



# LEAD ACID BATTERIES

## TOOLBOX TALK

Lead acid batteries are commonly fitted to Mobile Elevating Work Platforms (MEWPs) mainly due to their durability and relatively low cost. These batteries require frequent maintenance, including checking, and topping up of the electrolyte levels.

### WHAT ARE THE HAZARDS AND RISKS?

Lead acid batteries contain electrolyte; this is a mixture of sulfuric acid and distilled/deionised water. Electrolyte is corrosive and can cause injuries such as burns if it comes into contact with skin or eyes. If spilt, it can also cause significant damage to property and the environment. Lead acid batteries also produce hydrogen gas which is explosive. If a battery explodes it can cause catastrophic damage to the battery casing.

### MEWP OPERATOR PRE-USE CHECKS

- Check battery electrolyte levels wearing the appropriate Personal Protective Equipment (PPE) as recommended by the MEWP manufacturer.
- Top up batteries with distilled/deionised water.
- Check the security of the batteries and charger.
- Check the condition of the battery leads and terminals.
- Check for signs of corrosion on the battery terminals.

### MEWP OPERATOR BATTERY CHARGING

- Always follow the MEWP manufacturer's instructions for the correct transformer rating (if using a 110V power supply).
- Recharge lead-acid batteries in a well-ventilated area, away from any ignition sources.
- Maintain adequate charge; avoid full discharge.
- Keep charging areas tidy to prevent trip hazards and damage to charging leads.
- Elevate charging leads off the floor where possible; avoid submerging extension leads in water.
- Inspect the charging lead and plug before use.
- Fully uncoil charging leads.
- Charging leads that are too long can cause a voltage drop and reduce charging efficiency. Always refer to the maximum allowable length of lead as

### USEFUL REFERENCES

- IPAF Operators Safety Guide
- Manufacturer Operators' Manual (available via [www.ipaf.org/manufacturers](http://www.ipaf.org/manufacturers))

### WHO NEEDS TO KNOW?

This Toolbox Talk applies to all individuals involved in the safe use of a MEWP, including:

- Users (those in control of MEWPs on site)
- Workshop supervisors and service staff
- Operators, managers and supervisors

recommended by the manufacturer, do not add extra leads as this can create a voltage drop.

### RENTAL COMPANY STAFF - REPLACEMENT, STORAGE, CHARGING AND HANDLING

- Batteries should only be replaced by competent, authorized personnel.
- Always follow the MEWP manufacturer's instructions when installing or maintaining battery systems.
- Batteries can also act as counterbalance/weight. When batteries are replaced they should be the same size, weight, and output.
- When replacing batteries, manual handling procedures should be followed. Batteries may be heavy or positioned in a hard to reach area. You should consider the use of a mechanical lifting device to assist in the removal and fitting of replacement batteries.
- Do not replace batteries when a MEWP is in the elevated position as this can affect the stability.
- Ensure that the MEWP is fully isolated and not on charge when removing/replacing the batteries.
- When working on batteries, care must be taken to ensure equipment such as hand tools do not make contact between a positive terminal and the MEWP's chassis. Any loose jewellery should be removed.
- Lead acid batteries should be stored in a cool, well-ventilated area away from any ignition sources (e.g., welding, smoking).
- Prevent batteries from being physically damaged during storage to avoid leaks and spills.
- Always follow the MEWP manufacturer's instructions on charging information.
- Always wear appropriate PPE when handling batteries.
- Use a suitable strap or cradle to carry batteries.