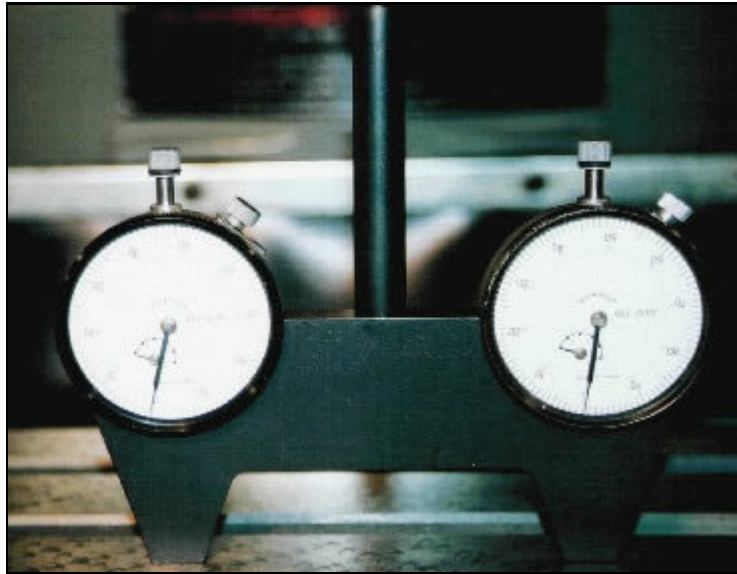


Step 1: Calibrate

NOTE: Very Important!!! **MAKE SURE THE MACHINE IS TURNED OFF**



Place the SpindleSquare on a known flat surface such as a surface plate or the table of the Milling machine (if it is flat and not damaged). Turn the dials on the two indicators so that the needle on both indicators is on the "0" position.

NOTE: MAKE SURE THAT THE DIALS BOTH READ "0" EVEN IF THE NEEDLES DO NOT LOOK PARALLEL. THE DIAL SHOULD SHOW THAT BOTH INDICATORS ARE READING "0"

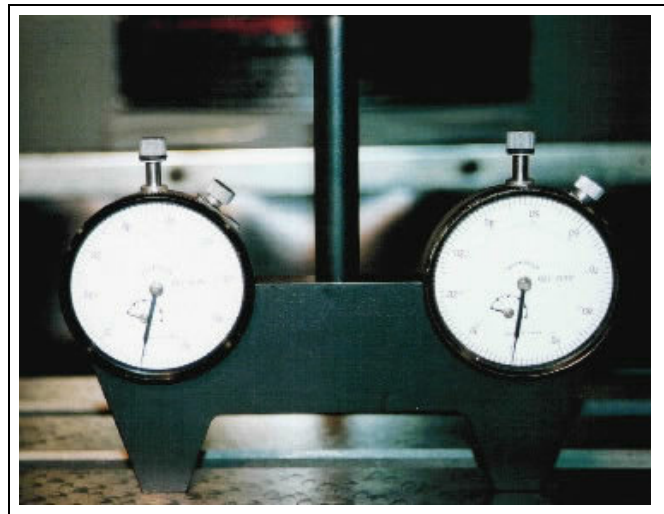
[Step 2: Squaring the head on the X axis](#)

I. Place the SpindleSquare into the collet of the Milling machine and bring the Milling machine head down to the table until both indicator needles have rotated approximately one full rotation. Now,



adjust the machine as you normally would until both indicators are reading the same NUMERICAL value.

NOTE: IT DOES NOT MATTER THAT THE NEEDLES DO NOT POINT IN THE SAME DIRECTION. IDENTICAL NUMERICAL READINGS, NOT THE NEEDLE POSITIONS, ARE THE VALUES THAT DETERMINE SQUARENESS.



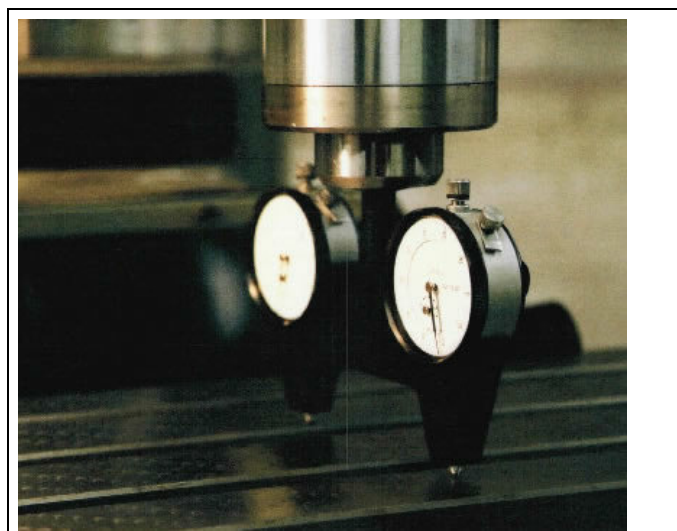
Note that the needles are not pointing in the same direction; however both indicators do read the same at .055. This indicates that the mill is square on the X axis. The numerical value of the readings of both indicators is what is important, not the direction of the arrows.

[Step 3: Adjust and square the Y Axis](#)

Now, bring the spindle up, turn the SpindleSquare to the Y axis and repeat the same procedure here as you did on the X axis. When both dials read the same, the Y axis is also square. Make sure that the DIALS read the same. The direction of the needles is not important.

YOUR MILL IS NOW SQUARE!

CONGRATULATIONS!



Helpful tip: Once you have squared the head of your mill on both axes, you can "sweep" the table as you would with an indicator by taking the reading from just ONE of the indicators from the Spindle Square and make minor adjustments if necessary.

Setting angles with the spindle square

1. Using the Spindle Square, square the axis which WILL NOT be used on the angle first.
2. Mount the Sine Bar on the Milling Machine and set it to the desired angle.
3. Bring down the spindle of the milling machine with the Spindle Square touching the sine bar until both needles move approximately one rotation.
4. Bring down the spindle of the milling machine with the Spindle Square touching the sine bar until both needles move approximately one rotation.
5. Once the readings are identical then the head is square to the sine bar and is set to the proper angle. Your milling machine is ready to use.

