

Technical Pull-Out

Q&A FOR YOUR CATALINA THAT'S BEEN FACTORY APPROVED



Catalina 470



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Beckoning, #76

Underwater Maintenance... While Underwater!

The warm, clear waters of the Caribbean lend themselves to great winter cruising, entertaining and make the live-aboard lifestyle well worth doing!! A fresh breeze almost every night after a day's tacking, jibing and reaching along with magnificent sunsets, an adult beverage and dinner hot off the "barbie" makes for some great living aboard. A quick clean-up of the dinner dishes, some Texas Hold'em in the cockpit with friends or perhaps a visit to watch The Jumbies in Leverick Bay, Virgin Gorda on Friday nights in the high season and the day is done. The next morning we may journey to a scuba diving site and grab a mooring for a great dive on a wreck or reef. But, on ascent to

the boat after the dive, we look at our magnificent C470 hull and are visually taken aback by what we see. "What is all that stuff on my hull?" is a common question after the first dive in the Caribbean. While we Owners are enjoying life above water, the micro-organisms, bacteria, stray electrical currents and corrosive effects of the hi-salt content Caribbean waters never cease their activity. So, underwater maintenance, even for a boat which is regularly sailed fast in the superb trade winds of the Caribbean, becomes necessary.

Modern anti-fouling paints have done wonders for keeping hulls clean. Even so, the aggressive "critters" in the water find a way to attach themselves to our hulls and slow us down. Zincs die a slow death and need replacement. The warm water decreases the life of the grease which lubricates some prop hubs and our shiny bronze props become covered with growth which significantly inhibits their effectiveness. The much too often encountered fishermen's nets test our Spurs and other protective equipment installed underwater. Lastly,

thru-hulls can become clogged with slime, barnacles and other creatures thus reducing water flow and the efficiency of on-board equipment. To be sure, the cruising life in the Caribbean during the winter is not a series of major maintenance cycles but constant vigilance and then a "maintenance evolution" are often required regardless of preventive work undertaken before arrival in the Caribbean.

For a certified scuba diver the chance to actually do some meaningful work underwater is often a new and different experience. During most dives, we take only pictures and leave only bubbles!! A maintenance dive is altogether different. For those who choose not to become certified scuba divers, a common choice of life-support equipment is the "hookah" type of floating compressor with long hoses and breathing regulators which allow the diver to work on the hull without scuba equipment. Either type of equipment has the advantage of being usable for both hull work and recreational diving.

Tools!!! The hand tools needed for underwater work are no different than those needed when the work is done on the hard with the most notable exception being that electrically driven buffers,

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grinders and the like are not available to the Owner. This is strictly a manual, hand-tool operation!! One should also keep in mind that the salt water will quickly corrode any tools or grease guns not thoroughly and immediately cleaned with copious amounts of fresh water immediately after use. Indeed, soaking everything you use for a few hours in a bucket of fresh water after the job is done is not a bad idea.

Now that we have the tools and a way to breathe let's look at techniques and results. The first picture shows the use of a common scraper on the prop shaft. This scraper is available at all hardware stores and the semi-circular cut-out has the great advantage of exactly matching the diameter of the 1 & 1/2" prop shaft found on the C470.



This makes for quick, easy and thorough cleaning of the shaft and the smaller area between the cutlass bearing and the SPURS. Note the clean, relatively bright and shiny prop shaft where I have been working versus the fuzzy, encrusted strut. Good technique requires that the engine ignition key be turned off and removed and the engine DC power switch at the nav station be set to OFF. When you are cleaning the prop and the shaft, you will be rotating the prop by hand and constantly in close proximity to potentially rapidly moving blades so take every reasonable precaution to preclude inadvertent powered rotation of the propeller shaft. You also want to do all this when the water is calm and the hull is not bouncing up and down in even light seas. I have also performed this work several times in areas where currents exist. That makes the work much harder to accomplish and should not be undertaken by novice divers/hookah users.

Additionally, the sharp point on one end of this particular scraper allows the diver to reach up into the shaft log and break loose any growth. The flat scraper end is used to clean the strut and the prop blades. Normally, on the hard, a

bronze wire brush attached to an electric drill works wonders for burnishing the prop/strut on a haul-out but that luxury is not available underwater!! One might note that the "crud" that attaches itself to the prop in the Caribbean is usually not barnacles but a hardened slime that requires a bit of elbow grease to remove.

Next, the hull!! Even the best bottom paints can't fight off all attacks by underwater organisms. *Beckoning...* is protected by Pettit Trinidad SLR and this paint has done a fine job. My boat is underway at least 25 days out of 30 here in the Caribbean so one would think that the bottom paint would remain devoid of critters and slime but that is not the case. The scouring sponge used to clean the slime layer off the hull is seen in my left hand in the first picture. There are three grades of scouring sponges. The white is the lightest and the smoothest. For most applications this grade does the job very nicely. The picture below shows an area of the rudder after I rubbed the white scraper sponge lightly across and back once. The result is a clean area with very little abrasion to the bottom paint. Two months ago I did this same operation on the hull but the slime was much thicker. After also cleaning the shaft/prop and sonar dome of barnacles and other growth, the performance of the boat was noticeably improved. One would not think that smooth slime would be such a detriment to speed but it is indeed!!



The last picture shows a prop blade (left side) after cleaning with the scraper and polishing with the brown and most aggressive grade of scouring sponge. There is quite a difference between the two blades!!

Props need smooth water flow over their surfaces in order to give rated performance. It took only about 5 minutes for this blade to be cleaned and polished. The blade to the right, although it looked smooth initially, was actu-



ally rough to the touch and the resultant disrupted water flow would not be optimal.

Scuba divers need to monitor their air supply closely when performing this work. Even though the diver is not at all deep, underwater exertion burns air very quickly!! Controlling one's buoyancy is also critical since you will be banging your head up against the hull or, worse yet, be flattened against the hull if you are too buoyant resulting in the inability to get anything done!! It usually takes me about 90 minutes under water to completely clean the hull and related equipment. The reward, one would think, would be a clean hull and best speed! Actually, the reward on the completion of this maintenance evolution, when I had finished scraping the hull, bow thruster, prop/shaft and sonar dome, HF grounding plate and checking the cleanliness of all the thru hulls with a gloved finger, was to hang on the prop shaft and look around at the underwater environment. No more than 5 feet away was a 4 foot long Barracuda looking right at me!! I guess he was attracted by the noise and activity. Since he was between me and the stern ladder I decided to remain motionless as he slowly circled while deciding his next action. Attacks by Barracuda are rare worldwide and virtually unheard of here in the Caribbean but a torpedo-sized Barracuda definitely warrants respect and he got it!!! After two complete circles of me, this fish slowly departed into the depths. I have no idea how long he had been there or if he was coming back but I immediately decided that the day's work was done and it was time for a Dark n' Stormy so I swam to the stern ladder, doffed my fins and scooted up said ladder with exceptional speed and agility. Underwater maintenance while personally underwater can be tedious and...you never know how it will end!