MT2 dead center - An integral drive center for fine spindle work. David McLachlan

One very useful item for our lathe is a Morse Taper 60° dead center to be used in your headstock as a drive center. Below is a very nice MT2 drive center with a substantial carbide 60° point. These can be quite cheap additions for the lathe. This particular one is from Amazon for $13. https://a.co/d/2FPBNQa

In use for pen turners it allows you to mount your bushings between centers as a friction drive to turn pen blanks. Some pen blank bushings such as the Beaufort pen kit bushings actually have 60° tapers machined into the bushings so they can be used between a 60° drive center like this one and a 60° live center. (See the photo below to show how the centers are arranged on the lathe.) If your current bushings don't already have a 60° recess in the ends you can add this using a machinist's 60° counter sink. The Taig Lathe is perfect for putting a true center on your pen bushings.

Using a Morse taper center is especially useful for single barrel pens. The alignment of the drive center and the live center means that the pen blank bushing is perfectly centered and you don't have to worry about an over pressured mandrel shaft bending and offsetting the pen blank. For those bushings that you may have that do not have the 60° recesses in the ends can have them added easily on your existing bushings using a Taig lathe with a collet chuck to center the bushing and a 60° machinists countersink, taking a 3mm deep counter bore on the end of the bushing.

Once you try this method I am sure you will find it most useful as a spindle drive system. For small spindle work I find myself using a 60° center drill to mark the centers of the spindle and turn between these 60° center recesses; it is often an easier method of holding the work than using a stub center or spur drive and has the advantage of being a friction slip drive so that if you have a catch it won't be as serious as it might have been with a spur drive.

The other advantage of having one of these centers is ensuring that your headstock and tailstock are perfectly aligned by bringing the two points together, if the points are perfectly aligned then you are golden. Small variations between the points can often be made by adjusting either the tailstock or head stock. On my own Nova 3000 lathe I found that I had to shim up the tailstock a small amount to get perfect alignment and ensure that boring operations ran true.

This is one of the cheapest additions you can make to your lathe, and one you will never regret.

David McLachlan