

TAWM SERIES

BAHCO®

**STANDARD AND SLIM
ELECTRONIC TORQUE-ANGLE WRENCH
WITH MEMORY**

Original Instructions



IMPORTANT SAFETY INSTRUCTIONS



WARNING.
RISK OF FLYING PARTICLES.
Over-torquing can cause breakage.
Force against flex stops on flex head can cause head breakage. An out of calibration angle wrench can cause part or tool breakage. Broken hand tools, sockets or accessories can cause injury. Excess force can cause crowfoot or flare nut wrench slippage.



- Read this manual completely before using ELECTRONIC WRENCH.
- To insure accuracy, work must not move in angle mode.
- For personal safety and to avoid wrench damage, follow good professional tool and fastener installation practices.



- Periodic recalibration is necessary to maintain accuracy.
- Wear safety goggles, user and bystanders.
- Be sure all components, including all adaptors, extensions, drivers and sockets are rated to match or exceed torque being applied.
- Observe all equipment, system and manufacturer's warnings, cautions and procedures when using this wrench.
- Use correct size socket for fastener.
- Do not use sockets showing wear or cracks.
- Replace fasteners with rounded corners.
- To avoid damaging wrench: Never use wrench with power off. Always turn ON wrench so applied torque is being measured.



- Do not press POWER while torque is applied or while wrench is in motion.
- Never use this wrench to break fasteners loose.
- Do not use extensions, such as a pipe, on handle of wrench.
- Check that wrench capacity matches or exceeds each application before proceeding.

- When using negative offsets, verify maximum targets are not exceeded (see tables on page 6).
- Verify calibration if dropped.
- Make sure ratchet direction lever is fully engaged in correct position.
- Verify calibration of wrench if you know or suspect its capacity has been exceeded.
- Do not force head of flex head drives against stops.
- Always adjust your stance to prevent a possible fall should something give while using wrench.
- Do not attempt to recharge Alkaline cells.
- Store wrench in dry place.
- Remove batteries when storing wrench used for periods longer than 3 months.



WARNING.
Electrical Shock Hazard.
Electrical shock can cause injury.
Metal handle is not isolated.

Do not use on live electrical circuits.

SAVE THESE INSTRUCTIONS

DISCLAIMER

Operation of the wrench is not warranted in an EU member state if operating instructions are not in that State's language.

Contact BAHCO if a translation is needed.

SPECIFICATIONS

HEAD TYPE

Square drive 48 teeth
 9x12, 14x18 & 24x32 receivers for interchangeable head

DISPLAY

- DISPLAY TYPE:
 Dot Matrix LCD (192 x 65 Resolution) STD
 Dot Matrix LCD (168 x 48 Resolution) SLIM
- VIEWING DIRECTION: 6:00
- BACKLIGHT: WHITE (LED)

SEALED BUTTON PAD

- ⏻ POWER - ON/OFF and torque and angle re-zero
- ⬅ ENTER - measurement mode select and menu entry
- ⬆ UP – increments torque and angle settings and menu navigation
- ⬇ DOWN - decrements torque and angle settings and menu navigation
- U UNITS - units select: ft-lbs, in-lbs, in-oz (depending on range); kgm, kg-cm, dNm, cNm (depending on range) and enter PSET (preset) menu
- 💡 LCD BACKLIGHT – Illuminates all screens and last peak torque or angle recall

FUNCTIONS

- Set - torque or angle target
- Track - real time display of torque or accumulated angular rotation with progress lights
- Peak Hold - 5 sec. flashing of peak torque or alternating peak torque/angle on release of torque
- Peak Recall - display last peak torque or peak torque/angle on button press
- Memory - display of last 1500 peak torque or peak torque/angle readings

ACCURACY

- Temperature: 22°C (72°F)
- Angle: ±1% of reading ±1° angular velocity
 > 10°/sec < 180°/sec

STD	CW	CCW	
Torque: (unflexed)	±2%	±3%	of reading, 20% to 100% of full scale
	±4%	±6%	of reading, 10% to 19% of full scale
	±8%	±10%	of reading, 5% to 9% of full scale
SLIM	CW	CCW	
Torque: (unflexed)	±2%	±3%	of reading, 20% to 100% of full scale
	±4%	±6%	of reading, 5% to 19% of full scale

OPERATING TEMPERATURE

0°F - 130°F (-18°C - 54°C)

STORAGE TEMPERATURE

0°F to 130°F (-18°C to 54°C)

MEASUREMENT DRIFT

ANGLE: -0.12 Angular Degrees per Degree C
 TORQUE: +0.01% of reading per Degree C

HUMIDITY

Up to 90% non-condensing

BATTERY

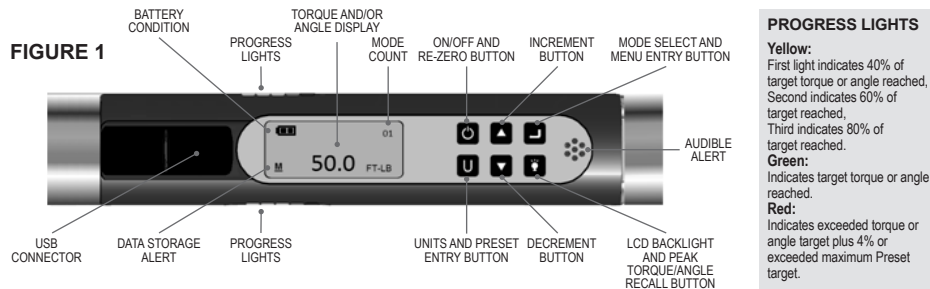
SLIM: Single "AA" Alkaline Cell
 STD: Three "AA" Alkaline Cells
 Alkaline or rechargeable NiMH batteries exceeds ASME battery life requirement of 10 hours continuous operation.

DEFAULT AUTO SHUT-OFF

After 2 minutes idle –
 (Adjustable, see Advanced Settings)

USER INSTRUCTIONS

FIGURE 1



PROGRESS LIGHTS

Yellow:
First light indicates 40% of target torque or angle reached, Second indicates 60% of target reached, Third indicates 80% of target reached.

Green:
Indicates target torque or angle reached.

Red:
Indicates exceeded torque or angle target plus 4% or exceeded maximum Preset target.

Install fresh Alkaline “AA” cells into handle of wrench.

WRENCH POWER ON SEQUENCE

Note: Do not turn on wrench while torque is applied, otherwise torque zero offset will be incorrect and wrench will indicate a torque reading when torque is released. If this occurs, re-zero wrench by momentarily pressing POWER button while wrench is on a stable surface with no torque applied.

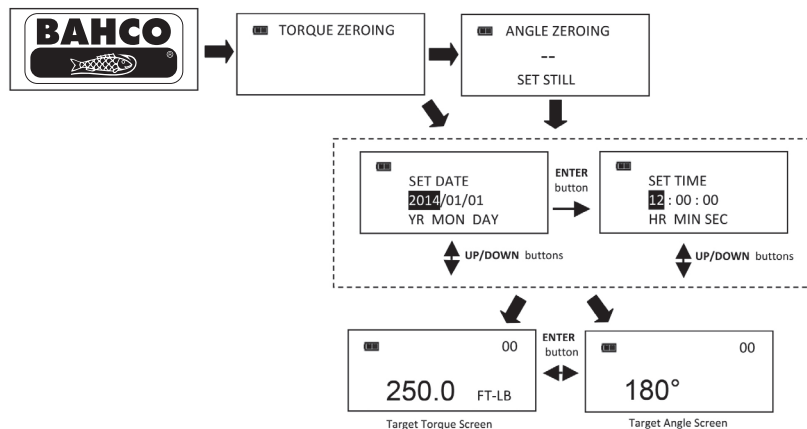
1. Turn On Wrench.

While holding wrench still, press POWER button. BAHCO logo will be displayed followed by torque and angle re-zeroing screens (if angle mode has been previously selected). If real-time-clock has not been set, date and time entry screens are displayed (see Advanced Configuration section for entering date and time). After entering date and time or if time has been previously set, target TORQUE or ANGLE screen will now be displayed (depending on previous measurement mode selected).

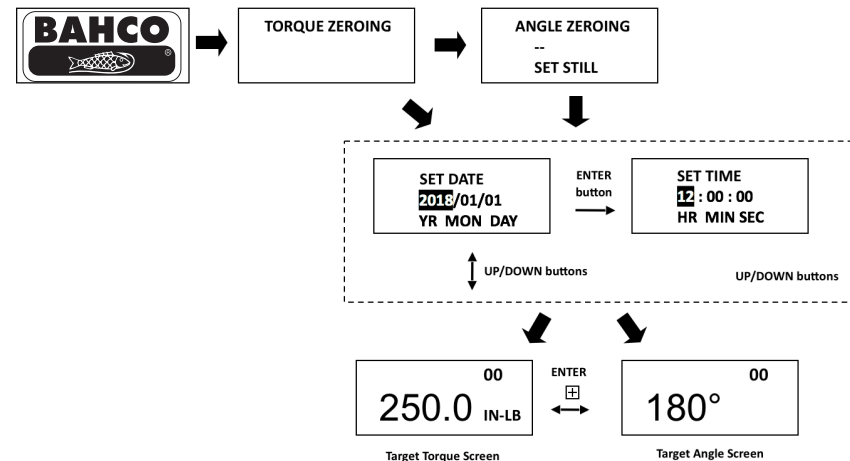
2. Select Measurement Mode.

Toggle between target TORQUE and ANGLE screens by repeatedly pressing ENTER button.

STD



SLIM



Note: When date and time is set for first time, In-Service date is also set and is used for calculating initial calibration interval (see “Setting Calibration Interval” in Advanced Configuration section).

Note: If wrench is powered up in torque only measurement mode, angle is not zeroed until mode is changed to angle measurement mode, at which time torque and angle zeroing begins automatically after 2 seconds. Wrench should be placed on a stable surface with no torque applied.

Note: Pressing ENTER button while angle is zeroing will abort zeroing function to allow user to select another measurement mode.

TORQUE MODE

1. Set Target.
Use UP/DOWN buttons to change TORQUE target value.
2. Select Units of Measure.
Repeatedly press UNITS button while on target TORQUE screen until desired units are displayed.
3. Apply TORQUE.
Grasp center of handle and slowly apply torque to fastener until progress lights display green and a ½ second audible alert and handle vibration alerts you to stop.
4. Release TORQUE.
Note peak TORQUE reading flashing on LCD display for 5 seconds. Pressing BACKLIGHT button while peak torque is flashing will continue to display value until button is released. Momentarily pressing UP/DOWN, ENTER or UNITS button will immediately return to target TORQUE screen. Reapplying TORQUE will immediately start another TORQUE measurement cycle.
5. Recall Peak TORQUE Reading.
To recall last peak TORQUE measurement, press and hold BACKLIGHT button for approximately 3 seconds. Peak TORQUE will flash for 5 seconds.

ANGLE MODE

Note: When angle measurement mode is selected for first time following a power on, “ANGLE ZERO REQUIRED” message is displayed. After two seconds angle zero process begins and

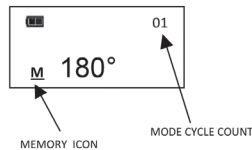
wrench must be placed on a stable surface. If ENTER button is pressed before two seconds to change to torque only mode, angle zero process is skipped.

1. Set target. Use UP/DOWN buttons to change target ANGLE value.
2. Apply Torque and Rotate Wrench. Grasp center of handle and slowly apply torque to fastener and rotate wrench at a moderate consistent speed until progress lights display green and a ½ second audible alert and handle vibration alerts you to stop.
3. Release torque. Note alternating peak TORQUE and ANGLE readings flashing on LCD display for 5 seconds. Pressing BACKLIGHT button while peak values are flashing will continue to display values until button is released. Momentarily pressing UP/DOWN, ENTER or UNITS button will immediately return to target ANGLE screen. Reapplying torque (ratcheting) before target screen is displayed will continue ANGLE accumulation as wrench is rotated.
4. Recall Peak ANGLE Reading. To recall last peak ANGLE measurement, press and hold BACKLIGHT button for approximately 3 seconds. Peak TORQUE and ANGLE will be displayed alternately for 5 seconds.

MODE CYCLE COUNT

Mode cycle count feature is used to indicate number of times wrench has reached target torque in torque measurement mode or target angle in angle measurement mode.

STD / SLIM



TORQUE AND ANGLE MODE CYCLE COUNTING

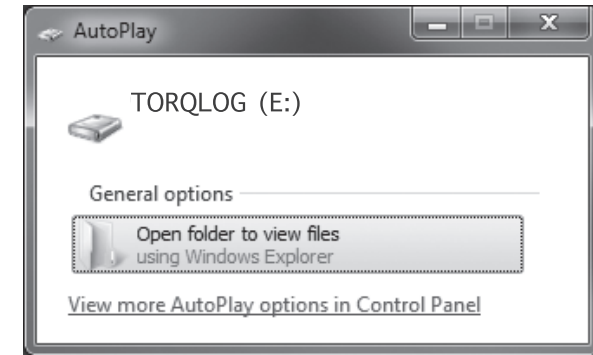
1. Numerical counter located in top right of target torque or target angle screen will increment after each torque or angle cycle if applied torque or angle has reached target value.
2. When toggling between torque mode or angle mode using ENTER button or if target is changed, numerical counter will reset back to 00. counter WILL NOT reset when re-zeroing, on menu entry/exit or power down.
3. Memory icon will turn on indicating at least one torque or angle cycle data has been stored in memory.

DATA DOWNLOAD

Torque and Angle data in memory can be downloaded to a computer via USB port.

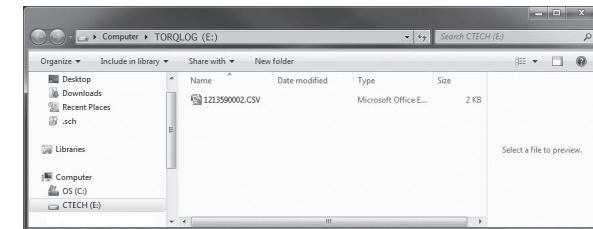
Note: When downloading data from a wrench that has previous downloaded data, rename previous file or move it to a different directory to prevent overwrite. However, Windows® will notify user of duplicate file names and allow user to skip download, overwrite existing file or save new file as a second copy.

1. Connect supplied USB cable from computer to wrench.
2. Computer will display "AutoPlay" window showing TORQLOG as a disk drive with option of using Windows Explorer to view files:



3. Click "Open Folder" selection to display TORQLOG Character Separated Value (.csv) file.

Note: If "AutoPlay" does not start automatically, use Explorer to display TORQLOG drive contents.



4. Open file using Microsoft Excel by double clicking on file name (Example: "1213590002.CSV") or "drag and drop" file to computer.
5. Data on wrench can be cleared by deleting file on the TORQLOG drive.

Note: Wrench Serial Number and Calibration Date are included in first line of downloaded .csv file. Example:

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	S/N	1234567890	CAL DATE	1/1/2018									
2	DATE/TIME	7/13/2018 11:16:15	TARGET TORQUE	5	MIN TORQUE	5	MAX TORQUE	5.2	PEAK TORQUE	5.8	TARGET ANGLE	0	MIN ANGLE
3													MAX ANGLE
4													0
5													0 IN-LB
6													TORQUE STATUS
7													HIGH
8													ANGLE STATUS
9													OK
10													MODE COUNT
11													1

MAIN MENU

Main menu displays wrench operational information.

1. From target torque or angle screen, press and hold ENTER button for 3 seconds.
2. Use UP/DOWN buttons to highlight menu selection then press ENTER button.

Menu Selections:

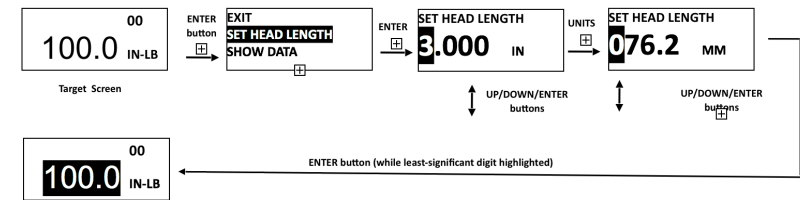
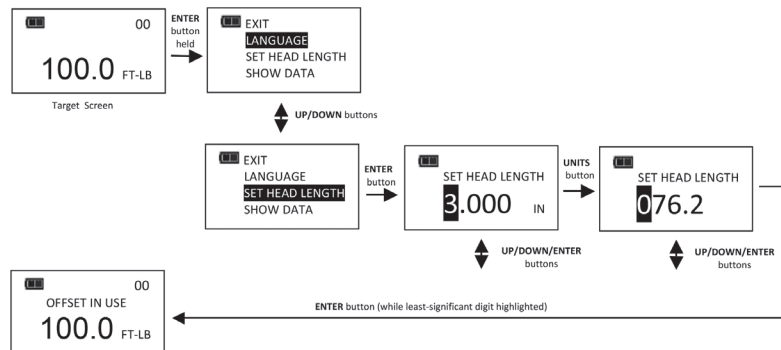
- EXIT - Exits Main menu and returns to target screen.
- LANGUAGE - Displays language selection menu.
- SET HEAD LENGTH - Displays wrench head length entry screen.
- SHOW DATA - Displays stored torque and angle data.
- CLEAR DATA - Clears stored torque and angle data.
- CYCLE COUNT - Displays torque/angle cycle count screen.
- SETTINGS - Displays advanced settings menu (see Advanced Settings Section).
- CONFIGURE - Displays advanced configuration menu (see Advanced Configuration Section).

SETTING HEAD LENGTH

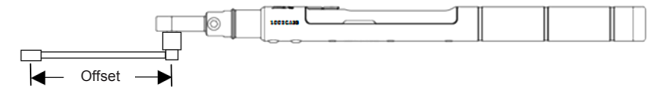
Note: If wrench has an interchangeable head or an adapter or extension is added, length of head, adapter and/or extension being used can be entered to correct for a different length without requiring re-calibration.

1. To enter a head length, from target torque or angle screen, press and hold ENTER button for 3 seconds.
2. With SET HEAD LENGTH menu selection highlighted, momentarily press ENTER button.
3. Set Head Length screen is displayed next. Default head length is length of head at calibration (zero for fixed head wrench) and is displayed with most-significant digit highlighted. Use UP/DOWN buttons to increment/decrement head length. Pressing and holding UP/DOWN buttons will progressively increment/decrement value faster.
4. Press ENTER button to accept digit and highlight next-significant digit.
5. Default units of length is in inches. Press UNITS button to change to millimeters.
6. Pressing ENTER button after least-significant digit is set returns to main menu. If length is changed from default, «OFFSET IN USE» message will be displayed on target screen (on STD wrenches), the target torque is highlighted in black (on SLIM wrenches).

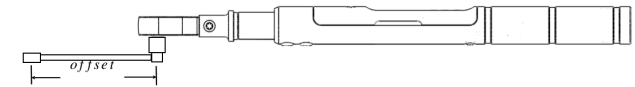
Note: If UP/DOWN buttons are pressed simultaneously while on the Set Head Length screen, displayed head length resets to zero or calibration head length for interchangeable head wrenches.



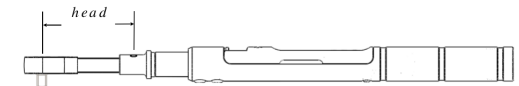
Note: For a fixed length head, head length entered is offset length measured from center of drive to center of fastener.



Note: For an interchangeable head, head length is measured from locking pin to center of drive. SET HEAD LENGTH is set during calibration. If a different length head is used, enter new head length and offset is calculated automatically.

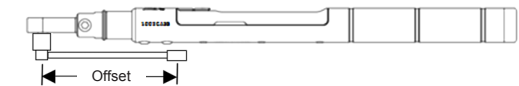


Note: For an interchangeable head with an adapter, head length entered is sum of head length and offset length.



USE OF NEGATIVE OFFSETS

Note: Enter a negative value for offset when used in reverse direction with flex head or when calculating sum of interchangeable head and offset lengths.



When length of an offset (or sum of head minus offset for interchangeable head) is negative, maximum fastener target is limited by following formulas:

STD

135 Nm wrench:

Maximum Target Torque = offset * 4,1 + 135

Offset (cm)	Max Target (Nm)
-1	131
-2	127
-3	123
-4	119

340 Nm wrench:

Maximum Target Torque = offset * 6,1 + 340

Offset (cm)	Max Target (Nm)
-1	334
-2	328
-3	322
-4	316

800 Nm wrench:

Maximum Target Torque = offset * 7,6 + 800

Offset (cm)	Max Target (Nm)
-1	792
-2	785
-3	777
-4	770

SLIM

10 Nm wrench:

Maximum Target Torque = offset * 0.435 + 10

Offset (cm)	Max Target (Nm)
-1	9.57
-2	9.13
-3	8.70
-4	8.26

30 Nm wrench:

Maximum Target Torque = offset * 1.3 + 30

Offset (cm)	Max Target (Nm)
-1	28.70
-2	27.40
-3	26.10
-4	24.80

Note: When using a negative offset, entering a target torque greater than maximum values above may cause an overtorque error before reaching fastener target torque and possibly damage wrench.

VIEWING STORED TORQUE AND ANGLE DATA

Torque data is stored in memory after each torque cycle if applied torque has reached target value. Torque and angle data is stored in memory after each angle cycle if applied angle has reached target value. Memory Indicator is displayed when data is stored in non-volatile memory.

1. To view stored torque and angle data, from target torque or angle screen, press and hold ENTER button for 3 seconds.
2. Highlight SHOW DATA menu selection by pressing UP/DOWN buttons then press ENTER button to display Show Data screen.
3. In Show Data screen, scroll through each stored data record by pressing UP/DOWN buttons.

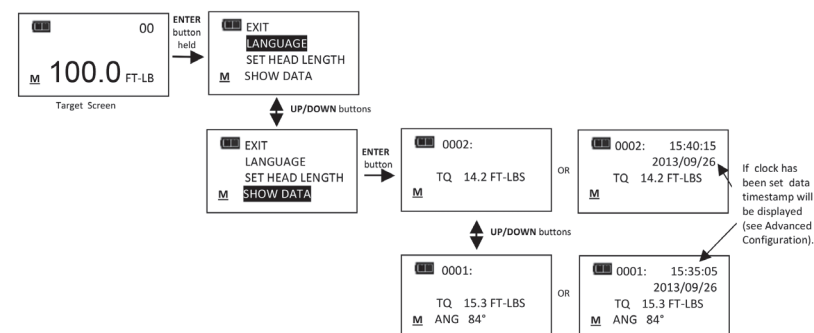
Example:

0002 = Show Data List Counter: TQ = Peak torque value

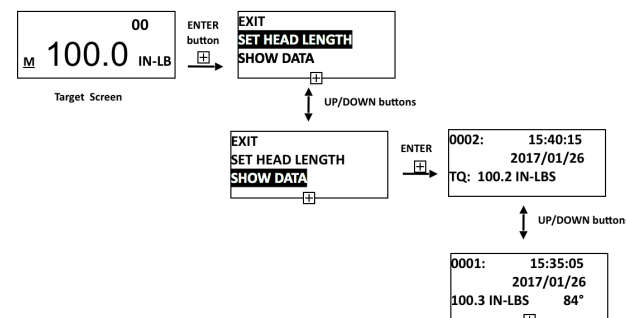
0001 = Show Data List Counter: TQ = Peak torque value: ANG = Peak angle value

4. Pressing ENTER button while on Show Data screen returns to main menu.

STD



SLIM



Note: A maximum of 1500 data records can be stored. Memory full icon will be displayed when full and no more data is stored until memory is cleared (on STD wrenches only).

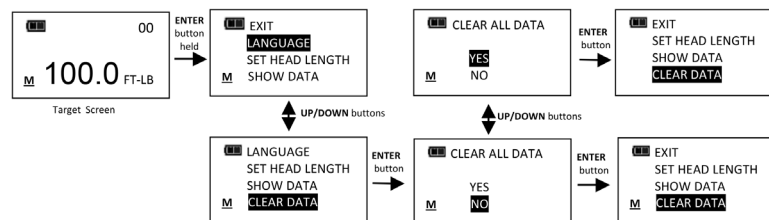
Note: A maximum of 1500 data records can be stored in memory. Memory full icon will be displayed when full. When full, a new data record will become record number 1500 and all older data is shifted down one record number. Record 0002 becomes 0001 and old 0001 is dropped.

DELETING STORED TORQUE AND ANGLE DATA

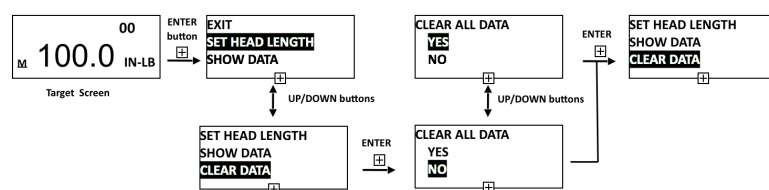
1. From target torque or angle screen, press and hold ENTER button for 3 seconds.
2. Highlight CLEAR DATA menu selection using UP/DOWN buttons then press ENTER button to display CLEAR ALL DATA screen.
3. In CLEAR ALL DATA screen, highlight YES menu selection to delete all stored data, or NO menu selection to exit without deleting data.
4. Press ENTER button after making selection.

Note: If wrench is Locked (see Preset Lock in Advanced section), Clear Data function is disabled.

STD



SLIM

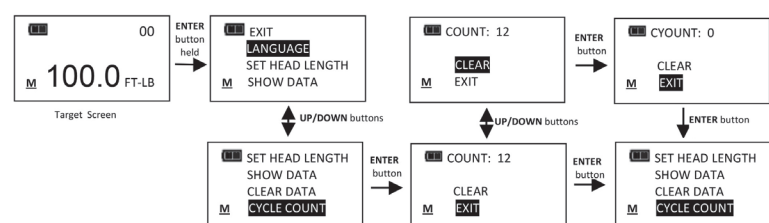


VIEWING AND CLEARING WRENCH CYCLE COUNTER

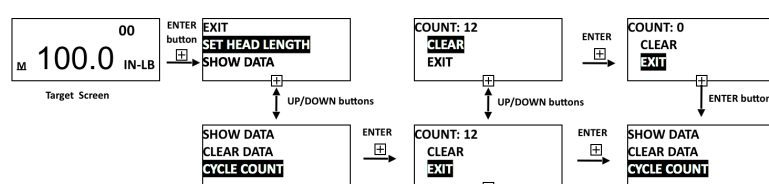
Each time torque or angle target is reached, wrench cycle counter is incremented. Maximum cycle count is 999999.

1. From target torque or angle screen, press and hold ENTER button for 3 seconds.
2. Highlight CYCLE COUNT menu selection using UP/DOWN buttons.
3. Press ENTER button to display CYCLE COUNT screen.
4. To exit CYCLE COUNT screen without clearing count, press ENTER button while EXIT menu selection is highlighted.
5. To reset wrench cycle count to 0, highlight CLEAR menu selection then press ENTER button.
6. EXIT menu selection is automatically highlighted after count is cleared. Press ENTER button to return to main menu.

STD



SLIM



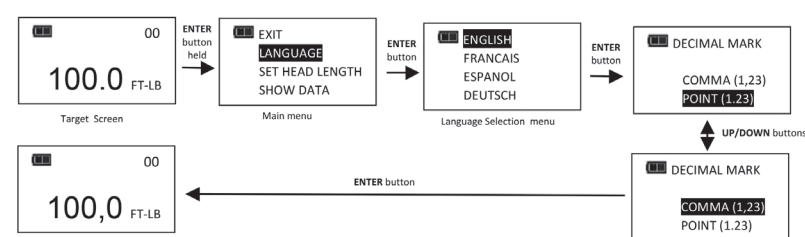
Note: If wrench is Locked (see Preset Lock in Advanced section) Clear count function is disabled.

LANGUAGE

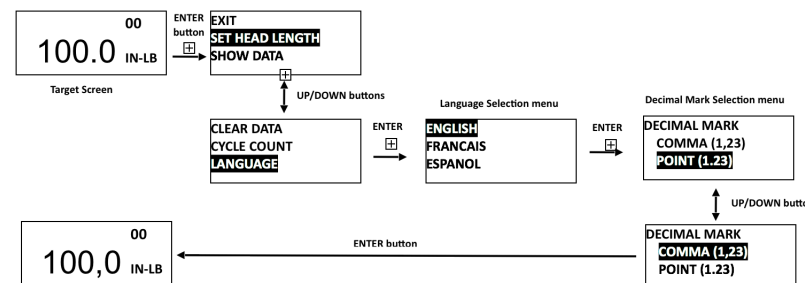
1. To select the language menu, press the ENTER button while LANGUAGE is highlighted then highlight the desired language and press the ENTER button.
2. Decimal Mark selection menu is displayed. Decimal separator can be a comma or decimal point. Use UP/DOWN buttons to select the decimal separator then press the ENTER button.

Note: The decimal separator will affect the formatting of the downloaded data when opened by Excel depending on Windows® regional settings.

STD



SLIM



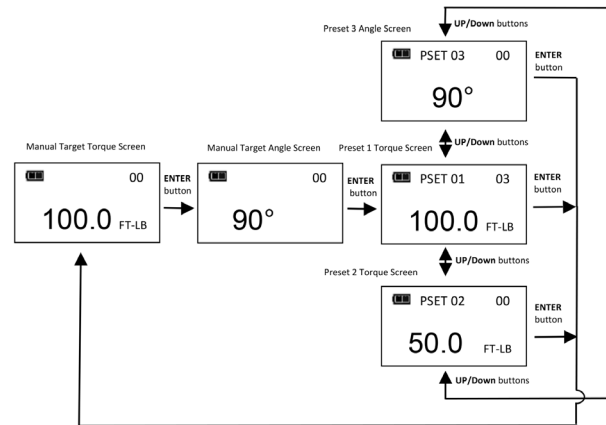
3. To exit Main menu and return to target torque or angle screen, press ENTER button while EXIT menu selection is highlighted.

TARGET PRESETS (PSET)

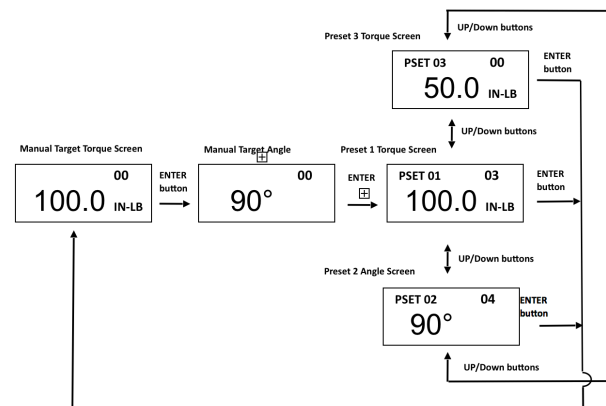
PSET function gives user ability to configure 50 preset target torque or target angle settings, each with a target, minimum, maximum (over range) and batch count value. PSETs are stored in non-volatile memory so that they are retained while power is off.

Note: After adding a Preset (see below), navigate between manual target torque, angle mode and PSET screen by repeatedly pressing ENTER button. While PSET screen is displayed, press UP/DOWN buttons to select additional configured PSETs.

STD



SLIM

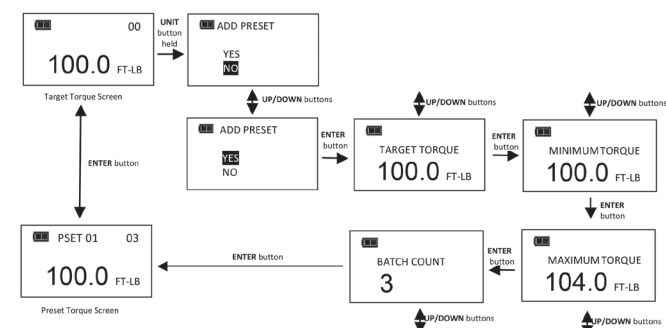


ADDING A TORQUE PRESET

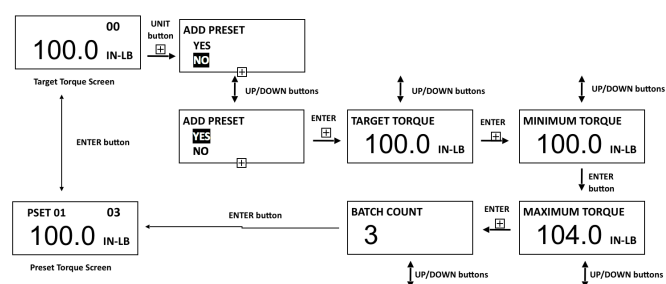
1. From manual target torque screen, select units of measure.
2. Press and hold UNITS button for 3 seconds.
3. ADD PRESET confirmation screen is displayed. Highlight YES menu selection using UP/DOWN buttons then press ENTER button. NO menu selection returns to main menu without adding a PSET.
4. TARGETTORQUE screen is displayed. TARGET TORQUE is target value of fastener. Initial TARGET TORQUE value is value from target torque screen. TARGET TORQUE can be set to any value within wrench torque range by pressing UP/DOWN buttons. Once desired target torque value has been set, press ENTER button.
5. MINIMUM TORQUE screen is displayed. MINIMUM TORQUE is value at which green progress lights, audible alert and vibrator turn on. Initial MINIMUM TORQUE value is TARGET TORQUE value minus negative torque tolerance (default 0%, see MODE SETUP in Advanced Configuration section). MINIMUM TORQUE can be set to any value from TARGET TORQUE to wrench minimum torque range by pressing UP/DOWN buttons. Once desired minimum torque value has been set, press ENTER button.

6. MAXIMUM TORQUE screen is displayed next. MAXIMUM TORQUE is torque value above which red progress lights turn on. Initial MAXIMUM TORQUE value will be TARGET TORQUE value plus positive torque tolerance (default 4%, see MODE SETUP in Advanced Configuration section). Maximum torque value can be set greater than TARGET TORQUE value to 10% above wrench maximum range by pressing UP/DOWN buttons. Once desired maximum torque value has been set, press ENTER button.
7. BATCH COUNT screen is displayed next. Default value is zero. Batch count range is 0 to 99. Press UP/DOWN buttons to increment/decrement batch count. Mode Count increments each time target torque is reached if a batch count of zero is entered. Mode Count decrements if a non-zero batch count is entered and resets to batch count value when count reaches zero. Once desired batch count value has been set, press ENTER button.
8. PSET target screen is displayed labeled with next available PSET number from 01 to 50.
9. To enter additional torque presets, repeatedly press ENTER button until target torque screen is displayed and repeat steps above.

STD



SLIM



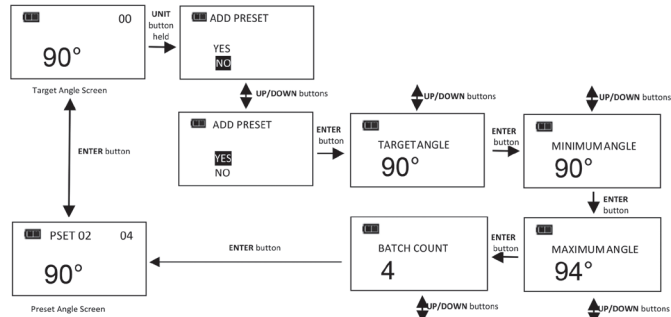
ADDING AN ANGLE PRESET

1. From manual target angle screen, press and hold UNITS button for 3 seconds.
2. ADD PRESET confirmation screen is displayed. Highlight YES menu selection using UP/DOWN buttons then press ENTER button. NO menu selection returns to main menu without adding a PSET.
3. TARGET ANGLE screen is displayed. TARGET ANGLE is fastener rotational angle target value. Initial TARGET ANGLE value is value from target angle screen. TARGET ANGLE can be set from 0 to 360° by pressing UP/DOWN buttons. Once desired target angle value has been set, press ENTER button.
4. MINIMUM ANGLE screen is displayed. MINIMUM ANGLE is value at which green progress lights, audible alert and vibrator turn on. Initial MINIMUM ANGLE value is TARGET ANGLE minus negative angle

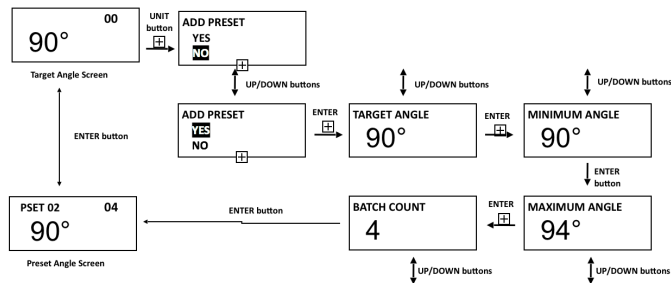
tolerance (default 0%, see MODE SETUP in Advanced Configuration section). MINIMUM ANGLE can be set from 0 to TARGET ANGLE by pressing UP/DOWN buttons. Once desired minimum angle value has been set, press ENTER button.

5. MAXIMUM ANGLE screen is displayed next. MAXIMUM ANGLE is angle value above which red progress lights turn on. Initial MAXIMUM ANGLE value will be TARGET ANGLE plus positive angle tolerance (default 4%, see MODE SETUP in Advanced Configuration section). MAXIMUM ANGLE value can be set to any value greater than TARGET ANGLE by pressing UP/DOWN buttons. Once desired value has been set, press ENTER button.
6. BATCH COUNT screen is displayed next. Default value is zero. Batch count range is 0 to 99. Press UP/DOWN buttons to increment/decrement batch count. Mode Count increments each time target angle is reached if a batch count of zero is entered. Mode Count decrements if a non-zero batch count is entered and resets to batch count value when count reaches zero. Once desired batch count value has been set, press ENTER button.
7. PSET target screen is displayed labeled with next available PSET number from 01 to 50.
8. To enter additional angle presets, repeatedly press ENTER button until target angle screen is displayed and repeat steps above.

STD



SLIM



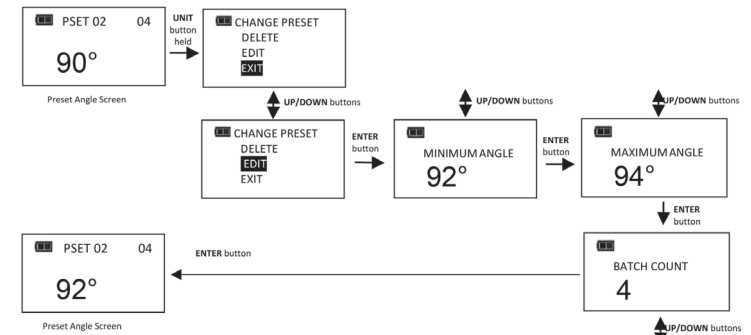
EDITING A PRESET

Edit PSET function gives user ability to edit stored PSETS on wrench.

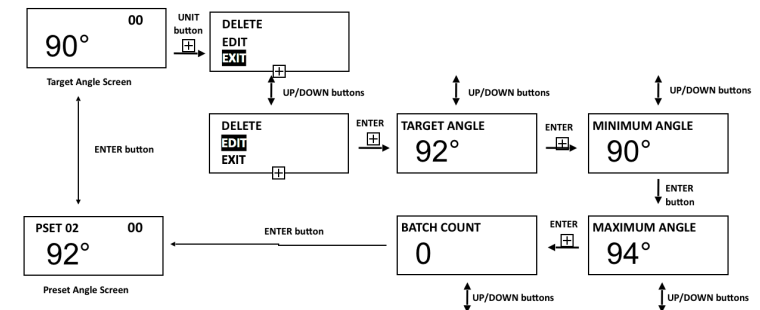
1. From Preset screen to be edited, press and hold UNITS button for 3 seconds.
2. CHANGE PRESET screen is displayed.

3. Highlight EDIT selection using UP/DOWN buttons then press ENTER button.
4. TARGET TORQUE or TARGET ANGLE screen is displayed. Value can be changed by pressing UP/DOWN buttons. Once desired target torque or angle value has been set, press ENTER button.
5. MINIMUM TORQUE or MINIMUM ANGLE screen is displayed. Value can be changed by pressing UP/DOWN buttons. Once desired torque or angle value has been set, press ENTER button.
6. MAXIMUM TORQUE or MAXIMUM ANGLE screen is displayed next. Value can be changed by pressing UP/DOWN buttons. Once desired torque or angle value has been set, press ENTER button.
7. BATCH COUNT screen is displayed next. Value can be changed by pressing UP/DOWN buttons. Once desired batch count value has been set, press ENTER button.
8. PSET target screen is displayed labeled with same PSET number.

STD



SLIM



Note: Pressing ENTER button while EXIT menu selection is highlighted will exit without editing PSET.

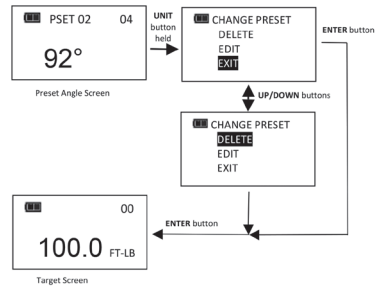
DELETING A PRESET

Delete PSET function allows user to remove stored presets from wrench

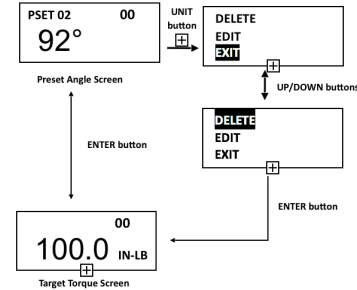
1. From Preset screen to be deleted, press and hold UNITS button for 3 seconds.
2. CHANGE PRESET screen is displayed.
3. Highlight DELETE menu selection using UP/DOWN buttons and press ENTER button.
4. Target screen is displayed and deleted PSET is no longer available for selection.

Note: Pressing ENTER button while EXIT menu selection is highlighted will exit without deleting PSET.
Note: When a PSET is deleted, all other stored PSET's will retain their original PSET numbers.
Note: When a new PSET is entered, it will be assigned first available PSET number in sequence.

STD



SLIM

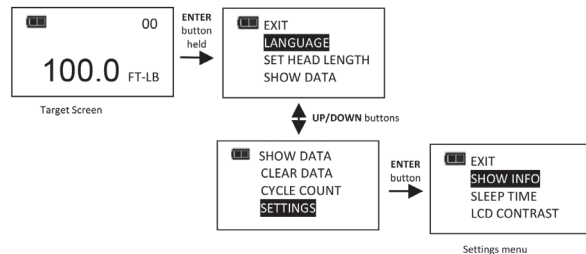


ADVANCED SETTINGS

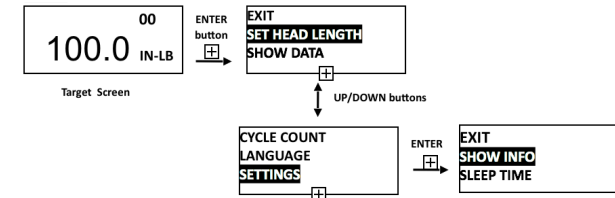
Advanced settings are accessed from SETTINGS menu selection on main menu.

- From target torque or angle screen, press and hold ENTER button for 3 seconds.
- Highlight SETTINGS menu selection using UP/DOWN buttons.
- Press ENTER button to display Settings menu.
 Menu Selections:
 EXIT - Exits Settings menu and returns to target screen.
 SHOW INFO - Displays wrench operational information.
 SLEEP TIME - Displays power down interval setup screen.
 LCD CONTRAST - Displays LCD contrast setup screen.
 KEY BEEP - Displays button press beep enable/disable setup screen.
 TARGET BEEP - Displays target beep enable/disable setup screen (only on SLIM wrenches).
 AUTO BACKLIGHT - Displays auto backlight enable/disable screen to turn on backlight during measurement.
 TOGGLE BACKLIGHT - Displays BACKLIGHT button toggle or timeout enable/disable screen.
 VIBRATOR CONFIG - Displays vibrator ON/OFF configuration for when target reached.
 BATTERY TYPE - Displays the battery type selection screen (only on SLIM wrenches).
- To exit Settings menu and return to target torque or angle screen, press ENTER button while EXIT menu selection is highlighted.

STD



SLIM



Note: All user configurable settings are stored in non-volatile memory and are retained while power is off.

SHOW INFO

Show Info menu selection displays wrench operational information.

- From Settings menu, press ENTER button while SHOW INFO selection is highlighted.
- SHOW INFO screen is displayed.
- UP/DOWN buttons are used to scroll screen.

Operational Information:

SN: Serial number assigned to wrench.

CAL: Date of last wrench calibration.

ISD: In-Service Date.

TCF: Torque Calibration Factor.

ACF: Angle Calibration Factor.

VER: Software version.

OVR CNT: Overtorque Counter tracks how many times an over-torque event occurred on wrench (torque >125% of full scale).

AZZ: Angle Z-Axis Zero Offset (only on SLIM wrenches).

AXZ: Angle X-axis Zero Offset (only on SLIM wrenches).

AZO: Angle Zero Offset at full scale torque (only on SLIM wrenches).

TFS: Torque full scale value (only on SLIM wrenches).

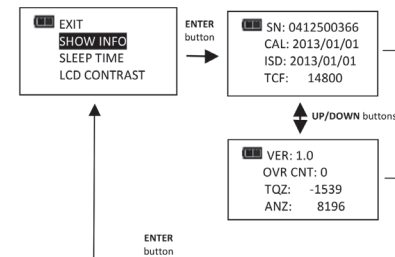
Copyright (only on SLIM wrenches).

TQZ: Torque Zero Offset.

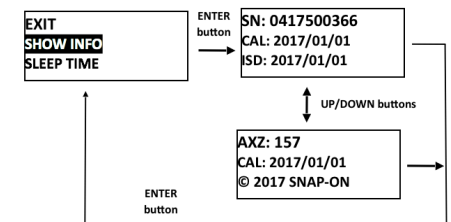
ANZ: Angle Zero Offset (only on SLIM wrenches).

- Pressing ENTER button exits Show Info screen and returns to Settings menu.

STD



SLIM

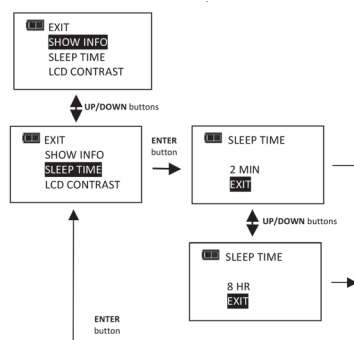


SETTING SLEEP TIME

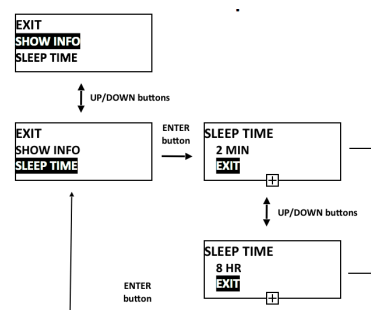
This function will allow user to set interval wrench enters power-down state following last applied torque or button press.

1. From Settings menu, use UP/DOWN buttons to highlight SLEEP TIME selection then press ENTER button.
2. SLEEP TIME screen is displayed.
3. Use UP/DOWN buttons to select sleep interval.
Selectable Intervals: 2 MIN (factory default); 5 MIN; 30 MIN; 1 HR; 2 HR; 8 HR
4. Press ENTER button to accept selection and exit to Settings menu.

STD



SLIM

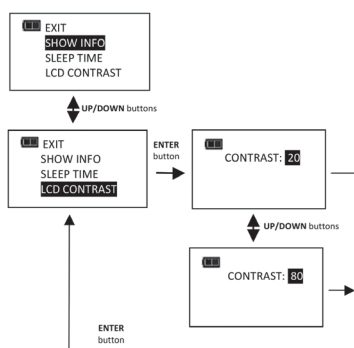


SETTING LCD CONTRAST

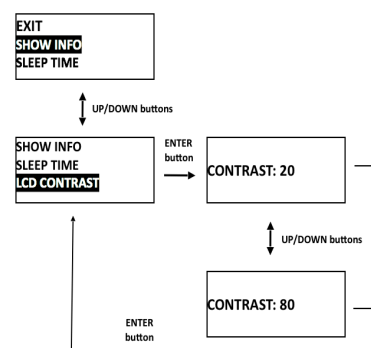
This function will allow user to set LCD contrast for optimal viewing.

1. From Settings menu, use UP/DOWN buttons to highlight LCD CONTRAST selection then press ENTER button.
2. CONTRAST screen is displayed.
3. Use UP/DOWN buttons while viewing display to change contrast to desired level.
Selectable levels: 20 to 80 in increments of 5 (factory default = 40).
4. Press ENTER button to accept selection and exit to Settings menu.

STD



SLIM

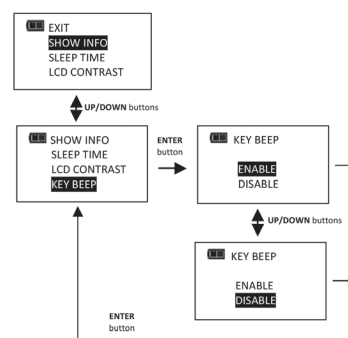


KEY BEEP SETUP

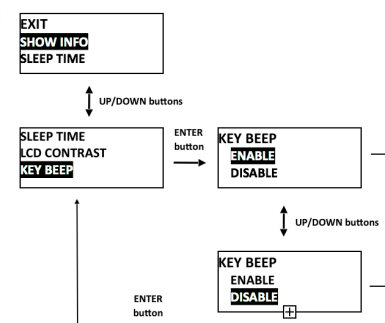
This function will allow user to enable or disable audio feedback when a button is pressed.

1. From Settings menu, use UP/DOWN buttons to highlight KEY BEEP selection then press ENTER button.
2. KEY BEEP screen is displayed.
3. Use UP/DOWN buttons to highlight ENABLE (factory default) or DISABLE selection.
4. Press ENTER button to accept selection and exit to Settings menu.

STD



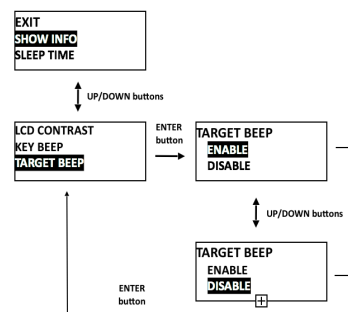
SLIM



TARGET BEEP SETUP (ONLY ON SLIM WRENCHES)

This function will allow user to enable or disable audio feedback when target is reached.

1. From Settings menu, use UP/DOWN buttons to highlight TARGET BEEP selection then press ENTER button.
2. TARGET BEEP screen is displayed.
3. Use UP/DOWN buttons to highlight ENABLE (factory default) or DISABLE selection.
4. Press ENTER button to accept selection and exit to Settings menu.



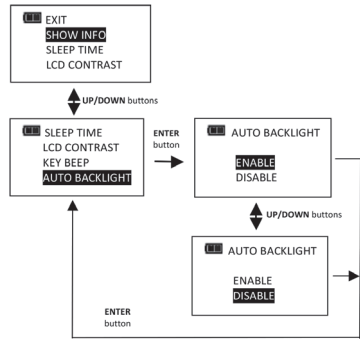
AUTO BACKLIGHT SETUP

This function will allow user to enable or disable backlight from turning on during torque or angle measurement.

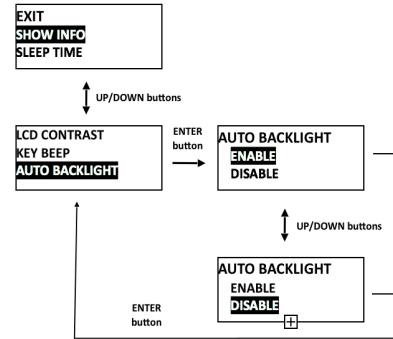
1. From Settings menu, use UP/DOWN buttons to highlight AUTO BACKLIGHT selection then press ENTER button.

2. AUTO BACKLIGHT screen is displayed.
3. Use UP/DOWN buttons to highlight ENABLE (factory default) or DISABLE selection.
4. Press ENTER button to accept selection and exit to Settings menu.

STD



SLIM



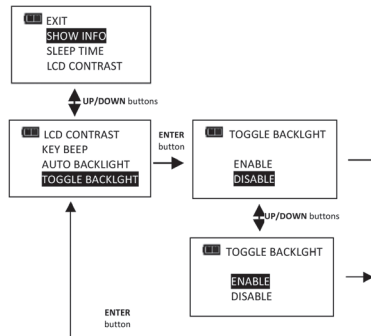
TOGGLE BACKLIGHT SETUP

This function will allow user to enable or disable backlight toggle function. If toggle mode is disabled, BACKLIGHT button turns on backlight and it automatically turns off after five seconds following any last button press. If toggle mode is enabled, a BACKLIGHT button press will turn on backlight and it will remain on until next BACKLIGHT button press.

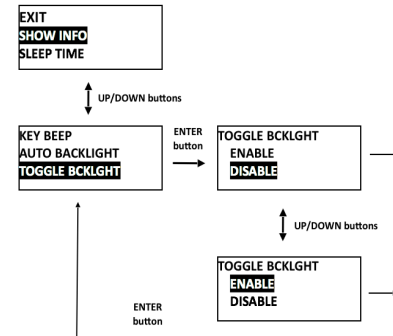
1. From Settings menu, use UP/DOWN buttons to highlight TOGGLE BACKLIGHT selection then press ENTER button.
2. TOGGLE BACKLIGHT screen is displayed.
3. Use UP/DOWN buttons to highlight ENABLE or DISABLE (factory default) selection.
4. Press ENTER button to accept selection and exit to Settings menu.

Note: Backlight will turn off when wrench powers down either by POWER button press or sleep time.
Note: If toggle backlight is enabled and backlight is on, backlight will remain on during and after applying torque.

STD



SLIM

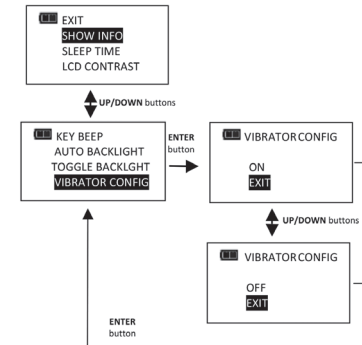


VIBRATOR CONFIGURATION

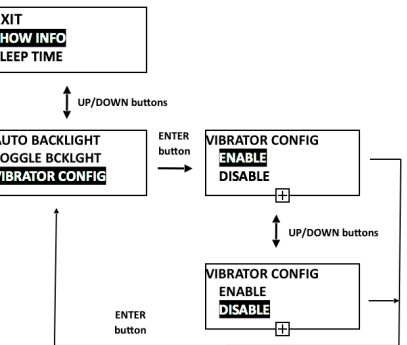
This function will allow user to configure vibrator for On or Off when target is reached for preference and/or battery power savings.

1. From Settings menu, use UP ▲ /DOWN ▼ buttons to highlight VIBRATOR CONFIG selection, then press ENTER button.
2. VIBRATOR CONFIG screen is displayed.
3. Use UP ▲ /DOWN ▼ buttons to toggle ON or OFF selection.
4. Press ENTER button to accept selection and exit to Settings menu.

STD



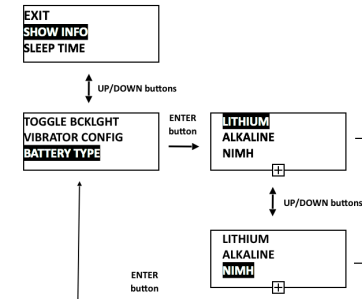
SLIM



BATTERY TYPE SELECTION (ONLY ON SLIM WRENCHES)

This function will allow user to configure the battery discharge thresholds for the type of battery used.

1. From Settings menu, use UP ▲ /DOWN ▼ buttons to highlight BATTERY TYPE selection then press ENTER button.
2. BATTERY TYPE screen is displayed.
3. Use UP ▲ /DOWN ▼ buttons to select the type of battery being used.
4. Press ENTER button to accept selection and exit to Settings menu.



Note: Wrench is configured for Alkaline battery shipped from factory. If Alkaline battery is replaced with rechargeable Nickel-Metal Hydride (NIMH) or lithium, battery type should be changed so battery level icon and LOW battery warnings function optimally. Battery life (REPLACE) will not be impacted, however 50% and Low will be optimized to show most accurate linear discharge time.

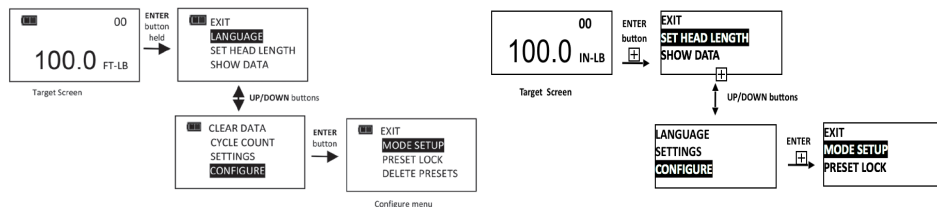
ADVANCED CONFIGURATION

Advanced configuration is accessed from CONFIGURE menu selection on main menu.

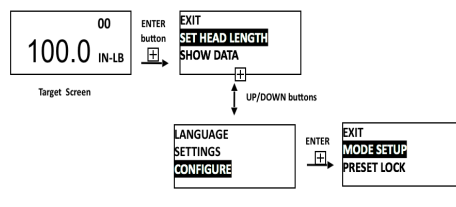
Note: If wrench has been locked (see Preset Lock and Job Mode), a password entry is required to enter Configure menu.

1. From target torque or angle screen, press and hold ENTER button for 3 seconds.
2. Highlight CONFIGURE menu selection using UP/DOWN buttons.
3. Press ENTER button to display Configure menu.
Menu Selections:
EXIT - Exits Configure menu and returns to target torque or angle screen.
MODE SETUP - Displays wrench mode setup menu.
PRESET LOCK - Displays Preset lock menu.
DELETE PRESETS - Displays delete all presets menu.
JOB MODE - Displays Job mode menu.
CALIBRATION - Displays wrench calibration menu (password protected).
SET DATE/TIME - Displays clock date and time entry screens.
SET CAL INTRVAL - Displays calibration interval setup screen (requires clock date and time setup).
CAL COUNT DOWN - Displays calibration needed countdown setup screen (requires clock date and time setup and calibration interval setup) (only on SLIM wrenches).
CHANGE PASSWD - Displays change password menu.
ASSET # - Displays user configurable 15-character string (only on SLIM wrenches).
4. To exit Configure menu and return to target torque or angle screen, press ENTER button while EXIT menu selection is highlighted.

STD



SLIM



Note: All user configurable settings are stored in non-volatile memory and are retained while power is off.

MODE SETUP

Mode setup menu allows user configure target torque and angle minus and plus tolerances and enable/disable Torque THEN Angle mode and Torque AND angle mode.

1. From Configure menu, press ENTER button while MODE SETUP selection is highlighted.
2. Mode Setup menu is displayed.
Menu Selections:
EXIT - Exits Mode setup menu and returns to Configure menu screen.
TQ-% SETUP - Displays target torque minus tolerance entry screen.
TQ+% SETUP - Displays target torque plus tolerance entry screen.
ANG-% SETUP - Displays target torque minus tolerance entry screen.

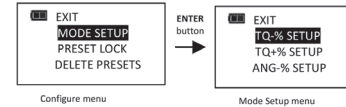
ANG+% SETUP - Displays target torque plus tolerance entry screen.

THEN DISABLED - Displays THEN Mode enable/disable screen.

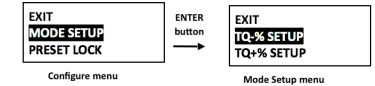
AND DISABLED - Displays AND Mode enable/disable screen.

3. Use UP/DOWN buttons to highlight menu selections.
4. Press ENTER button while EXIT menu selection is highlighted to return to Configure menu.

STD



SLIM



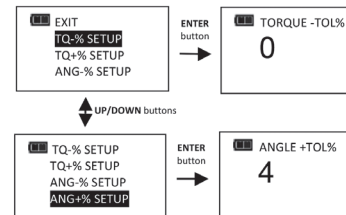
SETTING TARGET TOLERANCES

This function will allow user to set plus and minus tolerances for torque and angle targets.

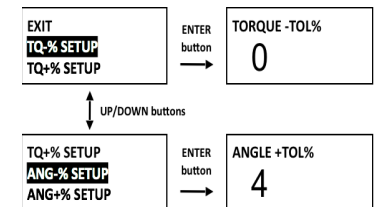
Note: These tolerances are used for manual modes only. Preset tolerances are defined by Minimum and Maximum values.

1. From Mode Setup menu, use UP/DOWN buttons to highlight tolerance selection to setup (TQ-%, TQ+%, ANG-%, ANG+%) then press ENTER button.
2. Tolerance screen is displayed.
3. Use UP/DOWN buttons to change tolerance value. Range is 0 to 10% (factory default for minus tolerance is 0% and 4% for plus tolerance).
4. Press ENTER button to accept selection and exit to Mode Setup menu.

STD



SLIM



Note: Green progress lights turn on at target minus -% TOL.

Note: Red progress lights turn on above target plus +% TOL.

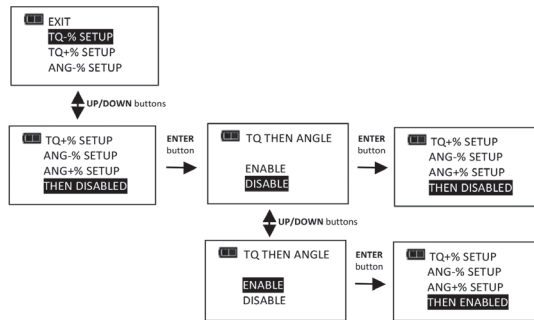
Note: Plus tolerance is added to minimum Preset value to define initial maximum value when a Preset is first added.

ENABLE/DISABLE TORQUE THEN ANGLE MODE

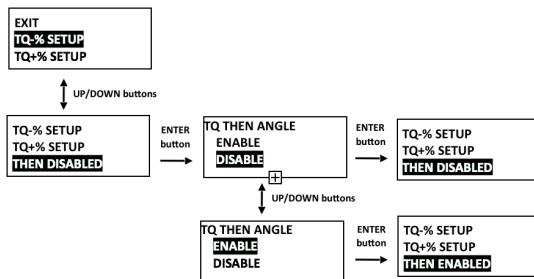
This function will allow user to enable or disable Torque THEN Angle Mode.

1. From Mode Setup menu, use UP/DOWN buttons to highlight THEN DISABLED (factory default) selection then press ENTER button.
2. TQ THEN ANGLE enable/disable screen is displayed.
3. Use UP/DOWN buttons to select ENABLE or DISABLE selection.
4. Press ENTER button to accept selection and exit to Mode Setup menu.

STD



SLIM



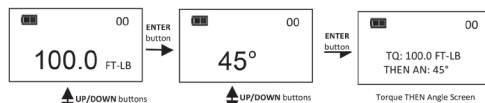
Note: Menu selection indicates current configuration (ENABLED or DISABLED).

TORQUE THEN ANGLE MODE

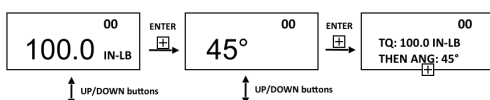
Torque THEN Angle mode is setup by first setting a target torque and units then a target angle before selecting Torque THEN Angle mode. In Torque THEN Angle mode, when applied torque reaches target torque, wrench automatically switches to angle mode for angle measurement. Progress lights indicate applied torque progress while torque is measured and angle when angle is measured. If torque is below target torque when angle reaches target angle, green progress lights will not turn on and if angle exceeds maximum angle, red progress lights turn on indicating a potential problem with fastener.

1. From target torque screen, use UP/DOWN buttons to set target torque and UNITS button to select torque measurement units then press ENTER button.
2. Angle target screen is displayed. Use UP/DOWN buttons to set target angle then press ENTER button.
3. Torque THEN Angle mode screen is displayed.
4. Apply torque until target is reached then rotate wrench to target angle.

STD



SLIM



Note: UNITS button can be used to select torque units while on Torque THEN Angle screen.

Note: Torque cycle is not recorded in memory unless both torque and angle reach targets.

Note: Red progress lights turn on if torque exceeds 110% of wrench full scale or if angle exceeds target + plus tolerance while in manual mode.

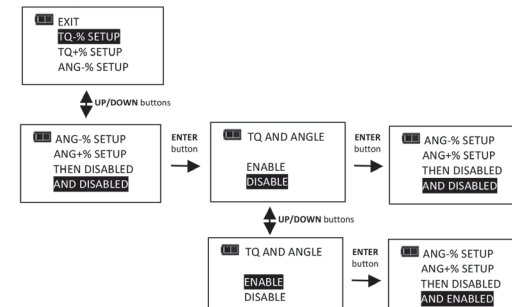
Note: Torque THEN Angle Presets are entered by pressing and holding Units button while on Torque THEN Angle screen. MAXIMUM TORQUE defaults to full range plus 10%. Refer to “Adding a Torque Preset” and “Adding an Angle Preset” in Basic section for parameter entry.

ENABLE/DISABLE TORQUE AND ANGLE MODE

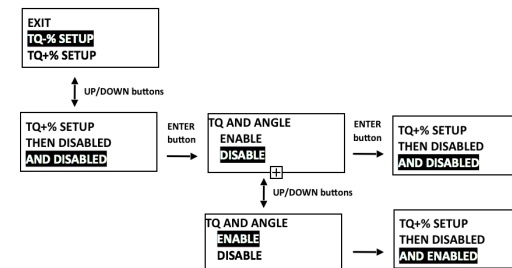
This function will allow user to enable or disable Torque AND Mode.

1. From Mode Setup menu, use UP/DOWN buttons to highlight AND DISABLED (factory default) selection then press ENTER button.
2. TQ AND ANGLE enable/disable screen is displayed.
3. Use UP/DOWN buttons to select ENABLE or DISABLE selection.
4. Press ENTER button to accept selection and exit to Mode Setup menu.

STD



SLIM

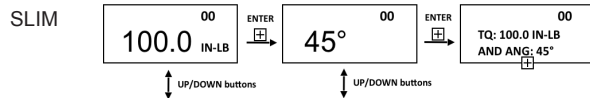
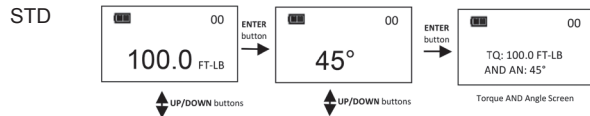


Note: Menu selection indicates current configuration (ENABLED or DISABLED).

TORQUE AND ANGLE MODE

Torque AND Angle mode is setup by first setting a target torque and units then a target angle before selecting Torque AND Angle mode. In Torque AND Angle mode, torque and angle are measured simultaneously. Yellow progress lights track torque measurement. When both torque and angle reach their targets, green progress lights turn on and torque and angle data record is stored. If either of measurements exceed their upper tolerance, red progress lights turn on.

1. From target torque screen, use UP/DOWN buttons to set target torque and UNITS button to select torque measurement units then press ENTER button.
2. Angle target screen is displayed. Use UP/DOWN buttons to set target angle then press ENTER button until Torque AND Angle mode screen is displayed.
3. Apply torque and rotate wrench until both targets are reached.



Note: UNITS button can be used to select torque units while on Torque AND Angle screen.

Note: Torque THEN Angle Presets are entered by pressing and holding Units button while on Torque THEN Angle screen. Refer to “Adding a Torque Preset” and “Adding an Angle Preset” in Basic section for parameter entry.

Note: Torque cycle is not recorded in memory unless both torque and angle reach targets.

Note: Red progress lights turn on if torque exceeds target + plus tolerance or if angle exceeds target + plus tolerance while in manual mode.

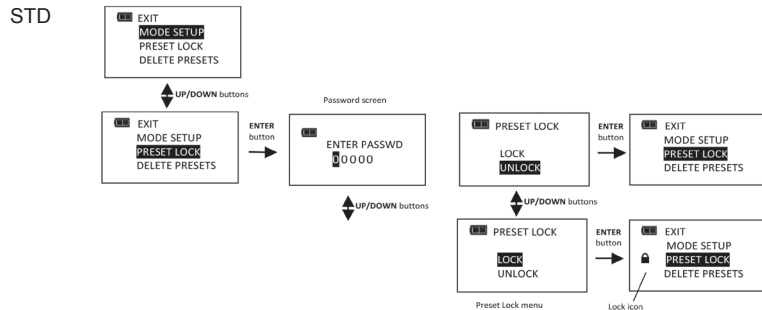
Note: Red progress lights turn on if torque exceeds maximum torque or if angle exceeds maximum angle in Preset mode.

PRESET LOCK

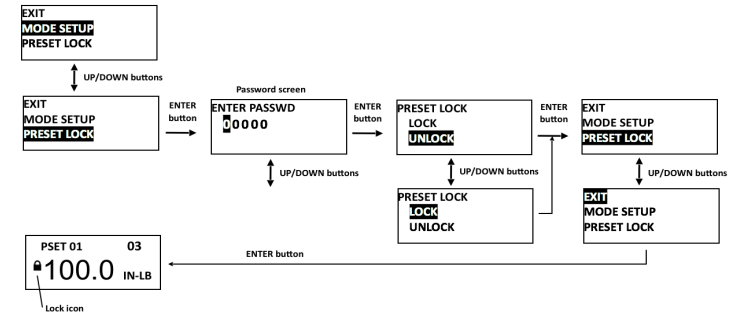
Preset Lock function allows user to lock wrench so that only configured presets are accessible. No other presets can be configured and manual target torque and angle modes are not accessible when locked.

Note: Password entry is required to enable Preset Lock. When locked, password entry is required to re-enter Configure menu (Refer to Calibration Manual regarding Configure password).

1. From Configure menu, use UP/DOWN buttons to highlight PRESET LOCK selection then press ENTER button.
2. Preset Lock enable/disable screen is displayed.
3. Use UP/DOWN buttons to select LOCK or UNLOCK selection.
4. Press ENTER button to accept selection and exit to Configure menu.



SLIM



Note: If LOCK is selected without a Preset configured, following screen is displayed:

STD

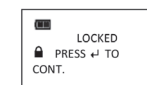


SLIM

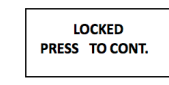


Note: When Preset Lock is enabled, Clear Memory function is disabled and displays following Locked message if attempted:

STD



SLIM



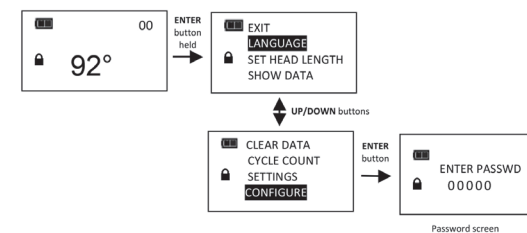
Note: When Preset Lock is enabled, Clear Cycle count function is disabled and displays Locked message if attempted.

PRESET UNLOCK

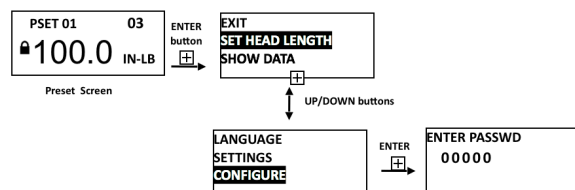
When Preset Lock is enabled, a password is required to access Configure menu. Refer to Calibration Manual for Configure password.

1. From target torque or angle screen, press and hold ENTER button for 3 seconds.
2. Highlight CONFIGURE menu selection using UP/DOWN buttons.
3. Press ENTER button to display Password screen.
4. Follow password entry procedure found in Calibration manual.

STD



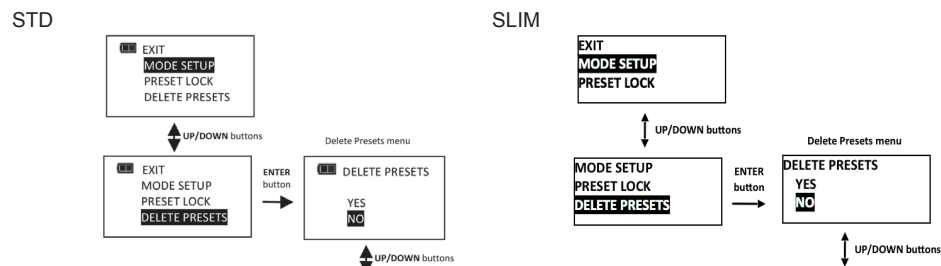
SLIM



DELETE PRESETS

Delete Presets function allows user to delete all presets at once.

1. From Configure menu, use UP/DOWN buttons to highlight DELETE PRESETS selection then press ENTER button.
2. Delete Presets confirmation screen is displayed.
3. Use UP/DOWN buttons to select YES or NO selection.
4. Press ENTER button to accept selection and exit to Configure menu.



Note: If Delete Presets is selected without a Preset configured, following screen is displayed:



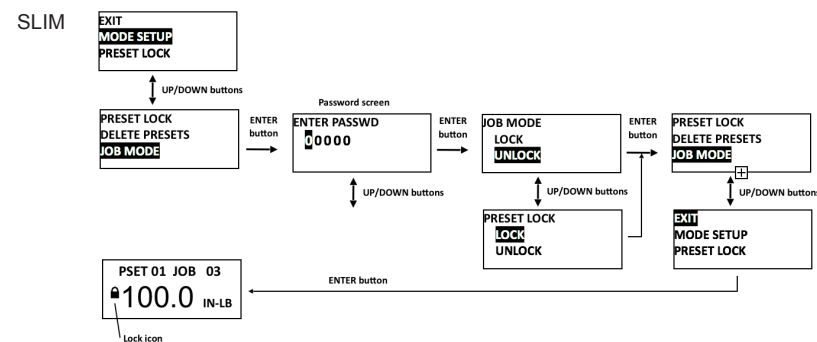
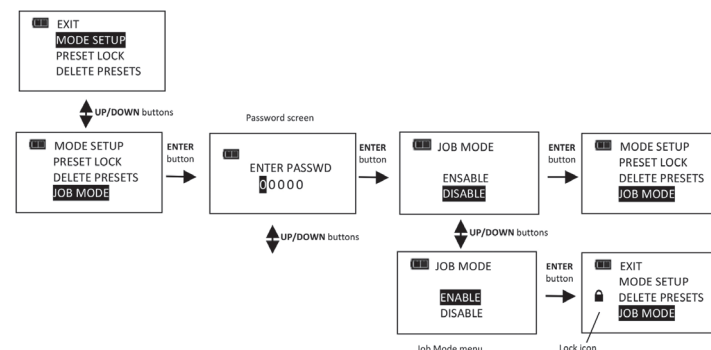
JOB MODE

Job Mode function allows user to enable or disable wrench preset Job mode. When in Job mode, wrench executes presets in order configured and automatically switches to next preset when batch count reaches zero. When in Job mode wrench is locked and Preset lock icon is displayed.

Note: Password entry is required to enable Job Mode. When enabled, password entry is required to re-enter Configure menu (Refer to Calibration Manual for Configure password).

1. From Configure menu, use UP/DOWN buttons to highlight JOB MODE selection then press ENTER button.
2. Job Mode enable/disable screen is displayed.
3. Use UP/DOWN buttons to select ENABLE or DISABLE.
4. Press ENTER button to accept selection and exit to Configure menu.

STD



Note: Text “JOB” is displayed between PSET number and batch count when enabled.



CALIBRATION

Calibration menu is password protected. Refer to Calibration Manual.



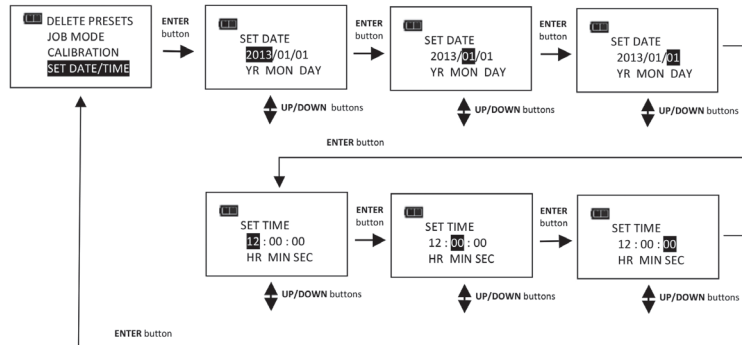
SETTING DATE AND TIME

The Set Date/Time function allows user to set real-time-clock date and time for time stamping data records, recording last calibration date and notifying user of an expired calibration interval.

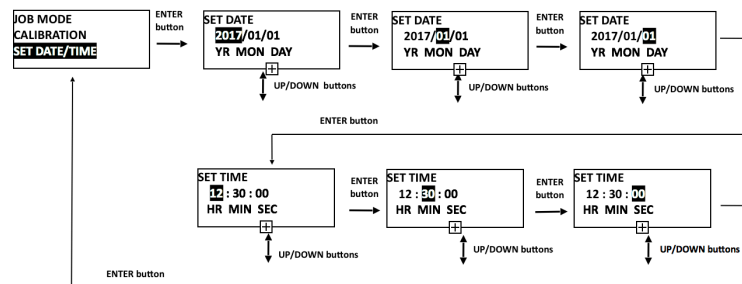
Note: When date and time is set for first time, In-Service date is also set and is used for calculating initial calibration interval (see “Setting Calibration Interval” in Advanced Configuration section).

1. From Configure menu, use UP/DOWN buttons to highlight SET DATE/TIME selection then press ENTER button.
2. SET DATE screen is displayed with year highlighted.
3. Use UP/DOWN buttons to set year then press ENTER button to highlight month.
4. Use UP/DOWN buttons to set month then press ENTER button to highlight day.
5. Use UP/DOWN buttons to set day then press ENTER button.
6. SET TIME screen is displayed with hour highlighted.
7. Use UP/DOWN buttons to set hour then press ENTER button to highlight minutes.
8. Use UP/DOWN buttons to set minutes then press ENTER button to highlight seconds.
9. Use UP/DOWN buttons to set seconds then press ENTER button.
10. Clock is set and Configure menu is displayed.

STD



SLIM



Note: Year selection will scroll up from 2013. Month selection will scroll from 1 to 12. Day selection will scroll from 1 to 31.

Note: Hour selection will scroll through 0 to 23. Minute and Second selections will scroll through 0 to 59.

Note: If batteries are removed from wrench for longer than 20 minutes, clock will revert to default settings and must be re-entered at power on.

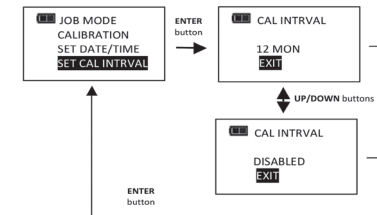
SETTING CALIBRATION INTERVAL

This function will allow user to set calibration interval for when "CAL NEEDED" message will be displayed.

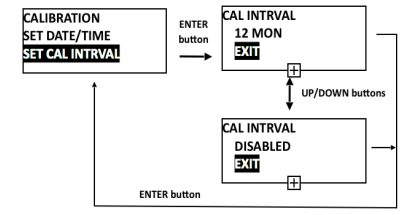
1. From Configure menu, use UP/DOWN buttons to highlight SET CAL INTRVAL selection then press ENTER button.

2. CAL INTERVAL screen is displayed.
3. Use UP/DOWN buttons to change calibration interval.
Selectable Intervals: 12 MON (factory default); 6 MON; 3 MON; DISABLED
4. Press ENTER button to accept selection and exit to Configure menu.

STD



SLIM



Note: Clock Date and Time must be set before calibration interval will function. If batteries are removed from wrench for longer than 20 minutes, clock will revert to default settings and must be re-entered at power on.

Note: Calibration interval is calculated from either IN-Service Date or last Calibration date (see SHOW INFO menu) depending on which is more recent date. When clock Date is greater than IN-Service or Last Calibration date, plus Cal Interval, "CAL NEEDED" message will be displayed on power up and after a re-zero. Pressing ENTER button will continue to target menu. Applying torque while "CAL NEEDED" message is displayed will immediately display torque or angle measurement and return to target menu when released.

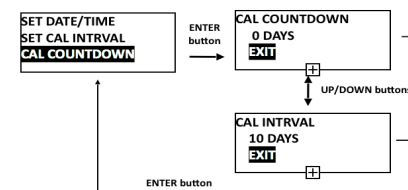
Note: As an alternative to calibration interval, a Calibration Cycle Counter is provided in Calibration menu (Refer to Calibration Manual regarding Calibration menu). Each time a measurement cycle reaches target torque, calibration cycle counter is incremented. When torque is recalibrated, calibration counter is automatically reset to zero. User can disable calibration interval check and use number of cycles since last calibration to decide when to recalibrate.

Note: If an invalid date is entered and Calibration interval is enabled, an unintended "CAL NEEDED" message may be displayed. Either disable the calibration interval or enter a correct date.

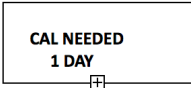
SETTING CALIBRATION NEEDED COUNTDOWN (ONLY ON SLIM WRENCHES).

This function will allow user to set number of days when "CAL NEEDED" message will be displayed along with days remaining before a wrench lock out occurs due to Cal interval expiring.

1. From Configure menu, use UP/DOWN buttons to highlight CAL COUNTDOWN selection then press ENTER button.
2. CAL COUNTDOWN screen is displayed.
3. Use UP/DOWN buttons to change calibration countdown.
Range: 0 to 10 days.
4. Press ENTER button to accept selection and exit to Configure menu.



Note: Clock Date and Time must be set and Cal interval enabled before calibration countdown will function (see Setting Date and Time and Setting Calibration Interval).
Note: Calibration Countdown is number of days before wrench is locked out from use following an expired Cal interval. Countdown number of days before lockout is displayed below “CAL NEEDED” message:



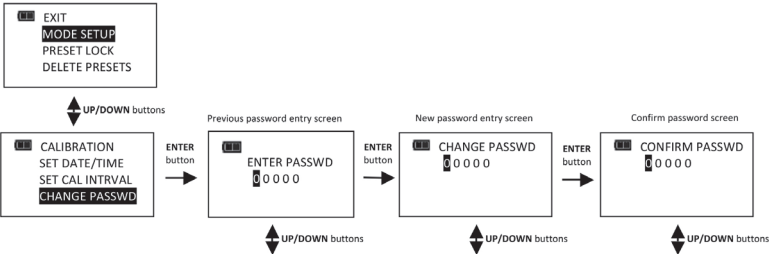
Note: “CAL NEEDED” message will be displayed on power up and after a re-zero. Applying torque while countdown is remaining, torque or angle is immediately displayed. Red LEDs and buzzer turn on if Cal interval has expired. Pressing ENTER button after Cal interval has expired will display Password Entry screen (Refer to TAWM Calibration manual).
Note: An entered Cal Countdown value of 0 days will disable calibration countdown and if Cal interval is enabled, wrench does not lock when CAL NEEDED” message is displayed.

CHANGE PASSWORD

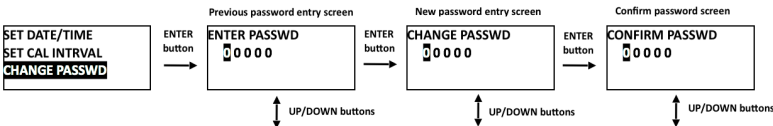
Change Password function allows user to change password to a new password. Default password is required to initially change the password (Refer to Calibration Manual for Configure password).

- 1. From Configure menu, use UP/DOWN buttons to highlight CHANGE PASSWD selection then press ENTER button.
- 2. Initial password entry screen is displayed.
- 3. Enter default password if changing for first time, otherwise enter current user password using UP/DOWN buttons to change each digit followed by ENTER button.
- 4. Change password entry screen is displayed.
- 5. Enter new password using UP/DOWN buttons to change each digit followed by ENTER button.
- 6. Confirm password entry screen is displayed.
- 7. Re-enter new password using UP/DOWN buttons to change each digit followed by ENTER button.

STD



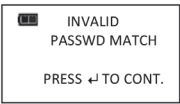
SLIM



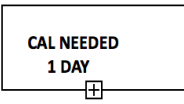
Note: Pressing POWER button at any time aborts password change sequence.

Note: If an invalid password is entered during the confirmation step, Invalid Password Match screen is displayed and new password is not accepted.

STD



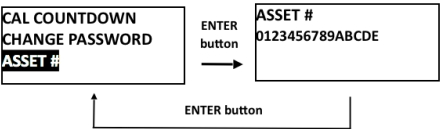
SLIM



ASSET # (ONLY ON SLIM WRENCHES)

This function displays a USB configurable 15-character string. When configured, Asset # string is download data file name and is included in first row of.csv data file.












- 1. From Configure menu, use UP/DOWN buttons to highlight ASSET # selection then press ENTER button.
- 2. ASSET # screen is displayed.
- 3. Use Windows program to configure Asset # via USB (Contact factory for software).
- 4. Press ENTER button to accept selection and exit to Configure menu.



Note: While Asset # is being displayed, number can be configured via USB.
Note: Available characters for Asset #: 0-9, A-Z, space # _ % ' () + , - .
Note: If Asset # is blank, wrench serial number is used for .csv file name and included in data.

TROUBLESHOOTING

Note: If any of following issues persist, return wrench to a SNA Europe/Bahco repair center.

ISSUE	POSSIBLE CAUSE	RESOLUTION
Wrench does not turn on when POWER button pressed.	Dead/No batteries	Replace batteries
	Software glitch	Cycle power using end-cap
Torque reading out of spec.	Calibration required	Recalibrate
	Incorrect head length entered	Enter correct offset head length
Wrench did not retain settings while batteries were removed.	Batteries removed before setting were saved in non-volatile memory.	Clear data, re-enter settings and press and hold POWER button to power down wrench before removing batteries.
 LOW BATTERY	Low battery	Press ENTER button to continue using wrench and replace batteries soon.
 REPLACE BATTERY	Dead battery	Press POWER button to turn off wrench and replace batteries.
 TORQUE ZERO ERROR	Torque applied while zeroing	Remove torque and re-zero
	Wrench over torqued	Recalibrate
	Wrench improperly calibrated	Recalibrate
	Torque sensor failure	Return to Factory
 ANGLE ZEROING SET STILL	Wrench moving during zeroing	Place wrench on stable surface
	Gyro unstable	Return to Factory
 ANGLE ZERO ERROR	ENTER button pressed during angle zeroing (Aborted zeroing to access menus)	Press POWER button to re-zero
 OVERTORQUE	Over 125% of full scale torque applied	Cycle power using POWER button and recalibrate
 ANGLE ERROR	Wrench rotated too fast during angle measurement	Press POWER button to re-zero
 CALL NEEDED	Calibration interval exceeded or invalid date entered with calibration interval enabled	Calibrate wrench or press ENTER to continue. Disable calibration interval if not required.
 M E	Memory error	Clear data memory
 TORQUE UCAL	Torque uncalibrated	Calibrate torque
 ANGLE UCAL	Angle uncalibrated	Calibrate angle

IMPORTANT INFORMATION

USE OF ADAPTORS, EXTENSIONS AND UNIVERSALS

Anytime an adaptor, extension or universal is used with a torque wrench in such a way that fastener distance is different than torque wrench square drive distance at calibration, an adjustment to head length is required to get a proper fastener torque reading. When using wobble extension or a universal, do not exceed more than 15 degrees of offset from perpendicular drive. Do not use a long extension with flex-drive at full flex.

CALIBRATION

Contact your Bahco sales representative for calibration services or refer to Calibration Manual.

CERTIFICATION

This torque-angle wrench was calibrated at factory using angular displacement and torque measurement instruments that are traceable to National Institute of Standards and Technology (N.I.S.T.). Torque parameters comply with ISO 6789:2003 and ASME B107:300-2010 (B107.29). Note: no U.S. or International Standards exist for angle wrenches. Angle calibration was performed on an angle gage with ± 1 degree accuracy at each 45 degree indexing point throughout 180 degrees of rotation.

IMPORTANT!
Calibration events are recorded in wrench memory which provides evidence to void factory certification.

MAINTENANCE / SERVICE

Clean wrench by wiping with a damp cloth. DO NOT use solvents, thinners or carburetor cleaners. DO NOT immerse in anything. Service and repairs are to be done by SNA Europe/Bahco Service Center only. Contact your Bahco Torque Products representative. Ratchet head repair kits can be ordered from a Bahco Representative.

NOTES:

- If display shows persistent “TORQUE ZERO ERROR” at power on, wrench is damaged and must be returned for repair.
- If display shows “ANGLE ERROR” in angle mode, fastener rotation speed has exceeded capacity of wrench.

- Wrench must be held still during angle zeroing. Motion is indicated by alternating dashes “- -” on display
- Remove battery when stored for extended periods (Note: clock will revert to default settings).

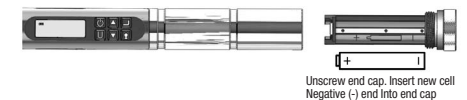
BATTERY REPLACEMENT

Note: When replacing batteries, real-time-clock will maintain date and time for 20 minutes.

Note: Turn end cap counter-clockwise to unscrew.





Batteries should be installed in carrier prior to carrier installation into wrench. Battery negative contacts should be oriented with carrier springs.

Replace SLIM models with one single “AA” cell only






Replace STD models with three “AA” cells only.



	100% BATTERY LEVEL
	50% BATTERY LEVEL
	LOW BATTERY
	REPLACE BATTERY

Note: When Replace Battery screen is displayed wrench will no longer operate until batteries are replaced. Only POWER button functions which immediately turns off wrench.

MEMORY INDICATORS

	DATA IN MEMORY Less than 1500 torque and angle records stored in memory.
	MEMORY FULL 1500 torque or angle records stored in memory. New records will not be recorded until memory is cleared (on STD wrenches only). New data will replace oldest record until memory is cleared (on SLIM wrenches only)
	MEMORY ERROR Memory read or write error.



(ENG) EC DECLARATION OF CONFORMITY	(DEN) EF-VERENSSTEMMELSESESKLÆRING
(FRA) DÉCLARATION DE CONFORMITÉ CE	(NOR) ECSAMSVERKLARING
(ESP) DECLARACIÓN DE CONFORMIDAD DE LA CE	(FIN) EY-VAATIMUSTENMUKAISUUSVAKUUTUS
(POR) DECLARAÇÃO DE CONFORMIDADE EC	(RUS) Декларация о соответствии EC
(ITA) DICHIARAZIONE DI CONFORMITA' CE	(TUR) CE STANDARDIZASYON BEYANI
(GER) EG-KONFORMITÄTSESKLÄRUNG	(CZE) PROHLÁŠENÍ O SHODĚ
(NED) EG- VERKLARING VAN OVEREENSTEMMING	(SVK) PREHLÁŠENIE O ZHODE
(POL) EC DEKLARACJA ZGODNOŚCI	(GRE) ΔΗΛΩΣΗ ΣΥΜΜΟΡΦΩΣΗΣ ΜΕ ΕΕ
(SWE) CE DEKLARATION	
(ENG) Hereby declares that: / The device:	(DEN) Erklærer herved at: / enheten:
(FRA) Déclare par la présente que: / L'appareil:	(NOR) Erklærer herved at: / enheten:
(ESP) Declaro que: / El aparato:	(FIN) Vakuutamme täten: / Että tuote:
(POR) Vimos por este meio declarar: / O aparelho:	(RUS) Настоящим заявляем, что: / Устройство:
(ITA) Con la presente dichiaro che: / Dispositivo:	(TUR) Beyan ederiz ki: / Cihaz:
(GER) Hiermit wird erklärt, dass: / Die folgenden Erzeugnisse:	(CZE) Níže prohlašujeme, že: / výrobek:
(NED) Hierbij verklaart dat: / Het apparaat:	(SVK) Týmto prehlasujeme, že: / Výrobok:
(POL) Niniejszym oświadczam, że: / Urządzenia:	(GRE) Δηλώνει ότι: / Η συσκευή:
(SWE) Härmed deklareras att: / Enheten:	

(ENG) Type(s) (FRA) Type(s) (ESP) Tipo(s) (POR) Tipo (ITA) Tipo (GER) Type(s) (NED) Typen (POL) Typ (SWE) Typ (DEN) Typ (NOR) Typ (FIN) Tyypit (RUS) Тип (TUR) Tip (CZE) Typ (SVK) Typ (GRE) Τύπος:	TAWM912M TAWM930M TAWM9135 TAWM14340 TAWM24800 TAW1412M TAW1430M TAW38135 TAW12340 TAW34800	(ENG) Product (FRA) Produit (ESP) Producto (POR) Produto (ITA) Prodotto (GER) Produkt (NED) Product (POL) Produkt (SWE) Produkten (DEN) Produktet (NOR) Produktet (FIN) Tuotteen (RUS) Изделие (TUR) Ürün (CZE) Výrobek (SVK) Výrobok (GRE) Προϊόν:	Electronic Torque and angle Wrench Clé dynamométrique Couple et Angle Llave dinamométrica de par y ángulo Chave dinamométrica torção e ângulo Chiave dinamometrica coppia/angolo Drehwinkel-Drehmomentschlüssel Momentsleutel met hoekmeting Klucz dynamometryczny kątowy Elektronisk Momentnyckel Elektronisk momentnøgle Momentnøkkel, moment og grader Momenttiavain Электронный динамометрический ключ с функцией предустановки угла затягивания Elektronik Açılı Torik Anahtar Elektronický momentový klíč s úhlovým měřením Elektronické momentové uhlové klůče Ηλεκτρονικό κλειδί ροπής και γωνίας	(ENG) Year (FRA) Année (ESP) Año (POR) Ano (ITA) Anno (GER) Baujahr (NED) Jaar (POL) Rok (SWE) År (DEN) År (NOR) År (FIN) Vuosi (RUS) Год (TUR) Sene (CZE) Rok (SVK) Rok (GRE) Χρόνος:	2018
---	--	---	---	--	-------------

(ENG) Was manufactured in conformity with the provisions in the:	(DEN) Produsert i samsvar med bestemmelsene i:
(FRA) A été fabriqué en conformité avec les dispositions des:	(NOR) Produsert i samsvar med bestemmelsene i:
(ESP) Está fabricada según las disposiciones de:	(FIN) On valmistettu noudattaen säännöksiä:
(POR) Foi fabricado em conformidade com os pressupostos:	(RUS) Было произведено в соответствии с положениями:
(ITA) Prodotto in conformità con le disposizioni:	(TUR) Aşağıdaki Standartlara uygun üretilmiştir:
(GER) In Übereinstimmung mit den Bestimmungen der:	(CZE) Byl vyroben ve shodě s předpisy:
(NED) Is vervaardigd in overeenstemming met de bepalingen in de:	(SVK) Bol vyrobený v zhode s predpismi:
(POL) Został wyprodukowany zgodnie z przepisami:	(GRE) Κατασκευάστηκε σύμφωνα με τις διατάξεις του:
(SWE) Producerats enligt bestämmelserna i följande direktiv:	

2004/108/EC

EN 61326-1:2006, EN 55011:2006, EN 61000-4-2, EN 61000-4-3, EN 61000-4-8

(ENG) Person authorized to compile the technical file (TCF): (FRA) Personne autorisée à constituer le dossier technique: (SPA) Persona facultada para elaborar el expediente técnico: (POR) Pessoa autorizada para elaborar o dossier técnico: (ITA) Persona autorizzata a compilare la pratica tecnica (GER) Bevollmächtigte(r) zum Zusammenstellen technischer Unterlagen: (NLD) Persoon die is gemachtigt het technisch dossier samen te stellen (POL) Osoba odpowiedzialna za zestawianie pliku technicznego (SWE) Person som är behörig att sammanställa den tekniska dokumentationen: (DAN) Person bemyndiget til at udarbejde tekniske beskrivelser: (NOR) Autorisert person for utarbeidelse av den tekniske filen: (FIN) Henkilö on valtuutettu kokoamaan teknisen tiedoston (TUR) Teknik dosyayı düzenlemeye yetkili kişi: (RUS) Лицо, уполномоченное на составление технической документации: (CZE) Autorizovaná osoba pro sestavení technického spisu: (SLO) Osoba zodpovedná za vypracovanie technickej dokumentácie: (GRE) Άτομο εξουσιοδοτημένο να καταρτίσει τον τεχνικό φάκελο	<div>Sergio Calvo</div> <div></div> <div>Antigua ctra. Altube Km 5,5 - 01196 Arangiz, SPAIN</div>
---	---

SNAXeurope

Follow the fish! www.bahco.com



BAHCO