

TST #118

## Jump-Starting Batteries

Lead-acid batteries, the kind commonly found in cars and trucks, contain corrosive acids that can cause severe burns. Burns may also result from contact with the battery if it catches fire. Batteries also give off hydrogen gas that can create inhalation hazards. Use caution when “jump-starting” or re-charging a dead battery with jumper cables. It only takes a spark from a cigarette, static electricity or a booster cable to ignite the gases emitted by the battery which may result in a serious accident.

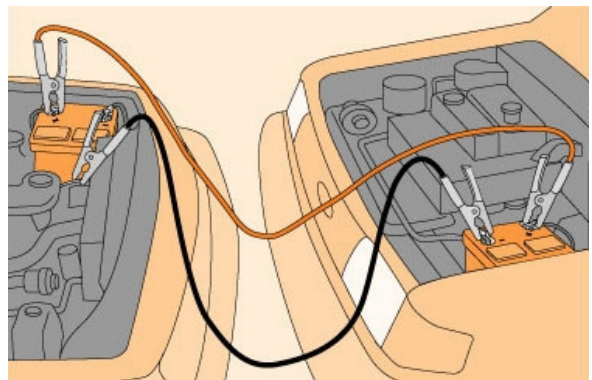
Wear gloves, safety glasses or even a face shield when working with batteries and don't smoke.

### Before Jump-Starting

- Check the terminals and clamps of the battery to make sure that the battery is really dead. The terminals and clamps may just need cleaning.
- Check the battery for cracks and loose wires. Do not jump-start a damaged battery.
- If the battery needs fluid, add enough to reach the fill line. If the fluid is frozen, do not jump-start the battery.

### How to Jump-Start

- Make sure that the voltage rating of the charged battery and the rating of the dead one are the same.
- Attach a red-handled/positive jumper cable clamp to the positive terminal of the dead battery (+ marking).
- Attach the red-handled clamp on the other end of the cable to positive terminal of the charged battery.
- Clamp the black/negative cable to the negative terminal (- marking) of the charging vehicle.
- Ground the other end of the black/negative jumper cable on a clean, unpainted part of the disabled vehicle.
- With the assisting vehicle's engine running, start the disabled vehicle's engine. If it does not start, wait a few moments longer and try a few more times.



Example of correctly installed jumper cables.

### After Jump-Starting

- Once the vehicle or unit is running, remove the cables in reverse order by unclamping the negatives first, then positives.
- Allow the engine to run for approximately half an hour to charge the battery.
- The Lead Acid Battery can store a lot of energy at a low voltage. Never short circuit the battery by touching anything metal from the positive to the negative side. The high current discharge can be enough to melt metal.

# Jump-Starting Batteries Quiz

The following statements should be answered with "True" or "False." Answers below.

1. Hazards present in car batteries include acid, hydrogen gas and high currents.
2. You can smoke near car batteries as long as you wear a face shield.
3. The voltage rating of the charge battery and the dead one must be the same.
4. To safely jump-start a car battery, first connect a red clamp to the positive terminal of a charged battery and the other end to the positive terminal of the dead battery. Then connect a black grip to the negative terminal of the charged battery before connecting the other end to an unpainted metal part of the disabled vehicle.
5. It doesn't matter in which order jumper cables are removed.

**Employee Name:** \_\_\_\_\_

**Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Answers:**

1. True
2. False
3. True
4. True
5. False