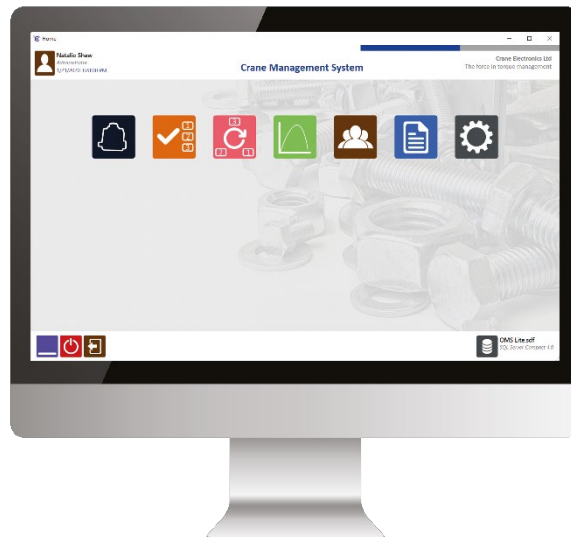


Operators Manual

OMS Lite Torque Software

Manual Issue 1 Crane Electronics Ltd



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ADDRESS

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ABOUT THIS MANUAL

This manual covers the operation of OMS Lite torque software, being operated in conjunction with a series of our torque transducers and wrenches, as well as external tooling, for demonstration purposes only.



Actual screenshots represented in this manual may differ slightly from those on the actual OMS Lite software, depending on the version.

For information on the operation of one of our digital torque wrenches or torque transducers, please refer to their own manuals.

Software version: OMS Lite torque software v3.0

PACKING LIST

The following items are supplied for the **OMS Lite** software.

- 1 x OMS Lite installation CD ROM with Operators Manual
- OR:
- 1 x A5 OMS Lite flyer with software download code (Operators Manual available with download)

PRODUCT CODE

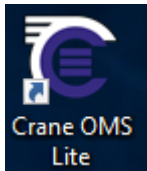
OMS Lite - OMSL1-0001-CRXXXX

MINIMUM PC AND OS REQUIREMENTS

The user must ensure that their machine operates with Windows 10 software to properly run OMS Lite software. Minimum required .Net version is 4.7.

GETTING STARTED

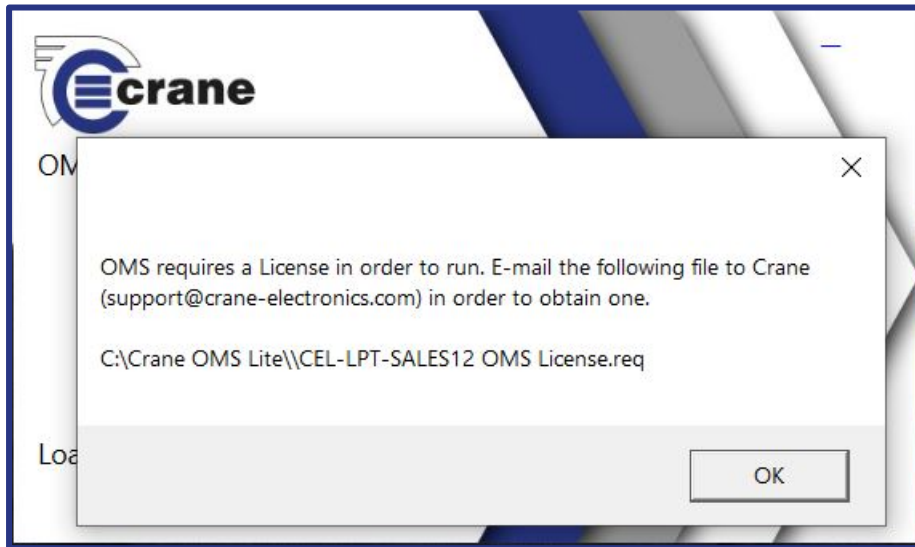
Once installed on your machine, double-click on the Crane OMS Lite icon on your desktop.



You will be warned if another instance of OMS is already running.



On starting the programme, you will see the above 'splash screen' showing the relevant version number.

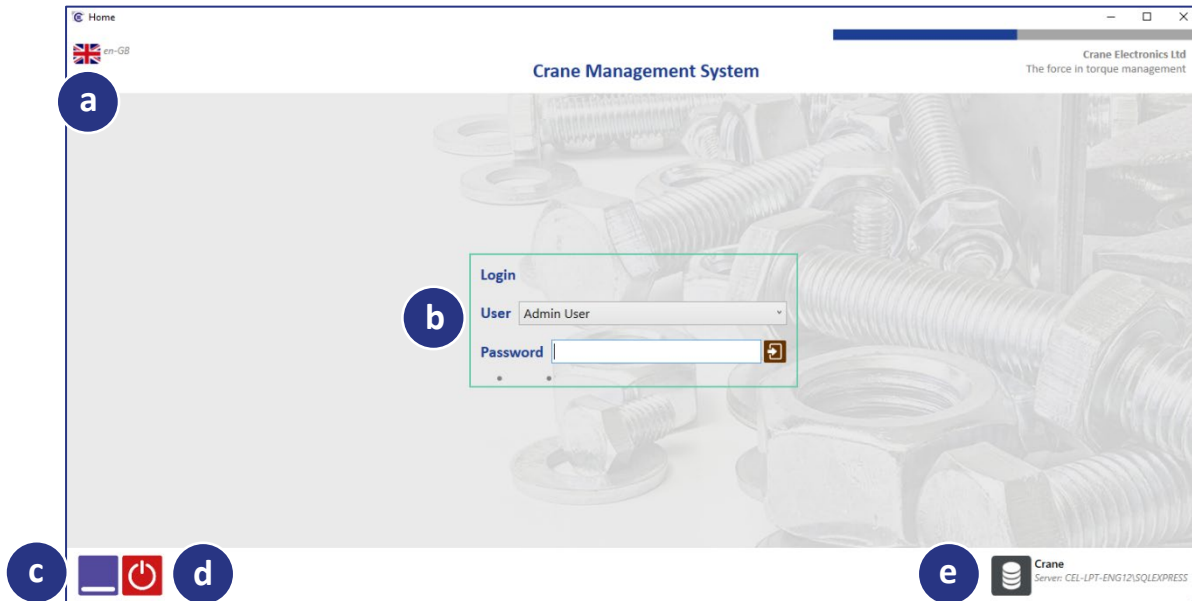


The first time you load and launch OMS Lite, the screen above will appear if you have not yet activated your OMS Lite license(s).

When you first purchase OMS Lite, to activate you license(s) please email support@crane-electronics.com and send the file located at the following drive location C:\Crane OMS Lite\\(Your PC name) OMS License.req.

This file is only accessible once OMS Lite has been installed on to your PC.

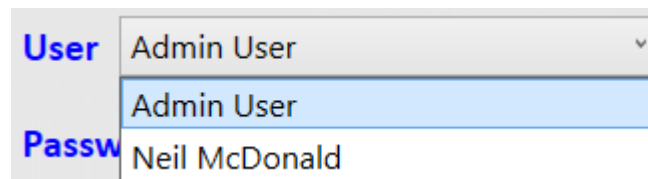
This license request file will allow us to verify and activate your license.



The first screen you will see is the login screen as above.

a – The language setting is shown in the top left-hand corner and is chosen in the ‘Settings’ section.

b – Choose the user from the drop-down list. The users are set up in the ‘User’ section (see later in manual).



- Enter password and click the ‘Enter’ icon
- If ‘Admin User’ is selected, the default password is ‘admin’ (all lower case)

c – Minimise window.

d – Exit program.

e – The current selected database is shown (chosen in ‘Settings’).

Home Screen



After successful login you will enter the 'Home' screen.

- a – 'Transducers' function.
- b – 'Jobs' function.
- c – 'Rounds' function.
- d – 'Traces' function.
- e – 'Users' function.
- f – 'Reports' function.
- g – 'Settings' function.
- h – Minimise window.
- i – Exit program.
- j – Return to login screen (so you can login as another user).
- k – The current database is shown (chosen in 'Settings').
- l – Information about who is logged in and their user rights.

USERS



Crane Electronics Ltd
The Force in Torque Management

Login Date	Last Login Time
26/11/2019	10:36:55

2 - All records displayed. Move mouse over Col

Current Obsolete

On pressing the 'User' function icon, you will enter the above screen.

- a** – Create a new user.
- b** – Enter a name for the user (middle name is not an essential field).
- c** – Enter a password for the user (this password is for using this programme).
- d** – If a barcode device is connected to the PC, then it can be used to scan the user's ID into the programme.
- e** – Defines a 'User Group' (see below)
- f** – If ticked, the user is an 'Administrator' for the programme and has full access rights.
- g** – Data collectors (audit devices) have separate usernames and passwords and these can be defined here.

User Groups

The screenshot shows a software window titled 'User' with a close button in the top right. The window header includes the Crane Electronics Ltd logo and tagline. Below the header are two tabs: 'User Details' and 'User Group Details'. The 'User Group Details' tab is selected. The form contains the following elements:

- a**: 'User Group Details' tab.
- b**: 'User Group Name' dropdown menu with a '+' button.
- c**: 'Transducer' dropdown menu.
- d**: 'Jobs / Rounds' dropdown menu.
- e**: 'Reports' dropdown menu.
- f**: 'Custom Lists' dropdown menu.

All dropdown menus currently display 'No Access'. At the bottom of the form, there are two red buttons: a home icon and a back icon, followed by an 'Obsolete' checkbox.

a – 'User Group Details' tab.

b – Select the chosen group name from the drop-down menu or add and save a new group name.

c – Select the access level the group has to the transducers: 'No Access', 'Read Only', 'Perform Operation', 'Full Access'.

d – Select the access level the group has to the job/rounds: 'No Access', 'Read Only', 'Perform Operation', 'Full Access'.

e – Select the access level the group has to the reports: 'No Access', 'Read Only', 'Perform Operation', 'Full Access'.

f – Select the access level the group has to the custom Lists: 'No Access', 'Read Only', 'Perform Operation', 'Full Access'.

TRANSDUCERS



C Number	Manufacturer	Model Number	Serial Number	Days To Next Calibration	Days To Next Verification
Crane			123456		

1 - All records displayed. Move mouse over Column Header and click on Filter symbol to add/edit filters

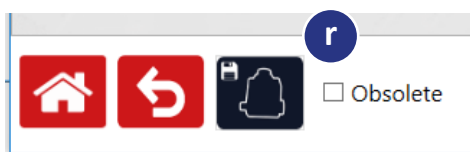
Current **h**
 Obsolete

On pressing the 'Transducer' function icon, you will enter the above screen.

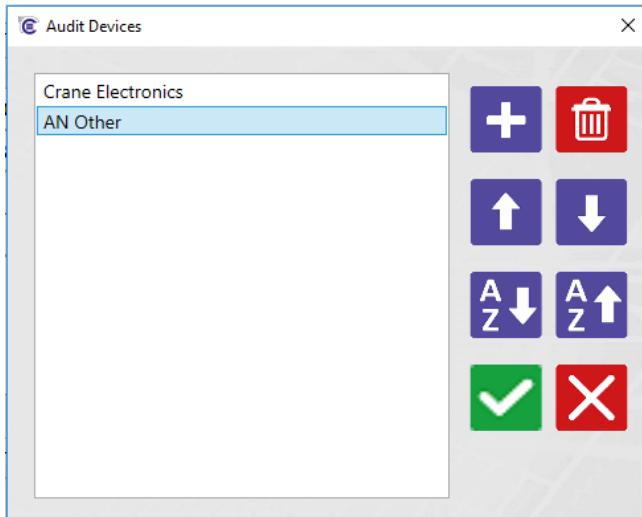
- a** – Return to home screen.
- b** – Add new record (in this case add a new transducer).
- c** – Copy selected record (saves time having to re-enter common details).
- d** – Edit record.
- e** – Swapping a transducer.
- f** – Print the transducer list.
- g** – Round task list (this is where a user can create rounds defined to a specific data collector; for example, the TorqueStar Pro or TorqueStar Opta).
- h** – Records are set as either 'Current' or 'Obsolete'. If the 'Obsolete' radar button is ticked, then archived records will be displayed.
- i** – Clicking on the grid header allows 2 functions:
 - (left click) filtering of rows to allow search for specific records.
 - (right click) customisation of columns.

Add Transducer

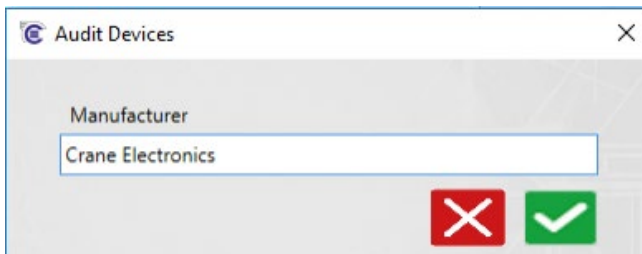
- a** – If you wish to create or edit a transducer record, press the ‘Add Transducer’ icon and you will get the transducer edit screen.
- b** – There are 2 tabs for transducer details with the most important information shown first. The screen above currently shows the first tab.
- c** – The C number is a unique number assigned to each transducer record. It cannot be duplicated for other transducer records.
 - The form highlights with red borders those fields that must be entered or contain a bad value. Until all these fields are filled in with valid values then you will not be allowed to save. If the fields have valid values then the Save icon **r** will appear as below (see also page 13):



- d** – This is the manufacturer’s serial number.
- e** – To help filtering you can assign a manufacturer’s name from a pre-defined list. You can go to the manufacturer’s form by clicking on ‘Manufacturer’ link. You will see:



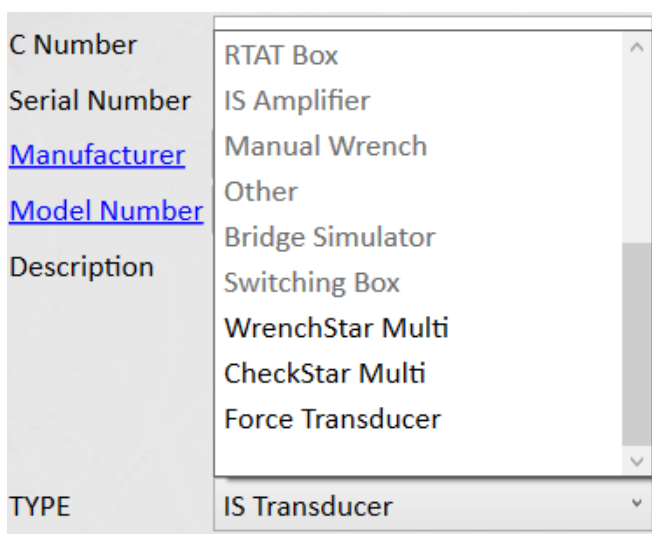
Here you can select the manufacturer from the pre-defined list, or select the plus icon ('+') to add a new manufacturer.



f – To help filtering you can assign a model from a pre-defined list. You can go to the model's form by clicking on the 'Model' link.

g – The description of the transducer, for example the size of the shaft, ¼", ½", etc., is entered here.

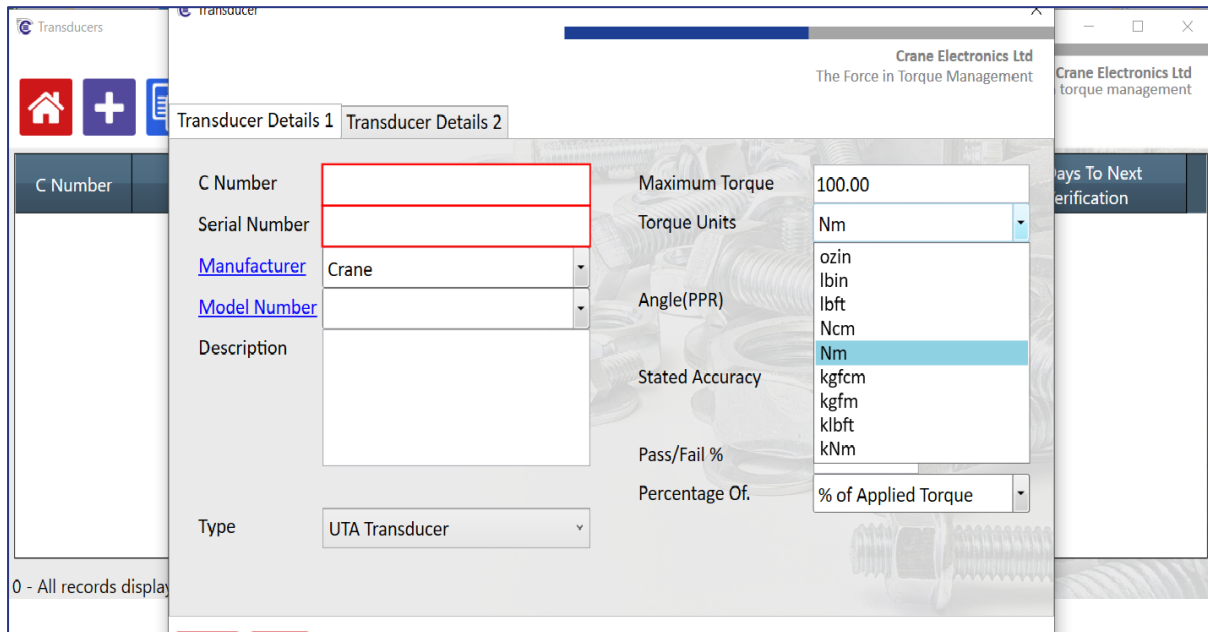
h – The transducer type is selected from a list:



- The types that are greyed out cannot be selected.
- Depending on the type chosen, the fields shown on the right-hand side of the transducers screen can change.

i – The maximum torque of a transducer is also known as the span or ‘Full-Scale Deflection’ (FSD). It should have a value between 1.0000 and 8000.0.

j – Torque units:



k – The angle property of transducer is normally stated in PPR (Pulses Per Revolution).

- If the transducer does not support angle then PPR = 0.

l – ‘Stated Accuracy’ is for information only.

m – Pass/fail criteria of calibrations (currently information only).

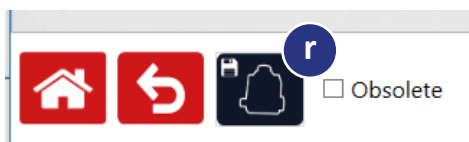
n – Same as ‘m’ above.

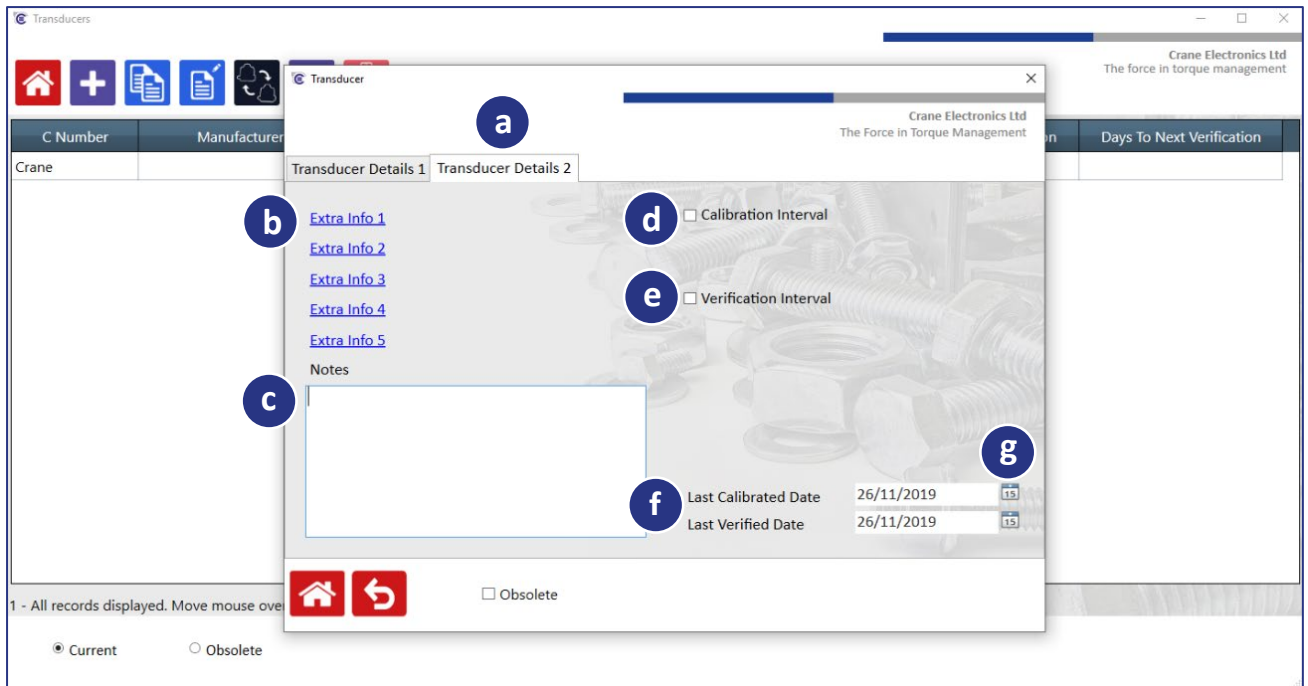
o – Returns to the main home screen.

p – Returns to the ‘Transducer’ screen.

q – If a transducer is made obsolete by checking the obsolete checkbox it can still be accessed via OMS Lite by clicking the obsolete radio button. Same as with jobs and rounds.

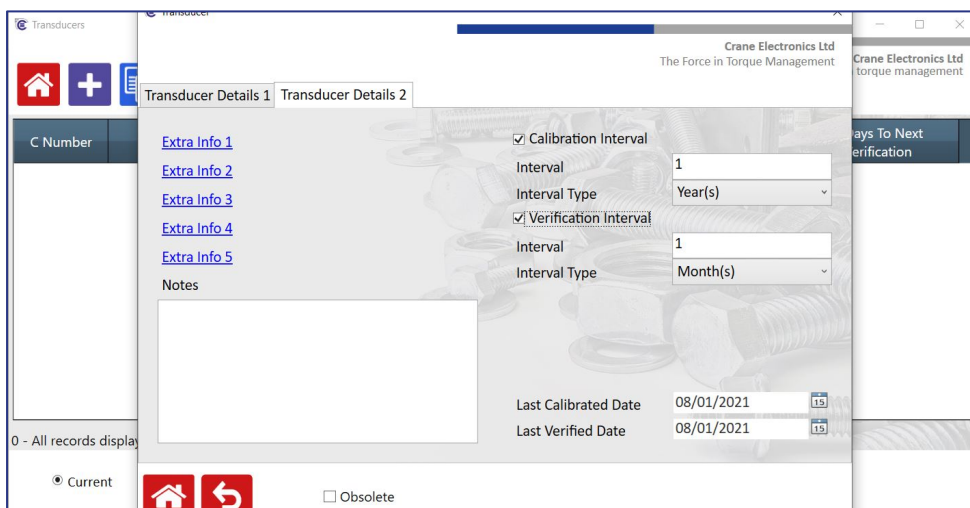
r - When sufficient transducer details have been added, a ‘Save Transducer’ icon will appear.





- a** – Additional information can be filled in on the second tab, ‘Transducer Details 2’.
- b** – There are five extra information fields available for the user to define their own headers (optional).
- c** – This section is available to add a text description (optional).
- d/e** – When using a transducer, the user can decide that it needs to be checked at regular intervals. We allow two such intervals to be defined: a ‘Calibration Interval’ and a ‘Verification Interval’. For example, the calibration interval may be used once a year to do a full check on the transducer, whereas the verification interval may be for a simple check that happens every few weeks.

If either of the interval boxes are ticked, then a duration value and a duration unit (day, week, month, year) will be displayed, like so:



- f** – This is where you would enter the last calibrated date of the transducer.
- g** – The calendar icon selects the calendar field in order to select a date.

Swap Transducer

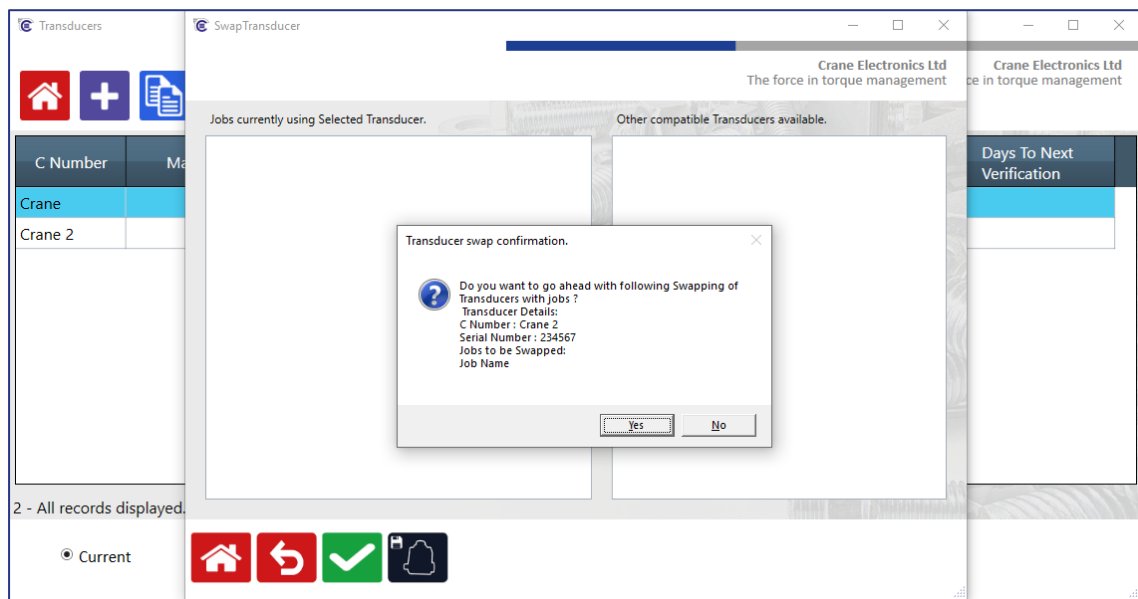
9 - All records displayed. Move mouse over Column Header and click on Filter symbol to add/edit filters

Current Obsolete

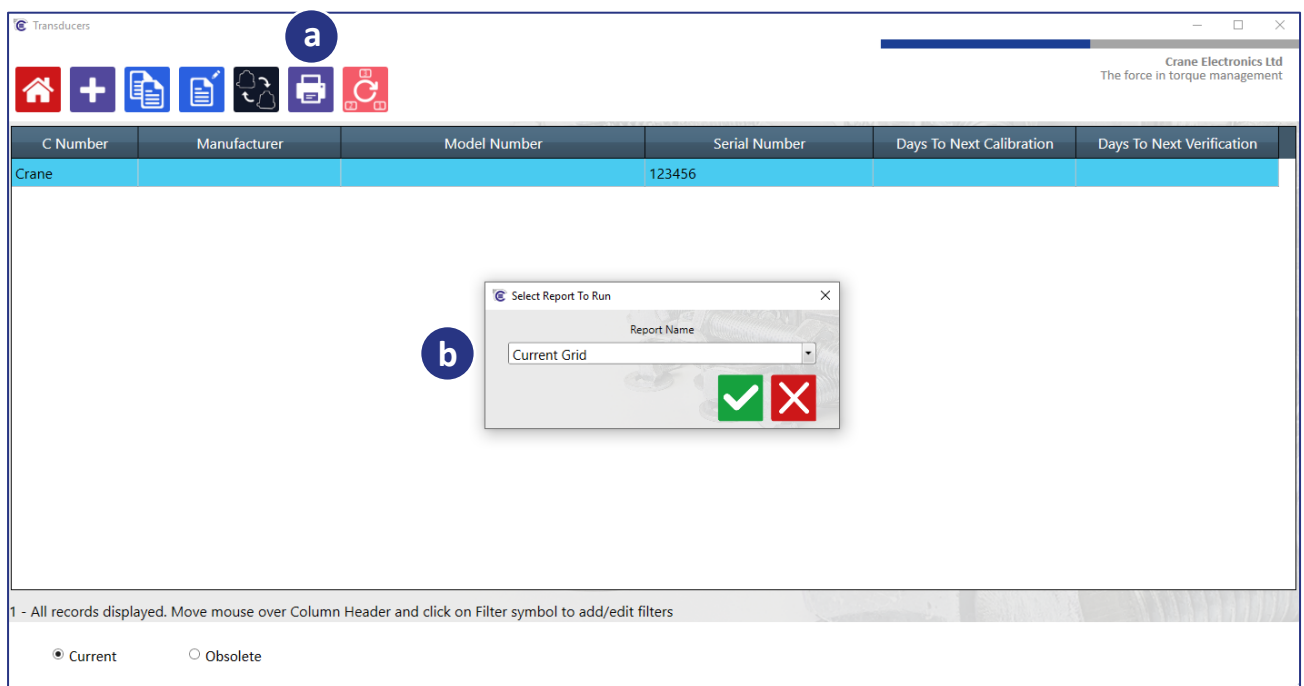
a – ‘Swap Transducer’ – if a job has been attached to a specific transducer but this is then sent to be repaired or calibrated, then a user can easily swap all jobs attached to that transducer to another transducer that will replace it. See the following two screens for reference:

1. Select transducer to be swapped:

2. Click 'Save'



Print Transducer List



a – The 'Print' icon will print out the current list of transducers as displayed.

b – The 'Current Grid' refers to the list of transducer details displayed (C Number, Manufacturer, etc.) and will print this information if the green tick icon is clicked.

Customising the Grid

C Number	Manufacturer	Model Number	Serial Number	Days To Next	Days To Next
50nm					Verification
100					
150					
C001	Crane Electronics				

C Number ↑ ↑ ↓ ↓ 10

Manufacturer ↑ ↑ ↓ ↓ 0

Model Number ↑ ↑ ↓ ↓ 24

Serial Number ↑ ↑ ↓ ↓ 18

Days To Next Calibration ↑ ↑ ↓ ↓ 0

Days To Next Verification ↑ ↑ ↓ ↓ 0

Filter

ID Number

Type

Maximum Torque

Torque Units

Calibration Factor

4 - All records displayed. Move mouse over Column Head

On the main 'Transducer' screen, when you right-click on the column header it allows you to customise the grid.

- a** – The ticked names are the list of headers that are displayed. Unticking a name removes it from display.
- b** – Headers can be added to display by ticking the relevant box.
- c** – The position of a header can be adjusted by clicking the arrow.
- d** – The width of a header can be fixed. If it is 0, then the display automatically adjusts.
 - Clicking outside the header edit form will allow you to apply the changes or cancel.
 - If there is not enough room to display all the headers then a horizontal scroll bar will appear at bottom of the form.

JOBS



Crane Electronics Ltd
The force in torque management

Job Name	Job Description	Measurement Mode	Last Audited Date	Last Audited By
----------	-----------------	------------------	-------------------	-----------------

0 - All records displayed. Move mouse over Column Header and click on Filter symbol to add/edit filters

Current Obsolete

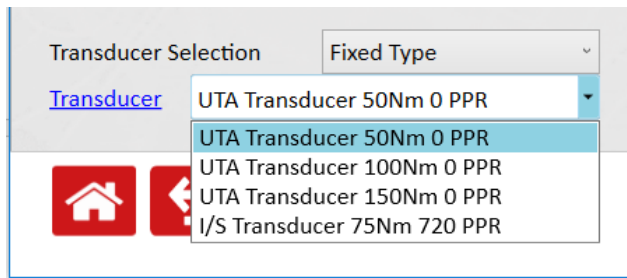
OMS Lite.sdf
SQL Server Compact 4.0

On pressing the 'Job' function icon, you will enter the above screen.

- a** – Return to home screen.
- b** – Add new record (in this case add a new job).
- c** – Copy selected record (saves time having to re-enter common details).
- d** – Edit record.
- e** – View a job.
- f** – Print the job list.
- g** – Download jobs to a data collector.
- h** – Upload job results to a data collector.
- i** – Records are set as either current or obsolete. If the obsolete radar button is ticked, then archived records will be displayed.

Create New Job/Edit Job

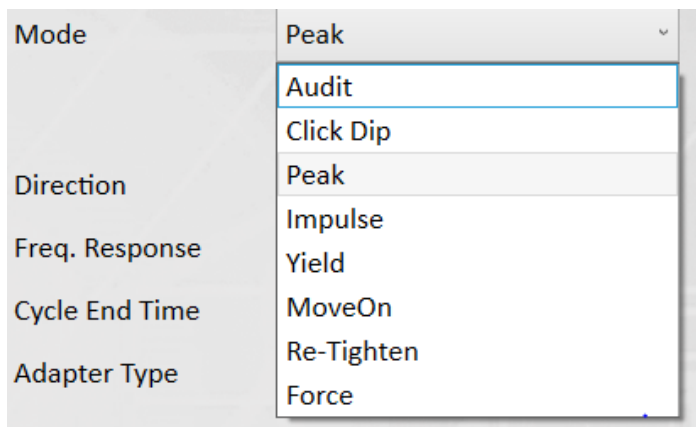
- a** – If you wish to create or edit a job record, press the ‘Add Job’ icon and you will get the ‘Job Edit’ screen.
- b** – There are 4 tabs for Job details with most important information shown on ‘Job Details 1’ and ‘Joint Details 1’. ‘Job Details 2’ is for extra information.
 - Job details are ‘how’ the fastening will be tested.
 - Joint details are the properties of the fastening (the ‘what’)
- c** – The job name must be filled in and must be unique.
- d** – Text description of the job (optional).
- e** – Number of readings (samples) that can be taken per subgroup. It can have a value from 1 up to 50.
- f** – Number of subgroups in a job. It has a maximum value of 200 which is set in global settings.
- g** – This field is for entering details about the engineer who defined the joint (optional).
- h** – Some jobs can be defined as more important, for example, urgent or critical, than others (optional).
- i** – Used in conjunction with transducer selection when transducer mode is fixed type.
 - If the transducer mode is ‘any appropriate’ then any transducer can be used with the job and at the point of use, it will check transducer span against job limits (e.g., $\text{Span} \geq \text{USL}$ and $10\% \text{Span} \leq \text{LSL}$), and if it needs to support angle.
 - If the transducer mode is ‘fixed’ type, then the transducer used must match: ‘Transducer Type’ (e.g., UTA, IS, CheckStar Multi, Wrench), ‘Span’, ‘PPR’ and ‘Transducer Units’.
 - If the transducer mode is ‘specific device’ then the transducer serial number must match.



j – Used when you wish to specify a data collector for a job, for example, in conjunction with a specific TorqueStar or IQWrench2 Opta

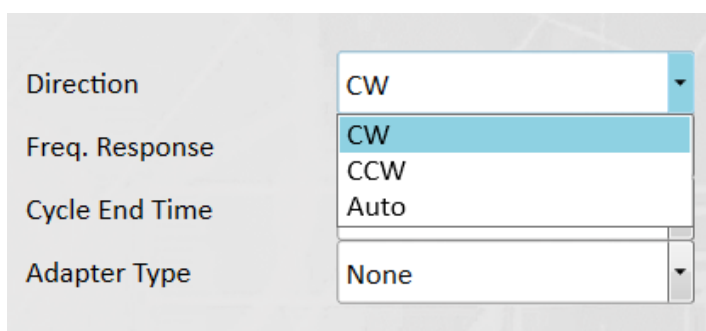
k – Transducer selection generates a set of rules for choosing a transducer when the job is executed in a data collector.

l – Select measurement mode from the drop-down list as per the image below:

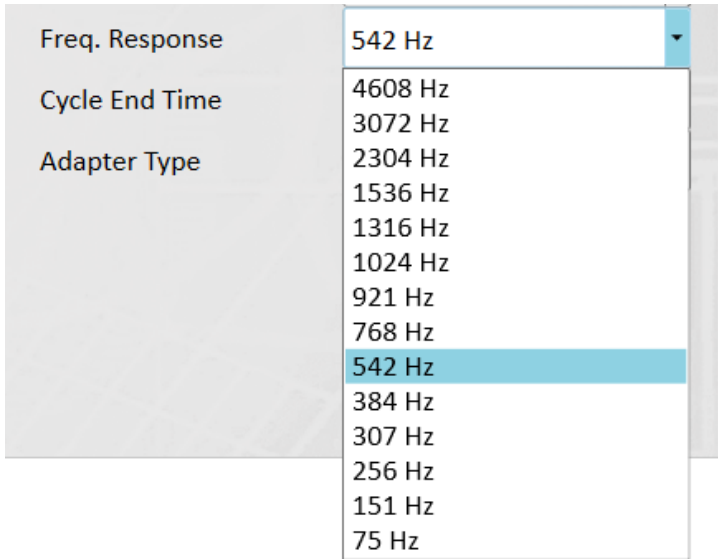


m – Select direction from the drop-down list.

- CW = clockwise.
- CCW = counter clockwise.
- Auto = allows both directions and can only be used in peak measurement mode.

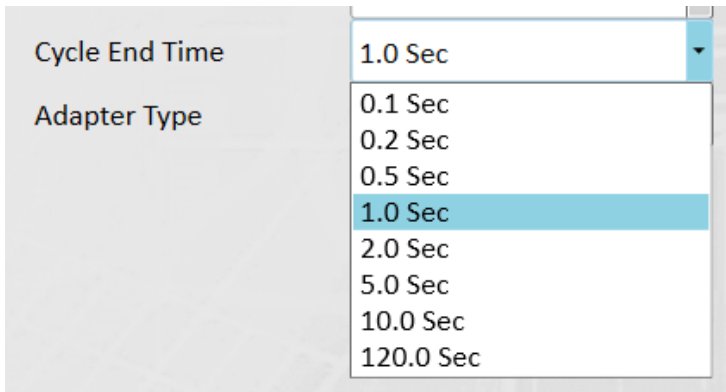


n – Select the frequency response from the drop-down list (example below). This is the low pass filter cut-off frequency value used in the data collector when measuring torque. This is typically set to 542 Hz for direct drive tools and click tools, but impulse tools will need a higher value. The tool manufacturer should recommend a value, but if they don't, we suggest 1536 Hz as a starting point:



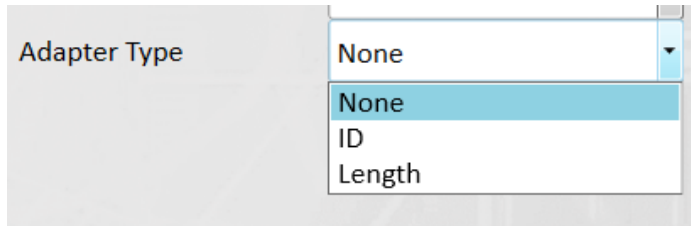
o – Select the 'Cycle End Time' from the drop-down list (example below).

The cycle end time defines the duration the data collector waits after the torque signal has dropped below threshold before finishing the cycle. If ratcheting is being used, it is usually set to a higher figure to allow time for the ratchet to reset (usually from 2-10secs). The 120-second cycle end time is designed for production tightening. It was developed for production ratchet applications where the torque will drop to zero a number of times in a single cycle. The 120-second cycle end time allows the cycle to stay open until the completion of the tightening (when the torque goes above LSL) and the required peak torque is achieved at which point the cycle end time is shortened.



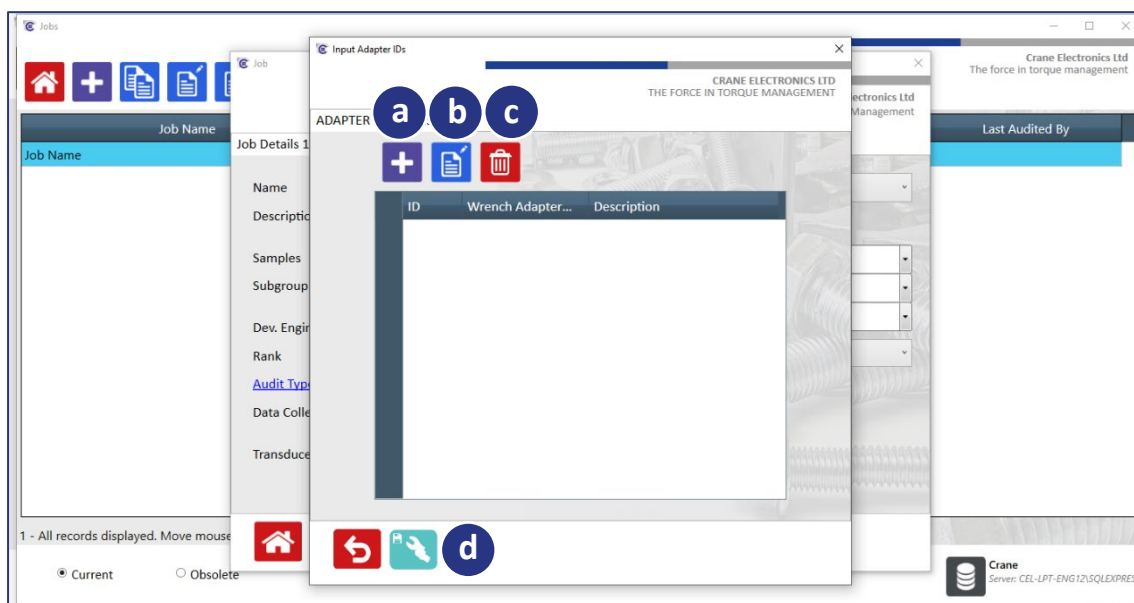
p – This is used with wrenches (example below). Crane wrenches can identify the adapter inserted into their head. This adapter contains two bits of information: an ID and a length compensation.

- If ID is specified, then the job can only be performed if the adapter with that specific ID is inserted into the wrench.
- If length is specified, then the wrench calculates a compensation factor for the extra length of the adapter.



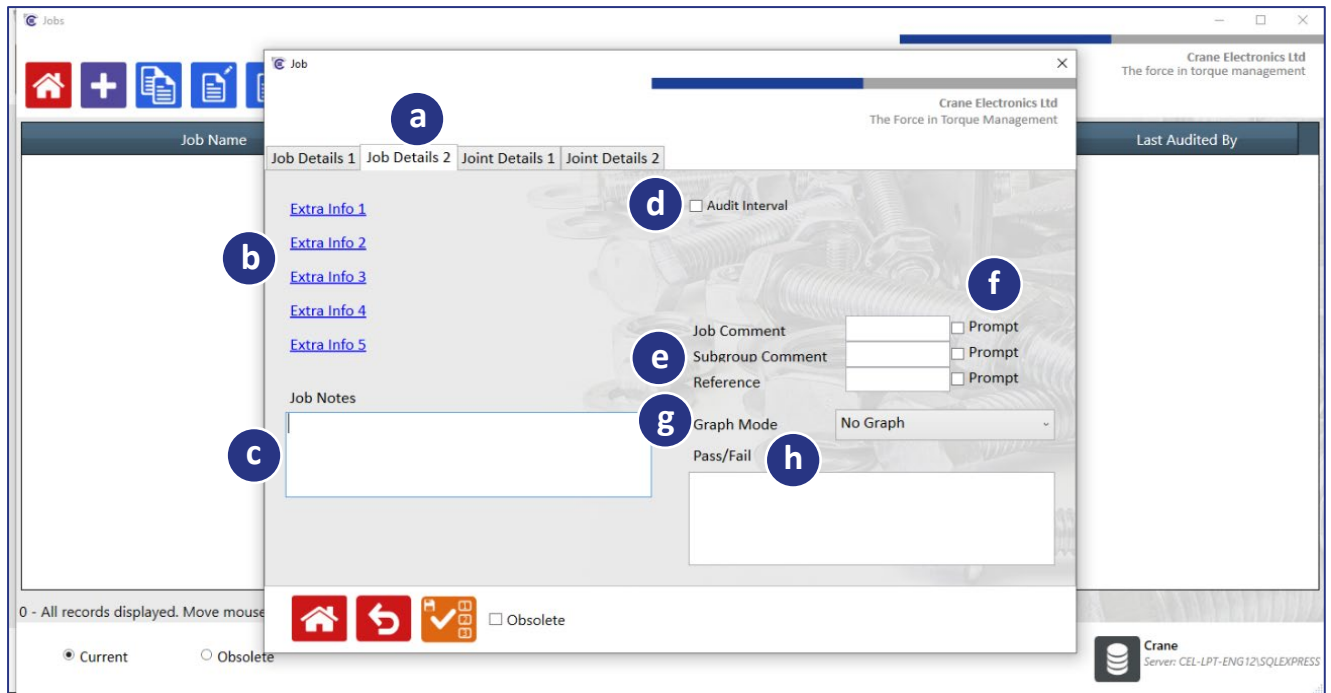
q – ‘Save Job’ (if you do not press this icon before exiting the screen, then the details will revert to the previous details saved and any changes will be lost).

Input Adapter IDs



This will only be used if the job is intended for a wrench transducer – the job will then look to make sure an adapter is fitted onto the wrench and matches the details set.

- a – Add an ID.
- b – Edit an existing ID.
- c – Delete an ID.
- d – Save changes.



a – ‘Job Details 2’ tab.

b – There are five extra information fields available for the user to define their own headers (optional).

c – Job notes (optional).

d – Once ticked the user can then set an audit run-through date of that job. This can be set to days, weeks, years. The job is then highlighted red, green or amber depending on the date set and what thresholds are set in working shift settings.

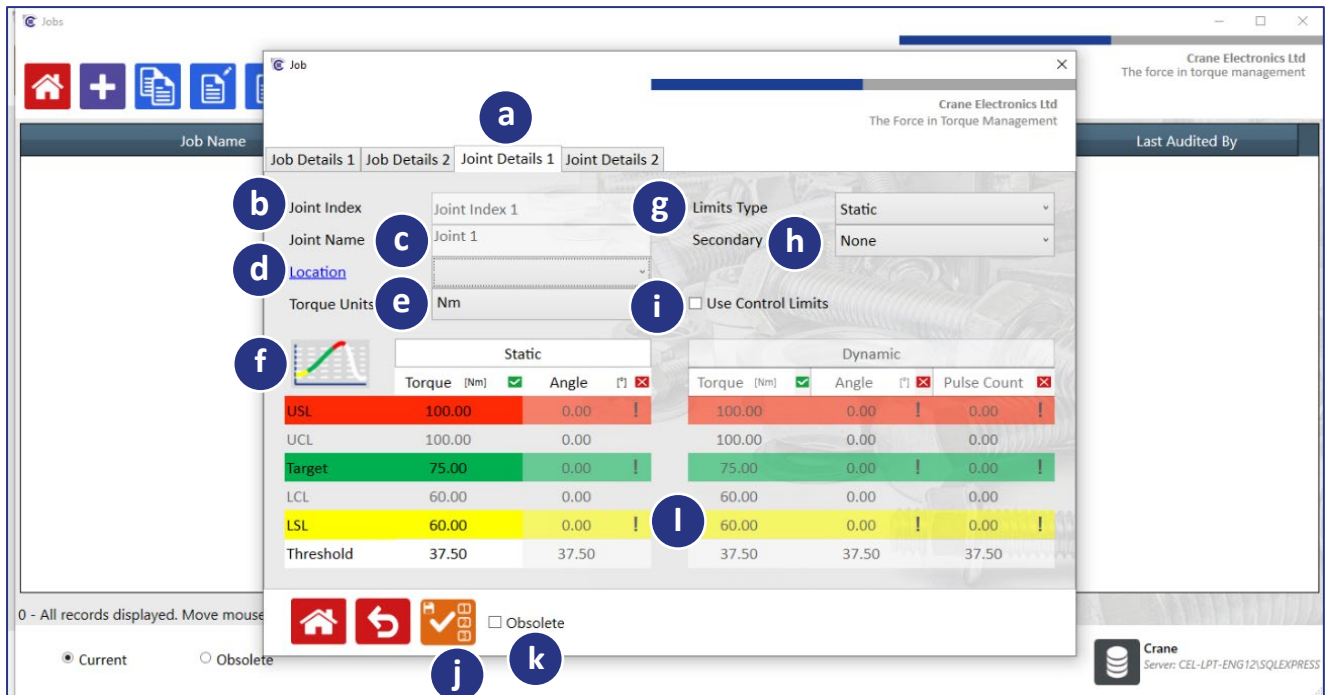
e – There are three types of comment that can be assigned to jobs as results are taken:

- ‘Job Comment’ will be a single piece of text which can be attached to the job., e.g., the VIN number of a vehicle could be applied in this field.
- ‘Subgroup Comments’ can be assigned to each subgroup in a job. For example, a part number used for the tightening
- The ‘Reference’ is similar to the ‘Subgroup Comments’, but is an extra field to add additional information related to the subgroup.
- They can each be up to 30 characters long.

f – If the ‘Prompt’ box is ticked when the subgroup (and/or job) is used, then the data collector will prompt the user to enter the comment.

g – User can decide on when a graph is stored. For example, only bad readings or all readings.

h – Criteria for ‘Pass/Fail’ of the job user selectable (not yet implemented).



a – ‘Joint Details 1’ tab.

b – A unique index for the joint in the database.

c – A unique name for the joint.

d – Location where the joint is used in the factory (optional).

e – Torque units.

f – Alternate between a tabular format (as shown above) and a graphical format for displaying the limits.

g – Two different limits can be specified: dynamic or static. (Dynamic could be used for rotary tools and static could be used for wrenches, for example.)

h – The primary value is typically torque. The secondary value can be specified as none, angle or pulse, and will depend on the measurement mode selected in ‘Job Details’.

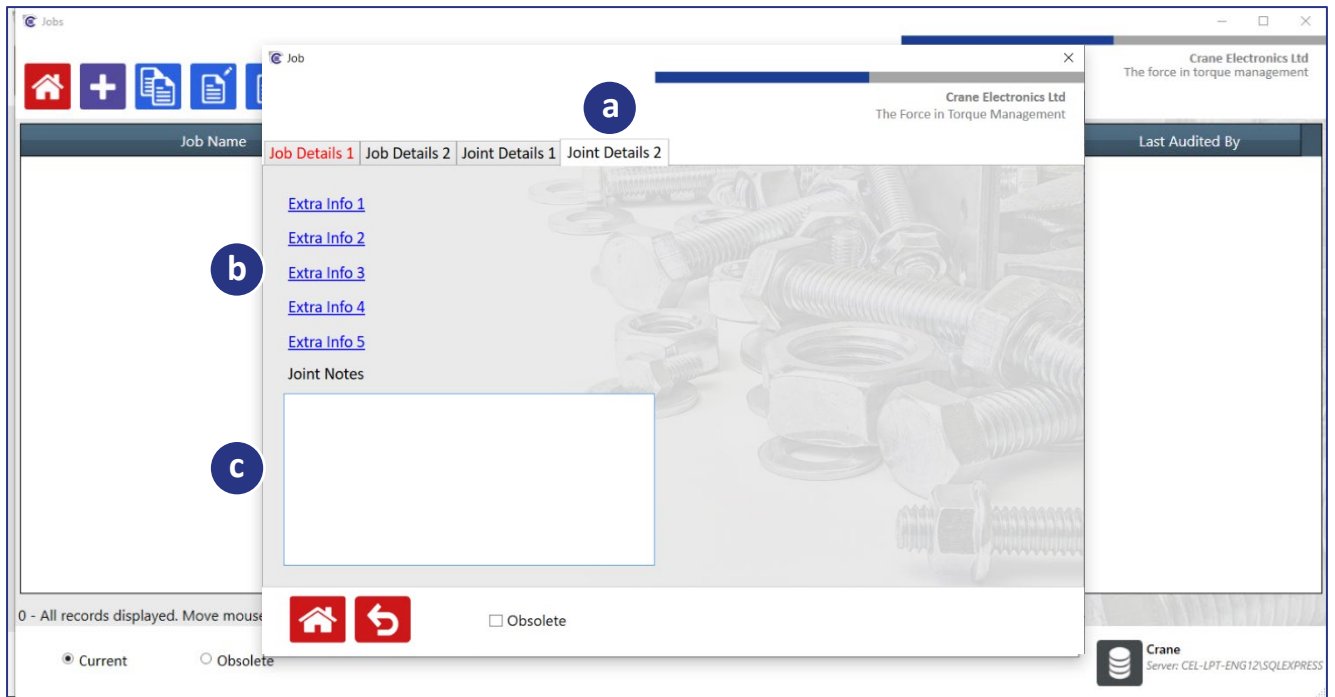
i – If the ‘Use Control Limits’ tick box is ticked, then control limits will be available for selection and defined on the tabular format below.

- USL = Upper Spec Limit.
- UCL = Upper Control Limit.
- LCL = Lower Control Limit.
- LSL = Lower Spec Limit.

j – The ‘Save’ icon will only appear if correct values are used.

k – You can define a job as obsolete by ticking this box (archiving the job within the database).

l – The rule for the values is as follows: Threshold < LSL <= LCL < Target < UCL <= USL (if an incorrect value is requested, then a ‘!’ will appear against the value).



a – ‘Joint Details 2’ tab.

b – There are five extra information fields available for the user to define their own headers (optional).

c – Here the user can add notes about the joint.

Download Jobs

Job Name	Job Description	Measurement Mode	Last Audited Date	Last Audited By
Formal 1		Peak	03/11/2020	
Formal 2		Audit	21/09/2020	
Formal 3			10/09/2020	
Formal 4			10/09/2020	
Formal 5			21/09/2020	
Formal 6			21/09/2020	
Formal 7			10/09/2020	
Formal 8				
Formal 9			21/09/2020	
IQW-2				
JJ				

11 - All records displayed. Move mouse over Column Header and click on Filter symbol to add/edit filters

Current
 Obsolete

formal
Server: CEL-LPT-ENG1ZASQLEXPRESS

a – Download jobs.

b – Jobs that have been selected.

c – Search for jobs.

d – Select jobs to be downloaded to device.

e – Refresh job list – if a job has already been downloaded to the device but an edit has been made to that job, tick this to refresh jobs on device.

f – Selects all jobs to be downloaded.

g – Removes all jobs selected to be downloaded.

h – Download jobs.

i – Cancel.

Job Name	Job Description	Measurement Mode	Last Audited Date	Last Audited By
Formal 1		Peak	03/11/2020	
Formal 2		Audit	21/09/2020	
Formal 3		Click Dip	10/09/2020	
Formal 4		Impulse	10/09/2020	
Formal 5		Yield	21/09/2020	
Formal 6		MoveOn	21/09/2020	
Formal 7			10/09/2020	
Formal 8				
Formal 9			21/09/2020	
IQW-2				
JJ				

Information
Transfer Complete
OK

11 - All records displayed. Move mouse over Column Header and click on Filter symbol to add/edit filters

Current
 Obsolete

formal Server: CEL-LPT-ENG12\SQLEXPRESS

Upload Jobs

Job Name	Job Description	Measurement Mode	Last Audited Date	Last Audited By
Formal 1		Peak	23/03/2021	
Formal 2		Audit	22/03/2021	
Formal 3		Click Dip	22/03/2021	
Formal 4		Impulse	22/03/2021	
Formal 5		Yield	23/03/2021	
Formal 6		MoveOn	23/03/2021	
Formal 7		Re-Tighten	10/09/2020	
Formal 8		Force		
Formal 9		MoveOn Advanced	23/03/2021	
IQW-2		Peak	01/02/2021	Jessie Farrell
JJ		Peak		
MOA 1		MoveOn Advanced	22/03/2021	
MOA 2		MoveOn Advanced		
MOA 3		MoveOn Advanced	22/03/2021	
MOA 4		MoveOn Advanced	22/03/2021	

15 - All records displayed. Move mouse over Column Header and click on Filter symbol to add/edit filters

Current
 Obsolete

formal Server: CEL-LPT-ENG12\SQLEXPRESS

a – Upload Jobs.

Job Name	Job Description	Measurement Mode	Last Audited Date	Last Audited By
Formal 1		Peak	23/03/2021	
Formal 2			22/03/2021	
Formal 3			22/03/2021	
Formal 4			22/03/2021	
Formal 5			23/03/2021	
Formal 6			23/03/2021	
Formal 7			10/09/2020	
Formal 8				
Formal 9			23/03/2021	
IQW-2			01/02/2021	Jessie Farrell
JJ				
MOA 1			22/03/2021	
MOA 2				
MOA 3			22/03/2021	
MOA 4			22/03/2021	

15 - All records displayed. Move mouse over Column Header and click on Filter symbol to add/edit filters

Current Obsolete

formal
Server: CEL-LPT-ENG12\SQLEXPRESS

a – Current jobs on OMS Lite.

b – Available jobs on the readout to be uploaded.

c – Quick selection. ‘All’ jobs or ‘None’.

d – Ticking the ‘Delete Jobs from Device’ deletes the jobs from the readout. If left unticked, it will remove all the data and traces from the job, but leave the job on the readout.

e – Confirm the selected settings.

f – Cancel.

Job Name	Job Description	Measurement Mode	Last Audited Date	Last Audited By
Formal 1		Peak	23/03/2021	
Formal 2		Audit	22/03/2021	
Formal 3			22/03/2021	
Formal 4			22/03/2021	
Formal 5			23/03/2021	
Formal 6			23/03/2021	
Formal 7			10/09/2020	
Formal 8				
Formal 9			23/03/2021	
IQW-2			01/02/2021	Jessie Farrell
JJ				
MOA 1			22/03/2021	
MOA 2				
MOA 3			22/03/2021	
MOA 4			22/03/2021	

15 - All records displayed. Move mouse over Column Header and click on Filter symbol to add/edit filters

Current Obsolete

formal Server: CEL-LPT-ENG12\SQLEXPRESS

If traces are enabled, this will be the next pop-up screen that will appear.

- a – Tick the relevant boxes to select the traces required.
- b – Quick selection. ‘All’ traces or ‘None’.
- c – Confirm the selected settings.
- d – Cancel.

Job Name	Job Description	Measurement Mode	Last Audited Date	Last Audited By
Formal 1		Peak	23/03/2021	
Formal 2		Audit	22/03/2021	
Formal 3		Click Dip	22/03/2021	
Formal 4		Impulse	22/03/2021	
Formal 5		Yield	23/03/2021	
Formal 6		MoveOn	23/03/2021	
Formal 7		De-Tinker	10/09/2020	
Formal 8				
Formal 9			23/03/2021	
IQW-2			01/02/2021	Jessie Farrell
JJ		Peak		
MOA 1		MoveOn Advanced	22/03/2021	
MOA 2		MoveOn Advanced		
MOA 3		MoveOn Advanced	22/03/2021	
MOA 4		MoveOn Advanced	22/03/2021	

15 - All records displayed. Move mouse over Column Header and click on Filter symbol to add/edit filters

Current Obsolete

formal Server: CEL-LPT-ENG12\SQLEXPRESS

- a – Uploading data from the readout to OMS Lite.

Job Name	Job Description	Measurement Mode	Last Audited Date	Last Audited By
Formal 1		Peak	23/03/2021	
Formal 2		Audit	22/03/2021	
Formal 3		Click Dip	22/03/2021	
Formal 4		Impulse	22/03/2021	
Formal 5		Yield	23/03/2021	
Formal 6		MoveOn	23/03/2021	
Formal 7		MoveOn	10/09/2020	
Formal 8		MoveOn	23/03/2021	
Formal 9		MoveOn	23/03/2021	
IQW-2		MoveOn	01/02/2021	Jessie Farrell
JJ		MoveOn	22/03/2021	
MOA 1		MoveOn Advanced	22/03/2021	
MOA 2		MoveOn Advanced	22/03/2021	
MOA 3		MoveOn Advanced	22/03/2021	
MOA 4		MoveOn Advanced	22/03/2021	

15 - All records displayed. Move mouse over Column Header and click on Filter symbol to add/edit filters

Current Obsolete

formal Server: CEL-LPT-ENG12\SQLEXPRESS

a – ‘Transfer Complete’ pop-up will appear to notify the upload. Click OK.

Print Jobs

Job Name	Job Description	Measurement Mode	Last Audited Date	Last Audited By
Job Name	Job description	Peak		

1 - All records displayed. Move mouse over Column Header and click on Filter symbol to add/edit filters

Current Obsolete

Crane Server: CEL-LPT-ENG12\SQLEXPRESS

- a** – Print.
- b** – Drop down of available report templates.
- c** – Confirm print.
- d** – Cancel.

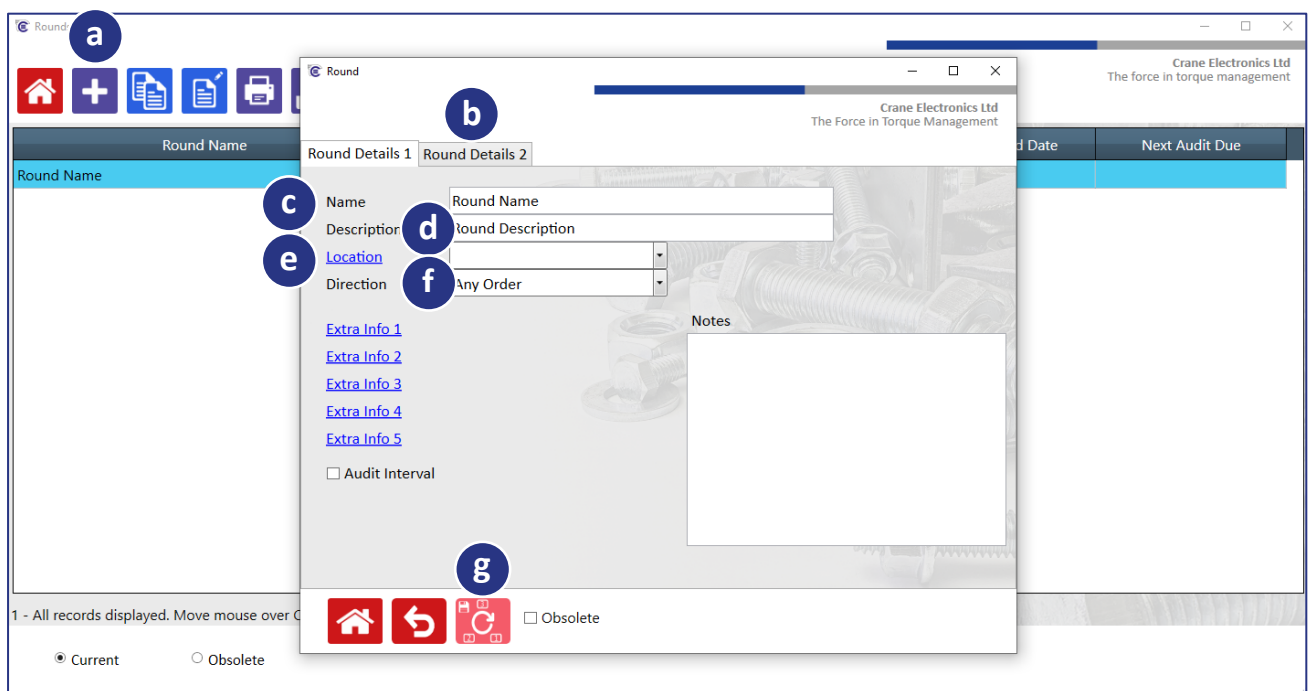
- e – Print all of the data you have.
- f – Print all data since... (calendar date).
- g – Latest only – last data set downloaded.

ROUNDS

On pressing the 'Rounds' function icon, you will enter the above screen.

- a – Return to Home screen.
- b – Add new record icon (in this case add a new round).
- c – Copy selected record icon (saves time having to re-enter common details).
- d – Edit record icon.
- e – Printing the round list.
- f – Download rounds to a data collector.
- g – Upload round results to a data collector.

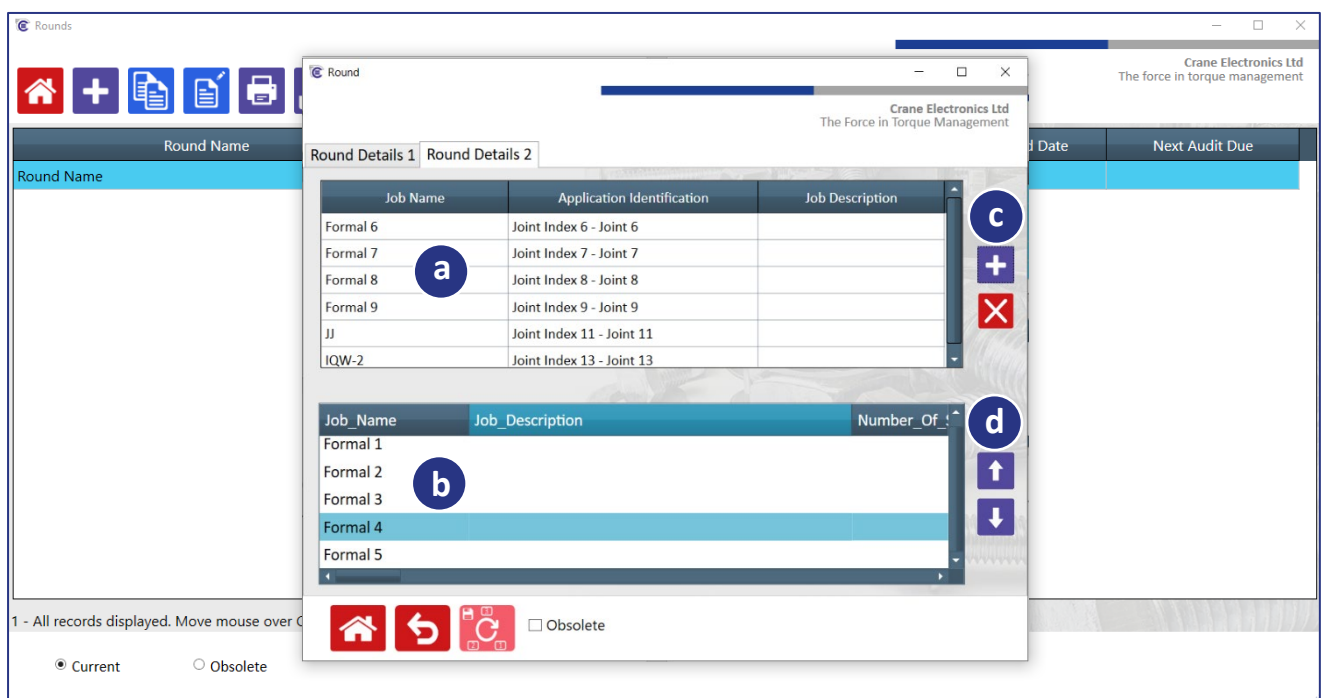
Create Rounds



- a - Create new round/edit round
- b – There are 2 tabs for round details with most important information shown on ‘Round Details 1’. ‘Round Details 2’ is for extra information.
- c – The round name must be filled in and be unique.
- d – Text description of the round (optional).
- e – Location of the factory the round is used (optional)
- f – There are three directions available: ‘Any Order’, ‘Vertical’, or ‘Horizontal’.
 - ‘Any Order’: whereby the user simply selects manually from the list of jobs within the round chosen. Typically, this would be useful where the joints do not follow a regular pattern but the user still wants a way of separating the jobs to do from the main jobs list on the device.

- ‘Vertical’: where all the readings in the first subgroup of data are taken on the first job before moving to the next job to complete all the readings in its first subgroup. Each subsequent job would be loaded and the first subgroup of data taken until after the last job within the round at which point the user is returned to the beginning to take all the readings in the second subgroup.
- ‘Horizontal’: where the first reading is taken on the first job, then the first reading on the second job, and so on, until after the first reading on the last job has been taken at which point the user is returned to the beginning to take the second reading within each job. This cycle will continue until ALL of the readings have been taken for ALL of the jobs.

g – When the round details are entered, a ‘Save Round’ icon will appear which can be used to save the record.



- a** – Jobs available to be put into a round.
- b** – Jobs in the round (when selected).
- c** – To add the selected jobs into the round.
- d** – Used to reorganise the jobs into order.

Print Rounds

Round Name	Round Description	Last Audited Date	Next Audit Due
Formal		21/09/2020	22/02/2021
Formal H		10/09/2020	
Formal V		10/09/2020	

3 - All records displayed. Move mouse over Column Header and click on Filter symbol to add/edit filters

Current Obsolete

- a – Print.
- b – Drop-down of available report templates.
- c – Confirm print.
- d – Cancel.

Download Rounds

Round Name	Last Audited Date	Next Audit Due
Formal	21/09/2020	22/02/2021
Formal H	10/09/2020	
Formal V	10/09/2020	

3 - All records displayed. Move mouse over Column Header and click on Filter symbol to add/edit filters

Current Obsolete

- a – Download round.
- b – Round selected to be downloaded.
- c – Search for a round.
- d – Select rounds to be downloaded.
- e – Select all rounds.
- f – Deselect all rounds that have been selected.
- g – Refresh round list – if an edit has been made to a round that is already on a device, tick this, and then the round on the device will be refreshed.
- h – Download round.
- i – Cancel.

TRACES



Trace Name	Job Name	Subgroup Number	Sample Number	Trace Date	File Location
LH REST 2 20201207 161315	LH REST 2	1	1	07/12/2020	.\Traces\LH REST 2 20201207 161315.xml
LH REST 3 20201207 161428	LH REST 3	1	1	07/12/2020	.\Traces\LH REST 3 20201207 161428.xml
RH NORM 1 20201208 093927	RH NORM 1	1	1	08/12/2020	.\Traces\RH NORM 1 20201208 093927.xml
RH NORM 2 20201208 093957	RH NORM 2	1	1	08/12/2020	.\Traces\RH NORM 2 20201208 093957.xml
RH NORM 3 20201208 094021	RH NORM 3	1	1	08/12/2020	.\Traces\RH NORM 3 20201208 094021.xml
RH REST 1 20201208 095226	RH REST 1	1	1	08/12/2020	.\Traces\RH REST 1 20201208 095226.xml
RH REST 2 20201208 095409	RH REST 2	1	1	08/12/2020	.\Traces\RH REST 2 20201208 095409.xml
RH REST 3 20201208 095440	RH REST 3	1	1	08/12/2020	.\Traces\RH REST 3 20201208 095440.xml
Wheel gun test 20200220 121942	Wheel gun test	1	1	20/02/2020	.\Traces\Wheel gun test 20200220 121942.xml

17 - All records displayed. Move mouse over Column Header and click on Filter symbol to add/edit filters

On pressing the 'Traces' function icon, you will enter the above screen.

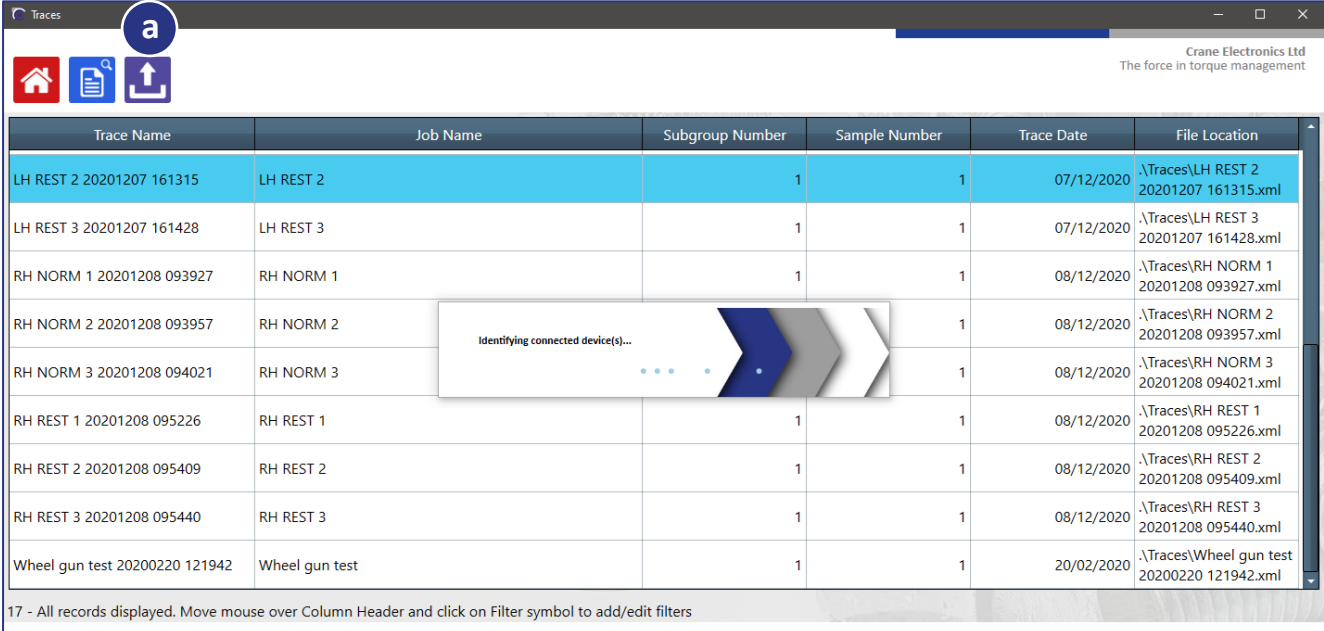
- a – Return to home screen.
- b – View traces.
- c – Upload traces.



When you highlight a trace and then click on 'View Traces' (icon 'a'), you will see the above screen.

- a – View traces from list of traces.
- b – Export trace to CSV format.
- c – Export trace to Excel format.
- d – Export trace to PDF format.
- e – Multi-select drop-down menu to select up to 3 traces.
- f – Expandable panel which holds all of the information regarding traces which can be expanded and collapsed. These headers are colour-coded the same as the colour of the line in the graph.
- g – Plot graph 'Torque vs Time'.
- h – Plot graph 'Torque vs Angle'.
- i – Plot graph 'Angle vs Time'.

Upload Trace

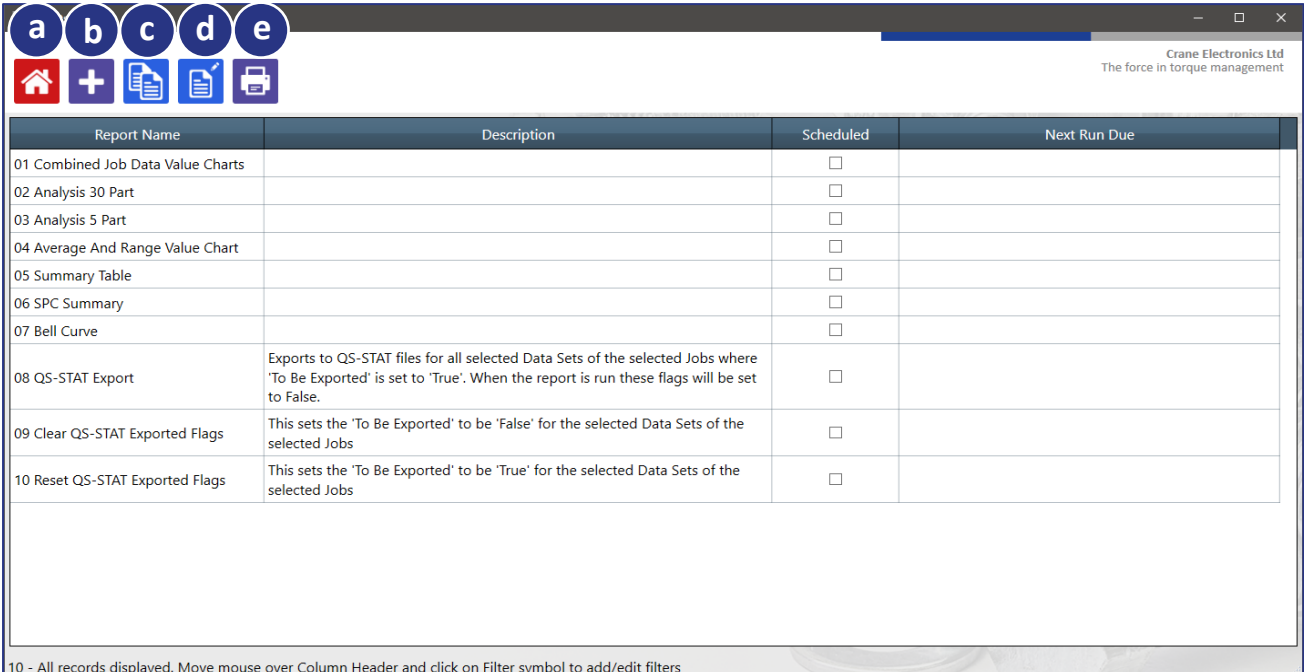


Trace Name	Job Name	Subgroup Number	Sample Number	Trace Date	File Location
LH REST 2 20201207 161315	LH REST 2	1	1	07/12/2020	\\Traces\LH REST 2 20201207 161315.xml
LH REST 3 20201207 161428	LH REST 3	1	1	07/12/2020	\\Traces\LH REST 3 20201207 161428.xml
RH NORM 1 20201208 093927	RH NORM 1	1	1	08/12/2020	\\Traces\RH NORM 1 20201208 093927.xml
RH NORM 2 20201208 093957	RH NORM 2		1	08/12/2020	\\Traces\RH NORM 2 20201208 093957.xml
RH NORM 3 20201208 094021	RH NORM 3		1	08/12/2020	\\Traces\RH NORM 3 20201208 094021.xml
RH REST 1 20201208 095226	RH REST 1	1	1	08/12/2020	\\Traces\RH REST 1 20201208 095226.xml
RH REST 2 20201208 095409	RH REST 2	1	1	08/12/2020	\\Traces\RH REST 2 20201208 095409.xml
RH REST 3 20201208 095440	RH REST 3	1	1	08/12/2020	\\Traces\RH REST 3 20201208 095440.xml
Wheel gun test 20200220 121942	Wheel gun test	1	1	20/02/2020	\\Traces\Wheel gun test 20200220 121942.xml

17 - All records displayed. Move mouse over Column Header and click on Filter symbol to add/edit filters

a – Upload traces from a connected device.

REPORTS

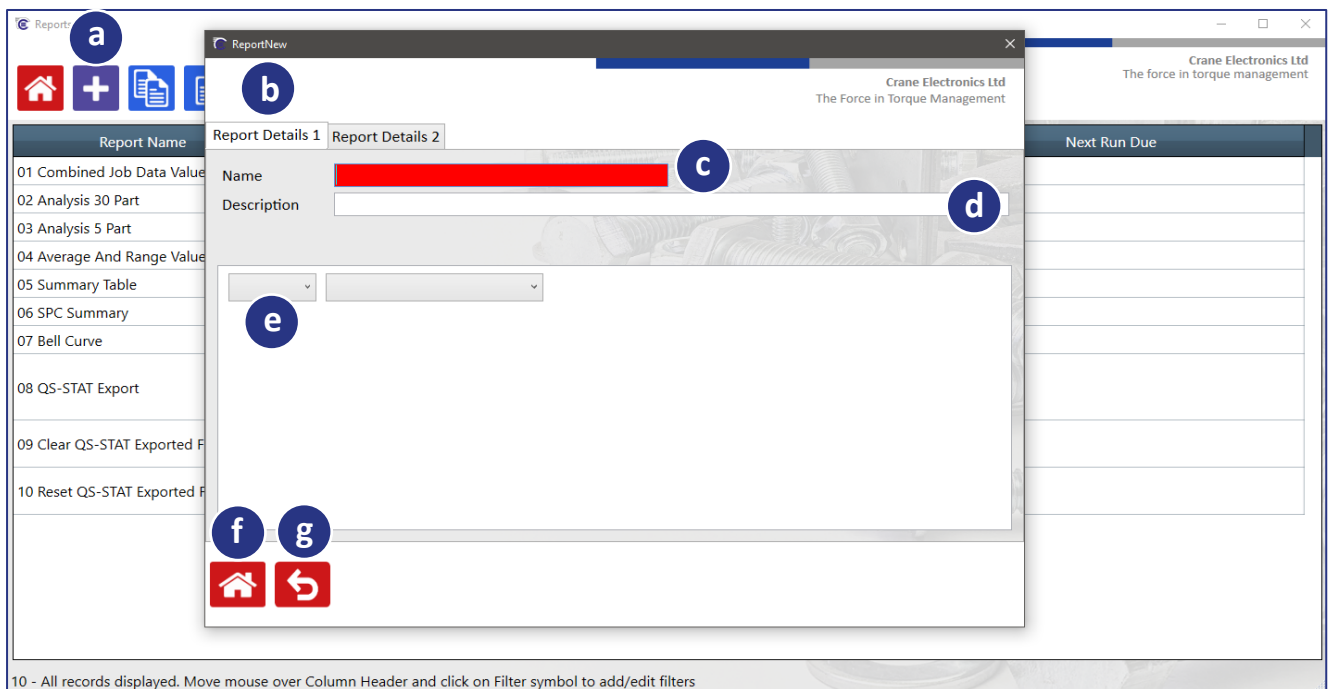
Report Name	Description	Scheduled	Next Run Due
01 Combined Job Data Value Charts		<input type="checkbox"/>	
02 Analysis 30 Part		<input type="checkbox"/>	
03 Analysis 5 Part		<input type="checkbox"/>	
04 Average And Range Value Chart		<input type="checkbox"/>	
05 Summary Table		<input type="checkbox"/>	
06 SPC Summary		<input type="checkbox"/>	
07 Bell Curve		<input type="checkbox"/>	
08 QS-STAT Export	Exports to QS-STAT files for all selected Data Sets of the selected Jobs where 'To Be Exported' is set to 'True'. When the report is run these flags will be set to False.	<input type="checkbox"/>	
09 Clear QS-STAT Exported Flags	This sets the 'To Be Exported' to be 'False' for the selected Data Sets of the selected Jobs	<input type="checkbox"/>	
10 Reset QS-STAT Exported Flags	This sets the 'To Be Exported' to be 'True' for the selected Data Sets of the selected Jobs	<input type="checkbox"/>	

10 - All records displayed. Move mouse over Column Header and click on Filter symbol to add/edit filters

On pressing the 'Reports' function icon, you will enter the above screen.

- a – Return to home screen.
- b – Add a new report.
- c – Copy existing report.
- d – Edit existing report.
- e – Print selected report.

Create New Report



- a – Add a new report.
- b – Select first tab for reports.
- c – Name of the report.
- d – Description for the report.
- e – Selection of filter for reports.
- f – Return to home screen.
- g – Return to grid.

Choose fields and apply filters for report.

The screenshot shows a report configuration window with several rows of dropdown menus. Callout 'a' points to the 'Jobs' dropdown in the first row. Callout 'b' points to the 'ID Number' dropdown in the first row. Callout 'c' points to the 'Automatic' dropdown in the first row. Callout 'd' points to the 'List of Selected' dropdown in the first row. Callout 'e' points to a red trash icon on the right side of the window.

- a – Select a table.
- b – Select a field in that table.
- c – Select how the filter can be modified: fixed or prompt.
- d – Filters type.
- e – Delete current row of entry.

The screenshot shows the 'ReportNew' dialog box over a 'Reports' window. Callout 'a' points to the 'Report Details 2' tab. Callout 'b' points to the 'Report Template File' dropdown. Callout 'c' points to the 'Report Output File' dropdown. Callout 'd' points to the 'Use VBScript' dropdown. Callout 'e' points to the 'Open On Run' dropdown. Callout 'f' points to the 'Scheduled' checkbox.

- a – Select second tab 'Report Details 2'.
- b – Select report template file.
- c – Select report output file.

- d** – ‘Use VBScript’ is selected by default.
- e** – Runs the report while opening a window.
- f** – Save all changes and launches the VB script for reference.

Print Reports

The screenshot shows the 'Reports' application window. At the top left, there are navigation icons: a home icon (a), a plus icon, a document icon, a document with a checkmark icon, and a printer icon. Below these is a table with columns 'Report Name' and 'Next Run Due'. The table contains 10 rows of reports. A 'Select Job(s)' dialog box is open in the center, containing a 'Filter' field, a list of jobs with checkboxes, and buttons for 'All', 'None', a green checkmark, and a red X. Callout letters are placed as follows: 'a' over the printer icon, 'b' over the job list, 'c' over the 'All' button, 'd' over the 'None' button, 'e' over the green checkmark, and 'f' over the red X button. Below the table, there is a footer note: '10 - All records displayed. Move mouse over Column Header and click on Filter symbol to add/edit filters'.

- a** – Select to print reports for selected rows.
- b** – Select jobs for which reports need to run.
- c** – Select to pick ‘All’ jobs listed in the box.
- d** – Select ‘None’ to cancel all selection.
- e** – Agree to move to next step.
- f** – Cancel to go back to grid window.

Report Name	Description	Scheduled	Next Run Due
01 Combined Job Data Value Charts		<input type="checkbox"/>	
02 Analysis 30 Part		<input type="checkbox"/>	
03 Analysis 5 Part		<input type="checkbox"/>	
04 Average And Range Value Chart		<input type="checkbox"/>	
05 Summary Table		<input type="checkbox"/>	
06 SPC Summary		<input type="checkbox"/>	
07 Bell Curve		<input type="checkbox"/>	
08 QS-STAT Export	Exports to QS-STAT files for all selected Data Sets. 'To Be Exported' is set to 'True'. 'To Be Exported' is set to 'False'.	<input type="checkbox"/>	
09 Clear QS-STAT Exported Flags	This sets the 'To Be Exported' to be 'False' for the selected Data Sets of the selected Jobs	<input type="checkbox"/>	
10 Reset QS-STAT Exported Flags	This sets the 'To Be Exported' to be 'True' for the selected Data Sets of the selected Jobs	<input type="checkbox"/>	

- a** – Select to print reports for all data sets.
- b** – Select to pick range of dates for data set.
- c** – Select to pick latest only.
- d** – Select to agree and pick prompts for filters if any selected.
- e** – Cancel and go back to grid window.

SETTINGS



Settings

Crane Electronics Ltd
The Force in Torque Management

General Settings Database Settings Working Shift Misc Settings

a

b Transducer Selection USL **d** Default To % Limits

c Auto Logout Frequency (Minutes) 0 Allow the same Job to be used in multiple Rounds

e Restrict Joints to Single Job

f Show colour for NOK readings on Job Data View

g Reports Location .\\Reports **k** ...

h Trace File Location .\\Traces ...

i Upload Device Log File

j

General Settings

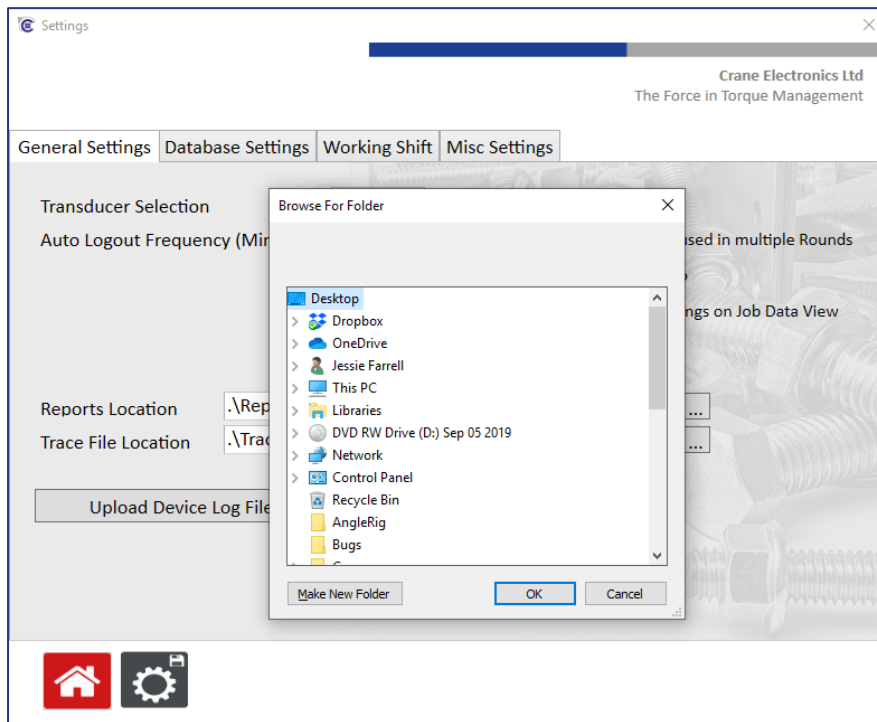
- a** – ‘General Settings’ tab.
- b** – Transducer can be selected by ‘Target’ or ‘USL’.
- c** – After the defined minutes, the programme will log the user out. If set to zero, it will never log out.
- d** – When displaying limits, they can be defined as absolute values or percentages of target.
- e** – If unticked, a joint may have more than one job specified for it; for example, a tightening job for a rotary tool and an audit job for a wrench.
- f** – If a job has been uploaded with bad readings, the job is highlighted red.
- g** – Where reports and templates are saved.

h – Where traces are saved.

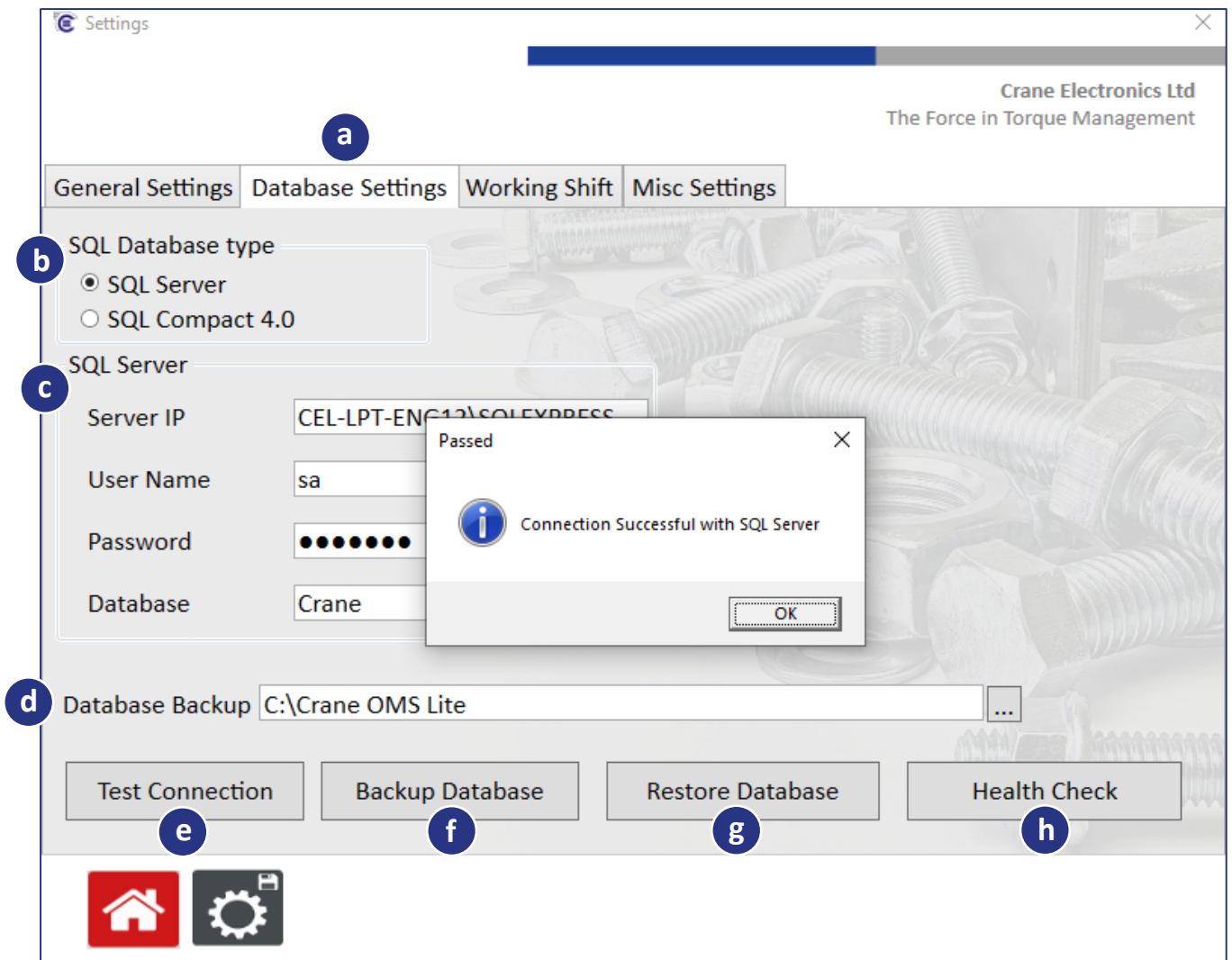
i – If the data collector supports it - for example, TorqueStar Pro - then a log file can be uploaded from the device for debugging an error analysis.

j – Once the settings have been altered, they can then be saved by clicking this icon.

k – Click here to open a browse window (see next picture).



Here you can choose where traces or reports are saved.



Database Settings/Database Backup

- a** – ‘Database Settings’ tab.
- b** – You can select two different sorts of SQL database: ‘SQL Server’ or ‘SQL Compact 4.0’.
- c** – The details of the database are entered here and if the programme can establish a successful connection, the user is informed and on the main programme screens (in the bottom right-hand corner), the name of the database is displayed.
- d** – The database can be backed up to a specified folder selected here.
- e** – Performs a connection check with the SQL server.
- f** – Backs up the current database using a name and date/time format (see next picture).
- g** – The database can be restored from a list of previous backed-up databases by selecting the required one.
- h** – A health check can be performed on the current database making sure all the associations between the different tables are correct.

a

General Settings Database Settings **Working Shift** Misc Settings

b November 2019

Sun	Mon	Tues	Wed	Thu	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

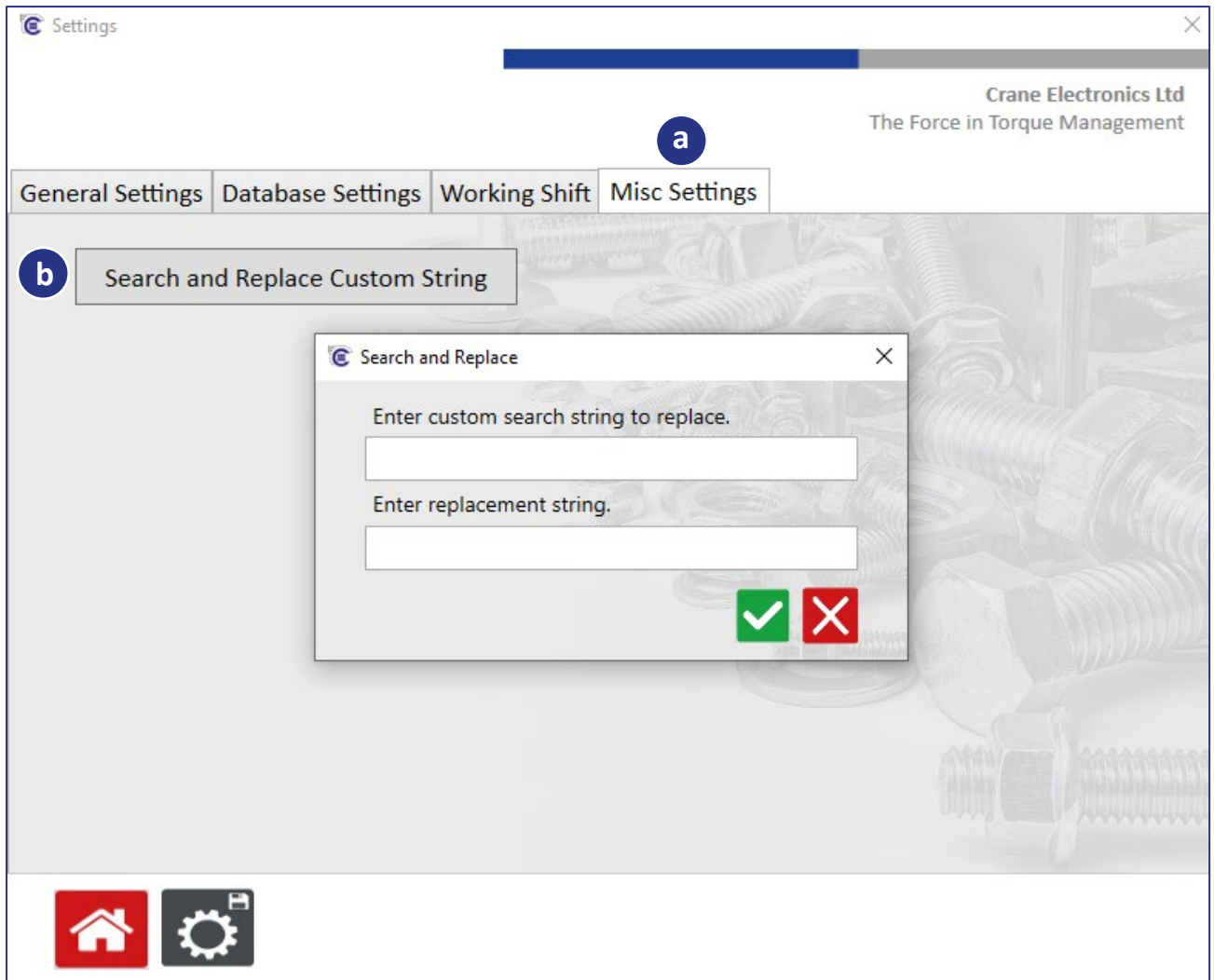
c Working / Non-Working days
 Shift Times

d Working days left

0 0 0

Working Shift Settings

- a** – ‘Working Shift’ settings tab.
- b** – Here you can highlight which days are working or non-working days on a custom calendar. This information is used when calculating the next date for a calibration, or certification, or audit interval.
- c** – Assign shift times for the selected day.
- d** – This is used to highlight a colour (green, amber, red) to indicate how many days are left before an audit, calibration, or certification is required. The record in the appropriate list is coloured.



Misc. Settings

- a – ‘Misc Settings’ tab (plus ‘Search and Replace’).
- b – This function allows the user to change words displayed in the programme to user-defined words. For example, “torque” could be changed to “force” throughout the database, or if the programme was in French, all of the words could be changed from English to French.