

Mississippi Bend Model Boaters "in the water" meetings are held Saturday mornings 10:00 AM to 12:00 noon Middle Park Lagoon Bettendorf, Iowa.
In addition, November through March we meet on the second Monday of each month at: Bettendorf Community Center 2204 Grant Street Bettendorf, Iowa 7:00 – 9:30 PM



Winter Maintenance

**By David Krohn
December 12, 2006**

When you finally pull your boat from the water this fall, give it a good looking over. If you notice maintenance that needs to be done, the temptation will be to put it off until next spring. However, many of these projects are perfect winter projects. By taking care of maintenance issues this winter, you will avoid the inevitable rush to get your boat ready for next spring. Getting back into the water may be delayed by backordered parts, neglected maintenance or that nagging "loose connection" that was jury-rigged last season. So make a list of things that need to be taken care of and enjoy the leisurely pace of getting them done during the off-season.

Corrosion is not just something that happens to metals, but occurs to almost every material, including plastic. Galvanic corrosion can even be caused by dust since all particles have an electric charge that is dissimilar to whatever surface it is in contact with. For example, dust laying on a brass will cause that nice shiny surface to corrode, so thorough cleaning minimizes this kind of damage.

Rubbish talk among sailors was referred to as bilge. Legend has it that some unknown sailor was sent to inspect the deepest, darkest, part of the ship where water and residue collect. After a brief time in this black hole, the sailor was convinced that this area was also rubbish. From that day on, the area where water collects in a boat has been referred to as the bilge.

Good reason's for keeping your bilge clean are:

- prevent growth of bacteria
- prevent rust and corrosion of equipment that lies in the bilge
- eliminate foul odors

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Some boats take in more water than others. It is not unusual for some water to be in the bilge since it can leak in at the stuffing box and rudder post(s). However, if you have found large amounts of water make sure that you don't have a leaking through-hull fitting.

Limber Holes are found in the ribs or partitions in the bilge which allow water to pass through them and flow to the lowest bilge points, this allows the water to be pumped out either automatically or manually.

You should keep these holes clear of residue to prevent blocking the water flow. Full size boats will have a light chain running through the limber holes which allows you to pull it back and forth to dislodge any foreign matter.

Items to check:

- ✓ If in the past you found unusual amounts of water, be sure to track down the source.
- ✓ Check all through-hull openings and fittings.
- ✓ Check all pipes, hoses and clamps.
- ✓ Make sure that all fittings below the waterline have double hose clamps.
- ✓ Look for corrosion and rust.
- ✓ Check for unusual growth or mildew.
- ✓ Check limber holes.
- ✓ Check floatation.

To remove mildew from the interior walls, pour two tablespoons of non-chlorine bleach into a quart of water and use a spray bottle to apply the solution. It cleans the mildew away and will help prevent the mildew from coming back. Remember to remove hatches and covers to allow the inside of the hull to dry.

Wood, pound for pound, is an extremely strong yet flexible product, the biggest maintenance drawback is a condition called **Dry Rot**.

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Dry Rot is a fungus that arises from wet wood. It only needs a small amount of water to gain a foothold and send out rhizomorphic runners in search of more moisture. It thrives in poorly ventilated areas, grows in temperatures above 40° Fahrenheit, and literally eats up the cellulose of its host, destroying the wood in the process. Unless stopped, the fungus can spread very quickly, causing the *condition* commonly referred to as "dry rot".

DRY-ROT So you think you don't have to worry about dry-rot because your hull has been fibreglassed. Reasons for "glassing" the hull include strength, maintaining water tight integrity and cosmetics (fairing the hull). As long as the fiberglass covering on a transom, deck, cabin top or engine stringer doesn't crack or have a hole drilled through it, all is well. If water is allowed to enter into the wood and get trapped inside, however, **dry rot** will soon occur! If you must drill a hole, make **sure** the hole is made completely waterproof.

So there you have it! Just when you thought dry rot was a thing of the past, you find out it ain't necessarily so, and remember, if God intended us to have fiberglass boats, He'd have made fiberglass trees!

BATTERIES are a perishable product and start deteriorating right from the time they leave the manufacturing plant. For this reason, it is not advisable to stock up on batteries for future use. This is especially true with lithium-based batteries. When purchasing be aware of the manufacturing date and avoid acquiring old stock. Keep batteries in a cool and dry storage area. Refrigerators are recommended, but freezers must be avoided because most battery chemistries are not suited for storage in sub-freezing temperatures. When refrigerated, the battery should be placed in a plastic bag to protect it against condensation.

Random NiCd battery facts:

- The NiCd battery can be stored unattended for five years and longer.

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- For best results, a NiCd should be fully charged, then discharged to zero volts. If this procedure is impractical, a discharge to 1V/cell is acceptable.
- A fully charged NiCd that is allowed to self-discharge during storage is subject to crystalline formation (memory).
- Most batteries are shipped with a state-of-charge (SoC) of 40 percent.
- After six months storage or longer, a nickel-based battery needs to be primed before use. A slow charge, followed by one or several discharge/charge cycles, will do.
- Depending on the duration of storage and temperature, the battery may require two or more cycles to regain full performance. The warmer the storage temperature, the more cycles will be needed.

The Li-ion does not like prolonged storage. Irreversible capacity loss occurs after 6 to 12 months, especially if the battery is stored at full charge and at warm temperatures. Running a laptop (or other portable device) continuously on an external power source with the battery engaged will have the same effect.

The most critical time in a battery's life is the so-called priming stage. An analogy can be drawn with breaking in a new car engine. The performance and fuel efficiency may not be best at first, but with care and attention, the engine will improve over time. If overstressed when new, the engine may never provide the economical and dependable service that is expected.

Some poorly formatted batteries are known to produce less than 10 percent of capacity at the initial priming stage. By cycling, the capacity increases, and the battery will become usable after three to five cycles. Maximum performance on a NiCd, for example, is reached after 50 to 100 full charge/discharge cycles. This priming function occurs while the battery is being used. The gradual capacity increase during the early life of a battery is normally hidden to the user.

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Li-ion cells need less priming than the nickel-based equivalent. Manufacturers of Li-ion cells insist that priming is not a requirement. The priming function on the Li-ion may be used to verify that the battery is fully functional and produces the capacity required.

Some temperature rise cannot be avoided when charging nickel-based batteries. A temperature peak is reached when the battery approaches full charge. The temperature must moderate when the ready light appears and the battery has switched to trickle charge. The battery should eventually cool to room temperature. If the temperature does not drop and remains above room temperature, the charger is performing incorrectly. In such a case, the battery should be removed as soon as possible after the ready light appears. Any prolonged trickle charging will damage the battery. This caution applies especially to the NiMH because it cannot absorb overcharge well. In fact, a NiMH with high trickle charge could be cold to the touch and still be in a damaging overcharge condition. Such a battery would have a short service life.

A lithium-based battery should never get warm in a charger. If this happens, the battery is faulty or the charger is not functioning properly. Discontinue using this battery and/or charger. It is best to store batteries on a shelf and apply a topping-charge before use rather than leaving the pack in the charger for days. Even at a seemingly correct trickle charge, nickel-based batteries produce a crystalline formation (also referred to as 'memory') when left in the charger. Because of relatively high self-discharge, a topping charge is needed before use. Most Li-ion chargers permit a battery to remain engaged without inflicting damage.

SAILBOAT OWNERS have a couple of additional concerns:

Support the keel bulb! The heavy ballast that provides stability for your boat in the water must be properly supported when the boat is out of the water. If your keel can be removed remove it, if your keel can not be removed use blocking or slings to support the weight. A

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keel that is not properly supported can warp or crack the hull or the keel can bent or twisted causing performance problems to occur.

Sails should be removed, cleaned and stored for the winter.

There are a number of ways to clean sails and some are more effective than others. Unfortunately, the most thorough methods also cause the most serious cloth breakdown which leads to greater stretch and, thus, a poorly setting sail. All mechanical methods fall into this category and I definitely do not recommend using your washing machine to launder your sails.

Most sailmakers recommend frequent rinsing with clean fresh water. If that is not sufficient, spread the sail on a smooth, clean surface and brush it lightly with a mild detergent solution. For oily stains my favorite product is called Goo Gone it will not harm the fabric or stain it.

MILDEW Soak the affected area in a 1% solution of non-chlorine bleach and cold water, rinse thoroughly and dry. Whenever confronted with a serious stain, do not expect complete removal. Usually the best that can be expected is a moderation of the discoloration. After cleaning the sail, dry it completely. Mildew will not grow on modern synthetic sailcloth, but it can grow on the dirt that it accumulates if moisture is present. Although mildew will not harm the fabric, it will discolor or spot it.

Store sails in a cool, dry place and not in direct sunlight. Roll or hang the sails in an garment bag for example to keep them clean and dust free. Folding sails that are stored for a long period can place creases in the material that are hard to remove and affect future performance.

In conclusion these are the three things that I know to be true about boats and boating:

- A boat is a hole in the water you pour money into!
- Nothing works on a boat but the owner!
- The only thing a boat will do without any help is SINK!