SOUTHWEST RESEARCH INSTITUTE®

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Institute Calibration Laboratory
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ACCREDITED
Certificate #
0972-01

Certificate of Calibration

Submitted By:	DIV20	**Work Order:**	303066233
Address:	B57	**Date Issued:**	Oct 24, 2005
Contact:	DON BANNON	**Calibration Date:**	Oct 24, 2005
Manufacturer Model:	PROTO 6104	***Calibration Due:**	Apr 24, 2006
Description:	TORQUE SCREWDRIVER	**Calibration Location:**	Bldg. 64
Serial No:	139072	**Environment:**	Temp. 70.0°F Hum. 42 %RH
Asset No:	009202	****Data Type:**	FOUND-LEFT
Procedure:	TORQUE HAND TOOLS, MAR/05		

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, 1999, 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 client 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: Cal'd clockwise only.

Standards Used

Asset No.	Serial No.	Manufacturer	Model	Description	Cal Due
007010	08803	CDI	1001-0-TTTP	TORQUE TRANSDUCER	Jan 20, 06

Reviewed by: blt(✓) jrg ( ) pwc ( ) ygh ( )
Metrology Technician

Measurements by: Joe Greagrey
Metrology Technician

Southwest Research Institute
Calibration Laboratory
Measurement Report

Work Order:	303066233	Mfr:	Proto	Technician:	JRG
Asset No:	009202	Model:	6104		
Serial No:	139072	Type:	Torque Screwdriver	Cal Date:	24-Oct-05
Remarks:					

Function/Range	Test Point	TI Reading	Difference	+/-Limit	+/-Uncertainty	Found/Left
Torque Clockwise	oz-in	oz-in	oz-in	oz-in	oz-in	Result
	20.0	19.7	-0.4	1.2	0.20	Pass
	20.0	19.6	-0.4	1.2	0.20	Pass
	20.0	19.8	-0.2	1.2	0.20	Pass
	20.0	19.7	-0.3	1.2	0.20	Pass
	20.0	19.5	-0.5	1.2	0.20	Pass
	20.0	20.7	0.7	1.2	0.20	Pass
	20.0	19.1	-0.9	1.2	0.20	Pass
	20.0	19.7	-0.3	1.2	0.20	Pass
	20.0	19.9	-0.1	1.2	0.20	Pass
	20.0	19.2	-0.8	1.2	0.20	Pass
	20.0	20.6	0.6	1.2	0.20	Pass
	20.0	19.7	-0.3	1.2	0.20	Pass
	60.0	59.6	-0.4	3.6	0.60	Pass
	60.0	59.1	-0.9	3.6	0.60	Pass
	60.0	60.0	0.0	3.6	0.60	Pass
	60.0	57.6	-2.4	3.6	0.60	Pass
	60.0	59.2	-0.9	3.6	0.60	Pass
	60.0	60.1	0.1	3.6	0.60	Pass
	60.0	57.2	-2.8	3.6	0.60	Pass
	60.0	60.3	0.3	3.6	0.60	Pass
	60.0	59.6	-0.4	3.6	0.60	Pass
	60.0	57.8	-2.2	3.6	0.60	Pass
	60.0	60.9	0.9	3.6	0.60	Pass
	60.0	59.4	-0.6	3.6	0.60	Pass
	100.0	98.9	-1.1	6.0	1.0	Pass
	100.0	96.8	-3.2	6.0	1.0	Pass
	100.0	99.4	-0.6	6.0	1.0	Pass
	100.0	100.6	0.6	6.0	1.0	Pass
	100.0	99.9	-0.1	6.0	1.0	Pass
	100.0	98.7	-1.3	6.0	1.0	Pass
	100.0	97.5	-2.5	6.0	1.0	Pass
	100.0	98.3	-1.7	6.0	1.0	Pass
	100.0	99.2	-0.8	6.0	1.0	Pass
	100.0	99.4	-0.7	6.0	1.0	Pass
	100.0	96.3	-3.7	6.0	1.0	Pass
	100.0	96.5	-3.5	6.0	1.0	Pass

END OF REPORT