

GEOSCIENCES AND ENGINEERING DIVISION NONCONFORMANCE REPORT

Project No. OHD20.131

NCR No. 2007-38

PART 1: DESCRIPTION OF NONCONFORMANCE

Snap-On Torque Screwdriver, s/n 1001200319, AN010443 is out of tolerance per SwRI Cal. Lab. Unit exceeded limits at all 12 break points at set point of 20 in-oz and 2 break points out of 12 at set point of 60 in-oz.

Initiated by: Don Bannon

Date: 30Oct07

Action Required by: Xihua He

Response Due Date: 13Nov07

PART 2: PROPOSED DISPOSITION AND CORRECTIVE ACTION

Disposition: Accept data obtained in tests using this torque screwdriver as is.

Basis of Disposition: The torque screwdriver is used to torque polytetrafluoroethylene crevice washers on crevice corrosion test specimens. Under the applied torque, the polytetrafluoroethylene crevice washers deform to match the specimen surfaces. Tests conducted at the CNWRA have used applied torque in the range of 40 to 60 in-oz (typically 50 in-oz), which is the torque used to maintain a consistent crevice tightness and to avoid increased creep of polytetrafluoroethylene crevice washers at higher torque. Out of a total of 12 tests at the 60 in-oz set point, the torque screwdriver exhibited 2 out-of-tolerance break point values. The limit is ± 3.6 in-oz and the torque screwdriver had differences of +3.7 and +4.4 in-oz, respectively. These correspond to error percentages of +6 and +7 at 60 in-oz which would not affect the outcome of crevice corrosion tests. Previous CNWRA tests have shown that the initiation and repassivation of crevice corrosion on Ni-base alloys at elevated temperatures is not sensitive to the applied torque used to attach the polytetrafluoroethylene crevice washers.

Action to Correct Nonconformance: Unit was adjusted back into tolerance by SwRI Cal. Lab. The torque screwdriver will continue to be included on the calibration recall list.

Proposed by: Xihua He

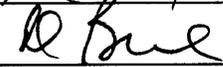


Target date for completion: 11/5/2007
Date: 11/5/2007

PART 3: APPROVAL

Manager: 

Date: 11-5-2007

Director of QA: 

Date: 11/5/2007

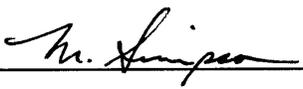
Comments/Instructions:

PART 4: CLOSE OUT

Comments: *Calibration documentation attached.*

Distribution:

Original-CENTER QA Records
ORIGINATOR *BANNON*
PRINCIPAL INVESTIGATOR *HE*
MANAGER *AXLER*
ASSISTANT DIRECTOR *MOHANTY*

Verified by:  Date: 11/6/07

SOUTHWEST RESEARCH INSTITUTE

6220 CULEBRA ROAD • POST OFFICE DRAWER 28510 • SAN ANTONIO, TEXAS, 78228-0510 • TEL (210) 522-5215 • FAX (210) 522-3692

To: Don Bannon, Div 20, Bldg 57

From: Walt Hill, Manager
Institute Calibration Laboratory

Date: Oct. 02, 2007

Subject: Out-of-tolerance Notice

The purpose of this notice is to alert you of a condition, which may have caused erroneous measurements affecting safety or the quality of products or services your organization provides. The attached as-found readings are provided for your evaluation to determine if the instrument listed below had an impact and if further action is required.

When the as-found results are near the specification limit, +/- a margin less than the measurement uncertainty, it is not possible to state in-tolerance or out-of-tolerance with a 95% level of confidence. It is the Institute Calibration Laboratory policy that the client is made aware of this situation because the end-user is taking some of the risk that the instrument listed below may not meet the end-user measurement requirements.

Your review/evaluation should be conducted in accordance with your organizational quality policy and procedural requirements. If we can be of further assistance, please contact the Calibration Laboratory at 522-5215.

Manufacturer: Snap-On **Model:** QDRIVER2

Description: Torque Wrench **Serial Number:** 1001200319

Asset Number: 10443 **User ID Number:**

Last Calibration: Apr. 27, 2007

Date Received for Service: Sep. 24, 2007 **Work Order Number:** 303076643

Service Requested: Scheduled calibration

Remarks: Unit exceeds Limits Below 100 in/oz. Please see Measurement Report.

OUT OF TOLERANCE

Southwest Research Institute
Calibration Laboratory
Measurement Report

Work Order:	303076643	Mfr:	Snap-On	Technician:	PWC
Asset No:	010443	Model:	QDriver2	Cal Date:	02-Oct-07
Serial No:	1001200319	Type:	Torque Screwdriver		
Remarks:	Cal'd clockwise only				

Function/Range	Test Point	TI Reading	Difference	+/-Limit	+/-Uncertainty	Found
Torque Clockwise	oz/in	oz/in	oz/in	oz/in	oz/in	Result
	17.9	20.0	2.1	1.2	0.061	Fail
	18.0	20.0	2.0	1.2	0.061	Fail
	18.5	20.0	1.5	1.2	0.061	Fail
	18.7	20.0	1.3	1.2	0.061	Fail
	17.8	20.0	2.2	1.2	0.061	Fail
	18.3	20.0	1.8	1.2	0.061	Fail
	18.3	20.0	1.7	1.2	0.061	Fail
	18.7	20.0	1.3	1.2	0.061	Fail
	18.8	20.0	1.2	1.2	0.061	Fail
	18.2	20.0	1.8	1.2	0.061	Fail
	18.1	20.0	1.9	1.2	0.061	Fail
	18.2	20.0	1.8	1.2	0.061	Fail
	56.7	60.0	3.3	3.6	0.18	Pass
	56.5	60.0	3.5	3.6	0.18	Pass
	58.9	60.0	1.1	3.6	0.18	Pass
	57.5	60.0	2.5	3.6	0.18	Pass
	56.3	60.0	3.7	3.6	0.18	Fail
	57.2	60.0	2.8	3.6	0.18	Pass
	58.1	60.0	2.0	3.6	0.18	Pass
	56.8	60.0	3.2	3.6	0.18	Pass
	57.3	60.0	2.7	3.6	0.18	Pass
	55.6	60.0	4.4	3.6	0.18	Fail
	58.6	60.0	1.4	3.6	0.18	Pass
	56.5	60.0	3.5	3.6	0.18	Pass
	103.7	100.0	-3.7	6.0	0.30	Pass
	104.7	100.0	-4.7	6.0	0.30	Pass
	103.2	100.0	-3.2	6.0	0.30	Pass
	102.6	100.0	-2.6	6.0	0.30	Pass
	103.5	100.0	-3.5	6.0	0.30	Pass
	102.8	100.0	-2.8	6.0	0.30	Pass
	104.5	100.0	-4.5	6.0	0.30	Pass
	104.3	100.0	-4.3	6.0	0.30	Pass
	102.4	100.0	-2.4	6.0	0.30	Pass
	104.4	100.0	-4.4	6.0	0.30	Pass
	102.0	100.0	-2.0	6.0	0.30	Pass
	102.5	100.0	-2.5	6.0	0.30	Pass

END OF REPORT

Perry Carpenter

From: Don Bannon [dbannon@cnwra.swri.edu]
Sent: Tuesday, October 09, 2007 2:18 PM
To: 'Perry Carpenter'
Subject: RE: Torque Screwdriver

Perry--
Please proceed with repair of asset no. 010443.

Thank you,
--Don

Don Bannon - Engineering Technologist
Geology & Geophysics, CNWRA
Southwest Research Institute
6220 Culebra Road
San Antonio, TX 78238
210-522-5118
dbannon@swri.org

-----Original Message-----

From: Perry Carpenter [mailto:perry.carpenter@swri.org]
Sent: Monday, October 08, 2007 10:51 AM
To: Don Bannon
Subject: Torque Screwdriver

Institute Calibration Laboratory Memorandum

Oct. 8, 2007

To: Don Bannon
Div 20, Bldg 57

From: Perry Carpenter
Institute Calibration Laboratory

Subject: Review of Work Request Number 303076643

The work you requested is pending your response. Please review the information provided and respond with your approval or further instructions for work to proceed. Return a signed copy via mail to Cal Lab Bldg 64, FAX (522-4834) or reply to this email. If you have questions please call extension 5215.

Unit Received: Sep. 25, 2007
Work Requested: Calibration
Manufacturer: Snap-On
Model: QDRIVER2
Description: Torque Screwdriver

10/24/2007



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

Submitted By: DIV20

Address: B57

Contact: DON BANNON

Manufacturer / Model: SNAP-ON / QDRIVER2

Description: TORQUE SCREWDRIVER

Serial No: 1001200319

Asset No: 010443

Procedure: TORQUE HAND TOOLS - 19 SEP 06

Work Order: 303076643

Date Issued: Oct 23, 2007

Calibration Date: Oct 23, 2007

***Calibration Due:** Apr 23, 2008

Calibration Location: Bldg. 64

Environment: Temp. 68.0°F Hum. 40 %RH

****Data Type:** AS-LEFT

DivID/Location: N/A

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/NC SL 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: Calibrated Clockwise Only

Standards Used

Asset No.	Serial No.	Manufacturer	Model	Description	Cal Due
012699	0207806	CDI	2000-5-02	TORQUE TRANSDUCER 15 - 200 INOZ	May 02, 08
012700	0207806	CDI	2000-4-02	TORQUE TRANSDUCER 5 - 50 INOZ	May 02, 08

Scott Keate

Reviewed by: () wgh (x) srk () jrg () blt () pwc

Metrology Technician

m:\a2la1.rpt Rev date August 15, 2005

Perry Carpenter

Measurements by: Perry Carpenter

Metrology Technician

Southwest Research Institute
Calibration Laboratory
Measurement Report

Work Order:	303076643	Mfr:	Snap-On	Technician:	PWC
Asset No:	010443	Model:	QDRIVER2	Cal Date:	23-Oct-07
Serial No:	1001200319	Type:	Torque Screwdriver		
Remarks:	Cal'd clockwise only				

Function/Range	Test Point	TI Reading	Difference	+/-Limit	+/-Uncertainty	Left
Torque Clockwise	oz/in	oz/in	oz/in	oz/in	oz/in	Result
	20.1	20.0	-0.1	1.2	0.061	Pass
	20.2	20.0	-0.2	1.2	0.061	Pass
	19.6	20.0	0.4	1.2	0.061	Pass
	20.0	20.0	0.0	1.2	0.061	Pass
	19.3	20.0	0.7	1.2	0.061	Pass
	19.7	20.0	0.3	1.2	0.061	Pass
	19.7	20.0	0.3	1.2	0.061	Pass
	19.8	20.0	0.2	1.2	0.061	Pass
	19.7	20.0	0.3	1.2	0.061	Pass
	19.7	20.0	0.3	1.2	0.061	Pass
	20.4	20.0	-0.4	1.2	0.061	Pass
	19.8	20.0	0.2	1.2	0.061	Pass
	58.5	60.0	1.5	3.6	0.18	Pass
	59.2	60.0	0.8	3.6	0.18	Pass
	59.0	60.0	1.0	3.6	0.18	Pass
	56.9	60.0	3.1	3.6	0.18	Pass
	58.1	60.0	1.9	3.6	0.18	Pass
	59.0	60.0	1.0	3.6	0.18	Pass
	58.8	60.0	1.2	3.6	0.18	Pass
	58.6	60.0	1.4	3.6	0.18	Pass
	58.5	60.0	1.5	3.6	0.18	Pass
	60.2	60.0	-0.1	3.6	0.18	Pass
	60.1	60.0	-0.1	3.6	0.18	Pass
	57.6	60.0	2.4	3.6	0.18	Pass
	104.8	100.0	-4.8	6.0	0.30	Pass
	102.9	100.0	-2.9	6.0	0.30	Pass
	105.1	100.0	-5.1	6.0	0.30	Pass
	105.5	100.0	-5.5	6.0	0.30	Pass
	104.6	100.0	-4.6	6.0	0.30	Pass
	103.9	100.0	-3.9	6.0	0.30	Pass
	104.0	100.0	-4.0	6.0	0.30	Pass
	105.5	100.0	-5.5	6.0	0.30	Pass
	103.4	100.0	-3.4	6.0	0.30	Pass
	105.3	100.0	-5.3	6.0	0.30	Pass
	103.6	100.0	-3.6	6.0	0.30	Pass
	104.8	100.0	-4.8	6.0	0.30	Pass

END OF REPORT