



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005
& ANSI/NCSL Z540-1-1994

MACHINIST TOOL REPAIR INC.
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Valley City, OH 44280
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CALIBRATION

Valid To: March 31, 2019

Certificate Number: 3673.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations¹:

I. Dimensional

Parameter/Equipment	Range	CMC ^{2,3} (\pm)	Comments ⁴
Gage Blocks	Up to 6 in	(5.4 + 2.7L) μ in	Gage blocks Grade 1
	(6 to 12) in	(5.4 + 2.7L) μ in	Pratt & Whitney Labmaster Universal
	(12 to 20) in	(14 + 3.4L) μ in	Gage blocks Grade 0
Length Standards	Up to 60 in	(60 + 4.0L) μ in	Pratt & Whitney Measuring Machine, gage blocks
Disks, Plugs, Pins – XXX-XX	Up to 12 in	(5.5 + 5.7L) μ in	Pratt & Whitney Labmaster Universal, gage blocks Grade 1
X-Y	Up to 12 in	(36 + 4.1L) μ in	Pratt & Whitney Labmaster Universal, gage blocks Grade 2

Parameter/Equipment	Range	CMC ^{2,3} (\pm)	Comments ⁴
Disks, Plugs, Pins – (cont) Z-ZZ	Up to 4 in	(86 + 2.6L) μ in	Gage blocks Grade 2, Mikematic bench micrometer
Ball Gages	Up to 6 in	(5.5 + 4.6L) μ in	Pratt & Whitney Labmaster Universal, gage blocks Grade 1
Ring Gages	(0.04 to 6) in	(8.1 + 7.3L) μ in	Pratt & Whitney Labmaster Universal, master ring gage
Cal Master	Up to 12 in	(170 + 8.7L) μ in	Gage blocks Grade 2, micro-hite
Mic Masters – Survey Trees	Up to 12 in	(130 + 1.9L) μ in	Gage blocks Grade 2, bench micrometer
Depth	Up to 12 in	(370 + 1.8L) μ in	Micro-hite
Bench Micrometer	Up to 10 in	(36 + 4.1L) μ in	Gage blocks Grade 2, optical blocks
Thread Wires	Up to 0.5 in	(17 + 100L) μ in	LaserScan, master wires
Micrometer – Outside Diameter	Up to 80 in	(75 + 2.5L) μ in	Gage blocks Grade 3, optical block
Inside Diameter	Up to 80 in	(250 + 19L) μ in	Pratt & Whitney Measuring Machine, ring gages
Depth	Up to 12 in	(160 + 1.1L) μ in	Gage blocks Grade 3, master step set
Indicators	Up to 4 in	51 μ in	Bench micrometer



Parameter/Equipment	Range	CMC ^{2,3} (\pm)	Comments
Calipers	Up to 60 in	$(750 + 0.7L) \mu\text{in}$	Gage blocks Grade 3, ring gage
Height Gages	Up to 48 in	$(120 + 2.1L) \mu\text{in}$	Gage blocks Grade 2
Bore Gages	(0.1 to 13) in	$(77 + 17L) \mu\text{in}$	Ring gages
Thread Plug Gages – Major Diameter Pitch Diameter	Up to 4 in Up to 4 in	$(39 + 4.1L) \mu\text{in}$ $(49 + 5.1L) \mu\text{in}$	Thread wires, Pratt & Whitney Standard Measuring Machine, gage blocks
Adjustable Thread Ring Gages – Minor Diameter	Up to 4 in	$(110 + 3.4L) \mu\text{in}$	Thread set plugs, height gage

II. Mechanical

Parameter/Equipment	Range	CMC ^{2,3} (\pm)	Comments
Durometer – (Types A and D) Indenter Extension and Shape – Spring Calibration – Force	Visual Inspection Only (10 to 100) Duros	 $(1.1 + 0.02D)$ Duros $(1.1 + 0.01D)$ Duros	 Shore durocalibrator

Parameter/Equipment	Range	CMC ^{2,3} (\pm)	Comments
Torque Wrenches	(5 to 50) in·lbf (20 to 100) in·lbf (25 to 250) ft·lbf (100 to 1000) ft·lbf	($0.13 + 0.01T$) in·lbf ($0.89 + 0.006T$) in·lbf ($0.4 + 0.01T$) ft·lbf ($7.2 + 0.01T$) ft·lbf	Torque and tension tester
Surface Finish – RA	Up to 200 μ in	($0.03L + 3$) μ in	Specimen & master profilometer SV-400

¹ This laboratory offers commercial calibration service.

² Calibration and Measurement Capability Uncertainty (CMC) is the smallest uncertainty of measurement that a laboratory can achieve within its scope of accreditation when performing more or less routine calibrations of nearly ideal measurement standards or nearly ideal measuring equipment. CMCs represent expanded uncertainties expressed at approximately the 95 % level of confidence, usually using a coverage factor of $k = 2$. The actual measurement uncertainty of a specific calibration performed by the laboratory may be greater than the CMC due to the behavior of the customer's device and to influences from the circumstances of the specific calibration.

³ In the statement of CMC, D is the diameter of the device in inches, T is the applied torque, and L is the numerical value of the nominal length of the device measured in inches.

⁴ "Labmaster" is a registered trade mark with a last listed owner of Pratt & Whitney Measurement Systems, Inc., Connecticut U.S.A.



Accredited Laboratory

A2LA has accredited

MACHINIST TOOL REPAIR INC.

Valley City, OH

for technical competence in the field of

Calibration

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General requirements for the competence of testing and calibration laboratories*. This laboratory also meets the requirements of ANSI/NCCL Z540-1-1994 and R205 – Specific Requirements: Calibration Laboratory Accreditation Program. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated April 2017*).



Presented this 12th day of April 2017.

A blue ink signature of the Vice President of Accreditation Services.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 3673.01
Valid to March 31, 2019
Revised February 27, 2019

For the calibrations to which this accreditation applies, please refer to the laboratory's Calibration Scope of Accreditation.