

## How are Your Lathe Bearings?

by  
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The days are short, the frost is on the pumpkin, the golf clubs have been put away and we are starting to spend more time in our workshops. We fire up our grinders, sharpen our tools, and maybe even clean up around the lathe. After roughing out a blank, we try to get a nice finish cut on a surface to only find out that there are small chatter marks all around the piece. If we rule out our tool control, change the lathe speed, resharpen our tool, lighten up on our pressure and still get the chatter, chances are our bearings are shot.

Ernie Conover suggests that you change your lathe bearings at a minimum every 3 to 4 years. Those of us that use our lathes a little more often may want to change them much more frequently.

Several years ago there was a lively debate within the club membership as to whether or not you should bolt a lathe down to the floor. The main argument against doing that was that the bearings were so “expensive” to replace. The same argument was used against tapping your blank into a drive center already mounted in the headstock.

Well, here is a reality check. Bearings are inexpensive and easy to change. I recently helped a member change his bearings in a 20+ year old Woodfast lathe (with those “expensive” bearings). It took us 35 minutes and the bearings cost \$6.85 each. Now the Woodfast lathe is a great machine; much better than my old Delta. One of the main differences is that it uses 3 bearings instead of 2! It still cost less than \$20 to swap the bearings.

Here is the process. Your lathe may be different but they are all fundamentally the same and the process is similar for Deltas, Jets, Grizzlies, and Woodfasts.

Up Front Work:

- 1) Find your owner’s manual (if you can’t... don’t worry since it most likely won’t tell you the bearing numbers anyway.)
- 2) If you can see the bearings, get the bearing number from the dust ring. It is usually about a 6-8 letter/number combination. The bearings may be the same or different on the inboard and outboard ends of the spindle so you need to check both ends. You can see the bearing numbers on a Woodfast. On my Delta and Powermatic 90, I had to remove the bearing end caps to expose the bearings. They are typically held on with 4-8 screws. The Woodfast uses 3 identical bearings, my Delta and Powermatic use 2 different sized bearings.
- 3) Call BDI, a bearing distributor, and see if they have the bearings in inventory or if they have to order them in. Go over with your \$20 bill and pick them up. (*BDI Inc., 1387 Fairport Rd, Suite 850, Fairport, NY 14450 Phone: 585- 377-6910.*)

- 4) Assemble your Spindle wrenches, Allen wrenches, lead or brass hammer and wood/brass drifts.

#### Steps to Changing Your Bearings:

- 1) Unplug motor from power source
- 2) Remove belt from motor and bring to top of lathe (use belt to hold pulley)
- 3) Check the belt to see if it needs replacing as now is the time to do it.
- 4) Remove hand wheel (left hand thread)
- 5) Loosen setscrew and remove nut (left hand thread)
- 6) Loosen 2 setscrews on pulley
- 7) Knock spindle out – hand wheel side towards tailstock (**left to right**). Use lead or brass hammer and wood/brass drifts so you don't damage the spindle.
- 8) Support the pulley with the belt so it doesn't drop to the floor.
- 9) Remove "C" clip which retains the inboard or "tailstock" bearing
- 10) Remove bearings
- 11) Replace bearings
- 12) Use old bearings as "drivers" to install the new bearings
- 13) Reinstall "C" clip
- 14) Reinstall spindle with the pulley and any spacers into the headstock.
- 15) Reinstall set screws (line up holes in spindle, they were drilled for the setscrews)
- 16) Reinstall nut and setscrew
- 17) Reinstall hand wheel
- 18) Reinstall the belt and plug motor back into the power source.

Yes, that's it! **It's that simple and something we all should do more often.**