



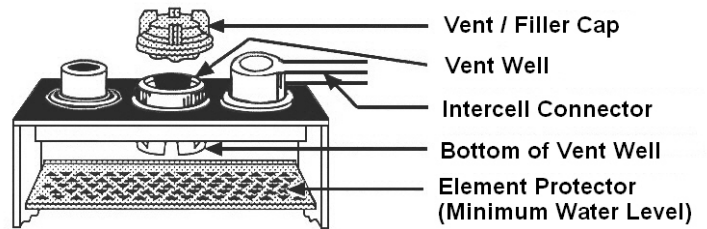
## Proper Battery Care

### CHARGING:

- Under normal circumstances, we recommend charging when a battery reaches 80% depth of discharge (near the “red zone” on most discharge meters), not before.
- New batteries are designed to provide a minimum of 1,500 charge “cycles”. If your application is light to medium duty, or sporadic, charge only when necessary rather than daily. It will spread the cycle life of the battery over a much longer period of time, and ensure you get the maximum number of productive years from your investment.
- Select “weekend”, “equalize” or “weekly” charge (depending on your brand of charger) approx. every 10 to 20 cycles to keep the battery performing at peak efficiency. Failure to do so or selecting this option on a daily basis *will* harm the battery and shorten its effective life.

### ADDING WATER:

- New batteries require water approx. every 10 charges for the first few years. Reconditioned, or older batteries may require water every 5 charges.
- On both new and reconditioned batteries, we recommend you check 2 or 3 pilot cells every 5 charges to verify the water level is just above the perforated Element Protector (see diagram) after charge.
- If low, add only enough water to cover the Element Protector by approx.  $\frac{1}{4}$ ” in every cell. The additional space is necessary for expansion while gassing at the end of charge. Overfilling will cause overflow.



### CLEANING:

- If a battery ever overflows, rinse it with water immediately afterwards (baking soda optional) to prevent corrosion on top of and beneath the battery. Use enough water to thoroughly dilute the spilled acid to the extent that it is not harmful to the environment.
- The spilled acid is both highly conductive and corrosive. If not rinsed away, the conductivity can cause the battery to discharge itself, even while it is not in use, and generate additional heat during use and recharge.
- Over time, acid left on top of the battery will form clumps of conductive white corrosion. If it is allowed to accumulate, it can dramatically shorten the life of the battery and make checking and adding water an unpleasant experience which employees will tend to avoid, as well as the obvious safety concerns.
- Acid vapors escape during charge, and an acid residue will form around the vent cap area even under normal circumstances. We recommend that batteries be rinsed every spring and fall (or as needed), to remove the acid residue from the battery.

### NEVER:

- Never over fill. It will cause overflow on the next charge cycle. Acid loss shortens run time, generates more heat, and requires costly shop service to correct.
- Never make a habit of giving short charges during lunch or break time. Each short charge constitutes a “cycle” and over time will significantly affect the performance and life of the battery. It also causes excess heat that will make the battery less efficient than not charging at all. It’s better to let a battery rest and cool during lunch or breaks.
- Never interrupt a charge cycle if it is avoidable. It is recommended that once a charge cycle is initiated, it be allowed complete.
- Never allow a battery to sit discharged for more than a few days to avoid “sulfation”. If it becomes necessary to store a battery for any period of time, charge it prior, and once every 3 to 6 months thereafter to avoid damage.
- Never allow a battery to go completely dead (unusable). It will take over 72 hours of continuous charging to bring back to full charge, and may require shop service to restore full charge.
- Never continue to use an overheating battery. If a battery ever radiates excessive heat during use or charging or emits a strong sulfur smell, discontinue use and call for service. You have a battery, charger or lift problem.
- Never allow sparks or flame near a charging battery. Batteries produce explosive hydrogen gas while charging, which could cause an explosion resulting in injury or death.

### Never over discharge a battery:

- Deep discharging will harm the battery and cause all of the forklift’s electrical components to run excessively hot. Significant lift truck damage can result, including complete motor failure, burned armatures and brushes, and burned or stuck contacts, which can quickly render the truck unsafe and unusable.
- Deep discharging can easily increase the recharge time outside your charger’s range to recover, causing the battery to be only partially charged for the next day.
- Most automatic chargers must sense a minimum battery voltage to activate and turn on. If the battery is below the threshold voltage, you will not be able to recharge the battery and may require a service call to manually start the charger.
- If you don’t have a working discharge indicator, we recommend installing at least a simple “passive” discharge indicator. They are available for about \$75.