

COMMANDER CLOUD User Manual



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ABOUT THE COMMANDER CLOUD COMMANDER SOFTWARE

The Commander Cloud software is your company's storage facility for its hydraulic torqueing work. It is available anywhere in the world where internet or cellular access is found. It contains all of the related databases such as inventory of torque wrenches, flanges and bolts needed for any bolting job.

It allows a manager, who is half a world away for the job site, access to the up-to-date production information necessary to job completion, productivity and progress.

FEATURES:

- Global viewing of up to date information, analysis, and job creation for production control
- A library of bolting standards for Commander XT access
- Extensive reporting options include:
 - Out of Spec issues
 - Calibration, assembly data
 - Flange Assemblies Detail
 - Operator Performance
 - Job Status
- Data export options include PDF and CSV with a single click!

CAUTION! <u>Do Not Use Tool Without Reading This First!</u>

Before using any Torq-Comm tool, *READ THIS MANUAL!* Your safety, and the safety of others, may depend on your proper use of this tool. This manual provides information about the proper use of this tool that is important for your protection and for the protection of your work. If you don't understand any part of this manual *do not use the tool*. Instead, seek assistance from your distributor or from Torq-Comm customer support.

Torque can be critical! Incorrect torque can be dangerous! Although Torq-Comm, Inc.'s tools are designed to be safe when used properly, improper use of these tools may create unsafe conditions resulting in catastrophic failures and other accidents, causing severe **injury** or **death**, significant property damage, expensive shut down of industry equipment or infrastructure, and environmental damage.

Understand torqueing specifications, conditions, and variables. The software embedded in this Torq-Comm tool makes preliminary torque calculations required for different applications based upon published specifications such as ASME PCC-1 2013, API flange specifications, ANSI material specifications, and other specifications that are common in the industry. Nonetheless, there are a number of variables that affect final torque calculations that must be properly accounted for when using this tool. These variables include, *but are not limited to*:

- design specifications for the work to which the tool is applied
- other information input by the tool user
- dirt or debris in a tapped hole
- grease or oil on the threads
- damaged threads
- hole misalignment

Don't ignore calibration and warnings. Your tool communicates with the digital pressure gauge and other components using wireless communications technology that must be properly calibrated and maintained. The digital pressure gauge is calibrated when it is shipped, but it is up to the user to recalibrate it as required by the appropriate internal calibration schedule. Also, do not ignore or circumvent built-in safety features such as the requirement for supervisor approval of out-of-specification readings.

DISCLAIMER AND LIMITATION OF LIABILITY

EXCEPT FOR THE LIMITED PRODUCT WARRANTY PROVIDED WITH THE TOOL, THIS TOOL IS DELIVERED BY TORQ-COMM, INC., WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTY OF DESIGN, ANY IMPLIED WARRANTY OF MERCHANTABILITY, ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR FOR A GENERAL PURPOSE, AND ANY WARRANTY ARISING BY LAW OR STATUTE, COURSE OF DEALING, OR USAGE OF TRADE.

IN NO EVENT, REGARDLESS OF CAUSE, SHALL TORQ-COMM, INC., BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL, PUNITIVE, OR CONSEQUENTIAL DAMAGES OF ANY KIND, WHETHER ARISING UNDER BREACH OF CONTRACT, TORT, STRICT LIABILITY, PRODUCTS LIABILITY, OR OTHERWISE.

COMMANDER CLOUD

GETTING STARTED

Your System Administrator can help you find the Commander Cloud web address and assign a unique Username and Password to each Engineer, Supervisor or Operator. Your Username and Password is your signature that ensures access to your torque assemblies and identifies you as a participant.

LOGGING IN

- 1. Tap the **USERNAME** box to type in your username.
- 2. Tap the **PASSWORD** box to type in your password.
- 3. Select the language by tapping on the drop-down menu. The language you choose will populate all columns and data in the Cloud screens.

Current language options are English and Mandarin.

4. Tap **SIGN IN** to log into the Commander CLOUD.

DESKTOP VIEW

The desktop view provides an up-to-minute overview of the work in the field or on the floor by providing the status of each job. With just a quick glance, you can see the status of any job; past, present and future.

You will have an understand of each Operator's productivity by comparing when a job was started and when it was finished for each individual. You can also review the reports for each job to note any comments made by the Supervisor. Together they may indicate which Operators may need more training to bring them up to expected levels.

Download							
							Clear Sortinj
Torque Ass	emblies						
ld s	Operator =	Job Status :	DateTime Started =	DateTime Ended :	Torque (Ib-ft) o	Pressure (psi) :	
-	10.07	Completed	4/14/2016 11/2010 AM UTC-0000	MARTINE THAT IS AN UTCODED	2.600	1.025	_
102	JEH	Completed	4/14/2010, 1.35/21 PMI 01070000	4/14/2010, 1.44 40 MM 01010000	2,000	1,200	Defete
57	Jeff	Completed	4/5/2016, 12:45:17 AM UTC+0000	4/5/2016, 12:51:42 AM UTC+0000	5,500	45,899	Defete
103	Jeff	Completed	4/14/2016, 1:50:15 AM UTC+0000	4/14/2016, 1:57:58 AM UTC+0000	1,250	483	Delete
54	Jeff	Completed	4/4/2015, 4:59:31 PM UTC+0000	4/4/2016, 5:06:12 PM UTC+0000	1,687	854	Delete
-	Dallas Jordan	Completed	5/14/2015. 10:3E10 PM UTC+0000	5/14/2016. 10:47:15 PM UTC+0000	330	2.535	Dekte
104							Leikie
146	Jordan	Completed	5/14/2016, 10:22:09 AM UTC+0000	5/14/2016, 11:58:25 AM UTC+0000	496	3,043	Dekte
190	Daltas Jordan	Completed	5/14/2016, 10:51:29 PM UTC+0000	5/14/2016, 10:56:06 PM UTC+0000	330	2,538	Delete
156	Dallas Jordan	Completed	5/14/2016, 10:59:31 PM UTC+0000	5/14/2016, 11:05:46 PM UTC+0000	330	2,538	Defete
157	Dallas Jordan	Completed	5/14/2016, 11:29:08 PM UTC+0000	5/14/2016, 11:42:04 PM UTC+0000	1,430	8,773	Deinte
158	Dallas Jordan	Completed	5/14/2016. 11:48:11 PM UTC+0000	5/14/2016, 11:54:20 PM UTC+0000	737	4,521	Delete
	2 3 4 +					10 25	50 10
_							
	Hd 3 102 57 103 98 156 156 155 155	100 Jeff 97 Jeff 100 Jeff 101 Jeff 102 Jeff 103 Jeff 104 Dates Jordan 105 Dates Jordan 107 Dates Jordan 108 Dates Jordan 109 Dates Jordan 100 Dates Jordan	Id s Operator's Job Status s 100 Jerf Completed 101 Jerf Completed 102 Jerf Completed 103 Jerf Completed 104 Jerf Completed 105 Jerf Completed 106 Jerf Completed 105 Datas Jordan Completed 106 Datas Jordan Completed 107 Datas Jordan Completed 108 Jordan Completed 109 Datas Jordan Completed 109 Datas Jordan Completed 109 Datas Jordan Completed 109 Datas Jordan Completed	Id Operator 9 Job Status 8 DateTime Started 1 102 Jeff Compared 4/14/2016, 139/21 AM UTC+0000 102 Jeff Compared 4/14/2016, 139/21 AM UTC+0000 103 Jeff Compared 4/14/2016, 139/21 AM UTC+0000 104 Jeff Compared 4/14/2016, 130/15 AM UTC+0000 105 Jeff Compared 4/14/2016, 150/15 AM UTC+0000 105 Jeff Compared 4/14/2016, 10/21 CP MUTC+0000 106 Jeff Compared 5/14/2016, 10/21 CP MUTC+0000 106 Dates Jordan Compared 5/14/2016, 16/51 2P MUTC+0000 107 Dates Jordan Compared 5/14/2016, 16/51 2P MUTC+0000 108 Dates Jordan Compared 5/14/2016, 16/51 2P MUTC+0000 108 Dates Jordan Compared 5/14/2016, 11/29 BFM UTC+0000 109 Dates Jordan Compared 5/14/2016, 11/29 BFM UTC+0000 109 Dates Jordan Compared 5/14/2016, 11/29 BFM UTC+0000 109 Dates Jordan Compared 5/14/2016,	Id Operator Job Status DateTime Started : DateTime Ended : 102 Arff Compared 4/14/2016, 1:3/2:1 AM UTC+0000 4/14/2016, 1:4.4 &AN UTC+0000 103 Jeff Compared 4/14/2016, 1:3/2:1 AM UTC+0000 4/14/2016, 1:3/2:3 AN UTC+0000 104 Jeff Compared 4/14/2016, 1:3/2:1 AM UTC+0000 4/14/2016, 1:3/3:3 AN UTC+0000 105 Jeff Compared 4/14/2016, 1:3/1:2 AM UTC+0000 4/14/2016, 1:3/3:3 AN UTC+0000 105 Jeff Compared 4/14/2016, 1:0:3:1 PM UTC+0000 4/14/2016, 1:0:3:1 PM UTC+0000 105 Dates Jordan Compared 5/14/2016, 1:0:2:1 PM UTC+0000 5/14/2016, 1:0:2:5 AM UTC+0000 106 Dates Jordan Compared 5/14/2016, 1:0:2:1 PM UTC+0000 5/14/2016, 1:0:2:5 AM UTC+0000 107 Dates Jordan Compared 5/14/2016, 1:0:2:1 PM UTC+0000 5/14/2016, 1:0:5:0 FM UTC+0000 108 Dates Jordan Compared 5/14/2016, 1:0:5:1 PM UTC+0000 5/14/2016, 1:0:6:0 FM UTC+0000 107 Dates Jordan Compared 5/14/2016, 1:0:5:1 PM UTC+0000 5/14/2016, 1:0:0:0 PM UTC+0000	Id Operator: Job Status: Date Time Started: Date Time Ended: Torque (Ib-1) : 102 Art Completed 4/14/2016; 139/21 AM UTC+0000 4/14/2016; 14/44 AM UTC+0000 2,500 203 Jeff Completed 4/14/2016; 139/21 AM UTC+0000 4/14/2016; 12/21 J2 AM UTC+0000 5,500 204 Jeff Completed 4/14/2016; 13/21 JA M UTC+0000 4/14/2016; 13/23 JA M UTC+0000 1,500 205 Jeff Completed 4/14/2016; 15/23 JA M UTC+0000 4/14/2016; 15/25 JA M UTC+0000 1,500 204 Jeff Completed 4/14/2016; 16/22 JB JM UTC+0000 4/14/2016; 10/21 JB M UTC+0000 1,607 205 Jeff Completed 5/14/2016; 10/21 JB UTC+0000 5/14/2016; 10/21 JB M UTC+0000 3/00 206 Dates Jordam Completed 5/14/2016; 10/21 JB M UTC+0000 5/14/2016; 10/21 JB M UTC+0000 3/01 206 Dates Jordam Completed 5/14/2016; 10/21 JB M UTC+0000 5/14/2016; 10/21 JB M UTC+0000 3/01 206 Dates Jordam Completed 5/14/2016; 10/21 JB M UTC+0000 5/14/2016; 10/21 JB M UTC+0	Id Operator: Job Status: DateTime Started : DateTime Ended : Torque (Ib-R) : Pressure (ps) : 100 Arf Completed 4/14/0016, 13/921 AM UTC-0000 4/14/0016, 14/448 AM UTC-0000 2,500 1,985 101 Mrf Completed 4/14/0016, 13/921 AM UTC-0000 4/14/0016, 14/448 AM UTC-0000 2,500 1,985 102 Jeff Completed 4/15/016, 13/921 AM UTC-0000 4/15/016, 15/75 AM UTC-0000 4/15/016, 15/75 AM UTC-0000 1,985 4/15/016 4/15/016 103 Jeff Completed 4/15/016, 15/31 AM UTC-0000 4/14/016, 15/75 AM UTC-0000 1,687 6/14/016 6/14/016 104 Jeff Completed 4/14/016, 15/31 AM UTC-0000 4/14/016, 15/75 AM UTC-0000 1,687 6/14/016 6

It also contains all of the databases of information necessary to create and maintain the torque assemblies and manage you field or factory assets. These databases are completely configurable by your System Administrator, Engineer or Supervisor to reflect your unique processes and procedures. The system is flexible enough to adapt to your work styles rather than the other way around.

TORQUE ASSEMBLY STATUS

Each Torque Assembly is tracked to determine the up to date status. The current status is displayed under **JOB STATUS.** When a single bolt is complete in the field, the information is immediately transmitted to the cloud and available for review.

The various statuses are:

- 1. ASSIGNED The torque assembly was created on the Cloud and has been scheduled and assigned to an operator but has not yet begun.
- 2. ASSEMBLY The torque assembly was created on the handheld but has not yet begun.
- 3. SAVED TO BE RESUMED The torque assembly has been started but has been stopped before it has been completed. There may be an issue at the site or the operator simply went to lunch. The data has been saved and will be started from where they left off.
- 4. COMPLETED The torque assembly has been successfully completed and all data uploaded to the Cloud.

Your Profile	TOTO	100 / 100	emblies	,				
Equipment	Downloa	d						Clear Sortin
Lubricants	Torque As	semblics	$ \land $					
Bolt Materials	ld :	Operator =	Job Status	DateTime Started =	DateTime Ended 0	Torque (Ib-ft) :	Pressure (psi) :	
Torque Wrenches	-	Jeff	Completed	4/14/2016 1:39:21 AM UTC+0000	4/14/2016. 1:44:48 AM UTC+0000	2,500	1,265	
Flange Info	102			4.142010,1302.198.0101000			1,200	Detete
Bolt Info	57	Jeff	Completed	4/5/2016, 12:45:17 AM UTC+0000	4/5/2016, 12:51:42 AM UTC+0000	5,500	45,899	Defete
Custom Bolt Patterns	103	Jeff	Completed	4/14/2016, 1:50:15 AM UTC+0000	4/14/2016, 1:57:58 AM UTC+0000	1,250	483	Delete
Reject Management	54	Jeff	Completed	4/4/2016, 4:59:31 PM UTC+0000	4/4/2016, 5:05:12 PM UTC+0000	1,687	854	Delete
Supervisor PINs	114	Dallas Jordan	Completed	5/14/2016, 10:38:10 PM UTC+0000	5/14/2016, 10:47:15 PM UTC+0000	330	2,538	Dekte
Users			0.2017/02/2017			1.6201	00000	
Traceability Parameters	148	Jordan	Completed	5/14/2016, 10:22:09 AM UTC+0000	5/14/2016, 11:58:25 AM UTC+0000	496	3,043	Delete
	155	Dallas Jord	Completed	5/14/2016, 10:51:29 PM UTC+0000	5/14/2016, 10:56.05 PM UTC+0000	330	2,538	Delete
Torque Assemblies	196	Dallas Jordan	Completed	5/14/2016, 10:59:31 PM UTC+0000	5/14/2016, 11:05:46 PM UTC+0000	330	2,538	Defete
Assign Job	157	Dallas Jordan	Completed	5/14/2016, 11:29:08 PM UTC+0000	5/14/2016, 11 42 04 PM UTC+0000	1,430	8,773	Deinte
jout	156	Dailas Jordan	Completed	5/14/2016, 11:48:11 PM UTC+0000	5/14/2016, 11:54:20 PM UTC+0000	737	4,521	Delete
	. 1	2 3 4	$\mathbf{\nabla}$				10 25	50 10

SORTING AND ORGANIZING

You can sort the information on any screen easily and quickly by tapping the appropriate column header. The Torque Assemblies with be arranged according to your preferences for easy viewing.

four Profile								
Equipment		u.						0.00
Lubricants	A.	combline.						
Solt Materials	id :	Operator =	Job Status :	DateTime Started =	DateTime Ended ©	Torque (Ib-ft) o	Pressure (psi) :	
Torque Wrenches	_	Jeff	Completed	4/14/2016. 1:39:21 AM UTC+0000	4/14/2016, 1-44-48 AM UTC+0000	2,500	1,265	_
Range Info	102	Jen	Completed	4/14/2010, 1.35/21 AM 01070000	4/14/2010, 1:44 40 MM 01010000	2,000	1,250	Delete
Solt Info	57	Jeff	Completed	4/5/2016, 12:45:17 AM UTC+0000	4/5/2016, 12:51:42 AM UTC+0000	5,500	45,899	Defete
Custom Bolt Patterns	103	Jeff	Completed	4/14/2016, 1:50:15 AM UTC+0000	4/14/2016, 1:57:58 AM UTC+0000	1,250	483	Delete
leject Management	51	Jeff	Completed	4/4/2016, 4 59:31 PM UTC+0000	4/4/2016, 5:06:12 PM UTC+0000	1,687	854	Delete
Supervisor PINs	154	Dallas Jordan	Completed	5/14/2016, 10:38:10 PM UTC+0000	5/14/2016, 10:47:15 PM UTC+0000	330	2,536	Detete
Users	_	Jordan	Completed	5/14/2016, 10:22:09 AM UTC+0000	5/14/2016, 11:58:25 AM UTC+0000	495	3.043	_
fraceability Parameters	145	Jordan	Completed	5/14/2016, 10:22:09 AM 01C+0000	5/14/2016, 11:36:25 AM UTC+0000	490	3,043	Deicte
	155	Daltas Jordan	Completed	5/14/2016, 10:51:29 PM UTC+0000	5/14/2016, 10:56:06 PM UTC+0000	330	2,538	Detete
longue Assemblies	156	Dallas Jordan	Completed	5/14/2016, 10:59:31 PM UTC+0000	5/14/2016, 11:06:46 PM UTC+0000	330	2,538	Detete
kasign Job	157	Dallas Jordan	Completed	5/14/2016, 11:29:08 PM UTC+0000	5/14/2016, 11:42:04 PM UTC+0000	1,430	8,773	Delete
out	156	Dallas Jordan	Completed	5/14/2016, 11:48:11 PM UTC+0000	5/14/2016, 11:54/20 PM UTC+0000	737	4,521	Delete
	× 7	2 3 4					10 25	50 10

VIEWING A TORQUE ASSEMBLY

You can get the up to the minute data for any Torque Assembly. The complete set of Traceability Information and bolting data will be presented in easy to read charts and tables

1. Tap on the associated **ID Number** for the Torque Assembly you wish to view.

Equipment	Downlo	ad						Clear Sortin
Lubricants	Torque As	a amhlion						
Bolt Materials	id +	Operator :	Job Status =	DateTime Started :	DateTime Ended :	Torque (Nm) =	Pressure (bar) :	
Torque Wrenches	_		2.11.12					
Flange Info	354		Assigned			1,650	263	Delene
Bult Info	555		Assigned			1,650	263	Delete
Custom Bolt Patterns	552		Assigned			1,650	263	Delete
Reject Management	551		Assigned			1,650	263	Detete
Supervisor PINs	550		Assigned			1.650	263	Dente
Users								
Traceability Parameters	-545	cott	Completed	7/12/2018, 3:38:45 PM UTC+0100	7/12/2018, 4:40:54 PM UTC+0100	1,650	263	Delete
	544	Scott	Completed	7/12/2018, 2:17:07 PM UTC+0100	7/12/2018, 3:29:59 PM UTC+0100	1,650	263	Delete
Torque Assemblies	543	Scott	Completed	7/12/2018, 1:29:22 PM UTC+0100	7/12/2018, 2:08:17 PM UTC+0100	1,650	263	Delete
Assign Job	542	Scott	Completed	6/27/2018, 4:49:51 PM UTC+0100	6/28/2018, 1 19:47 PM UTC+0100	1,650	263	Delete
pout	-041	Scott	Completed	6/28/2018, 1:22:50 PM UTC+0100	6/28/2018, 2:24:58 PM UTC+0100	1,650	263	Delete
	* 1	2 +					10 25	50 10

2. The chart of bolting data can be configured to show Torque vs Bolt or Pressure vs Bolt. Tap the key on the top right corner of the chart to change the display. How it is displayed on the screen is how it is displayed on your report.

	Torque Assembly Job	
Your Profile		Report
Equipment	Jobs	Torque (Nm) + Pressure (bar)
Lubricants		Pass 1
Bolt Materials	1800	
Torque Wirenches	1600	
Flange Info	1200	
Bolt Info	800 800 800 800 800 800 800 800 800 800	
Custom Bolt Patterns	500 S00	
Reject Management	405	
Supervisor PINs	0	
Users	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Bot # 1.4 /4 20 21 23 23 24 26 26 20 20 25 20 34 26 21 26 26 40 41 42 42 44 45 46 46 49 # 1.4 /4 20 21 22 20 24 26 26 27 28 29 29 29 29 29 29 29 20 40 41 42 42 44 45 46 46 46 49 49 49 49
Traceability Parameters		D01
		Traceability Info -
Torque Assembles		Traceability into -
Assign Job	Traceability Value	User Value
	Turbine Type	Nordex
Jout	Operator	Scott
	Job Number	25
	Supervisor	Scott
	Turbine Model	N60
	Turbine Number	2
	Turbine Number Blade Number	3

The Traceability Information is presented for the job as it is configured in Traceability database. Each time the Operator enters the Torque Assembly job on the handheld, the information is collected and displayed.

To create a report of the Torque Assembly, simply tap **REPORT** on the screen to create a pdf file. This file contains all of the Assembly Job Detail, Traceability Information, Bolting Data, Charts and Images in one electronic file that can easily be sent or printed.

3. The Assembly Job Detail is presented as configured during the Assembly Job set up. In the Expert mode, a minimum of job details is required in order to expedite the job creation. Therefore, there are fields in the Assembly Job Detail that are left blank. Conversely, Flange mode and Guided mode for job creation captures the complete set of job details and all fields are populated.

					Assembly	Job Detail				
Equipment	ld	Operator	Status Sta	inted		Ended		Pressure	e (bar)	Torque (Nm)
Lubricants	545	Scott	Completed 7/1	2/2018, 3:38:45 PM UTC+I	0100	7/12/2018, 4:40:5	54 PM UTC+0100	263		1,650
Bolt Materials					Boltin	ig Info				
Torque Wrenches	Bolts	Bolt Dia.	Thread Pitch (mm)	Lubricant	Lubrican Coeff.	t Bolt Materia	Min. Yield (MPa)	Wrench	% Vield	Bolt Tension
Flange Info	50	30	3.5	MolyKote G Rapid	0.10	10.9	940	MXT 3	74.57	392.950
Bolt Info				Plus						
Custom Bolt Patterns					Pas	s Info				
Reject Management	Passe	15	Tool Cali	bration Date			Sequence 1	lype		
Supervisor PINs	1						Circle			
Users					Locati	on Info				
Traceability Parameters	Lat	itude	Longitude							
	53.	14323966666	666 0.2336565000	0000002						
Torque Assemblies										
Assign Job										
pout	Dow	baoin				a Points				
Post.					All Bolt D	ata Points				+
				All	Bolt Imag	e Data Points				

The Latitude and Longitude for a particular Assembly Job may not be displayed if the work is being performed inside a building or at a site with no cellular connection. In these cases, no satellite can be acquired to provide coordinates.

The Assembly Job Detail can easily be exported in a csv file by tapping **DOWNLOAD**. This file can be open and sorted in Excel program.

Your Profile					Assembly Jo	b Detail				
Equipment	ld	Operator	Status St	tarted	En	ded		Pressure	e (bar)	Torque (Nm)
Lubricants	545	Scott	Completed 7/	12/2018, 3:38:45 PM UTC+	0100 7/1	2/2018, 4:40:54 F	PM UTC+0100	263		1,650
Bolt Materials					Bolting I	nfo				
Torque Wrenches	Bolts	Bolt Dia. (mm)	Thread Pitch (mm)	Lubricant	Lubricant Coeff.	Bolt Material	Min. Yield (MPa)	Wrench	% Yield	Bolt Tension (N)
Flange Info	50	30	3.5	MolyKote G Rapid	0.10	10.9	940	MXT 3	74.57	392 950
Bolt Info				Plus						
Custom Bolt Patterns					Pass In	fo				
Reject Management	Passe	15	Tool Ca	libration Date			Sequence T	ype		
Supervisor PINs	1						Circle			
Users					Location	Info				
Traceability Parameters	Lat	itude	Longitude							
	53.1	14323966666	666 0.233656500	00000002						
Torque Assemblies										
Assign Job				_						
	Down	baolin		()	Bolt Data F					
pout					All Bolt Data	Points				+
				All	Bolt Image D	ata Points				
	Download									Clear Sortin

4. Tapping on **Bolt Data Points** will present all of the bolting information acquired.

The Bolt Data Points lists the bolting information for each bolt in each pass.

Included in the data is the Target Pressure, the actual Pressure, the resulting Torque produced at that pressure using the particular Torque Wrench.

Your Profile	Downl	beo					E	Bolt Data Po	pints					
								All Bolt Data P	clints					_
Equipment														
Lubricants		Bolt	Bolt	Pass	Target Pressure	Pressure	Torque	Time	Operator	Supervisor	Supervisor	Supervisor	Torque	Serial
Bolt Materials	User	No.	Status	No.	(bar)	(bar)	(Nm)	Modified	Comment	PIN	Reason	Comment	Wrench	No.
Torque Wrenches	Admin	1	Completed	1	262	263	1,651	7/12/2018, 3:38:43 PM UTC+0100					MXT 3	1144 309
Flange Info	Admin	2	Completed	1	262	263	1.655	7/12/2018					MXT 3	1144
Bolt Info	Autor	2	Compresed		202	203	1,600	3:39:24 PM UTC+0100					MAT 5	309
Custom Bolt Patterns	Admin	3	Completed	1	262	262	1,650	7/12/2018,					MXT 3	1144
Reject Management								3:40:21 PM UTC+0100						309
Supervisor PINs	Admin	4	Completed	1	262	263	1,654	7/12/2018,					MXT 3	1144
Users								3:40:47 PM UTC+0100						309
Traceability Parameters	Admin	5	Completed	1	262	262	1,648	7/12/2018, 3:44:25 PM UTC+0100					MXT 3	1144 309
Torque Assemblies	Admin	6	Completed	1	262	262	1,647	7/12/2018.					MXT 3	1144
Assign Job								3:48:39 PM UTC+0100						309
Jort	Admin	7	Completed	1	262	263	1,651	7/12/2018, 3.52.15 PM UTC+0100					MXT 3	1144 309
	Admin	8	Completed	1	262	262	1,650	7/12/2018, 3:54:53 PM UTC+0100					MXT 3	1144 309
	Admin	9	Completed	1	262	262	1,648	7/12/2018, 3:59:54 PM UTC+0100					MXT 3	1144 309
	Admin	10	Completed	1	262	262	1,648	7/12/2018.					MXT 3	1144

The Bolt Data Points can easily be exported in a csv file by tapping **DOWNLOAD**. This file can be open and sorted in Excel program.

5. Tapping on **Bolt Image Data Points** will present all of the pictures taken during the Torque Assembly.

Your Profile						Assembly	Job D	etail				
Equipment	Id	Operator	Status	Started			Ended			Pressure	(bar)	Torque (Nm)
Lubricants	545	Scott	Completed	7/12/2018,	3:38:45 PM UTC+	0100	7/12/20	18, 4:40:54 PI	M UTC+0100	263		1,650
Bolt Materials						Bolti	ng Info					
Torque Wrenches	Bolts	Bolt Dia. (mm)	Thread Pitcl (mm)		bricant	Lubrica Coeff.	nt	Bolt Material	Min. Yield (MPa)	Wrench	% Yield	Bolt Tension (N)
Flange Info	50	30	3.5		lyKote G Rapid	0.10		10.9	940	MXT 3	74.57	392,950
Bolt Info				Plk								
Custom Bolt Patterns						Pas	s Info					
Reject Management	Passe	15	Tool C	Calibration	Date				Sequence T	ype		
Supervisor PINs	1								Circle			
Users						Locat	ion Info	0				
Traceability Parameters	Lat	itude	Longitude									
	53.	14323966666	666 0.23365650	000000002								
Torque Assemblies												
Assign Job		bad										
pout	Dow	DBOIL				All Bolt Da						
						All Doit L	Jata Poin	15				+
					All	Bolt Imag	e Data	Points				
	Download											Clear Sortin

Each high-resolution picture is associated with a particular bolt for a particular pass. The date and time stamp provide additional detail regarding the image. The images and information are included in the report.

bur Profile	Download				Bolt Data Points
ubricants					All Bott Data Points
lot Materials					
longue Witenches				All	Bolt Image Data Points
Range Info					Bolt Image Data Points -
loit info	Bolt Image Data Point	User	Bolt		
Lusion Bolt Patierns	ld	ld	No.	Image Taken DateTime	Image
leject Management	52	1	8	3/8/2017, 12:05:58 PM UTC- 0600	
lupervisor PINs					
Users					
raceability Parameters					
orgie Assembles					
Assign Job					
out					
					A les and a
					A DECEMBER OF

POPULATING the DATABASES

The databases contain all of the information necessary to complete your Torque Assemblies from equipment to materials to personnel. And they are completely customizable to your procedures and methods. Not the other way around!

EQUIPMENT

The Equipment database contains information on all of your equipment other than Torque Wrenches. There is a separate database for those.

Equipment such as pressure gauges, calipers, leak detectors, etc. can be listed and their calibration cycles tracked. Virtually any piece of equipment can be listed.

A different							
							Clea
Model :	Part Number :	Serial Number :	Certificate Number :	Category :	Calibration Date o	Calibration Recall Date :	Details :
Taylor eGauge 1 - 10 kpsi		Taylor 10 kpsi		Gauge	01/01/2015	12/31/2017	Bluetooth
WIKA CPG1500 - 10kpsi		Additel 10 kpsi		Gauge	05/21/2018	12/31/2018	Bluetooth
ISO-PBG1A		ISO-PBG1A		Gauge	12/10/2015	12/31/2018	PBG-1A
Enerpac ZU4	1A-200A0001-01	12345678	ABCDEFG	Controller	01/01/2016	12/31/2018	No recalibration needed.
							10 25 5
	Taylor eGauge 1 - 10 kpsi WIKA CPG1500 - 10kpsi ISO-PBG1A	Taylor eGauge 1 - 10 kpsi WIKA CPG1500 - 10kpsi ISO-PBG1A	Taylor eGauge 1 - 10 kpsi Taylor 10 kpsi WKA CPG 1500 - 10kpsi Addiki 10 kpsi ISO-PBG1A ISO-PBG1A	Teylor eGiaget 1- 10 kpsi VIKA CPD1500 - 10kpsi USO PBG1A ISO PBG1A	Taylor eGauge 1 - 10 topsi Taylor 10 topsi Gauge WIKA CP01500 - 10kpsi Addki 10 topsi Gauge ISO PBG1A ISO PBG1A Gauge	Taylor eGauge 1 - 10 tayli Taylor 10 tayli Gauge 0101/2015 WKA CP01500 - 10kpsi Addki 10 kpsi Gauge 0521/2015 USO PBG1A USO PBG1A Gauge 121/2015	Taylor eGwage 1 - 10 kpsi Taylor 10 kpsi Gwage 01012015 12312017 WKA.CP01500 - 18psi Addel 10 kpsi Gwage 05212018 12312018 ISO-PBG1A ISO-PBG1A Gwage 121202015 12312018

COMMANDER XT1000 / XT2000 User Manual

DISO-COMM	Equipment							
four Profile	Equipment							
Squipment	Add New							Clear Sorts
Lubricants	#Model:			Part Number:			Serial Number:	
Bolt Materials	Certificate Number:						Calibration Date:	
Torque Wrenches	Certificate Number.			Category:			Calibration Date.	mm/dd/yyyy
'lange Info	Calibration Recall Date:	mmiddlyyyy		Details:				
Bolt Info								A60 Cm
Justom Bolt Patterns								
Reject Management	Model o Taylor eGauge 1 - 10 kpsi	Part Number o	Serial Number : Taylor 10 kpsi	Certificate Number o	Category o Gauge	Calibration Date : 01/01/2016	Calibration Recall Date : 12/31/2017	Buetooth
Supervisor PINs					-			
Users	WIKA CPG1500 - 10kpsi		Addtel 10 kpsi		Gauge	05/21/2018	12/31/2018	Bluetooth
fraceability Parameters	ISC-PBG1A		ISO-PBG1A		Gauge	12/10/2015	12/31/2018	PBG-1A
	Enerpac ZU4	1A-200A0001-01	12345678	ABCDEFG	Controller	01/01/2016	12/31/2018	No recalibration needed.
Torque Assemblies								
Assign Job								10 25 60 10
Juc								

- 2. Fill in the boxes with the appropriate information. The boxes marked with a * are required to complete the entry. Other boxes are optional.
- 3. Tap **ADD** to complete the entry or **CLOSE** to cancel the entry.
- 4. You can update or change the information of any existing entry by tapping **EDIT** on the appropriate line.

LUBRICANTS

You can add any lubricant that your team commonly uses if you know the coefficient of friction as published by the manufacturer. Other material coefficients of friction, such as dry steel on dry steel, can be obtained in engineering handbooks and inputted for use.

DSO-COMM	Lubricants		
four Profile	Lubricants		
co parte i c	Add New		Clear Sor
Lubricants	20	Coefficient of Friction o	
SOE Materiano	API SA2	0.157	
Torque Wrenches	Copper & Graphite	0.14	
Flange Info	Dry Steel	0.5	
Sustom Bolt Patterns	Machine Oil	0.18	
Reject Management	Moly / Lead Oxide / Graphite	0.13	
Supervisor PINs	Moly8Denum DiSulfide	0.1	
Users	Nickel & Graphite	0.15	
fraceability Parameters	TS801 Moly Dry Film Spray	0.109	
lonque Assemblies	Clover 503 Moly	0.1	
Assign Job	jet Blue	0.17	
put			10 25 50

NMOD-OP	Lubricants		
our Profile	Eublicants		
quipment	Add New		Clear Sortin
ubricants	#Type:	Coefficient	
3oft Materials			_
forque Wrenches			Add Close
Tange Info	Type :	Coefficient of Friction a	
Bolt. Imfo	API SA2	0.157	
Custom Bolt Patterns	Copper & Graphite	0.14	
Reject Management	Dry Steel	0.5	
Supervisor PINs		0.18	
Users	Machine Oil	0.15	
Traceability Parameters	Moly / Lead Oxide / Graphite	0.13	-
	MolyBDenum DiSulfide	0.1	
lorque Assemblies	Nickel & Graphite	0.15	
Assign Job	TS801 Moly Dry Film Spray	0.109	
out	Clover 503 Moly	0.1	
	jet Blue	0.17	
			-
			10 25 50 10

- 2. Fill in the boxes with the appropriate information. The boxes marked with a * are required to complete the entry. Other boxes are optional.
- 3. Tap **ADD** to complete the entry or **CLOSE** to cancel the entry.
- 4. You can update or change the information of any existing entry by tapping **EDIT** on the appropriate line.

BOLT MATERIALS

Any material specification, whether it is ASME, DIN, JIS, ISO or others, can be added to the database whether it is Imperial or Metric units. Only the Minimum Yield Strength is needed.

Bolt Material		
Add New Districted		Clear
Grade :	Unit System o	
A5 M A193 B7	Imperial	
ASTM A193 B8 Class 1	Imperial	
ASTM A307 Grade C	Imperial	
ASTM A320 B8 Class 1	Imperial	
ASTM A320 B8 Class 2	Imperial	
ASTM A490 TYPE 1	Imperial	
ASTM A193 B8 Class 2	Imperial	
ASTM A193 BBM Class 1	Imperial	
ASTM A193 B8M Class 2	Imperial	
ASTM A320 L7	Imperial	
x 1 2 #		10 25 50
	Artist : ASTM A113 B7 ASTM A113 B1 Class 1 ASTM A135 B1 Class 1 ASTM A307 Grader C ASTM A300 B0 Class 1 ASTM A300 B0 Class 2 ASTM A300 D0 Class 2 ASTM A315 B10 Class 2 ASTM A115 B10 Class 2	Active : Unit System : Cold Action EP Impendial ASTMA ASSID EP Impendial ASTMA ASSID ECTIONS 1 Impendial ASTMA ASSID ECTIONS 1 Impendial ASTMA ASSID ECTIONS 2 Impendial ASTMA ASSID ICTIONS 2 Impendial

DAD-COWN	Bolt Material		
four Profile	Doit Material		
Equipment	Add New Download		Clear Sorting
Lubricants	#Grade:	Unit System:	
Bolt Materials			
Torque Wrenches			Add Clas
Flange Into	Grade :	Unit System :	
Balt Info	ASTM A193 B7	Imperial	ett
Justom Bolt Patterns	ASTM A193 B8 Class 1	Imperial	
Reject Management	ASTM AS07 Grade C	Imperial	
Supervisor PINs	ASTM A320 88 Class 1	Imperial	
Users	ASTM A320 B6 Class 2	Imperial	
Traceability Parameters	ASTM A450 TYPE 1	Imperial	
Torque Assemblies	ASTM A193 B8 Class 2	Imperial	
Assign Job	ASTM A193 B8M Class 1	Imperial	
Juci	ASTM A193 B8M Class 2	Imperial	
	ASTM A320 L7	Imperial	
	K 2 8		10 25 50 100

- 2. Fill in the boxes with the appropriate information. The boxes marked with a * are required to complete the entry. Other boxes are optional.
- 3. Tap **ADD** to complete the entry or **CLOSE** to cancel the entry.
- 4. You can update or change the information of any existing entry by tapping **EDIT** on the appropriate line.

070-COM	Bolt M	laterial				
four Profile	Don IV	atorial				
Equipment	Grade:	ASTM A193 B7		Imperial	*	Save Dente Close
Lubricants						
Boll Materials	Bolt Materia	al Minimum Yields				Aut New Crier Sorting
Torque Wrenches		Diameter (in) :	Upper Bolt Diameter (in) =		rum Yield Strength (psi) :	
Range Info	0		25	10500	10	-
Balt Info	2.625		4	95000	1	
Justom Bolt Patterns	4.125		7	75000	1	
Reject Management						
Superviser PINs						10 25 50 100
Users	Add New	Download				Clear Sorting
Traceability Parameters	Grade :			Unit System o		
	ASTM A193 B	87		Imperial		
Torque Assemblies	ASTM A193 B	Bő Class 1		Imperial		
Assign Job	ASTM A307 0	nan e		Imperial		
put .						
	ASTM A320 B	Bő Cless 1		Imperial		100
	ASTM A320 B	Bő Class 2		Imperial		20
	ASTM A490 T	TYPE 1		Imporial		
	ASTM A190 8	56 Class 2		Impenal		
	A973/ A193 P			Internal		

5. Some materials have a different Minimum Yield Strength depending on the bolt diameter. In these cases, tap **ADD NEW** to the entry field to add another set of data as shown above.

TORQUE WRENCHES

You can build your database to include every Torque Wrench in your tool crib and track them by serial number if you wish.

Each Torque Wrench's Pressure vs Torque profile information can be added to the database. You can use the Manufacturer's default profile or a wrench specific profile from its latest calibration testing.

DSO-COMP	Torque	Wrenc	h						
four Profile	Terque								
Equipment	Add New Do	anicad							Clear Sort
Lubricants	Manufacturer :	Model Number	Serial Number	Certificate Number	Calibration Date	Calibration Recall Date	Min. Operating Pressure (psi)	Max. Operating Torque π)	(Ib-
Forque Wrenches	Raph, Torc	RT-1	1234557890		02/01/2017	02/01/2018	1500	1390	
ange-	Rapid-Torc	RT-10	4006911968		02/01/2017	02/01/2018	1500	11520	
Bolt Info	Rapid-Torc	RT-20					1500	19760	
Sustom Bolt Patterns	Rapid-Torc	RT-25					1500	25890	
Reject Management	Rapid-Torc	RT-3					1500	3230	
Supervisor PINs	Rapid-Torc	XXXX					0	0	- i
Users	Rapid-Torc	RT-5					1500	5590	
Traceability Parameters	Rapid-Torc	RT-50					1500	52500	
forque Assemblies									-
Assign Job	Rapid-Torc	RT-8					1500	8000	
put	Rapid-Torc	RTP-5					1500	397	
	e 1 2 1	4 5 6	7 20	3				10 25	50 1

DRD-COMM	т.	14/									
four Profile	Torque	vvrenc	n								
Equipment	Add New	winkoad								Clea	r Sortinj
Labricants	Manufacturer	Model	Number Serial	Number	Certificate Number	Calibration Date	Calibration Recall	#Min. Opera	ating	Max. Opera	ting
3oft Materials							Date	Pressure (pr		Torque (Ib-ft)	
Conque Whenches						mm/0d/yyyy	nmiddyyyy				
Flange Info										A.00	Citre
Solt Info		1120120	10-11-11-11-11-11-11-11-11-11-11-11-11-1				1.02476257710271271				
Sustom Bolt Patterns	Manufacturer :	Model Number	Serial Number	Certificate Number	Calibration Date	Calibration Recall Date	Min. Operating Pre (psi)	ssure Ma R)	ax. Operating	Torque (Ib-	
Reject Management	Rapid Torc	RT-1	1234567890		02/01/2017	02/01/2016	1500	13	90		
Supervisor PINs	Rapid-Torc	RT-10	4006911988		02/01/2017	02/01/2018	1500	11	520		-
Users .	Rapid-Torc	RT-20					1500	19	760		
Traceability Parameters	Rapid-Torc	RT-25					1500	25	890		Ē
Torque Assemblies	Rapid-Torc	RT-3					1500	32	30		
Assign Job	Rapid-Torc	XXXX					0	0			-
put	Rapid-Torc	RT-5					1500	55	90		
	Rapid-Torc	R7-50					1500	52	500		-
	Rapid-Torc	RT-8					1500	50	00		-
	Rapid-Torc	RTP-5					1500	39	7		-
			7 _ 20						10	10 25 50	100

- 2. Fill in the boxes with the appropriate information. The boxes marked with a * are required to complete the entry. Other boxes are optional.
- 3. Tap **ADD** to complete the entry or **CLOSE** to cancel the entry.
- 4. You can update or change the information of any existing entry by tapping **EDIT** on the appropriate line.

07Q-COMM	Torque \	Vrench						
four Profile	loique	monon						
Equipment.	Manufacturer	Model Number	Serial Number	Certificate Number	Calibration Date	Calibration Recall Date	Min. Operating Pressure (psi)	Max. Operating Torque (lb-ft)
Lubricants	Roark	RXD-4	RXD4-17-25	Test Tool 01	06/19/2018	05/19/2019	1000	10000
Bott Materials	HOARK	ROD-4	R0034-17-25	Test 100/01	06/19/2018	05/19/2019	1000	10000
Torque Woenches								Save Deets Cose
Plange Info	Torque to Press	ure Conversions					6	Abl New City Sorting
3ot Info	Pressure (psi) :			Torque (Ib-f	0 =			
Sastom Bolt Patterns	1000			352				-
Reject Management	2000			729				
Supervisor PINs	3000			1129				
Users	3000							
Traceability Parameters	4000			1533				
	5000			1528				
Torque Assemblies	6000			2342				
Assign Job	7000			2729				
out	8000			3123				
								-55
	9000			3506				
	10000			3870				
								10 25 50 100
	ADD New Down							Clear Sorting

5. Continue to add profile information by adding Pressure vs Torque information for that particular wrench. Tap **ADD NEW** to provide another entry line to complete the table.

FLANGE INFO

The Flange Info database contains information on industry standard or custom circular flanges. It can be populated with Imperial or metric flanges.

DAD-COMP	Flore	a lafa								
four Profile	Flang	le Info								
Equipment	Add New	Download								Clear S
Lubricants Bolt Materials	Standard o	Pipe Display Diameter	Pipe Diameter (in)	Working Pressure (psi)	Number of Bolts	Bolt Display Diameter	Bolt Diameter	Notes a	Unit System	
-	API SPEC 6A	2-1/15	2.0625	3000	8	7/8	0.875		Imperial	
fange into	AP SPEC	3-1.8	3.125	2000	8	34	0.75		Imperial	
Lusion Bolt Patterns	API SPEC 6A	3-18	3.125	3000	8	7/8	0.875		Imperial	
Reject Management	API SPEC 6A	7-1/16	7.0625	3000	12	1-1/5	1.125		Imperial	
Supervisor PINs	API SPEC 6A	26-54	26.75	2000	20	1-84	1.75		Imperial	
Users Traceability Parameters	API SPEC 6A	1-13/16	1.8125	10000	8	3/4	0.75		Impenai	
	API SPEC 6A	5-1/8	5.125	10000	12	1-1/5	1.125		Imperial	
Torque Assemblies Assign Job	API SPEC 6A	15	15	13000	20	2	2		Impenai	
put	API SPEC 6A	21-1/4	21.25	5000	24	2	2		Imperial	
	API SPEC 6A	2-1/16	2.0625	15000	8	7/8	0.675		Imperial	
	• 1 1	5 4 5 5	*					1	10 25	50

070-COMM	Flore											
four Profile	Flang	e inf	0									
Equipment	Assilver	D inicad									c	lear Sorting
Lubricants	Standard			+One	Display			Pipe Diameter				
Bolt Materiats	Chillendard.			Danet				(in).				
Torque Wienches	Working P (psi);	ressure		#Numb	ber of Bolts.			Bolt Display Diameter:		Bolt Diameter (m):		
Tange into	Notes			.Unit S	System	impenal						
Bolt Info												Cose
Juston Bolt Patterns												
Reject Management	Standard :	Pipe Disp Diameter		Diameter	(psi)	g Pressure	Numbe Bolts	r of Bolt Display Diameter	Bolt Diam	eter Notes :	Unit System	
Supervisor PINs	API SPEC	2-1/16	2.053	15	3000		8	7/6	0.875		Imperial	
Users	64											
Trace ability Parameters	API SPEC 6A	3-1/8	3.125		2000		8	3/4	0.75		Impenal	
	API SPEC	3-1/8	3.125	E.	3000		6	7/0	0.675		Imperial	
Torque Assemblies Assign Job	API SPEC	7-1/16	7.063	15	3000		12	1-1/8	1.125		Impensi	-
put	API SPEC EA	26-3/4	26.75	E.	2000		20	1-3/4	1.75		Imperial	-
	API SPEC 6A	1-13/16	1.813	15	10000		8	3/4	0.75		Impenai	-
	API SPEC 6A	5-1/8	5.125	5	10000		12	1-1/6	1.125		Imperial	-
	API SPEC 6A	11	**		15000		20	2	2		Imperial	-
	API SPEC		21.25		5000		24	2	2		Imperal	_

- 2. Fill in the boxes with the appropriate information. The boxes marked with a * are required to complete the entry. Other boxes are optional.
- 3. Tap **ADD** to complete the entry or **CLOSE** to cancel the entry.
- 4. You can update or change the information of any existing entry by tapping **EDIT** on the appropriate line.

BOLT INFO

The Bolt Info database contains information on industry standard or custom bolts or studs. It can be populated with Imperial or metric flanges.

rear Profile	Bolt Info					
Equipment	Add New Download					Ciear Sor
Lubricants	Part Number :	Bolt Display Diameter	Bolt Diameter (in) :	Thread Count (tpl) :	Unit System o	
Bolt Materials	1" - 8UN	1	1	8	Imperial	
Torque Wrenches	1A-500A0057-01	1/2	0.5	13	Imperial	- 1
Solt info	14-50-10052-01	1/4	0.25	20	Imperial	
Citizen and		1-1/2	1.5	6	Imperial	
Reject Management	1 1/2" - 8UN	1-1/2	1.5	8	imperial	
Supervisor PINs		1-1/4	1.25	7	imperial	
Users		1-1/4	1.25	8	Imperial	
Traceability Parameters		1-1/8	1.125	7	Imperial	
Torque Assemblies		1-1/8	1.125	8	Imperial	
Assign Job		1-3/4	1.75	5	Imperial	
jout	 1 2 5 4 	8			10	25 50

DSD-COWN	Bolt Info					
four Profile	Boit Into					
Equipment	Add New Donnload					Clear Sorting
Lubricants	Part Number:		Bott Display Diameter:		Bolt Diameter (in):	
3oft Materials						
Torque Wrenches	Thread Count (tpi):		Unit System:	Imperial		
Flange Info						Add Close
Solt Info	Part Number :	Bolt Display Diameter :	Bolt Diameter (ir) : Thread Count	(tpl) : Unit System :	
Sustom Bolt Patterns	1"-8UN	1	1	8	Imperial	•0
Reject Management						_
Supervisor PINs	1A-500A0057-01	1/2	0.5	13	Imperial	
Users	1A-500A0062-01	1/4	0.25	20	Imperial	-
Traceability Parameters		1-1/2	1.5	6	Imperial	-
	1 1/2" - 8UN	1-1/2	1.5	6	Imperial	-0
forque Assemblies		1-1/4	1.25	7	Imperial	-
Assign Job						
put		1-1/4	1.25	8	Imperial	
		1-1/8	1.125	7	Imperial	
		1-1/6	1.125	8	Imperial	
		1-3/4	1.75	5	Imperial	-0
	< 1 2 5 4				_	25 50 10

- 2. Fill in the boxes with the appropriate information. The boxes marked with a * are required to complete the entry. Other boxes are optional.
- 3. Tap **ADD** to complete the entry or **CLOSE** to cancel the entry.
- 4. You can update or change the information of any existing entry by tapping **EDIT** on the appropriate line.

CUSTOM BOLT PATTERNS

The COMMANDER XT1000 and XT2000 are not limited to circular flanges. Any bolting pattern you can image can be accommodated if you can simply supply an image file. The jpeg can be from a picture or a CAD file.

C TO-CON	Custom Bolt Pattern		
four Profile			
Equipment	Add Network		Clear Sort
Lubricants	Pattern Name +	Created ¢	
Bolt Materials	Engine block	04/12/2016	
Torque Wrenches	Engine Block DD13	07/02/2016	
Flange Info	Engine Block DD15	07/02/2016	
Dustom Bolt Patterns	Alt Livercy - 4 Bolt	08/11/2016	
Reject Management	Alt Legacy - 8 Bolt	08/11/2016	
Supervisor PINs	Art Legacy - 12 Bolt	08/11/2016	
Users	Ait Legacy - 16 Bolt	08/11/2016	
Traceability Parameters	Alt Legacy - 20 Bolt	08/11/2016	
Torque Assemblies	Alt Legacy - 24 Bolt	08/11/2016	
Assign Job	Ait Legacy - 28 Bolt	08/11/2016	
pout	* 1 2 3 4 *		10 25 50

1. To add an additional piece of equipment, tap **ADD NEW**.

C CON	Custom Bolt Pattern		
Your Profile			
Equipment	Add New		Clear Sorting
Lubricants	#Pattern Name:	#Image: Choose File N file chosen	
Bolt Materials			
Torque Wrenches			Add Close
Flange Info	Pattern Name o	Created o	
Bolt Info	Engine block	04/12/2016	edt
Custom Bolt Patterns	Engine Block DD13	07/02/2016	edt
Reject Management	Engine Block DD 15	07/02/2016	edt
Supervisor PINs	Alt Legacy - 4 Bolt	08/11/2016	
Users			
Traceability Parameters	Alt Legacy - 8 Bolt	08/11/2016	edt
	Alt Legacy - 12 Bolt	08/11/2016	
Torque Assemblies	Alt Legacy - 16 Bolt	06/11/2016	edi
Assign Job	Alt Legacy - 20 Bolt	08/11/2015	
pout	All Legacy - 24 Boll	08/11/2016	odt
	Alt Legacy - 28 Bolt	08/11/2016	est
	* <mark>1</mark> 2 3 4 ×		10 25 50 100

2. Tap CHOOSE FILE to search your computer for the correct jpeg file.

- 3. Assign the bolting sequence as designed by simply tapping on the right location on the image. A bolt sequence number will appear on the image. Continue to identify and assign the bolting sequence until completed.
- 4. At any time, you can tap **CLEAR ALL POINTS** to remove the bolt sequence numbers from the image and start again.

CONTRACTOR	Custom Bolt Pattern		
our Profile	Custom Boil Fallem		
Equipment	Pattern Name:		
ubricants	Engine block		
loft Materials	Click on image to add points		Save Dotelle Co
Torque Wrenches			
lange Info	H-22		
loit info	- 00 00 00 00		
ustom Bolt Patterns	.00,00,00,00,		
leject Management			
apenvisor PINs			
lses	Clear AL Points		
raceability Parameters	Add New		Clear Sotti
	Pattern Name :	Created :	
	Pattern Name :: Engine block	Created = 04/12/2015	
kesign Job	Engine block Engine Block DD13	04/12/2016 07/02/2016	
orgue Assembles Assign Job	Engine Block Engine Block DD13 Engine Block DD15	04/12/2015 07/02/2015 07/02/2015	
kesign Job	Engine block Engine Block DD13	04/12/2016 07/02/2016	
kesign Job	Engine Block Engine Block DD13 Engine Block DD15	04/12/2015 07/02/2015 07/02/2015	
asign Job	Engine Block DD13 Engine Block DD15 At Lagicy - 4 Bot	04/12/2015 07/02/2015 07/02/2015 08/11/2015	

v tu-cuitign	Custom Bolt Pattern		
Your Profile	Custom Don Pattern		
Equipment	Pattern Name:		
Lubricants	Engine block		
Bolt Materials	Click on image to add points		Save Date Cost
Torque Wrenches	-		
Flange Info	P 0 H-22 C 0		
Bolt info	·mm1/mm1/mm1/mm1		
Custom Bolt Pallems	.00,00,00,00,		
Reject Management			
Supervisor PINs			
Users	Clear All Points		
Traceability Parameters	and the second se		
	Add New		Clear Sorting
	Pattern Name :	Created :	Clear Sorting
Torque Assemblies		Created : 04/12/2016	Clear Sorting
	Pattern Name : Engine block	04/12/2016	
Torque Assemblies Assign Job	Pattern Name : Engine block Engine Block DD13	64/12/2016 67/02/2016	
	Pattern Name : Engine block	04/12/2016	
Assign Job	Pattern Name : Engine block Engine Block DD13	64/12/2016 67/02/2016	
Assign Job	Pattern Name : Engine block Engine Block DD13 Engine Block DD15	04/12/2016 07/02/2016 07/02/2016	
Assign Job	Pattern Name : Engine block Engine Block DD15 Engine Block DD15 At Legacy - 4 Bot	04/12/0395 07/02/0095 07/02/035 08/11/0216	

5. Fill in the boxes with the appropriate information. The boxes marked with a * are required to complete the entry. Other boxes are optional.

- 6. Tap **SAVE** to complete the entry or **CLOSE** to cancel the entry.
- 7. You can update or change the information of any existing entry by tapping **EDIT** on the appropriate line.
- 8. The picture of the Custom Bolting Sequence will be displayed on the handheld. The COMMANDER will guide the operator through the bolting sequence.

REJECT MANAGEMENT

The Reject Management database contains standard statements regarding skipped bolts or quality issues associated with a Torque Assembly. The Operator may choose one of these statements in a drop down menu or type in their own on the Commander.

DAD-COWN	Reject Management
our Profile	Reject Management
quipment	Add New Clear S
ubricants	Reject Management Strategy ::
olt Materials	Tool Could Not Access Nut
forque Wrenches	Bott threads were stripped.
lange info	Boit was nutled.
folt Info	
Son Feachip	Other reason
leject Management	Damay d Stud
Report to the second	Could not find safe reaction point
Jaera	Boll/Stud threads need to be cleaned
raceability Parameters	
orque Assemblies	10 25 50
lasign Job	
out	

070-COMM	Paiast Management	
four Profile	Reject Management	
Equipment	Add New	Clear Sorting
Lubricants	*Reject Management Strategy:	
Bolt Materials		
Torque Wrenches		Add Clos
Range Info	Reject Management Strategy a	
Bolt Info	Tool Could Not Access Nut	
Sustom Bolt Patterns	Boit threads were stripped.	-0
Reject Management	Bolt was rusted.	6
Supervisor PINs	Other reason	
Users	Damaged Stud	
Traceability Parameters	Could not find safe reaction point	
Torque Assemblies	Bolt/Stud threads need to be cleaned	
Assign Job		10 25 50 10
jout		

- 2. Fill in the boxes with the appropriate information. The boxes marked with a * are required to complete the entry. Other boxes are optional.
- 3. Tap **ADD** to complete the entry or **CLOSE** to cancel the entry.
- 4. You can update or change the information of any existing entry by tapping **EDIT** on the appropriate line.

SUPERVISOR PINs

The Supervisor PIN is their signature in the field. It indicates that an deviation is being made during a Torque Assembly, such as skipping a bolt or TorqTag, and who specifically is making the decision. It is noted in the report.

070-COM	Supervisor PINs		
four Profile	oupervisor r into		
Equipment	Add New		Clear Sorti
Lubricants	Supervisor PIN :	Username o	
Bolt Materials	0625	Supervisor2	
Torque Wrenches	1234	Supervisor1	
Flange Info			
Bolt Info			10 25 50 1
Custom Bolt Patterns			
Supervisor PINs			
Pitone -			
Trace ability Parameters			
Torque Assemblies			
Assign Job			
tuo			
No.			



- 2. Fill in the boxes with the appropriate information. The boxes marked with a * are required to complete the entry. Other boxes are optional.
- 3. Tap **ADD** to complete the entry or **CLOSE** to cancel the entry.
- 4. You can update or change the information of any existing entry by tapping **EDIT** on the appropriate line.

USERS

The User database contains the list of individuals who are allowed to log into the Commander Cloud or onto the Commander handheld. It also lists each one's role and therefore their permissions.

DRO-COMP	Linese						
bur Pittile	Users						
gapment.	Add New .						Ciear Sonth
ubikarts	Username i	First Name +	Last Name +	Email (Role :	Unit Bystem (
off Materials.	Admin	Rick	lamolo	rick.iannoliciĝitoro.comm.com	Admin	Imporial	
orque Wrenches	Operators	Testing	User	usergoomaticon	Operator	Imperial	
tangé initi		Paul	lamello	paul@torq-comm.com	Admin	Imperial	
sit info asian Bolt Patients	Operator2	ayne	Seatt	smith@xxmail.com	Operator	Imperial	
iged Management.	Operators	Joe	Seath	smith@xamail.com	Cperator	Imperial	
operation PINs	Supervisor2	George	Smith	smith@xxmail.com	Supervisor	Importal	
laers	Supervisor1	Janes.	Seatt	smithgoorial com	Supervisor	Impertal	
taceacity Parameters	Ravielo	Rick	lameto	nck annello@kne.comm.com	Admin	Imperial	
orque Assembles	PRoss	Pete	Rosa	pele icsa@torq-corim.com	Supervisor	Impenal	
dat. regizes							10 25 50 10
NZ.							Nº 25 00 10

Roles of the Users listed in the database:

Admin - This is the system administrator for the Cloud and each Commander handheld. Only one user should be given this authority. The Admin can do everything on the system except manipulate the data. No one can alter the data once it has been collected by the Commander.

Supervisor - The Supervisor can do everything the Admin can except adding additional Users or assigning Supervisor PINs on the Cloud or change the WEB API Address on the handheld. They can add or modify anything in the Cloud data bases and create assembly jobs on the Cloud or handheld, pair and manage devices on the Commander and accept out of tolerance toque data with their unique PIN.

Operator - On the Cloud, the Operator can only view Torque Assemblies and print out reports. They will not even see the databases listed on the side of the Cloud. On the Commander, they can Retrieve Jobs and Go to Assemblies in order to complete the assembly jobs. They can Manage Devices in case they have to change pumps and gauges for a particular job. This way they can communicate with the gauge. However, they cannot Pair Devices. Also, they cannot create a new job on the Commander. Their privileges are limited to just those necessary to complete an assembly job on their own. If an out of tolerance situation occurs, a Supervisor will have to be called for their approval and PIN.

so-cowy	Users							
ir Profie	00010							
upment	Add New							Clear Sc
bricants	#Usemarre			#First Name:		Last Name.		
It Materials	#Erral.			*Password		Confirm Password		
ique Witenches				- assword		Commit Passivoro		
inge Info	Role			Unit System		*		
E Info								140
stom Bolt Patterns	Username :	FirstName :	Last Na	ne :	Email :	Role :	Unit System :	
ject Management	Admin	Risk	lamelo		lick lannello@torq.comm.com	Admin	Imperial	1
penitor PINs	Operator1	Testing	User		user@xamai.com	Operator	Imperial	- 1
es.	Planelo	Paul	iamelo		peul@torq-comm.com	Atmin	Incerial	
iceability Parameters	Operator2		Snit					
		Jayne			snih@xxmail.com	Operator	Imperial	
que Assembles	Operator3	Joe	Smith		snih@xxmail.com	Operator	Imperial	1
sign Job	Supervisor2	George	Smith		snith@xxmail.com	Supervisor	Impenal	
t	Supervisor1	James	Smith		smilh@xxmail.com	Supervisor	Imperial	1
	Riannello	RX	lamelo		tick lannellogitorg comm.com	Admin	Imperial	
	FRosa	Pele	Rosa		pele rosa@toro-comm.com	Supervisor	Imperial	
								10 25 50

- 2. Fill in the boxes with the appropriate information. The boxes marked with a * are required to complete the entry. Other boxes are optional.
- 3. Tap **ADD** to complete the entry or **CLOSE** to cancel the entry.
- 4. You can update or change the information of any existing entry by tapping **EDIT** on the appropriate line.

TRACEABILITY PARAMETERS

Traceability Parameters are the unique details of a Torque Assembly that should be collected to allow an assembly to be repeated. The User can collect as many parameters that they wish.

DIO-COMP	Tressel	lite Decem				
four Profile	Traceat	bility Param	eters			
Equipment	Add New					Clear So
Lubricants	Labo	Control Type :	Values :	Is Required :	Operator Edit :	
Solt Materials	P , enisor	CombeBox	Supervisor1, Supervisor2, Supervisor3		*	
Torque Wrenches	Operator	ComboBox	Operator1, Operator2, Operator3		~	
Flange Info	Job Number	TextBox			~	- 1
Solt Info	Location	TextBox			~	
Reject Management	Tag No	NumericTextBox			~	-
Supervisor PINs	Flange No	NumericTextBox			*	
Users	Wellhead	NumericTextBox				_
Traceability Parameters						
						10 25 50
forque Assemblies Assign Job						
put						

DISO-COM	-					
bur Profile	Traceat	bility Param	eters			
Equipment	Add New					Clear Sortin
Lubricants	#Label			Control Type:		
3ott Materials	Values					
forque Wrenches	vaues					
Range Info	Is Required:			Operator Edit:	•)	
Solt Info						Add Class
Justom Bolt Patterns	Label o	Control Type :	Values :	Is Required o	Operator Edit :	
Reject Management	Supervisor	ComboBox	Supervisor1, Supervisor2, Supervisor3		~	
Supervisor PINs	Operator	ComboBox	Operator1, Operator2, Operator3		~	
Users			option , options, options			
raceability Parameters	Job Number	TextBox			~	-
	Location	TextBox			~	-
lorque Assemblies	Tag No	NumericTextBox			~	-
Assign Job	Flange No	NumericTextBox			~	-
out	Wellhead	Numeric TextBox				
						10 25 50 10

2. Fill in the boxes with the appropriate information. The boxes marked with a * are required to complete the entry. Other boxes are optional.

The Control Type describes the method of data entry on the Commander handheld.

ComboBox – Allows the Operator to select from a list of options listed in Value. This entry option reduces the amount of typing need in the field. ComboBox values are separated by a comma (,).

DatePicker – Allows the Operator to select a date from a calendar.

NumericTextBox – Allows the Operator to type only numeric values. A barcode can be scanned to input the data thus eliminating any typing in the field reducing time and the potential for error.

TextBox - Allows the Operator to type alpha-numeric values. A barcode can be scanned to input the data thus eliminating any typing in the field reducing time and the potential for error. There are additional options for the Traceability Information.

Is Required – By checking this box, the Operator must input a value on the Traceability field before proceeding with the Torque Assembly. The system will not allow them to proceed without an input.

Operator Edit – By checking this box, the Operator can input data other than listed in a drop down menu by typing in the box.

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020-COMP	Traceat	oility Parame	ators			
four Profile	Hacea	unty i aranno	cler5			
Equipment	#Label:	Supervisor		Control Type:	CombeBox	
Lubricants	Values.	Supervisor1. S	upervisor2, Supervisor3			
Bolt Materials	Is Required.	0		Operator Edit.	×	
Torque Wrenches		_			~	Save Delete Clese
Range Info						
Boit Info	Add New					Clear Sortin
Dustom Bolt Patterns	Label o	Control Type :	Values :	Is Required	Operator Edit o	
Reject Management	Supervisor	ComboBox	Supervisor1, Supervisor2, Supervi	isor3	*	
Supervisor PINs	Operator	ComboBox	Operator1, Operator2, Operator3		~	
Users	Job Number	TextBox			~	
Traceability Parameters	Location	TextBox			~	
Torque Assemblies		NumericTextElox			*	-
Assign Job	Tag No					ed
	Flange No	NumericTextBox			*	
tuot	Wellhead	NumericTextBox				-
						10 25 50 10

- 3. Tap **ADD** to complete the entry or **CLOSE** to cancel the entry.
- 4. You can update or change the information of any existing entry by tapping **EDIT** on the appropriate line.
- 5. There are four key Traceability Parameters that must be included and in the following format to ensure proper operation.

Supervisor	Combo
Operator	Combo
Location	Text
Job Number	Text

CREATING JOBS ON THE CLOUD

You can create torqueing jobs on the COMMANDER CLOUD just as you can on the COMMANDER XT1000/XT2000. Step by step, each of the three methods is exactly the same using the same database of equipment and materials.

Your Profile			emblies					
Equipment	Downloa	ed						Clear Son
Lubricants	Torque As	semblies						
Bolt Materials	ld :	Operator ©	Job Status :	DateTime Started =	DateTime Ended :	Torque (ib-ft) o	Pressure (psi) :	
Torque Wrenches	-	Jeff	Completed	4/14/2016, 1:39:21 AM UTC+0000	4/14/2016, 1-44-48 AM UTC+0000	2.500	1,265	-
Flange Info	102	UCH.	Completeo	4/14/2010, 139/21748 010/10/000	4/14/2010, 1.44 40 AM 01010000	2,000	1,200	Detete
Eloit Info	57	Jeff	Completed	4/5/2016, 12:45:17 AM UTC+0000	4/5/2015, 12:51:42 AM UTC+0000	5,500	45,899	Delete
Custom Bolt Patterns	103	Jeff	Completed	4/14/2016, 1:50:15 AM UTC+0000	4/14/2016, 1:57:58 AM UTC+0000	1,250	483	Delete
Reject Management	54	Jeff	Completed	4/4/2016, 4:59:31 PM UTC+0000	4/4/2016, 5:05:12 PM UTC+0000	1,687	854	Delete
Supervisor PINs	151	Dallas Jordan	Completed	5/14/2016, 10:38:10 PM UTC+0000	5/14/2016, 10:47:15 PM UTC+0000	330	2,538	Detete
Users		the state				496		-
Traceability Parameters	146	Jordan	Completed	5/14/2016, 10:22:09 AM UTC+0000	5/14/2016, 11:58:25 AM UTC+0000	490	3,043	Defete
	195	Daltas Jordan	Completed	5/14/2016, 10:51:29 PM UTC+0000	5/14/2016, 10:56:06 PM UTC+0000	330	2,538	Detete
Torque Assemblies	156	Dallas Jordan	Completed	5/14/2016, 10:59:31 PM UTC+0000	5/14/2016, 11:05:46 PM UTC+0000	330	2,538	Defete
Contra Co	157	Dallas Jordan	Completed	5/14/2016, 11:29:08 PM UTC+0000	5/14/2016, 11.42.04 PM UTC+0000	1,430	8,773	Delete
30ut.	156	Dallas Jordan	Completed	5/14/2016, 11:48:11 PM UTC+0000	5/14/2016, 11:54:20 PM UTC+0000	737	4,521	Deittin
	4 1	2 3 4 -					10 25	50

1. From the Home screen, tap ASSIGN JOB

cu cuign	Assign Job	
lour Profile	Assign Job	
Equipment	TRACEABLITY INFORMATION ASSEMB	LY INFORMATION JOB CONFIRMATION
Lubricants	Traceability Information Assemb	LY INFORMATION JUB CONFIRMATION
Bolt Materials	Job Number	Location
longue Wrenches	Enter Job Number	Enter Location
lange Info	Supervisor	Operator
Balt Info	Select Supervisor	Select Operator
Sustom Bolt Patterns	Assembly Type	Sequence Type
Reject Management	Select Assembly Type	Select the Sequence Type
Supervisor PINs		
Users		
Traceability Parameters		
Torque Assemblies		
Torque Assemblies Assign Jab		
forque Assemblies		
Torque Assemblies Assign Jab		

- 2. Enter the Torque Assembly Job information. The boxes marked with a * are required to complete the entry. Other boxes are optional.
- 3. The Supervisor and Operator drop downs are populated by the User database.

TORQUE ASSEMBLY MODES

There are three Assembly Modes to create a Torque Assembly. All three will take the User to the same conclusion by requiring different input based on the application. They are all based on PCC-1 2013 guidelines.

-curgen	Assign Job		
bur Profile	0		
quipment	TRACEABILITY INFORMATION	ASSEMBLY INFORMATION	JOB CONFIRMATION
ubricants	Traceability Information		
olt Materials	Job Number	Location	
brque Wrenches	Enter Job Number	Enter Location	
lange Info	Supervisor	Operator	
oit info	Relationer and	Select Operator	
usiom Bolt Patterns	#Assembly Type	*Sequence Type	
eject Management	Select Assembly Type Select Assembly Type	Select the Sequence Type	
upervisor PINs	Guided Assembly Flange Assembly		
Isens	Expert Assembly		
raceability Parameters			
orque Assemblies			
issign Job			
out.			

Expert Mode - is for the service provider who is given a complete specification for a torque assembly job from their customer.

They are told the number of bolts and the final torque to be applied. The service provider's only input is what wrench they use based on their inventory. The Commander then determines the required pressure to reach the necessary torque for each pass.

It is the fastest way to enter a job. Just three questions (# of bolts, # of passes and final pressure) and one input (wrench) will give you the required final pressure.

Flange Mode - is used when the pipe has a working fluid (liquid or gas) under pressure.

The first question is the pipe size / diameter. Based on the selection, the Commander defaults to the options for that pipe size based on the specifications entered in the database.

Once the pipe size selected, the pressure selection defaults to the pressures possible for that size pipe. Based on the pressure that is selected, the number and size of the bolts are default selections.

The next selections are based on the company's standard practices. The thread pitch of the bolts, bolt material and lubrication are what the typically use. Their databases are customized to their current practices. The Commander checks to make sure their standard practices are correct and within the range of the wrench and within an acceptable range of the yield strength.

Guided Mode - is similar to the Flange mode however it does not involve a working pressure. It can be applied to everything from a wind tower that is bolted together, a bridge or the engine block of a large earth moving tractor. Most of your custom Bolting patterns will be used with this mode.

	Assign Job	
lour Profile	7.65igi1005	
quipment	TRACEABILITY INFORMATION	ASSEMBLY INFORMATION JOB CONFIRMATION
Lubricants	Traceability Information	ASSEMBLY INFORMATION JUB CONTINUENTION
Soll Materials	Job Number	Location
forque Wrenches	Enter Job Number	Enter Location
lange Info	Supervisor	Operator
iolit Info.	Select Supervisor	Select Operator
lustom Bolt Patterns	*Assembly Type	# Sequence Type
leject Management lopenstor PINs Joers Incelability Parameters Corpor Assemblies Kellign Job	Belect Assembly Type	Senet the Sequence Type Sector to Besterice Type Circle Sor Curtor

SEQUENCE TYPES

Multiple bolting sequences are available.

Circle – As the name implies, the bolting pattern is for circular flange and proceeds in a clockwise direction.

Star – Is based on the Legacy bolting pattern described in PCC-1 2013. The Star sequence is defined as "cross-pattern bolt-tightening sequence and multi-round tightening are necessary to count the elastic interaction that occurs when tightening bolts".

Custom – These are the patterns that are defined in the Custom Bolt Patterns database.

EXPERT ASSEMBLY MODE

	Assign Job			
Your Profile				
Equipment	TRACEABILITY	17 7 7 8 4 7 7 7 4 1	ASSEMBLY INFORMATION	JOB CONFIRMATION
Lubricants	Expert Assembly	PORTATION	ASSEMBLY INFORMATION	JOB CORPUSATION
Bolt Materials	* Number of Bolts		Torque Wrench	Torque Wrench Traceability
Torque Wrenches	0		Choose Torque Wrench	Require capture of serial number
Flange Info	# Passes	🚸 Torque (Ib-ft)	Pressure (psi)	
Bolt Info	3	Totque (Ib-II)		Calculate
Dustom Bolt Patterns	Order of Bolts			
Reject Management	Enter Bolt Order			
Supervisor PINs	Black			Tes .
Users				
Traceability Parameters				
Torque Assemblies				
Assign Job				
pout				

- 1. Enter the Torque Assembly Job information. The boxes marked with a * are required to complete the entry. Other boxes are optional.
- 2. The Supervisor and Operator drop downs are populated by the User database.
- 3. Enter the number of bolts, passes, torque wrench, sequence type and the required final torque. The drop-down menus can be accessed by tapping on each block.
- 4. Tap **CALCULATE** to determine the required final pressure.
- 5. Tap NEXT

The COMMANDER XT1000 will review the information for accuracy and present the bolting sequence based on the number of bolts and the sequence type. It will present Valid Sequence if correct.

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Profile	Assign Job		
pment			•
tricants	TRACEABILITY INFORMATION	ASSEMBLY INFORMATION	JOB CONFIRMATION
it Materials		Torque assembly is valid	
ique Wrenches	_	Press the button below to submit	
nge Info	Back		•
it Info			
stom Bolt Patterns			
ject Management			
pervisor PINs			
iers			
aceability Parameters			
rque Assemblies			
sign Job			
<i>t</i>			

6. Tap **NEXT** to complete the assignment. The Torque Assembly is now listed on the Cloud desktop and ready to be downloaded to the handhled.

FLANGE ASSEMBLY MODE

C CO-CON	Assign Job		
Your Profile			
Equipment	TRACEABILITY INFORMATION	ASSEMBLY INFORMATION	JOB CONFIRMATION
Lubricants	Flange Assembly Setup		
Bolt Materials	Pipe Diameter (in)	Working Pressure (psi)	
Torque Wrenches	Select Pipe Diameter (in)	Select Working Pressure (psi)	
Flange Info	Back		The second se
Bolt Info			_
Custom Bolt Patterns			
Reject Management			
Supervisor PINs			
Users			
Traceability Parameters			
Torque Assemblies			
Assign Job			
yout:			

- 1. Tap the Pipe Diameter block to access the pull-down menu. Select the appropriate size.
- 2. Tap the Working Pressure block to access the appropriate pressure for that Pipe Diameter.

C CQ-CCITION	Assign Job				
Your Profile	r toolgir oob				
Equipment	TRACEABILITY INFORMATIC	4.00Pet		NFORMATION	JOB CONFIRMATION
Labricants	Flange Assembly Setup	IN ASSEMI	SLY D	NPORMATION	JOB CONFIRMATION
Bolt Materials	Pipe Diameter (in)			# Working Pressure (psi)	
Torque Wrenches	11		٠	3000	
Plange Info	Number of Bolts			· Bolt Diameter (in)	
Bolt Info	16			1.375	
Sustem Bolt Patterns	Thread Count (tpl)			🜻 Lubricant	
Reject Management	Select Thread Count (tpl)		٠	Select Lubricant	
Supervisor PINs	* Bolt Material			Bolt Tension (Ibs)	
Users	Choose Bolt Material		٠	Bolt Tension (lbs)	
	Torque Wrench	Torque Wrench Traceability		* Passes	
Traceability Parameters	Select Tool *	Require capture of serial number		3	
Torque Assemblies	Pressure (psi)	Torque (lb-ft)		Percent Yield	
	-				Calculate
Assign Job	 Boit Order 				
jout	1,9,5,13,3,11,7,15,2,10,6,14,4,12,6,16				
	Black				Para -
					_

- 3. Tap **NEXT** to continue.
- 4. Enter the number of bolts, bolt diameter, thread pitch, lubricant. The drop-down menus can be accessed by tapping on each block.
- 5. Enter the bolt material, bolt tension, torque wrench, sequence type and number of passes. The drop-down menus can be accessed by tapping on each block
- 6. Tap **CALCULATE** to determine the required final pressure.
- 7. Tap NEXT

The COMMANDER XT1000 will review the information for accuracy and present the bolting sequence based on the number of bolts and the sequence type. It will present Valid Sequence if correct.

	Assign Job		
rile	Assign Job		
nent	TRACEABILITY INFORMATION	•	JOB CONFIRMATION
ricants	TRACEABILITY INFORMATION	ASSEMBLY INFORMATION	JOB CONFIRMATION
Materials		Torque assembly is valid	
que Wrenches	_	Press the button below to submit	
ige Info	Back		
Info			
tom Bolt Patterns			
ect Management			
ervisor PINs			
215			
ceability Parameters			
ue Assemblies			
ign Job			

7. Tap **NEXT** to complete the assignment. The Torque Assembly is now listed on the Cloud desktop and ready to be downloaded to the Commander.

GUIDED ASSEMBLY MODE

C CONTRACT	Assign Job						
Your Profile	/ toolgi i oob						
Equipment	•			•			
Labricants	TRACEABILITY INFORMATION ASSEMBLY IN Guided Assembly Setup			NFORMATION		JOB CONFIRMATION	
Bolt Materials	Number of Bolts			Lubricant Type			
Torque Vitenches	0			Select Lubricant			
Plange Info	Part Number		Bolt Diameter (in)	Thread Count (tpi)		int (tpi)	
Bolt Into	Select Part	•	Select Bolt Diameter (in)		Select Three	id Count (tpi)	
Sustom Bolt Patterns	🔶 Bolt Material			· Bolt Tension (Ibs)			
Reject Management	Choose Bolt Material *		Bolt Tension (Ibs)				
Supervisor PINs	Torque Wrench	Torque Wrench Torque Wrench Torque Wrench Require capture of setial number Pressure (psi) Torque (Ib-ft)		# Passes			
Users	Choose Torque Wrench •			3			
	Pressure (psi)			Percent Yield			
Traceability Parameters						Calculate	
	Bolt Order						
Torque Assemblies	Enler Bolt Order						
Assign Job	Back						le t
jout	_					_	

- 1. Enter the number of bolts, bolt diameter, thread pitch, lubricant. The drop-down menus can be accessed by tapping on each block.
- 2. Enter the bolt material, bolt tension, torque wrench, sequence type and number of passes. The drop-down menus can be accessed by tapping on each block.
- 3. Tap **CALCULATE** to determine the required final pressure.
- 4. Tap NEXT

The COMMANDER XT1000 will review the information for accuracy and present the bolting sequence based on the number of bolts and the sequence type. It will present Valid Sequence if correct.

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Profile	Assign Job		
pment			
bricants	TRACEABILITY INFORMATION	ASSEMBLY INFORMATION	JOB CONFIRMATION
it Materials		Torque assembly is valid	
rque Wrenches	_	Press the button below to submit	
inge Info	Back		<u> </u>
it Info			
stom Bolt Patterns			
ject Management			
pervisor PINs			
sers			
aceability Parameters			
rque Assemblies			
isign Job			
t.			

8. Tap **NEXT** to complete the assignment. The Torque Assembly is now listed on the Cloud desktop and ready to be downloaded to the Commander.

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	Assign Job		
bur Profile	Assign Job		
quipment	TRACEABILITY INFORMATION	ASSEMBLY INFORMATION	JOB CONFIRMATION
Lubricants	TRACEASILITY INFORMATION		JUB CONFIRMATION
Solt Materials		Torque assembly is valid	
forque Wrenches	Back	Press the button below to submit	-
Flange Info			© Su
Solt Info			
Custom Bolt Patterns			
Reject Management			
Supervisor PINs			
Users			
raceability Parameters			
orque Assemblies			
Assign Job			
out			

ERROR MESSAGES

1. If the Percent Yield is above 60%, the system will warn you but allow you to proceed.

Tap **OK** to proceed.

2. After tapping OK to the Alert, the Authorization screen appears. A Supervisor must enter a pre-assigned four-digit PIN in order to accept the out of specification After typing in the PIN, tap AUTHORIZE PIN.

Tap **CANCEL** to return to the input screens.

- 3. If the resulting pressure is below the minimum recommended by the wrench manufacturer, the system will present a warning message. However, tapping **OK** will allow you to proceed should you choose.
- 4. If the resulting torque is above the recommended torque by the wrench manufacturer, the system will present a warning message. It will not allow you to proceed.

Tapping **OK** will take you to the previous screen to adjust the values or tools