

	ITTC – Recommended Procedures	7.6 - 01 - 01 Appendix 3 Page 1 of 3	
	Measuring Equipment Sample Procedure	Effective Date 1999	Revision 00

ANNEX 3 SAMPLE DTMB ISO 9000 PROCEDURE

Title: Control of Inspection, Measuring and Test Equipment	Procedure Number: 00-5230-113-01	Revision Number: Rev 3	Effective Date: April 12, 1996
	Prepared by: D. Downin	Approved by: R. J. Stenson	Page: 1 of 2

Section 11.0 - Control of Inspection, Measuring and Test Equipment

Calibration of Torsionmeter/Thrustmeter Equipment

In addition to Division procedures for Inspection, Measuring and Test Equipment, the Full Scale Trials Branch calibrates torsionmeters and thrustmeters capable of determining propeller shaft torque and thrust. The calibration of the torsionmeters is traceable to ISO 9001 Certificate of Registration 12 100 4192 and the National Institute of Standards and Technology (NIST). The calibration of the thrust load cells are traceable to NIST.

Calibrations will meet or exceed manufacturer's specifications. Bias limits will be calculated at the conclusion of each calibration and will be held to established standards. If the difference between the pre-trial calibration and the post-trial calibration values are greater than the bias error at full-scale voltage, the trial data must be adjusted. The Pass/Fail Instrumentation Check and Calibration Work Instruction 00-5230-114-03 provides further guidelines as well as bias limit values for various data channels.

11.1 Purpose

To provide a procedure for torsionmeter and thrustmeter calibrations which are not covered under Division procedures.

11.2 Responsibilities

The Branch Equipment Manager (BEM) is responsible for ensuring the effective implementation of this process.

11.3 Torsionmeter Calibration Procedure

- 11.3.1 All Full-Scale Trials Branch Torsionmeter systems will be calibrated in accordance with the Torsionmeter Calibration Work Instruction 00-5230-114-01 prior to use.
- 11.3.2 Calibration will be done according to the specifications requested by Program Managers using either Calibration Request Form 11A or 11B.
- 11.3.3 Once a calibration is complete and approved by the requester, a copy of the calibration is put into the Torsionmeter Calibrations book by the person calibrating the torsionmeter. A copy of the calibration is filed in the Ship's Project file by the person requesting the calibration.
- 11.3.4 Upon return of torsionmeter equipment, a post-calibration is performed on all systems in accordance with the Torsionmeter Calibration Work Instruction 00-5230-114-01.

Controlled Document

Edited	Approved
22 nd ITTC QS Group	22 nd ITTC 1999
Date	Date



ITTC – Recommended Procedures

7.6 - 01 - 01
Appendix 3
Page 2 of 3

Measuring Equipment Sample Procedure

Effective Date
1999

Revision
00

Calibration Request

Ship #: _____ Ship Name: _____
 Type of Trial: Builders ____ Acceptance ____ Special ____
 Requestor's Name: _____ Requestor's Signature: _____
 Date Required By: _____ Date of Request: _____

DESIGN REQUIREMENTS	VALUE		SOURCE	
Design Torque	(lbft)			
Full-Scale Torque	(lbft)			
Transient Torque	(lbft)			
RPM				
Horsepower				
Modulus of Rigidity	(enter individual values below)			
PRIMARY SYSTEMS	PORT (3) or Single	STBD (1)	PORT (4)	STBD (2)
Ring #				
Ring Bore				
Shaft O.D.				
Shaft I.D.				
Modulus of Rigidity				
10 or 16 MHz				
Shaft Rotation (aft -> fwd)				
PANEL METER DISPLAY	PORT (3) or Single	STBD (1)	PORT (4)	STBD (2)
Torque (4 digits)				
RPM (3 digits)				
Horsepower (3 digits)				

SPARE SYSTEM

of Spares Required: _____ 10 or 16 MHz: _____
 ET Box ____ Sensor & Demod ____ Filter ____ RPM/Period ____ HP Calc ____
 Panel Meter ____ 160 kHz Supply ____

Please check all parts required.

NOTE:

- Standard procedure is to calibrate to 5.000V Q Filtered at design torque and to to 150% design torque.
- Make any additional notes or special requirements on the reverse of this sheet.

SEPTEMBER 1995



ITTC – Recommended Procedures

7.6 - 01 - 01
Appendix 3
Page 3 of 3

Measuring Equipment Sample Procedure

Effective Date
1999

Revision
00

CONFIDENTIAL

(when filled in)

Calibration Request

Ship #: _____ Ship Name: _____
 Type of Trial: Builders _____ Acceptance _____ Special _____
 Requestor's Name: _____ Requestor's Signature: _____
 Date Required By: _____ Date of Request: _____

DESIGN REQUIREMENTS	VALUE		SOURCE	
Design Torque	(lbft)			
Full-Scale Torque	(lbft)			
Transient Torque	(lbft)			
RPM				
Horsepower				
Modulus of Rigidity	(enter individual values below)			
PRIMARY SYSTEMS	PORT (3) or Single	STBD (1)	PORT (4)	STBD (2)
Ring #				
Ring Bore				
Shaft O.D.				
Shaft I.D.				
Modulus of Rigidity				
10 or 16 MHz				
Shaft Rotation (aft -> fwd)				
PANEL METER DISPLAY	PORT (3) or Single	STBD (1)	PORT (4)	STBD (2)
Torque (4 digits)				
RPM (3 digits)				
Horsepower (3 digits)				

SPARE SYSTEM

of Spares Required: _____ 10 or 16 MHz: _____
 ET Box _____ Sensor & Demod _____ Filter _____ RPM/Period _____ HP Calc _____
 Panel Meter _____ 160 kHz Supply _____

Please check all parts required.

NOTE:

- Standard procedure is to calibrate to 5.000V Q Filtered at design torque and to to 150% design torque.
- Make any additional notes or special requirements on the reverse of this sheet.

CONFIDENTIAL

(when filled in)

SEPTEMBER 1995

Form 11B (Rev1)