

Adjusting the Metal Lathe Spindle



WARNING!

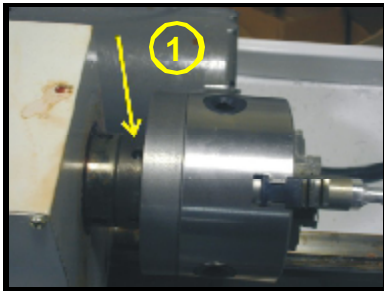
Before adjusting the Metal Lathe's Spindle, make sure that power to the lathe and spindle are turned OFF.

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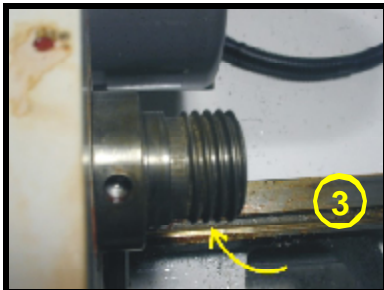
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These instructions show you how to check and adjust the Metal Lathe's Spindle Mechanism. If the spindle housing gets too hot during operation, the mechanism may be too tight, and if it vibrates while running the spindle (or cutting), the bearings might need adjustment. Follow the instructions below.

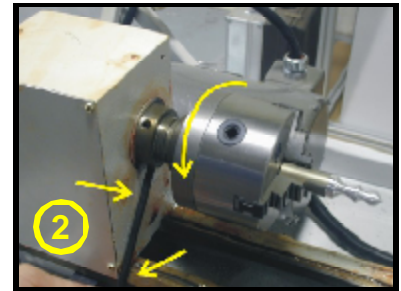
CHECK THE CHUCK: This will entail removing the chuck and cleaning the thread.



Step 1: Loosen the set screw. Make sure to loosen it enough that it will not interfere with removing and unscrewing the chuck (see picture at left).

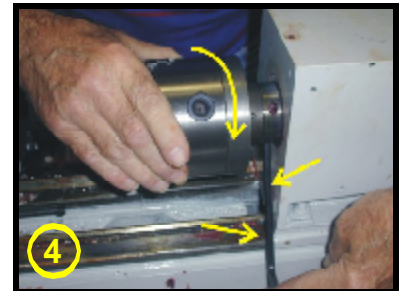


Step 2: Put a thick Allen wrench or bar into the hole left of the set screw you just loosened in Step 1. Leverage that bar against the base rail of the lathe while turning the chuck counterclockwise. Loosen the chuck enough to where you can unscrew it by hand (again, make sure the set screw is not impeding this process).



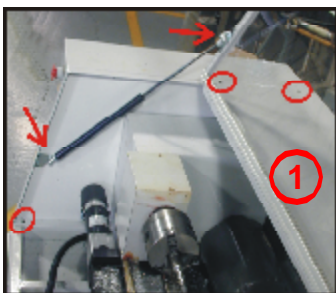
Step 3: Using a clean rag, wipe down and free the threads of any gunk or debris.

Step 4: Screw the chuck back on as far back as you can by hand. Then, turning the chuck clockwise, tighten the chuck using the same bar method (as in Step 2) until the chuck seats against the spindle shaft.



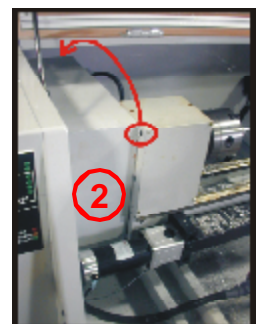
Before you can adjust the spindle mechanism, you need to gain access to it. Follow the instructions below.

GAIN ACCESS: This will entail removing certain screws and separating the lathe door damper, so you can swing the lathe door open.



Step 1: Unscrew the three screws circled in the picture (shown at left) and then disconnect the lathe door damper at either end (arrows). Then swing the door open.

Step 2: You may want to also remove the spindle housing to gain better access for adjusting. To do this, remove the screw shown circled in the picture (at right) and another on the other side (not shown, follow the arrows).



ADJUSTMENTS: Any adjustments to the spindle mechanism first require you loosen the two set screws (see pictures below)



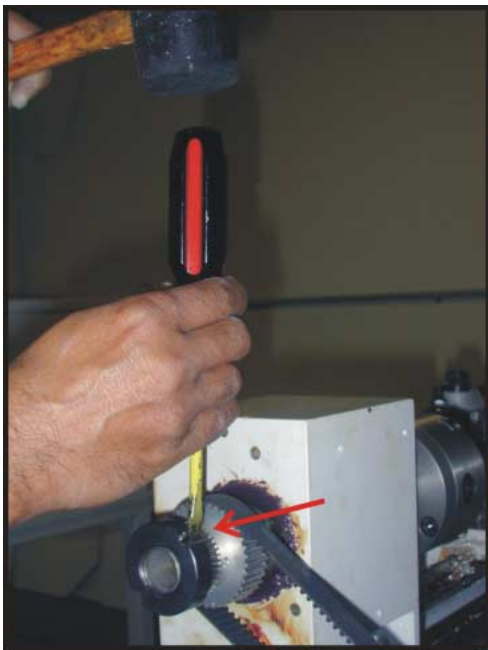
Step 1: Loosen the outer set screw (see picture at left).

Note: Make sure to loosen the set screws enough, so that your adjustments will not be impeded.



Step 2: Loosen the inner set screw. You may have to rotate the belt in order to gain access to the inner set screw (see picture at left).

TO TIGHTEN: Overview of procedure: tighten until the lathe spindle starts to bind. Then, loosen up slightly from that point, until it (the chuck) rotates freely.



Step 3a: Get a screw driver and place it in one of the grooves on the outer lock nut (see picture at left). Using a mallet, gently tap on the wedge, tightening the lock nut in a clockwise direction. Don't turn the lock nut too far. A little goes a long way here. You can feel the tightening of the mechanism by rotating the chuck with your hand. Once the spindle chuck does not rotate freely by hand, you've tightened the mechanism sufficiently.

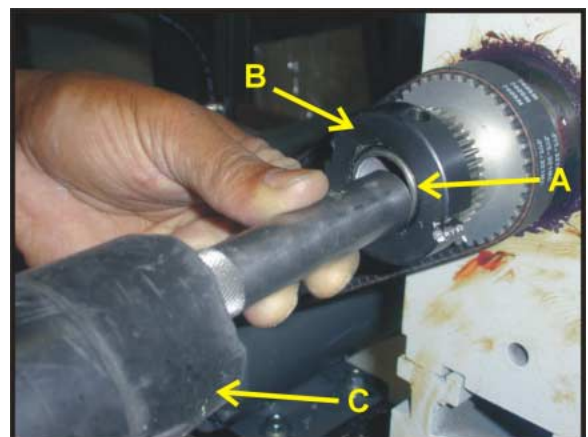
Note: By tightening the lock nut, you are increasing the contact and thus the friction between the mechanism's bearings and the spindle shaft. So, to achieve proper rotation, after tightening, you need to loosen the mechanism up, just a tad.

Step 3b: Using the same mallet and screwdriver, tap the lock nut in a counter clockwise direction. Don't turn the lock nut more than a 1/4 of the distance you tightened it with. Tap in small increments.

Step 3c: Next, take the mallet ("C" in the picture at right) and a flat-end bar, and lightly tap the back end of the spindle shaft ("A" in the picture), **not the lock nut!** ("B" in the picture). We do this to remove the friction between the bearings and the spindle shaft that the tightening in Step 3a created. Tap once or twice, and feel the rotation of the chuck (by hand). Tap the back end of the spindle shaft until it (the chuck) rotates without binding. If necessary, repeat Steps 3b-c.

TO LOOSEN: (only, if necessary) Follow steps 3b-c.

Step 4: (This IS necessary) For both the tightening and loosening procedures, you will need to retighten both set screws (inner and outer) that you loosened in **Steps 1** and **2** (above).



Call Techno at (516) 328-3970 with any questions.