

# Manual Instruction



Accusize Industrial Tools  
2004-1001 0-1" x 0.0001"  
Carbide Tipped  
Point Micrometer

## Introduction

The Accusize Industrial Tools 2004-1001 0-1" x 0.0001" Carbide Tipped Point Micrometer is a precision measuring instrument designed to measure small grooves, keyways, and other hard-to-reach dimensions. It has a measuring range of 0-1" with a graduation of 0.0001". It has a carbide-tipped point anvil and spindle for durability and accuracy. It also has a ratchet handle for precise application of force and a lock nut for holding the measurement. It comes with a fitted case, a calibration standard, and a wrench.



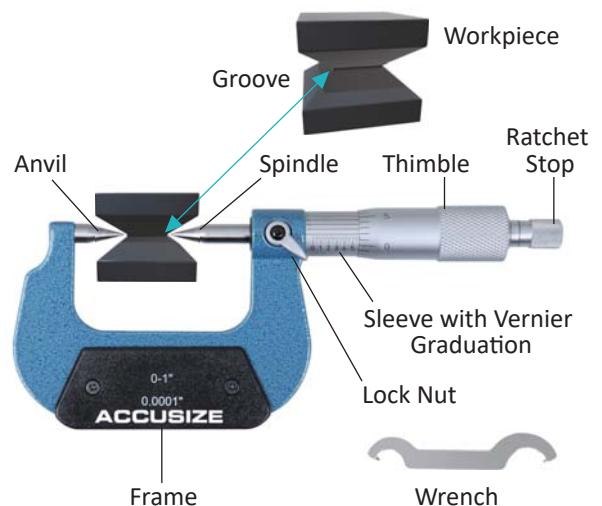
## Safety Precautions

Before using the micrometer, please read and follow these safety precautions:

- Do not use the micrometer for any purpose other than measuring.
- Do not drop, hit, or apply excessive force to the micrometer, as it may damage the instrument and affect its accuracy.
- Do not expose the micrometer to extreme temperatures, humidity, dust, or corrosive substances, as they may cause rust, wear, or malfunction.
- Do not disassemble or modify the micrometer, as it may void the warranty and compromise its performance.
- Keep the micrometer clean and dry. Wipe off any dirt, oil, or moisture from the measuring faces of the anvil and spindle with a soft cloth or paper before and after each use.
- Store the micrometer in its case when not in use. Avoid placing it in direct sunlight or near magnetic fields.

## How to Use the Micrometer

1. Loosen the lock nut & rotate the thimble until the anvil and spindle are slightly apart.
2. Place the micrometer between the two surfaces to be measured, such as the groove. Make sure the anvil and spindle are aligned with the axis of the groove and perpendicular to the surfaces.
3. Rotate the ratchet handle until you feel a slight resistance. This indicates that the anvil and spindle are in contact with the surfaces and the measurement is taken.



4. Read the measurement from the scale on the sleeve and the thimble. The sleeve has a scale of 0-1" with 0.025" divisions. The thimble has a scale of 0-25 with 0.001" divisions. The vernier scale on the sleeve has 10 divisions that correspond to 0.0001" increments. To read the measurement, add the values from the sleeve, the thimble, and the vernier scale. E.g., if the edge of the thimble aligns with the 0.5" mark on the sleeve, the 15 mark on the thimble, and the 3 mark on the vernier scale, the measurement is  $0.5" + 0.015" + 0.0003" = 0.5153"$ .
5. Tighten the lock nut to hold the measurement. You can also use the wrench to adjust the zero position of the thimble if needed.
6. Remove the micrometer from the groove and repeat the steps for another measurement if necessary.

## How to Calibrate the Micrometer

To calibrate the micrometer, you will need a gauge block or a combination of gauge blocks that have a known length and are at least four times more accurate than the micrometer. You will also need the wrench that came with the micrometer. To calibrate the micrometer, follow these steps.



## Steps to Calibrate the Micrometer

1. Clean the measuring faces of the anvil, spindle, and gauge block with a soft cloth or paper.
2. Loosen the lock nut and rotate the thimble until the anvil and spindle are at their closest point. Check if the zero mark on the thimble aligns with the zero mark on the sleeve. If not, use the wrench to adjust the zero position of the thimble until they are aligned.
3. Place the gauge block or the combination of gauge blocks between the anvil and spindle. Make sure they are parallel and in full contact with the measuring faces.
4. Rotate the ratchet handle until you feel a slight resistance. This indicates that the measurement is taken.
5. Read the measurement from the micrometer and compare it with the known length of the gauge block or the combination of gauge blocks. If they are the same or within the tolerance of the micrometer, the calibration is done. If not, use the wrench to adjust the zero position of the thimble until they are the same or within the tolerance. Repeat the steps until the calibration is done.
6. Remove the gauge block or the combination of gauge blocks from the micrometer and store them in a safe place. Tighten the lock nut and store the micrometer in its case.

