

Cutless Bearing Removal and Replacement for a Watkins 27 By John Everson

This is a fairly difficult job, but if you are mechanically inclined and want to save a significant amount of cash, you might want to ponder what I did. Plan on this taking up most of you day. The bearing I replace was a Bonito or Bale model; 1 ½ X 1 X 4 bought online for about \$36. Your large chain marine store will hit you up for \$80 for the same thing.

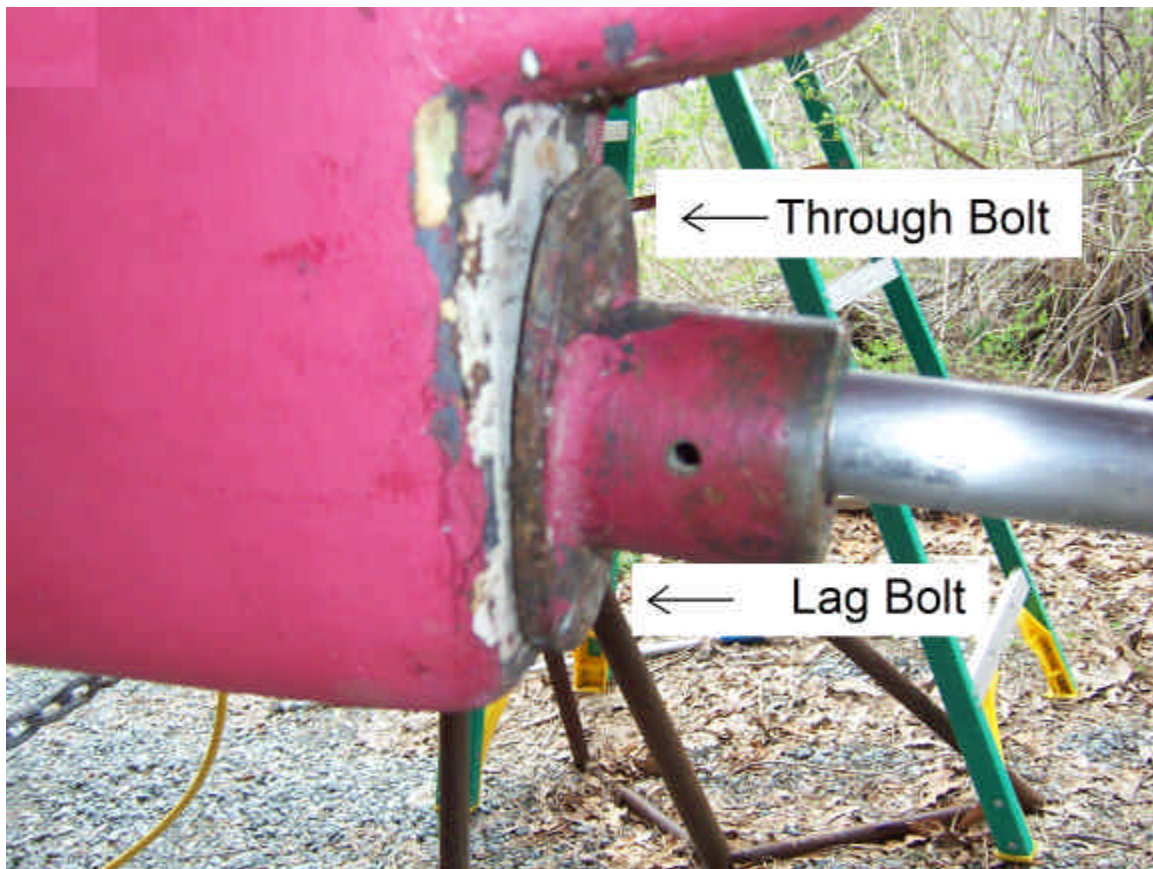
****DISCLAIMER**** This is not a how to guide. This is how I replaced my bearing. This is also the fifth or sixth cutless bearing I have replaced so I have it down pretty well. I can't be held responsible if your boat falls on you, you get stuck in the bilge, you hurt yourself, you ruin a bearing or shaft, your wife laughs at you, etc.

The first step was to remove the zinc and the prop. I removed the cotter pin, backed off the two nuts holding the prop on noting that the larger nut is against the prop. Taking lots of pictures along the way helps putting things back together. Next I took my gear puller and extended it with a few galvanized brackets and used it to remove the prop.



I made sure the jaws were centered, the threaded rod was centered on the shaft, and then using a socket wrench tightened the threaded rod on the shaft. After a few turns and a few taps with a plastic mallet, the prop came off. I usually take my props off every year just because that makes it that much easier the next time. There is nothing worse than trying to get a prop off that has been on a few years.

At this point I climbed into the bilge and removed the two stainless hose clamps from around the shaft log. I also brought several box end wrenches and determined that a 9/16th was needed for the removal of the shaft log. I climbed out of the bilge and sent my son in and had him hold the wrench on the top nut. I went below and removed the top bolt using a socket. The bolt on the bottom was a lag bolt, so my son had the rest of the morning off.



With a little patience and a little twisting and prying, the shaft log loosened from the hose and slid out. Once I knew it was coming out, I cleaned and polished the prop shaft and then removed the shaft log. The hull was then sanded and cleaned in preparation for putting the shaft log back. I made sure I had plenty of polysulfide sealant to re bed the shaft.

After the shaft log was out, I took a reciprocating saw and using a fine metal blade, and made two cuts along the inside of the cutless bearing on each side of the set screw. This step took about fifteen or twenty minutes as much care was taken not to cut too far through the old bearing and score the shaft log.



After cutting was completed, I tried to tighten the set screw all the way all the way through opening up the cutless bearing where it was cut. But that trick never works, so I removed the set screw, inserted a punch into the hole and beat it with a hammer.



Once the bearing was split, the pressure was released from the wall of the shaft log. Now I could move to the next step and push the bearing out. I used a piece of 1 inch I.D. black gas pipe which is just the right size to fit in the shaft log and still catch the bearing on the inside. I then smacked the pipe a few times and the bearing came out.



NOTE Some of my friends take the new bearing and shaft log at this step to a machine shop and have them press the bearing in. They charge around \$30-\$50 to do this, and it's probably a good deal because you are still saving a wad of cash up to this point and the job is done right. But, since I'm a frugal New Englander and I don't really like to giving some one else money for something I could do, I did it my self without a press.

How? Easy. First, I took the new bearing (Bonito or Bale model; 1 ½ X 1 X 4) bought online for about \$36 smoothed and polished the outside and then put it in my freezer. Next I spent about an hour cleaning, sanding and then polishing the inside of the shaft log. I came back a couple of hours later, set the shaft log up on end and heated it with a torch just until it was starting to get hot. Then I ran and grabbed the now slightly smaller frozen bearing and put it into the now slightly larger shaft log and pounded it home with a plastic mallet and then with a hammer using a piece of 2 x 4 as a buffer. It took about 10 or 12 whacks to get the bearing seated all the way. Time out for a few cold ones.

Putting it all back together is pretty much the reverse order of what I did so far.

