

SOUTHWEST RESEARCH INSTITUTE®

6220 Culebra Road, P.O. Drawer 28510 Institute Quality Systems Institute Calibration Laboratory Phone: 210-522-5215 Fax 210-522-4834



Calibration Laboratory Certificate #0972-01

Certificate of Calibration

Cost Center: DIV20 Mail Stop: B51

Customer: DON BANNON

Manufacturer/Model: STARRETT / 734M

Description: MICROMETER Serial Number: 02437171

Asset Number: 010084

Procedure: MICROMETERS - 17 APR 07

Work Order: 303086386

Date Issued: 16-Mar-2009

Date Calibrated: 16-Mar-2009 *Date Due: 16-Mar-2010

**Results: FOUND-LEFT

Temperature: 6°F

Humidity: 37 %

This certificate documents traceability to the National Institute of Standards and Technology (NIST) and the International System of Units (SI). The Laboratory quality system conforms to ISO/IEC 17025, 2005, ANSI/NCSL Z540-1-1994 and relevant requirements of the ISO 9000-2000 standard. This certificate shall not be reproduced, except in full, without the written approval of the Southwest Research Institute Calibration Laboratory. This certificate shall not be used to claim product endorsement by Southwest Research Institute, American Association for Laboratory Accreditation (A2LA) or any agency of the U. S. Government. Results of this calibration relate only to the instrument described above at the time of calibration and does not imply any long term stability of the instrument.

*Determined by the customer, does not imply the instrument will remain within tolerance as any number of factors may cause an out-of-tolerance condition before this date. **Found/Left = adjustment and/or repair was not required, As Left = adjusted and/or repaired was required. The customer has sole responsibility for determination of in-/out-of-tolerance or compliance/noncompliance. See Remarks or attached Measurement Report with the same Work Order number for data.

Reported uncertainty calculated in accordance with the ISO "Guide to the Expression of Uncertainty in Measurement" (GUM) and represents an expanded uncertainty with a coverage factor of k=2 to approximate a 95% confidence level.

Remarks:

Standards Used

Asset #	Manufacturer	Model	Description	Cal Date	<u>Due Date</u>
006179	STARRETT	OFPS2	OPTICAL PARALLEL SET	24-Jul-2007	24-Jul-2010
011025	STARRETT	WEBBER 10	GAGE BLOCK WORKING SET	7-Aug-2008	7-Aug-2009

Reviewed By: () srk () mar (

Laboratory Quality Manager m:\A2LA OCT_08.rpt

Calibrated By: Perry Carpente

Metrology Technician Page 1 of 1

Southwest Research Institute Calibration Laboratory Measurement Report

303086386	Mfr:	Starrett	Tech:	PWC
010084	Model:	734M	Type Data:	Found-left
02437171	Type:	Micrometer 0-25.4 /.001mm	Cal Date:	16-Mar-09
•	010084	010084 Model:	010084 Model: 734M	010084 Model: 734M Type Data:

Function/Range	Test Point	TI Reading	Difference	+/-Limit	+/-Uncertainty	Result	%Limit
Flatness							
Anvil						Pass	n/a
Spindle						Pass	n/a
	mm	mm	mm	mm	mm		
Linearity	5.334	5.335	0.001	0.003	0.0011	Pass	33%
•	10.668	10.668	0.000	0.003	0.0011	Pass	0%
	15.367	15.368	0.001	0.003	0.0011	Pass	33%
	20.701	20.702	0.001	0.003	0.0011	Pass	33%
	25.400	25.401	0.001	0.003	0.0011	Pass	33%
		FND O	F REPORT				