Catalina MAINSHEET
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Catalina 470

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The C470 list on Sailnet.com has become a very active site for discussion among owners about maintaining and equipping a Catalina 470. I encourage everyone to join the list and take a look. There is no charge for participation. Go to www.sailnet.com, and look at the site index on the left side. Click "Join E-mail List" under the Member's Center section of the index. Then click "Display All Active Lists", then click the "C470 Discussion List" and fill out the brief form to join. You will from then on receive copies of all mail sent to the list by C470 owners and will also be given instructions on how to submit mail to the list.

Safety at Sea - Preventing Boat Loss [part 3]

In the last two issues, we discussed steerage loss and the need for emergency rudder capability and also the need for a sea anchor to "buy" time and sea room if steerage is lost. We also discussed reefs and rocky inlets as disaster possibilities due to improper use of electronic navigation and/or lack of ability to immediately deploy anchors to stop the boat and protect it from a tight situation. This issue, we'll wind up the series with discussion of electrical fire and rapid water intake as potential disaster situations. One question before we start on electrical fire and rapid water intake though. Do you have a cable cutter on board large enough to cut loose shrouds and stays in event of a dismasting?

At sea, the 110 volt system is rarely an electrical fire problem. Even on boats with generators or inverters, you are always aboard at sea, and both generators and inverters have a way to instantly cut them off and disconnect them in an emergency.

However, we have experienced three twelve volt system emergencies on two of our larger Catalinas, the C400 and C470.

Note from Catalina Yachts: The problems Glenn describes were the result of aftermarket equipment installed by the owner or contractors, and was not supplied by Catalina Yachts. –Gerry Douglas

In all cases, the problems involved non-Catalina equipment installed after purchasing the boat. The problems all three times involved how much amperage and heat is contained in the large battery banks we have on these larger boats. We had a gel cell system on the C400 and we learned the hard way that these batteries are generally of wimpy construction and undergo plate shorting and melt down easily. We were awakened by extremely heavy and obnoxious sulpher smell as the plates had shorted in one of the batteries and all the juice of the rest of the

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bank was rapidly pouring into the shorted battery causing a melt of the battery case and nearly a fire. The saving grace was two things. One, we had switching aboard that boat that could isolate each battery if needed, so we were able to cut off the rest of the bank from draining into the failed battery. Secondly, the failed battery was accessible and we got it out of the boat before it caused a fire. On both the C400 and C470, we have had alternator failures in the high amp alternator upgrades we did to the boats, causing the entire battery bank to dump all amperage into the shorted alternator. In one case, the alternator went up in smoke but did not cause a fire. In the other case, I noticed the problem, seeing a large amperage out reading on our SALT monitor and quickly disconnected the cable from the alternator to the battery bank. We now have an on/off switch on our alternator cable so we can cut it off whenever we are off the boat so the battery bank cannot short through the alternator when we are away and it also serves as an easy emergency cut off if the alternator fails while underway.

Rapid water intake is the last source of emergency at sea I'll cover very briefly. We all know we are supposed to have an appropriate sized thru-hull plug tied or taped to each thru-hull on the boat and the hoses to all thru-hulls are to be double hose clamped. But....do we? Do you even know where your thru-hull plugs are? When was the last time you checked all your vented loops for proper function. Complacency developed from not yet experiencing a problem is a danger to us all. The only source of rapid water intake we've experienced so far is the shaft collar of the dripless shaft seal letting loose. And let me tell you, trying to re-connect it while at sea with a gusher of sea water coming up all around you is no time to try to figure out how it is attached, where the allen wrench is that tightens the set screws, and dig around for the instructions on the shaft seal. At shore is the time to dig out the instructions and diagram, locate the allen wrench, and even use it to remove the duplicate set of set screws that is supposed to be on top of the first set to accomplish two things. One is to be sure there is actually two set screws in each of the three holes, and the other is to familiarize yourself with positioning the shaft seal collar and tightening the set screws. Other owners have written in the past about using a hose clamp or shaft zinc on the shaft just above the collar to add a second layer of prevention of slipping of the collar.

Complacency and lack of preparedness sinks boats, not emergencies.

However, besides preventing water intake, there must be a plan to deal with water intake. Everyone needs to have a second bilge pump installed with a separate output hose in case the vented loop or the hose clamps on the primary bilge pump output fail. The second bilge pump also needs it's own circuit and its own float switch. The West Marine float switch with a high water alarm is an excellent idea. In addition, the handle to the manual whale pump in the port stern lazarette needs to be available, which means tying it to one of the hooks just inside the lazarette near the pump. Lastly, there are five additional bilge pumps already on the boat that you may not have thought about. The foot pump that pumps out the refrigerators can easily be converted to an emergency bilge pump if you carry extra hose. The hand pump for the sinks that pumps fresh water out of your tanks in electric pump failure can also be converted to a bilge pump with extra hose in an emergency. Third, the gray water pump needs only to have its plastic lid removed off it's plastic collection sump to have it serve as a bilge pump in an emergency. Fourthly, the fresh water pump can be converted to a bilge pump with a strainer and two lengths of hose. Finally, the shower sump pump that transfers gray water from the forward shower back to the gray water pump is a high capacity pump that can be converted to a bilge pump with extra hose. Any pump you add or convert as an accessory pump needs a strainer to protect it from bilge debris. It is no fun at all to have a water emergency and have to dismantle a diaphragm pump to get chunks of bilge debris out of it's diaphragm to get it to operate.

Complacency and lack of preparedness sinks boats, not emergencies. If you cruise enough miles, you can be on an emergency happening. It will happen, it will catch you by surprise. Only complacency will keep you from having been prepared for it in advance. It is my hope that every C470 cruiser puts some thought into the urgencies raised in this issue and the last two issues of Tech Notes. Safe Cruising! *–Glen McIntosh, #13, Latitude Adjustment.*