

# **THREADING INSTRUCTIONS 1992-2008**

Early Shoptask/Shopmaster machines use a different style of threading system than most conventional lathes. This is due in part to the CNC drives being built into the machine. If you follow the instructions and experiment on some scrap stock, you will find that it is just as easy as the thread dial type machines. For you experienced machinists, however, you may have to make a mental note to “forget” the system you are used to before learning this one.

The principle of multiple pass threading consists of 2 important features;

1. You must always start and stop your carriage at the same point along the X axis of the machine and,
2. You must always start each threading pass in the same position of the chuck rotation.

If you miss either of these rules, you will not follow in the same path each time and end up “wiping” away your previous cuts.

In order to maintain your position along your carriage travel, you select your starting and stopping points and can simply set your X axis dial to 0 and count the turns, or if you have a Digital Readout system, set the 0 point and the stopping point.

Setting the rotational position of the chuck is as simple as making a reference mark on the chuck with felt pin or any device you prefer, and then making a corresponding mark somewhere on the machine body so that you can always bring the chuck mark around to meet the mark on the machine. You can even make a permanent pointer if you like.

Once the 2 main features are established, and assuming you have the proper threading tool and your center height is set etc., you are ready to make some test cuts.

## **CUTTING THE THREADS**

1. Back your carriage up a few turns past the start point, then come forward to the start point to remove any inherent lash in the lead screw.
2. Bring the chuck around until your reference points are lined up.
3. Engage your lead screw shifter into the forward travel position .
4. Set the depth of your first cut on the Y axis table. ( Have your dial locked to 0 so that you can easily read the depth and always return to 0. If you have a

- Digital Readout system, 0 your display and read your depths from the display screen.
5. Now you are ready for your first pass, you will note that you are starting at the reference mark on your chuck and the 0 point on your X axis carriage.
  6. Turn on the motor and run the first pass and then move your shifter into neutral at the end of the pass.
  7. Now back your Y axis away from the part beyond your 0 point.
  8. Return the carriage to the starting point, backing the handle up and returning to 0 as explained before.
  9. Set the Y axis to the depth of your second cut.
  10. Bring your chuck around to align with your marker.
  11. Put your lead screw shifter into the forward travel position again. You will now see that you are ready to start your second pass at the same point of the x axis carriage and rotation of the chuck. This insures that you will be cutting in the same "groove" as your first pass.
  12. Start your motor and allow the carriage to make the second pass.
  13. Continue repeating this routine until you have achieved the proper thread depth.

## **HELPFUL HINTS**

Threading is a skill that must be learned and practiced, so do not be discouraged if you make some errors early on. It is important to have your tool at the proper height, and for smaller diameter parts use your tailstock with center or the follow rest to prevent deflection of the part. Always set your spindle to the lowest speed for threading. The "by the book" method is to set your tool at 29.5 degrees to the part, but for most everyday jobs this is not necessary.