

THE 10 COMMANDMENTS OF GOOD BATTERY CARE FOR FLEX™ and FLEXPAK™ (TPPL) BATTERIES

- 1. Do not add water and never dismantle or remove the vent plugs/safety valve from the cell.**
- 2. Keep battery top clean and dry.**
- 3. If there has been a variation to the operation since it was qualified and approved for FLEX Batteries, contact your Hawker dealer to verify you have the right battery and charger combination for the application.**
- 4. Keep flames and metal away from battery top.**
- 5. Set truck lift interrupts to discharge to a maximum of 80% or 1.92 volts per cell under load. See FLEX Installation and Operating Instructions for applications, use, charge and discharge restrictions.**
- 6. The optimal ambient temperature for 2 volt is 32°F-104°F and for bloc is 41°F-113°F. The battery temperature for use is between 50°F-113°F maximum as measured by the Battery Boss WC monitoring device. Any use outside this range must be approved by HAWKER.**
- 7. Battery MUST be charged by a Hawker approved charger for FLEX batteries.**
- 8. Keep truck compartment and battery cover open during charging to assist in minimizing increased temperature. In extreme environments, fans may be needed to keep battery cool.**
- 9. Charge battery as often as possible. Lighter discharges significantly increase cycle life.**
- 10. When in doubt, call your HAWKER service representative for long, reliable battery life.**



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Installation Instructions for FLEX™ (TPPL) Motive Power Batteries

Receiving a Battery

Inspecting the Shipping Container — The electrolyte in the Thin Plate Pure Lead (TPPL) battery is suspended in a glass mat rather than free acid. Immediately upon receiving a battery, inspect the outside of the corrugated container (or crate) and the pallet for damage. Make sure that all vent plugs are in place.

Making a Claim — Shipments are generally made FOB, Hawker Plant or stocking location. Therefore, making a claim to the carrier is the responsibility of the customer. If there is evidence that the battery was damaged in shipment, a proper claim should be filed with the carrier.

The services of a professional industrial battery repairman may be required to evaluate the extent of the damage. Contact Hawker or the nearest Hawker representative.

Lifting Batteries — The ideal rig for lifting batteries is an overhead hoist equipped with an adjustable, insulated battery lifting beam as illustrated in the Battery Service Manual. When attached to the lifting “eyes” of a battery, the lifting beam exerts a vertical pull on the eyes. This method prevents damage to the battery that might occur using lifting methods that tend to squeeze or stretch the battery tray. If there is a possibility that the chain or cable of the hoist might come in contact with the battery post, cover the battery with a piece of plywood or another type of nonconducting material.

Maintenance

FLEX™ and FLEXPak™ are a type of AGM (Absorbed Glass Mat) lead-acid battery. These batteries operate with a valve and may not at any time during their life be watered. Never dismantle or remove the safety valve or the vent caps from the cell. The vent caps are non-removable. If the vent plugs are removed, capacity loss will occur and fail prematurely and the battery warranty is voided. Keep the battery clean and dry, in order to avoid self-discharge and current leakage. Contact a Hawker representative in your area for programmed maintenance.

Installing the Battery

If the battery is to be installed in a metal compartment, make sure the compartment is clean and dry prior to installation.

Seat the battery in the compartment firmly and evenly. Then block it in position. Many vehicles have adjustable clips for blocking the battery into place. Allow 1/8” to 1/4” clearance between the block (or clip) and the battery tray. Do not wedge the battery into the compartment because some room is needed for expansion.

Charging the Battery

The sealed TPPL battery **MUST** be charged with a Hawker approved charger and Hawker approved charge profile. To avoid accidental connection to the wrong type of charger, it’s recommended that specific connectors be used to separate the TPPL batteries and chargers from other battery types. **BATTERY MUST BE CHARGED ON A HAWKER APPROVED TPPL CHARGER.**

The charging time for a 60% discharged battery is approximately 3 hours or less depending on charger model. **TPPL Batteries are rated for light, medium, and heavy duty application use. Refer to the FLEX and FLEXPak Installation and Operating Instructions for discharge requirements and application definitions.** If the run time of the battery is not sufficient, check that the work required is compatible with the battery capacity and that the setting of the charger is suitable for the valve regulated battery.

Ventilation During the Charging Cycle – During the charge cycle, in spite of the gas recombination, cells may emit hydrogen and oxygen gas. Although the gas emission is very low, it is necessary to ensure that there is adequate ventilation in the room especially during the recharge. The use of fans to help cool the batteries during charge is highly recommended.

Storage – Store the battery in a dry, clean and frost free area, before and after operating. Batteries should not be stored in a discharged state. During storage, check the voltages of several cells at regular intervals and when the voltage falls to 2.10 or below, plug the battery into an approved FLEX charger. Standard storage time is 1 month, up to a maximum of 6 months at 68°F without recharge provided no electronics are installed that could drain the battery, at higher temperatures check voltage more often.

