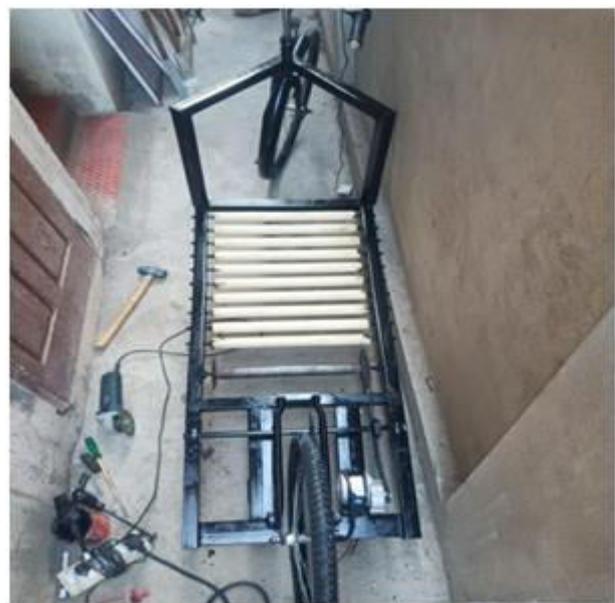
**Sprocket:-** A sprocket or sprocket wheel is a profiled wheel which has teeth, cogs, or even sprockets that mesh with a chain, track or other perforated or indented material. The name 'sprocket' applies usually to any wheel upon which radial projections retain a chain passing over it. It is different from a gear in that sprockets are never conjugated together directly, and differs from a pulley, in that sprockets which has teeth and pulleys are smooth.

**Battery:-** Battery is connected to the dynamometer for the energy storage purpose. The battery uses is of24V.the energy stored in battery will be used for different purposes like mobile

charging.

## III. METHEDOLOGY

In our day today life we see that many people use bikes cars as a source of transportation these result in environmental pollution and fuel consumption. Batteries which are widely used in automobile sector is not rechargeable. The normal treadmill is stationary and indoor. To overcome the above problems we take initiative by designing energy storage system by using treadmill bicycle which is green bicycle and the battery is rechargeable. This bicycle is able to run on road also as the bicycle run with the help of motor the treadmill belt will run mounted on roller as the belt move and the energy is produce with the dynamometer that energy is stored in the battery . This bicycle is green bicycle and a walking bicycle for exercises purposes. The energy stored by this mechanism will be used for different purposes



## IV. RESULT

In this paper we had made a energy storage system using treadmill bicycle. This bicycle is able to run on road also as the

bicycle run with the help of motor the treadmill belt will run mounted on roller as the belt move and the energy is produce with the dynamometer that energy is stored in the battery . This bicycle is green bicycle and a walking bicycle for exercises purposes. The energy stored by this mechanism will be used for different purposes

## V. REFERNCES

[1]. Suhasinee Ravindra Deshmukh, Namita Vishnu Sanap, Rahul EknathDhoble,” DESIGN OF WALKING BIKE”,4TH International Conference On Science, Technology And Management.(Indian International centre, New Delhi),

[2]. Virendra Ahire, Nirav Patel,Dhruv Amin Harshal Barot,” Fabrication of walking cycle”, International Research Journal of Engineering and Technology (IRJET), Volume: 03 Issue

[3]. Larry C. Papadopoulos, North Plains, Jennifer D. Hole, North Plains, “Bicycle Treadmill Having Automatic Speed And Resistance Adjustments” United States Patent Application

[4]. PiaHua Lo “Linkage Structure of Treadmill” United States Patent