
SPINDLE REMOVAL AND REPLACEMENT

GN1324 & GN1340

Removal of the spindle requires the mill feed mechanism be removed. Please have your manual handy for this procedure. All item numbers referenced are found on page 90 of the owner's manual. Unplug the machine before starting and maintenance or repairs.

REMOVAL

1. Remove any attachment from the spindle along with the draw rod.
2. Remove setscrew 65 from the underside of the mill casting just in front of the spindle. This will in turn allow eccentric shaft 64 to be pulled out of the mill casting.
3. Lock the spindle lock 62 and slowly loosen setscrew and nut 30 and 31. This will release the spring tension from the retract spring.
4. Remove the spring cover 35 to gain access to the spring. The spring should have no tension on the inside where it connects to the shaft.
5. You should be able to access the snapping #33 through the spring. Open the snapping while pulling out on the spring housing #32 so that the whole assembly comes off the shaft #87 and out of the millhead casting.

Note: You will want the spring and the snapping to stay in place, inside the housing. The spring is under tension and can be dangerous if removed from the housing.

6. Straighten the tab on washer 96 and unscrew spanner nut 97 from the shaft 87.
7. Slide gears 94 and 95 and washer 96 off the end of the shaft 87. Support the spindle and unlock the spindle lock 62. Pull the entire shaft out of the mill head.
8. Lower the spindle out of the mill head.

INSTALLATION

1. Reverse the above steps to reinstall the spindle.
2. When tightening the spanner nut 97, turn the floating nut 95 to take the play out of the contact between the spindle teeth and the gears 95 and 94.
3. To tension the spring 34, turn the spring housing 32 clockwise with the spindle fully retracted. There are detents on the housing for setscrew 31 to secure into.

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Mill Spindle bearings – tightening

Purpose – to tighten the spindle bearing to reduce runout on the mill. It is important to take measurements on the mill on the inside surface. The mill spindle is manufactured so that the inside of the mill nose and the spindle bearing surfaces are in alignment. The outer surface of the bearing nose is not a reflection of accuracy.

1. Measure the runout of the mill by placing a dial indicator **90 degrees** to the inside surface of the R-8 taper **inside** the nose of the spindle. Slowly rotate the spindle by hand. Rotate the spindle approximately 4 - 5 rpm. Runout of 0.001 - 0.002” is within factory specifications.

If the runout exceeds 0.003”, the spindle bearings can be tightened.

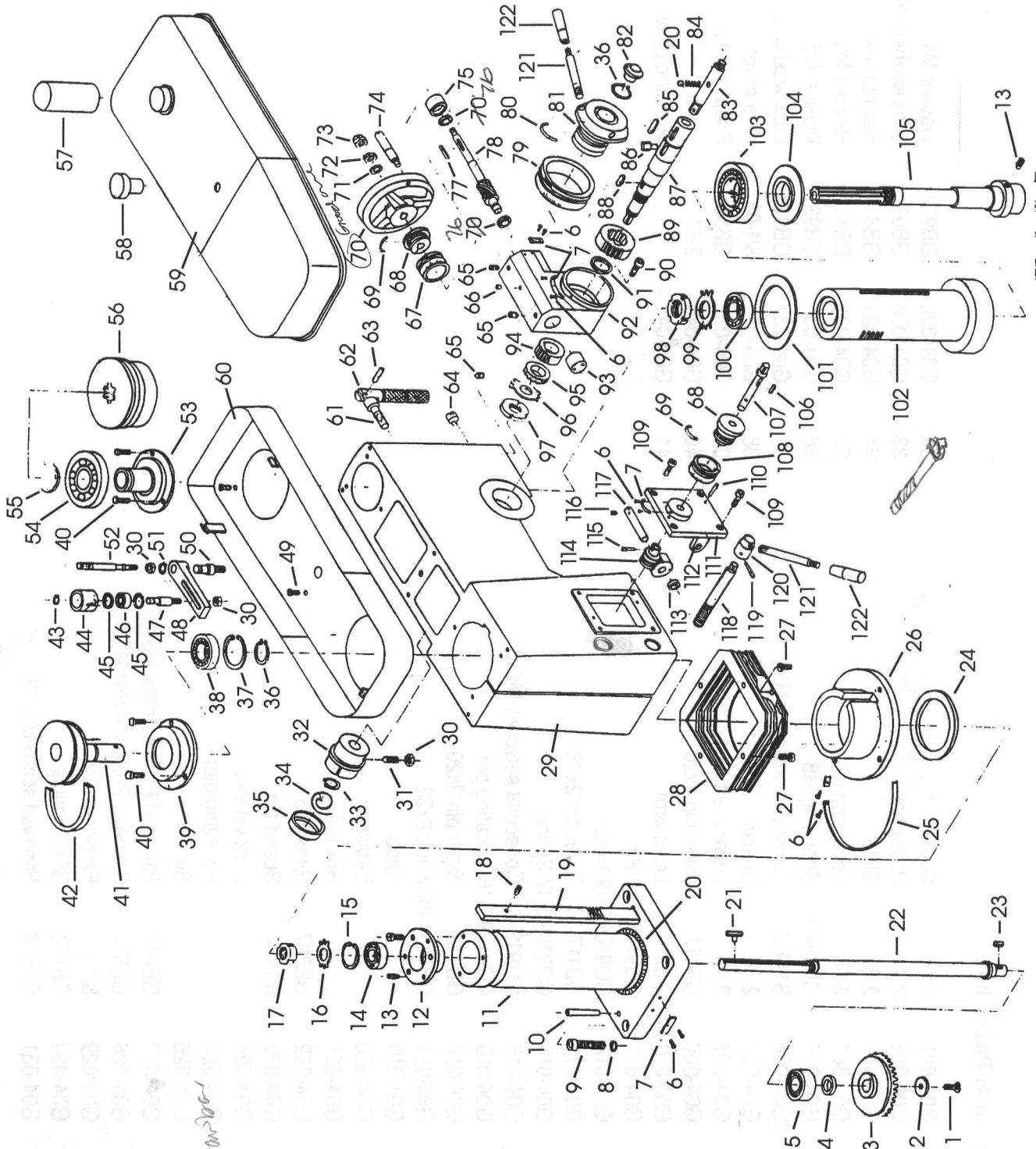
2. Remove the mill cover knob #58, the upper mill cover # 59 and the v-belt.

3. You must remove the spindle pulley #56. You can do this by using a gear puller or by removing the lower guard # 60. To remove the lower guard, remove the idler assembly #50 from the mill head casting #. You can usually turn the nut #30 to remove the idler assembly. When the idler is removed, unscrew the six screws #49, that fasten the lower mill guard to the casting. With the lower mill guard off, pry the spindle pulley #56 off with pry bars or two large screwdrivers.

4. With the pulley off you will be able to see the spanner nut #98 that tensions the bearings #100 & 103. To tension the nut, bend the tab on the tabbed washer (spider washer) #99 out of the slot on the spanner nut and tap the nut tighter. (The nut is a standard right-hand thread). Tension the bearings and continue to rotate the spindle. When you feel the bearings begin to bind slightly, back off the tension, bend the tab back into the slot on the spanner nut and reassemble the mill head.

It is important to reinsert the tab on the tabbed lock washer into the spanner nut. The bearings will not remain tensioned unless the tab is reinserted.

3-70's
instructions?



Drill bit