

Forklift Battery Care and Maintenance

Knowing the correct maintenance methods for your battery powered forklift or other material handling machine is an important part of ownership. After all, the battery could be considered one of the most expensive parts of the machine that can go wrong, so it's important to know what to look for and how to help prolong its' life. Below are some important points to help you get the most out of your battery:

Distilled Water Level

The most common aspect of battery maintenance is probably maintaining the correct water level. If the water level depletes too much, the battery's plates can be exposed to air. Once this happens, oxidation can occur which can permanently reduce the capacity and reduce the battery's lifespan. As well as usual water evaporation, the charging process also contributes to this water loss. Charging the battery breaks the water down into its composite molecules (hydrogen and oxygen in gaseous form will escape through the battery vents).

Charging the battery will cause the electrolytes inside to expand. Because of this, it is important to top up the battery after it has been on charge. Doing this beforehand risks overwatering and can cause boil-overs during the charging process.

With regards to the above, filling the battery to the correct level is important. Battery cells should be filled to about 1/4-inch above the element protector. The water level should not be filled to the top, as this allows no room for the expansion of the electrolyte during charging. If you do not have a filling mechanism that fills all the cells' at the same time, you will need to check each individual cell and fill appropriately.

As the title suggests, it is important to use distilled water to top up your battery - not regular tap water. Tap water contains additives and minerals which can collect on the cells as the water evaporates, leaving residue that can reduce battery capacity.

To start, check this water level a couple of times a week to be safe.. After a few weeks, you will be able to gauge how much water the battery is using and you can work out how often it needs filling up. Keep an eye on this however, as a change in water consumption can indicate an issue with the battery or charger (if the forklift is not being used any more than regular). It is worth noting that the more usage and recharging the battery undergoes means you will have to check this level more regularly.

When To Charge The Battery

It is important to not allow the battery level to get too low when it is in use. It is recommended not to allow the battery to get below 30% charge before recharging. Discharging the battery any more than this can seriously reduce the batteries' overall life expectancy and capacity.

Battery Charging Tips

It was mentioned previously that during charging, gasses are produced. These gasses have the potential to be flammable in certain mixtures, so it is important that the battery is charged in an approved, well ventilated charging area.

Each time a battery is plugged into to be charged, it uses a cycle of the battery's life - regardless of how long you leave it on charge. It is therefore important to try and avoid charging for short periods of time (during lunchbreaks etc), as these short charges will deplete the battery's life. A battery typically has around 1500 cycles, so it is wise to use those cycles on uninterrupted charges where it can be left to reach its maximum capacity.

Don't allow a discharged battery to sit for extended periods of time. Doing so can damage the unit and further decrease its efficiency and capacity.

After every 5-10 charge cycles, it is recommended to run an equalise/weekend charge option. This helps keeping the cell voltages equal so that the cells can discharge at a similar rate.

Cleaning

Keeping the battery clean is essential for both battery longevity and safety. Battery overflows should be washed off immediately to stop corrosion both on top and underneath the battery. Use plenty of water to dilute the acid. This acid is highly conductive and caustic. If this is left on the battery, this can deteriorate battery life (even when the machine is not in use) and can produce extra heat when charging.

During charging, acid vapour can escape and form residue around the vent cap. This is recommended to be rinsed off a couple of times a year (more often if the machine is high usage).

When cleaning always use appropriate safety equipment, including goggles gloves and polystyrene clothes.

Following these simple steps can help you ensure longevity with your battery operated machine, and reduce any expensive bills to replace or refurbish the battery unit prematurely.

If your battery is unfortunately too far gone, we are able to replace batteries in all manner of machines. Please contact for details.

01342 832 101
www.kelvinengineering.co.uk