

# Starrett®



## Introduction to the Starrett 121 Series Inside Micrometers:

As an overview the 121 is an inside measuring tool specifically designed to allow measurements over longer than normal distances. The set consists of a conventional reading (thousands of an inch .001) micrometer head affixed to one end of a tubular rod while the other end accepts extension rods with labeled graduations placed every inch. The graduated rods are solid metal to guarantee a ridged extension minimizing errors.

**Assembling the tool:** before beginning the assembly take a minute to check the rod measuring tips to assure, they are tight, (These tips have been set at Starrett and should not be removed unless a calibration technician is available) it is extremely rare that they are loose but not taking this step could save confusion later. Consult the blueprint and once the distance to be inspected has been determined, check that the tubular main rods measuring head is set to zero. The 121 micrometer is available in three sizes so depending on the version you have selected Install the appropriate solid rod or rod assembly. The 121AZ=32-57 inches, 121BZ= 32-82 inches, 32-107 inches. You will notice the rods have graduations etched every inch, slide the solid rod into the tube, as this is being done you will notice there is a “window” cut into the tool. Position the rod in the tube so as to align the appropriate line on the rod with the reference line etched at the window.

**Note:** If the distance to be measured is greater than the advertised capacity of a single extension rod (57 inches with the one inch provided by the measuring head) the 121AZ you will need to screw additional rods together. Assuming the distance is greater, a longer three rod 121BZ set is required. This consists of an extension rod and two graduated companions, one single rod with tip allowing you to measure up to the original 57 inches. And the second (after being attached to a blank extension rod

equipped with a tip) allowing the tool to expand its capacity to 82 inches (again using the one inch on the micrometer head)

The longest rod set 121CZ is 32-107 contains two extension rods and one graduated part.

**Measuring with the Micrometer:**

Depending on the length of the part being Inspected more than one inspector may be required for this task as even as rigid as tool is constructed gravity is to be reckoned with. So, if the a second rod (32 -82 inches) is required it is recommended that the tool be supported along its length, This can be done as simply with a series of “ V” blocks placed at like intervals or something along this line.

If you are concerned as to how to read the graduations on the micrometer head please contact Starrett and instructions can be provided.