Technical Notes

A-Technical Tip Battery Charging
By Lynn Sondenaa

I am writing this article because this is the season for battery problems. If you do not follow some simple rules you could have some major damage! I recently had a friend blow up their 6 volt battery inside their Model A. How could that happen? This article will help to explain the possibilities.

A typical lead-acid storage battery is composed of two sets of plates, one which is made of lead dioxide and one made of sponge lead. Electrolyte is sulfuric acid diluted with water. This solution causes the chemical action to take place between the two sets of plates. Electrolyte is also the carrier that moves electric current in the battery. This process has a byproduct of hydrogen and oxygen forming to create a very explosive gas.

So here are some safety precautions to follow when charging batteries. First, spilled electrolyte can "eat holes" in cloth, clothing and upholstery; burn skin and stain painted surfaces. Eye protection should be worn when working around batteries. Second, remove the battery caps or vent plugs so the gas pressure will not build up, and it will be released during the charging process. Third, keep cigarettes, open flames, trouble lights using incandescent bulbs, and electrical sparks away. (Do not disconnect or connect electrical wires and terminals during the charging process). Fourth, never lean over the battery when hooking up clamps or charging the battery. If you want to look inside the cells use a mirror. Charge in a well ventilated area. Fifth, it is best not to use high-rate fast charge cycles, unless the battery is under constant observation. High charging causes violent gassing which will heat up the battery case and can lead to the battery exploding.

Here are the correct steps to follow when charging a six volt, positive ground Model A battery:

1. Disconnect the – negative lead. (Starter cable)
2. Battery charger is unplugged.
3. Do not attempt to charge a frozen battery.
4. Remove the battery caps or vent plugs.
5. Check the water level. (Use only distilled water)
6. Set the charger to 6 volt slow charge or trickle charge. (1 to 4 amps)
7. Attach the charger ground to the + positive terminal.
8. Attach the charger hot clamp to the – negative terminal.
9. Plug in the battery charger. (If your charger has a timer, turn it on).
10. Monitor the battery every hour. It generally takes six to eight hours to charge a dead battery.
11. If ever mixing electrolyte *pour the acid slowly into the water*.

Battery Notes

1. The large diameter terminal is +
2. The small diameter terminal is –
3. Red is generally positive +
4. Black is generally negative –
5. Avoid accidental "grounds" resulting in sparks, or breaking live circuits which results in sparks.
6. If the battery charger amp gauge needle pegs you are probably connected wrong.
7. If the battery water appears to hard boil you are charging at too high of an amperage or you are connected wrong.
8. I would advise you to place large tags on your charger leads so you have a visual of the positive and negative leads.
9. The battery charger needs to be in a dry place for charging, not wet.
10. OPTIMA batteries can only be trickle charged. (1 to 2 amps)