

D.I.Y./Self Help Sheet

NOVA 3000 TAILSTOCK - Operation, Maintenance & Trouble Shooting

Date Raised: 02.02.00

Safe practises should always be employed to ensure the Health and Safety of yourself, employees and customers (if applicable) Refer to product manuals, exploded drawings and our website if further assistance is required, or contact us on service@teknatool.com

Date Amended:

The information contained the sheets following are extracted and collated from the manual. If you have a specific question that is not covered by this sheet, please contact service@teknatool.com so that we can assist you and also update the information for others. Thank you!

Nova 3000 Tailstock Operation

Warning!

Never loosen the tailstock quill or tailstock while the work piece is turning.

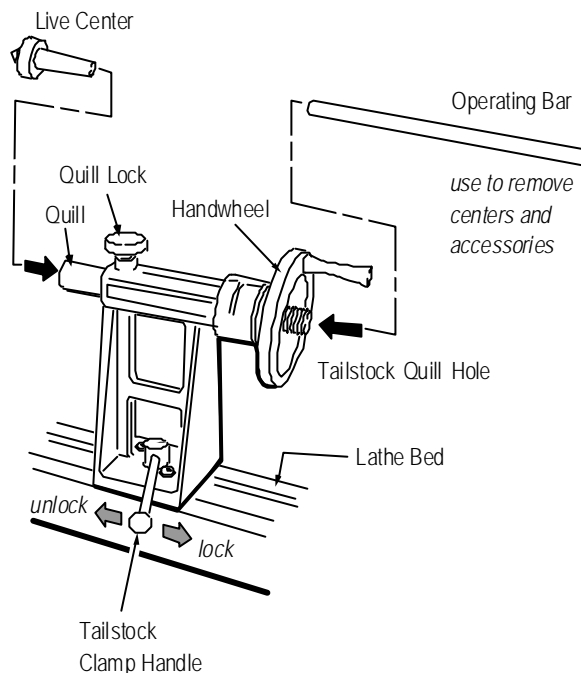
To move the tailstock along the bed, loosen the Tailstock Clamp Handle, slide the tailstock to the desired position, and tighten the clamp handle.

To move the tailstock quill in or out, loosen the Quill Lock and turn the Handwheel. Lock the quill in place with the Quill Lock.

The tailstock quill accepts centers and accessories with no. 2 Morse taper (#2 MT). To install a taper use a quick, firm action by hand. Do not pound the taper in.

To remove a taper, insert the operating bar through the tailstock quill hole. While holding the taper so it doesn't fall, tap it out.

The tailstock quill is hollow, allowing you to bore holes through turnings if a hollow center is used.



Adjusting the Tailstock for Turning Between Centers

1. Mount the spur center to the work piece and insert the spur center into the headstock spindle, as previously described under "Using a Spur Center".



Warning!

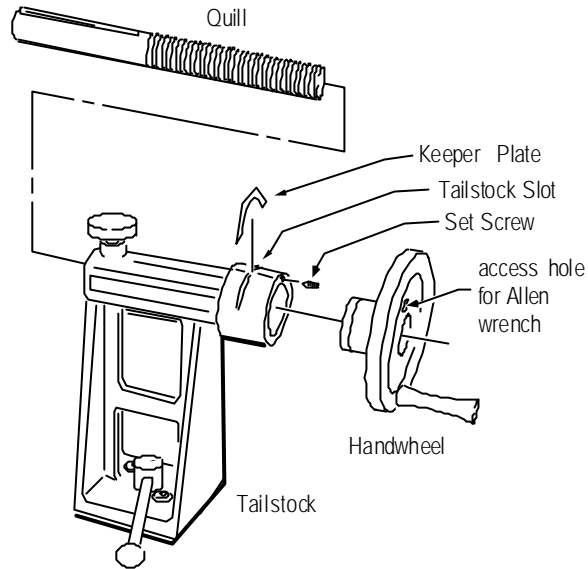
Do not use the tailstock quill action to drive the work piece into the spur center. This can create an unsafe and loose work piece.

2. Mount the live center into the tailstock quill using a quick, firm action by hand.
3. While holding the work piece, slide the tailstock to meet it and lock the tailstock in place. Turn the Handwheel to apply light holding pressure to the work piece; it should turn easily by hand, yet not be loose. Tighten the Quill Lock.

Cleaning the Nova 3000 Tailstock

If the tailstock quill becomes hard to use or the Handwheel is hard to turn, cleaning and lubricating are required.

1. Remove the 6 mm set screw from the tailstock. If necessary, turn the Handwheel to expose the set screw.
2. Using a screwdriver, remove the keeper plate from the tailstock body.
3. Remove the quill and Handwheel from the tailstock body.
4. Wipe clean all parts including the inside of the tailstock.
5. Lubricate the quill and tailstock slot with a light-weight oil and apply a small amount of grease to the quill threads.
6. Reassemble.

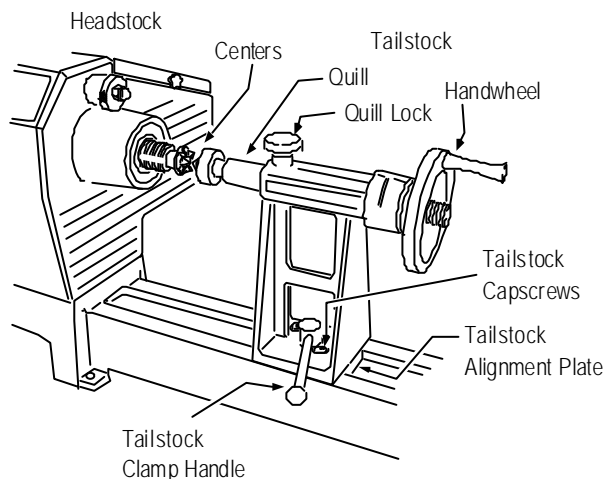


Aligning the Nova 3000 Tailstock

1. Crank the Handwheel so the quill is all the way in.
2. Place any #2 MT accessory you have that has a sharp point like a spur center, or live center in the tailstock quill and another center in the headstock spindle.

Note: Tailstock alignment can be made easier by using the Teknatool AcruLine Accessory Center in place of the centers.

3. Move the tailstock close to the headstock so the two centers nearly touch; check the alignment of the center points. Move the tailstock away from the headstock and extended and lock the quill. The points of the centers should align when the quill is halfway extended, fully extended, and fully retracted. If the centers are aligned at all three locations no adjustment is necessary.4. If the tailstock does not meet the conditions in step 3, follow the steps below. This indicates that the tailstock is not parallel to the lathe bed and you will need to realign the tailstock.



5. First make sure the tailstock alignment plate is not binding inside the bed. If the tailstock doesn't move freely then remove the tailstock and look for burrs or high spots on the bed rails or the alignment plate. Using a smooth file remove any burrs or high spots. When done replace the tailstock on the bed.
6. Slightly loosen the two tailstock capscrews with an Allen wrench. Tap the tailstock with a wooden mallet in the appropriate direction to align the centers. Check and adjust the positioning of the tailstock. The centers should align when the quill is halfway extended, fully extended, and fully retracted, as previously described in step 3.
7. Lock the tailstock in place with the Tailstock Clamp Handle and fully tighten the two capscrews. The capscrews must be fully tightened in order to avoid slippage during work.

Trouble Shooting the Nova 3000 Tailstock

<i>Problem</i>	<i>Possible Cause and Solution</i>
<i>Tailstock and headstock center not lining up correctly.</i>	<p>Tailstock not aligned to headstock; adjust as described under "Aligning the Tailstock".</p> <p>Bed incorrectly bolted to stand causing twist. Ensure stand and lathe are correctly installed.</p> <p>Headstock not returned to detent position after it has been rotated. Ensure that the headstock is locked into a detent position.</p> <p>Headstock Lockpin not fully seated. Twist the headstock back and forth to make sure it is properly seated and then tighten the Lockpin.</p> <p>Dirt or wood dust accumulated in the headstock swivel pin hole. Remove the Headstock Lockpin and clean out hole.</p>
<i>Tailstock handwheel hard to turn or will not turn.</i>	<p>Quill lock is locked; unlock the quill lock. If necessary, lightly tap a block of wood against the handwheel handle; tap the handle in a clockwise direction as viewed from the tailstock end.</p> <p>Build up of dust and wood resin on the quill or inside of the handwheel thread. Remove, clean, and lubricate the quill and tailstock as described under "Cleaning the Tailstock".</p> <p>The quill has been extended too far and is locked against the handwheel. Push the quill back into the tailstock when turning the handwheel.</p>
<i>Tailstock quill hard to move.</i>	<p>Quill lock is locked; unlock the quill lock.</p> <p>The quill is damaged; turn the handle to expose the quill and check for marks along the quill, especially on the edges of the slotted keyway. Remove the high spots with a smooth file and test the quill travel. Replace the quill if necessary.</p>
<i>Tailstock not locking correctly onto bed, or tailstock not sliding smoothly on bed ways.</i>	<p>Tailstock adjustment plate not adjusted correctly; adjust as described under "Aligning the Tailstock".</p> <p>Dirty bed ways and underside of tailstock body. Clean bed ways and underside of tailstock body with a petroleum-based solvent.</p>
<i>Tailstock binds.</i>	<p>The inside of the bed has a high spot. File the area with a smooth flat file until the tailstock moves freely.</p> <p>The tailstock adjustment plate has a rough spot or a burr. Remove the tailstock and file the plate with a smooth flat file.</p>
<i>Tailstock jumps where bed sections join.</i>	<p>The machined flat surfaces are not flush. File the area with a smooth flat file until the tailstock moves freely.</p>