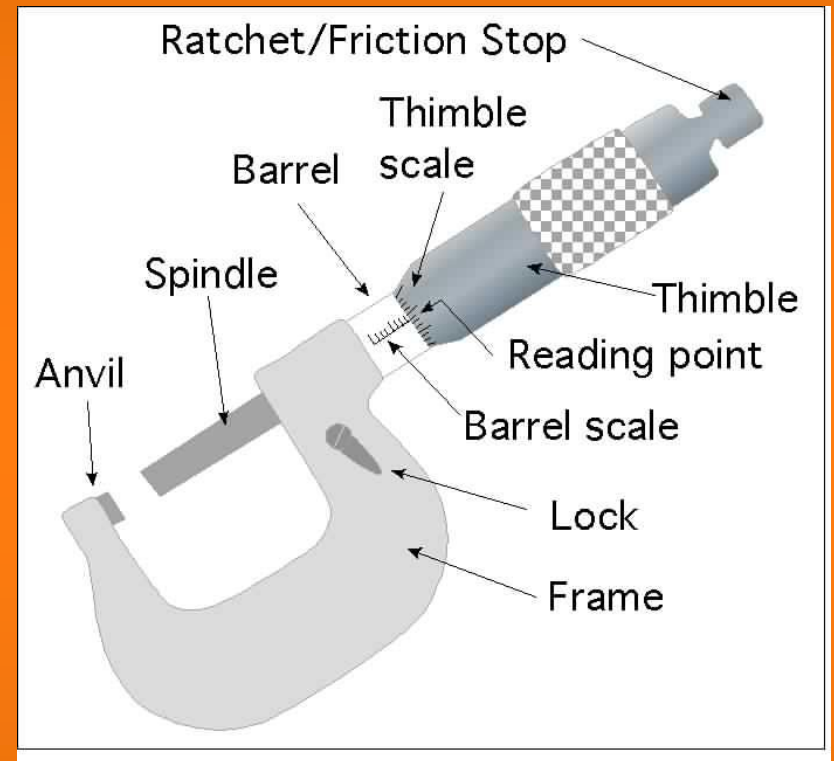


Reading Micrometer Caliper-parts

- The first step in being able to read a micrometer is learning the names of the parts.

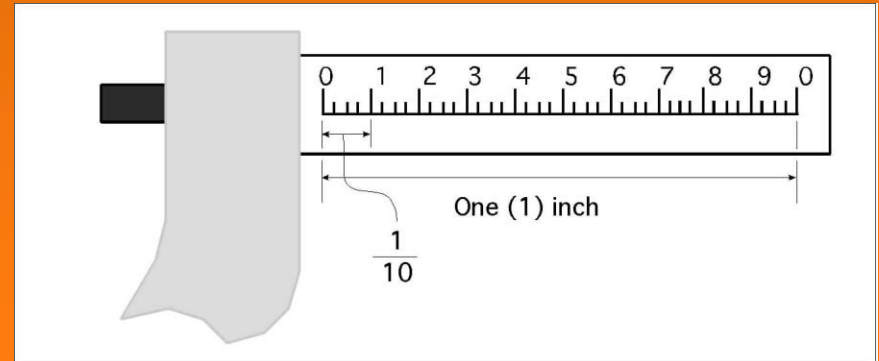
- The face of the anvil and the face of the spindle are the contact surfaces.
- The spindle and thimble turn together.
- The ratchet/friction stop improves the repeatability of measurements for beginners.
- A micrometer caliper is read at the point where the edge of the thimble crosses the barrel scale



- Insure the lock is released before trying to turn the thimble..

Reading Micrometer Caliper-barrel

- A micrometer caliper is read just like an ruler.
- Start by determining the smallest whole unit, and then determine the values of each sub division.
- The smallest whole unit is determined by the frame size.
 - One (1) inch frame = 0.0 smallest whole unit
 - Two (2) inch frame = 1.0 smallest whole unit.
 - Etc.



- The micrometer barrel scale is one (1) inch long and is divided into ten (10) sections.
- Each number on the barrel scale = $\frac{1}{10}$ or 0.1 inch.

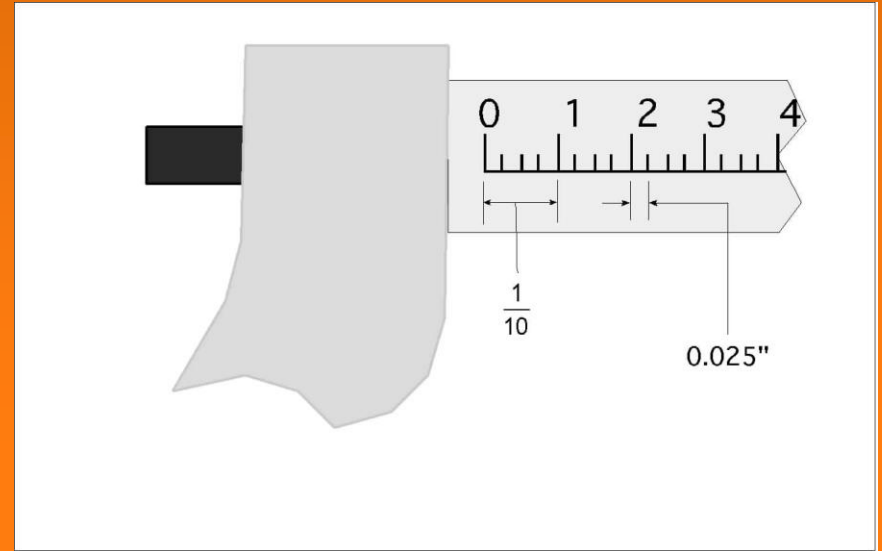
Reading Micrometer Caliper-barrel

- Each 1/10 of an inch on the barrel scale is divided into 4 segments.

$$\frac{1}{10} \div 4 = \frac{1}{10} \times \frac{1}{4}$$

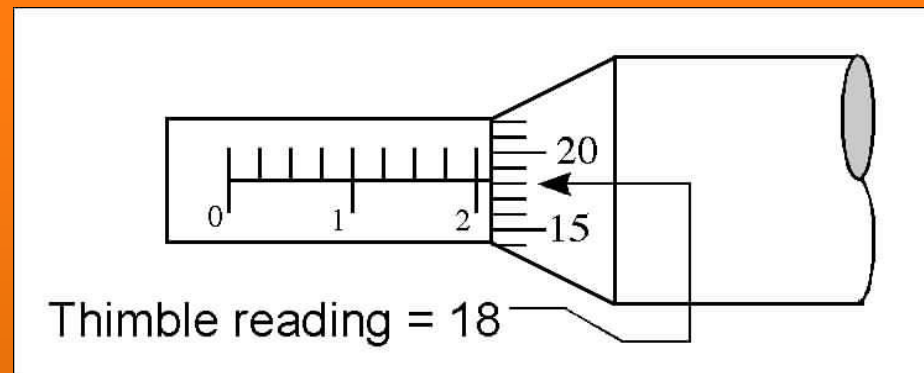
$$= \frac{1}{40} = 0.025$$

- Each short line = 0.025 inches (25 thousandths of an inch).



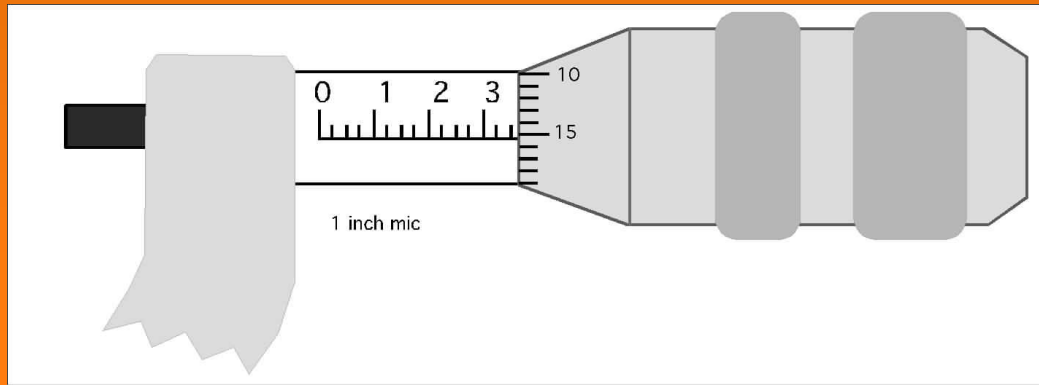
Reading Micrometer Caliper-thimble

- The last step is reading the value on the thimble scale.
- The thimble scale subdivides the last segment on the barrel scale.
- The smallest segment on the barrel is 25 thousandths (0.025).
- The thimble is divided into 25 segments = 1/1,000 or 0.001 inch.



Micrometer Caliper Example

- Determine the reading for the micrometer caliper in the illustration.



1. Smallest whole unit	0.000
2. Tenths of an inch	0.300
3. Twenty five thousands (0.025×2)	0.050
4. Thousands	0.015
Sum (measurement)	0.365