

Depth Micrometer Calibration Procedure

Memorial University Technical Services

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1.0 Standards and Equipment

The following equipment is required:

Granite Plate
Master Gauge Block Set
Calibrated Outside Micrometer of Similar Range

NOTE: Standards and equipment used must have a valid calibration certificate

2.0 Calibration Procedure

"TS-0075 Depth Micrometer Calibration Record Sheet" must be used

Clean the Depth Micrometer's measuring surfaces and the gauge blocks to be used

- NOTE:*
- 1. Digital Depth Micrometers only need one scale to be verified*
 - 2. Zero the Depth Micrometer at the start when placed directly on the granite plate. If you cannot zero it then mark it as a fail*
 - 3. When testing the Depth Micrometer, one of the points must be near the lower limit that the instrument can measure, another somewhere in the middle, and the third near the upper limit*
 - 4. Use a conversion factor of 25.40 mm/in to convert gauge block lengths to Metric from Imperial*

Step 1:

Measure the ambient temperature and record it. If the temperature is $<18^{\circ}\text{C}$ or $>24^{\circ}\text{C}$, see the Division Manager for further instructions.

Step 2:

Test Characteristic: Inspect the anvils and the thimble

Test Method: Visual, Touch

Acceptable Limit: No damage, nicks, or burrs. Should have straight and parallel faces, smooth movement over the whole length with no free play

Step 3:

Test Characteristic: Ratchet

Test Method: Turn the ratchet with the instrument locked to ensure it is functional

Acceptable Limit: Good working order

Step 4:

Test Characteristic: Measuring Scale

Test Method: Use the shortest rod possible for the instrument. Make 2 equal stacks of gauge blocks on the granite surface to a height somewhere in the mid range of the instrument, measure and record the height with the rod between the two stacks and the flat part of the instrument flush against the top of the two stacks. Repeat for 5 heights in between the min and max range of the instrument.

Acceptable Limit: +/- 0.001" or 0.025 mm

Step 5:

Test Characteristic: Rod Inserts

Test Method: Make and record a measurement for each of the different rods. Adjust the rods as necessary, small adjustments can make a large difference in the reading

Acceptable Limit: +/- 0.001" or 0.025 mm