# K&M MICRO – ADJUSTABLE NECK TURNING TOOL

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• If you purchased your neck turning tool directly from K&M it will most likely be assembled with the pilot and shell holder of your choosing and ready for the final setup to turn your case neck. Proceed to "Setting up Tool".
• If purchased from one of our dealers you more than likely will need to install the pilot into the neck turning body and do a coarse setting of the cutter. You may also need to install the shell holder into the power adapter.

**Coarse Cutter Setup**

• To do a coarse cutter setup we first need to understand the principle of operation of the cutter mechanism. The neck turner body, adjustment nut, and cutter act as a thread within a thread that work in tandem to achieve the very fine adjustment of the cutter tip which is 0.002" per revolution of the adjustment nut or 0.0002" per etched division on the neck turner body. Once the adjustment nut threads are engaged into the body the cutter tip has roughly 0.040" of range before the head of the adjustment nut bottoms out to the body. So a coarse cutter setup means we need to engage the adjustment nut threads into the neck turner body when the cutter tip is roughly 0.025"-0.040" from the pilot.
• A coarse cutter setting will be necessary when first installing a pilot or when changing from one caliber pilot to another.
• Loosen the cutter clamp screw and rotate the adjustment nut counter clockwise until it is free from the body. Remove the adjustment nut/cutter assembly from the body, take note of the cutter tip orientation before removal, see Cutter Orientation. Screw the cutter into the adjustment nut until the square cutter shank is about even with the end of the adjustment nut. Next install the pilot into the neck turner body and snug up the clamping screw. Now replace the adjustment nut/cutter assembly back into the body until the adjustment nut is in contact with the body. Be sure you have the correct cutter tip orientation. While applying gentle pressure rotate the adjustment nut COUNTER CLOCKWISE until the tip of the cutter is roughly 0.025"-0.040" from the pilot. Now rotate the adjustment nut CLOCKWISE to engage the adjustment nut threads into the body. You can confirm the coarse adjustment by continuing to rotate the adjustment nut clockwise and you should be able to touch the cutter tip to the pilot. HOWEVER, DO NOT ALLOW THE CUTTER TIP TO MAKE CONTACT WITH THE PILOT AS CUTTING EDGE DAMAGE WILL ACCUR. You are now ready for the final depth of cut set up on your cartridge.

**Setting up Tool**

• Full length size your brass and expand with the correct caliber expand mandrel. For best results do not use an expander ball inside your die.
• There are two adjustments required to achieve the final setup of your neck turning tool. 1. Depth of cut for final neck wall thickness. 2. Depth of cut into the neck/shoulder junction.
•Slide a piece of brass over the pilot and rotate the adjustment nut clockwise to bring the cutter tip close to the brass, but not touching. It should be noted here that the washer under the head of the screw that clamps the cutter is a spherical spring washer. Apply a small amount of clamping pressure with the screw on the cutter so the spherical spring washer maintains positive pressure on the cutter, do not tighten fully at this point.
• Loosen the pilot clamp screw and move the pilot so the cutter lead angle is close but not touching the cartridge shoulder. Snug up the pilot clamp screw.
• Now slide the brass back up the pilot so the cutter tip is close to the case mouth and rotate the cutter adjustment nut so the cutter tip just barely makes contact with the brass.
• Remove the brass from the pilot.
• Rotate the cutter adjustment nut clockwise the required amount to achieve a very light skim cut.
•Lubricate the pilot or the inside of the case neck with die sizing wax. We prefer to apply the lubricant inside the case neck with a Q-Tip.
• Install the cartridge in the power adapter and make a test cut. Can be driven by the handle or with a power driver in the clockwise direction. Drive the case until the mouth bottoms on the step to the pilot shank diameter and then back feed off of the pilot. DO NOT reverse the drive direction of the cartridge as this can damage the cutting tip.
• Next adjust the pilot position to achieve a slight cut into the neck/shoulder junction. The Pilot Jack takes the guess work out of this part of the setup. Clamp the pilot jack onto the body so the thumb screw is in line with the pilot shank and adjust the thumbscrew to touch the shank. Now loosen the pilot clamp screw and adjust the pilot jack screw to advance the pilot and hence the cartridge shoulder toward the cutter. Tighten the pilot clamp screw and repeat the test cut. When complete you are looking to achieve a slight cut into the neck/shoulder junction.
• Finally complete the cutter depth adjustment to achieve the desired neck wall thickness by making test cuts and measuring the case wall thickness. Repeat as needed. Tighten the cutter clamp screw when complete, but do not overtighten. It is advisable to make small depth adjustments to achieve your final neck wall thickness. ALWAYS make your adjustments "into the cut", if you find that you have over adjusted and made the case neck too thin back the cutter up and start over.
• Remove the Pilot Jack and install the neck turner body into Ergo Holder and proceed with your neck turning project.

## CUTTER ORIENTATION


## COARSE CUTTER ADJUSTMENT

Remove cutter assembly from neck turner body and thread cutter into adjustment nut as shown.


Insert the cutter assembly back into the neck turner body and rotate the adjustment nut COUNTERCLOCKWISE until cutter tip is .025”-.040” from pilot.

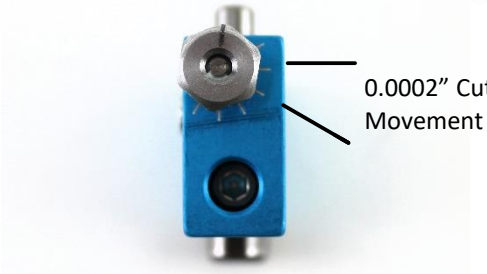
Now rotate the adjustment nut clockwise to engage the adjustment nut threads into the turner body to achieve fine depth setting adjustments.


Initially set cutter tip close to brass but not touching


Adjust pilot so cutter tip is close to neck/shoulder junction


Use the Pilot Jack to help with final position of pilot for end of cut into the neck/shoulder junction.

Adjust final cut depth for neck wall thickness.



0.0002” Cutter Movement

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