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How To Build A Bicycle Generator by saullopez52 (/member/saullopez52/)



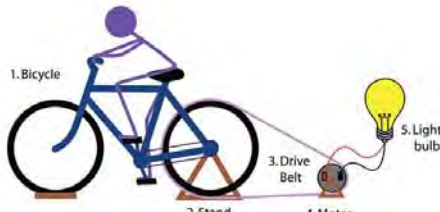
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The intent generator phones, le engineerir



uman powered bulbs, blenders, cell will help one develop erating electricity.

The project was created as part of Infrastructure Academy's environmental technology curriculum for high school students, so it is intended to be both achievable and affordable.

Before continuing with the actual bicycle generator, one should understand how it works, and the components that make it up. View the PowerPoint presentation before moving on to the next step.

Parts Tools

- 2" X 4" Wood
- Wrench
- V-belt
- Saw
- Diode
- Wood screws or nails
- Battery
- Hammer or Screwdriver
- Inverter
- Tape Measure
- Wire
- Screwdriver
- Motor (12-V or higher)
- Perforated plumbers steel
(if motor does not have mounting bracket)

Note: The bicycle generator could be accomplished by skipping steps 5, 6, 7, and 8, to save money, but connecting anything other than a halogen lamp directly to the motor is not recommended due to the varying voltages.



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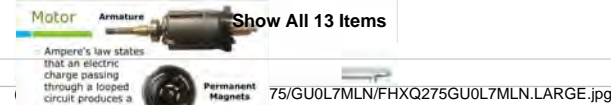
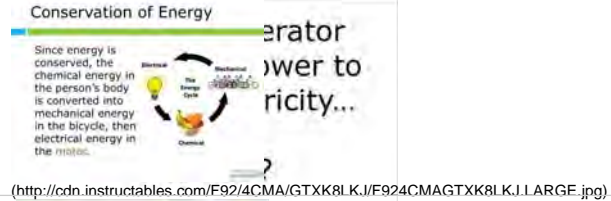
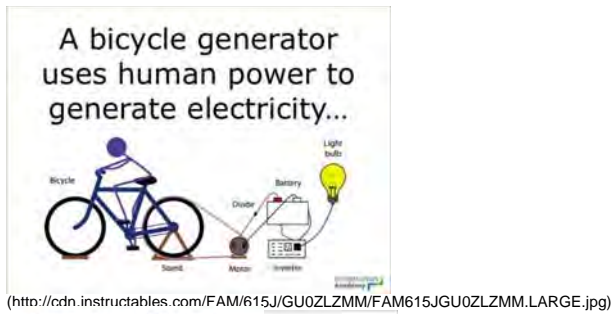
Step 1: PowerPoint Presentation

How Does a Bicycle Generator Work?

The diagram shows a bicycle on a stand. A motor is connected to the rear wheel. The motor is connected to a diode, which is connected to a battery. The battery is connected to an inverter, which is connected to a light bulb.

Energy Generation and Distribution

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Step 2: O remove the back tire.



You will need to unscrew the back rim to remove the tire and tube. Since the only part of the bicycle that needs to work is the chain and pedals, a junk bike or an old used bike would work just fine.

Step 3: Build a stand to elevate the bicycle off the ground.



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The design is up to you. A few examples are shown below. Just make sure your stand accommodates that feature.

The stand should be designed so the rear wheel of the bike is about 5-7 inches off the ground. Your stand will be specific to your bike.

Before building the stand, be sure to draft a design with appropriate dimensions on paper will save time and prevent mistakes.

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Step 4: Attach the drive belt along the back rim.



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A drive belt can be purchased at any auto parts store. You will need to remove the back rim to attach it. Make sure to measure the distance from the motor to the rim so you obtain the appropriate size.

Step 5: Attach the motor to the stand.



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A 12-volt D depends on the stand. the motor there is no



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ended. The wattage of the motor motor should be securely mounted to that will tightly secure the drive belt on should spin concurrently – make sure

Step 6: Place a diode in series with the motor and battery.



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Make sure the diode is only allowing current to flow from the motor to the battery. The cathode should be pointing towards the positive terminal of the battery.

Step 7: Connect battery to the diode.

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The battery should be connected in series with the motor and diode. The negative lead from the motor should attach to the negative terminal of the battery. The positive lead from the motor should be attached to the diode, and the diode to the positive terminal of the battery.

Step 8: Connect the battery leads to the inverter.

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You could use an adapter to connect the battery to the inverter, or you will need to solder or tape the battery's leads to the inverter so the circuit is secure. Be sure to correctly connect the positive and negative terminals of the battery to the inverter or you will blow the fuse in the inverter.

Step 9: Plug the appliance of your choice into the inverter.



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Once the motor is secured to the belt, you will need to use a multimeter to measure how much voltage is being exerted while you pedal. Depending on how much you exert, you will be able to power small appliances. With the knowledge you've gained, try to make changes that will make your generator better and more efficient.

Fun Ideas

Here are just a few suggestions to what you can do using your new bicycle generator.

Charge your phone and exercise: Ever charged your phone and just waited until it was done charging? Why not get a workout and charge it at the same time! See how much time it takes to charge your phone. Try to set a time and try to beat it in the future.

Human-Powered Smoothie: Think you can make a smoothie without wasting energy in your home? See if you can generate enough energy in your bicycle generator to run a blender. Then, see if the blender has enough power to make a smoothie.

Eco-Breakfast: If you are the type of person who wakes up in the morning wanting to exercise, then try this. Use the bicycle generator to make some waffles and toast. There's nothing like building up an appetite, exercising, and cooking at the same time.

Think about some more fun ideas you can execute using the generator and test them out!



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