

Technical Pull-Out

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



Catalina 470



**C470 Association
Technical Editor**
Jim Wohlbeber
P.O. Box 157
Friendship, MD 20758
(207) 332-3233
Jetjockey6@aol.com
Beckoning, #76

Midsummer "How Goes It?"

As we approach the midsummer mark the engine compartment has had a workout! On a rainy windy day when getting off the dock is best left to the seagulls some easy maintenance (mx) and a project to make a difficult access easier can be accomplished.

To generate that satisfied "I'm glad that's done" mx smile you will need a flashlight, a mechanics mirror, a nut driver, an extendable magnet-on-a-stick and about an hour.

Let's start at the beginning! Open the engine compartment and look in the forward part of the bilge. Any fluids are a sign to look further with the mechanics mirror. Run the magnet up the bilge under the engine to see if there are any nuts, bolts, washers, etc.

which may have come off the engine. If you find any fluids or parts a detailed inspection of the engine is necessary to find where the parts/fluids came from. Don't give up!

Next, look at the engine drive belt. It should have a minimum of 1/2" play in the middle of its longest distance between two pulleys and a maximum of 3/4". If the belt has more play than 3/4" the next step is to check the bolts holding the alternator. Are they tight? Is there fore and aft play on the alternator arm? Is there evidence that the alternator has slipped towards the engine block? Most owners have marked with tape or Magic Marker exactly where the alternator should be on the alternator arm in order to properly adjust belt tension. Next, check the belt itself. Rotate it so you can see the inside surfaces or use the mechanics mirror and light. Are there any cracks, however minute, anywhere? Of equal importance, are the angled sides of the belt shiny? If so, replace the belt as it is wearing unevenly. Then look for the reason for the uneven wear as described above. Your inven-

tory of three spare belts may be reduced by one temporarily but better now than at night in a crowded, windy harbor!

Next, check the engine mounts. Anti-freeze, which has dripped from the engine or, has been splashed during replacement, will slowly corrode the rubber and steel mounts. Use the mirror to get into the places you cannot easily see and thoroughly inspect the mounts. Look for rust, cracks and deterioration of the rubber shocks. Count the number of threads on each mounting bolt. The engine is aligned by moving the large nuts on the mounts so if all thread counts do not precisely agree that is not a serious matter. If one is considerably different than the others, make a note and consult your mechanic.

Moving to the engine coolant sub-tank: check the level. It should be between the max and min (hot and cold) levels. If it is not, do NOT add coolant here. Open the engine pressure cap, check the coolant level, color and the temp capability with a tester. Then add coolant slowly to the bottom of the filler neck. If there is any spillage, clean it up with 409 or another good surfactant. Being able to see leaks is easier with a clean tank. While you are at it, clean off the engine with rags or paper towels

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Publisher/Editor

Jim Holder
830 Willow Lake
Evans, GA
(706) 651-0533
cv.jholder@mainsheet.net

Associate Editor

Carol Vandenberg

Technical Editor

Gerry Douglas
Designer & Engineer
Catalina Yachts
(818) 884-7700
gerard@catalinayachts.com

Catalina Mainsheet is published quarterly by Eagle Ltd., 830 Willow Lake, Evans, GA 30809
Phone&Fax (706) 651-0533 • cv.jholder@mainsheet.net.

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Direct questions and comments to your class technical editor.

Catalina 470

Jim Wohlbeber
Jetjockey@aol.com

Catalina 42

Garry Willis
garrywillis@comcast.net

Catalina 400

Ron Marcuse
CaptRon@optonline.net

Catalina 380/390

Warren Elliott
warrenell@msn.com

Catalina 38

Tom Troncalli
Tdtron@earthlink.net

Catalina 36 MK I Hulls

Tom Soko
Tjsoko@aol.com

Catalina 36 MK II Hulls

Tom Senator
tsenator@clsco.com

Catalina 350

Skip Penizotto
skip7@verizon.net

Catalina 34

Steve Lyle
TechEditor@c34.org

Catalina 320

Rod Boer
Rod.Boer@verison.net

Catalina 310

Bill Lewis
wol1@yahoo.com

Catalina 30

Max Munger
techtalk@catalina30.com

Catalina 28

Carl Scandella
scandella@aol.com

Catalina 27

Harry M. Cowgill
mollicy27@cox.net

Catalina 270

Phil Agur
plagur@sbcglobal.net

Catalina 26

Bob Unkel
Unkel@one.net

Catalina 25

John Vening
john@johnvening.com

Catalina 250

Arlyn Stewart
aa5by@cox-internet.com

Capri 25

Chris McKillip
sirstopher@yahoo.com

Catalina 18

Erik Van Renselaar
esvanr@firedept.net

Capri 14.2

Ed Jones
ed@capri14.org

and 409. Keeping it clean will enable you to more easily see leaks should they occur in the future.

Check the oil dipstick. It MUST be in the tube with the curly handle forward. Due to the design of the Yanmar 4JH3-TE the air pressure inside the engine will not allow a proper dipstick reading if the dipstick is inserted any other way. Sounds a bit strange but that is one of the "must learn" items at diesel school. If the engine needs oil, do not overfill. At high angles of heeling, the engine could begin to burn oil instead of fuel if overfilled. While you are at it and even though you checked the oil 20 minutes after you shut it down (the Yanmar recommendation) check it again, then verify the engine hours to go until oil/filter change. We are human and do misread such things from time to time!!

Then, check ALL the hose clamps with the nut driver. You will need a 5/16" and 1/4" socket.

Check the Racor fuel filter bowls. Is there any sediment on the turbine plates or in the bottom of the bowl? The filter is easily drained using the fitting at the bottom. Generally, the sediment will follow the fuel out the drain. If there is too much sediment it will not empty out; removal of the paper filter, then disassembly and cleaning of the Racor itself is then required. A level of sediment deep enough so that it will not all drain out is an indication of significant growth in the fuel. Yanmar additives can sometimes cure that; more often than not, the fuel tank must be emptied and thoroughly cleaned to stop the growth and prevent its recurrence. Fuel treatment will be discussed in a following Tech article. Use only 30 micron filters in the Racors. To do otherwise defeats the purpose and design of the on-engine 2 micron filter.

Check the transmission dipstick. Be careful to hold the O-ring against the dipstick when you remove the dipstick. The O-ring will find a hiding place in the engine compartment and the transmis-

sion case cannot be sealed without it. Check your stash of spare transmission dipstick O rings and if the current one has any nicks or tears in it, replace it. Transmission oil (IT IS NOT ATF FLUID) should be clear. It is difficult to read this dipstick so one technique is to clean the dipstick thoroughly, dry it off and place a small round red or green sticky label over the "full" line. Insert the dipstick completely into the transmission, wait a few moments and remove. It is much easier to see the wet oil mark on a red or green label than it is against a clean, stainless rod. If the oil is low, add the same type. If it is dark or smells burnt, change it out, motor around for a short period of time then check it carefully. If it is dark again after being changed, consult your mechanic immediately. Transmission oil should be changed every 250 hours. Do NOT overfill the transmission. If you add oil and the dipstick shows it is over filled you must remove the excess. -Jim

MX is done! On to a project...

The exhaust anti-siphon valve must be inspected but is difficult to access. Maher Elmasri, (BUTTATA, Hull #66) has shared with us his remedy for access (photos). By removing part of the bulkhead where the engine raw water strainer lives, Maher has gained inspection and mx capability. Carefully remove the strainer assembly (shown), then mark the lines to be cut. Using a Zip saw or, alternately, drilling a hole and using a Sabre saw, cut out the panel as shown and remount the components. Voila! Now you have visual and physical access to the anti-siphon valve and related components.

-Maher Elmasri



Access to Yanmar seawater anti-siphon valve.



Yanmar Seawater anti-siphon valve.

<p>GALE SAIL The Storm Jib that backs OVER the Jurled Headsail.</p>	<p>SPINNAKER SLEEVE The best Spinnaker control device.</p>
<p>TACKER No more spinnaker pole.</p>	<p>TOPCLIMBER Climb up and OVER the mast by yourself.</p>

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ATN, Inc. • 3718 S.W. 30th Ave. Hollywood, FL 33312 - USA
800 874 3671 • 954.584.2477 • Fax 954.584.2478
www.atninc.com