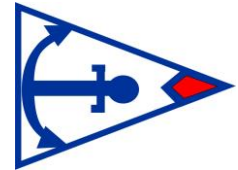




The Bitter End

Editor: Bill Reynolds N



February 2018

Newmarket Power & Sail Squadron
P.O. Box 93090 1111 Davis Drive
Newmarket, Ontario L3Y 8K3

Web Site: www.cps-ecp.ca/newmarket
E-mail: npsinfo@mailonly.ca

From the Bridge...

With the boat show behind us, it is a sure sign that spring is around the corner. With the mild temperatures we've had (as I'm writing this at least), I am hopeful that Wiarton Willie and Punxsutawney Phil won't see their shadows, spring will be coming early, and everyone can get a head start on cleaning, waxing, and getting ready for spring launch.

In 2018, CPS is celebrating its 80th anniversary. For those that may not know – CPS began in 1938 when 3 members of the Windsor Yacht Club crossed the ambassador bridge after successfully completing the Junior Piloting course under the direction of the Detroit Power Squadron. G. William Bowman became the Commander, and CPS' first Chief Commander of Canadian Power Squadrons, which is now Canadian Power and Sail Squadrons. Today, CPS has over 17,000 members in 138 squadrons across Canada who share our Vision, Mission, and Values – “A committed community of experienced boaters inspiring others to adopt a safe boating attitude through education and training”.

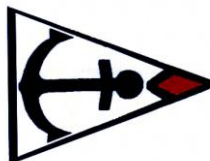
Recently the Oakville Squadron and Oakville Power Boat Club have made an agreement for all CPS members for transient dockage. The agreement is that members pay the transient rate for the first night (\$2/ft) and get the second night for free. So, if you own a 30' boat you would pay only \$60 for both nights which include power, water and use of facilities.

Before the spring launch is here and summer begins, it's a great time to expand your boating knowledge by taking one of the courses the Newmarket Power Squadron is offering. Beginning March 6th, we are offering the Boating 3 course (Introduction to Marine Navigation), the course runs for 6 weeks. Another great course is the Restricted Operators Certificate – Maritime (VHF), it is a 3-week course and begins On April 24th. All our courses are offered on Tuesdays at Dr. Dennison Secondary School in Newmarket and run from 7:30pm-9:30pm. If you or anyone you know is interested in these courses, please reach out to us at npsinfo@mailonly.ca.

On behalf of the Bridge,
Cdr Stuart Denny

The Newmarket Power & Sail Squadron Bridge 2017-18

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Immediate Past Commander	Bill Reynolds, N		



Newmarket Boating Course Offerings – 2018

This season will see an ambitious selection of programs to satisfy the needs of everyone from beginning boaters to experts.

Boating 2 – Beyond Basics: January 23, 2018 – February 27, 2018

Boating 3 – Introduction to Navigation: March 6, 2018 – April 17, 2018

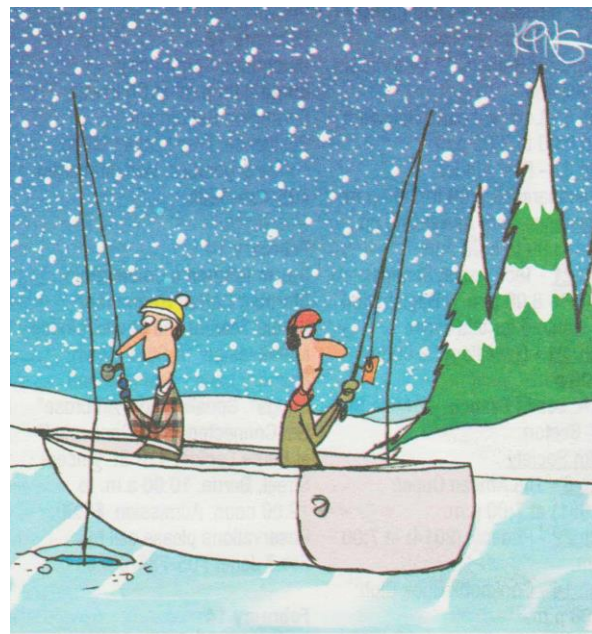
Boating 4 – Near Shore Navigation Level 1: January 23, 2018 – April 17, 2018

Boating 5 - Near Shore Navigation Level 2: January 23, 2018 – April 17, 2018

Maritime Radio: April 24, 2018 – May 16, 2018

For more information or to register go to:

<http://www.boatingcourses.ca/cities/Newmarket>



"I know we're ice fishing. The boat gives it ambiance."

Repacking the Stuffing Box

By Bill Reynolds



Boats with inboard engines where the drive shaft goes through the hull to turn the prop need some method to prevent water from entering the boat through the drive shaft opening. For over a hundred years a simple method called a stuffing box has been used and is still found on most inboard engine boats. Some boats have a dripless shaft which uses a complex mechanical device to keep water out.

The stuffing box uses compressed packing material such as flax which is wrapped around the shaft. A very small bit of water penetrates the packing to keep it moist and cool while the shaft rotates at high speeds driving the boat. Typically, one of two drops of water per minute will enter the boat when the driveshaft is turning.

If too much water is coming in, the stuffing box nut must be tightened. If no water is coming in the shaft may overheat and become damaged. In this case the stuffing box nut must be loosened. The wise captain checks the stuffing box at least once per season.

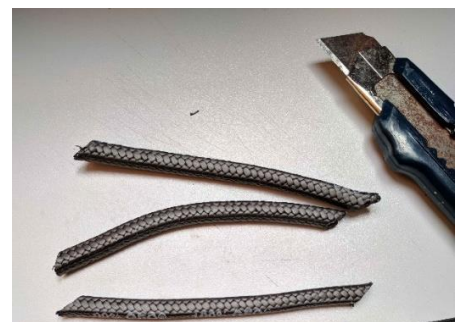
When the packing becomes too worn to stop the water, the material must be replaced. This is not a difficult or expensive process but should be done when the boat is out of the water. An ideal time to do this job is in the winter when the boat is on it's cradle.

The hardest part of the procedure is removal of the old packing. There is a special pick for removing old packing material. I opted to use dental picks since they seemed to look like the specialized tool. They didn't stand up, however. I discovered that jeweller's slot screwdrivers work extremely well for the removal of the old packing material.

Poke and pry at the old packing until a section of it becomes free. Then grab the old packing with needle nose pliers and pull it out of the packing nut. Be patient. It takes a while, but you will be able to remove all the old, worn packing rings one at a time. Although there should have been three rings, I only found 2 in the stuffing box on my boat. It took well over an hour to pick at them and remove all the flax packing.



I opted to use Gore GFO packing to repack the stuffing box. This is an artificial material with graphite lubrication built in. Unlike traditional flax, it does not absorb water and swell so the stuffing box needs only a short run time after the initial installation before final adjustments can be made. It also runs cooler than flax. Caution needs to be taken, however, since there can be galvanic reactions in salt water between the graphite in the GFO material and a bronze shaft. Since my boat has a stainless-steel drive shaft, I feel this material is safe and should serve for a long time.



The packing material is selected based on the size of the stuffing box. With Vernier calipers, measure the diameter of the drive shaft and the internal diameter of the stuffing box nut. Subtract the shaft diameter from the internal diameter of the nut and divide by 2 to find the thickness of the packing material required. Order enough packing material to go around the shaft about 4 times.



Since the drive shaft on my boat is 1" diameter, I used a spare piece of SS 1" tubing to wrap the packing and measure the lengths for cutting. This is easier than trying to do the measurements and cutting on the actual shaft. The best way to cut the packing is a mitre cut at 45 degrees with a razor knife. This allows the packing to compress tighter and allow less water to flow into the boat. The cuts are made to leave a tight fit around the shaft.

Wrap one length of packing around the shaft and gently push it into the packing nut. Mark the nut to indicate where the joint is. Do not twist the nut.



I used a short piece of 1-inch (ID) plastic pipe which was cut to make a snap-on sleeve as a packing tool. Once the packing is just inside the nut, snap the plastic tool onto the shaft and slide it gently into the nut pushing the packing with it, again, without twisting the nut.



Repeat with the second wrap of packing. Set the packing material joint 2 nut faces (120 degrees) from the first. Mark the nut to show where the joint is.

Repeat again with the third piece of packing setting the joint a further 2 faces in rotation from the joint of the previous piece.



With all three wraps of packing pushed into the nut, hand tighten the nut to close the stuffing box. Tighten the lock nut to ensure the nut doesn't unwind when the engine is in drive.

The task is now done until lift-in. When the boat hits the water give the stuffing box a quick visual to ensure you are not sinking. 😬 A few drips per minute is acceptable.

Drive the boat for 20 to 30 minutes and check the stuffing box again. For the GFO packing, this is sufficient to make the final adjustment to reduce water flow to a couple of drips per minute while the shaft is turning. There should be no water coming in when the shaft is stationary.

NOTE: Use extreme caution when making adjustments with the engine in gear. it can be dangerous if is any loose bits of clothing or jewellery get close to moving parts.

If you use traditional flax packing, it can take a couple of days for the flax to swell from the water absorption. Do not adjust the packing nut until then or the shaft may be damaged.