Backfill

Turning Monster Posts on a Shop-Built Lathe

by William Allen

When a local remodeler approached me about reproducing five porch posts for a 140-year-old house in Boulder, Colo., my interest was piqued. Despite the fact that I didn't have a lathe — much less one that could turn 10-foot posts — I took the contract, figuring I could build my own to do the job **(1)**.

I made the lathe's 12-foot-long bed from 16-inch LVL; the legs are cobbled together from 2x6s and scrap ply. The head and tail stocks are blocks of Douglas fir with Baltic birch plywood bases that clamp to the bed.

To hold the post blanks, I lag-bolted pillow-block bearings (Grainger, 888/361-8649, www.grainger.com; item #2X405) to the stocks. The bearings have a 3/4-inch bore, through which I slipped 3/4-inch-by-6-inch lag bolts that screw into the post's top and bottom.

Photos by August Allen

The 19-inch-diameter plywood pulley screws securely to the end of each post and is turned with a 70-inch V-belt driven by a salvaged 1/2-hp 1,725-rpm motor. I mounted the motor on a hinged platform, which allows me to easily change the drive pulley on its shaft. Using a range of pulleys from 1 1/2 to 4 inches in diameter, I'm able to get shaft speeds from 136 to 363 rpm, with enough torque to do the job.

Possibly the toughest part of the whole project was drilling level and centered holes in the end of the blanks to receive the large lags. To do this, I used my radial drill press and blocked up the post blanks to the right height. I had to grind down a 3/4-inch spade bit to accommodate the lag-screw threads.

It was with some apprehension that I first flipped the switch; spinning a 70-pound, 10-foot blank on a homemade lathe is not something to take lightly. To my relief, the machine ran very smoothly. With the blank turning, I wasted most of the stock with a hand-held power-plane **(2)**. The posts have a long, straight taper; to cut this I ran my router along a sloping jig made from aluminum channel and MDF, with a plastic skate wheel attached to the router base for smooth milling **(3)**. I used standard turning tools and an MDF tool rest to make the coves and beads **(4)**.

I spent less than $250 for materials and hardware to build the lathe. Once it was complete, turning a blank into a finished, sanded post **(5)** took about seven hours.

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