

# **MAGIC ON A CAST IRON BED**

## **A Tool Test by Dick Veitch**

Great-Granddad pedaled it. Granddad hooked up a lay shaft to a combustion engine. Dad thought six-step pulleys to an electric engine were great. I think my variable speed is wonderful. Now the new Teknatool lathe has the engine firmly wrapped around the shaft inside the headstock – no belt, no trousers and looks great!

They have called it the Nova DVR 3000. 3000 because it takes all the same bits, like tailstock, outrigger toolrest and add-on bed, as the Nova 3000. DVR for Digital Variable Reluctance – and that is the new bit.

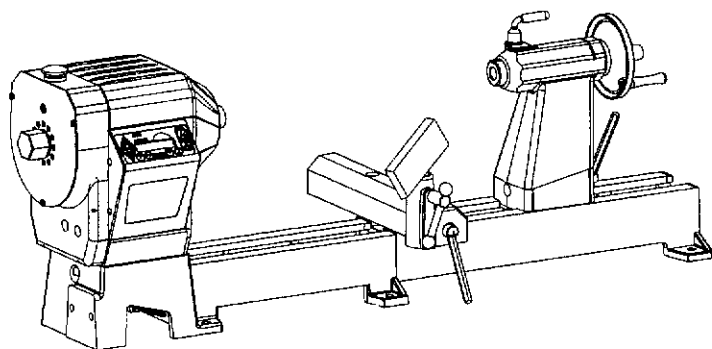
All these electrical bits are inside the headstock. The driving force is a very different electric motor. Instead of coils of wire connected by brushes and spinning around on the rotating part, this has lumps of steel attached to the shaft as the rotating part and the electric coils to create magnetism and drive the shaft around stay perfectly still around the outside. So the shaft rotates in a couple of bearings and there are no other moving engine parts to wear out.

With no engine hanging off the headstock or hanging on a belt underneath, this machine spins ever so smoothly from 250 rpm to 3500 rpm – you choose the speed by touching a button. The speed you choose is maintained perfectly by the computer controls – when there is no load there is also very little drag on the power supply; put a chisel to the wood and power surges in to maintain the speed and the ease of your cutting. I found it easy to cut from my test piece of blackwood to the full depth of my 12 mm gouge. If you do manage to stop the shaft from turning, just take your chisel away and start up again— no harm done.

The smoothness of this machine really came to the fore in finishing cuts. With no vibration from a regular engine and flexing belts my finishing cuts were just like the experts said they should be – and ten times better than I have ever achieved on a regular lathe. With this lathe I could well make a bowl in 20% less time and with much less sandpaper than ever before.

The power source is rated at 1.75 hp and, unlike belt drives, all of this is supplied to the workface. With normal belt driven lathes only about 80% of the rated power of the engine reaches the workface, the remainder is soaked up by springy belts and sticky ball bearings. Also, unlike other variable speed systems, all this power is supplied to the workface throughout the speed range. Remember, too, that the regular Nova 3000 is commonly supplied with a 1 hp motor which is effectively less than half the power of the DVR lathe.

The Nova DVR 3000 power source is tidily wrapped inside the headstock. There are no trousers containing additional



parts. The entire working mechanism is in that small package. On the operators side there is a small control panel— off/on switch; faster/slower controls; a display with two lines of text to show you what is selected; three buttons for fancier programming; and a forward/reverse switch that is just what I want for sanding those furry bits.

Towards the faceplate end the headstock tapers beautifully to provide full access to the back of the work piece. On the outside end it is just the same as a regular Nova 3000 with a thread to attach a hand wheel or vacuum attachment

Next is the bit I really love – the swivel head. There is not much I have been able to do in life that really makes heads turn but turning a lathe head by just 10 or 15 degrees makes bowl turning so much more comfortable. Likewise, when using a deep hollower – just turn the head a little so that you don't have to reach over the lathe bed (saves money on the chiropractor too). The DVR 3000 has room over the bed to swing 400 mm blocks but swivel the head 90° and there is space to go up to 740 mm with the optional extra outrigger toolrest. If you want to go bigger, let your imagination run riot, just do it safely.

For spindle turners the tailstock has also undergone a major re-vamp with greater strength and better shaft and bed-locks while still retaining the same internal sizes for centres and long-hole boring.

For everyone there is a built-in shaft lock nicely positioned towards the back of the headstock. This doubles as a 24 position index. If you happen to leave the shaft lock engaged and press the on button there is no screeching of slipping belts or smoke pouring forth – the computer goes bleep and switches off again – no damage done.

Now, my old school teacher said he always had to find something bad to put in each school report (for mine he had difficulty finding the good bit) and I try to do the same for each tool test. But here I am struggling. It does take a second or two for the computer to sort its brain out after you press the start button. Regular lathes make noises as soon as the

start button is pushed but really don't get going for a second or two either. No, I don't want the computer to play a tune while it thinks but a single bleep to acknowledge the pushed button would be good. The lathe does run on a bit after switch-off – just shows how little internal friction there is – so the makers could include the hand wheel as a standard part instead of an optional extra.

The price. All those features for about \$2800. That is the basic machine of drive unit, bed to give you 600 mm between centres, toolrest, tailstock, drive spur and live centre. Add to that the stand of your choice, maybe some more bed length, perhaps an outboard toolrest, and you should be happy ever after.

The Nova DVR 3000 is a revolution in the woodturning world. If you want one you may have to wait in the queue, and you are already behind me.

## About those jokes

Believing that humour is the leaven of life I've tried to put the odd joke in the magazine. I was berated for being sexist with some "blonde" jokes. In my defence I must say there are plenty of "blonde" men about, my wife even insists she lives with one. But to make amends here's a joke that has appropriate endings for men and women.

### The Perfect Couple

Once upon a time, a perfect man and a perfect woman met. After a perfect courtship, they had a perfect wedding. Their life together was, of course, perfect.

One snowy, stormy Christmas Eve, this perfect couple was driving their perfect car along a winding road, when they noticed someone at the side of the road in distress. Being the perfect couple, they stopped to help.

There stood Father Christmas. Not wishing to disappoint any children on the eve of Christmas, the perfect couple loaded Father Christmas and his toys into their vehicle. Soon they were driving along delivering toys.

Unfortunately, the driving conditions deteriorated and the perfect couple drove into a snow drift. Only one of them survived.

The mind numbing question is: Who was the survivor?

Women turn to page 24. Men turn to page 27.

# TREEWorkx

- 1997

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