

Maintenance and Trouble Shooting

Winter Lay Up

by David Pascoe

It's that time of year again. For most everyone north of the Mason-Dixon Line, summer and the boating season is almost over and it's time to think about putting your baby to bed for the winter. This is the not-so-pleasurable part of pleasure boating, so we'll want to make it as easy as possible on ourselves.

There are two ways boaters usually go about it. Some people will plan to spend an entire weekend getting ready, while others prefer to do it in stages. Much depends on how close one lives to the boat, for those who have long drives will probably want to minimize the number of trips they make. Those who live close will probably prefer to do it in stages since there are always many things we forget that make for return trips and trips to the store to get stuff we need, so here are a few tips to help smooth the way.

It's nice to be able to pay a yard to do all the work, but if you can't afford that, it's not all that difficult. You may not want to tackle the engines, yet you can save yourself some \$\$\$ by doing everything else.

Stuff You'll Need

Roll duct tape

Clean cotton rags - your old undies and t-shirts will do

Adjustable & plumbing wrenches

Full tool set

Oil & filters

Jar of petroleum jelly

Bon Ami

Boat wax, polishing machine, old towels

Boat & Equipment manuals

If you're never done a winter lay up, here are a few things you need to know.

Planning & Record Keeping

The most important thing you can do to reduce the amount of work is to keep good records. If you haven't done that, start now, because the information you record this year will make your job easier next year.

Freezing damage and the prevention of water damage are the main things, so let's start with the plumbing systems. We define "plumbing" here as anything that holds or carries water. That means not only pipes and tanks, but things like pumps and strainers that can also retain water even after a system has been drained. This is important because water retained within a pump housing can freeze and crack the pump.

Draining the water tank and pipes would seem simple enough except when we consider that mere gravity draining won't always get all the water out simply because all pipes do not angle downward; some will have dips and downward bows in them that will retain water.

One of the first things you'll need to do is check your boat manual and see if it contains a plumbing schematic. You're in luck if it does, but not home free yet because you need to make sure that the plumbing actually matches the schematic. Often times it doesn't, plus there may be alterations or additions that are not included on the schematic. If you don't have a schematic, make one. It need not be fancy, just good enough to indicate where the things that need attention are located. If you do have a schematic, make several photocopies of it and use those to keep your notes on instead of messing up the original.

Check and note the locations of all sea cocks, strainers and pipe connections. Normally what we do is to disconnect all pipe connections (below deck) and use a can of compressed air to blow the water out. Thus, if you record where all the connections are, you'll save yourself a lot of time searching around. Same goes for pumps and strainers; after disconnecting the pipe joints, briefly run the pump (don't forget the head) to clear it, then blow the pipe.

Vacuum system heads are a bit more difficult to lay up than standard pump systems, and smelly too. Refer to your SeaLand manual for lay up instructions. The holding tank will have to be emptied.

Now you know why I'm always ranting and raving about late model boats that don't have any, or limited, access to the bilge areas. If you can't see under the deck, you have no idea what's down there. It's like owning a house with a sealed up basement, leaving one to wonder how many dead bodies are buried down there, so to speak.

Water Tank

These tanks, of course, have to be completely drained and this is done by removing the pipe fitting at the bottom. This is a good time to clean aluminum tanks which build up a nasty scale inside. Unfortunately, the vast majority of "price" boat tanks don't have clean out ports.

In most cases, lay up time runs at least half the year, most of them very wet, damp months that do a lot of damage to delicate interiors and other goods. It's a good practice to clear all your personal and housekeeping goods off the boat since many of these things will deteriorate in the next six months. Probably the best way to handle this is to get a number of those large plastic storage bins from Lowe's or Home Depot. I like the see-thru kind so I don't have to keep opening them up to see what's inside. These then can be stacked in the garage or where ever without taking up a lot of space and then simply dragged back the to boat next spring.

Clear out all the drawers, galley utensils, cleaning supplies and particularly paper products. It's not a good idea to leave anything in drawers due to damage that will be caused by dampness and corrosion. Take the batteries out of flashlights and all other battery powered gizmos. Take all loose electronics off the boat. Don't forget to remove ALL foodstuff from the galley, cans, bottles, boxes and all. Leave nothing for the bugs to get at.

For salt water boats, realize that a lot of salt spray has left salt crystals all over the interior; though you probably can't see it, it's there. Since salt is hygroscopic (meaning it will condense water out of the air) all washable surfaces should be wiped down with a wet rag or large sponge. This will go a long way to minimize mildew and corrosion.

Wipe down all vinyls, including upholstery and headliners with a damp rag. Note that if you use petroleum based cleansers like 409 and Fantastic, this stuff leaves a residue that is food for fungi and bacteria. When using these cleaners, be sure to wipe down twice with fresh water to remove the residual film.

What about applying protective lotions and potions to wood, plastic and vinyls? I recommend not because most are petroleum based and are subject to fungus attack, and that includes things like Armorall, all wood oils and vinyl potions. Cleaning with fresh water to remove all residues is the best you can do. All those potions cause more trouble than they are worth.

What about teak? Well, same problem; any kind of oil is subject to mildew including varnish which is made from oil though varnish is most resistant. Otherwise, scrub it clean and leave it alone and it will weather the winter fine just like the trees do.

Bedding and Seat Cushions These items are often damaged by unexpected leaks. Therefore, it's a good idea to NOT leave them laying on flat surfaces, but to stand them on the long edge vertically so they won't end up laying in a puddle of water.

Hardware

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 lamp will cause that nice shiny surface to corrode, so thorough cleaning minimizes this kind of damage.

Clean all interior metallic surfaces with a clean, damp cotton rag or sponge and then dry. Use Bon Ami cleanser to clean sinks and fixtures, then coat these with petroleum jelly, along with any brass items like clocks, barometers and lamps. Petroleum jelly is also good for coating bright metals in the cockpit and at helm, including plated plastics because it can easily be removed.

After haul out and shoring, there are a few more issues to deal with. Far too many boat yards have a bad habit of using insufficient keel blocks, often just two, which is totally inadequate. All that weight concentrated on just two points of the keel can cause serious hull damage. A thirty foot boat should have 3 blocks, 30-35 feet should have four, 40-50 feet - five blocks.

The trim of the boat should be slightly bow up; use a level or pour some water on deck to make sure that water won't run forward and puddle in places it shouldn't. Many boats sustain water damage because of improperly leveling.

Back in the good old days, this was the time we used to clean the bilges by taking a hose and hosing all the bilge debris aft and out the drain. Alas, few modern boats allow us to do this because they don't have adequate limber holes. Even so, we need to check the bilges to make sure that there is no water puddling anywhere. If there is, if all the water doesn't run aft and out, the bow needs to be raised higher. The time to check on this, of course, is the time they're doing the shoring and the Travel Lift is still in place. Don't assume that the boat doesn't leak during rains or a thaw, and that the bilges can't fill up with water to form a nice big block of ice that damages the hull when it refreezes.

In the cockpit there are a few things to do like removing all the upholstery cushions

that you can and storing them in the cabin. It's a good idea to stand them on end to make sure that they aren't water soaked, letting the water drain out. Make sure the scuppers are free and that the hatch gutters aren't clogged.

Ventilation is an important aspect of mildew prevention. Unfortunately, most modern boats have no means of providing cabin ventilation without also letting water in. (Ah, ain't technology grand? We got everything in a boat except common sense!) You don't want to close a boat up tight if you can avoid it, but you've also got the issue of swirling snow to contend with, snow that invariably gets under the cover. Check to see if you can ventilate the cabins through the bilges via the engine compartment. However, newer boats are usually completely sealed off leaving no means of ventilation at all.

It's a good idea to shim one of the engine hatch covers open about 2" to allow for air circulation. Don't leave the hatch completely open in case the cover leaks. Choose a hatch that isn't likely to be walked on. The same applies to the forward bilge areas. I usually take the smaller hatches, turn them 90 degrees leaving gaps at both ends. Then I tape a paper sign to the door, "Caution: hatches open below."

How about all those cabinets and storage compartments under the seats elsewhere in the cockpit and on the bridge. Are you going to leave all that stuff there to deteriorate over the winter months? Now's a good time to pull the fire extinguishers, take them with you and get them checked. I'll bet you've never done that, so let's not just pray that they work when and if you need them.

If you haven't saved your old carpet remnants or left overs, now is good time to think about that because there's nothing as good as a bunch of small carpet squares to use under the shrink wrap to prevent chaffing at windshield corners and the like. If you're using a framed canvass cover, carpet squares are absolutely essential to prevent severe chaffing that will occur with canvass and wood frames. Slip the squares into place, carpet side down, after the shrink wrap is on, wedging them tightly in place. Or you can tape them in place before the wrap goes on but you'll be left with tape adhesive to scrape off in the spring. If you don't have any carpet squares, a little dumpster diving behind your local carpet store is sure to turn up plenty of free material. The plastic won't bother stainless or the gelcoat, but it can chafe the anodizing off of windshield corners and prevent the plastic from being cut.

Keep in mind that sweating and condensation is usually a problem, in the cockpit and on the bridge, and it can actually rain under the wrapper, so the instrument panel needs to be protected. This is where built-in electronics become a problem. If it is possible to remove them, by all means do so. If not, taping plastic sheeting in place can help keep the moisture out. Just make sure no water can get under the plastic because that will then make it worse.

It's incredible how much dirt will accumulate under the cover, but these are not put on tightly because ventilation is needed to reduce condensation. That's yet another reason why we want the bilges dry. Freshly waxed gel coat will resist dirt stains a lot better than unwaxed. Fall is also a good time to do waxing when it's cool and you don't have the hot sun to deal with. You'll benefit more by waxing before layup than in the spring.

As a matter of philosophy, it's better to get as many maintenance tasks out of the way now, in the fall, and not leave it 'till spring when play time is what you have in mind, not more work.

Fuel Tanks

There is plenty of controversy about whether gas fuel tanks should be empty or full at layup and you can find reasonable arguments for either condition. However, the

argument for leaving them full overlooks the fact that modern gasolines go bad much too fast and six months is FAR too long. Old gas will definitely harm fuel injected MPI systems. Moreover, diesel oil is subject to bacterial blooms and oxidation as well.

Condensation developing in the tank is a much over-rated problem and here is the reason why: An empty tank contains a limited number of cubic feet of air, and therefore water vapor that could possibly condense. Air does not flow in and out through those tiny vents, plus you can always tape the vents over if that bothers you. The amount of water vapor in the tank comes to several ounces. However, if you have good Racor, Dahl or similar filters (which you should) these will easily be able to handle that amount of water. Smaller canister filters will be strained to get that much water out, but the large types like Fram cartridge filters can handle it.

What about fuel stabilizers, biocides etc.? While I'm not a petroleum chemist, I do know that these potions have a less than spectacular record of success. Personally, I'm not a believer in miracles sold in a can.

Therefore for both gas and diesel boats, it is best to arrange your fuel situation that the tanks be as empty as possible before you take the boat to the yard. Old fuel is a greater problem than a little water in the tanks.

Should tanks be completely drained for the winter? No, that isn't necessary. Besides, if you do, you'll have to refill them from 5 gallon cans in the spring which is messy, hard work and dangerous with gasoline. Leave just enough to get the engines started in spring and get to a fuel dock.

The old fuel left in the fuel lines is one of the reasons we have so much trouble getting engines started in the spring. In the spring you can bring a gallon of fresh fuel and prime the filters with it for easier starting.

Engines

Regardless of type, it's best to flush the systems with fresh water. Do this immediately before haul out. Close off the engine sea cocks and place a hose in the top of the strainer and run the engine at idle speed for 5 minutes. The objective here is to clear the saltwater side of the system. If you're doing it yourself, you do the engine fog-out at the same time.

Engine oil and filters must be changed before layup because of the acids that develop in the oil that attacks bearings, plus that's one thing less to do in the spring.

The engine air intakes should be taped closed with duct tape, as well as the exhaust pipes to prevent air flow through the engines.

Check the mufflers to see if they have drain plugs. Many don't and if not you should ask the travel lift operator to raise the bow of the boat to get the residual water out of the mufflers.

Batteries

Batteries need to be removed from the boat to prevent freezing damage. This is a job most leave to the boat yard gorillas. Clean the battery tops and terminals. Store in a heated room (basement or garage) sitting on a piece of DRY wood, never directly on a concrete floor.

Now that the bilge pumps have been disabled, be sure that the bilge area around the drain plug is cleaned of any debris that could clog the drain. Hundreds of boats are damaged every year because of plugged drain holes and rising water in the bilge.

Don't let this happen to you. Just because the boat is covered it doesn't mean that water can't get into it. After all, it is only a flimsy cover and it is likely to leak.

Note: if you live further south where the water doesn't freeze over and plan to leave the boat afloat, almost all of the above lay up measures must be taken and then some. You need to get local advice based on your region.

Posted September 11, 2002