

Laboratory	Q. C. Laboratory, Maruti Suzuki India Limited, Palam Gurgaon Road, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025:2005		
Discipline	Mechanical Calibration	Issue Date	19.03.2015
Certificate Number	C-0070	Valid Until	18.03.2017
Last Amended on	-	Page	1 of 3

Quantity Measured / Instrument	Range/ Frequency	* Calibration Measurement Capability ($\pm$)	Remarks
--------------------------------	------------------	--	---------

I. DIMENSION

1. GAUGE BLOCKS ^{\$}	Upto 10 mm	0.12 μ m	Using Gauge Block Comparator by Comparison Method
	Above 10 mm to 25 mm	0.15 μ m	
	Above 25 mm to 50 mm	0.22 μ m	
	Above 50 mm to 75 mm	0.30 μ m	
	Above 75 mm to 100 mm	0.32 μ m	
2. LONG GAUGE BLOCKS ^{\$}	Upto 500 mm	2.83 μ m	Using LMM Using CMM
	Above 500 mm to 1000 mm	3.50 μ m	
3. PLAIN PLUG / PIN GAUGES / THREAD WIRES ^{\$}	Upto 100 mm	0.7 μ m	Using LMM by Comparison Method
4. LENGTH INTERNAL ON PLAIN RING / SNAP GAUGE ^{\$}	Above 3 mm to 50 mm	1.00 μ m	Using LMM by Comparison Method
	Above 50 mm to 100 mm	1.50 μ m	
5. THREAD PLUG GAUGES ^{\$}	Upto 70 mm Pitch Diameter	1.47 μ m	Using LMM by Comparison Method
6. LENGTH BARS AND SETTING RODS ^{\$}	Upto 100 mm	1.00 μ m	Using LMM by Comparison Method
	Above 100 to 300 mm	1.75 μ m	
	Above 300 to 500 mm	3.00 μ m	
7. DIAL GAUGES ^{\$} L.C.: 0.001 mm L.C.: 0.001 mm L.C.: 0.01 mm L.C.: 0.01 mm	0.14 mm to 2 mm	0.62 μ m	Using Dial Tester by Direct method
	Above 2 mm to 5 mm	0.62 μ m	
	Upto 10 mm	2.90 μ m	
	Above 10 to 50 mm	2.95 μ m	
8. VERNIER CALLIPER ^{\$} L.C.: 0.01 mm ϕ L.C.: 0.01 mm ϕ L.C.: 0.01 mm ϕ	0 mm to 200 mm	6.85 μ m	Using Caliper Checker / Length Bar by Direct Method
	Above 200 mm upto 600 mm	8.47 μ m	
	Above 600 mm upto 1000 mm	10.00 μ m	

Naveen Jangra
Convenor

Avijit Das
Program Manager

Laboratory	Q. C. Laboratory, Maruti Suzuki India Limited, Palam Gurgaon Road, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025:2005		
Discipline	Mechanical Calibration	Issue Date	19.03.2015
Certificate Number	C-0070	Valid Until	18.03.2017
Last Amended on	-	Page	2 of 3

Quantity Measured / Instrument	Range/ Frequency	* Calibration Measurement Capability (±)	Remarks
9. HEIGHT GAUGES^{\$}			
L.C.: 0.01 mm ^Φ	0 mm to 200 mm	6.85 μm	Using Caliper Checker / Length Bar by Direct Method
L.C.: 0.01 mm ^Φ	Above 200 mm upto 600 mm	8.47 μm	
L.C.: 0.01 mm ^Φ	Above 600 mm upto 1000 mm	10.00 μm	
10. DEPTH GAUGES^{\$}			
L.C.: 0.01 mm ^Φ	Upto 300 mm	7.71 μm	Using Depth Micro Checker by Comparison Method
L.C.: 0.01 mm ^Φ	Upto 400 mm	11.63 μm	
11. EXTERNAL MICROMETER^{\$}			Using Micrometer Check Set, Gauge Block Length Bar by Comparison Method
L.C.: 0.001 mm ^Φ	0 mm to 100 mm	1.0 μm	
L.C.: 0.001 mm ^Φ	Above 100 mm upto 500 mm	6.14 μm	
12. INTERNAL MICROMETER (STICK TYPE)^{\$}			Using Slip Gauge with Accessories by Comparison Method
L.C.: 0.01 mm ^Φ	Upto 150 mm	6.40 μm	
	Above 150 mm upto 600 mm	8.52 μm	
13. INTERNAL MICROMETER (3 POINT TYPE)^{\$}			Using Ring Gauge by Comparison Method
L.C.: 0.001 mm ^Φ	Upto 12 mm	3.51 μm	
L.C.: 0.005 mm ^Φ	Upto 100 mm	5.47 μm	
14. BORE GAUGES^{\$}			Using Dial Tester by Direct Method
L.C.: 0.001 mm ^Φ	Upto 3 mm	0.98 μm	
	Above 3 mm Upto 100 mm	2.82 μm	
	Above 100 mm Upto 400 mm	3.14 μm	
15. BEVEL PROTRACTOR^{\$}	Angle 360 °	62 "	Using Angle Gauges by Comparison Method
L.C.: 1' ^Φ			
16. SURFACE ROUGHNESS^{\$}			Using Surface Roughness Master with the Standard Specification Ra, Rz, Rmax by Comparison Method
Ra	25 μm	8.2 %	
Rz	25 μm	9.9 %	
Rmax	25 μm	8.1 %	

Naveen Jangra
Convenor

Avijit Das
Program Manager

Laboratory	Q. C. Laboratory, Maruti Suzuki India Limited, Palam Gurgaon Road, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025:2005		
Discipline	Mechanical Calibration	Issue Date	19.03.2015
Certificate Number	C-0070	Valid Until	18.03.2017
Last Amended on	-	Page	3 of 3

Quantity Measured / Instrument	Range/ Frequency	* Calibration Measurement Capability ($\pm$)	Remarks
17. INSIDE DIAL CALLIPER ^{\$} L.C.: 0.01 mm ^φ	Upto 25 mm Above 25 to 75 mm	6.06 μ m 6.10 μ m	Using Slip Gauge with Accessories by Comparison Method
18. FORM PARAMETERS ^{\$} ROUNDNESS STRAIGHTNESS CYLINDRICITY	Above 3 mm to 500 mm	0.20 μ m 0.30 μ m 0.30 μ m	Using Form Tester by Comparison Method
19. PROFILE PROJECTOR [#]	Length 200 mm Angle 360 ° Magnification	6.00 μ m 1' 40 " 0.02 %	Using Slip Gauge, Angle Gauge and Glass Scale by Comparison Method
20. SURFACE PLATE FOR FLATNESS [#]	2000 mm x 1000 mm	$1.57 \times \sqrt{\frac{L + W}{150}} \mu\text{m}$	Using Electronic Level by Comparison Method

* Measurement Capability is expressed as an uncertainty ($\pm$) at a confidence probability of 95 %

^{\$} Only in Permanent Laboratory

[#] The laboratory is also capable for site calibration however, the uncertainty at site depends on the prevailing actual environmental conditions and master equipment used.

^φ Laboratory can also calibrate instruments/devices of coarser resolution / least count within the accredited range using same reference standard/ master equipment under the scope of accreditation.

Naveen Jangra
Convenor

Avijit Das
Program Manager