





# SCRUBBER/SWEEPER/GOLF CAR BATTERY MAINTENANCE INSTRUCTIONS

## BE CAREFUL!

**WARNING:** Batteries produce explosive gases. Keep sparks, flames and cigarettes away from batteries at all times. Protect your eyes at all times. Never lean over battery when jump starting or performing other maintenance.

**California Proposition 65 Warning:** Batteries, battery posts, terminals and related accessories contain lead and lead compounds, and other chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Wash hands after handling.

⚠ DANGER/POISON			
 <b>SHIELD EYES.</b> EXPLOSIVE GASES CAN CAUSE BLINDNESS OR INJURY.	 <b>NO SPARKS • FLAMES • SMOKING</b>	 <b>SULFURIC ACID</b> CAN CAUSE BLINDNESS OR SEVERE BURNS.	 <b>FLUSH EYES IMMEDIATELY WITH WATER.</b> <b>GET MEDICAL HELP FAST.</b>
<b>KEEP OUT OF THE REACH OF CHILDREN. DO NOT TIP. KEEP VENT CAPS TIGHT AND LEVEL. DO NOT OPEN FLUSH COVER BATTERIES.</b>			

## MAINTENANCE - CHARGING INSTRUCTIONS

- After the equipment has been in service, and before placing on charge, check the water level of the batteries. If the level is below the separators at the start of charge, add only enough water to cover the separators.
- Always check specific gravity and temperature readings before charging batteries. Correct specific gravity readings to 80°F (27°C).
- If an automatic or taper-type charger is used, set the rate of charge according to the manufacturer's instructions.
- DO NOT OVER-CHARGE — DO NOT UNDER-CHARGE**  
If the battery temperature reaches 125°F (52°C) during the charging cycle, the rate should be lowered or the charge interrupted until battery has cooled to room temperature. Specific gravity readings should be corrected to 80°F (27°C). For each 10 degrees above 80°F (27°C), add four points to the hydrometer reading, i.e., 90°F (32°C) at 1.250 Sp. Gr. = 1.254 Sp. Gr. For each 10 degrees below 80°F (27°C), subtract four points from the hydrometer reading, i.e., 70°F (21°C) at 1.250 Sp. Gr. = 1.246 Sp. Gr.
- Before charging, be sure that the electrolyte covers the top of the plates. If not, add approved water to bring level to the top of plates. **DO NOT OVERFILL**, as the electrolyte will expand during charging. **Always replace vent caps before charging.** After charging follow step 6.
- DO NOT OVERFILL — DO NOT UNDERFILL**  
Fill each cell to approximately 1/8" below the bottom of the extended vent tube. Overfilling the cells when adding water results in loss of electrolyte, lowering specific gravity and ampere hour capacity. **NOTE:** Never add acid to a battery. Use only approved water.
- Keep battery tops dry and clean. A moist condition will result in electrical leakage across the battery to the metal hold-down, causing a corrosion buildup on hold-down and terminal connections.
  - With vent caps firmly in place, periodically clean battery tops, hold-down and terminal connections with a baking soda solution and brush. Flush with clear water. Dry off thoroughly.
  - Check all terminals and tighten firmly. Apply a thin coating of petroleum jelly to retard corrosion.
- Never allow batteries to stand in a discharged condition. After each use, no matter how short, batteries should be fully charged.
- If batteries do not come up to full charge, after following the charger manufacturer's instructions, check for low line voltage and/or a faulty charger. Consult your power company or electrician.
- If the battery seems weak or slow in performance while in service, make the following checks. Using a hydrometer take specific gravity readings of all cells. If specific gravity readings are above 1.225, apply a load test to each individual battery using a load tester according to the manufacturer's instructions. If a battery proves unserviceable, it should be replaced. (Do not apply tester if cell readings are below 1.225 specific gravity.)
- All batteries in the equipment should be approximately the same age.
- If the temperature of the batteries or the outside temperature is below 60°F (15°C), their capacity will be reduced and they will require more hours of charge. The colder the batteries are, the faster they will build up in voltage and reduce the charging rate.

## OFF-DUTY STORAGE

- Batteries that are not in service during the off-duty period must be cared for as follows:
  - Keep fully charged.
  - Store in cool, dry place with temperatures not below 32°F (0°C) or above 80°F (27°C). (A battery at 1.100 specific gravity will freeze at 19°F (-7°C)).
  - It is important that batteries should be charged every 45 days or when specific gravity readings drop to 1.200, corrected to 80°F (27°C).
- BATTERIES SELF-DISCHARGE WHEN NOT IN USE**
  - at 100°F (38°C) Discharge Rate = 3 Pts. in Sp. Gr. per day
  - at 80°F (27°C) Discharge Rate = 2 Pts. in Sp. Gr. per day
  - at 50°F (10°C) Discharge Rate = 1/2 Pts. in Sp. Gr. per day
  - at 30°F (-1°C) Discharge Rate = 1/10 Pts. in Sp. Gr. per day

**Proper care and maintenance of batteries used in motive power service is the key to maximum performance, long trouble-free life and greatly reduced equipment operating costs.**