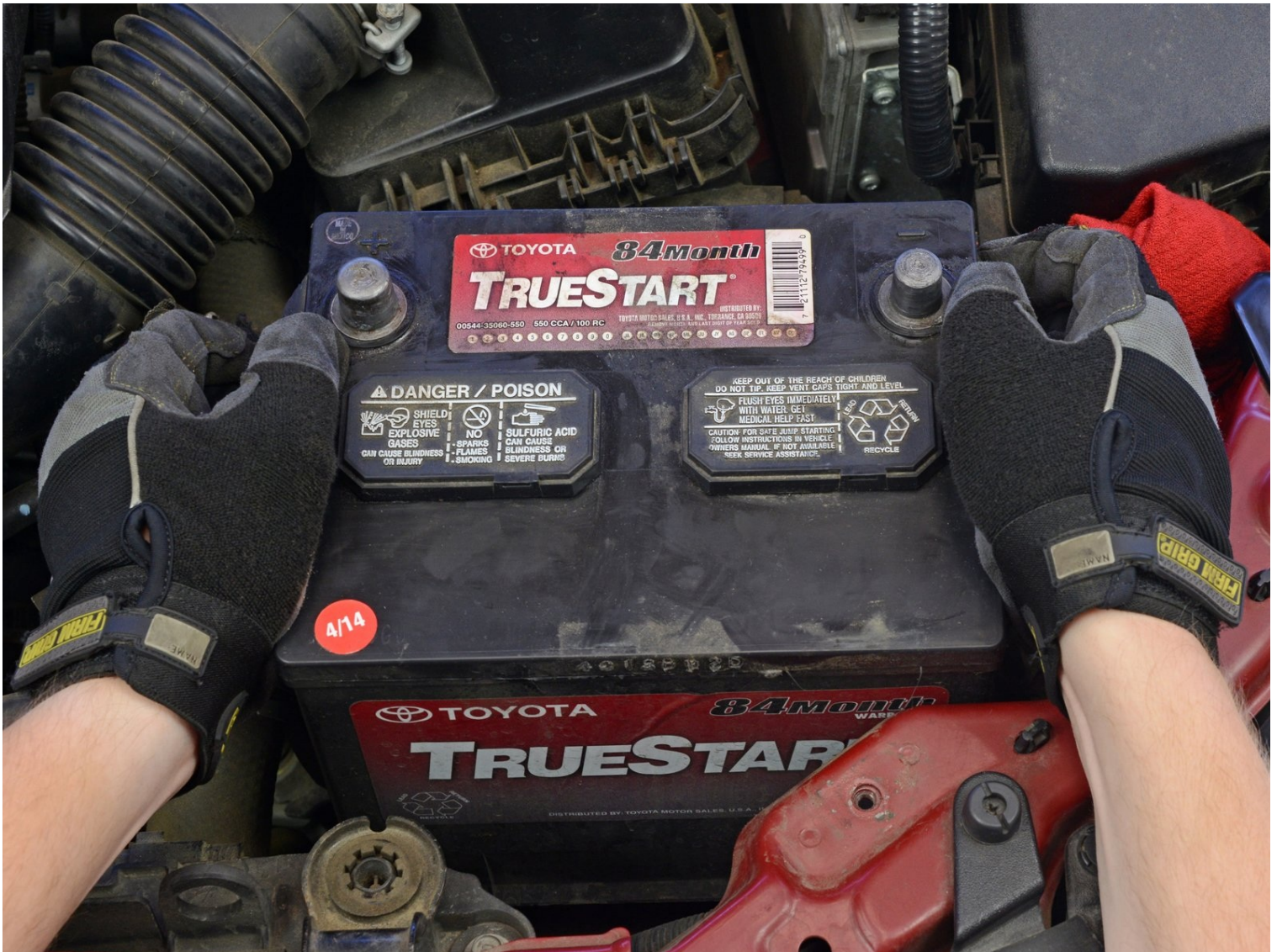




Car and Truck Battery Replacement

If your car or truck won't start, it may be...

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INTRODUCTION

If your car or truck won't start, it may be time to change the battery. A typical motor vehicle battery lasts about 3-4 years, but this lifespan can vary greatly depending on the conditions and your driving habits.

This guide uses a Toyota Corolla to demonstrate the procedure, which is similar to most common motor vehicles.

If you just need to temporarily disconnect the battery rather than remove or replace it, [follow this shorter guide](#).

Warning: Modern vehicles with a start-stop system often have a battery management system (BMS) that makes it necessary to pair the battery with special equipment after a replacement. A disconnected battery can cause infotainment, powered windows, and other vehicle electronics to lose their settings and require re-initialization. In some cases, error codes must also be resolved. Consult your owner's manual for details.

TOOLS:

[Socket Set](#) (1)

[Adjustable Wrench](#) (1)

[Leather Work Gloves](#) (1)

[Shop Towels or Rags](#) (1)

[Wire Brush](#) (1)

Step 1 — How to Disconnect a Car or Truck Battery



 Before you begin, switch the ignition **off** and remove the key.

- Make sure the transmission is in Park (or first gear if you have a manual gearbox) and that the parking brake is engaged.

 Put on work gloves and safety goggles if you have them available.

- In addition to being dirty, the battery contains corrosive agents and may release flammable gases.
- Gloves can also help protect you from an unpleasant shock if you accidentally mishandle the battery.

Step 2 — Open the hood (bonnet)



i Most motor vehicle batteries are located in the engine bay, under the hood (a.k.a. bonnet). If your battery is located elsewhere, [skip to Step 5](#).

- If you're not sure, simply continue reading.
- Pull the hood release lever. It's usually located inside the car, near the steering wheel.

Step 3



- Raise the hood by simultaneously lifting and pressing up on the hood latch release (usually located beneath the front edge of the hood, near the center or center-right).

Step 4



i At this point, depending on the vehicle, your hood may raise and support itself automatically.

- If not, use one hand to hold the hood open temporarily while securing the hood with the prop rod:
 - Lift one end of the prop rod up or out to release it from the front area of the engine bay.
 - Swing the end of the prop rod up and slide it into the cutout on the underside of the hood.

⚠ Make sure the hood is well secured before you let go with your other hand, or it may fall and injure you.

Step 5



- Locate the battery. It's normally rectangular and roughly 8-14" across.
 - ⓘ The battery may be easy to spot, or it may lie under a plastic cover—usually marked with positive (+) and/or negative (-) symbols.
- On some models, the battery may be located in the trunk—usually under or behind the trunk lining. Look around or consult your owner's manual.

Step 6



- Using a correctly sized wrench or socket, loosen the nut/bolt securing the cable on the **negative** battery terminal.
 - ⚠ Always disconnect the negative cable **first** (before removing the positive cable).
 - ⓘ The negative terminal may be marked with a minus (-) symbol, or it may be unmarked. The positive terminal is almost always marked with a plus (+) symbol, often in red.
- If the nut or bolt spins without loosening, it may be necessary to counter-hold the opposite side with a second wrench or socket.

Step 7



- Remove the cable from the negative battery terminal.
- ❗ When connecting the battery, it is advised to roughen up the battery terminals and clean the cable clamp beforehand.
- ☑ Upon reconnecting the battery, make sure to seal the pole connections with an appropriate terminal grease or terminal spray.

Step 8



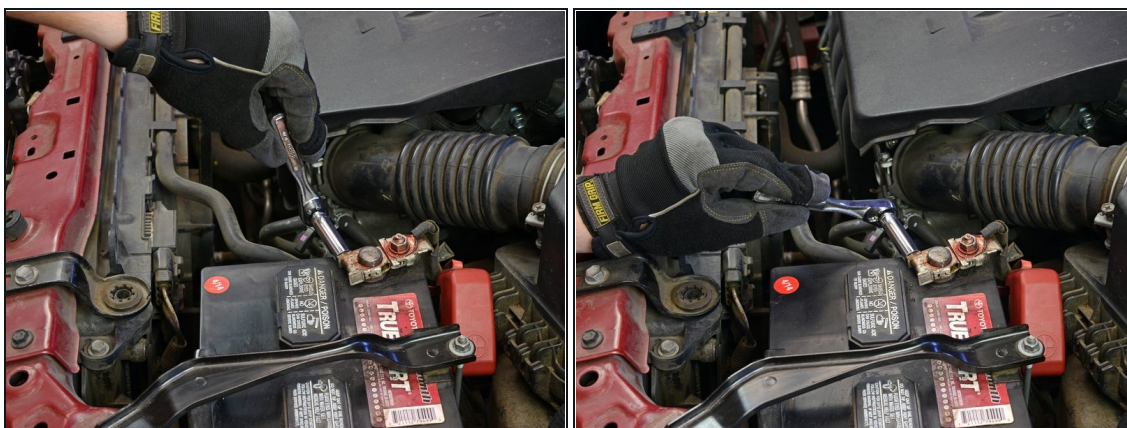
- ⚠ Prevent the cable from making accidental contact with the terminal by pushing it aside and/or wrapping the cable clamp with a dry rag.

Step 9 — Battery



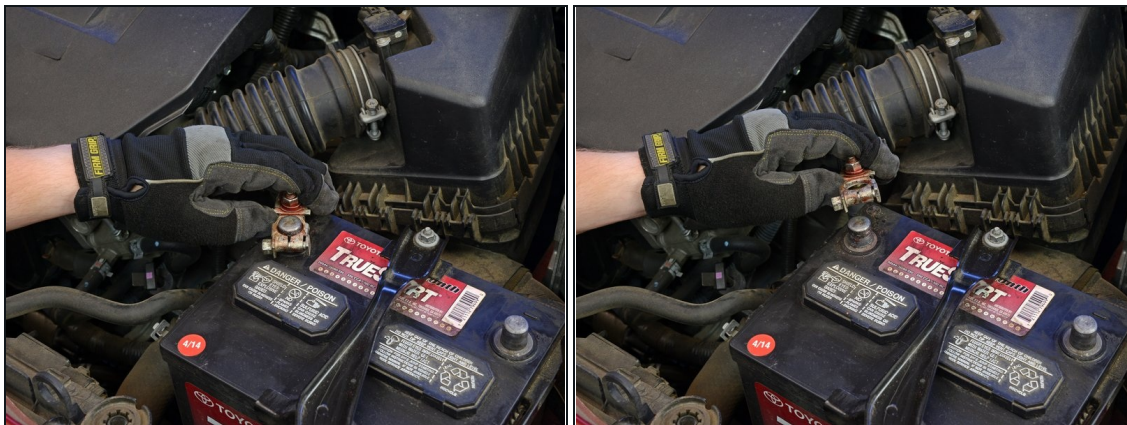
- Remove the insulating cover from the positive battery terminal (if one is present).

Step 10



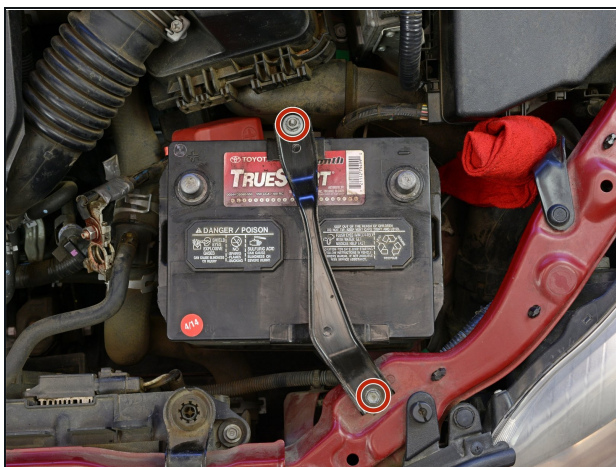
- Using a correctly sized wrench or socket, loosen the nut/bolt securing the cable on the **positive** battery terminal.
 - ⓘ If the nut or bolt spins without loosening, it may be necessary to counter-hold the opposite side with a second wrench or socket.

Step 11



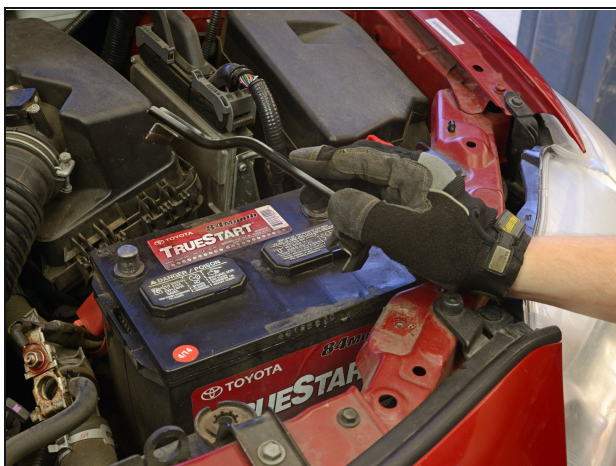
- Remove the cable from the positive battery terminal.
- ☒ During reassembly, be sure to reconnect and tighten the positive cable clamp **first** (before the negative cable clamp).

Step 12



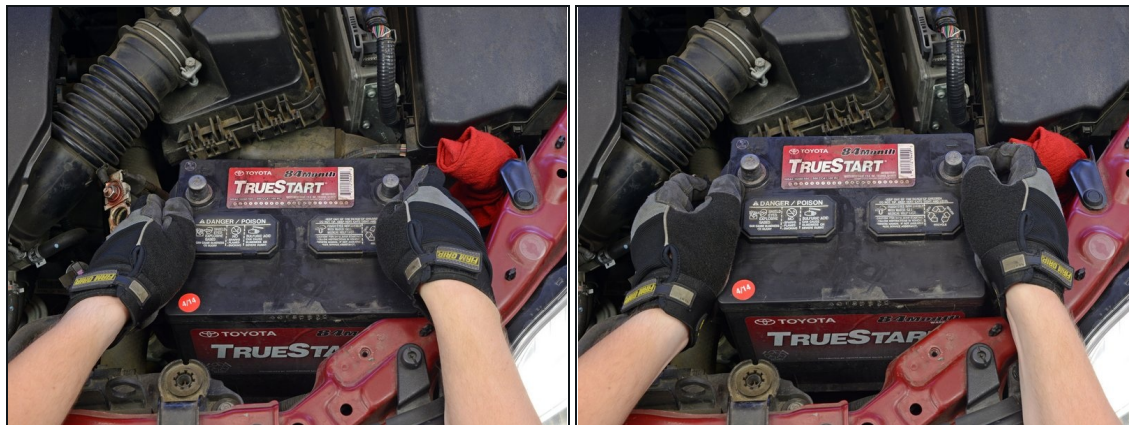
- Remove any bolts securing the battery.

Step 13



- Remove any bars or brackets securing the battery.

Step 14



- Remove the battery.

⚠ A typical car battery can weigh 50 pounds or more, so lift carefully and get help if needed. Do **not drop the battery, as this can release dangerous chemicals.**

- ☒ If your battery cable clamps look dirty and/or corroded, clean them up with a wire brush and a mixture of water and baking soda before installing your new battery.
- ☒ To prevent corrosion in the future, coat the new battery's terminals with a little dielectric grease or petroleum jelly.

⚠ Don't throw the old battery in the trash. Many auto parts stores and service stations will accept old batteries for free safe disposal.

To reassemble your device, follow these instructions in reverse order.