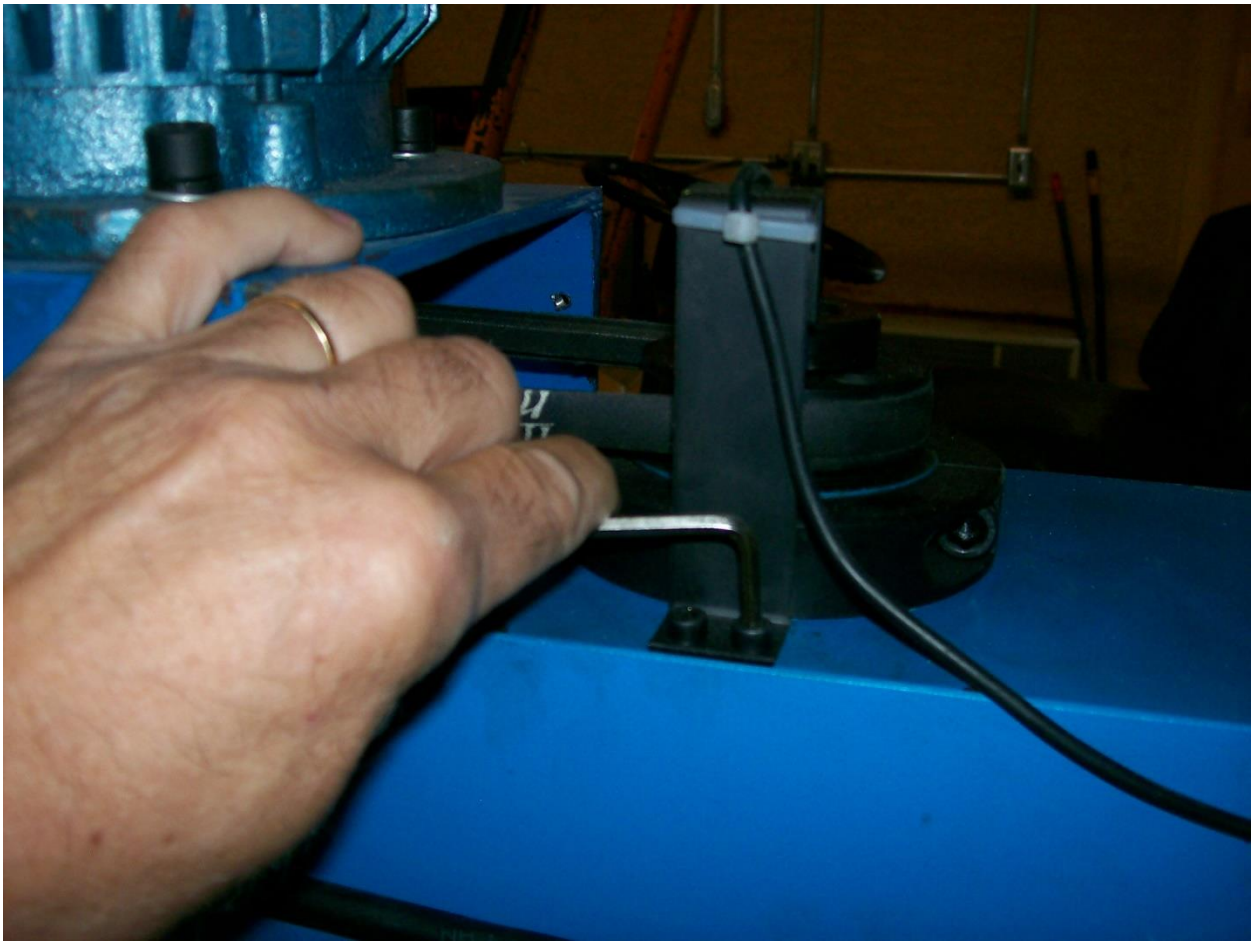
MILL SPINDLE CARTRIDGE SERVICE

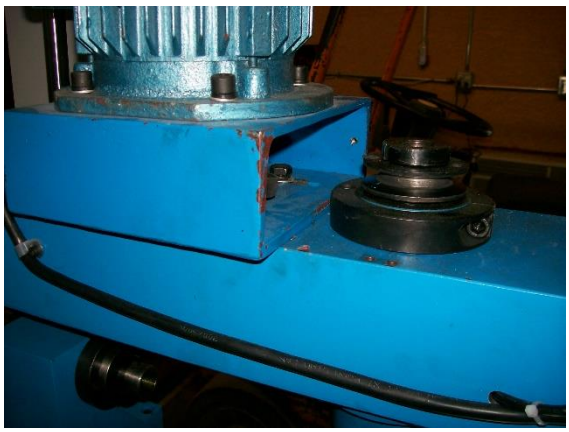
The mill spindle is a cartridge type designed for quick and easy removal and replacement. Production shops will often keep a spare cartridge in stock to prevent machine down time. For most of our customers this is not necessary, but is an option. Removing the cartridge takes only a few minutes.

1. Lower the mill head to its lowest position and remove the 2 screws holding the motor shield in place and remove the shield.

2. Move the mill head back up to about its midway point, and from the back side remove the 2 bolts holding the spindle sensor in place.



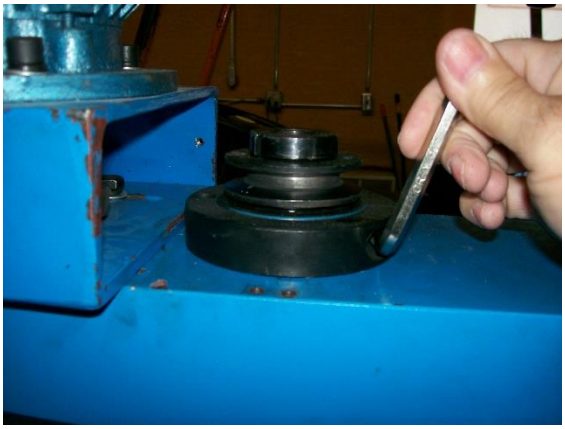
3. Loosen the 4 bolts holding the motor mounting bracket so it can slide in the slotted holes. Slide the motor and bracket enough to remove the belt from the spindle pulley. NOTE: The bracket may need a tap with a mallet to break it loose as the paint tends to stick the parts together.

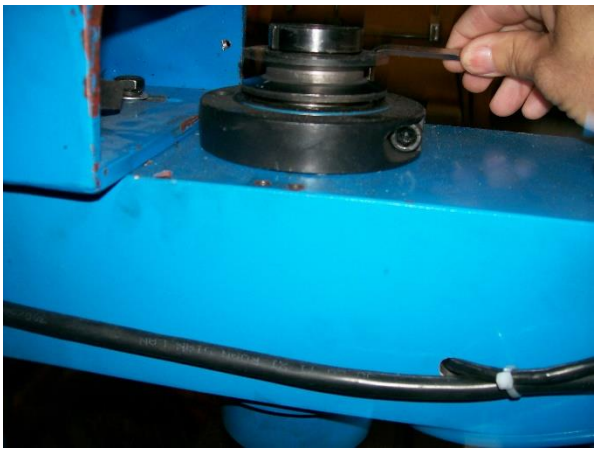


4. Remove the air coolant lines from the spindle cartridge.

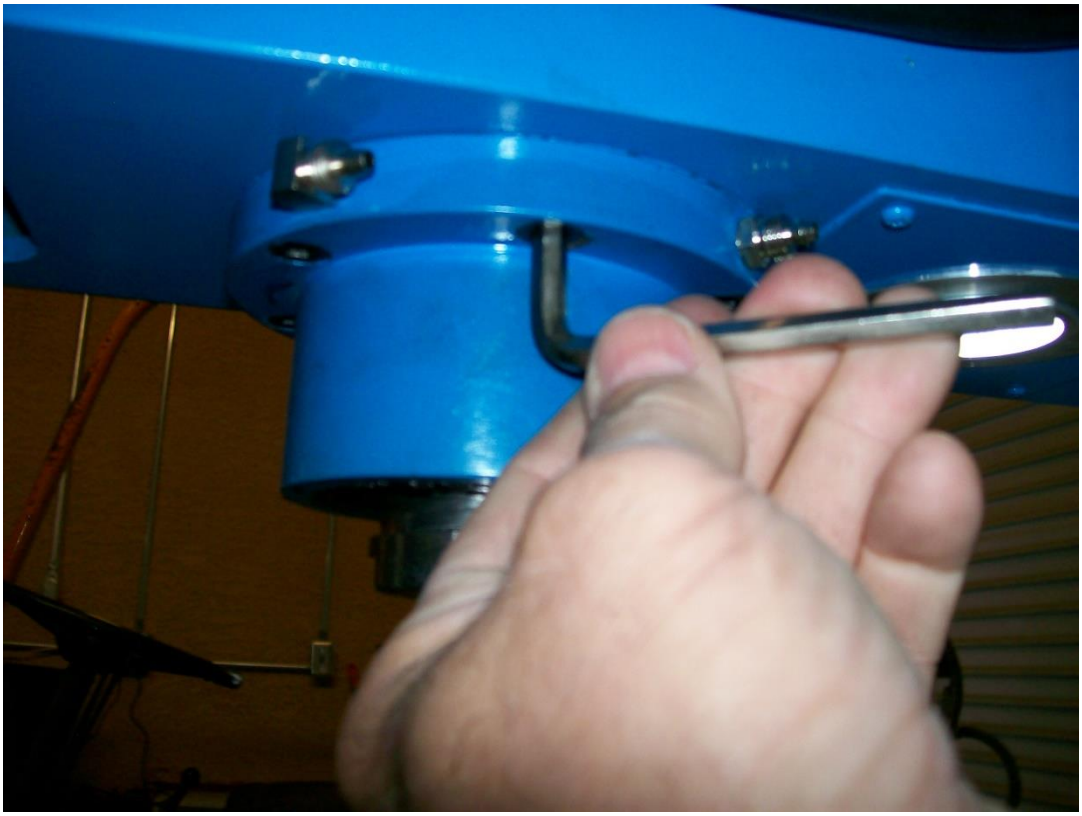
NOTE: Later Mill Turn machines do not use the coolant lines on the cartridge.

5. On the top of the cartridge is a large clamp collar that is bolted to the mill head casting. Loosen the large clamping bolt and also the 2 bolts holding the collar to the mill head. Just loosening is enough, it is not necessary to remove the collar completely. On early Mill turns serial # 15001-15022 the pulley will clear the collar. On later units from 15023 onwards you must remove the pulley to drop the cartridge out. Loosen the allen set screw in the collar and use a water pump plier to loosen it. Remove the collar and lift the pulley up off the shaft.

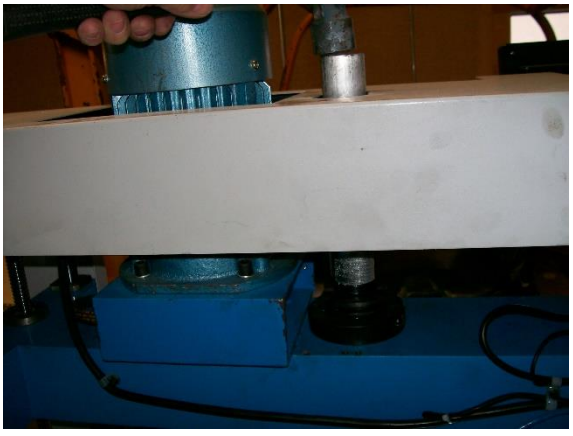




6. From below, remove the 6 bolts holding the cartridge to the mill head.



7. Place a towel on the table to protect it and tap the cartridge out from the top. Once again, paint may cause it to stick a bit, so you may need to use a hammer and a bar to drive it down from the top. CAUTION- drive against the end of the spindle NOT the pulley, as the pulley has a magnet imbedded in it for the spindle sensor.



Once the cartridge is out, replacement is just the opposite procedure. For service of the bearings we prefer you return the cartridge to us.

8. The R-8 pin which fits into your tools is accessible through a hole in the side of the cartridge. (Early machines serial # 15001-15022 do not have this access hole and the spindle must be removed to adjust the pin) Some imported collets have been found to have shallow key ways and may not fit the standard R-8 dimension which is 0.156 wide and 0.940 deep. Also, over time the pin may become worn or even broken, so adjusting and changing can be done without disassembling the cartridge. When you drop the cartridge out you will find a hole in the side to access the pin. You will need a 10 MM socket and a 3 MM allen wrench. Simply loosen the nut and adjust the key to the depth to fit your tools, or remove it for replacement. The key is simply a standard 6MM dog point set screw which is commonly available.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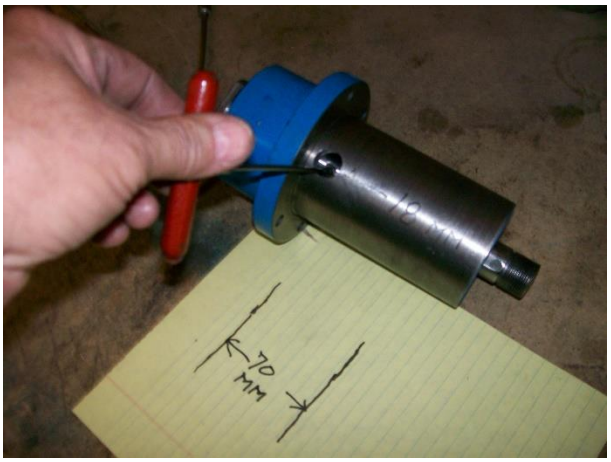
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