



# Calibration Procedure

## Micrometer Height Gauge

Procedure Number: CP009

Revision Number: 02

Date: June 24, 20XX

### A. EQUIPMENT:

None.

### B. REFERENCES:

None.

### C. APPLICATION:

Micrometer height gauges combine the accuracy of gauge blocks with the precision readings of a micrometer head. This instrument consists of two major parts: (1) a measuring column of stacked and permanently-wrung 1.0000 inch gauge blocks, and (2) a micrometer head with the thimble divided into 0.0001 inch graduations. Most micrometer height gauges are also equipped with a digital readout to permit fast height transfer measurements and eliminate reading errors.

### D. CALIBRATION PROCEDURE:

The micrometer height gauge must be checked for accuracy at each height block on the unit.

1. Clean the height gauge as specified by the manufacturer.
2. Check overall operation of the instrument. The micrometer head must rotate smoothly with no tight spots or evidence of backlash.
3. Lay the instrument on its side and inspect the three precision contact pads on the bottom, looking for nicks and burrs. Clean the pads with solvent and wipe them dry with a lint free cloth. Return the gauge to the upright position, located on a calibrated surface plate.
4. Set the micrometer head to "zero." Check each step on the column against master block stack-ups by zeroing each step on the column with a dial indicator

and comparing the result directly with the block or block-stack of the same height. There should be no difference between the readings. If a deflection of the same amount is seen at each step, the micrometer head must be adjusted. If this is necessary, reset the micrometer head per the manufacturer's instructions. If the instrument cannot be reset, request that it be returned to the manufacturer for repair.

**E. ACCEPTANCE LIMITS:**

Each block on the column must be within +/- 0.0001 inch of the height of the corresponding master gauge block stack. Accumulated error across the full height of the instrument shall not exceed 0.0002 inch.

**F. CALIBRATION FREQUENCY:**

One (1) year.

**G. SPECIAL REQUIREMENTS:**

Complete the Certificate of Conformance and sign/date it. File one copy with the Gauge Calibration Record for reference purposes, and submit one copy to the Quality Coordinator.