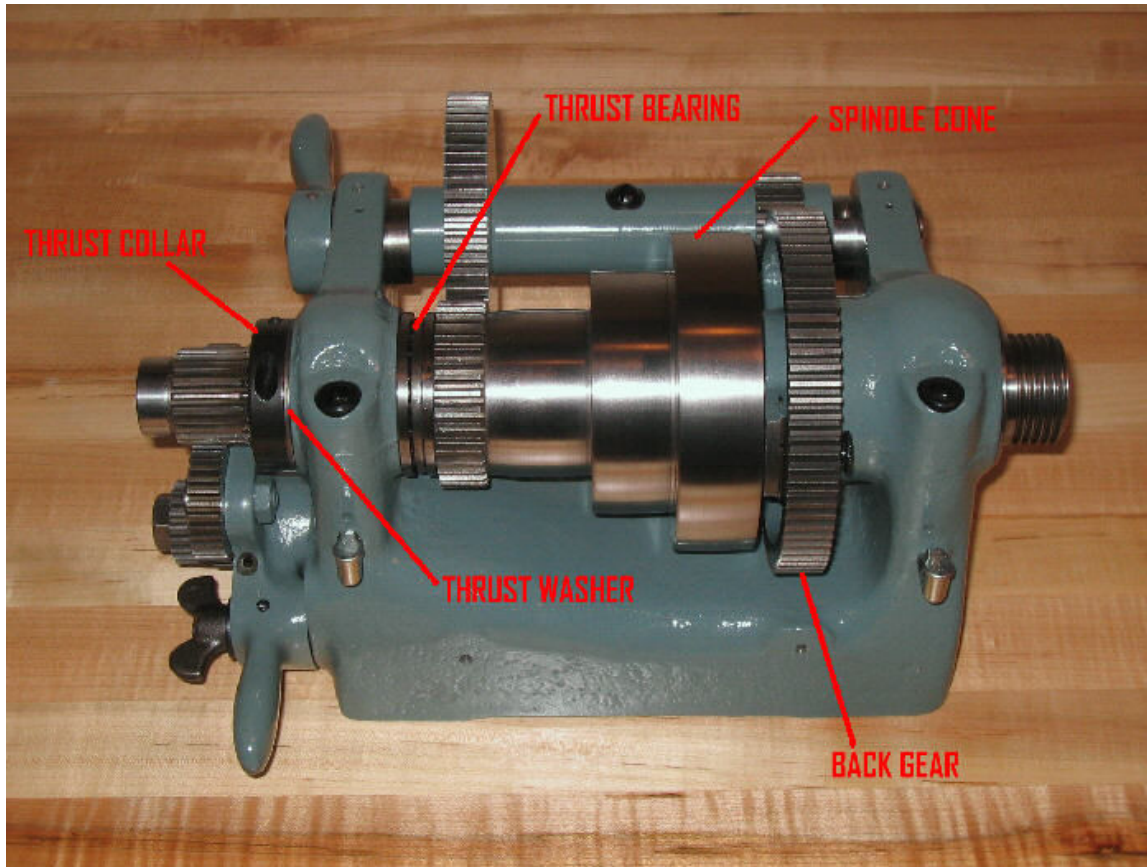


- 1) Remove the thrust collar on the left end of the spindle. You loosen a small screw, and unthread the collar.
- 2) There should be a thin thrust washer just inside the thrust collar. Remove it.



- 3) The only thing holding the spindle in at this point is the press fit between the spindle and the I.D. of the back gear. The thrust bearing and cone pulley should move freely on the spindle (with the back gear locking pin pulled out).
- 4) Using a thick hardwood block (or similar means to avoid damaging the left end of the spindle) and a large hammer, force the spindle out of the bearings toward the tailstock. I recommend protecting the ways for this step, and be ready to catch the various parts as they are freed from the spindle as it emerges thru the large bearing.

Here's what the naked spindle should look like:



Reassembly is the reverse of disassembly. Before proceeding, you may need to restrain the oil wicks. Push them down in their holes, and insert a wire thru each front vent hole to keep the wicks from interfering with the spindle during reassembly. Here's a view inside the bearings with the spindle removed. Note the spring-loaded oil wicks:



Before inserting the spindle, lubricate the inside of the spindle cone pulley with Teflon grease, and also make sure that all bearing surfaces of the spindle and bearings are coated with oil. Take care to line up the key for the backgear before assembly. This time you need to whack on the nose-end (threaded end) to get the back gear seated. Be **extremely** careful to protect the spindle nose from the hammer blows.

To adjust the thrust collar, thread it onto the spindle, and tighten the little screw just enough to remove any clearance between the male and female threads (but you can still turn it fairly easily). Tighten the collar hand-tight until you are certain that all of the clearance has been taken out of the various spindle components. Then loosen it, and just screw it back down snug (not tight, but with no axial play). Then loosen the collar approximately 3/8" at the circumference (radially), and tighten the little locking screw.

Remove the wick retaining wires, and refill the oil reservoirs. Check the level frequently until the wicks are fully saturated.