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PRODUCT SERVICE BULLETIN

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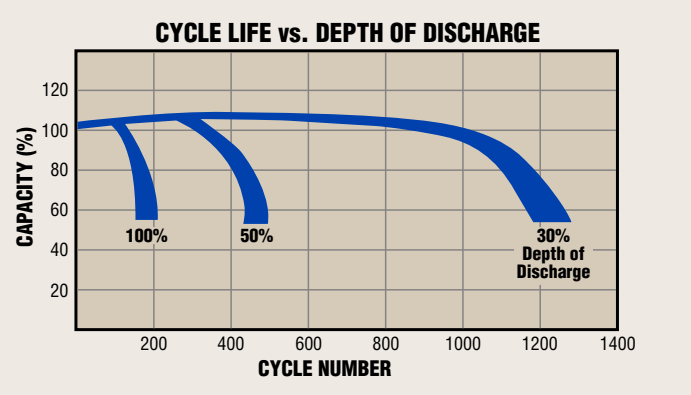
BATTERY LIFE OPTIMIZATION

How to get the most life out of your MSI batteries

Just put the battery in the scale and worry about it when the scale shuts off, right? Good idea if you do not mind replacing the batteries every two to three months. If used properly, MSI's batteries will provide three to six years of reliable service. The following is advice to optimize battery performance for you and your customers.

Rechargeable sealed lead acid (SLA) batteries, like the ones used in MSI products, are well-suited for duty cycles common to electronic scale applications. They do not develop "memory" like Ni-Cad batteries, so they can be used either frequently or sparingly. SLA batteries last longer with frequent recharging when only a small amount of their energy has been used.

The cycle life (useful years of battery operation) of SLA batteries depends on the depth of discharge that the battery encounters during each cycle. This relationship is shown in the graph below to illustrate the benefits of early recharging.



Batteries will last longer if you do not allow them to discharge deeply with each use. MSI recommends recharging within approximately 30% depth of discharge, such as every 12 hours of use for a battery that discharges fully in 40 hours.

Consider a battery that receives 12 hours of daily use, and fully discharges in 40 hours. If you remove the battery each night (30% discharge depth) and immediately place it in the charger, you can expect the battery to last about 1200 cycles (from scale to charger and back to scale). At 250 charge cycles or charges per year, you can expect the battery to last 4.8 years (1200/250). In contrast, a battery that is charged every second day (60% discharge depth) will only be good for approximately 400 cycles and the expected battery life drops to 3.2 years.

Quick Battery Facts

- Never store a discharged battery; this will destroy the battery's ability to recharge.
- Lower temperatures allow batteries to be stored for longer periods; each 10˚F drop in temperature reduces the self-discharge rate by half and doubles the storage time.
- "Float Mode" allows MSI batteries to be left in their MSI chargers indefinitely.
- MSI Crane Scales have built-in circuitry to protect batteries from deep-discharge damage.