Battery Boosting Safety Talk



WHAT'S AT STAKE?

Is boosting a battery simple?

There are many steps and considerations that go into boosting a battery.

If a battery is not cared for properly, not used for a long time or is nearing the end of its useful life expectancy, then it can become weak and lose its charge.

WHAT'S THE DANGER?

Improper battery boosting can lead to serious injury if done improperly. Batteries commonly explode when improperly boosted, leading to worker exposure to risk of acid burns and injuries from flying objects.

The following composition and make-up of batteries is self-explanatory why battery boosting is more than what "meets the eye".

1. Lead-acid batteries are built with a number of individual cells containing layers of lead plates immersed in sulphuric acid. When the sulphuric acid comes into contact with the lead plate, energy is produced. The battery will have a negative and a positive terminal on the top or side of the battery, and will have vent caps on top. The purpose of the vent caps is to allow for the escape of gases formed when the battery is charging. In addition, the vent caps allow water and acid levels of the battery to be checked during maintenance.
2. Lead-acid batteries can produce explosive mixtures of hydrogen and oxygen gases when they are being charged. If ventilation is poor, the escaping hydrogen creates an explosive atmosphere around the battery. Always keep sparks, flames, burning cigarettes, and other sources of ignition away from the battery recharging area because the gas can be ignited. The result of an explosion could be severe burns and/or fire.

HOW TO PROTECT YOURSELF

Follow Instructions

You might think boosting is as simple as connecting the battery of a disabled car to that of another vehicle, but it’s not always that easy. For example, most recent-model cars have a fuse installed on the battery’s positive terminal connector to protect the electrical system from power surges. Connecting a jumper cable to the wrong side of the fuse can cause it to blow, possibly damaging one of the many electronic devices found in modern cars.

After the Boost

A battery is completely dead when the engine doesn’t make a sound when you attempt to start it. Contrary to popular belief, it’s important to leave the cables connected to both running vehicles at least five minutes after the boost in order to charge the dead battery. This precaution reduces the risk of a power surge, which can occur momentarily when the jumper cables are disconnected. Once the disabled car has started, it’s best to run its heating and defrosting systems on high for a few minutes to counter the effects of a possible surge.

Roadside Assistance

Given that damage caused by a surge is not covered by any warranty, taking a chance could be very costly. If your car battery is dead, the best thing to do is call a roadside assistance service, whose experts can advise you on the procedure to follow.

Feel comfortable doing it yourself? You must comply with the procedure recommended in the vehicle owner’s manual.

Steps to follow in Battery Boost

- Connect a red jumper cable clamp to the positive (+) terminal of the dead battery.
- Connect the other red cable clamp to the positive (+) terminal of the working battery.
- Connect a black cable clamp to the negative (-) terminal of the working battery.
- Connect the other black cable clamp to the disabled vehicle’s engine block or one of the major engine-connected metal components, such as the alternator bracket. This connection must be at least 30 cm away from the battery to prevent a spark from causing an explosion. Don’t attach the jumper cable to the ground terminal of the dead battery or to a body panel.
- Start the engine of the car that’s providing the boost.
- Try starting the disabled vehicle by following the cold-weather start recommendations found in the owner’s manual. Don’t engage the starter for more than 15 seconds, or you may damage it.
- To remove the cables, follow the connection sequence in reverse order.

Advice before the Boost

- Make sure both vehicles are not in contact with each other.
- Examine the dead battery, making sure it’s not frozen. If its walls are rippled or bubbled, don’t perform the boost. Not only may a frozen battery explode, but since it’s no longer able to hold a charge, the alternator will have to work harder to power the electrical system, which may cause premature wear of this very expensive part.
- Remember that a battery releases an explosive gas called hydrogen. Watch

out for sparks or any open flame. Refrain from smoking.
- It’s very uncommon for batteries to leak, but if this happens, avoid contact between the battery electrolyte and the eyes, skin and clothing of those present. Electrolyte is a corrosive solution that can cause severe burns. In the event of contact with the electrolyte, wash the affected area immediately with large quantities of water and see a doctor as soon as possible.
- Wear work gloves and remove rings and bracelets. Wearing safety goggles is strongly recommended.
- Turn off all electrical accessories (heating, lighting, air conditioning, etc.) and engage the parking brake. If your car has a manual transmission, place it in neutral; if the transmission is automatic, place it in park.

FINAL WORD

BACKGROUND

Improperly boosting a battery can be dangerous and cause chemical burns, explosion, fire, and/or electrical shock.