

Auto Repair Guide

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How to Change and Charge a Battery

How to Change a Car Battery

Five Parts: ■ [Do You Need a New Battery?](#) ■ [Before Removing the Battery](#) ■ [Remove the Old Battery](#) ■ [Put in the New Battery](#) ■ [Properly Dispose of the Old Battery](#) [Community Q&A](#)

Automotive batteries don't last forever. If you notice your headlights dimming, or if it's been three to seven years since you got a new battery, or the car needs a jump-start, it might be time for a change. You can bring your vehicle to an experienced and trusted auto mechanic, or you can get the job done yourself. Changing a battery is a quick and easy job in most cars and vans and can be done with minimal tools.

Part 1

Do You Need a New Battery?

[Edit](#)

1 **Make sure the battery needs to be replaced.** You don't want to spend time and money installing a new battery if the problem is not with the battery itself. Take the following three things into consideration:

- Look for sulfate build-up in the form of a whitish or blue residue around the terminal — removing this can sometimes solve issues with a faulty battery. This residue may indicate a bad seal around the battery terminals and is leaking the acid out onto the terminals. Note: do not touch this powder with your bare hands, as it can often contain dried out sulfuric acid which will begin to burn your skin.



- Verify that the battery has been given the chance to recharge properly by driving constantly for 30 minutes (with minimal electrical usage, including the air conditioner).
- Finally, you should [check the alternator](#). Some cars also have a battery meter, with the engine running, the alternator usually maintains a charge close to 13.8 – 14.2 volts in a properly functioning charging system. The battery should have 12.4 – 12.8 volts with the engine off, and with no accessory load.



2 Buy the correct replacement battery. Find out what kind of battery you're replacing (or the dimensions of your battery) and bring this, your car's make, model and engine size information to a local auto parts store. This is important because automotive batteries vary in size and electrical capacity and you will want to purchase a battery which matches the size of the battery tray/support in your vehicle.

- In some areas of the US, you will be charged a "core" fee when you purchase a new battery, if you bring in your old battery after or when purchasing your new battery you will not get charged this fee.

1 Set up a secure working environment. Park on a flat, level surface at a safe distance from traffic, sparks or open flames. Put on the parking brake. Don't smoke, and make sure any smokers in proximity to the working area know not to smoke as well. Remember that electricity is not the only danger; batteries contain a sulfuric acid electrolyte solution, which is highly corrosive (i.e. can burn your skin) and produces a flammable hydrogen gas. Put on gloves and safety goggles.



2 Remove the cigarette lighter and plug the memory keeper into the lighter socket. A Complementary metal–oxide–semiconductor (CMOS) will keep the PIN codes and settings for radios and navigation systems from getting erased when you disconnect the battery. If you don't have a memory keeper make sure you have all the PINs for your electronic equipment before you start. You may wish to check your car manual to see what devices may be affected.



3 Prop open the hood of your car. After opening your hood, use the prop rod to keep your hood open (Most newer cars have hoods that hold themselves up).

- Be aware that some cars have batteries locate elsewhere, like in the trunk, so you may not need to pop the hood at all.



- 1 Locate the battery.** The battery should be located in an accessible part on either side of the car's frame. The battery is a rectangular box with two cables attached to it. Some European cars (some BMW's) have the battery under the matting in the trunk, some vehicles can have the battery located under the rear seat, or some are located inside the fender of the wheel well (some Chrysler's). The latter is often very difficult to remove.



- 2 Identify battery terminals.** Locate the positive and the negative terminals of the old car battery. The positive terminal will have a plus sign (and is often red) and the negative terminal will have a minus sign (and is often black).



3 Disconnect the negative terminal. Loosen the negative cable clamp with a wrench (Usually 8mm or 10mm) and slide it off of the terminal. If the cables are unmarked, label them so that they don't get mixed up (otherwise you may ruin your car's electric system later on). It is also important that you **disconnect the negative terminal socket before the positive terminal socket**. Otherwise, you may short circuit the positive terminal to a grounded part of the car.



4 Disconnect the positive terminal.



5 Remove the car battery. Unfasten the battery holder and remove any screws, clamps or bars holding the battery in place. Carefully lift the battery out of the car. Remember that a battery can weigh 30 to 60 pounds, or 13.5 to 27 kilos, so if you have any back problems, get a helping hand.

Part
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Put in the New Battery

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1 Clean the terminal clamps and the battery tray. You can use a baking soda solution and a wire brush. If there's any severe corrosion to the terminal ends or the cables, consider repair or replacement by a mechanic. Otherwise, let the area dry before moving onto the next step.



- 2 Replace the battery.** Place the new battery where you just took the old battery out, with the positive and negative terminals on the correct sides. Connect all the screws, clamps or bars that may hold the battery in place.



- 3 Reconnect the positive terminal.** Tighten the clamps using a wrench.



- 4** Reconnect the negative terminal. Tighten the clamp with the wrench.



- 5** Apply battery lithium grease. Spray the terminals with lithium grease to prevent corrosion.



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- 6 Close the hood.** Shut the hood of your car firmly and start your car. Check that all the electronic devices are working properly. Remove any battery memory saver that was installed to save the radio memory.

Part
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Properly Dispose of the Old Battery

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- 1 Dispose of the used battery at service garages, auto supply stores, and recycling centers.** There may be a small fee for the service, but throwing the battery away as normal garbage is not an option.

- In the US, most battery retailers charge a deposit on the battery, which will be refunded with the return of an old battery.

Tips

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- If your horn goes off while reconnecting your new battery, try putting the key in the ignition on "accessories" so that the alarm knows the car isn't being stolen.
- Make sure to take off any plastic caps on the new battery, or else your car may not start and you will then have to deal with the molten plastic that you will have to remove.
- Many Auto Electric shops will perform a test of the charging system as well as the battery and advise you of your requirements. These shops are experts in the proper function of your vehicle electrical systems.
- If necessary, restart all your electronic equipment by typing in the PIN code.
- Some large vehicles have more than one battery, sometimes in different locations.
- Do not let one of the hammers hit the batteries.

Warnings

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- Do not allow any automotive battery to turn on its side or upside down.
 - You should never connect the two battery terminals directly.
 - If you wear any rings, remove them or cover them with electrical tape or latex gloves before working on electrical systems. Even a depleted battery can deliver enough current to melt a gold ring, which would result in serious injury.
 - Do not spray the lithium grease on any other parts of the engine block other than the positive and negative terminals.
 - Do not allow the used battery to come into contact with your clothes. If you do, two or three wash cycles later, holes will appear in clothes from where the acid has eaten through them. To be on the safe side, wear a disposable apron or old clothes you intend to discard soon.
 - Always wear eye protection and gloves.
1.
 - Do not put the used battery on your car's carpet without putting down plastic or other protection to keep the battery acid from getting on the carpet.
- Don't leave any metal objects on the battery as the two terminals might be connected, making a circuit.

Warnings

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- Don't leave any metal objects on the battery as the two terminals might be connected, making a circuit.

Things You'll Need

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- 1 new battery
- 1 battery lithium grease
- Tools for battery terminals: (either wrenches or sockets should work)
 - 2 adjustable wrenches
 - 8mm, 10mm, 12mm, and 13mm wrenches/sockets. Batteries with side terminals are usually 8mm, top terminals are usually 10mm but may be 11-13mm. A 13mm socket and extension is usually required for the battery holder or any bars over the battery.
- 1 PIN memory keeper (optional)
- 1 wire brush
- 1 pair of safety goggles
- 1 pair of rubber gloves

Source Link: <https://www.wikihow.com/Change-a-Car-Battery>

How to Charge a Dead Car Battery



Two Methods: [■ Before Jump-Starting](#) [■ Jump-Starting the Dead Battery](#) [👤 Community Q&A](#)

There are several reasons your car battery could die; including going for long periods of time without starting your car, storing it in freezing outdoor temperatures, leaving headlights or interior lights on while the car is turned off, and more. In order to charge a dead car battery, a set of jumper cables and a functional car with a charged battery is required. You will then have the ability to connect the batteries to one another using the jumper cables, and recharge the dead battery by transferring energy from the functional battery. Continue reading this article to learn more about the steps you can take to safely and effectively charge a dead car battery using jumper cables.

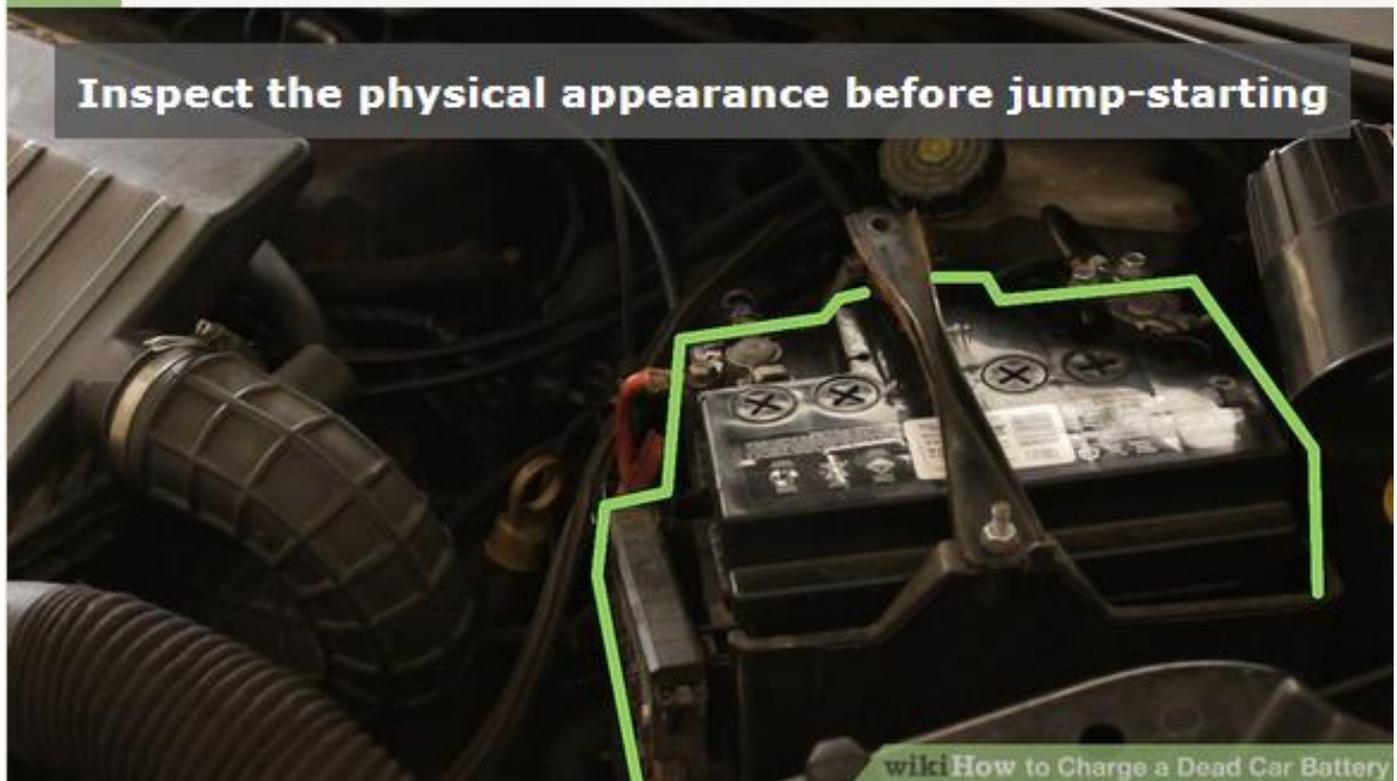
Method

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Before Jump-Starting

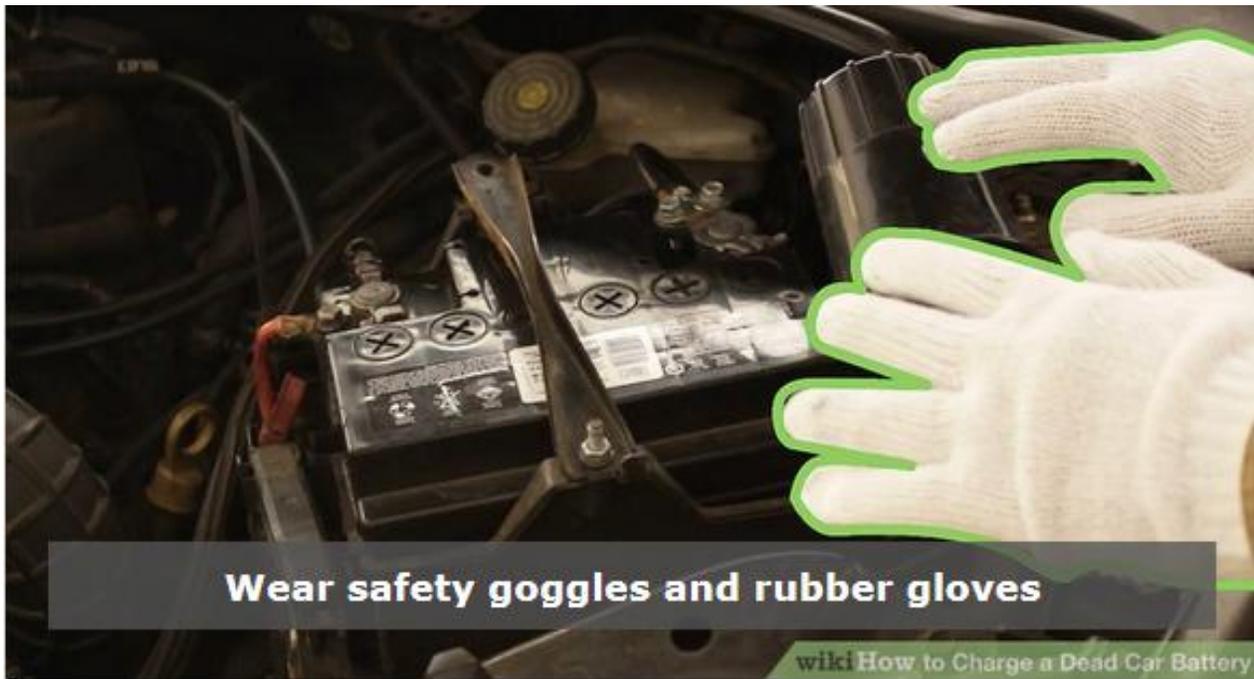
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Inspect the physical appearance before jump-starting



1 **Inspect the physical appearance of your car's battery before jump-starting.** Your battery should be intact with no cracks, and should not visibly leak any battery acid.

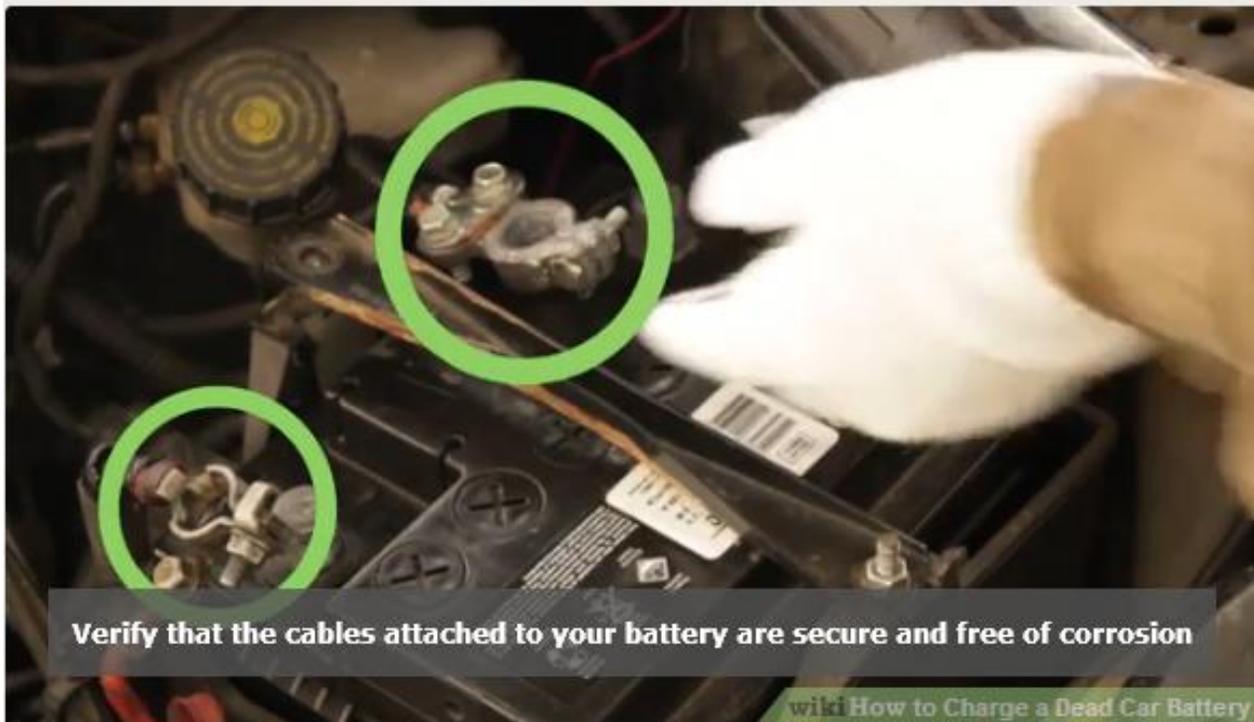
- Do not attempt to jump-start your car if your battery displays signs of these damages, as you may cause injury to yourself or others if you do so.



Wear safety goggles and rubber gloves

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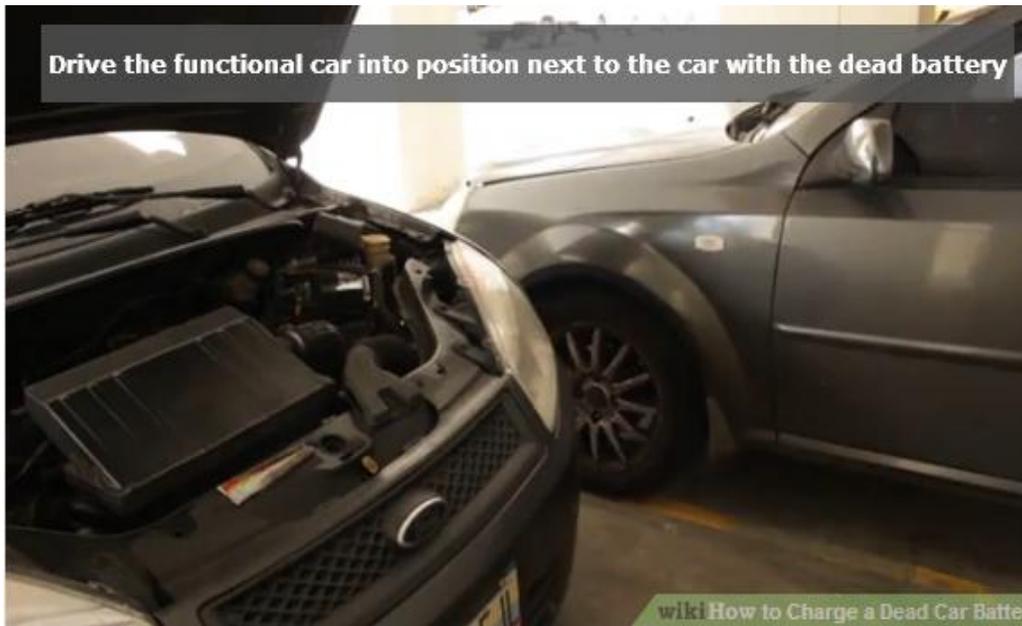
- 2** Wear safety goggles and rubber gloves before touching the dead car battery in any way. Goggles and gloves will protect your eyes and hands from any sulfuric acid that may eject from the battery.



Verify that the cables attached to your battery are secure and free of corrosion

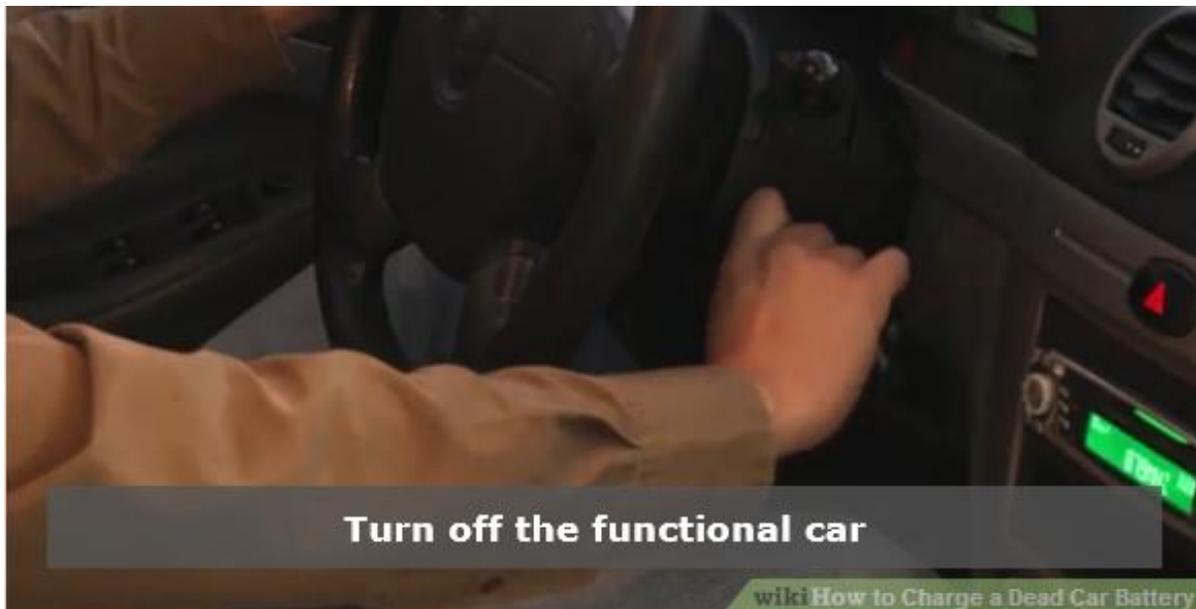
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- 3** Verify that the cables attached to your car's battery are secure and free of corrosion.
 - If your battery cables are corroded, clean them as best as possible using a brush with stiff bristles.



4 Drive the functional car into position next to the car with the dead battery without allowing the vehicles to touch one another. Ideal positions for this task are either placing the cars closely next to one another facing the same direction, or facing one another head-on, or nose-to-nose.

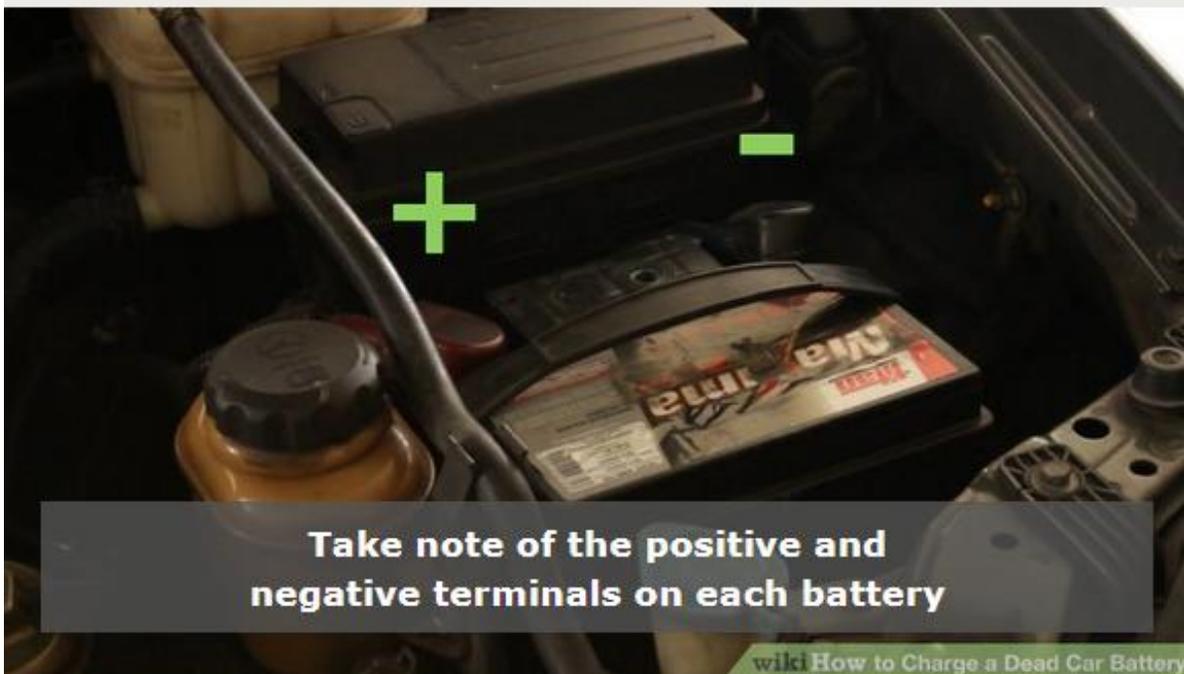
- Verify that the distance between each car's battery is close enough for the jumper cables to connect the cars together. The length of jumper cables varies greatly depending on their style and manufacturer.
- **Do not** attempt to connect two different pairs of jumper cable together if your first pair isn't long enough. This can melt the jumper cables and start a fire.



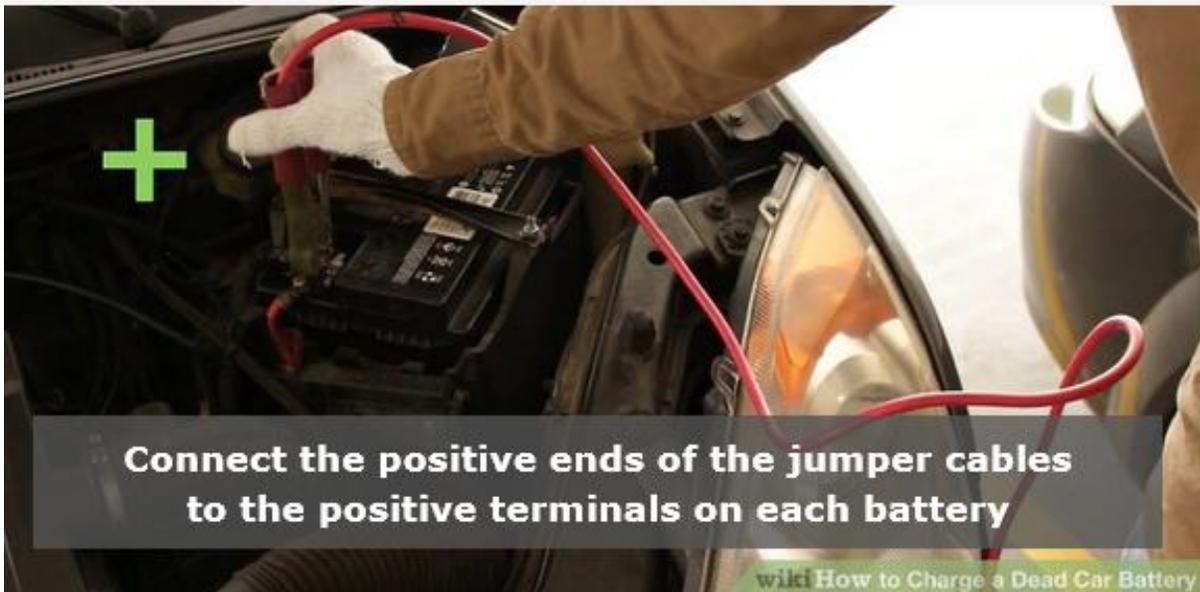
5 Turn off the functional car that contains the charged battery.



- 1 Open the hood or compartment on each vehicle in which the batteries are located.



- 2 Take note of the positive and negative terminals on each battery. Positive terminals will be indicated by the plus symbol (+), and negative terminals will be indicated by a minus symbol(-).



- 3** Connect each end of the positive jumper cable to the positive terminals on each car battery. The positive jumper cable is usually red in color if it is not labeled otherwise. The order in which you attach the jumper cables does make a difference, so follow this pattern: First connect one end of the positive jumper cable to the dead battery, then connect the other positive end of the jumper cable to the charged battery.



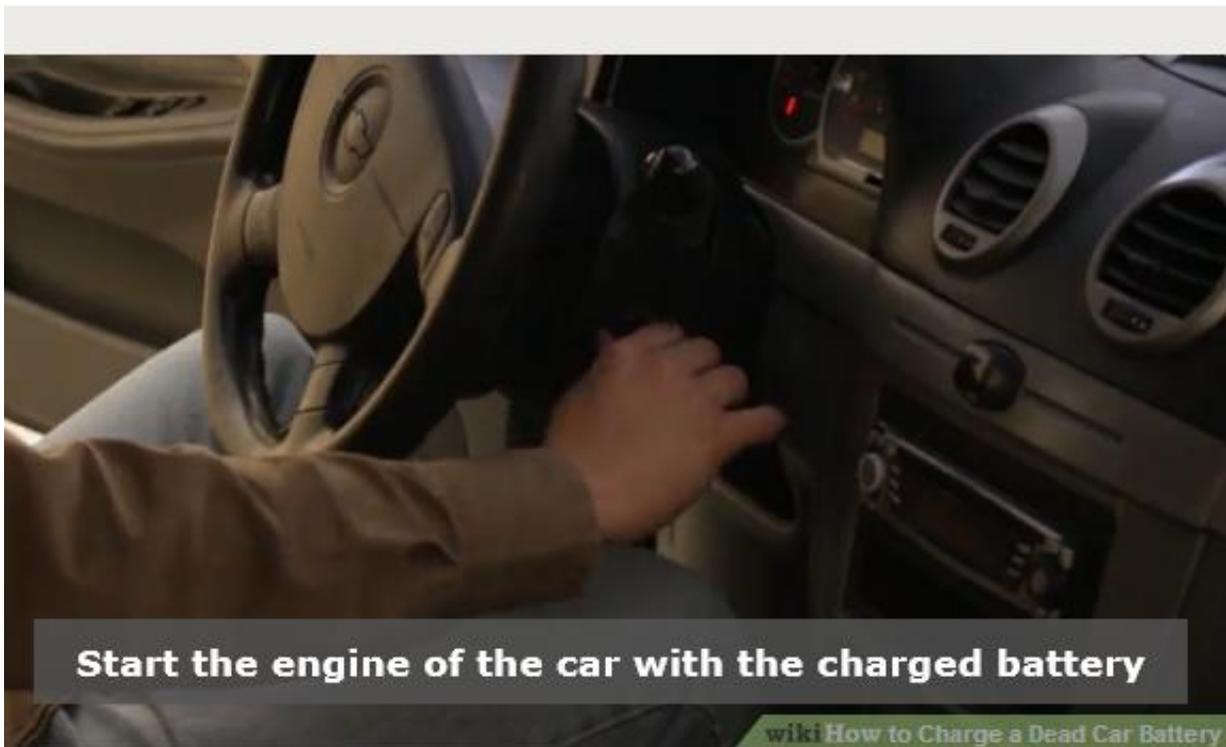
- 4** Connect one end of the negative jumper cable to the negative terminal on the functional, charged battery. In most cases, the negative jumper cable is black.



Attach the other end of the negative jumper cable to a grounded metal component

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- 5** Attach the other end of the negative jumper cable to a grounded metal component of the car that contains the dead battery. This will ground the car that contains the dead battery upon jump-starting. You can attach the ground cable to the frame, chassis, or another component that is reasonably clean and free of paint or oxidation.



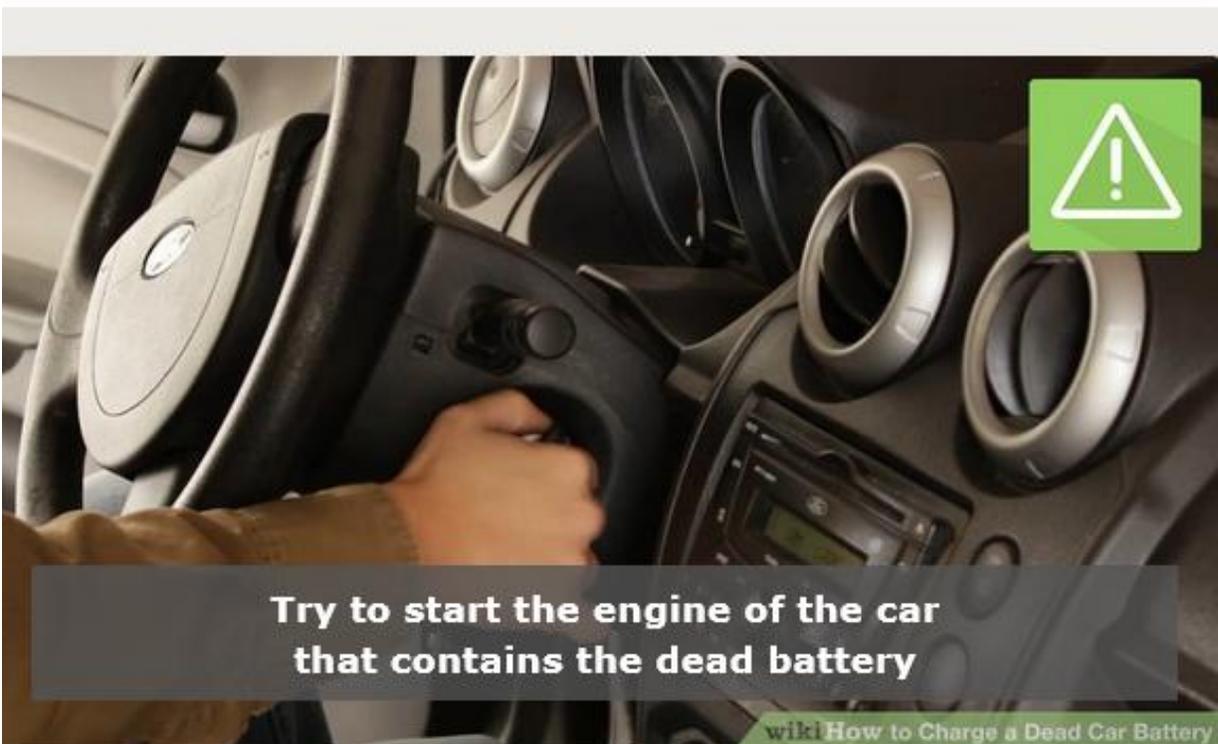
Start the engine of the car with the charged battery

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- 6** Start the engine of the car with the charged battery. Upon starting the engine, its charging system will begin to charge the dead car battery through the jumper cables.



7 Allow at least five minutes to pass after starting the engine of the car with the charged battery. This will allow the dead battery to build up a charge of its own, although it would take longer to fully charge the battery.



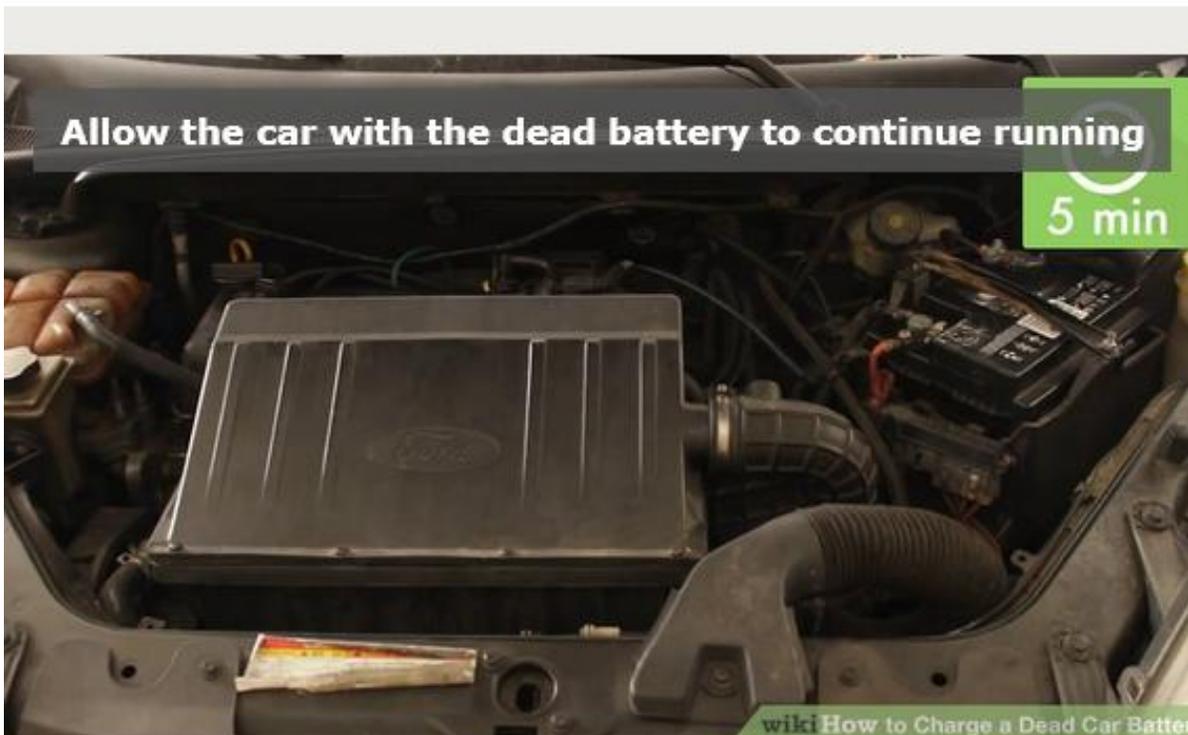
8 Try to start the engine of the car that contains the dead battery. If the jumper cables and the battery you are charging have enough power, the car engine should turn over easily and start.

- If the engine in the car with the dead battery fails to start, allow five more minutes to pass for the dead battery to charge.



9 Disconnect and remove the jumper cables from each car after the engine has started *in the reverse order in which you connected them*. This will prevent sparks or an explosion from occurring.

- Disconnect the grounding cable first, then the cable attached to the negative terminal on the battery, then the cable attached to the positive terminal of the battery of the car that provided the jump, and finally the cable attached to the positive terminal on the previously dead battery.



10 Allow the car which had the dead battery to continue running for at least another five minutes. This will allow the alternator in the car to recharge the battery.



- 11** Drive the jump-started car for at least 20 minutes or allow it to idle for the same amount of time. In some cases, your battery will become fully charged within this time period; however, it is possible that you may need to purchase a new battery for your car if the battery doesn't charge sufficiently to crank the car.

Quick Summary

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To charge a dead car battery, pop the hood of your vehicle. Connect 1 end of the red positive jumper cable to the dead battery, then connect the other end to the charged battery. Then, connect 1 end of the negative jumper cable to the black negative terminal on the charged battery and attach the other end to a grounded metal component on the car with the dead battery. Start the engine of the car with the charged battery and let it run for 5 minutes, then start the engine attached to the dead battery and let that engine run for 5 minutes.

Did this summary help you? Yes No

Tips

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- Be aware of the vehicle's temperature if idling for an extended period, since some cars may overheat during extended idling.
- Auto parts stores can quickly test a battery to determine if it is no longer serviceable.
- Some Ford cars have been known to suffer a power surge due to jump starting. To avoid electrical problems from this, make sure that your car heater is on with the heating fan turned up all the all the way and turn on the defroster. If there is a surge, the fuse to the fan will blow, and having the heating/fan on will absorb excess current to avoid electrical damage.^[1]
- Larger wire size in jumper cables allow a faster charging rate.
- Check the electrolyte level in the dead battery to make sure each cell is properly filled.

Warnings

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- Never allow the positive and negative jumper cables to touch or connect with one another at the same time when they are connected to the battery; especially while you are handling them. If you allow the cables to touch, you may melt the cables, damage the batteries, or even start a fire.
- Recharging batteries can create the explosive gas, hydrogen
- If you have a manual transmission, use the clutch carefully.

Things You'll Need

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- Safety goggles
- Rubber gloves
- Jumper cables

Source Link: <https://www.wikihow.com/Charge-a-Dead-Car-Battery>