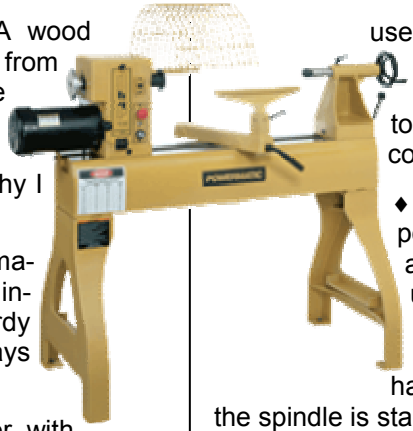
Product Evaluation – Powermatic 3520A Wood Lathe

By Mack DeBose



I have been using a Powermatic 3520A wood lathe now for about 9 months. I upgraded from a 1999 Sears Craftsman 15" DC drive lathe that I originally believed was an ideal tool for my purposes. I was amazed at the differences and now cannot understand why I ever had those thoughts.

For the most part the 3520A is a superb machine. The heavy, cast iron construction, including the legs, provide for extremely sturdy and vibration free operation. The bed ways are wide and thick.

I have yet to bog down the 2 Hp motor with heavy roughing cuts. The variable speed drive is very responsive and adjusts from 0 to 3200 RPM, depending upon the step pulley setting. Spindle and motor are very quiet throughout the speed range. Deceleration is fast with electrical braking which pretty much eliminates hand braking to stop the spindle. The spindle is reversible and the speed control is indiscriminate.

Spindle run out is negligible and alignment with the tailstock is precise. The 1-1/4 x 8 spindle nose is a standard size that all third party chuck and faceplate manufacturers accommodate.

The ability to move the headstock to any position on the ways is a bonus that I originally had some doubts as to its usefulness. I have come to appreciate this feature more with use since it allows me to not only provide for a more comfortable stance while turning but also somewhat controls where the majority of the shavings are deposited. With the addition of a floor mounted tool rest, the workpiece radius can conceivably be as large as the height of the spindle from the floor (not recommended) by moving the spindle to the end of the bed.

The tool rest banjo is heavy and sturdy providing ample support for the tool rest. It clamps easily and tightly with average pressure on the clamp handle.

A remote on-off magnetic base switch is available that will override the headstock switch when working out-of-reach of the headstock.

The legs have a cast-in shelf support that provides for mounting a shelf approximately 6" above the floor. I found it simple to add another shelf mounted just under the bed of the lathe to hold all of my in-process working tools, sandpaper, calipers, etc.

The Powermatic 3520A does have some drawbacks that I am unhappy with and, in some cases, have managed to correct.

♦ The drive speed LED readout is located on the back of the headstock and is not viewable from the front. I use a mirror mounted on the wall but, of course, the image in the mirror is reversed which takes some getting used to. There is a chart in the manual that converts the reading to spindle RPM.

♦ The spindle lock has only two lock positions and the lock must be held in against a spring return. I added a manual sliding latch to keep the lock engaged while I am changing chucks or faceplates. It works perfectly. No harm is done even if left engaged when the spindle is started.

♦ The spindle does not have indexing capability. For this an indexing attachment is available from Powermatic. I have one but I do not like it because it only has 24 positions and it requires a locating pin to be screwed into each position to engage a hole in the headstock. This is very frustrating. Also, when installed, it does not allow for the re-attachment of the spindle hand wheel. I designed and made my own attachment that indexes every 5 degrees without using a removable pin and also allows the hand wheel to be in use.

♦ The tailstock ram does not have a thru-hole for long shank on-center drilling. I have not been able to correct this so far.

♦ An 18" long bed extension is available which provides 56-1/2" between centers. I have installed this option. There is no provision, however, for aligning the extension with the bed other than the 4 bolts that hold it in place. Alignment is accomplished with the use of the tailstock, which makes precision difficult to obtain. This influences the ease with which the tailstock will slide across the junction.

♦ I am 5'11" tall and I found the work height of the lathe to be somewhat higher than comfortable for me. It seems to be just right for causing the shavings from a spindle gouge to be thrown directly into my face. I would prefer the height to be about 4" lower. I am sure that not everyone will share this opinion.

In general, the Powermatic 3520A is a first class machine and exhibits none of the problems that seemed to afflict the original production. Most of the deficiencies and negative features listed above have been engineered out of the larger Model 4224. However, the larger machine does not have the same appeal to most amateur woodturners like myself. For my purposes, it is too big, too expensive and not as ideally suited for the style and type of turnings that I enjoy. I do not hesitate to recommend the 3520A to any woodturner looking for a machine in its capacity range.