CARING FOR FLOODED WET-CELL BATTERIES

There are five essential components in the proper maintenance of wet-cell lead-acid batteries:

- **Minimize or eliminate deep-discharge cycles.**

Each time a storage battery is cycled (discharged, and then recharged), some of its useful life is lost. This is because the galvanic reaction that produces the discharge causes the plates to gradually deteriorate, and because most of the time some amount of lead-sulfate by-product remains unreconverted after recharging. Eventually, either the accumulation of unreconverted lead-sulfate or the degeneration of the cell plates, or both, is great enough to disrupt the battery's ability to function. At this point, replacement of the battery becomes necessary.

- **Utilize properly controlled charging procedures.**

Wet-cell lead-acid batteries are subject to other problems. If the recharging current is too high to be completely absorbed by the battery's chemical reaction, that current breaks down the water in the battery's electrolyte into components of hydrogen and oxygen gas. These gases then escape, causing the electrolyte level to drop, at times to the point of drying out and, consequently, irreversibly damaging some or all of the battery plates. More batteries are lost to improper charging procedures than are to the normal aging process.

- **Maintain the correct electrolyte level.**

You must check electrolyte levels regularly and replace any lost electrolyte by refilling with distilled water according to the manufacturer's specifications. (By using distilled water you will avoid the introduction of foreign chemicals and materials into the electrolyte.)

- **Keep the battery clean and its terminal connections corrosion free and tight.**

Regularly clean the tops of your batteries with a cloth dampened in a baking soda solution (the baking soda neutralizes any acid that has escaped via the cell vent caps). Be very careful not to let any baking soda solution get into the battery's interior, as that will degrade the electrolyte.

Using a wire brush, keep the terminals and cable connectors clean and shiny; make certain the connections are tight. After cleaning and reinstalling the cable connections, coat the terminals with an appropriate battery terminal compound to retard corrosion. Do not use petroleum jelly, which tends to liquefy and seep into the connection, causing more harm than good.

- **Provide good ventilation.**

The wet-cell type of lead-acid batteries produces explosive hydrogen gas during recharging. And although hydrogen gas is lighter than air and quickly dissipates, it does represent a danger that should not be ignored. Batteries can explode, so the prudent skipper is especially careful when working around them. When dealing with terminal connections, take care to vent the battery space well, make certain that the batteries are not being charged at the time, and take care not to create sparks. Moreover, it is always a good idea to wear splash-proof safety goggles when you are dealing with batteries. For further safety, remove all jewelry.

Caution: If you accidentally come in contact with battery acid, wash it off immediately to avoid severe burns to your skin. If battery acid contacts your eyes, flush them immediately with cool water, and seek medical attention. Also remember that battery acid will eat holes in most fabrics.