



All too many gunsmiths never realize the full potential of their lathes for cutting tapers simply because they do not understand how to easily recenter or realign the tailstock after completing a tapering operation. There are several older, traditional methods of doing this that require either extra equipment or valuable time. The Brownell/Walker system using the **new** Lathe Centering Buttons is a simple, fast and accurate means of dealing with this problem.



WARNING



Never attempt to disassemble or reassemble a firearm unless you are absolutely certain that it is empty and unloaded. Visually inspect the chamber, the magazine and firing mechanism to be absolutely certain that no ammunition remains in the firearm. Disassembly and reassembly should follow the manufacturer's instructions. If such instructions are not immediately available, contact the manufacturer to see if they are available. If they are not available at all, then you should consult other reference sources such as reference books or persons with sufficient knowledge. If such alternative sources are not available and you have a need to disassemble or reassemble the firearm, you should proceed basing your procedures on common sense and experience with similarly constructed firearms.

With regard to the use of these tools, the advice of Brownells Incorporated is general. If there is any question as to a specific application it would be best to seek out specific advice from other sources and not solely rely on the general advice and warnings given.

HOW TO USE

Begin by installing centers in both the headstock and tailstock, then position the tailstock within approximately 3" of the headstock. Holding the Lathe Buttons between your forefinger and thumb with the large diameter ends together, place the headstock center into the predrilled center hole of one Lathe Button. Extend the tailstock ram so the tailstock center enters the predrilled hole of the second Lathe button. Continue to extend the tailstock ram just enough so that the Lathe Buttons touch one another lightly. Remember that these buttons are accurate, precision ground instruments so don't allow them to drop or fall from the centers.

With the micrometer opening coming up from below the Buttons, place one half of the micrometer anvil on one Button and the other half on the other Button. The contact point of the micrometer's moveable spindle should also be half on one Button, half on the other. In other words, the two contact points (anvil and spindle) of the micrometer are straddling the point where the two large diameters of the Lathe Buttons come together.

For an example of how the Lathe Buttons are used, let's assume that the micrometer reads .999", the tailstock is out of alignment by .099" (.999" minus .900"). In actual use, there is no real need to make calculations such as this. **SIMPLY MOVE THE TAILSTOCK ADJUSTMENT SCREWS IN OR OUT UNTIL THE MICROMETER READS EXACTLY .900"**. If the headstock and tailstock are not perfectly aligned, the measurement will **always** be more than .900".

When placed large end to large end, the Lathe Buttons may appear to be magnetized. They are not. It is simply one precision ground face engaging a similar precision ground face. Be very careful with the Lathe Buttons. **Always** keep the Buttons clean and lightly oiled; **Never** allow them to rust. Be careful to ensure that the Buttons are **Never** dropped or abused. **Always** replace them in their original container for storage and safe keeping.

HOW TO PAY FOR YOUR NEW TOOLS

Now that the tailstock can be quickly and easily realigned with the head

stock by using the Lathe Centering Buttons, let's tackle a very common job requiring a taper. That is to duplicate the taper of a common .22 rifle barrel on a new replacement barrel blank.

Begin by removing the old barrel from the receiver and set it in the lathe between centers. The chamber end should be held by the headstock center, the tailstock holding the muzzle end. No lathe dog is used at this time.

With the power to the lathe turned off and a sharp tool bit in the tool holder, adjust the cross feed of the carriage so the top of the tool bit lightly touches the old barrel at the headstock end. After setting the cross feed dial to "zero", and without disturbing the setting, move the lathe carriage down the muzzle end of the barrel.

Using the tailstock adjustment screws, move the tailstock outward until the muzzle end of the barrel lightly touches the tool bit. The movement of the tailstock is now complete and the lathe will cut a taper identical to that of the original barrel.

Turn the cross feed ten revolutions outward and stop on "zero". Remove the original barrel and install the barrel blank. Don't forget to secure the barrel blank with the lathe dog.

Turn the lathe on. Make the necessary full length cuts until you have moved the cross feed in **EXACTLY** ten revolutions. Stop on the original "zero". The new barrel will have the same taper as the original barrel. The Brownell/Walker Lathe Centering Buttons can now be used to realign the tailstock with the headstock.

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INSTRUCTIONS

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