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## INDUSTRIAL BATTERY OPERATION GUIDE

### INSTALLATION

#### RECEIVING

Inspect the battery carefully for damage or loss of electrolyte.

Report shipping damage to the carrier promptly.

Check electrolyte level to assure it is above the protector. Add water as needed.

Give the battery a freshening charge of from 3 to 6 hours. Keep vent plugs in place. The battery will be ready for service with full charge specific gravity of  $1.275 \pm .010$ .

#### PLACING IN SERVICE

The battery compartment should be level and clear of foreign matter. The battery should be blocked to provide  $\frac{1}{8}$  inch clearance.

Do not wedge tightly in place.

**Caution:** Check to make sure connector polarity of truck and battery are the same. Plus-to-plus and negative-to-negative. Damage to the truck and battery can result if not properly connected.

If battery consists of more than one tray or has bolted connections, make them clean and bright before bolting together. Coat surfaces with no-ox-id grease and bolt tightly in proper polarity.

### OPERATION AND MAINTENANCE

The Battery identification Label has information on the battery cell type, capacity, voltage and finish charge rate. Check to assure battery is of proper size and voltage for your duty cycle requirements. Over-discharge will shorten battery life and affect the vehicle. It is recommended that the battery not be discharged more than 80 percent or sp. gravity below 1.160.

Recharge when discharged. Never allow battery to remain in discharged condition.

#### CHARGING

Recharging should be on a charger matched to the battery voltage and capacity for recharge in the time available. Use of an unapproved charger can ruin your battery and void the warranty.

For proper charging, observe and record.

1. Hydrometer readings at the end of charge are at full charge value of  $1.275 \pm .010$ .
2. Temperature at end of charge is no more than  $25^{\circ}$  F higher than start of charge and not higher than  $115^{\circ}$  F.
3. Normal water consumption should average  $\frac{1}{8}$  inch per day or per cycle of discharge and charge.
4. Do not disconnect battery from charger while charger is operating.
5. Keep all flames and sparks away from battery.

#### EQUALIZING CHARGE

In average motive power service, a periodic extended charge of about three hours is recommended. This is usually done weekly. The battery can be kept in a balanced state of charge between all cells without harmful overcharge.

#### ADD WATER

Check the water level daily until regular pattern is established.

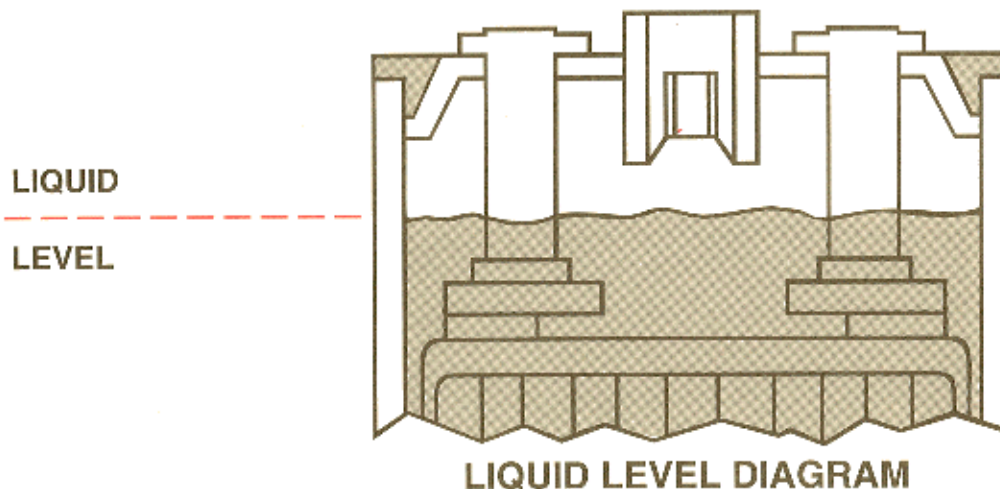
Add water to keep the level above the separator protector.

Fill to the bottom of the vent well. It is a clear indication of the proper level of electrolyte. It is best to fill at or near the end of recharge.

#### CLEANLINESS

Keep the top of the battery clean and dry. The frequency is determined by the environment and care used in filling the cells. Many locations require washing only a couple of times per year, while sometimes every other week is desirable.

## BATTERY AND CHARGER DO'S AND DON'TS



### DO'S

1. Keep **FLAMES, SPARKS, METALLIC OBJECTS** away from top of battery.
2. Add water **FREQUENTLY** to maintain **CORRECT** level.
3. Read instructions on **PROPER** charger setting.
4. Allow battery to charge **FULLY** before using.
5. Use hydrometer to check state of charge.
6. Keep battery top area clean and dry.
7. Allow battery to **COOL** down before using after charging.
8. Keep charging equipment in good repair; clean occasionally by blowing out with compressed air.
9. Give **COLD** batteries **EXTRA** time to charge.
10. Wash and neutralize batteries when required.

### DON'TS

1. Don't overdischarge batteries.
2. **DON'T** add **TOO MUCH** water.
3. Don't charge batteries **UNNECESSARILY**.
4. **DON'T DISCONNECT** battery before turning charger off.
5. Don't damage connectors by dropping on floor.
6. Don't lift batteries with chains only—**USE A SPREADER BAR**.
7. Don't **MEDDLE** with charger adjustments.
8. Don't add anything **OTHER THAN WATER** to batteries.
9. Don't **IGNORE** problems. Eliminate them with proper action.
10. Don't **GUESS** about batteries and chargers. **ASK** questions— be informed, be safe, and productive.