

WPTC

BAHCO®

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 tool can cause part or tool breakage. Broken hand tools, sockets or accessories can cause injury. Excess force can cause crowfoot or flare nut tool slippage.



- Read this manual completely before using ELECTRONIC TOOL.
- To insure accuracy, work must not move in angle mode.
- For personal safety and to avoid tool 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 tool.
- Use correct size socket for fastener.
- Do not use sockets showing wear or cracks.
- Replace fasteners with rounded corners.
- To avoid damaging tool: Never use tool with power off. Always turn ON tool so applied torque is being measured.
- Do not press POWER while torque is applied or while tool is in motion.



- Never use this tool to break fasteners loose.
- Do not use extensions, such as a pipe, on handle of tool.
- Check that tool capacity matches or exceeds each application before proceeding.
- Verify calibration if dropped.
- Make sure ratchet direction lever is fully engaged in correct position.
- Verify calibration of tool 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 tool.
- Do not attempt to recharge Alkaline cells.
- Store tool in dry place.
- Remove batteries when storing tool 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 tool 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.

WPTC (2.4GHZ) TORQUE WRENCH OPERATING INSTRUCTIONS



Models to which these instructions apply:

WPTC-5

WPTC-15

WPTC-25

WPTC-60

WPTC-100

WPTC-200

WPTC-300

WPTC-400

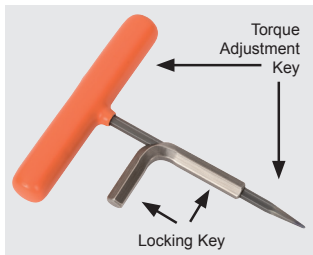
WPTC 2.4 GHz torque wrenches are designed and manufactured to provide consistent torque application in multiple manufacturing and maintenance applications. They meet or exceed the requirements of ASME B107.300 and ISO 6789. These wrenches are accurate to $\pm 4\%$ of the preset value from 20% to 100% of rated capacity.

Interchangeable Heads

Any Bahco interchangeable head may be used with the wrench. Note: It is imperative that the head used to preset the torque wrench have the same common centerline length as the head that will be used in assembly. Failure to do so will create a different torque output during assembly than that which was preset.

Torque Setting

A torque tester of $\pm 1\%$ indicated value accuracy or better, an especial Combination Adjusting and Release Tool (CART) (shown at right), and an interchangeable head having the same common centerline length as the head that will be used in assembly and capable of engaging the tester are required.





1. Insert the Torque Adjustment Key fully into the rear of the wrench so the hex engages the adjustment nut. Do not engage the Lock Key. Rotate the Torque Adjustment Key slightly clockwise to disengage the adjustment nut from the lock nut.



2. Slide the Lock Key in until it engages the lock nut. You may need to rotate the lock key slightly to align it with the internal hex of the lock nut. Rotate the Lock Key counterclockwise several turns to assure the lock nut is fully disengaged from the adjustment nut and that there is sufficient travel available for the adjustment nut to attain the torque setting desired.



3. Install the interchangeable head on the wrench. Engage the wrench to the tester and click the wrench once or twice while noting the readings. To adjust the wrench to a higher torque setting, rotate the Torque Adjustment Key clockwise. To adjust the wrench to a lower torque setting, rotate the Torque Adjustment Key counterclockwise. Torque adjustments should be made in small increments with several checks made between each movement of the Torque Adjustment Key.

4. Once the desired torque has been attained, hold the Torque Adjustment Key steady and rotate the Lock Key clockwise until the lock nut firmly engages the torque adjustment nut, locking it in place. Remove the CART from the wrench and perform a final torque check on the tester. When the reading matches the desired torque and the lock nut is firmly engaged to the torque adjustment nut, the procedure is complete.

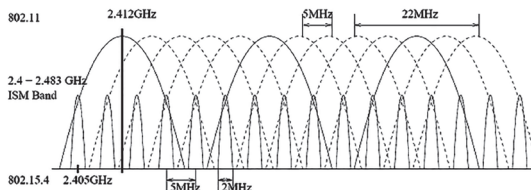
Radio Communications - 2.4 GHz Communication Overview

These tools use the 2.4GHz band for communication with the controller. As with all radio communications, there are limits on the distance at which reliable bi-directional communication may be obtained. Physical barriers such as steel framing, sheet metal and

other objects that impede radio waves can significantly reduce the reliable communication distance. Another factor affecting the reliability and distance combination is the radio environment in which the unit will be used.

The controller and torque wrench may operate on any of the 12 channels these products use. It is generally best to think about this even before the unit is installed.

The radio modules in the controllers and torque wrenches used with them comply with the IEEE 802.15.4 standard. The channel numbers loosely match the channels used by the IEEE 802.11b/g WLAN standard. It may be beneficial to use channels that do not match the channels used by a nearby wireless network. The graph below depicts both standards and illustrates the center frequencies and channel overlap for each standard.



Notice that the channels we use leave a much smaller footprint than WLAN. Also notice that one WLAN channel radiates energy onto several of the adjacent WLAN and process monitor (PM) channels.

For the most reliable communication between the Bahco PM and the tool in a 802.11b/g LAN environment, it is usually best to choose a channel for the controller and tool that is separated from the channel of the LAN.

Unlike IEEE 802.15.1 (Bluetooth) radios, our 2.4GHz radio modules do not frequency hop, use less power and have faster response times with less impact on other wireless devices. A wrench only transmits a small packet of data after each torque operation, and each transmission lasts about 30ms (0.03 seconds).

The 2.4GHz radio used by the unit and the tool is certified in the United States (FCC), Canada (IC), and Europe (CE).

Torque wrench output power: 1mw
Controller 2.4GHz output power: 10-60mw
Typical 802.11b/g output power: 100mw

Frequency Map of 802.15.4 vs. 802.11b/g		
Center Frequency (GHz)		
Channel	802.15.4	802.11b/g
1	2.410	2.412
2	2.415	2.417
3	2.420	2.422
4	2.425	2.427
5	2.430	2.432
6	2.435	2.437
7	2.440	2.442
8	2.445	2.447
9	2.450	2.452
10	2.455	2.457
11	2.460	2.462
12	2.465	

Establishing RF Communication With Bahco Process Monitors

The transceiver in the PM and the one in the torque wrench each have identification numbers. When communication between the two is first established, the numbers are exchanged and stored in memory. The PM and tool will thereafter ignore communications from other radios until the number stored in memory is replaced with a different identification number.

The second element is that under all conditions the controller and the tool to be used with it must be on the same channel. If the channel on the controller is changed and the channel on the tool is not, they will not communicate or will cease communicating if they have previously been associated with each other.

To remove the identification of the unit from the tool memory, click the wrench and hold it in the clicked position until the LED on the wrench flashes. This will take about 5 seconds. Release the pressure on the tool and allow it to return to the normal position.

The flashing of the LED occurs when the Process Monitor with which the tool was associated has been erased. The tool is now ready to be associated with another PM.

Note that when the battery has been removed and replaced in the wrench the LED will alternate between emitting red and green light several times very quickly. If the alternating color emission stops and then a red light pulse is emitted, the tool is not associated with a specific controller and can be associated with whatever unit is desired. If the alternating color emission stops and then a green light pulse is emitted, the tool has a specific controller unit identification number in memory and is ready to be used with that unit.

To establish communication with the controller, it is necessary to follow the instructions included with the specific controller to be used.



Raised LED Fresnel emits Green or Red during the “learning in” or radio connection process.

Even when faceplate is tilted away from the user the raised Fresnel is easily seen.

Battery and Battery Replacement

These tools are shipped with an alkaline battery. Always respect polarity requirements for our tools.

1. The battery compartment is located directly under the LED on the underside of the wrench. Turn the wrench over so the face plate is facing the floor.

2. Use a pen head or small screwdriver to depress the battery cover security spring and slide the battery cover plate off.
3. Remove the old battery and recharge it.
4. Reinstall the battery and battery cover.
5. Note: We strongly urge that NiMH rechargeable AAA batteries are the only battery used in these products. Other batteries have different operating characteristics and are highly unlikely to provide satisfactory performance.

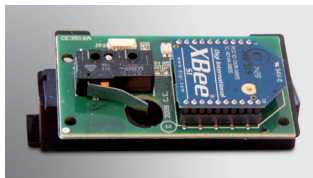


Radio Transceiver Replacement

Under normal circumstances the transceiver is well protected and the system is robust and durable. This procedure should only be needed on rare occasions.

1. Remove the four screws in the radio housing and gently lift the cover straight up off of the internal components.
2. The radio board is now visible.

Notice the location of the spring steel trigger on the micro switch (red arrow on right). The trigger location is critical to tool function. The screw rising from inside the wrench (indicated by red arrow on left) triggers the micro switch that activates the electronic functions. When the electronics are reassembled the trigger must be on the inside of this screw for the tool to function.



3. Gently lift the circuit board off of the mounting plate without damaging the gray insulating paper between it and the mounting plate. The insulating paper is essential to preventing shorts on the circuit board. Examine the paper for tears and replace if torn or damaged.
4. Reassemble the components in the reverse order of their removal. Place the circuit board on the insulating paper on the mounting plate, ensuring that the micro switch trigger is inside the activating screw. Install the upper cover and screws holding it in place. Then install the battery in the battery holder and slide the battery cover back to the original position.

Operation & LED's

Once the tool has been preset, the appropriate interchangeable head installed and the radio transceiver has been associated with the appropriate controller and specifications exchanged, the tool is ready for use. In normal operation, the tool will emit a strong tactile and sound impulse when it clicks. If the tool is jerked (too little time in the clicked position) the LED on the tool will not illuminate. If the tool has been properly used (force applied, click attained, force released within specified time frame) the LED on the circuit board will

illuminate with a green color. This will shine through the cover and be highly visible. If the tool has been pulled past the click (too much time in the clicked position) the LED on the circuit board will illuminate with a red color. Under either of the latter two circumstances, the information will be immediately transmitted to the controller.

Reversible ratchet heads

Even though the ratchet is reversible, the tool only applies measured and controlled torque in the clockwise direction, so thought must be given to the task to be accomplished before the ratchet is reversed and the tool used in the counter-clockwise direction. Exceeding the capacity of the tool in a CCW torque application is likely to damage the tool and is not covered by warranty.

Cleaning

This wrench should be cleaned with a soft cloth dampened with water. Do not immerse this tool in liquid or use any solvent other than water to clean the tool.

Presetting, Calibration and Repair

Presetting from our Internal After Sales Centers is available. Contact your Bahco distributor for details. Parts and factory repair are also available.

INSTRUCTION TO THE USER

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected..
- Consult the dealer or an experienced radio/TV technician for help.

This equipment has been certified to comply with the limits for a class B computing device, pursuant to FCC Rules. Operation with non-approved equipment is likely to result in interference to radio and TV reception. The user is cautioned that changes and modifications made to the equipment without the approval of manufacturer could void the user's authority to operate this equipment.

(ENG) EC DECLARATION OF CONFORMITY
(FRA) DÉCLARATION DE CONFORMITÉ CE
(SPA) DECLARACIÓN DE CONFORMIDAD DE LA CE
(POR) DECLARAÇÃO DE CONFORMIDADE EC
(ITA) DICHIARAZIONE DI CONFORMITÀ CE
(GER) EG-KONFORMITÄTSSERKLÄRUNG
(NED) EG-VERKLARING VAN OVEREENSTEMMING
(POL) EC DEKLARACJA ZGODNOŚCI
(SWE) CE DEKLARATION

(ENG) Hereby declares that: / The device:
(FRA) Déclare par la présente que: / L'appareil:
(ESP) Declaro que: / El aparato:
(POR) Vimos por este meio declarar: / O aparelho:
(ITA) Con la presente dichiaro che: / Dispositivo:
(GER) Hiermit wird erklärt, dass: / Die folgenden Erzeugnisse:
(NED) Hierbij verklaart dat: / Het apparaat:
(POL) Niniejszym oświadczam, że: / Urządzenia:
(SWE) Härmed deklarerar att: / Enheten:

(DEN) EF-VERENSSTEMMELSESERKLÆRING
(NOR) ECSAMSVERKLARING
(FIN) EY-VAAITUMUSTENMUKAISUUSVAKUUTUS
(RUS) Декларация о соответствии ЕС
(TUR) CE STANDARDIZASYON BEYANI
(CZE) PROHLÁŠENÍ O SHODĚ
(SVK) PREHLÁSENIE O ZHODE
(GRE) ΔΗΛΩΣΗ ΣΥΜΜΟΡΦΩΣΗΣ ΜΕ ΕΕ

(DEN) Erklærer herved at: / enheten:
(NOR) Erklærer herved at: / enheten:
(FIN) Vakuutamme täten: / Että tuote:
(RUS) Настоящим заявляю, что: / Устройство:
(TUR) Beyan ederiz ki: / Cihaz:
(CZE) Ntze prohlasujeme, že: / výrobek:
(SVK) Týmto prehlasujeme, že: / Výrobok:
(GRE) Δηλώνει ότι: / Η συσκευή:

(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) Tür (CZE) Typ (SVK) Typ (GRE) Τύποι:	WPCU2S WPTC-5 WPTC-15 WPTC-25 WPTC-60 WPTC-100 WPTC-200	(ENG) Product (FRA) Produit (ESP) Producto (POR) Produto (ITA) Prodotto (GER) Produkt (NED) Product (POL) Produkt (SWE) Produkten (DEN) Produktet (NOR) Produktet (FIN) Tuotteet (RUS) Изделие (TUR) Ürün (CZE) Výrobek (SVK) Výrobok (GRE) Προϊόν:	Torque wrench and control unit Clé dynamométrique et unité de contrôle Llave dinamométrica y unidad de control Chave de torque e unidade de controle Chiave dinamometrica e unità di controllo Drehmomentschlüssel und Steuereinheit Klucz dynamometryczny i jednostka sterująca Momentnyckel och styrenhet Momentnagle og styrenhet Momentnøkkel og styrenhet Momenttiavain ja ohjausyksikkö Динамометрический ключ и блок управления Tork anahtarlar ve kontrol ünitesi Momentový klíč a řídicí jednotka Momentový klúč a riadiaca jednotka Κλειδί ροπής και μονάδα ελέγχου	(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
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(ENG) Was manufactured in conformity with the provisions in the:
(FRA) A été fabriqué en conformité avec les dispositions des:
(SPA) Está fabricada según las disposiciones de:
(POR) Foi fabricado em conformidade com os pressupostos:
(ITA) Prodotto in conformità con le disposizioni:
(GER) In Übereinstimmung mit den Bestimmungen der:
(NED) Is vervaardigd in overeenstemming met de bepalingen in de:
(POL) Został wyprodukowany zgodnie z przepisami:
(SWE) Producerats enligt bestämmelserna i följande direktiv:

(DEN) Produisert i samsvær med bestemmelserne i:
(NOR) Produisert i samsvær med bestemmelserne i:
(FIN) On valmistettu noudattaen säännöksiä:
(RUS) Было произведено в соответствии с положениями:
(TUR) Aşağıdaki Standartlara uygun üretilmiştir:
(CZE) Byl vyroben vzhodě s předpisy:
(SVK) Bol vyrobený vzhode s predpismi:
(GRE) Κατασκευάστηκε σύμφωνα με τις διατάξεις του:

2014/30/EC; 2011/65/EU; 2012/19/EU

EN 61000-6-2, EN 61000-6-4, EN 61000-4-7, IEC 61000-3-2, IEC 61000-3-3, IEC 61000-4-2, IEC 61000-4-3,
IEC 61000-4-6, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11

(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 gemachtigd het technisch dossier samen te stellen
(POL) Osoba odpowiedzialna za zestawienie 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:
(SVK) Osoba zodpovedná za vypracovanie technickej dokumentácie:
(GRE) Άτομο εξουσιοδοτούμενο να καταρτίσει τον τεχνικό φάκελο

Sergio
Calvo



Antigua ctra. Altube Km 5,5 - 01196 Arangiz, SPAIN

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