OPERATOR'S MANUAL



TORQUE CERTIFICATION SYSTEM (TCS) For Use with TCS Software (Version 2.0.X)

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Customer : Address :	Tool Sup Tool Stre Tooltown TO13 45	et						
Model :	11034		5	Serial No	:	32	2145	
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Date of Test : 08/08/2017 As Left			[Direction	8		С	lockwis
Set Torque		Min	Max		Act	ual Readi	ngs	
	1.000	0.960	1.040	0.942*	0.966	0.972	1.028	1.045
	12.000	11.520	12.480	12.248	12.338	12.455	12.583*	12.42
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INTRODUCTION

The Torque Certification System (TCS) is PC software designed with a user friendly interface that will enable certificate generation and archiving for all types of torque tools.

Departments (or Customers) can be created and Tools added to them. The method of calibrating a Tool is defined in the Tool Template and each Tool must have a Tool Template attached to it. Norbar Tool Templates come as part of the software and non Norbar Tool Templates can be generated and then attached to Tools.

TCS uses a serial interface for connection to Norbar instruments with an RS232 output. Calibration Certificates can be generated as the values are sent from the instrument in real time.

Note: TCS can be used to generate Declarations of Conformance to ISO 6789-1:2017, but not Calibration Certificates to ISO 6789-2:2017.

FEATURES AND FUNCTIONS

- Norbar standard Tool Templates for N·m, lbf·ft, lbf·in & kgf·cm are supplied pre-loaded.
- Serial Port connection to Norbar instruments such as TTT, TST, Pro-Test & TruCheck[™] Plus with an RS232 output.
- Database for archiving of calibration certificates for Torque Tools.
- Multilingual Calibration Certificate (English / Finnish / French / German / Hungarian / Italian / Norwegian / Polish / Russian / Spanish).
- Declaration of Conformance templates to ISO 6789-1:2017
- Calibration certificate templates for PneuTorques, etc.
- Compatible with Windows[®] XP, 7, 8.1 & 10

INSTALLING TCS

NOTE: You may need administrative privileges to be able to install the software.

Download TCS from the Norbar website (<u>www.Norbar.com</u>). Go to the Products tab and click to select "Calibration Certificate Software" and then follow the on screen instructions.

Double left click on **SetupNorbarTCS20X** (where X represents the latest software revision number) in your installation directory and follow the on screen instructions.

TIP: Backup your database before uninstalling your old version of TCS. Use the restore database option after your new version of TCS has been installed. See page 45



Left click on Next.

🕏 Setup - Norbar TCS	
License Agreement Please read the following important information before continuing.	
Please read the following License Agreement. You must accept the terms of this agreement before continuing with the installation.	
IMPORTANT NOTICE: PLEASE READ CAREFULLY BEFORE INSTALLING THE SOFTWARE: This licence agreement (Licence) is a legal agreement between you (Licensee or you) and NORBAR TORQUE TOOLS LTD of BEAUMONT ROAD, BANBURY, OXON, OX16 1XJ (Licensor or we) for this Torque Data Management System software product (Software).	
 I accept the agreement ○ I do not accept the agreement 	
< <u>B</u> ack <u>N</u> ext >	Cancel

Read the Licence agreement and left click on **I accept the agreement** if you wish to proceed, then left click on **Next**.

🕫 Setup - Norbar TCS 📃 🗖 🔀
Select Destination Location Where should Norbar TCS be installed?
Setup will install Norbar TCS into the following folder.
To continue, click Next. If you would like to select a different folder, click Browse.
C:\Program Files\Norbar\TCS Browse
At least 11.0 MB of free disk space is required.
< <u>B</u> ack <u>N</u> ext > Cancel

NOTE: For 64 bit versions the destination location will be C:\Program Files (x86)\Norbar\TCS. Change location and \ or left click on Next.

🕏 Setup - Norbar TCS
Select Start Menu Folder Where should Setup place the program's shortcuts?
Setup will create the program's shortcuts in the following Start Menu folder. To continue, click Next. If you would like to select a different folder, click Browse.
Norbar Browse
< <u>Back</u> <u>Next</u> Cancel

Change the folder name and / or left click on Next.

🕫 Setup - Norbar TCS	
Ready to Install Setup is now ready to begin installing Norbar TCS on your computer.	
Click Install to continue with the installation, or click Back if you want to review or change any settings.	
Destination location: C:\Program Files\Norbar\TCS Start Menu folder: Norbar	
3	
< <u>B</u> ack Install	Cancel

NOTE: For 64 bit versions the destination location will say C:\Program Files (x86)\Norbar\TCS. Left click on Install to install TCS onto your computer.

🕏 Setup - Norbar 1	rcs 📃 🗆 🜌
	Completing the Norbar TCS Setup Wizard Setup has finished installing Norbar TCS on your computer. The application may be launched by selecting the installed icons. Click Finish to exit Setup. Run Norbar TCS
	Einish

Left click on the option required, and then left click Finish.

After Installation a TCS icon will be placed on the desktop.



Left click on Next.

cense Agreement Please read the following important info	ormation before continuing.
Please read the following License Agree agreement before continuing with the ir	ement. You must accept the terms of this nstallation.
BEFORE INSTALLING TH agreement (Licence) is a legal	agreement between you AR TORQUE TOOLS LTD of URY, OXON, OX16 1XJ
I do not accept the agreement	

Read the Licence agreement and left click on **I accept the agreement** if you wish to proceed, then left click on **Next**.

🕼 Setup - Norbar TCS
Select Destination Location
Where should Norbar TCS be installed?
Setup will install Norbar TCS into the following folder.
To continue, dick Next. If you would like to select a different folder, dick Browse.
C: \Program Files \Vorbar\TCS Browse
At least 11.0 MB of free disk space is required.
< <u>Back</u> Next > Cancel

NOTE: For 64 bit versions the destination location will say C:\Program Files (x86)\Norbar\TCS. Change location and / or left click on Next.

🕄 Setup - Norbar TCS
Select Start Menu Folder Where should Setup place the program's shortcuts?
Setup will create the program's shortcuts in the following Start Menu folder.
To continue, dick Next. If you would like to select a different folder, dick Browse. Norbar Browse
< Back Next > Cancel

Change the folder name and / or left click on Next.

Ready to Install		
Setup is now ready to begin in	nstalling Norbar TCS on your computer.	Ċ
Click Install to continue with the change any settings.	he installation, or click Back if you want to review	w or
Destination location: C:\Program Files\Norbar	ητcs	*
Start Menu folder: Norbar		
4		Þ

NOTE: For 64 bit versions the destination location will say C:\Program Files (x86)\Norbar\TCS. Left click on Install to install TCS onto your computer.

After installation a TCS icon will be placed on the desktop.

CONNECTING NORBAR TORQUE MEASURING INSTRUMENTS TO TCS

Norbar instruments such as TTT, TST, & Pro -Test can be connected to TCS with an RS232 interface cable (part no 39264). The TruCheck Plus must use RS232 interface cable (part no 39297). These cables are included with the Instruments when purchased new from Norbar.

Instruments manufactured before 2005 that were not supplied with a serial data lead will require a 'Serial Data Lead Kit' part number 60248.

RS232 to USB Convertor

PC's without an RS232 interface connector can be connected to instruments with an RS232 connector using a commonly available RS232 to USB converter (not supplied). After installation of the converters driver software on your PC, navigate to the device manager to view the Com Port that has been assigned to the converter as shown below.

 Image: Second second	
 Computer Disk drives Display adapters DVD/CD-ROM drives DVD/CD-ROM drives Human Interface Devices Human Interface Devices Human Interface Devices Monitors 	
 Ports (COM & LPT) Communications Port (COM1) USB Serial Port (COM6) Processors Sound, video and game controllers System devices Universal Serial Bus controllers 	

The same Com Port must be specified in the TCS calibration options as shown below. For more information on Calibration Options, see page 35.

Text(8)			Text(9)			т	Text(10)			
General	Serial	Recalibra	ation	Text(1)	Text(2)	Text(3)	Text(4)	Text(5)	Text(6)	Text(
		erial Port ud Rate :	COM 9600		8 da	ta bits and t must be s	et to deliver nd a trailing			

STARTING TCS

1) Start TCS by double left clicking on the desktop icon.



2) The Initializing TCS message box will be shown. Wait until initialization has finished.



3) Screen shown on power up with Sample Department and Tools added.



TIP: Left click ICON on shortcut bar for quick selection of Tool Templates etc.

TCS comes with a Sample Department, Sample Tool & Sample Tool Template already created. These are for information only and should be deleted when not required. Norbar standard Tool Templates for N·m, lbf·ft, lbf·in & kgf·cm are also pre-loaded.

TIP: Delete or rename the Sample Department if it is not required.

DEPARTMENTS (CUSTOMERS)

After installation of TCS, the default name is "Departments".

Rename Departments (Customers)

Departments can be renamed to anything you choose, but this has been primarily designed to be customers. Typical applications may be to use "Departments" for a single Factory environment and use "Customers" for a Calibration lab environment.

🖲 Nor	bar Torque Certification System
i <u>D</u> efine	<u>Calibration Options Database View Window Exit</u>
🛛 🗶	🖻 🏪 🖻 🛱 🍐 🛱 🍐 🖥 🗉 🗉 🗉 🗌 🌔
8	View Certificate
	Add Department
	Rename Department
	Delete Department
	Set Department <u>N</u> ame & Address
~	Add Tool
~	Rename T <u>o</u> ol
	Change Tool Template
	Vie <u>w</u> Tool Template
\times	Delete Tool
Q	Eind a Tool
E	Certify
B	R <u>e</u> name "Departments"
	Delete Certificate

- 1) Left click on the **Departments** icon.
- 2) Right click on Rename Departments.

🜻 Rename	"Departments"	×
Singular :	Customer	
Plural :	Customers	
	K Cancel	

3) Enter required text and click **OK**.

Add Department (Customer)

- 1) Right click on the **Departments (Customers)** icon to show the drop down menu.
- 2) Left click on Add Department (Add Customer) from the drop down menu.





3) Type in your required Department (Customer) name or identification and press Return.





TIP: Departments (Customers) can also be added by right clicking on an existing Department (Customers) icon and selecting Add Department (Add Customer) from the drop down menu.

Rename Department (Customer)

1) Right click on the required Department (Customer) you wish to rename, and then left click on **Rename Department (Rename Customer)** on the drop down menu.



2) Type in the new Department (Customer) name or identification and press return.





Delete Department (Customer)

1) Right click on the required Department (Customer) you wish to delete.

Norbar Torque Certification Sy	Norbar Torque Certification System
Epefine Calibration Options Database View Wine	Define Calibration Options Database View Wind
i 🗙 🔎 📮 🔛 🖻 🛍 🍐 🛱 🍐 i 🐂 🗆 🗆	IX 🗶 🕞 🔛 🖻 🛱 🌢 🛱 🌢 I 🖿 🗆
Departments <u>Yiew Certificate</u> <u>Add Department <u>R</u>ename Department </u>	Customers Yiew Certificate Add Customer Rename Customer
Delete Department	Delete Customer
Set Department Name & Address	Set Customer Name & Address
Add Iool	Add Iool

2) Left click on **Delete Department (Delete Customer)** on the drop down menu.

If a Department (Customer) has Tools & data associated with it, you will see the following message.

Norbar	Norbar Torque Certification System 🛛 🛛 🔀					
\bigcirc	ote: this Department has tools within it. If you delete the Department then all tools and their data will also be deleted. re you sure you want to delete this Department?					
	Yes <u>No</u> <u>Cancel</u>					

3) Left click on the required option Yes, No or Cancel as required.

Set Name & Address for Department (Customer)

This will be added to any calibration certificates created for a Tool for that Department (Customer).

1) Right click on the Department (Customer) you wish to add an Address for.



2) Left click on **Set Department (Customer) Name & Address** on the drop down.

Name :	New Department	Name :	New Customer	
Address :		Address :		^
				~

3) Click in the Address space and type required text, then press **OK**.

Add Tool to a Department (Customer)

1) Right click on a Department (Customer) and left click on **Add Tool** from the drop down menu or left click on the **Add Tool** from the drop down menu or left click on the **Add Tool** from the drop down menu or left click on the **Add Tool** from the drop down menu or left click on the **Add Tool** from the drop down menu or left click on the **Add Tool** from the drop down menu or left click on the **Add Tool** from the drop down menu or left click on the **Add Tool** from the drop down menu or left click on the **Add Tool** from the drop down menu or left click on the **Add Tool** from the drop down menu or left click on the **Add Tool** from the drop down menu or left click on the **Add Tool** from the drop down menu or left click on the **Add Tool** from the drop down menu or left click on the **Add Tool** from the drop down menu or left click on the **Add Tool** from the drop down menu or left click on the **Add Tool** from the drop down menu or left click on the **Add Tool** from the drop down menu or left click on the **Add Tool** from the drop down menu or left click on the **Add Tool** from th



2) Enter the **Tool Serial Number** which could be entered with a bar code reader (not supplied).

🗣 Add Tool		X
Serial Number : Tool Template :	 11034 5 🗸]
ОК	Cancel	

3) Choose a **Tool Template** for the drop down menu to assign to that tool.

Add Tool			
Serial Number :	123456		
Tool Template :	11034	S 🗸	
ок	12012.01 12012.01.lbfft 12012.lbfft	SAR 1" 700-1500 N·m Industrial Torque Wrench SAR 1" 300-1000 lbf·ft Industrial Torque Wrench SAR 3/4" 300-1000 lbf·ft Industrial Torque Wrench	^
	13001 13002.bfin	Model 5 1/4" 10-50 lbf in Torque Wrench	
	13002.ib/iii 13003.kgfcm 13004	Model 5 1/4" 10-50 kgf cm Torque Wrench Model 5 P Type 1/4" 1-5 Nim Torque Wrench	
	13005.lbfin 13006.kgfcm	Model 5 P Type 1/4" 10-50 lbf in Torque Wrench Model 5 P Type 1/4" 10-50 kgf cm Torque Wrench	
	13010 13010.lbfft 13011	Model 60 3/8" 8-60 N·m Torque Wrench Model 60 3/8" 5-45 lbf·ft Torque Wrench Model 60 1/2" 8-60 N·m Torque Wrench	~

- 4) Press **OK** to add the Tool to the Department (Customer).
 - TIP: Tools and their associated certificates can be moved between Departments (Customers) by clicking on the Tool and holding down the left hand mouse button and dragging from one Department (Customer) to another, then releasing the left hand mouse button.

TOOLS

Expand the Departments (Customers) tree and right click on the required **Tool** and select the required option from the drop down menu. Alternatively left click on the short cut icon \checkmark on the TCS tool bar to Add a Tool.



Add Tool

The procedure for adding a tool is specified on page 17.

Rename Tool

- 1) Right click on the **Tool** you wish to **Rename** in the left hand tree structure.
- 2) Left click on **Rename Tool** on the drop down menu.



3) Type in required serial number and press Enter.



Change Tool Template

1) Right click on a **Tool** you wish to change the **Tool Template** for, to select that Tool.



2) Left click on **Change Tool Template** on the drop down menu.

Change Too	l Templa	te 🔀
Serial Number :	14002	
Tool Template :	14002.lbfft	M 💌
	14002.lbfft 14003	Model 1000 3/4" 220-750 lbf·ft Torque Wrench Addel 1000 1" 300-1000 N·m Torque Wrench
OK	14003.lbfft	Model 1000 1 220-750 lbf ft Torque Wrench
	14004	Model 1500 3/4" 500-1500 N·m Torque Wrench
	14004.lbfft	Model 1500 3/4" 370-1100 lbf ft Torque Wrench
	14005	Model 1500 1" 500-1500 N·m Torque Wrench
	14005.lbfft	Model 1500 1" 370-1100 lbf+ft Torque Wrench
	14006	Model 550 P Type 3/4" 110-550 N·m Torque Wrench
	14006.lbfft	Model 550 3/4" 80-400 lbf ft Torque Wrench
	14007	Model 1000 P Type 3/4" 300-1000 N·m Torque Wrench
	14007.lbfft	Model 1000 P Type 3/4" 220-750 lbf ft Torque Wrench
	14008	Model 1000 P Type 1" 300-1000 N·m Torque Wrench

- 3) Left click on the Tool Template drop down I, then left click on the required **Tool Template** to select it.
- 4) Press **OK** to finish.

View Tool Template

- 1) Right click on a **Tool** you wish to view the **Tool Template** for.
- 2) Left click on View Tool Template on the drop down menu.
- 3) Press **OK** to finish.

Scrap Tool

1) Right click the **Tool** in the left hand tree structure to show the drop down menu.



2) Select Scrap Tool and the tool will appear greyed out



 The tool will no longer be included in any lists (e.g. Tools requiring Recalibration list), but any tool data will be kept for future reference.

A tool can be 'Un-Scrapped' by selecting Scrap Tool from the drop down menu again.

Delete Tool

1) Right click on a **Tool** you wish to **delete** to select that Tool.



2) Left click on **Delete Tool.** The screen below will be shown if you have previously created certificates for that Tool.

Norb	ar Tor	que Certif	icatio 🔀
2	Deleting th	nis tool will delete a	ll test data for it.
\checkmark	Are you su	ire you want to del	lete this tool?
	<u>Y</u> es	No	Cancel

3) Left click on Yes, No or Cancel as required.

Find a Tool

1) Right click on Departments in the left hand tree structure, and then left click on **Find** on the drop down



2) Enter the **Tool Serial Number** and left click on **OK**.

🗣 Find a Tool	×
Tool Serial Number : 123456	
OK Cancel	

3) The required Tool will be highlighted in the left hand tree structure.



Tool Lists

1) Right click the **Departments** in the left hand tree structure to show the drop down menu.



2) Select List Tools and the Tool List will be displayed in the right pane.

Define Calibration Option				
🗙 🥕 📮 🔛 🖻 🛍 🍐 🕻	👌 🏐 🖷 🗏 🗓	Tool Serial Number	Model #	Description
Calibration	Calibration	23324	11066	SL1 Steel Knob 3/8" 8-54 N·m Torque Wrench
23324 (11066)	Calibration	34456	13053	Model 100 P Type 3/8" 20-100 N m Torque
34456 (13053)	Calibration	65587	16097	PT 1A 1200 N·m 1" sq.dr.
65587 (16097)	Production	12345	11034	SLO Steel Knob 3/8" 1-20 N·m Torque Wrench
Production	Production	56789	11035	SLO Steel Knob 3/8" Fixed Head 1-20 N·m To
12345 (11034) 44774 (18028) 56789 (11035)	Production	44774	18028	PT 5500 1 1/2" sq.dr.

3) The Tool List can be printed or copied.

Individual Department Tool Lists can be produced by right clicking the individual Department name and again selecting **List Tools**.

TOOL TEMPLATES

There are 2 variants of Tool Template – 'ISO 6789' for Torque Wrenches and Torque Screwdrivers and 'Other' Type Tool Templates for PneuTorques etc.

The Tool Template defines how the Conformance test or Calibration is to be performed i.e. how many set points and the number of readings at each set point.

TIP: To reduce the number of Tool Templates you have to scroll through, delete the ones you do not require.

Add Tool Template

 Left Click on the **Define** tab on the main title bar to show the dropdown menu and then left click on **Tool Templates**. Alternatively left click on the short cut icon on the TCS tool bar. The Tool Templates will be listed in the right hand pane.



2) The list of Tool Templates is shown below.

Define Calibration Opt	ions Data <u>b</u> ase <u>)</u>	<u>V</u> iew <u>W</u> indow E <u>x</u> it		
🔣 🕆 📕 🦧 🗐 🛱 📆	🛃 🚵 🍓 🍓	Description	1 <u>7</u>	
Test Lab	11034 11034.inlb	Add Template	Insert	-
654321 (11085)	11035 11035.inlb 11036	Modify Template Delete Template	Enter Delete	Wrench Jue Wrench
	11036.inlb	Refresh	F5	

3) Right click in the stored Tool Templates window and left click on the **Add Template** from the drop down menu.

Model # :	1					
Description :	-					
ТооІ Туре	ISO 6789	9 Type I Cla	ass A	•		
Rated Capacity :	0.000	N*n	n	•		
Set Points (%)	20	60	100	0	0	Default
Number of Tests	5					
Upper Limit	6	%				
Lower Limit	6	%				
End fitting length :		n	าท	•		
pected measurement	error		-			

- 4) From the 'Tool' tab enter the **Model #** and **Description** for the new tool
- 5) Select the **Tool Type** drop down **I** and select the Tool Template.

ISO 6789 Type I Class A 🛛 💌
ISO 6789 Type I Class A
ISO 6789 Type I Class B
ISO 6789 Type I Class C
ISO 6789 Type I Class D
ISO 6789 Type I Class E
ISO 6789 Type II Class A
ISO 6789 Type II Class B
ISO 6789 Type II Class C
ISO 6789 Type II Class D
ISO 6789 Type II Class E
ISO 6789 Type II Class F
ISO 6789 Type II Class G
Other

See page 33 for definition of ISO 6789 Hand Tool classes.

- 6) Enter the Rated Capacity and torque units.
- 7) Click in each of the Set Point (%) to change if required. The value can be up to 3 decimal places i.e. 26.087 for ISO 6789 & Other type Tool Templates. These must be entered incrementing from the smallest to the largest.
- 8) Enter **Number of Tests**. This is the number of readings taken at each Target value. This is greyed out for 'ISO 6789' Tool Types.
- 9) Enter **Upper Limit**. This is the Upper Calibration Limit and is a percentage of reading at each Set Point. This is greyed out for 'ISO 6789' Tool Types.
- 10) Enter **Lower Limit**. This is the Lower Calibration Limit and is a percentage of reading at each Set Point. This is greyed out for 'ISO 6789' Tool Types.
- 11) If the tool uses an interchangeable end fitting, enter the effective **End Fitting Length** and **Units** (mm or inch)
- Enter Expected measurement error. This is the expected maximum percentage error of reading for this model of tool. This is greyed out for 'Other' Tool Type.
- 13) Left click **OK** when finished.

Modify Tool Template

1) Left Click on the **Define** tab on the main title bar to show drop down menu, then left click on **Tool Templates**. Alternatively left click on the short cut icon 🕙 on the TCS tool bar.

Norbar Torque Certific	ation Syste	em - [Too	l Templates]		
Epine Calibration Options Datab	ase <u>V</u> iew <u>W</u> ind	low E <u>x</u> it			
i 🔇 🦧 🍙 🔛 i 🗟 🛍 🍥 🛍	B 8 0	🔲 🛈 🕼			
🖃 🌺 Departments	🔺 Model #	Description			
🖃 🕑 Daz E 🥕 🥕 123456 (13016)	11034 11034.inlb	SLO Sto SLO Sto	<u>A</u> dd Template	Insert	
E Certificates	11035 11035.inlb	SLO Sti 🔜	<u>M</u> odify Template	Enter	Wr ue '
2009/259849 (13001)	11036	SL0 16	<u>D</u> elete Template	Delete	ue
 	11036.inlb	SLO 16	Refresh	E5	

- 2) Right click on the **Tool Template** you wish to modify and left click on **Modify Template** from the drop down menu to show the 'Modify Tool Template' screen.
- 3) See Add Tool Template on page 24 for more information.
- 4) Make necessary changes and left click **OK**.

Delete Tool Template

- Left Click on the **Define** drop down on the main title bar and then left click on **Tool Templates**.
 Alternatively left click on the short cut icon in the TCS tool bar.
- 2) Right click on the **Tool Template** you wish to delete to show the drop down menu and left click on **Delete Template**.

Norbar Torque Certific	ation System - [Tool Temp	lates]
Kara Calibration Options Datab Kara Calibration Options Datab	oase View Window Exit	
🖃 🌺 Departments	Model # Description 13015.lbfft Model 300 45-220 lbf·ft T	orque Wrench
	13016 13016.lbf	wrench
 	13017 Image: Modify Template Entername 13017.lbfl Image: Modify Template Entername 13018 Image: Delete Template Delete	Wrench
i	13018.lbfl 13019 Refresh F	fift Toro 5 <mark>I Nim To</mark>

3) Left click on Yes, No or Cancel as required.



4) If a Tool Template has been assigned to a Tool, you will see the following message.



In this case you will have to delete the Tool first, see page 21 for more information.

TRANSDUCERS

Any transducers used for ISO 6789-1:2017 Conformances or non-ISO Calibrations should be added to the Transducer register.

Add Transducer

1. Select **Define** menu then select **Transducers** (or select).

Transducers are shown in the right hand pane.



A S...

Model Details Add Transducer Edit Transducer Delete Transducer

Norbar Torque Certification System - [Transducers]

Departments Sample Tool Supples 21145 (11034) Certificates Sample 32145 (11034) Certificates Sample 337951 (16011)

🛄 Define Calibration Options Database View Window Exit

2. Right click on a **Transducer** to show the drop down menu.

3. Select Add Transducer.

Fill in:-
Serial Number
Model
Calibration Certificate No./s
Capacity
Units
Transducer Uncertainty
Transducer Uncertainty Interval

The 2 uncertainty values should be the highest 'Expanded Uncertainty' and 'Uncertainty Interval' values from the certificate/s

Serial Number	55432
Serial Number	55432
Model	50593.LOG
Calibration Certificate (CW)	544213
Calibration Certificate (CCW)	
Capacity :	100 N·m 🔻
Transducer Uncertainty :	0.24
Transducer Uncertainty Interval :	0.36

Edit Transducer

- 1. Select the **Define** menu then select **Transducers** (or select **1**). Transducers are shown in the right hand pane.
- 2. Right click on a **Transducer** to show the drop down menu.
- 3. Select Edit Transducer.



4. The Edit Transducer screen is shown.

See Add Transducer section for more information.

Make required changes then select $\ensuremath{\text{OK}}$

Delete Transducer

1. Select the **Define** menu then select **Transducers** (or select **)**. Transducers are shown in the right hand pane.



- 2. Right click on a **Transducer** to show the drop down menu.
- 3. Select Delete Transducer.



4. Select Yes, No or Cancel.

MEASUREMENT DEVICES

Any measurement devices used for ISO 6789-1:2017 Conformances or non-ISO Calibrations should be added to the Measurement Device register.

Note: A measurement device can be a display instrument (e.g. a T-Box XL[™]), which connects to external transducers listed in the transducer register and can also be a self-contained device with its own display and integral transducer.

Add Measurement Device

1. Select **Define** menu then select **Measurement Devices**

(or select 📕).



Measurement devices are shown in the right hand pane.

2. Right click on the **Right Pane** to show the drop down menu.



3. Select Add Measurement Device.

Display devices (e.g. T-Box XL):-Fill in:-Serial Number Model Device Certificate number Device Uncertainty

All other fields should be left blank

Measurement Device		X
Serial Number	90350	
Model	43258	
Device Certificate :	445512	
Device Uncertainty :	0.14	
Integrated Transducer Certificate (CW)		
Integrated Transducer Certificate (CCW)		
Transducer Uncertainty :	0	
Transducer Uncertainty Interval :	0	
ОК	Cancel	

Display device with an integral transducer:-

(e.g. TST - Torque Screwdriver Tester) Fill in:-Serial Number Model Device Certificate number Device Uncertainty Integrated Transducer Certificates Number/s Transducer Uncertainty Transducer Uncertainty Interval

Neasurement Device	X
Serial Number	65478
Model	43213
Device Certificate :	213546
Device Uncertainty :	0.14
Integrated Transducer Certificate (CW)	654887
Integrated Transducer Certificate (CCW)	
Transducer Uncertainty :	0.21
Transducer Uncertainty Interval :	0.32
ОК	Cancel

Integrated System (e.g. Pro-Test):-Fill in:-Serial Number Model Integrated Transducer Certificates Number/s Transducer Uncertainty Transducer Uncertainty Interval

Measurement Device	X
Serial Number	54784
Model	43218
Device Certificate :	
Device Uncertainty :	0
Integrated Transducer Certificate (CW)	547214
Integrated Transducer Certificate (CCW)	
Transducer Uncertainty :	0.26
Transducer Uncertainty Interval :	0.38
ОК	Cancel

Edit Measurement Device

- Select the **Define** menu then select **Measurement Devices** (or select **I**). Measurement Devices are shown in the right hand pane.
- 2. Right click on a **Measurement Device** to show the drop down menu.
- 3. Select Edit Measurement Device.



4. The Edit Measurement Device screen is shown.

See Add Measurement Device section for more information.

Make required changes then select OK

Delete Measurement Device

- 1. Select the **Define** menu then select **Measurement Devices** (or select **I**). Measurement Devices are shown in the right hand pane.
- 2. Right click on a Measurement Device to show the drop down menu.



3. Select Delete Measurement Device.

Norbar Torque Certific	cation System	n 💻	X
Are you sure you	want to delete th	is Measurement Devic	e?
0			

4. Select Yes, No or Cancel.

HAND TORQUE TOOL CLASSIFICATION

The TCS tool templates conform to ISO 6789-1:2017 classifications for hand torque tools. A summary of the classifications are given below; for full details please refer to the ISO standard.

Tool Type I: Indicating torque tools (The torque exerted is indicated on scale, dial or display). Tool Type II: Setting torque tools (A signal is given when the pre-set torque value is met).

Туре	Class	Description	Example
1	A	Wrench, torsion or flexion bar	
	В	Wrench, rigid housing, with scale or dial or display	
	С	Wrench, rigid housing and electronic measurement	
	D	Screwdriver, with scale or dial or display	
	E	Screwdriver, with electronic measurement	
II	A	Wrench, adjustable, graduated or with display	
	В	Wrench, fixed adjustment	
	С	Wrench, adjustable, non- graduated	
	D	Screwdriver, adjustable, graduated or with display	
	Е	Screwdriver, fixed adjustment	
	F	Screwdriver, adjustable, non- graduated	
	G	Wrench, flexion bar, adjustable graduated	

Each TOOL TYPE has several classes to determine the measurement points, number of measurements & permissible deviation.

Туре	Class	Number of Set Points	Number of	Permissible Deviation (+/-%)	
			Measurements (at each point)	Max Torque Value <=10N⋅m	Max Torque Value >10N⋅m
I	А	3	5	6	6
	В	3	5	6	4
	С	3	5	6	4
	D	3	5	6	6
	Е	3	5	6	4
II	А	3	5	6	4
	В	1	10	6	4
	С	1	10	6	4
	D	3	5	6	6
	Е	1	10	6	6
	F	1	10	6	6
	G	3	5	6	6

TCS automatically calculates the limits to ISO 6789-1:2017 by the following method:

Example -

100 N·m Type II Class B with Permissible Deviation = $\pm 4\%$

Lower Limit = 96.0 N·m	(96 – 100)/100	= - 4%
Upper Limit = 104.0 N⋅m	(104 – 100)/100	= +4%
CALIBRATION MENU

Calibration Options

- Select Calibration menu then select Options (or select icon).
- 2. Select the **General** tab, this contains header information for all certificates.

The **Next Certificate Number** is generated automatically.

The **Standard** can be entered. This will be included on non-ISO certificates.

The **Company Name** and address (shown as **Header Line 1**, **2** and **3**) can be entered, these will appear at the top of the certificate.

The Quality Manager can be entered.

The **Always show signature text on certificate** will add "Signature" and an area to be signed.

The Laboratory Number can be added.

The Certificate Logo can be changed and position altered.

The **Accept Low Results as valid** option will allow a calibration certificate with low calibration results to be created.

3. Select the Serial tab.

This information is required to perform calibrations or conformances via RS232.

Select Serial Port to match the torque instrument.

Select Baud Rate to match the torque instrument.



Q Def	ine	<u>C</u> alibra	tion	Options	Data <u>b</u> as	e <u>V</u> ie	w <u>W</u> i	ndow	Exit
X 🕆		🗐 c	alibra <u>t</u> e	(via RS232	!) (Ctrl+T			
	epartm	C C	onforma	nce (via R	5232)		ion		
Ē.	Sam		ptions		c	trl+O	c 330 1		
	J UNK		st Tools	requiring <u>F</u>	<u>t</u> ecalibrati	ion	c 50 3/8		
	1	_		3505		Nortron	nic 50 1/2	= 5-50 M	I-m 015
				13505 13505.lbfft			nic 50 1/2 nic 50 1/2		
Calibration Of	ptions						State States		of•ft 915
Calibration Op	ptions						nic 50 1/2		

Always show signature text on Certificate Accept Low Results as valid

Change Preview

Position from top left of box (in centimetres) : From Left 0.10 X From Top 0.10

Width : 4.00

OK Cancel

Company Name Test House Calibrations

Header Line 1 : New Street

Header Line 2 : New Town Header Line 3 : Northamptonshire Quality Manager : JDK

Laboratory Number : 54321

Certificate Logo : Not Set 4. Select the Recalibration tab.

Select **Recalibration Frequency** to set specific value for the tool.

Select **Warn on recalibration required at** to set value for recalibration warning.



5. Select the **Text(1)** tab.

Use **Text(1)** to **Text(10)** to enter extra details that will appear on the calibration certificate.

Use the **Include This** option to include / exclude text as required.



List Tools Requiring Recalibration

Tools requiring re-calibration will be preceded by a warning symbol in the left hand tree structure) 🔔.

This symbol will only appear if the Recalibration Frequency has been specified in the Calibration Options settings and the last time the Tool was calibrated is less than the number specified on Warn on recalibration required at on the Calibration Options (see previous section).

- 1) Left click on the Calibration tab.
- 2) Left click on List Tools requiring Recalibration_on the drop down.



3) Double left click on a Tool in the right hand pane to highlight that Tool in the left hand pane.

Norbar Torque Certifica	tion System	- [Tools	Requirin	g Recalibration]
🛄 Define Calibration Options Databa	se <u>Vi</u> ew <u>W</u> indow	Exit		
□ Departments □ □ □ 123456 (13016) □ □ </td <td>Tool Serial Number 123456 14002 2009/259849 2009/259850 2009/259851 model 1500 pt14 pt2700 pt72/1500</td> <td>Department Daz Norbar Daz Daz Daz Naz Norbar Norbar Norbar Norbar</td> <td>Model # 13016 14002.lbfft 13001 13013 14005 14004.lbfft 16045.lbfft 18027 18021.lbfft</td> <td>Last Calibrated 13/04/2011 08:22:06 19/04/2011 08:19:33 07/04/2011 14:57:52 11/04/2011 12:44:34 13/04/2011 14:48:26 19/04/2011 08:21:12 19/04/2011 08:27:04 19/04/2011 08:24:40 19/04/2011 08:22:34</td>	Tool Serial Number 123456 14002 2009/259849 2009/259850 2009/259851 model 1500 pt14 pt2700 pt72/1500	Department Daz Norbar Daz Daz Daz Naz Norbar Norbar Norbar Norbar	Model # 13016 14002.lbfft 13001 13013 14005 14004.lbfft 16045.lbfft 18027 18021.lbfft	Last Calibrated 13/04/2011 08:22:06 19/04/2011 08:19:33 07/04/2011 14:57:52 11/04/2011 12:44:34 13/04/2011 14:48:26 19/04/2011 08:21:12 19/04/2011 08:27:04 19/04/2011 08:24:40 19/04/2011 08:22:34

TIP: The $^{\frown}$ symbol disappears when a certificate is generated.

4) If a recalibration period has been defined and some tools require recalibration you will see the following message when starting TCS.



5) Click OK to continue.

Calibrate (via RS232)

This option is for generation of non-ISO calibration certificates via the RS232 interface. Ensure the Calibration Options are set up correctly. Calibrate (via RS232) is only available for non-ISO tool types.

1. Select the tool to be calibrated, then select **Calibrate (via RS232)** from the right mouse button menu

	Readings			
Tool				
Serial Number	357951			
Type :	16011		•	
Rated Capacity :	680	N·m		
Measurement Range :	160.00 - 680.00 N·m			
Certificate				
Inspector :	JDK	•		
Number	(leave	blank to use the next		
Number			ot Specified	
	Clockwise Ocur	nter Clockwise 🛛 🔘 No		
	Clockwise Cour Cour Cour	iter Clockwise 🔘 No		
Direction :	20 °C	nter Clockwise 🔘 No		
Direction : Temperature	20 °C	tter Clockwise ○ No		



- 2. Select or Enter an **Inspector** (this must be entered).
- 3. Enter Certificate Number (if required).
- 4. Select **Direction** required
- 5. Enter the **Temperature** (in degrees C) that the calibration was performed (this must be entered).
- 6. Enter Certificate Text

Choose either **As Found** or **As Left** from the drop down or enter your own text.

7. If the same tool has other calibration data to put on the same certificate, press Select Results

This feature allows clockwise & anti-clockwise as well as 'as found' & 'as left' results to be included on the same certificate.

To add another calibration to the same certificate double click on the required results.

8. Select Equipment tab

Select the Measurement / Display Device Serial Number from the drop down list.

Select the Transducer Serial Number from the drop down list.

Note: If using the Measurement Devices integral transducer, leave Transducer Serial Number blank.

Check the current certificate numbers are correct and that the uncertainty values are correct. If not, correct them in the Measurement Device and Transducer registers.

ertificate Equipment	souther an address of the state		 	
easurement / Display D				
Serial Number	90350	-		
Model	43258	-		
Certificate :	112233			
Expanded Uncertainty :	0.14			
ransducer				
Serial Number	12345	•		
Model	50593.LOG	-		
Certificate :	222222			
Expanded Uncertainty :	0.25			
Uncertainty Interval :	0.37			

9. Select Readings tab

Press 'Start RS232 Capture' button

Perform calibration, sending readings via RS232

A reading can be deleted by pressing the 'Delete Last Reading' button

Certificate Equi	pment Re	adings					
Readings							
Torque							
160.00	N·m	0.00	0.00	0.00	0.00	0.00	
680.00	N'm	0.00	0.00	0.00	0.00	0.00	
				-			
Stop RS	232 Captur	e D	elete Last Rea	ding			
Stop RS	232 Captur	e D	elete Last Rea	ding			

If the entered temperature is below 18°C or above 28°C the following message will appear:-



Press 'Yes' to continue with the calibration or 'No' to abort the calibration.

Continue taking readings until the calibration is complete

Certificate	Equipment	Readings	
Readings			
Torqu	ie		
1	60.00 N°m	167.30 167.70 168.40 167.50	167.50
6	80.00 N°m	717.20 716.20 715.40 714.80	713.20
Sta	art RS232 Ca	ture Delete Last Reading	
Sta	art RS232 Ca	ture Delete Last Reading	
Sta	art RS232 Ca	ture Delete Last Reading	

10. Press 'Create Certificate' button

Note: Calibrate (via RS232) can only be used for non-ISO (Other) tool types.

		Certifica	te Numb	er:1				
Model :	16011		S	erial No :		35	7951	
Maximum Capacity :	680.0 N	m	Ir	spector :		JD	ĸ	
Date of Calibration : 08/08 As Found	8/2017							
Set Torque		Min	Max		Act	ual Readir	ngs	
	160.0	152.0	168.0	167.3	167.7	168.4*	167.5	16
3	680.0	646.0	714.0	717.2*	716.2*	715.4*	714.8*	71
MEASUREMENT SYSTE Measurement Device Mod Measurement Device Seri Measurement Device Cert Transducer Model : 50772 Transducer Serial No : 122	tel:43258 al No:90350 ificate:654984 LLOG 345							
Measurement Device Mod Measurement Device Seri Measurement Device Cert Transducer Model: 50772 Transducer Serial No: 122 Transducer Certificate: 32	lel:43258 al No:90350 ificate:654984 LOG 345 24567	ne measureme	nt svstem is	0.409%				
Measurement Device Mod Measurement Device Seri Measurement Device Cert Transducer Model: 50772	kel: 43258 al No: 90360 fficate: 654984 LLOG 345 24567 iinty interval of th							
Measurement Device Mod Measurement Device Seri Measurement Device Cert Transducer Model : 50772 Transducer Serial No : 122 Transducer Certificate : 32 The measurement uncerta	kel: 43258 al No: 90360 fficate: 654984 LLOG 345 24567 iinty interval of th							
Measurement Device Mod Measurement Device Seri Measurement Device Cert Transducer Model : 50772 Transducer Serial No : 122 Transducer Certificate : 32 The measurement uncerta	kel: 43258 al No: 90360 fficate: 654984 LLOG 345 24567 iinty interval of th							
Measurement Device Mod Measurement Device Seri Measurement Device Cert Transducer Model : 50772 Transducer Serial No : 122 Transducer Certificate : 32 The measurement uncerta	kel: 43258 al No: 90360 fficate: 654984 LLOG 345 24567 iinty interval of th							
Measurement Device Mod Measurement Device Seri Measurement Device Cert Transducer Model : 50772 Transducer Serial No : 122 Transducer Certificate : 32 The measurement uncerta	kel: 43258 al No: 90360 fficate: 654984 LLOG 345 24567 iinty interval of th							
Measurement Device Mod Measurement Device Seri Measurement Device Cert Transducer Model : 50772 Transducer Serial No : 122 Transducer Certificate : 32 The measurement uncerta	kel: 43258 al No: 90360 fficate: 654984 LLOG 345 24567 iinty interval of th							
Measurement Device Mod Measurement Device Seri Measurement Device Cert Transducer Model : 50772 Transducer Serial No : 122 Transducer Certificate : 32 The measurement uncerta	kel: 43258 al No: 90360 fficate: 654984 LLOG 345 24567 iinty interval of th							

Conformance (via RS232)

This option is for generation of declarations of conformance via the RS232 interface. Ensure the Calibration Options are set up correctly. Conformance (via RS232) is only available for ISO 6789 tool types.

1. Select the tool to be calibrated, then select

Conformance (via RS232) from the right mouse button menu

Certificate Equipment	Readings			
Fool				
Serial Number	32145			
Туре:	11034		-	
Rated Capacity :	20	N·m	•	
Measurement Range :	1.000 - 20.000 N·m			
Certificate				
Inspector :	JDK	•		
Number	(leav	e blank to use the ne	đ	
Direction :	Clockwise Cou	Inter Clockwise 🔘	Not Specified	
Temperature	20 °C			
Certificate Text :	As Found	•		



- 2. Select or Enter an Inspector (this must be entered).
- 3. Enter Certificate Number (if required).
- 4. Select Direction required
- 5. Enter the **Temperature** (in degrees C) that the conformance test was performed (this must be entered).
- 6. Enter Certificate Text

Choose either **As Found** or **As Left** from the drop down or enter your own text.

7. If the same tool has other conformance data to put on the same certificate, press Select Results

This feature allows clockwise & anti-clockwise as well as 'as found' & 'as left' results to be included on the same certificate.

To add another conformance test to the same certificate double click on the required results.

8. Select Equipment tab

Select the Measurement / Display Device Serial Number from the drop down list.

Select the Transducer Serial Number from the drop down list.

Check the current certificate numbers are correct and that the uncertainty values are correct. If not, correct them in the Measurement Device and Transducer registers.

Certificate	Equipment	Readings		
Measurem	ent / Display	Device		
S	eri <mark>al</mark> Number	90350	-	
	Model	43258	•	
	Certificate	112233		
Expanded	Uncertainty :	0.14		
Transduce	r			
s	erial Number	12345	•	
	Model	50593.LOG	•	
	Certificate	222222		
Expanded	Uncertainty :	0.25		
Uncerta	inty Interval	0.37		

9. Select Readings tab

Press 'Start RS232 Capture' button

Perform conformance test, sending readings via RS232

A reading can be deleted by pressing the 'Delete Last Reading' button

Readings	Readings					
Torque						
1.000 N·m	0.000	0.000	0.000	0.000	0.000	
12.000 N·m	0.000	0.000	0.000	0.000	0.000	
20.000 N·m	0.000	0.000	0.000	0.000	0.000	
Stop R5232 Capt	ure	elete Last Rea	ading			

If the measurement device and transducers uncertainty values are too high, the following message will appear:-

rque Certification System
e measurement systems measurement error is too high to test this torque tool to ISO6789-1:2017
<u>K</u>

Check the measurement device and transducer uncertainty values are correct.

The measurement systems maximum relative error can be no greater than ¹/₄ of the tools maximum permissible relative deviation.

The measurement systems maximum relative error is calculated by taking the transducers expanded uncertainty value from its uncertainty interval value.

The tools maximum permissible relative deviation uses the 'Expected measurement error' in the tool template. If this value is blank or is greater than the default maximum permissible relative deviation defined in ISO6789-1:2017 (section 5.1.5), the 'Upper Limit' and 'Lower Limit' values in the tool template will be used.

If the temperature entered is below 18°C or above 28°C the following message will appear:-



Check the correct temperature was entered.

10. Continue taking readings until the conformance test is complete

Certifica	ate Equipment	Readings					
Reading		J					
То	orque						
	1.000 N·m	1.008	1.013	1.019	1.028	1.057	
i T	12.000 N·m	12.026	12.030	12.044	11.862	11.720	
	20.000 N°m	19.136	19.324	20.437	20.763	21.035	
	Start RS232 Capi	ure	Delete Last Re	ading			

11. Press 'Create Certificate' button

		Declaratio	on Numb	oer : 41				
		ion Lab						
	11034 1.000 -	20.000 N·m		Serial No			57951 DK	
Date of Test : 18/07/2017 As Found				Direction :			С	lockwis
Set Torque		Min	Max	Acti		ual Readings		
	1.000	0.960	1.040	1.008	1.013	1.019	1.028	1.057
1:	2.000	11.520	12.480	12.026	12.030	12.044	11.862	11.72
2(0.000	19.200	20.800	19,136*	19.324	20.437	20,763	21.03
The maximum permissible de	viation	of ±4% is in a	ccordance				uctuate b	v more
The maximum permissible de The test was performed at an than ±1°C during the test. The Quality Manager : JDK	viation ambier maxim	of ±4% is in a temperature	ccordance between	18°C and	28°C and		luctuate b	y more
Out of tolerance readings are The maximum permissible de The test was performed at an than ±1°C during the test. The Quality Manager : JDK MEASUREMENT SYSTEM US Measurement Device Model : Measurement Device Serial N Measurement Device Certifica	viation ambier maxim SED 43258 lo : 903	of ±4% is in a t temperature um relative h	ccordance between	18°C and	28°C and		luctuate b	vy more
The maximum permissible de The test was performed at an than ±1°C during the test. The Quality Manager : JDK MEASUREMENT SYSTEM US Measurement Device Model : Measurement Device Certificat Transducer Serial No : 12345 Transducer Serial No : 12345 Transducer Serial No : 12345 Transducer Serial No : 12345	viation ambien maxim SED 43258 Io : 903 ate : 112 9G 22	of ±4% is in a t temperature um relative h 50 (233	e between umidity dic	18°C and I not exce	28°C and ed 90%	l did not fi		vy more
The maximum permissible de The test was performed at an than ±1°C during the test. The Quality Manager : JDK MEASUREMENT SYSTEM US Measurement Device Model : Measurement Device Serial No Measurement Device Certificate Transducer Model : 50593.LO Transducer Certificate : 22222 The measurement system use 6789-1:2017 Section 6.1 The maximum measurement 4	viation ambien maxim SED 43258 lo : 903 ate : 112 9G 22 ed for th error of	of ±4% is in a it temperature um relative h 50 1233 is conforman the measurer	ccordance between umidity dic	18°C and I not exce	28°C and ed 90%	i did not fi	of ISO	
The maximum permissible de The test was performed at an than ±1°C during the test. The Quality Manager : JDK MEASUREMENT SYSTEM US Measurement Device Serial N Measurement Device Serial N Measurement Device Certificat Transducer Serial No: 12345 Transducer Serial No: 12345 Transducer Serial No: 12345 Transducer Certificate: 22222 The measurement system use 6789-1:2017 Section 6.1 The maximum measurement of permissible relative deviation	viation ambien maxim SED 43258 lo : 903 ate : 112 9G 22 ed for th error of of the to	of ±4% is in a t t temperature um relative h 50 .233 is conforman the measurer orque tool	ce test cor nent syste	18°C and i not exce nplies with m does no	28°C and ed 90%	i did not fi	of ISO	
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CERTIFICATES

View Certificate

1) Click the + in front of the Certificate icon under a Tool on the left hand pane to expand the view and double left click the required Certificate icon to view that certificate. Alternatively select required

certificate in the left hand pane and left click the 🗾 icon on the TCS toolbar.



2) Left click on View Certificate on the drop down menu.

There are 2 types of certificate:-

- a. ISO 6789-1:2017 Declaration of Conformance
- b. Non-ISO Certificate of Calibration

They are formatted differently and contain different information depending on their requirements.

An ISO 6789 tool can only contain declarations of conformance under its 'certificates' folder. A Non-ISO 'Other' type tool can only contain non-ISO certificates of calibration under its 'certificates' folder.

ISO 6789-1:2017 Declarations of Conformance have additional statements which are required by the standard.

Calibration Services Ltd Calibration Street Labbw n CL12 3AB						1/1		
Certificate of Calibration Certificate Number : 3								
Model : Maximum Capacity :	16011 680.0 N∙i	m		erial No : spector :		35 JC	7951 X	
Date of Calibration : 08/08/20 As Found	017		2					
Set Torque		Min	Max		Act	ual Readi	ngs	
	160.0	152.0	168.0	163.6	163.6	173.2*	168.6*	167.0
	680.0	646.0	714.0	701.8	702.1	714.4*	709.6	705.3
Measurement Device Model : Measurement Device Serial N Measurement Device Certific: Transducer Model : 60772LC Transducer Serial No : 12345 Transducer Certificate : 32456 The measurement uncertainty	Transducer Certificate : 324567 The measurement uncertainty interval of the measurement system is 0.409% The uncertainties are for a confidence probability of not less than 95%.							

3) Left click on the Certificate to enlarge the view, press and hold down the CTRL key and left click on the certificate to reduce the view.

Delete Certificate

1) Click the + in front of the Certificate icon under a Tool on the left hand pane to expand the view and double left click the required Certificate icon to view that certificate. Alternatively select required

certificate in the left hand pane and left click the 尾 icon on the TCS toolbar.

🖲 Norbar Torq	ue Certification Syst	tem - [Certifica	te 14]	
Entry	<u>O</u> ptions Data <u>b</u> ase <u>V</u> iew <u>W</u>	indow E <u>x</u> it		
🔇 🥕 📮 🔛 📓	1 🛱 🌢 🛱 🌢 🗮 🗖 🗉 :	- 🗆 🔕 🕼		
■ A Departments ■ 0 Daz ■ 0 123456 (1 ■ 0 Employed Provide Control International Cont				,
	Yiew Certificate	Norbar	orque Tools	
⊕- <u>1</u> 2009/ ⊕- <u>1</u> 2009/ ⊕- <u>1</u> 2009/ ⊖	Delete Department			Certii c∉
⊡ <u>[</u>] 14002 ⊡ []] Ce [] ⊞[] model	Add <u>T</u> ool Rename T <u>o</u> ol Change Tool Te <u>m</u> plate	Customer : Address :	Daz More Dave	ton Pinkne <u>)</u> ntry
	Vie <u>w</u> Tool Template Delete Too <u>l</u>	Model :	North NN11 1301	I 3SF
Q 	 	Maximum Capaci		00 N.m
	Delete Certificate	Set Torqu	Je Min	М

2) Left click on **Delete Certificate** on the drop down menu.



3) Left click on Yes, No or Cancel as required.

OPTIONS

Change Certificate Language



This will change the language for all New and Archived Calibration Certificates.

- 1) Right click on **Options** on the TDMS tool bar.
- 2) Right click on Certificate Language.
- 3) Right click on the **desired language**.
 - TIP: Certificates that were opened to view before changing the Certificate Language will be shown in the language prior to the change. Close the certificate window and re-open to view the certificate in the chosen language.

Set Printer Margins

To ensure compatibility with different printers where printouts of certificates do not fit on the page:-

- 1) Left Click the **Options** tab.
- 2) Left click Set Printer Margins.



3) Click in each box and type in desired value.

Printer Margins	×
If your printer is printing over adjust these values. All va	
Extra left margin :	۵
Extra right margin :	0
Extra top margin :	0
Extra bottom margin :	0
OK	Cancel

DATABASE



Backup Database

All data can be backed up to a location specified by left clicking Database and then left clicking Backup. Type in the backup file name and left click save.



TIP: It is recommended that you regularly back up your database.

Restore Database

NOTE: If the database being restored is from a previous version of TCS (e.g. TCS version 1.1.1), it is important to Reload Standard Templates after the database is restored so that the Set Points are corrected for ISO 6789-1:2017.

Data can be restored from that location by left clicking Database and then left clicking Restore, select the backup file and then left click open. The following message will be displayed:-

Norbar Torque Certificatio	on System 🛛 🔁
Are you sure you want to restore the	database from file "C:\TCS backups\Norbar103.backup"? This will completely replace existing data.
	Yes No Cancel

NOTE: Clicking on Yes will overwrite the current database and all unsaved data will be lost.

Reload Standard Templates

Use this option to reload the Standard Norbar Tool Templates into TCS. These are built into TCS and this option can be particularly useful if a Tool Template has been deleted and is now required, or if you are restoring a database from an older version of TCS.

To Reload Standard Templates select Reload Standard Templates from the Database menu

VIEW



- 1) Left click **Refresh** to redraw the current window.
- Copy the data in the right hand pane and paste into another application such as Microsoft[®] Excel[®] or Word[®] etc. using Copy to Clipboard or Copy Selection to Clipboard by highlighting the required data.
- 3) The User can print data in the right hand pane using **Print** or **Print Selection** by highlighting the required data.

WINDOW

Left click the **Window** tab on the TCS toolbar, and then left click on desired window option. These options are intended for use when multiple windows are open so that they can be viewed simultaneously. These options can also be selected directly from the TCS toolbar.



CURRENTLY OPEN WINDOWS

This is shown on the bottom right of TCS.



Click on icon to go to currently open window

ABOUT TCS

Left click on the 10 icon on the TCS shortcut bar.

This will show the version number of the software.

	Norbar Torque Certification System
in Phar	Version 2.0.2
Norbar Torque Tools	Copyright © 2009-2017 Norbar Torque
	Tools, all rights reserved.
	This software is based in part on the work
www.norbar.com	of the Independant JPEG group and of the Freetype Team.

Left click **OK** to cancel.

Left click Database File... to show where the TCS database is stored. Left click OK to exit.



This is in a different location for Windows XP as shown below.



NOTE: For 64 bit versions, this may be shown as C:\ProgramData(x86)\TCS\NorbarTCS.sqlite

KEY TO SHORTCUT ICONS

These can be used for quick selection from the shortcut bar.

lcon	Shortcut To
2	Define Tool Templates (Ctrl+E)
Ċ	Define Transducers (Ctrl+D)
	Define Measurement Devices
*	Add Tool
E	Calibration (via RS232) (Ctrl+T)
	Conformance (via RS232)
M	Calibration Options (Ctrl+O)
¢	Refresh (F5)
Ē	Copy All to Clipboard
3	Print All
â	Copy Selection to Clipboard
-	Print Selection
2	Cascade Windows
	Tile Windows Horizontally
	Tile Windows Vertically
	Arrange Iconized Windows
	Close All Windows
0	About TCS
67	Exit TCS

TROUBLE SHOOTING

Problem	Likely Solutions
Calibrate and Conformance options are always greyed out	a) No valid Comm port has been selected in Calibration Options.
Norbar Torque Certification System - [Certificate 5] Define Calibration Options Database View Window	b) Newer computers may not be equipped with an RS232 port and this option will always be greyed out.
Departments Sample Tool Supplies Tool Supplies Certificat Add Department Rename Department Delete Department Calib Calib Calib Calib Calib Calibration Period Cilication Period Calibrate (via RS232)	In this case you can use an additional RS232 to USB converter. When you have installed the driver on your computer, use the Device Manager to confirm which COM port has been allocated to you converter. Select the same COM port (Serial Port) in the TCS Calibration Options. See page 10.
Calibration error message Norbar Torque Certification System Image: Constraint of the state of the sta	If this message box appears, change the set up options of the connected Instrument to remove the Time and Date from the serial output.
Calibration error message Norbar Torque Certification System Image: Constraint of the state of the sta	If this message box appears, the connected Instrument's measurement units are different to the tool being calibrated
COM port error Norbar Torque Certif 🔀 Unable to open serial port COM12.	Ensure your RS232 to USB converter is still plugged in and active.

UNINSTALLING TCS

Go to Control Panel – Programs and Features– Select Norbar TCS version X.X.X – Click 'Uninstall'

For Windows XP go to the control panel – Add or Remove Programs – select Norbar TCS Version x.x – click 'Remove' NOTE:

Control Panel Home View installed updates	Uninstall or change a program				
Turn Windows features on or	To uninstall a program, select it from the list and then	click Uninstall, Change, or Repair.			
off	Organize 🔻 Uninstall				⊞ • (
Install a program from the network	Name	Publisher	Installed On	Size	Version
	 Adobe Flash Player 10 ActiveX Adobe Reader 9.1.3 DeskUpdate 4.11 Microsoft .NET Framework 4 Client Profile Microsoft .NET Framework 4 Extended Microsoft Visual C++ 2005 Redistributable Microsoft Visual C++ 2008 Redistributable - KB24671 Microsoft Visual C++ 2008 Redistributable - x86 9.0.3 Norbar TCS version 1.0 Realtek High Definition Audio Driver SystemDiagnostics 	Adobe Systems Incorporated Adobe Systems Incorporated Fujitsu Technology Solutions Microsoft Corporation Microsoft Corporation Microsoft Corporation Microsoft Corporation Microsoft Corporation Microsoft Corporation Norbar Torque Tools Ltd. Realtek Semiconductor Corp. Fujitsu Technology Solutions	27/04/2011 27/04/2011 27/04/2011 27/04/2011 27/04/2011 27/04/2011 27/04/2011 27/04/2011 27/04/2011 27/04/2011	598 KB 596 KB 7.67 MB	4.11.0074 4.0.30319 4.0.30319 3.0.40624.0 8.0.59193 9.0.30729.5570 9.0.30729.4148
		11			

Left click 'Yes' to confirm you want to un-install TCS.

Norbar TCS Uninstall	
Are you sure you want to completely remove Norbar TCS and all of its components?	
<u>Y</u> es <u>N</u> o]
Norbar TCS Uninstall	
ОК	



NORBAR TORQUE TOOLS LTD

Wildmere Road, Banbury, Oxfordshire, OX16 3JU UNITED KINGDOM Tel + 44 (0)1295 270333 Email enquiry@norbar.com



NORBAR TORQUE TOOLS 45–47 Raglan Avenue, Edwardstown, SA 5039 AUSTRALIA Tel + 61 (0)8 8292 9777 Email enquiry@norbar.com.au



NORBAR TORQUE TOOLS INC 36400 Biltmore Place, Willoughby, Ohio, 44094 USA

Tel + 1 866 667 2279 Email inquiry@norbar.us



NORBAR TORQUE TOOLS PTE LTD

194 Pandan Loop #07-20 Pantech Business Hub SINGAPORE 128383 Tel + 65 6841 1371 Email enquires@norbar.sg



NORBAR TORQUE TOOLS (SHANGHAI) LTD

91 Building-7F, No.1122 North Qinzhou Rd, Xuhui District, Shanghai CHINA 201103 Tel + 86 21 6145 0368 Email sales@norbar.com.cn



NORBAR TORQUE TOOLS INDIA PVT. LTD

Plot No A-168, Khairne Industrial Area, Thane Belapur Road, Mahape, Navi Mumbai – 400 709 INDIA Tel + 91 22 2778 8480 Email enquiry@norbar.in

www.norbar.com