

# ON TEST

News and tests of tools and kit for anyone equipping or upgrading their workshop

## Charnwood Viper2

Frans Brown tests a new bargain chuck

**T**here are three four-jaw chucks available in the new Charnwood range:

Viper2 at 2 $\frac{3}{4}$ in diameter, Viper3 at 4in diameter and Viper5 at 5 $\frac{1}{2}$ in. Both the Viper 3 & 5 come with a M33x3.5tpi. The chuck I was given to test was the smallest, the Viper2, which wasn't ideal as my lathe has an M33x3.5tpi thread, and this chuck comes with 1inx8tpi, but as Charnwood had supplied their own adapter for the test it gave me the opportunity to examine that too. The chuck arrived in a sturdy aluminium case. I knew this could not be part of the standard chuck package, but looking at the Charnwood catalogue was pleased to see the case only costs £12.00.

A comprehensive kit of accessories is available for this and the other chucks in the range. Many of the alternative jaws had been supplied for the test, giving me immediate confidence that what I was seeing would fairly represent the Charnwood range.

I was struck by the weight

of this little chuck, although less than 3in diameter it weighs in at 1050g. All external surfaces are cleanly finished, with careful attention to detail throughout. In other words, it looks good. I particularly like the design, with a fully enclosed back, and the scroll being driven indirectly through two fixed pinions helps complete the compact design and keeps the scroll and pinions clean.

Securing the Viper2 on Charnwood's Vipermetric adapter is easy, the adapter itself being precisely made with two holes in the body, one for inserting a bar to tighten the adapter to headstock and chuck body, the other threaded with an internal screw to lock the adapter onto the lathe headstock spindle thread.

### Set of tools

The Viper2 comes complete with standard dovetail jaws, woodscrew, T-bar for jaw operation, T-handled hex key for jaw screws and a  $\frac{3}{4}$ inx16tpi thread adapter/



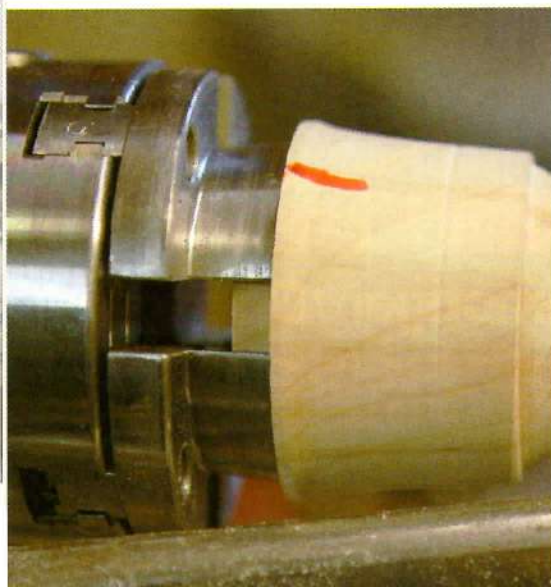
Viper2 The smallest chuck is surprisingly weighty for its size

insert. I was keen to test the chuck with the standard package, and so chose to use the standard jaws, which have an internal gripping capacity from 54-30mm, giving a jaw movement of 24mm, which is quite impressive for a small chuck. The scroll is smooth in operation with very little free

play, either at the pinions or jaw carriers to scroll. Indeed it compared very favourably with more costly chucks.

My first job was to mount a spindle previously prepared with a 40mm dovetail between centres and make some cuts. Tightening the jaws onto the wood saw no drama; they moved freely until the wood was met and with moderate force compressed onto the dovetail. Checking at both pinions, the tightening force had been distributed equally and repeating the torque at each pinion was not necessary.

After a few roughing cuts, I skimmed the piece with a skew before forming some shapes. No problems were encountered, and checking the chuck jaws with the tightening key, nothing had moved. I then decided to test the security of the grip by cutting through the spindle and cutting across the



Testing Frans found that his Viper2 is about 0.2mm off centre (left), as are many of his chucks. The chuck has a good set of accessories available



**End-grain Parting** across the end-grain on a spindle like this is a good test of a chuck's hold. The Viper2 performed well

end-grain face, a task the chuck performed well.

To test the accuracy of the chuck I mounted a small piece of wood and turned it to round, marking it with a felt tip pen, and then remounted it 180°, half a turn in relation to the jaws, carefully returning to round until my pen line was just cut through. This test was repeated several times with the wood being repositioned, sometimes in the same orientation just to prove it was not the fibres compressing unevenly across the grain.

The results showed that the chuck jaws were mounted 0.2mm from the centreline of the lathe drive, giving an inaccuracy of 0.4mm when measured in this way. This figure is comparable to other chucks I own, with the exception of the new Axminster Super Precision chuck, which as the name implies is very, very

accurate. I carried on testing much of the accessory range, and all the jaws are equally well made, giving a vast amount of options for secure work holding.

If you have a small lathe up to 1/2hp, then this chuck would be ideal. Anything larger, especially if it has a thread size of M33x3.5tpi, I would recommend the Viper3, as direct threading is always more accurate. At the same price as the Viper2 with even more jaws available, I think this will be Charnwood's best seller.

The Charnwood chuck's price, along with the comprehensive list of reasonably-priced jaws and accessories make the Viper range a serious contender in the woodturning chuck market.

**Details Charnwood Viper2:**  
£99inc.VAT; many accessories;  
details at [charnwood.net](http://charnwood.net).



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