FREDERICK WILLIAMSON BOWLS

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Some Shots of My Lathe

I work on a homemade lathe that I have continually modified over the years. It carries a lot of mass now, to resist vibration and oscillation under out-of-balance turning.

Here is a general view of the lathe. The bolt holes along the side attach the metal ways I added last year.

Here is a close up of the headstock, showing the cast concrete headstock block and the 4" by 8" wooden ways. The steel plates under the pillow block bearings add more mass. It's a 1 11/16" shaft with 1 1/2"; by 8 tpi threads on the end. An adaptor reduces to 1"; threads for the 4" dia. faceplates I use most. The tool rest post is 1 1/2". An AC variable speed motor (1800 rpm max, and a great improvement over the DC motor I had) drives a 4" pulley. There's an 8" pulley on the lathe shaft, to which I bolted a 3/4" plywood disk and turned a 12" pulley, for the slow speeds I use most. I cast my initials and the date into the concrete. The motor AC drive inverter hangs on the wall behind and to the left. I got the matched motor and inverter through www.dealerselectric.com. I have the Westinghouse TECO inverter. I use a 2 HP motor driven by a 3 HP inverter, so the power drive never gets overloaded, but I can bog the motor down in a tool jam, which is a safety feature. A big cut may be made with a 2 HP motor, but a 1 1/2 HP will slow down too much.

This view from above and from the end shows the magnetically mounted remote on/off switch on the end, and a better view of the metal ways. The end piece plus the two on the other end of the lathe came from an ancient square -head planer. In addition, the plywood box under the headstock is filled with sand. Without all this mass and the wide stance the lathe would rock starting on an irregular blank.

When the wood is damp and clear enough, the shavings come peeling off. I will generate a big cartload every two bowls or so. A 100 pound blank becomes a 2 pound bowl.

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