How to Build a Bicycle Generator by

abemckay (/member/abemckay/) in energy (/tag/type-id/category-workshop/channel-energy/)

(/contest/greendesign/) (/contest/parktoolbike/)

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Using a few easily accessible parts, you can make a bicycle generator that can power various electronic appliances, such as laptops and batteries!

Materials needed:
Bicycle Stand
Bicycle frame
24V DC scooter motor
DC-DC battery charger
A car battery, or something similar
DC-AC inverter
Wires for electrical connections and various bike parts and tools.

A multimeter might be useful to check various voltage differentials between different objects.

The specific hardware we used:
Motor: 24V 300W Scooter Motor (http://www.monsterscooterparts.com/24v30mowisp.html)
Battery: 12V 18 amp-hr lead-acid battery model 7448k51

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(http://www.mcmaster.com/#large-cell-batteries/=momtve)
Charger: Thunder 620 battery charger- 300 Watt 20 Amp (http://www.hobbypartz.com/75p-0620-charger.html?gclid=CMDXkuXS17YCFUeCQgodiWQAQg)
Inverter: 400 Watt inverter Model 6987k22 (http://www.mcmaster.com/#dc-inverters/=momvq6)

Step 1: Bike Stand

(/file/FF85LGRHFSHV48R/)

(/id/Constant-Current-Source-with-Operational-Amplifier/)

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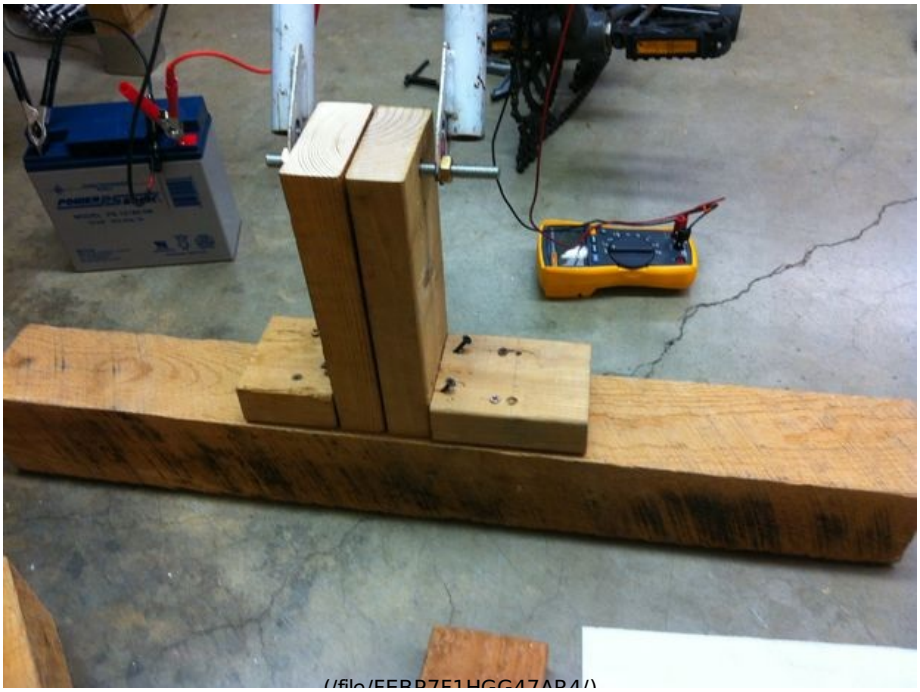
homage to duchamp's bicycle wheel - a dual mode led lamp (DC hub generator or AC plug...

First you need something to hold your bike. You can either build your own bike stand or buy them. We used a bought stand for the back and made our own for the front.

Buy a stand: These stands are especially nice for the back wheel because some of them are adjustable from side to side (right and left to the rider). This variation makes aligning the connection to the motor easier.

Step 2: Make a Stand for the Front Wheel



For the front bike stand, we used a few blocks of wood. The base was created by a 4x4x24” wood block. Using two 2x4” planks, we created the bolt-holding blocks by making a ⅜” hole high enough to be comfortable when you ride. For us, this ended up being about 12 ½” from the ground, but this is variable depending on the size of your bike.

The support blocks sandwiching either side of the two high blocks were made by sawing about 4 inches off of the 2x4s. These support blocks were attached into the base block with 2.5” screws, allowing enough space in between the blocks to fit the tall bolt-holding blocks.

Finally, 3” screws were drilled in diagonally from each side at the support blocks, through the bolt holding blocks, and into the bottom block. We threaded the ⅜” bolt through the holes in both 2x4s to create a place where the front fork of the bike could be rested. A good idea when drilling screws is to pre-drill your intended location with a slightly smaller bit than your screw. This makes the process a lot easier.

This is for those who only have the bike frame. If you have a front wheel attached, don't worry about this!

Step 3: Bicycle Frame

Any bike frame will do, as long as the pedals spin the chain.

Step 4: Bicycle to Motor

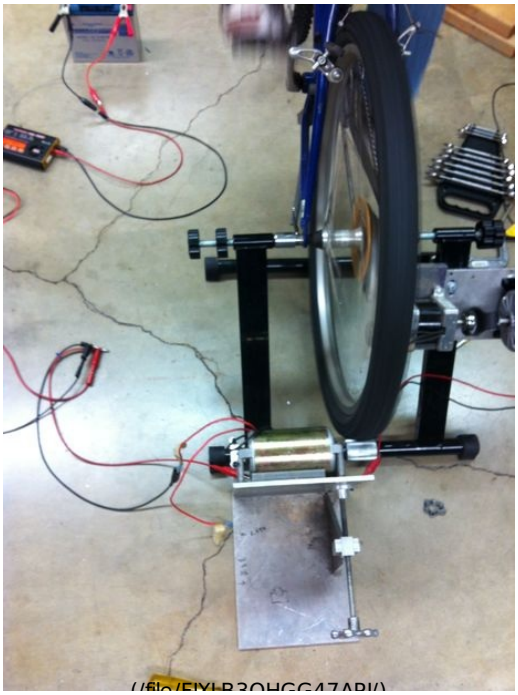
Here you again face a choice: you can use the back wheel to spin the motor, or you can go more directly from the chain to the motor. Using the back wheel wastes some energy in friction and spinning a mass. But getting the correct gear ratio for the chain-to-motor strategy proves difficult.

This step is the most hands-on and difficult of the process. We recommend that you use the back wheel as the connection to the motor. However, if you want to have a more efficient connection, we also have a more complex option.

Why you need a motor: the motor converts movement of your legs into DC electricity.

Choosing a Motor: A stepper motor, car alternator, or an electric scooter motor will all work. We used a scooter motor. The motor produced voltage proportional to its RPM . The motor produces current based on the load attached.
For reference (http://www.900mpg.org/electric_building.php), a mountain bike tire going at 20 mph spins at 250 RPM. Additional RPMs for the motor come from the ratio of the wheel size to the frictional cylinder on the motor.

Step 5: Back Wheel Option



Making a bike generator using the back wheel is the more common method. Find a motor that can mount a cylinder that can grip well to the back wheel of the bike. Using a hinge and various plates of aluminum, you can construct an adjustable mount for the motor that will allow you to vary the amount of contact between the cylinder and the wheel. You attach the motor to the upper plate, and adjust the position or angle of the plate with a bolt or screw.

The back wheel option will give you all the RPM that you need-the gear ratio between the wheel and the cylinder in the back creates plenty of RPM and thus more than enough voltage.

Additional RPMs for the motor come from the ratio of the wheel size to the frictional cylinder on the motor.

Step 6: Chain to Motor Option

(/file/F9NCHUDHGG47ANI/)

Show All Items

To attach the drivetrain of the bike directly to the motor, you will neen a few changes of gear ratio.

Adjust the main chain from the largest chain ring in the front to the smallest gear in the back. If you have a de-railer (the thing hanging down that changes the back gears) you do not have to adjust the chain length. Otherwise, this instructable (https://www.instructables.com/id/How-to-Use-a-Bicycle-Chain-Tool/#step1) by carlo.urmy can tell you how to adjust the chain length.

If you want, you can remove the back rim from the axel by cutting the spokes, but spokes are tough.

Get a second chain and adjust it to go from a large back gear to your gearbox (more on this soon). Your back gears will now have two chains on it. If you make slots instead of hole when you attach the gearbox to the stand, you can slide the gearbox up and down to adjust the tension on this chain.

Even with the double chain, you will probably still only be producing 3-6 volts but the pedaling will be very easy. The scooter motor produces voltage proportional to the RPMs (revolutions per minute) of the motor shaft.

Gearbox Strategy: To get more rpms spins, we added a gearbox with a 1 to 8 ratio. A gearbox or transmission just takes the spins of an input shaft and turns an output shaft some faster or slower. Our gearbox was an old dual-shaft motor AC motor. We added a coupler to the output shaft of the gearbox and input shaft of our motor. With the extra rmps, the bicyclist had no problem generating the voltage. However, our gearbox also had a feature that slowed the rpms when too much torque was applied. Unfortunately, this feature made our motor only produce .7 amps when the battery was engaged.

Chain-ring on the back gear: We also bolted a large chain ring (gear) to the back gears to get a larger ratio. With this strategy we could produce 12-15V.

Motor Choice: Another way to adjust for the rpms is in your choice of motor. Our motor was rated at 24V when turning at 2800RPMs rpms. Motors with lower rated rpms will be harder to turn but will produce higher voltage per turn.

Regardless of how you get extra rpms, you will need to spin a shaft with the bicycle chain. We took a small gear off of a cassette and welded it to a metal sleeve. Then we drilled and tapped a hole, and screwed in a bolt to secure the gear to the shaft. Couplers are also available for sale.

Good job; that was the hard part.

Step 7: Motor to Charger

Why you need a charger:
To charge, batteries need a voltage slightly higher than their output voltage. Putting in too high a voltage can damage the internal circuitry of the battery, reducing its lifetime. Usually, circuits trickle a little bit of current in a battery. But with a bicycle cranking out watts, you want to put whole amps. Battery chargers hold the voltage steady at the appropriate point, and then increase the current allowing higher than normal transmission of power.

Picking a Charger:
Remember that the voltage of your motor will be varying with the speed of your pedaling. The charger we used takes anywhere from 12-24V. Though chargers may brag outputs of 10s to 20s of amps, batteries cannot stand such current. For example, the battery we used has a maximum charging current of 5.4 amps. Check that the current of your charger matches the limit of your battery.

Connecting:
With a multimeter, measure the voltage coming out of your motor. Connect the positive output of the motor to the positive input of the charger and vice versa with the ground wire. Depending on the direction you spin the motor, the positive wire may not be the red wire; the motor works both directions but gives inverse voltage. If you can adjust the output current. As you may expect, larger current charges the battery faster but makes pedaling harder.

A word of warning: Do not **overload** the charger! Depending on your gear system, it can be very easy to put out more than 24V. Doing so will break your charger. If you will not be the only one using the system, consider adding zener diodes in case of excess voltage.

Some numbers for thought:
An iPhone 5 battery has a capacity of about 1440 mAh. Let's say you

output 2 Amps from the bicycle into the 12V battery, and use a socket on the inverter to charge your phone. Then it would take 40 minutes of pedaling to create enough energy to charge your iPhone from nothing to full capacity. Likewise, at 4 amps, only 20 minutes.

To charge the entire battery, it would take about 9 hours when outputting 2 amps.

Step 8: Charger to Battery

Why you need a Battery:
Charging your laptop could take a few hours, but you probably do not want to be on your stationary bike for that long. The battery holds your generated watts to be dowled out on an as-need basis.

Choosing a Battery:
If a traditional car batterys are called lead-acid batteries; You do not want lead-acid dripping from you battery if you tip it over. Furthermore, we heard (http://www.bicycology.org.uk/what_we_do/energy_trailer/build_a_pedal_generator.pdf)that if a car battery is tipped over, it can short circuit and explode. .
Marine batteries or sealed batteries can withstand the tipping of a tumultuous world. Make sure your battery is rechargeable. And finally, choose the capacity of the battery to match your needs. We chose a 18 Amp-h battery because it holds about three laptops (http://www.apple.com/macbook-pro/specs-retina/)worth of energy.

Connecting: Use the same caution as you do when jumping your car. Connect the positive terminal first for added safety. The voltage across your battery will be different when you are charging, when it is sitting, and when it is discharging; they will be about 14V, 12.5V, and 11 V respectively. The spec sheet (http://www.power-sonic.com/images/powersonic/sla_batteries/ps_psg_series/12volt/PS-12180_12_Sept_10.pdf) for our battery warned to stop charging when the voltage reached 14.4 V.
Check your battery's spec sheet for its max voltage point.

Step 9: Battery to Inverter

Why you need an inverter:
The AC inverter converts the DC voltage from the battery into AC voltage, which is what comes out of most electrical wall sockets. You'll often see inverters on a small scale in car adaptors, where they take the power from the cigarette lighter (which is hooked up to the car's battery). Most general purpose AC inverters are Modified Sine Wave inverters. If you want to know more about how these inverters work, here (http://electronics.howstuffworks.com/gadgets/automotive/dc-ac-power-inverter.htm) is a good reference source.

Choosing an inverter:
When shopping for inverters, you want to look for a few features. First, make sure that the output AC voltage is at the level of wall plugs. Wall

sockets usually put out about 120V, but it isn't absolutely necessary to have your voltage match that; anything from 110-130 Volts AC will be fine. Be sure that the frequency of the output is at 60 Hz, which is standard in the United States.

Another thing to consider is the watts that the inverter can output. The power needed from the AC inverter will depend on the type of electronic appliance you are trying to use. For some reference, cell phone recharging takes less than 5 watts, while a microwave will consume 1500 watts! Since price goes up with the power output, you will need to make some decisions on how much you want to spend and what appliances you expect to power.

Another important feature to have is an inverter that can take a range of voltages. Many general purpose inverters will only take in a 12 V DC input. Since the actual output of a standard recharging battery can vary from less than twelve to just over 14, it is important to find an inverter that will be able to take that range of voltage inputs.

Finally, to protect your appliances it would be important to keep the inverter in an open location. Transforming DC to AC will create some heat, and circulation is important to keep the inverter functional.

As for our choice of inverters, we decided to go with the Wagan 400W converter with two additional 5V USB ports, from McMaster-Carr (model 6987K22) . We knew that we weren't going to be attaching high power appliances to our generator, yet we needed enough to power something like a desktop computer and monitor, which combines to about 250 watts of power. This inverter will recognize if there is an overload of input voltage and shut off, protecting your appliances from surges. It also came conveniently with battery clips, which we used to hook up the battery to the inverter.

How to hook it up:
Using the battery clips, hook up the positive and negative leads to the matching leads on the battery. When attaching the second clip, expect a small spark as the circuit completes. Make sure that you're holding the rubber ends of the clips when hooking up the battery.

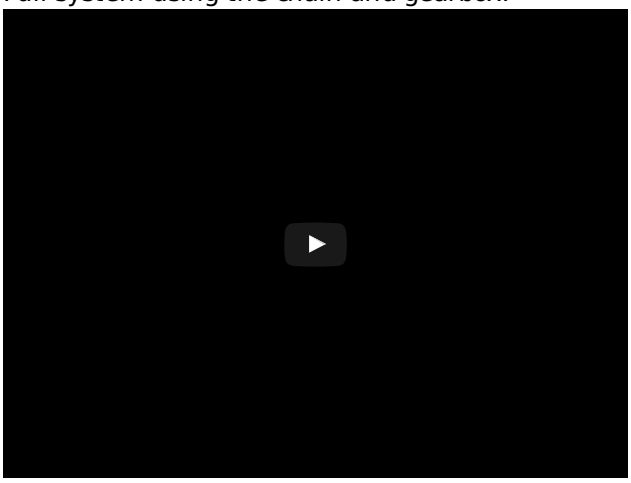
Step 10: Videos!

Here are some videos of the system in action.

full motor to charger using back wheel

Motor to charger

Full system using the chain and gearbox:



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Please be positive and constructive.

I Made it! Add Images Post Comment

Wazzupdoc (/member/Wazzupdoc) 4 years ago Reply

I'm working on a similar project. I have a frame and will mount a wheel and gear on the back axle to power a bare rim. I envisage the rear rim as a pulley. I have an old clothes dryer drive belt I'll use to drive the generator from the rim, adding a few more RPMs. I'm playing with the

generator portion now. I purchased a rebuilt alternator from Pep-Boys for about the same $ as your 24 volt motor. I'm leaning toward the alternator because of the plethora of automobile parts/adapters/interfaces to 12volts batteries and DC/AC Inverters. I have a solar trickle charger on board as well. Thanks for the inspiration!

abemckay (/member/abemckay) (author) ▸ Wazzupdoc (/member/Wazzupdoc) 4 years ago Reply

Using a dryer belt sounds like a great way to get from the wheel to motor. Best of luck on your project!

HollyS42 (/member/HollyS42) a year ago Reply

This is a great, comprehensive guide! I'm wondering a couple things though:

1. Can you build this without a battery, so that it would only charge when pedaling?

2. If we were to create multiple pedal->motor systems, could we connect them to the same charger/balancer?

3. If we were going to split or change the current (in order to adjust the charging speed), could we do that between the charger and inverter? or maybe after the inverter?

Any guidance is appreciated; I'm still learning a lot about electronics!

Alderin (/member/Alderin) ▸ HollyS42 (/member/HollyS42) Reply a year ago

Hi Holly!

Your question #1 makes me think that your inspiration is close to mine: I wanted to build a pedal powered generator for the TV + video-game systems in the house so my kids would have to get at least SOME physical activity in with their "play". :-) However, the battery is a necessary component to balance things out. The 'ible warns that it is easy to damage a battery without a proper charging system, it is much more easy to damage anything you would plug in to a system without the balancing, smoothing effect of the battery.

For #2, while there are chargers available that can take multiple different power inputs to charge a battery bank, they are designed for home based solar+wind generation, and are quite expensive. I haven't done a comparison myself, but I expect that each pedal system having a charger and battery will end up most easily afforded. Combining the batteries to power the inverter is more easily done.

For #3, this is a motor/generator decision. Depending on the design of the motor (or generator, or alternator), you may be able to change the amperage that it can provide. You might even be able to configure a system to change it during operation (like varying the tension on an exercise bike). However, this is the only place in the system where you can adjust this, and such adjustment is not (generally) simple, and should probably be a design-time decision. All of the power, thus all of the potential to speed things up or slow things down, comes from the generator. The more amps, the harder to pedal, but the faster things charge.

GenesGrnMachine (/member/GenesGrnMachine) ▸ Alderin (/member/Alderin) a month ago Reply

Regarding your inspiration, I've come up with a design that doesn't require a battery, you can go straight to a DC to AC inverter, then plug into a TV and other components into it. I use it to charge my mobile phone and other devices like ipads, laptops, chromebooks, e-readers or whatever is lying around the house needing a charge. Easy to build with off the shelf parts - google Genes Green Machine if you want to check it out.

TonyTigger (/member/TonyTigger) 10 months ago Reply

abemckay, Great project, but wondering about that Large Ring Gear, did you make it? Or where did you source it? Thnks!

AndresM56 (/member/AndresM56) a year ago Reply

Can it be mobile? So that we can move around the city while we charge phones, computers, etc. ...

schiller12345 (/member/schiller12345) 2 years ago Reply

Is a diode needed?

Aline IobanaA (/member/Aline IobanaA) 2 years ago Reply

I have some questions about how much has generated with your prototype about the voltage and the current and the time you recharge the battery Thanks for your help :) because im working in something similar

aaron.gardner.7549 (/member/aaron.gardner.7549) 2 years ago Reply

So these kinds of things fascinate me and want to build one but i'm a total nub when it comes to electronics and motors. Any tips on where to start learning this stuff like books or small projects?

ai4px (/member/ai4px) 4 years ago Reply

Why not take the tire off the rear and run a big lawn mower V belt around the rim? You could probably run a 12 alternator from a car with that (and it has a V belt pulley on it!

abemckay (/member/abemckay) (author) ▸ ai4px (/member/ai4px) 4 years ago Reply

That's what Wazzupdoc thought too; it's a good idea.

Jerz (/member/Jerz) ▸ abemckay (/member/abemckay) 3 years ago Reply

Keep in mind that the idle speed of a car engine is around 800-1000 RPM.
Using a car alternator directly driven by the rear wheel, you'd have to
be the flash to sustain any usable power.

peopleunite (/member/peopleunite) ▸ Jerz (/member/Jerz) 3 years ago Reply

My bicycle's rear wheel sits on an axil. I get about 18 rotations with one full rotation of the wheel. That should give me plenty of RPMs.

anurag2479 (/member/anurag2479) 3 years ago Reply

working on this project

peopleunite (/member/peopleunite) 3 years ago Reply

I was hoping to make a direct drive, without the need of a pulley, but I'm stuck. I thought I got lucky with a good deal on a used bike resister. It's a bike stand with the rear wheel sitting on a cylinder (the resistance part is for exercise, but loosen it all the way and it's great for a generator). I also got a car alternator. The problem is the axis of the cylinder on the bike stand is about 10/32 of an inch wide, while the axis of the alternator is about 20/32". I was hoping to find a coupling at the hardware store that would screw onto both ends, but I guess it's too big a difference. Nobody carries anything like it. I would try searching online, but I'm not 100% sure of the measurements (done with just a ruler) let alone the thread width. The threads on the axis of the alternator look fine for something that big. I don't even know how they are measured. Any suggestions?

If I can't solve this, plan B will be to install a pulley. But it seems like an extra complication that could lead to more problems. I don't want to lose RPMs.

jayneil1234 (/member/jayneil1234) 3 years ago Reply

hey do you think it is possible if i maximized the use of the bike im trying two use 2 motor to generate electricity one is with chain and the other is on the back wheel. do you think i can pedal the bike... i also seen on other post they remove the rubber on the back wheel and putted a belt connecting it with the motor. what you will produce more electricity?

myrepublic (/member/myrepublic) 3 years ago Reply

has anybody thought about replacing the wheel with a heavy flywheel? I know the engineering would be a little more difficult, but the rotating mass at speed would mean that it would continue to generate electricity after you stop pedaling. A speedometer mounted on the flywheel would let you know when you would have to pedal to speed up the flywheel to maintain optimum output, instead of pedaling continuously. Again this goes to extra cost, but one could add a second or more alternator and increase the electrical output. This type of setup is my goal.

ty.zardoz (/member/ty.zardoz) 3 years ago Reply

Some automotive alternators require that you supply voltage to "flash the field" before the alternator will produce electricity. Do a Google search to learn more about this.

stubbsonic (/member/stubbsonic) 3 years ago Reply

This is exactly what I want to try to build. I have a trainer and could modify it. But I have a bunch of questions.

I'm leaning toward the car alternator version (because it would be cheaper). Unfortunately, I don't know what features to look for. Is there some rating about "torque" (?), in other words, should I be looking for something on how easy/difficult it is to rotate the shaft? Are there other specifications I should look for? I'm hoping to maximize power output (if

I'm saying that correctly), so that I can get the most electricity possible for a reasonably cost.

Is a rim-drive possible with an alternator? Or is that too difficult to turn? I suppose I could find a used back wheel with gear cluster so I could put a belt on the wheel itself. I'm imagining this would be no easier to turn.

On the charger (or charge controller?) I'm guessing I'll need to make sure my choice of alternator & battery will affect what kind of charger I need. Should I choose this first and get other components to match or get alternator & battery first and then pick this last?

For the battery, I've seen something called "gas & coil" (optima) batteries that supposedly last longer. But any advice about which deep charge battery to get would be appreciated.

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abemckay (/member/abemckay) (author) ▸ stubbsonic (/member/stubbsonic) 3 years ago Reply

Thanks for your interest stubbsonic! I'll try to help the little bit I can:

I've never heard of "gas & coil" batteries, but you are looking for deep charge batteries, as you say. Google and wikipedia know more than I do.

I don't know that much about alternators either, but I found a study by these guys (http://alumni.media.mit.edu/~nathan/nepal/ghatta/alternator.html) from MIT that may give answers your questions. They say alternators are usually rated for between 2,000 to 10,000 rpms. This is similar to the 2800 RPM rating of our scooter motor. I would imagine that using a back wheel (with some kind of belt) would give around the 3,000 RPMS you would want for an alternator, as it did with our motor.

If you use an alternator, you may not need the charge controller. In that same (http://alumni.media.mit.edu/~nathan/nepal/ghatta/alternator.html) alternator article, they say, "The alternator has a regulator that tries to keep the voltage across the battery at a steady 14.4V (the optimal voltage to recharge 12V car batteries). It does this by regulating the amount of current flowing to the field coil"

In our project the difficult-of-pedaling depended on the current which was in turn set by the charge controller. The RPMs and output voltage are similar for alternator and the motor/charger setups, so I'd imagine the third part of that balance - the difficulty-to-pedal - would be similar too.

Good luck with your project, and let us know how it goes! Additions are always welcome, and we'll be sure to give you credit!

stubbsonic (/member/stubbsonic) ▸ abemckay (/member/abemckay) 3 years ago Reply

Thanks so much for taking the time to respond. This link is very helpful. For the rim-drive, there is a small rubber wheel that clamps up against the rim of the wheel (on the same part of the bike wheel where the brake pads squeeze). This little wheel has a diameter of roughly 9", so maybe there would be 10 revolutions of the alternator per one revolution of the bike wheel. My guess is that this would be comparable to having a big belt on

the entire wheel rotating the shaft of the alternator.

TJ72 (/member/TJ72) 4 years ago Reply

I'm building one that is powered by a 25cc 2 stroke from a weed eater...

Macattacku (/member/Macattacku) 4 years ago Reply

Yes tge charger is nice. I just wanted to point out u could save money by leaving it. Isnt yours low powered tho? Ive seen bike gens 300 watt+.

estructor (/member/estructor) ▸ Macattacku (/member/Macattacku) 4 years ago Reply

Leaving it out might have another issue; I'm not an expert on this, but when I built a bike generator & during early experimentation, I found out that it's possible to have power inadvertently backfeed from a charged battery. This made the pedals on the bike turn backwards! (and would have drained the hard-won juice from the battery.) I've been told that a diode needs to be included in the wiring arrangement. A diode is generally included inside devices like inverters/converters/chargers. I used an inverter (for its USB & 110v outputs) between the bike motor & the battery, and this made the project better, and solved the 'ghost pedaling.'

KROKKENOSTER (/member/KROKKENOSTER) 4 years ago Reply

This looks good now how can I suddenly get fit enough to keep this Instructable at full power

Macattacku (/member/Macattacku) 4 years ago Reply

Let me just say that higher voltage will not damage a lead acid battery. With lead acid the only thing that matters is amps. You can charge it with 1000 volts dc if you want but as long as your under that 5 amp charge current the battery will drop all that extra voltage. The only time when charging at 1000 volts or anything high is a problem is when the battery is fully charged. You dont need a charge controler either all you need is a voltmeter. Charge it at whatever voltage yah like just stop when it hits 14.4 volts on the battery, meaning its full.

abemckay (/member/abemckay) (author) ▸ Macattacku (/member/Macattacku) 4 years ago Reply

We definitely agree, you can charge up the battery at any voltage above its current potential. However, our emphasis on not having a high voltage was more for the well-being of the charger rather than the battery itself. The nice thing about the charger is that it has circuitry that helps charge the battery better. Generally (http://batteryuniversity.com/learn/article/charging_the_lead_acid_battery), it is recommended to charge Lead Acid batteries in three stages, depending on the current capacity of the battery: Constant current when the battery is low, topping charge (a sloping downward current with respect to capacity) while charging in the middle, and trickle charge, which is what you mentioned where it is important not to overload the battery while it is full. The charger that we bought managed all of that for us so we don't have to worry about our current and voltage, and helps maintain the charge and lifetime of the battery. Unfortunately, we found out the hard way that overloading the charger with a high voltage just from pedaling can break it (which was not easy to do-just be aware that the voltage

being inserted doesn't exceed the manual's recommendation) and so that was our reason for including the voltage warning. Thanks for the advice!

sparkleponytx (/member/sparkleponytx) 4 years ago Reply

Great idea! I just shared a link to it on Facebook.

Cyncha227 (/member/Cyncha227) 4 years ago Reply

I'M WONDERING IF THERE IS A WAY TO POST THIS ON FACEBOOK, does any one know?

PhilKE3FL (/member/PhilKE3FL) 4 years ago Reply

Quick note: The "Thunder 620 battery charger- 300 Watt 200 Amp" is really rated at 300W 20A, not 200A (P = IV or V = P/I so 300/200 = 1.5 Volts which would be of no use to charge a 12 V battery!)

abemckay (/member/abemckay) (author) ▸ PhilKE3FL (/member/PhilKE3FL) 4 years ago Reply

Good catch on that typo.

Joohansson (/member/Joohansson) 4 years ago Reply

Nice project! Would be interesting to calculate how many KWh you get of eating a 2000kcal pizza or something.

abemckay (/member/abemckay) (author) ▸ Joohansson (/member/Joohansson) 4 years ago Reply

Interesting thought. Here (http://mb-soft.com/public2/humaneff.html) is a link to a website that guesses people are about 20% efficient. We would then need to test the efficiency of our generator. We have not yet tried it, and I'm guessing it would be difficult to measure the energy burned by the pedaler.

mid_life_crisis (/member/mid_life_crisis) 4 years ago Reply

This is a great idea for couch potatoes. Hook the television up to it and only watch if you're pedaling.
I agree that a car alternator makes more sense than using a motor. I know the principles are the same, but it makes sense to use something that is purpose built if it's available.
I remember seeing this many years ago in a documentary on a war area. The power was constantly going out so this one fellow they followed around had done this. The bizarre thing (to me at least) was that the announcer talked about how the fellow would watch TV hoping for news that would indicate a possible end to the war so things would get back to normal and made no mention of the fact that the guy essentially plugged his TV into a bicycle.

Bradley-Johnson (/member/Bradley-Johnson) 4 years ago Reply

What an innovative way to build a simple generator. The good thing I like about it is because it uses stuff that is readily available. With this you do not need to worry about long power outages and good thing it has an

extra added advantage in that as you charge you are also exercising your body. Thank you for sharing this.

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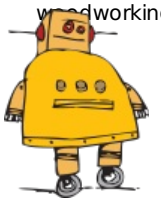

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