

## Aligning your Lathe by Dick Veitch

If you are just turning a chair leg between centers, it does not matter too much if the head and tail of your lathe are not perfectly in line. Likewise, you can turn a bowl without using the tailstock.

But, if you want to do anything where the wood is held in a chuck and the tailstock is brought up to the wood, then the head and tail need to be correctly aligned. I am sure you can think of many times when both a chuck and tailstock are in use.

Sphere turning is another where the two cup chucks need to be nicely aligned to turn a perfect sphere. It would be nice if all lathes were perfectly aligned at all times, but some have swivel heads and their alignment needs to be checked every time the head is returned to the line of the bed.

Some lathes are on uneven floors and the bed is twisted. Some lathes are a little worn and need adjusting. Some will be out of line for another reason. If you are absolutely certain that the tailstock of your lathe is perfectly aligned, then you can put a drive spur in the head, live center in the tail, and bring the two into line. (See Figure 1.)

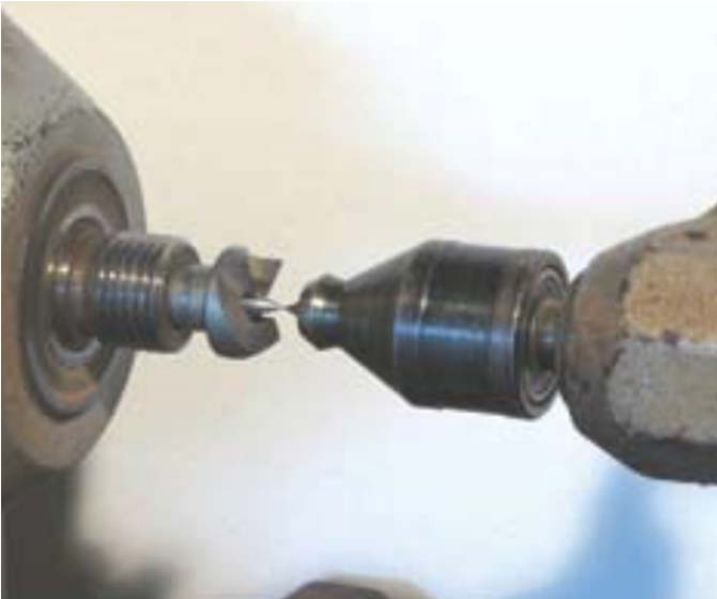


Figure 1. Using two centers to check alignment.

If the tailstock is not perfectly in line, then this method may look like it is working but you finish up with both head and tail out of line. The hard metal method is to use a double-ended Morse taper. Teknatool calls this the Acruline System. (See Figure 2.)



Figure 2. Using the Acruline System to check alignment.

Simply insert this firmly in both the head and tailstock while both are loose on the bed. Tighten both down and they should be nicely aligned.

If you need to check the headstock alignment with a little more care, then grip a long length of wood in a chuck (See Figure 3.)



Figure 3. A length of wood mounted in a chuck.

Now rotate it slowly (100-300 rpm) and mark the central point on the tail

end as shown in Figure 4.



Figure 4. Marking the end of the rotating wood with a pencil.

Then bring the tailstock close and this central point should be at the center of the live tail as shown in Figure 5.

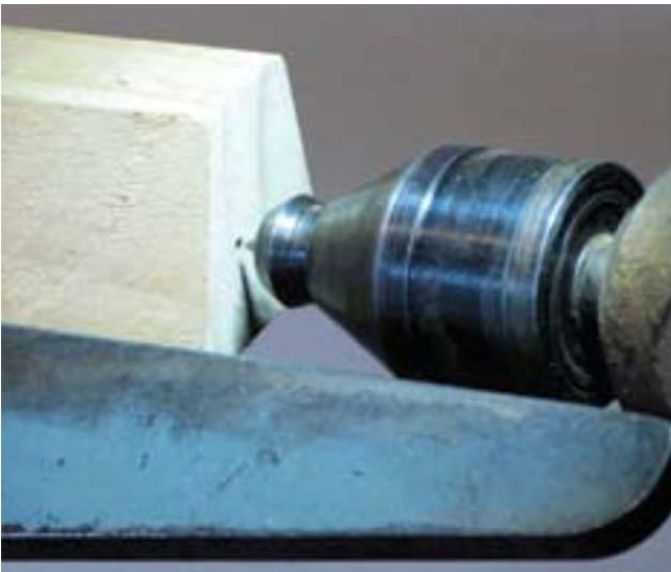


Figure 5. The tail center should align with the pencil mark on the end of the wood.