

# Technical Pull-Out

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



## Catalina 470



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Beckoning, #76

### An International Bottom

As the C470 fleet grows in number and our Owner group grows in age we find ourselves closing in on our dream: to go cruising! With the proven capabilities of the C470 to explore strange new harbors and boldly go where no C470 Owner has gone before the issue of bottom paint appropriate to the widely varying waters to be encountered on a year or more cruise frequently arises. The sea water, and subsequently the "critters", encountered in the summer in eastern Maine is wildly diverse from the harsher, saltier and sunnier waters of the Caribbean during the winter. Long cruises to and from these areas are coupled with only minor boat movement once arrived at the destination. Anti-fouling (AF) bottom paints, like our Owner group,

have thus evolved over the past few years and can now provide cleaner faster boats through chemistry under a wide variety of aquatic conditions.

The problem of bottom fouling has existed since boats first went into salt water. Early wooden hulls were plated with copper to reduce growth. The weight of the metal and ultimate destruction of it by sea water made this solution temporary in the grand scheme of things. Tin plating was introduced but it too suffered the same demise as copper and neither metal could combat both hard and soft organisms. During the times of the ancient mariners many a miserable hour was spent by crews cleaning hulls laden with growth. Today our fleet and its crews are blessed with activity choices which seldom include cleaning the bottom of the boat.

There are two types of organisms which attack boat hulls: Hard organisms (barnacles and such) and soft organisms (slime). Hard organisms multiply like rabbits and one never knows if a particular season will bring an onslaught of barnacles. One year may produce

light growth and the next a very heavy growth. Soft organisms generally grow near the water line and the sunshine in murky water (such as the Chesapeake Bay) or can encompass the hull in the clearer waters of the Caribbean and Mexico. Sailboat hulls are, by their design, hydrodynamically slippery and any interference with the smooth flow of water has immediate and noticeable results. However, the soft organisms are repelled by a different chemical than the hard organisms and there's the rub!! How do the chemists find the right balance of ingredients to fight off both sets of critters?

In previous years cuprous oxide was used in bottom paints to ward off hard organisms. That chemical is still in use today. However, new paints are available which, when properly applied, rely on a super-slick Teflon-like surface to prevent hard organism adherence. Additionally, "boosters" such as the zinc enhancing Bio-Boost are available to make both hard and soft bottom paints more aggravating to hard organisms but these additives can only be used in cuprous-based paints. Indeed, if one attempts to "enhance" ones cuprous-based bottom paint with a tin (to fight off slime) additive the result will be curdling of the

## Catalina// MAINSHEET MAGAZINE SUPPLEMENT

May 2011 • Vol. 29 • No. 2

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For advertising information, contact Jim Holder, Eagle Ltd. For subscription information see page 56.

Technical articles are the opinion of the authors and not necessarily the advice of Catalina Yachts, Catalina Mainsheet or the National Associations.

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entire gallon of paint! Soft organisms were fought with Tributyltin (TBT) for years. This chemical is extremely effective but toxic to the environment. A treaty is now in effect that strictly regulates the use of tin-based bottom paints. These paints, although very effective, are now banned in the USA due to their proven toxicity to the environment. Large ships with tin-based bottom paints must have another coat of barrier paint added over the existing TBT paint in order to render the TBT inert prior to entering US waters and many European Union ports. Tin-based bottom paints for small boats are available in some places such as the British Virgin Islands. These paints are ablative and very effective in all regimes of anti-fouling protection. One could consider their use if remaining outside the USA for the expected duration of the application. Interestingly, the use of standard EPA approved bottom paints such as Trinidad SR over tin-based paints does work. This brings up the issue of compatibility of the various manufacturers products.

When one thinks of the term "barrier coat" one normally thinks of a coat of paint which prevents water from ingressing the hull material. In the case of a barrier coat anti-fouling paint, this term means that the barrier coat prevents

the new anti-fouling paint from chemically interacting with the old paint. An anti-fouling barrier coat is not, however, often needed. Most manufacturers' paints are, with some form of hull treatment (usually light to heavy sanding and complete removal of sanding residue) compatible with other manufacturers. Each manufacturer has produced excellent charts available on line with which an Owner can determine the compatibility of what exists on his hull with the proposed new paint. This situation would occur if the Owner was contemplating different bottom paint due to forecast and long-term changes in boat location. Publications such as Practical Sailor often do AF paint tests and the results are available to subscribers. In 2007/2008 my C470 *Beckoning*...was in the USVI/BVI for 6 months with fresh ACT on the hull prior to departure due to a published study. The paint failed midway through the winter resulting in much underwater time, scraping with a large drywall knife and several close encounters of the serious kind with curious Barracuda. Upon changing to a hard-epoxy for the winter of 2009-2010 in the British Virgin Islands (BVI's), the fouling problem was eliminated.

The application of AF paints can be Do It Yourself (DIY) or done profes-

sionally. As previously reported in these pages, an Owner can opt for a clean hull via chemical, sanding or blasting removal of the current bottom paint, and then applying the selected product. An alternative is to check compatibility of the proposed paint with the current paint and if, compatibility is assured, apply the new over the old with appropriate minor hull work if necessary. Some paints have a sharply defined maximum out-of-water time after application/drying. This means that the boat must be launched within that time frame or the paint could be rendered ineffective. Additionally, some paints are better applied with short napped rollers rather than deeper napped rollers. Each paint is different and unique!! All have their pluses, minuses, devoted users and users who are, well, not-so-much. As with most things, you get what you pay for so don't be surprised when you want a top-performing AF paint that it costs close to \$400/gallon depending on where you buy it. A clean, well-painted hull yields economic benefits as well as much bigger grins when the knot meter hits 9+ knots boat speed! Do your research; buy the good stuff then ensure proper application and your C470 will reward you with good speeds and great sailing!

where

## Catalina 42

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We all know that the Catalina 42 is an excellent cruising boat, and many owners have come up with effective ways to make handling a dinghy and outboard motor as convenient as possible. I received a detailed description of installing an outboard mount for C42s that do not have the factory installed mount. Bill Brayton sails his C42, *Our Porpoise*, out of Channel Islands Harbor and has been a regular contributor to the discussions on the C42 internet forum.

### Stern Rail Outboard Engine Mount Addition

My wife and I have owned a Catalina 42 for about three years now; we live aboard our boat in Channel Islands Harbor, CA, and cruise to the Channel Islands regularly.

I recently bought a new 6-horse, 4-stroke outboard for our dinghy. This is our transportation while visiting our favorite anchorages, and a fun way to get around the harbor on sunny days.

Last year at the Catalina Rendezvous at Two Harbors on Catalina Island, I purchased an outboard motor crane from the folks at Garhauer. They're a big sponsor of this great event and they bring terrific deals to the gathering.

I had my outboard mounted on top of the stern rail because that made it easy to get to. I wanted a stable platform for the crane, so I also purchased a mounting plate, which was designed to match the angle of the transom on our boats. I taped the crane and mount in place, and right away I observed a couple problems.

The first thing I noticed was the crane was too tall to swing under our custom made bimini. We had our bimini made to



stick out past the stern rail, so a person can sit in the stern rail seats and enjoy a cocktail without sitting in the hot sun.

Since the bimini sticks out so far, I figured I'd have to cut about six inches or so off the crane. The problem with cutting the crane shorter is that it would put the attachment hook right on top of the engine, with no room to spare (lifting line two blocked).