

The following text provides just my opinion as a customer. Other customers may have different opinions and different experiences with the same product/company. Sometimes it's a matter of luck, I guess. Similar comments may hold true for other vendors.

Vendors/manufacturers/customer are invited to provide a comment. You will need to identify yourself. You will sign this by yourself and you will be responsible for your content by yourself. Thus, be honest, fair, and don't include wrong information. If you liked a product, fine. If you don't like it, fine. It's your opinion. Vendors/manufacturers are invited to provide a comment.

Better headstock for Sherline machines?

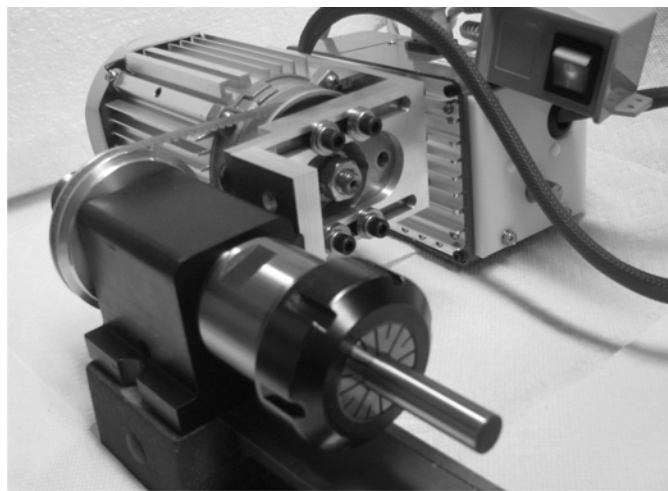


Fig. 7.4: ER headstock for Sherline lathe from glockcnc

Better headstock for Sherline machines? Besides 3 and 4-jaw self-centered and individual lathe chucks offered by Sherline (and others), an option with better TIR is in the meanwhile also available for Sherline machines. Affordable Machinery L.L.C. do offer ER spindles and larger MT (Morse taper) spindles for Sherline machines (see <http://glockcnc.com/index.htm> or eBay). The spindle runout in their standard configuration is about the same as for Sherline's headstock, I would say, but one can turn work pieces indeed with a smaller runout than with a scroll chuck. In addition, the ER chucks clamp work pieces better than the mini jaws on Sherline's chucks, in my opinion. Furthermore, Morse type spindles on a MT1 arbor have severe limitations of the maximum diameter of the work piece. ER40 can clamp work up to O.D. of 1". Presently, the ER spindles are the best option for a Sherline machine, in my opinion. These are better than Sherline's mini scroll chucks. (They do offer systems up to ER60, I believe.) The MT3 headstock just came out when I was working on this book. With a techniks collet and a drill rod from McMaster-Carr I did measure a TIR of 0.0008" using the ER40 glockcnc headstock and standard collet nut.

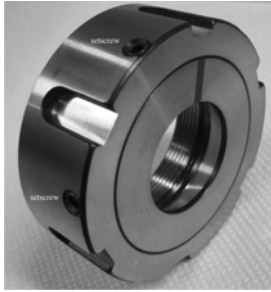


Fig. 7.5: “GlockCNC Absolute-Zero-ER Nut” as they call it. It includes an inner ring hold by a retention ring. That ring’s position can be adjusted by six setscrews to compensate for a runout. Well, good design, but tedious: it has to

be done with every part and the runout is only compensated at one position, I would say.

glockcnc.com – customer “service” – Sherline headstock The headstock arrived in week eight after ordering it via PayPal (ordered 1/14/15). Quoted was a delivering time of 3-6 weeks (plus shipping, I guess). That’s still within acceptable limits, but quite slow for hobby type equipment. The price of \$1280 for a complete system (headstock, motor, controller, zero TIR ER nut, standard ER nuts, collet wrench, large bore, extra belt was not ordered but included, shipping, early in 2015) is at the high end. The setscrew that holds the headstock on the lathe bed was missing (it has a rather unusual shape and length). In addition, the safety cover for the motor ventilator was broken when it arrived. (As of today they have not shipped a replacement, 3/15/15.) The headstock was badly packed and shipped without an insurance as far as I can tell (which they recommended and I agreed upon). A manual or something for the fancy zero TIR ER40 nut was missing. I had no idea how the thing works. No documentation whatsoever was included. E-mail communication with glockcnc and James Dimond are slow. By the way, I did measure a TIR on the spindle casing of 0.0003". They quoted 0.0002". The TIR on an 1/2" drill rod from McMaster-Carr hold in a techniks collet and measured close to the collet front end did amount to 0.0008". That's much better than Sherline’s scroll chucks (by a factor of 10! to my experience) - great. (Sherline’s mini MT1 collets will be about the same.) I found later a brief description of the specialty ER40 nut at eBay. The product is good, but the customer service not really and some issues with details of the design are evident. By the way, other product info can be found at

<http://www.lathecity.com/ProductTestsLatheCity.html>

Some details. The backend of the ER40 spindle is threaded for M30-1.5 mm. For closing the collet one has to hold the spindle somehow. The flat milled in the spindle for that purpose needs a 46 mm wrench. The entire thing is China made, I would bet. Also, the wiring of the controller box is less than ideal.

Running the headstock without a load for 10 min at ½ max RPM results in noticeable warming up which lets me worry about the lifetime of the bearings. I have never seen Sherline’s (or my China lathe) headstock(s) warming up at standard machining conditions. According to glockcnc warm would be normal, hot wouldn’t. Well, what is hot, what is warm? Glockcnc provides a 90 day warrantee. I would guess the preload nut is set to stiff for reducing the runout.

The invoice came from Affordable Machinery L.L.C., but the “manufacturer” appears to be glockcnc / James Dimond. They appear to have various different e-mail address and postal

addresses, that's not so unusual, but perhaps go through eBay. It's totally up to you. Given here is just my opinion as a customer.

The system is rather noisy as compared to Sherlines headstock. It's always hard to locate a sound, but it seems not to be the motor; something wrong with the bearings?

Similarly a squeaky noise is evident when turning the spindle by hand. I guess that comes from the drive belt. The spindle and motor pulleys are not quite perfectly aligned. Thus, the belt runs diagonally a little, perhaps by 2-3 degrees off, or so. That may break the belt rather soon. The drive belt was also very loosely mounted in order to compensate for the misalignment, I guess. The motor mounting brakes allow for aligning this but why was it not done properly in the first case.

The motor starts up rather abruptly using the knob/potentiometer on the motor controller. In addition, after max RPM is reached, that knob still rotates quite a lot, i.e., the speed potentiometer is not well adjusted.

I do like this headstock it's indeed a big step forward from Sherline's scroll chucks, but ... the price is high and too many small issues are apparently unresolved.

If you used a similar system e-mail your opinion.

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P.S. I understand now why I got generously a second drive belt. This is beyond preschool engineering. The fellows used a modified Sherline pulley for the spindle and a china made one on the motor spindle. These have totally different shapes. You will rip off the first belt after two weeks or so. Now, one does not watch a CNC lathe closely all the time. If the belt comes off you will ruined your work piece, insert, and have a good chance to damage the servos of the CNC lathe.