

OWNER'S MANUAL

Digital Torque Wrench WPC Series



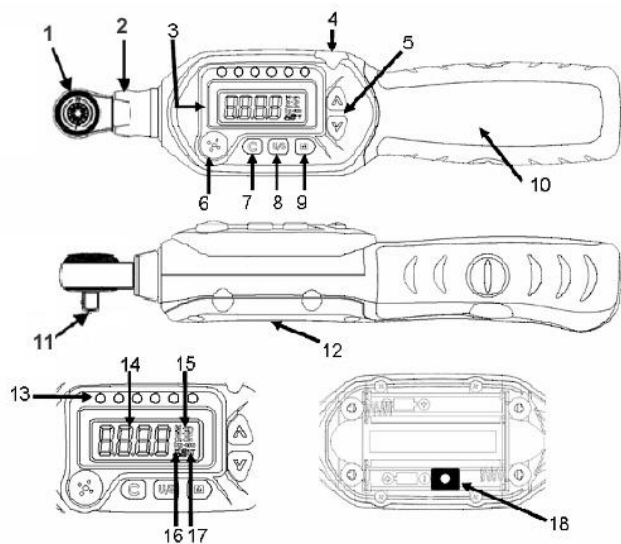
Dear Customers,

Thank you for purchasing our digital torque wrench. This manual will help you to use the many features of your new digital torque wrench. **Before operating the torque wrench, please read this manual completely**, and keep it nearby for future reference.

MAIN FEATURES

- Head Interchangeable
- Digital torque value readout
- +/- 2% accuracy
- CW and CCW operation
- Peak hold and track mode selectable
- Buzzer and LED indicator for the 9 pre-settable target torques
- Water contact indicator
- Engineering units(N-m, ft-lb, in-lb, kg-cm) selectable
- 50 or 250 data memory for recall and joint torque auditing
- Communication functions
- Auto Sleep after about 5 minutes idle
- Rechargeable batteries are compatible

NAMES AND FUNCTIONS OF PARTS



- | | |
|--|------------------------------------|
| 1. Round Head Ratchet Insert | 10. Anti-slip Handle |
| 2. Sensor Yoke | 11. Ratchet Drive |
| 3. LCD Readout | 12. Battery Cap |
| 4. Communication Port | 13. LED Indicator |
| 5. Up/Down Button | 14. Torque Value |
| 6. Buzzer | 15. Units(N-m,ft-lb,in-lb,kg-cm) |
| 7. Power on/Clear Button | 16. Pre-setting Number |
| 8. Unit/Setting Button | 17. Peak/Track Mode |
| 9. Pre-setting Number Selection Button | 18. Water Indicator Viewing Window |

SELECTION GUIDE

MODEL NO:	①	②	③
	WPC 2-030	B	N R
	WPC 3-030		
	WPC 3-060		
	WPC 3-085		
	WPC 3-135		
	WPC 4-135		

① :

Model	Square drive (inches)	Max. Torque
WPC2-030	1/4	30 N-m / 22.12 ft-lb / 265.5 in-lb / 306.1 kg-cm
WPC3-030	3/8	30 N-m / 22.12 ft-lb / 265.5 in-lb / 306.1 kg-cm
WPC3-060	3/8	60 N-m / 44.24 ft-lb / 530.9 in-lb / 612.2 kg-cm
WPC3-085	3/8	85 N-m / 62.7 ft-lb / 752 in-lb / 867 kg-cm
WPC3-135	3/8	135 N-m / 99.5 ft-lb / 1195 in-lb / 1378 kg-cm
WPC4-135	1/2	135 N-m / 99.5 ft-lb / 1195 in-lb / 1378 kg-cm

② :

Accuracy	
B	+/-2%-CW / +/-3%-CCW

③ :

Communication	
N	No
R	Yes

SPECIFICATIONS

Model No.	Max. Torque (N-m)	Square Drive (inches)	Torque Measuring Range (N-m)	Length (mm)
WPC2-030	30	1/4	1.5~30	225
WPC3-030	30	3/8	1.5~30	230
WPC3-060	60	3/8	3~60	230
WPC3-085	85	3/8	4.2~85	270
WPC3-135	135	3/8	6.8~135	380
WPC4-135	135	1/2	6.8~135	380
All Models				
Accuracy *1	BN		BR	
	CW : ±2% CCW : ±3%			
Data memory size	50		250	
PC Connectivity *2	No		Yes	
Pre-Setting No.	9 sets			
Bright LED	6LEDs (1 Red+5 Green)			
Operation Mode	Peak hold/Track			
Unit Selection	N-m, in-lb, ft-lb, kg-cm			
Head Type	Round Head Ratchet Insert			
Gear Teeth	52			
Size of Head of End Fitting (WxH)	9x12 mm			
Axial Distance	17.5 mm			
Button	5			
Battery *3	AAA x 2			
Operating Temperature	-10°C ~ 60°C			
Storage Temperature	-20°C ~ 70°C			
Humidity	Up to 90% non-condensing			
Drop Test	1 m			
Vibration Test *4	10G			
Environmental test *5	Pass			
Electromagnetic compatibility test *6	Pass			

NOTE: Accuracy is guaranteed from 20% to 100% full scale.

* : See note on page 4

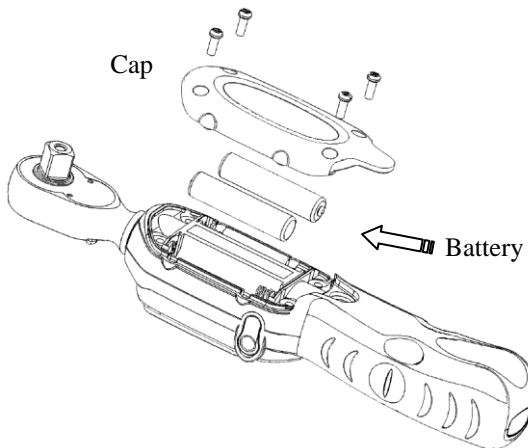
Note:

- *1: The accuracy of the readout is guaranteed from 20% to 100% of maximum range + /- 1 increment. The torque accuracy is a typical value. Calibration point is at the middle line of black circle area on the rubber grip. For keeping the accuracy, calibrate the wrench for a constant period time (1 year).
- *2: Use a special designed cable (accessory) to upload record data to PC.
- *3: Two AAA batteries (Toshiba carbon-zinc battery)
- *4: Horizontal and vertical test.
- *5: Environmental test:
 - a. Dry heat
 - b. Cold
 - c. Damp heat
 - d. Change of temperature
 - e. Impact (shock)
 - f. Vibration
 - g. Drop
- *6: Electromagnetic compatibility test:
 - a. Electrostatic discharge immunity (ESD)
 - b. Radiated susceptibility
 - c. Radiated emission

BEFORE USING THE WRENCH

BATTERY INSTALLATION

- Remove the battery cap.
- Insert two AAA batteries matching the -/+ polarities of the battery to the battery compartment.
- Put on the battery cap and fasten it tightly according to the following figures.



ATTENTION:

When opening the battery cover of wrench, you can see a viewing window for the **water contact indicator**. Through this viewing window, you can check if this wrench is damaged by water penetration where the water contact indicator turns into red.

POWER ON AND RESETTING THE WRENCH

- Press **C** to power on the digital torque wrench.
- Usually press **C** to reset the digital torque wrench before using it.



ATTENTION:

If an external force is applied to the torque wrench during power-on/reset or wake up period, an initial torque offset will exist in the memory.

ACTIVATION DURING SLEEP MODE

- The wrench will auto sleep after about 5 minutes idle for power saving. Press **C** to wake up the wrench during the sleep mode.

CAUTIONS:

During communication period (**Send** appears), the sleep function is disabled.

RESETTING THE WRENCH

- Press **C** **▲** together will reset the wrench.
- If the wrench does not function normally,
Press **C** **▲** together to reset the wrench.

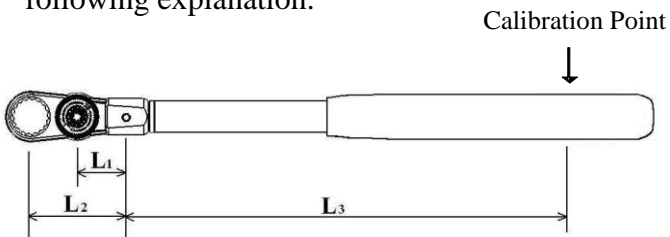
LOW BATTERY VOLTAGE PROTECTION

- If the battery serial voltage is in low voltage status, the wrench will display a battery symbol and then turn off after a while.



WHEN CHANGING THE TYPE OF HEAD

- If you use the different head of the wrench, the reading on the display will be different for the different length of the head. Please refer to the following explanation.



$$D = D1 * (L3+L1) / (L3+L2)$$

D : The set torque

D1: The actual torque applied to the nut.

L1: The extended length

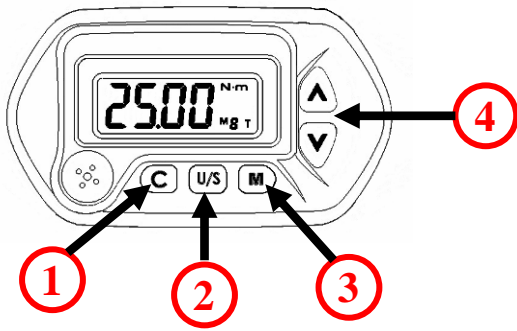
L2: The normal length

L3: The length from the fitting pin to the calibration point.

- Reference dimension for each model :

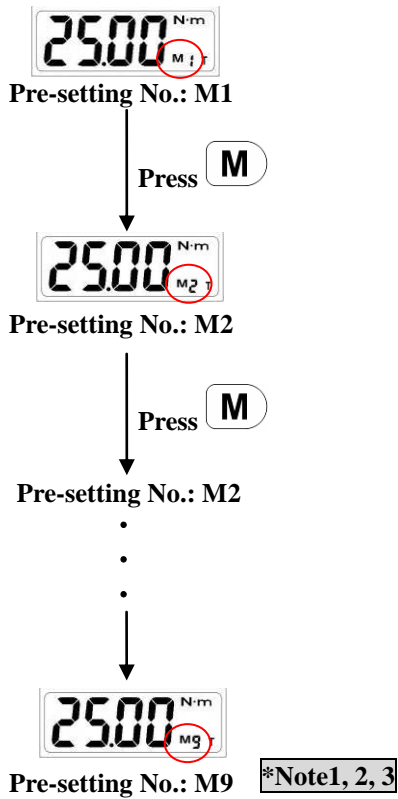
Model	L2(mm)	L3(mm)
WPC2-030	29	131.6
WPC3-030	29	131.6
WPC3-060	29	131.6
WPC3-085	29	174.6
WPC3-135	29	283.6
WPC4-135	29	283.6

SETUP



- ① Power On/Clear
- ② Unit Selection/Setting
- ③ Pre-setting No.
- ④ Up/Down Button

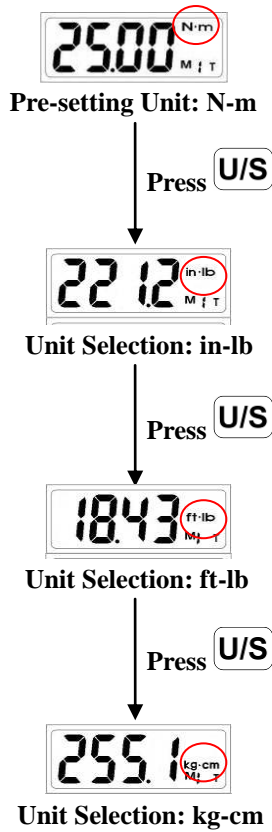
STEP 1: PRE-SETTING NO.



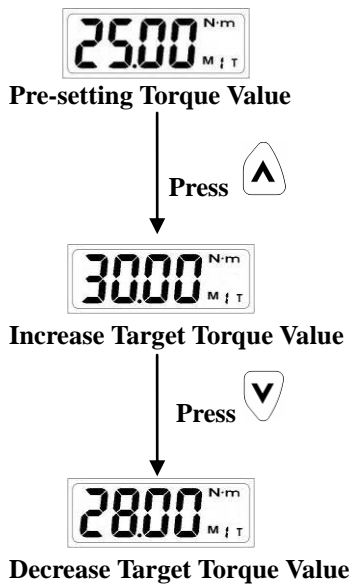
Note:

1. If **Er0** is appeared, that means this wrench has ever been applied more than 110% of torque of the spec.
2. The maximum capacity for "Pre-setting No." is 9 sets.
3. The "Pre-setting No." is cyclic.

STEP 2: UNIT SELECTION



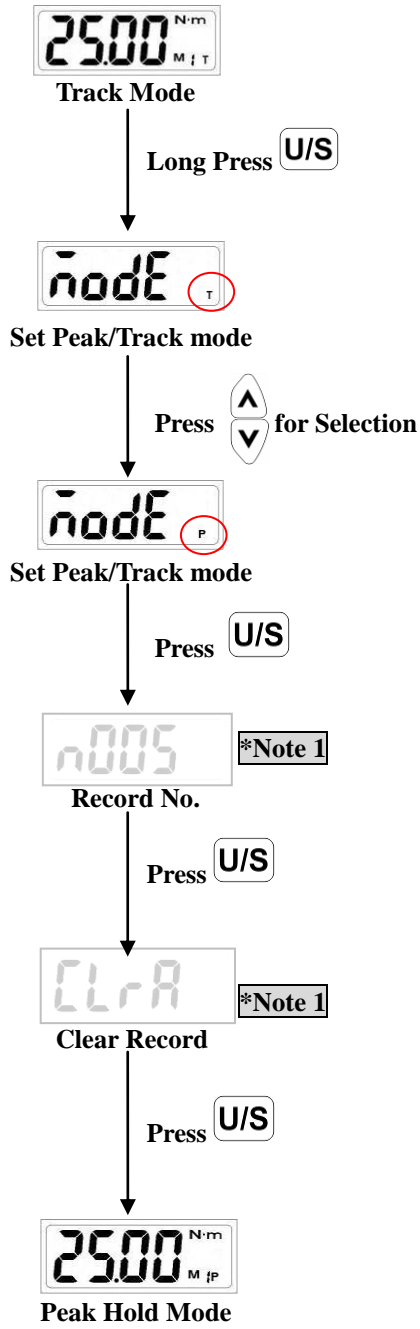
STEP 3: SET TORQUE VALUE



Note:

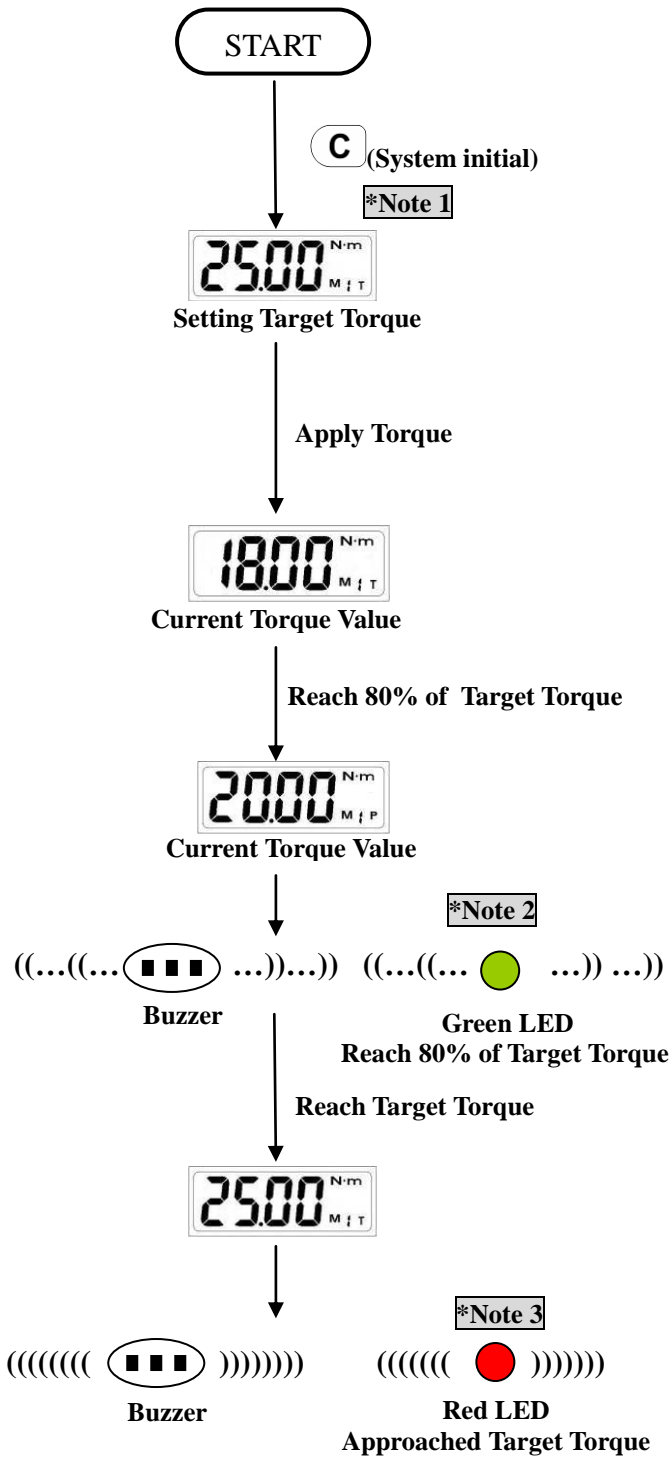
1. The "Unit Selection" is cyclic.


STEP 4: PEAK HOLD /TRACK MODE SELECTION



Note:
1. Please skip this procedure and continue to the next step.

TRACK MODE OPERATION

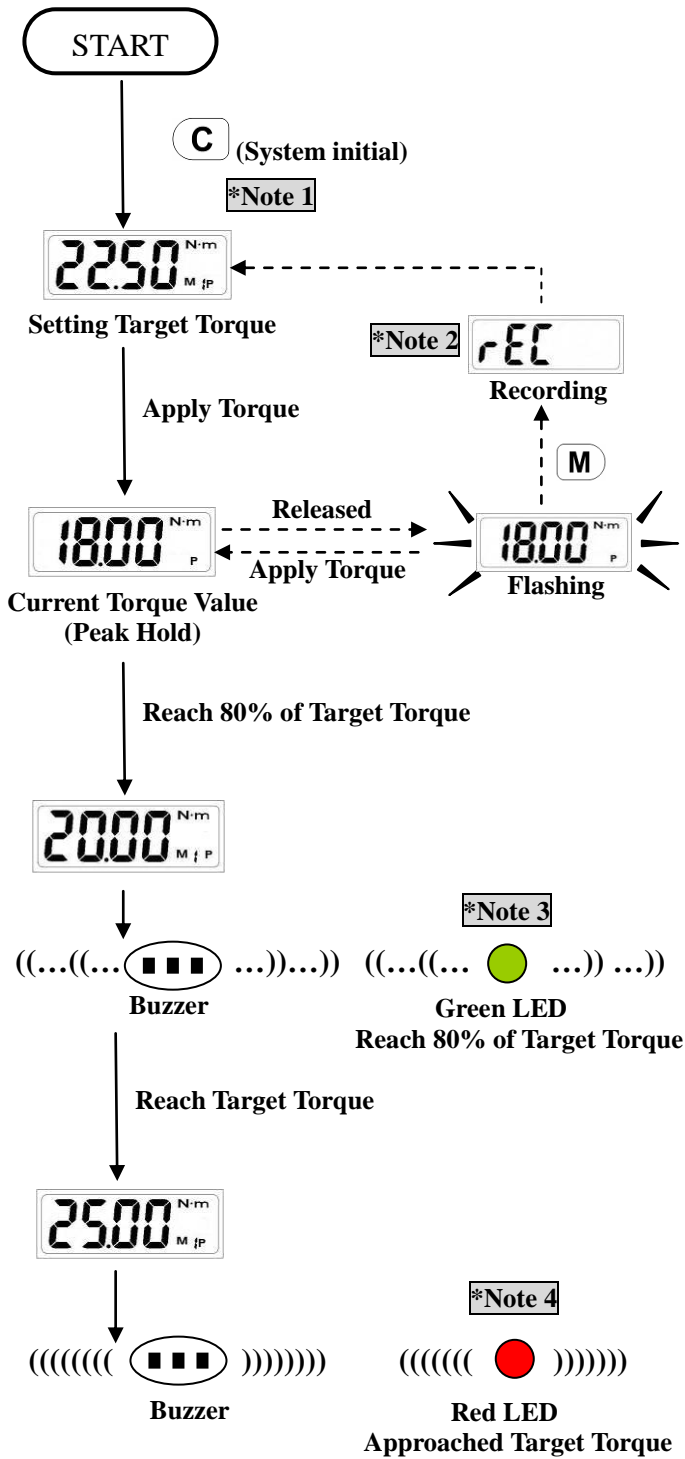





Note:

1. If **Er0** is appeared, that means this wrench has ever been applied more than 110% of torque of the spec.
2. When 80% of the target torque is reached, the green LED will begin to flash and the alarm tone will beep intermittently.
3. When the target torque is approached, the alarm will change to a steady tone and the green LED will stop flashing and stay on. The red LED will also illuminate.

PEAK HOLD MODE OPERATION

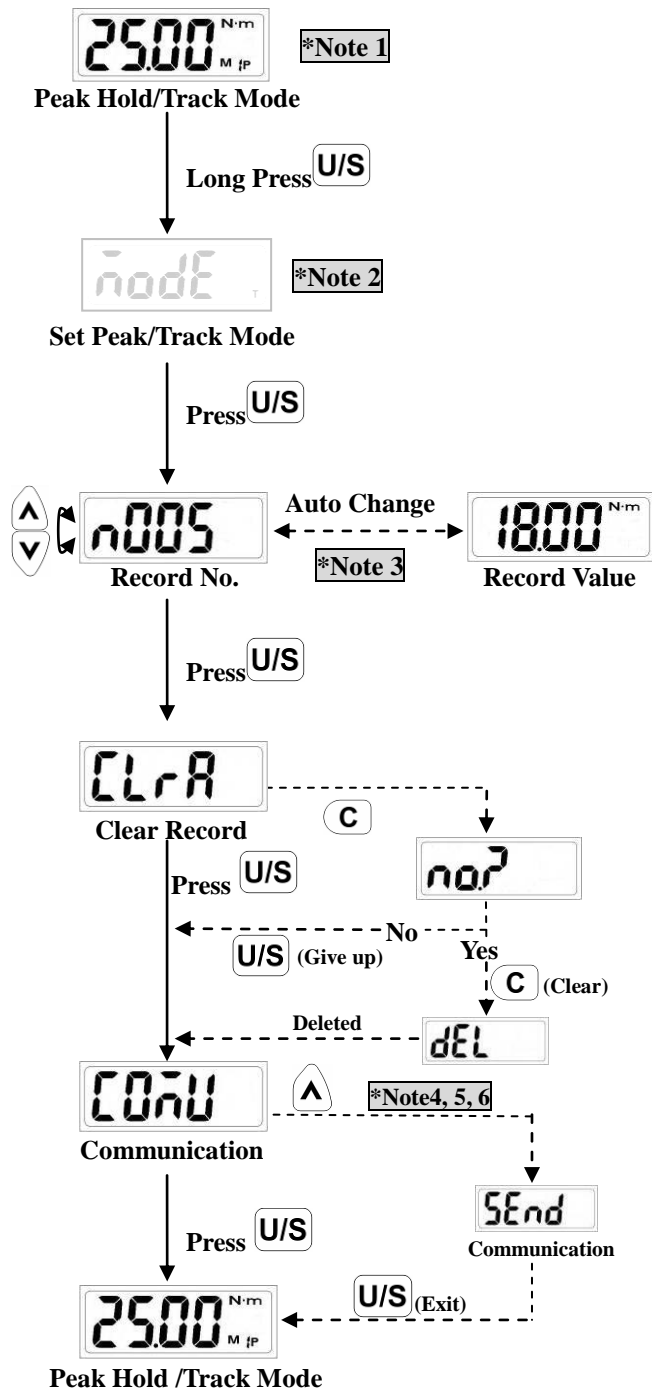




Note:

- If **Er0** is appeared, that means this wrench has ever been applied more than 110% of torque of the spec.
- If **Full** is appeared, that means the wrench's memory is full and the next value record can not be written in. Please refer the "Peak Hold Mode Recorded Value Review" section to clear the momory records.
- When 80% of the target torque is reached, the green LED will begin to flash and the alarm tone will beep intermittently.
- When the target torque is approached, the alarm will change to a steady tone and the green LED will stop flashing and stay on. The red LED will also illuminate.

Peak Hold Mode Recorded Value Review



Note:

1. The “Peak Hold” mode recorded value review also can be operated from “Track” mode operation.
2. If you operate in the “Peak Hold” mode, the display will show none and please go to next step.
3. If the record is empty, it will show none.
4. This function is not supported on all type of models.
5. Communication mode is for uploading record data to PC.
6. Communication mode is also for calibration of torque wrench. Please contact your local dealer for more information.

COMMUNICATION

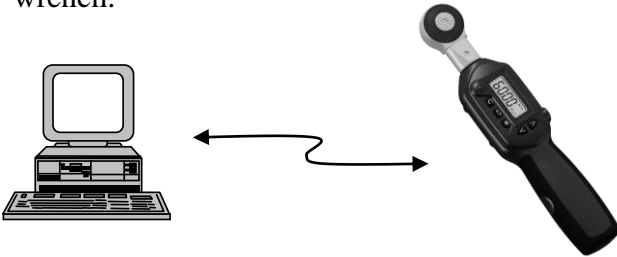


Precaution:

1. **Communication function is only supported on some models. Check the model no. and its specification before using communication function.**
2. **Do not insert the plug of communication cable into torque wrench that does not support communication function.**

CONNECTING COMMUNICATION CABLE

- Turn off power and then connect the accessory cable between the COM port of PC and torque wrench.



UPLOADING RECORD DATA

- Make sure the connection between PC and wrench is normal.
- Press **C** **▲** together to reset the wrench.
- Change the wrench operation mode to **Send**. (Please refer to **“Peak Hold Mode Recorded Value Review”** section)
- Use PC to start the uploader program.
- In uploader program, first select the correct COM port No.
- Next, select the file path to save the uploaded data.
- Finally, press “upload” button to transmit the torque records to PC.
- The uploaded data is then shown on the column and saved in the *.csv file. Use Microsoft Excel to view *.csv file.



CAUTIONS:

Refer to the uploader program user guide for the detail operations.

MAINTENANCE AND STORAGE

ATTENTION:

One-year periodic recalibration is necessary to maintain accuracy.
Please contact your local dealer for calibrations.

CAUTION:



- 1. Over-torque (110% of Max. torque range) could cause breakage or lose accuracy.**
2. Do not shake violently or drop wrench.
3. Do not use this wrench as a hammer.
4. Do not leave this wrench in any place exposed to excessive heat, humidity, or direct sunlight.
5. Do not use this apparatus in water.(not waterproof)
6. If the wrench gets wet, wipe it with a dry towel as soon as possible. The salt in seawater can be especially damaging.
7. Do not use organic solvents, such as alcohol or paint thinner when cleaning the wrench.
8. Keep this wrench away from magnets.
9. Do not expose this wrench to dust or sand as this could cause serious damage.
10. Do not apply excessive force to the LCD panel.
11. Apply torque slowly and graspe the center of the handle. Do not apply load to the end of handle.

BATTERY MAINTENANCE

1. When the wrench is not used for an extended period of time, remove the battery.
2. Keep a spare battery on hand when going on a long trip or to cold areas.
3. Do not mix battery types or combine used batteries with new ones.
4. Sweat, oil and water can prevent a battery's terminal from making electrical contact. To avoid this, wipe both terminals before loading a battery.
5. Dispose of batteries in a designated disposal area. Do not throw batteries into a fire.

Rev. : WPC1.1