Technical Pull-Out
Q&A FOR YOUR CATALINA THAT'S BEEN FACTORY APPROVED
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Catalina 470

C470 Association Technical Editor

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Beckoning, #76

BOOM!

One of the dangers of sailing a large sailboat is the size and power of the boom when it is unrestrained. With sails up and a good wind, the amount of power in a sail is awesome. This power is transmitted to the boom when tacking and jibing resulting in movement of the boom. Every year we read about the loss of sailors due to a collision between the boom and the sailors heads. This often results in an unconscious sailor being swept overboard with disastrous results. Controlling boom movement is therefore paramount to safety aboard. The boom brake will eliminate unrestrained/uncontrolled and therefore dangerous boom movement.

A boom brake operates on a very simple principle...friction!!! The friction of the lines routed thru the brake coupled with the tension of the control line going to the cockpit will overcome the inertia of the powered-up boom and slow or eliminate its movement. The brake moves along the control line when operating. After the brake is worn-in and properly adjusted this process is automatic and requires only occasional attention by the crew. Unexpectedly higher winds or the requirement to use the brake as a preventer are usually the only times that adjustment is necessary. Maintenance is simple...just hose the brake down with fresh water now and then and check the lines, as we all do, for wear and fraying.

Aboard BECKONING... Hull # 76, the Dutchman boom brake is installed as shown in the photos. The control line, as recommended by the factory, is attached to the aft most chainplates with appropriately rated Wichard shackles and is professionally spliced to ensure maximum strength. The control line is routed from the starboard side chainplate to the brake then to the port side chainplate via a Garhauer block (shown) then to a rope clutch added to the existing cluster in the cockpit. The brake itself is mounted

(shown) to the underside of the boom with large screws (bedded with Tef-Gel) holding a tang in place. Again, an appropriately rated Wichard shackle is used between the brake and the tang. There can be a significant amount of strain on this equipment; using properly rated shackles, blocks and lines is mandatory!!

The boom brake is capable of being used as a preventer when running downwind for long periods of time and will hold the boom in place when encountering rough seas. It can also be used to hold the boom in place when at anchor and a guest wants to hang off the boom in a hanging chair (shown)! However, the primary use is to control

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the boom when jibing and tacking. We have all seen the boom swing much faster than we would like when an unexpected change in wind direction occurs while running downwind or when tacking and the mainsheets are not keeping up with the boom movement. This rapid movement is dangerous and can damage the mast/boom assembly. The boom brake will eliminate this rapid movement when properly installed and tensioned. My thanks to our esteemed Commodore, Bill Martinelli, for showing me the benefits of a boom brake aboard his boat and then having the patience to make me jibe at least 50 times aboard my boat one windy day to wear-in my brake and bring me up to proficiency in its use. The boom brake is an essential piece of deck safety equipment. The contribution to safe operations which the boom brake provides cannot be understated and its acquisition and use should be thoroughly considered by owners.

Catalina 42

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Rudder Bearing

Garry,

We had some minor equipment issues on our passage from Southern California to Puerto Vallarta but nothing we couldn't handle. One problem that concerned me though was a grinding, rubbing noise in the rudderpost area. This noise got my attention. Once in the quieter waters between Cabo and PV, I removed the emergency tiller access plate and discovered that each of the four bolts on the top of the rudderpost were loose. When tightened down the noise went away. We had two weeks of downwind sailing, some of it in 20-25K of wind in sloppy seas. Under autopilot the rudder must have had a good workout, but the steering seemed fine and responsive despite the noise, which started near the end of our 1,000-mile passage.

Here are my questions: Is the loosening of the rudderpost bolts normal under the rigorous downwind conditions described? If so, was my fix appropriate, or might I be masking a more serious problem with the rudder? I know the best answer is to haul the boat and have a qualified technician check the rudder. Obviously, I would like to avoid that, especially in the absence of any other steering symptoms, which I have not noticed. Any inputs would be appreciated.

As a sidebar, removing the cover plate to access the rudderpost cannot be accomplished with the toy tool provided with the emergency steering gear. A drift pin and a 3 lb. hammer does the trick, but I wonder if many owners would have access to these tools in a real steering emergency. Because of the deck plate location it catches water and debris in the threaded areas, making it freeze without adequate mechanical "persuasion". When I removed this plate several months ago, I greased the threads with silicon grease. Unfortunately, this had no effect in easing the removal of the plate when underway a few days ago. *–Jim Brye Allegro, Hull #562*

Jim,

The upper bearing does need to be inspected and tightened down occasionally. The factory changed the bearing shortly after your hull number to a Forespar unit that keeps the shaft much more captive so you and I both have this issue. I put lock washers and nylock nuts on mine after the first time I inspected it and found it loose. One thing to consider is that if by chance the bearing was really loose and started working or elongating the bolt holes to the point where the hole is larger than the bolt and it has too much play, to simply rotate the bearing 45 degrees and drill new holes to attach the bearing. This seems to have solved the problem but I continue to inspect it on a regular basis. So, if you haven't done it already, you don't need to haul the boat for an inspection. I also coated the inspection plate threads with Teflon and that seems to make the plate easier to remove. *–Garry*

Packing Gland

Garry,

I had your email from an earlier conversation over a year ago about a prop shaft strut issue I had that leaked, but was corrected with 5200 and no further issues.

I saw your comment on the 42 owner's site about the stuffing box packing you have been using and had a few questions as you seem very happy with it. I did look at the product in the past but it's not popular here in Toronto so I left it alone and went with conventional packing, but I'm not too happy with it.

My stuffing box can only seem to take 3 layers (from memory) of packing and still have threads left to attach. Same with yours? With the Syntef green packing putty it seems you first need a layer of braid, then the green stuff, then a layer of braid again. This does not seem like much of the putty is actually inside the box. Was this your install method?

My prop shaft has a slight score or groove in the area where the packing is located and I suspect this is why more than usual dripping occurs from time to time. I was thinking the putty approach might help seal that scored area little better.

It seems that you do not get any or very little dripping of water? *–Ron Davis*

Ron,

It sounds like you've thought this through and arrived at the correct conclusion. Yes, the conventional packing uses 3 rings of flax and there is just enough to grab onto the threads.

With the Teflon packing however, the first layer of flax is installed, then a layer of the moldable putty and then a final layer of flax. All three layers are coated in Teflon and that is where the big difference occurs. The Teflon causes less friction so your shaft spins more freely and the moldable packing covers the small imperfections in the shaft so it won't drip. Not having seen your shaft and the score you refer to, it would be hard to know whether it will prevent it from dripping but I do know that it the product works well and it will never have a catastrophic failure like a rubber bellows can have. After 8 years the only maintenance I have had to perform is to tighten the gland an 1/16 of a turn occasionally to prevent a drip or two.