

MSU - Dawg Tracks

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MISSISSIPPI STATE UNIVERSITY™
EXTENSION

Battery Charging

A dead battery in cars, trucks, and equipment is not uncommon. The first thought is to get a jump start. If that doesn't work, it may be time to put the battery on a charger or replace it with a new battery. Corrosive acid, explosive gases, electrical burns, and back injury are all potential hazards that can be avoided by following these safety tips.

Jump Starting:

- Check owner's manual, as newer vehicles may have specific instructions.
- Make sure both batteries are the same voltage and vehicles are not touching each other.
- Be very careful not to let the booster cable clamps touch each other or come in contact with car parts.
- Be sure of your polarity when arranging the jumper cables:
 1. Connect the first cable to the positive (+) terminal of the good battery; then attach the other end of that cable to the positive (+) terminal of the dead battery.
 2. Next, attach the second cable to the negative (-) terminal of the good battery, and make the fourth and last connection to a clean metal part, such as the engine block of the car being energized, rather than to its negative battery terminal. This completes the electrical circuit, as if it were connected to the dead battery, but if sparks are produced, it serves to keep them away from any explosive battery gases.
- Remove the cables in the reverse order of connection.

Battery Charging:

- Don't charge a frozen battery. Allow the battery to warm to above 32°F before charging.
- Remove all jewelry, put on protective eyewear & gloves.

- Place the battery in a well-ventilated area & away from other work areas that may could cause problems (hot work) since batteries emit explosive gasses.
- If applicable, remove the vent caps and check the battery's water level and, if low, add distilled water to cover the tops of the plates. Do not overfill. Reinstall vent caps.
- To determine if the battery needs to be charged, test it with a hydrometer to determine its specific gravity and/or with a voltmeter to determine its state of charge.
- While the charger is unplugged, connect the leads to the proper battery terminals.
- Set the charger to the proper settings for your battery, for example, 6-volts vs. 12-volts, low-maintenance vs. sealed, standard automotive vs. deep cycle. Plug in & turn charger on.
- Do not allow the battery to become overheated or hot to the touch. Discontinue charge if battery bubbles or spews acid as this is a sign of overcharging or internal damage to battery.
- Immediately after the battery is fully charged, turn off and unplug the charger. Continuing to charge a fully charged battery may severely damage the internal plates and shorten battery life. (If using an automatic charger, it will automatically shut off when it electronically senses the battery is at or near a full charge.)

Battery Replacement:

- Never lay your tools on top of the battery. They could come in contact with both posts, or the positive post and a ground, creating a short.
- Batteries are heavy. If you must move one, use a battery strap as a handle, keep your back straight-don't bend at the waist. Don't twist your spine as you lift or move it.
- Installed battery must be secured - bungee cords do not count as secure. Legit hold downs will prevent the battery from turning over, coming in contact with other components, or movement to prevent rubbing a hole in the battery's case.

For more info contact – Leslie Woolington
MAFES /MSU-EXTENSION
Risk Mgmt. / Loss Control
(662) 325-3204

Sources:
<http://www.ibslhc.com>
<http://www.toolboxtopics.com>