

Thank you for purchasing the OMW Corporation Center Test Wobbler. I hope you enjoy using it as much as I enjoyed making it. With a little care, this tool should give you many years of service. Please read the instructions below to take full advantage of your new Center Wobbler. And let me know if you have comments or questions. I can be reached via email at JHKO@AOL.COM, or at OMW Corporation (21 Pamaron Way, Ste. G, Novato, CA).

Best Regards,

*Joe Osborn
President, OMW Corporation*

Instructions for Using the OMW Center Test Wobbler

The Center Test Wobbler is a wonderful old-time tool which is a valuable addition to the machinist's toolbox. The tool allows fast and accurate centering in a 4 jaw chuck without complicated dial indicator setups. The tool is designed to fit any sized lathe.

Center Wobbler Parts

The main parts of the holder are the Body, the shaft (with centering and indicating tips), and the adjustment screw.

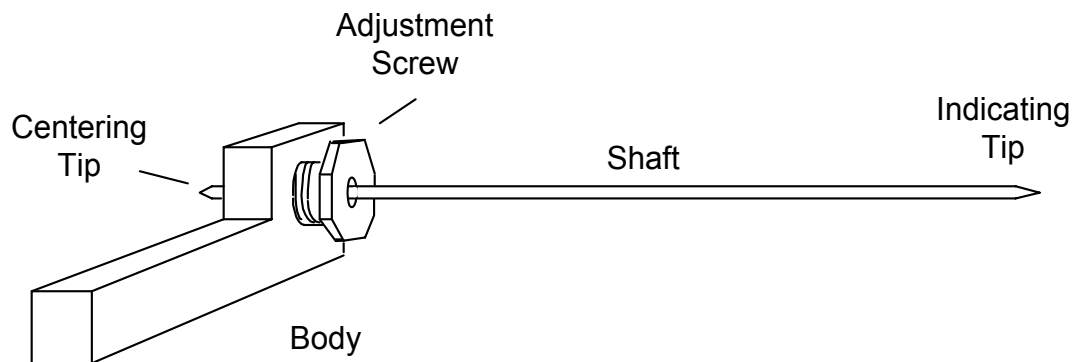


Fig. 1

Using the Center Test Wobbler

To use the Center Test Wobbler, place it in a tool holder with the body of the Wobbler roughly perpendicular to the spindle line of the lathe. The Wobbler shaft should sit at close to center height, which is $\frac{1}{4}$ " inch from the bottom of the body (Fig. 2).

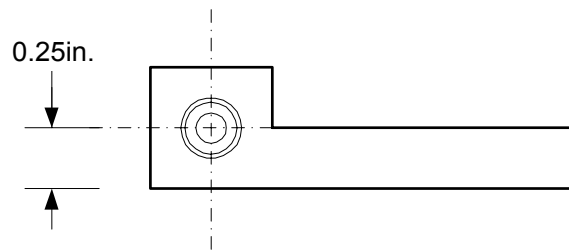


Fig. 2

The work should be center punched and the punch mark centered by eye in the 4 jaw chuck. A center of some type should be placed in the tailstock to act as a movement reference. Next, move the lathe carriage to bring the centering tip of the Wobbler into contact with the center punch mark in the work. Move the cross slide to bring the indicating tip of the shaft in line with the end of the tailstock center. Vertical alignment of the indicating tip is not important, note that we are only concerned with position of the tip looking down from the top (Fig. 3). Do not move the cross slide again until the work is centered.

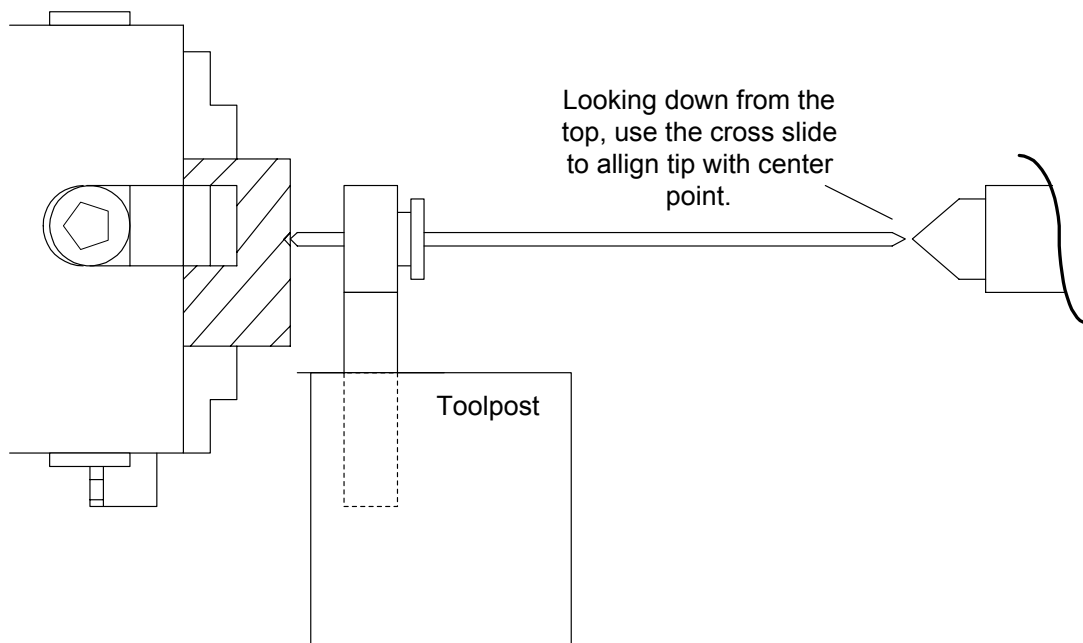


Fig 3

Now, slowly rotate the 4 jaw chuck *by hand*, and looking down from the top, note that the indicator tip will move back and forth in reference to the tailstock center. Rotate the chuck until the tip has moved to its farthest position, one way or the other, from the center's point. Now, loosen the chuck jaw on the same side as the point has moved, and

tighten the jaw on the opposite side to bring the indicator point back in line with the center (Fig. 4). Rotate the chuck again and repeat the process until the indicator tip is perfectly still when the chuck is rotated completely around. Your work is now accurately centered.

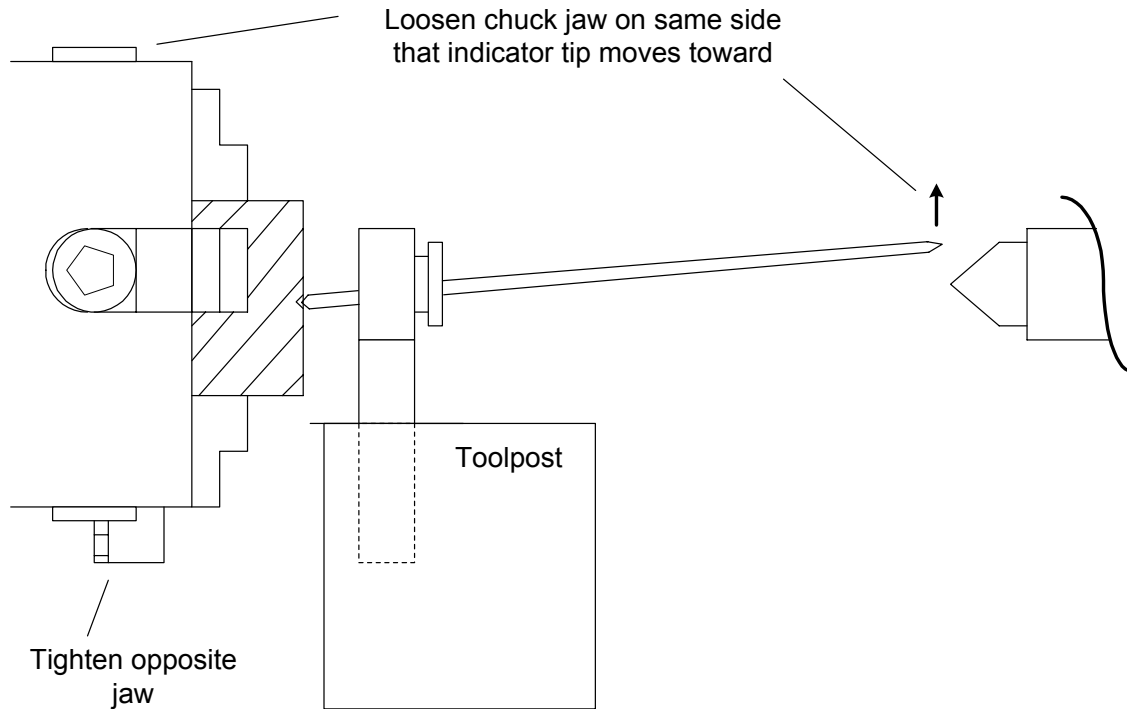


Fig. 4

Tips and hints

With a little practice, you will find that you can center your work with the Center Test Wobbler in far less time than the time it takes to set up a dial indicator and wiggler. Note that the Center Test Wobbler is designed so that the indicator tip moves a bit more than 1/64" for each .001" of movement of the centering tip. I've made repeated tests with an dial indicator after centering work by eye with the Wobbler. Every time I've checked, the work has been centered quite a bit better than .001".

When using the tool, remember to look down from the top of the lathe at the movement of the indicating tip. Don't try to follow the full three dimensional movement of the tip, as this gets confusing. Just watch how the tip moves in a single plane. Remember, loosen the chuck jaw on the same side that the tip has moved toward. Tighten the jaw on the opposite side.

Note that the Wobbler shaft should be adjusted so that it moves very freely in the body, but without play. Tighten the adjustment screw by hand only. If you push the shaft in and

out of the body lightly, you should feel no play. However, make sure the adjustment screw is not too tight. The shaft should be free enough that if you hold the tool in your hand and push the indicating end of the shaft up with your finger, it falls back down from its own weight. A drop of light oil can be added to the Wobbler bearing from time to time to keep things moving freely.

About the Center Test Wobbler

The OMW Center Test Wobbler was inspired by a design pictured in Kozo Hiraoka's excellent book, *Building the Shay* (Wildwood Publications- Live Steam Magazine, 1982).