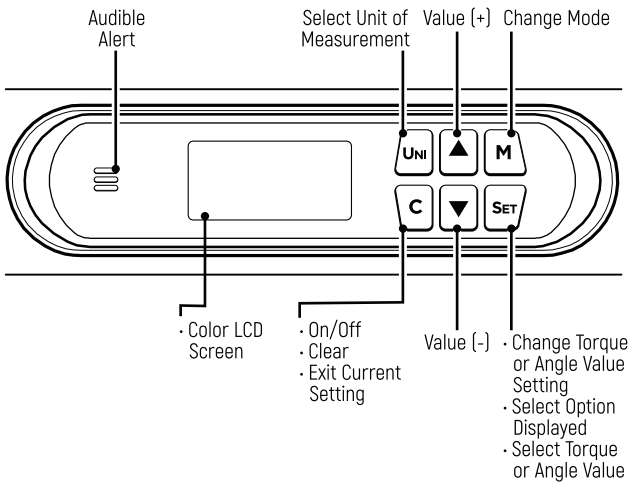
GEARWRENCH 120XP

85194, 85195, 85196

ELECTRONIC TORQUE WRENCH WITH ANGLE OPERATING INSTRUCTIONS

LCD Display and Button Functions



1. Power On

1. Verify torque is not being applied to the wrench. Press C for 2 seconds. Wrench will beep once.
2. The wrench will default to Peak Torque Mode. The last unit of measurement and last torque setting will display.
3. **The wrench is ready to use**.

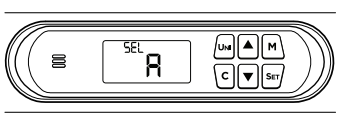
2. Power Off

1. If no torque is applied, wrench will shut off automatically after 90 seconds.
2. To shut off manually, verify torque is not being applied then press C for 3 seconds.

3. How to Change Unit of Torque Measurement

1. Power on the wrench as described in **Section 1**.
2. Press UNI repeatedly to select one of the five torque measurement options:
   - Kg-m
   - Nm
   - Ft-lb
   - In-lb
   - Kg-cm
3. **The wrench is ready to use.**

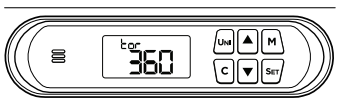
4. How to Set Mode



1. There are four mode options:
   - P = Peak Torque (default)
   - A = Angle
   - PA = Peak Angle
   - PCt = Target Torque Alert Setting
2. Power on the wrench as described in **Section 1**.
3. Press M repeatedly to scroll through the different modes. "SEL" will show at the top of the screen to indicate the mode being selected. The currently selected mode will NOT show as an option when scrolling through modes.
4. Press SET to select the new mode. The screen will show the last setting for the mode selected.

Note: To exit out of setting mode without changing the mode, press C. The current mode and setting will remain unchanged.

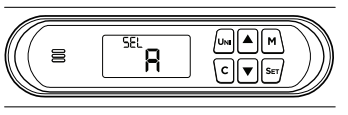
5. How to Set Target Torque in "Peak Torque" Mode



1. Power on the wrench as described in **Section 1**.
2. Press SET. The current torque setting will flash on the screen.
3. The unit of torque measurement can also be adjusted at this time. Press UNI to change it if required.
4. Press ▲ or ▼ to select torque value, then press SET.
5. **The wrench is ready to use**.
6. Apply torque and rotate the wrench at a **constant moderate speed** until alerted to stop by the handle vibration, beeps and LCD display. The LCD screen alternates red/green when the "target torque alert" warning starts. When the target torque is reached the LCD Screen shows solid red.

Note: After reaching the target torque the display will flash for 10 seconds, then default to the last setting. The next measurement can be taken while the screen is flashing by applying force again, or by pressing C to return to the last setting.

6. How to Set Angle

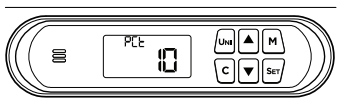


1. Power on the wrench as described in **Section 1**.
2. Place the torque wrench on a stable flat surface to calibrate.
3. Press M until the "A" mode is reached, then press SET.
4. The screen will show **"□□□□"** as the torque wrench calibrates, then will display the last angle value set.
5. If desired angle is displayed, the wrench is ready to use.
6. If you want a different angle, press SET again to change the angle degree. Press ▲ or ▼ to get to the required angle, then press SET
7. **The wrench is ready to use**.
8. Apply torque and rotate the wrench at a **constant moderate speed** until alerted to stop by the handle vibration, beeps and LCD display.

Note: After reaching the target angle the display will flash for 10 seconds, then default to the last setting.

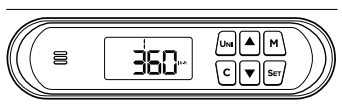
For better accuracy the torque wrench should be rotated between 10 degree/sec – 180 degrees/sec.

7. How to Change "Target Torque Alert" and "Target Angle Alert" Percentages



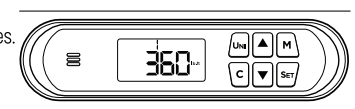
1. Power on the wrench as described in **Section 1**.
2. Press M until the "**PCt**" mode is reached, then press SET.
3. The current value will flash on the screen.
4. Press ▲ or ▼ to select when the target torque alert will start. The target torque alert can start at a maximum of 50% to the target torque value or a minimum of 1% to the target torque value. For example, if your target torque is 100 ft-lbs and your target torque alert is set at 50%, the alert will start when you reach 50 ft-lbs. Press SET to save.
5. The screen will show "**dEG**" so the target angle alert can be adjusted.
6. Press SET to change the target angle alert setting. Press ▲ or ▼ to select when the target angle alert will start. The target angle alert can start at a maximum of 50 degrees before the target angle or a minimum of 5 degrees before the target angle. Press SET to save.
7. **The wrench is ready to use**.

8. How to Use Pre-Set Torque Values



1. Power on the wrench as described in **Section 1**.
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.
4. **The wrench is ready to use**.

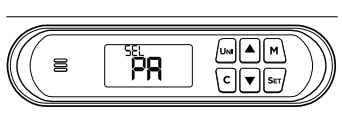
9. How to Change Pre-Set Torque Values



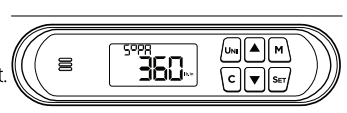
Pre-Set Torque Values can only be selected in Peak or Peak Angle modes.

1. Power on the wrench as described in **Section 1**.
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.
4. 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.
5. Press SET again to set the target torque as to the new Pre-set value.

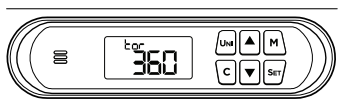
10. How to Set Torque with Angle



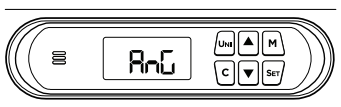
1. Power on the wrench as described in **Section 1**.
2. Place the torque wrench on a stable flat surface to calibrate.
3. Press M until the "PA" mode is reached, then press SET.
4. The screen will show "□□□□" as the wrench calibrates, then will show last angle and torque value set.



5. If the desired angle and torque values are displayed, the **wrench is ready to use**.



6. If you want a different torque value or angle , press SET again.
7. To change the torque value press ▲ or ▼ to get to the required value, then press SET.



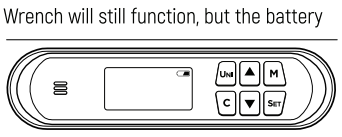
The screen will show "ANG". If the target angle value previously displayed is correct, press C to exit.

The wrench is ready to use.

8. After setting the torque value, the screen will show "ANG". Press SET to review or change the angle value. Press ▼ or ▲ to get to the required angle value, then press SET again.
9. **The wrench is ready to use.**
10. Apply torque and rotate the wrench at a **constant moderate speed** until alerted to stop by the handle vibration, beeps and LCD display.

Note: After reaching the target torque the wrench will start recording the angle measurement. After reaching the target torque and target angle the display will flash for 10 seconds, then default to the last setting. To take the next measurement press C or wait until the display stops flashing.

11. Low Battery

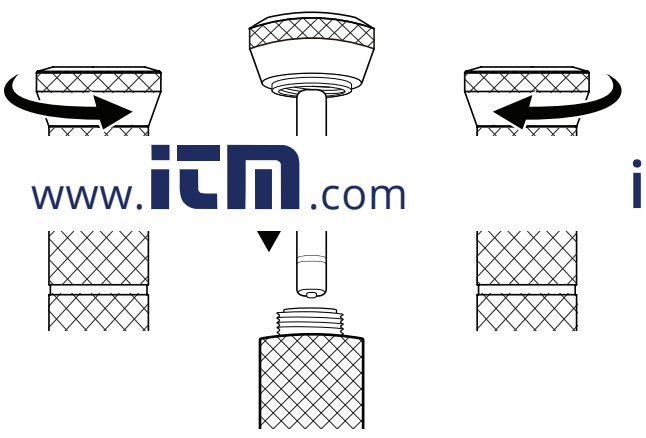


1. When the remaining battery capacity is at 30%, the battery icon on the display will flash. The Electronic Torque Wrench will still function, but the battery will need replaced soon.
2. When the remaining battery capacity is at 10%, the battery icon will show continuously. The Electronic Torque Wrench will not function correctly. Immediately replace the battery.

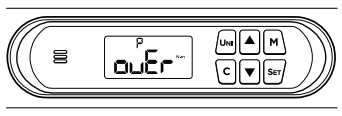
12. Changing Batteries

1. Use AA (Alkaline) Batteries only.
2. Remove Batteries if the torque wrench is not used for an extended period of time.

3. Unscrew end cap 4. Insert 2 AA (Alkaline) Batteries 5. Replace End Cap



13. Maximum Capacity Exceeded



1. When the applied torque exceeds the wrench full-scale capacity the LCD screen will show red. The display will show "ovEr".
2. Verify the calibration of the wrench if you know its capacity has been exceeded.

How to Apply Torque

1. This Electronic Torque Wrench is designed so that when force is properly applied to the handgrip, a continuous audible signal, the LCD screen display and vibration in the handle will indicate that the Target Torque or Angle has been attained. **DO NOT** pull beyond this point.

Caution: The audible signal, LCD screen display and vibration in the the handle are indicators that the proper torque or angle have been attained. Over torquing beyond these signals could cause fastener failure.

2. To properly apply torque, attach socket securely on torque wrench square drive and position socket on fastener so that tilting will not occur. Grasp the center of hand grip and apply a slow steady increasing force perpendicular (90 degrees) to the torque wrench body and perpendicular (90 degrees) to the center line of the square drive, socket and fastener.
3. Turn the fastener down with a smooth and even force applied to the handle of the torque wrench. As turning resistance increases, pull more slowly. To assure accuracy, the fastener must be in motion when the torque measurement is made.

WARNING: Any change from the above procedure will result in a change of torque being applied. This includes standard torque wrenches, flex-head torque wrenches, universal joints, and universal sockets. DO NOT USE universal joints or universal sockets due to the complexity of determining the associated error. If you need angular access, use a flex-head torque wrench.

Extensions

When it is necessary to use an extension that changes the effective lever length of the torque wrench, torque being applied will change.

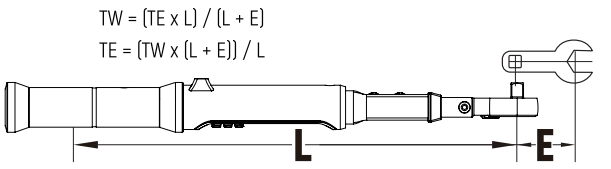
Compute adjustments as follows:

TW - Torque set on Wrench

TE - Torque applied by the extension to the fastener

TW = (TE x L) / (L + E)

TE = (TW x (L + E)) / L



Notice: Socket extension bars that are axially in line with the square drive do not cause error and need no adjustment.

Apply torque and rotate the wrench at a constant moderate speed until alerted to stop by the continuous audible signal, the LCD Screen display and handle vibration.

Certification

This torque wrench was calibrated prior to shipment from the factory within tolerance limits of:

- Torque (unflexed): +/- 2% CW, +/- 3% CCW from 20% to 100% of capacity
- Angle: (+/- 1% of reading) + (+/- 1 degree @ angular velocity >10 degree/sec <180 degree/sec) + (+/- 1 degree of test fixture)

Limited Warranty

Until one year from the date of purchase, we will repair any defect in material or workmanship free of charge. Improper use of these products, including but not limited to the application of excessive force, will affect performance and may result in injury. The warranty does not apply to wrenches which do not function properly or within specified accuracy because of wear, improper or unreasonable use, damage not resulting from defect or malfunction, or which have been altered. Calibration is warranted for 90 days. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. For repair or calibration send wrench, postage prepaid, to:

Questions, comments or for more warranty information call toll free:

1.800.561.8187

www.itm.com

information@itm.com

⚠ WARNING

- **Never use the torque wrench with the power off. Always turn on the torque wrench so the applied torque is measured.**
- **Do not press any key while torque is being applied.**
- **Do not use electronic torque wrench to loosen fasteners.**
- **Verify the calibration of the wrench if you know or suspect its capacity has been exceeded.**
- **Periodic recalibration is required to maintain accuracy.**
- **Do not use on live electrical circuits.**
- **Electrical shock can cause injury. Rubber handle is NOT insulated.**