



# ELECTRONIC TORQUE WRENCH WITH ANGLE

OPERATIONS MANUAL



WARNINGS

FEATURES

WARRANTY



**NEED HELP?**

(206) 453-6776

[www.arestool.com](http://www.arestool.com)

[customerservice@arestool.com](mailto:customerservice@arestool.com)

**Don't forget to register your product!**

## WARNINGS

- Read and understand this manual completely before using the electronic torque wrench
- DO NOT use the wrench or apply torque to the wrench while turned off. Always turn the wrench on so that applied torque is measured
- DO NOT press any keys on the keypad while torque is being applied
- DO NOT Apply torque to the end of the handle. Firmly grip the center of the handle and apply even pressure until specified torque is reached.
- DO NOT over torque! Check owner's manual and manufactures specification for required torque for specific application.
- DO NOT over torque or apply excessive torque to the tool this can result in damage to the tool and property.
- Always use the correct size and specification of sockets and accessories for the application
- Make sure the torque wrench capacity matches or exceeds the require torque for the application.
- If max capacity has been exceeded calibration can be affected. Verify calibration and/or take torque wrench to be calibrated.
- Make sure to observe all cautions and warnings or all equipment or apparatus involved when using the torque wrench.
- Make sure reverse lever is fully engaged before using in opposite direction.
- DO NOT use torque wrench to break free tightened or stuck bolt, lug nuts or fasteners.
- Periodic calibration is necessary to maintain accuracy. Consult local calibration services.
- Always wear safety goggles

### BATTERY WARNING:

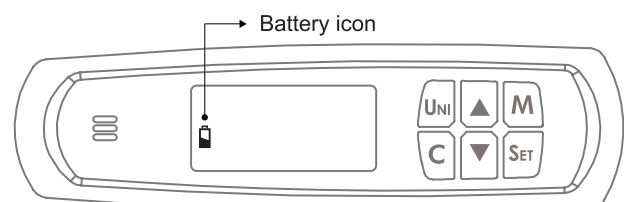
Torque wrenches require 2x AA Batteries to power on. (Batteries are not included with product)

**WARNING:** Use only AA batteries. Using the wrong batteries may result in battery leakage and / or damage to the wrench. Follow instructions carefully.

1. Screw off end cap of handle.
2. Follow instructions for installing 2x AA batteries.
  - Install batteries in the correct direction as marked on the tool.
  - Take batteries out if wrench will not be used for a long period of time.
  - Replace dead batteries immediately. Do not let sit inside of tool.
3. Screw handle end cap back on. Hand tighten.

### LOW BATTERY WARNING:

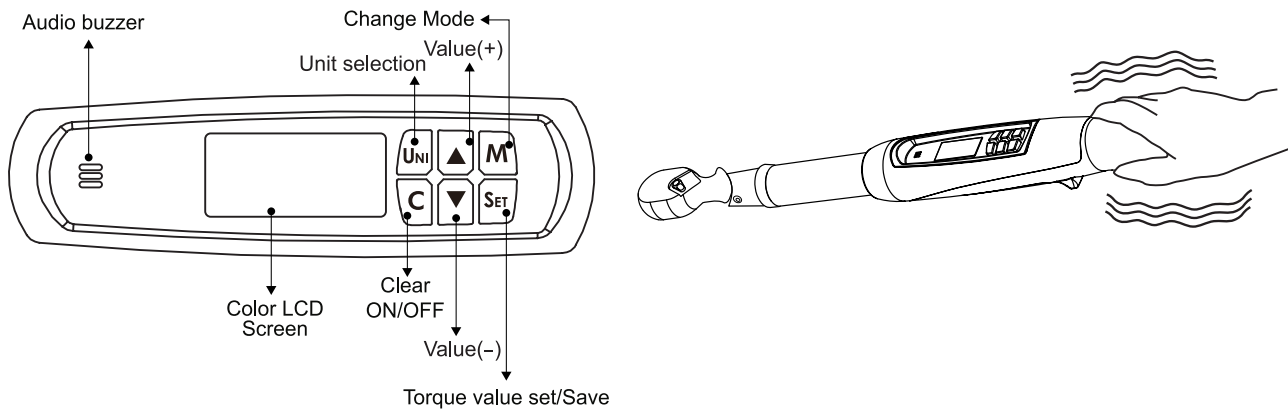
1. When battery capacity has 30% left, the battery icon will flash on the display. Electronic torque wrench is still workable but must replace the battery very soon.
2. When battery capacity has only 10% left, **ONLY** the battery icon will display. Electronic torque wrench is no longer workable. Must replace batteries immediately.



## ELECTRONIC TORQUE WRENCH ALERT FEATURES

When the specified torque is reached the LCD display will flash red / green then switch to solid red color when torque is reached. A buzzer will sound, and the handle will vibrate simultaneously. DO NOT apply torque beyond this point or risk damage to the wrench and property.

The “Specified Torque Alert” tone indicates when the Specified Torque has been reached. As the Specified Torque approaches a rapid beeping tone indicates the Target Torque is getting close.



**Power On:** Press **[C]** for 2 Seconds. Wrench will beep when on.

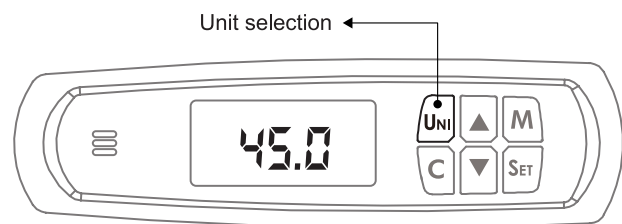
**WARNING: Do NOT ever apply torque while powering on the tool.**

**NOTE:** Default is in Peak Torque Mode. The last unit of measurement and last torque setting will display.

**Power Off:** Press **[C]** for 3 seconds. Or display will automatically shut off after 90 seconds without any torque being applied and the display indicates “0”.

### SWITCH UNITS OF MEASURE:

1. Press **[UNI]** to select the torque measurement units desired.
2. 5 Torque Units can be selected from:  
N-m, lb-ft, lb-in, kgf-m, kgf-cm



### SETTING THE MODE FUNCTION:

There are four mode setting on this Torque Wrench

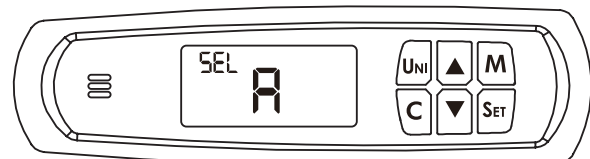
**P** – Peak Torque Mode (Default Mode)

**A** – Angle Mode

**PA** – Peak Angle Mode

**Pct** – Specified Torque Alert Setting

1. Turn the wrench on as described above
2. Press the **[M]** to scroll through the Mode Setting options. ‘SEL’ will show at the top of the screen to signify that the mode has been selected. **NOTE:** The current selected mode will NOT display as a selection when scrolling.

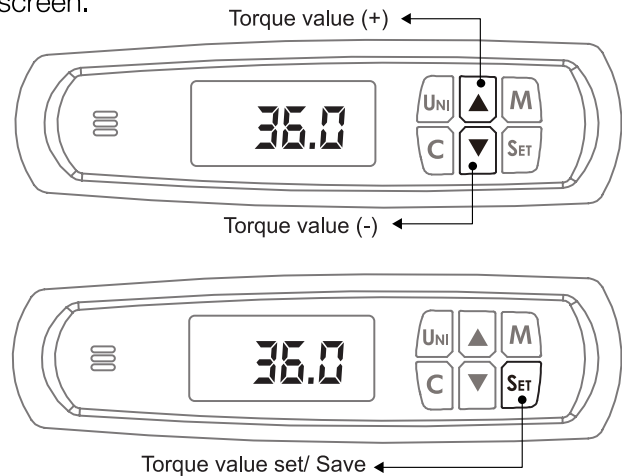


4. Press **SET** to select the new mode. The screen will default to last setting for that mode.

**NOTE:** To exit the mode selection screen without changing the mode setting press the **C**. The previous mode and setting will remain unchanged.

### SETTING SPECIFIED TORQUE IN “PEAK TORQUE” MODE:

1. Make sure no torque is being applied and turn on the wrench. Press **C** for 2 seconds.
2. Press **SET** and the current torque setting will display on the screen.
3. Select the desired unit of measurement. Press **UNI** and scroll through options until the desired unit of measurement is displayed.
4. Without applying torque, Press **▲** or **▼** to change the Specified Torque value by pressing **▲** or **▼**
5. When the Specified Torque value is displayed, press **SET** button (Icon) to Set the value.



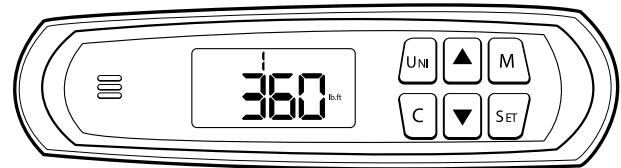
### THE WRENCH IS SET AND NOW READY TO USE

6. Press **C** each time before taking a new torque measurement.

**NOTE:** Once Specified Torque is reached the display will flash for 10 seconds then rest to the last default setting. To take a new measurement press **C** to rest to the last setting.

### How to Use Pre-Set Torque Values

1. Make sure no torque is being applied and turn on the wrench. Press **C** for 2 seconds.
2. Press **SET** then **M**. The screen will show the setting number at the top of the screen and the torque value will be flashing.
3. Press **▲** or **▼** to select the desired pre-set torque value, then press **SET**.

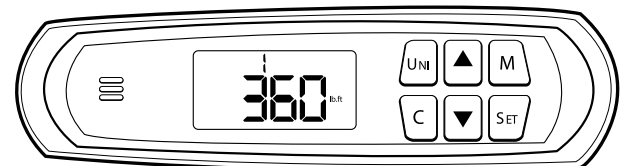


### THE WRENCH IS READY TO USE.

### How to Change Pre-Set Torque Values

Pre-Set Torque Values can only be selected in Peak or Peak Angle modes.

1. Make sure no torque is being applied and turn on the wrench. Press **C** for 2 seconds.
2. Press **SET** then **M**. The screen will show the pre-set number at the top of the screen and the torque value will be flashing.
3. Press **▲** or **▼** to select the desired pre-set torque value, then press **SET** for 3 seconds, after which the wrench will beep.

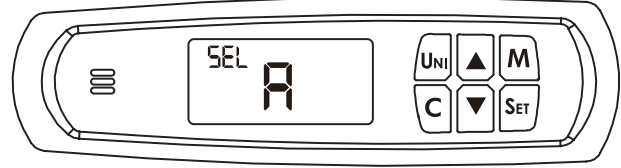




- Now the pre-set number at the top of the screen will flash. Press ▲ or ▼ to select the desired torque setting, then press **SET**. The new Pre-Set Value is saved into the Pre-Set options.
- Press **SET** again to set the target torque as to the new Pre-set value.

### SETTING SPECIFIED ANGLE IN "ANGLE" MODE

- Make sure no torque is being applied and turn on the wrench. Press **C** for 2 seconds.
- Place the torque wrench on a flat surface to allow for calibration.
- Press **M** until the "A" mode appears on the screen, then press **SET**.
- When the screen shows "0000" this means the torque wrench is calibrating. The torque wrench will display the last angle value set once ready.
- To set a different specified angle value, press **SET** again and change the angle degree. Use the ▲ and ▼ to set the correct specified angle, and press **SET** again.



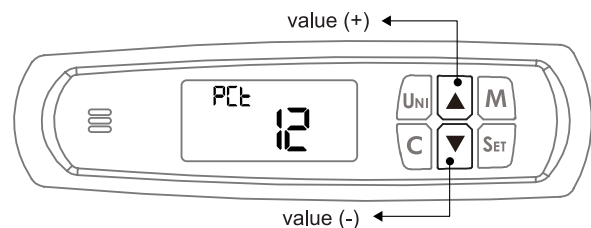
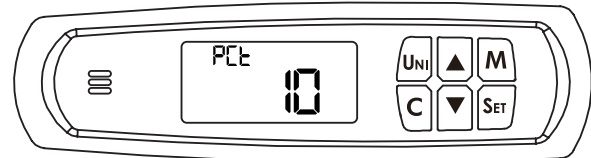
### THE WRENCH IS NOW READY TO USE

- Begin to apply torque and rotate the wrench in a smooth, moderate fashion until the specified angle alerts begin. Once alerted to stop by the handle vibration, beeps and LCD display, do not continue past this point.
- Once the target angle is reached the display will flash for 10 seconds. Press **C** and the wrench will rest to that last setting. Or wait until the display resets.

**NOTE:** For best accuracy the torque wrench should be rotated at a rate of 10 degree/sec – 180 degrees/sec. Steady moderate speed is best.

### SETTING THE "SPECIFIED TORQUE ALERT" TOLERANCE:

- Make sure no torque is being applied and turn on the wrench. Press **C** for 2 seconds.
- Press **M** until "Pct" mode is displayed, and press **SET**. The current value setting will flash on the display.
- To select the specified torque alert use the ▲ and ▼ to set the percentage where the torque alert will start. You can select up to a maximum of 50% down to a minimum of 5%. Press **SET** to save your setting.
- The screen will then display "dEG" so that the specified angle alert can be set.
- Press **SET** to change the specified angle alert setting, then use the ▲ and ▼ buttons to select when the specified angle alert will begin. The specified angle alert can be set at a maximum of 50 degrees before the specified angle to a minimum of 5 degrees.
- Press **SET** to save settings.

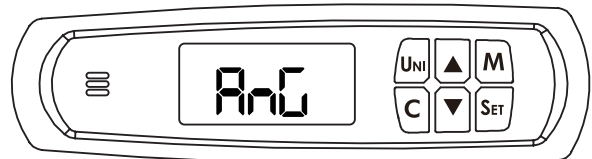
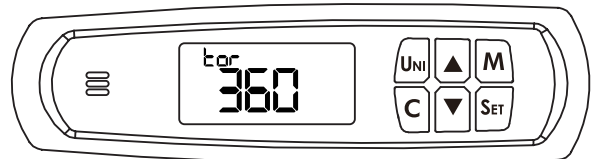
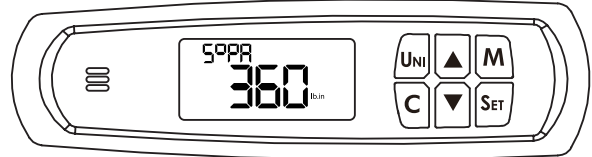
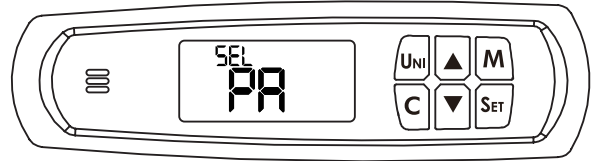


## THE WRENCH IS NOW READY TO USE

**NOTE:** To exit Specified Torque Alert mode without saving press **C**. If the torque wrench is idle for 6 seconds during set up, it will automatically exit without saving.

### HOW TO SET TORQUE WITH ANGLE:

1. Make sure no torque is being applied and turn on the wrench. Press **C** for 2 seconds.
2. Place the torque wrench on a flat surface to allow for calibration.
3. Press **M** until "PA" model is displayed, then press **SET**
4. When the screen shows "0000" this means the torque wrench is calibrating. The torque wrench will display the last angle and torque setting once ready.
5. To select a different torque and angle setting, press **SET** again. Then use the **▲** and **▼** to set the require specified torque, and press **SET**.
6. Next the screen will display "ANG" and you have the option to set the specified angle setting. If the current angle setting is correct press **C** and you are finished. To adjust the angle setting press **SET** and use the **▲** and **▼** to set the specified angle, then press **SET** again.

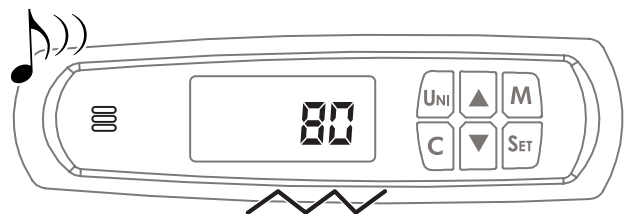


## THE WRENCH IS NOW READY TO USE

**NOTE:** Once the specified torque is reached the wrench will begin recording the angle measurement from that point. After reaching the specified torque and angle the display will flash for 10 seconds, then default to the last setting. You should have stopped as soon as the specified angle alerts signified you reach the target. To take the next measurement press **C** or wait until the display resets.

### REACHING SPECIFIED TORQUE and ANGLE:

When the applied torque or angle reaches the Specified Torque and/or angle, the LCD display change from flashing to solid red, the buzzer sounds constant, and the handle will vibrate. The display will show the peak maximum applied torque or angle value for 10 seconds and then returns to "0".



### OPERATION:

1. This Electronic Torque Wrench is designed so that when force is properly applied to the handgrip, an audible signal, LCD display changes color and vibration in the handle will indicate that the Target Torque and/or Angle has been reached.

**WARNING: DO NOT apply pressure beyond this point.** The audible signal, LCD Display and vibration in the handle are the indicators that the specified torque and/or angle has been reached. Over torquing beyond these signals could cause damage to fasteners and/or to the torque wrench.

2. To properly apply torque, attach socket securely on torque wrench drive end and position socket perfectly straight on fastener without any skewing or angle. Firmly grip the center of handle and apply a steadily increasing of force in the proper "tightening" direction.

3. Turn wrench with a constant, even force applied to the handle. As resistance increases apply pressure more carefully. To ensure accuracy, the fastener must be in motion when the torque measurement is made, and the Specified Torque is reached. At that point stop applying pressure immediately.

**WARNING:** Any deviation from the directed use will result in an undesired amount of torque applied.

**DO NOT USE** universal joints or universal sockets due to the uncertainty of the associated error. If you need angular access, use a flex head torque wrench. (also available)

### USING TORQUE EXTENSIONS:

When necessary to use a torque extension that changes the lever length of the torque wrench, the torque being applied will multiply. To calculate the adjustment, use the following formula:

TW – Torque Wrench Specified Torque Setting

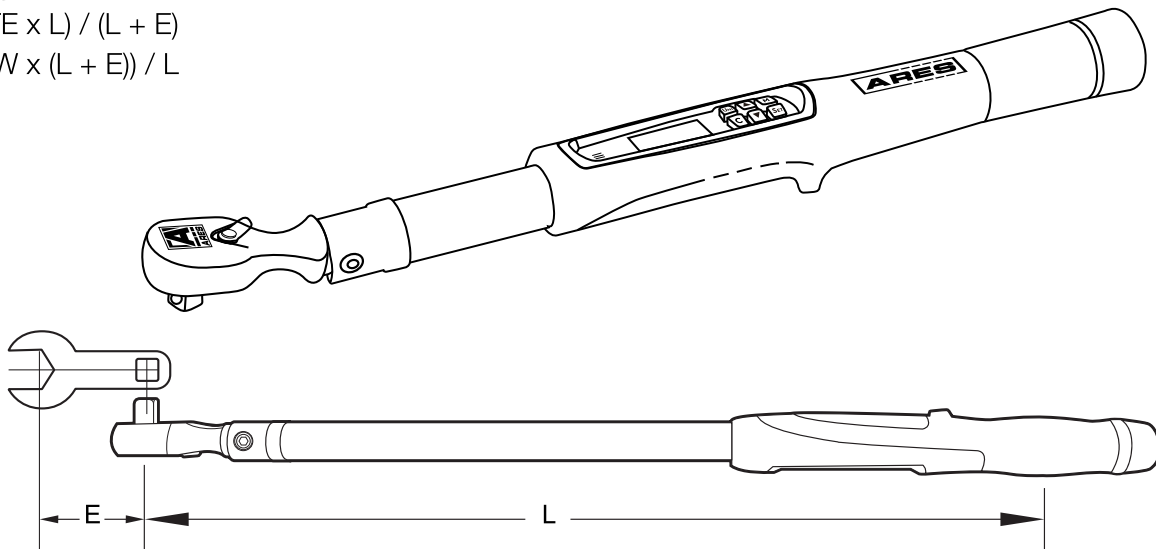
TE – Torque applied by the extension to the fastener

L – Length of the torque Wrench from Handle position to center of Drive end

E – Length of the Extension from center of square drive hole to center of wrench end.

$$TW = (TE \times L) / (L + E)$$

$$TE = (TW \times (L + E)) / L$$

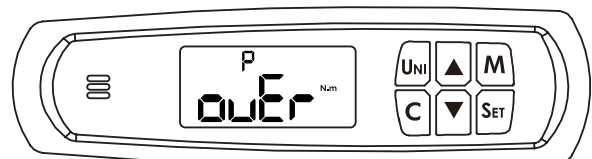


### OTHER SCREENS DETAILS:

#### FFF

If "FFF" is displayed on the screen, this is a prompt to enter a code that is required to recalibrate the torque wrench. It appears when a specific combination of buttons is pushed. Calibration can **ONLY** be done by a trained professional. To exit this screen press **C**

Maximum Capacity Exceeded: When the applied torque exceeds the wrench's full-scale capacity the LCD screen will display red, and will show "ovEr". It is recommended to have the wrench calibrated if you know its capacity has been exceeded.



## CERTIFICATION

This torque w/ angle wrench was calibrated prior to shipment from the factory within tolerance limits  
 Torque: +/-2% Clockwise, +/-3% Counter Clockwise accuracy from 20% to 100% of full scale.  
 Angle: (+/- 1% of reading) + (+/- 1 degree @ angular velocity >10 degree/sec <180 degree/sec) +  
 (+/- 1 degree of test fixture)

## WARRANTY

### You are backed by the ARES Tool Performance Assurance!

**ARES TOOL** warrants this product (excluding carrying cases and storage accessories and the product categories set forth below) to the original purchaser for its useful life (not to exceed one year for products with electrical or electronic components) against defects and deficiencies in material and workmanship.

This **1 YEAR WARRANTY** does not cover products which in ARES Tool's judgement have been subject to negligence, misuse, abuse, accident, improper storage, alteration, improper repair, disassembly and/or reassembly. Normal wear and tear are also excluded. Deficient products will be replaced or repaired.

Please call or email at (206) 453-6776 / ares@arestool.com for more details or to receive support.

This warranty excludes blades, bits, bit sockets, carrying cases, pouches, torque products, punches, dies, bulbs, fuses, batteries, and other consumables which must be replaced under normal use and service. These warranties set forth herein are the sole warranties applicable to Products and is in lieu of all other warranties, whether expressed, implied or statutory.

The implied warranties of merchantability and fitness for a particular purpose are specifically excluded. Customer's sole and exclusive remedy for breach of this Warranty is, at the option of **ARES TOOL**, repair or replacement of the defective product.

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 Warranty**

PLEASE RECYCLE



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