

## CERTIFICATION

This torque wrench as calibrated at the factory, is certified to meet the accuracy in specifications: ASME B107.14M-1994, Type 1, Class B, Style 1, 2, 3. Additionally all wrenches are calibrated on a torque standard traceable to the National Institute of Standards Technology (N.I.S.T).

## CONVERSION TABLE

To convert From	To	Multiply by
lb.in.	oz.in.	16
lb.in.	lb.ft.	.08333
lb.in.	kg.cm.	1.1519
lb.in.	kg.m.	.011519
lb.in.	N.m.	.113
lb.in.	dN.m.	1.13
lb.ft.	kg.m.	.1382
lb.ft.	N.m.	1.356
N.m.	dN.m.	10
N.m.	kg.cm.	10.2
N.m.	kg.m.	.102
oz.in.	lb.in.	.0625
lb.ft.	lb.in.	12
kg.cm.	lb.in.	.8681
kg.m.	lb.in.	86.81
N.m.	lb.in.	8.85
dN.m.	lb.in.	.885
kg.m.	lb.ft.	7.236
N.m.	lb.ft.	.7376
dN.m.	N.m.	.10
kg.cm.	N.m.	.09807
kg.m.	N.m.	9.807

## USE OF EXTENSIONS & ADAPTERS

When using an extension or adapter (increasing the effective length of the torque wrench) the output torque value will change. To calculate the new torque output of the wrench use the following formula:

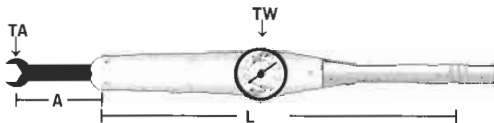
$$TW = \frac{TA \times L}{L + A}$$

TA = Torque exerted @ end of adapter

L = Distance between square drive and hand position

TW = Wrench scale reading

A = Length of adapter or extension



A number of variables including the length of the adapter or extension, length of the wrench and variations in hand position on the wrench will affect the accuracy of the above calculation.

# CDI TORQUE PRODUCTS

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FORM 20-220-CDI

REV. N/C

## OPERATION MANUAL

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CONSOLIDATED DEVICES, INC.

THE CHOICE OF PROFESSIONALS  
THROUGHOUT THE WORLD FOR  
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## SAFETY MESSAGES



### WARNING



Read operational manual completely before using torque instrument and store for future reference.



Wear safety goggles-both user and bystanders



- An out of calibration torque wrench can cause part or tool breakage
- Periodic re-calibration is necessary to maintain accuracy
- Do not exceed rated torque as over-torquing can cause wrench or part failure
- Do not use torque instrument to break fasteners loose



- Do not use cheater extensions on the handle to apply torque
- Broken or slipping tools can cause injury



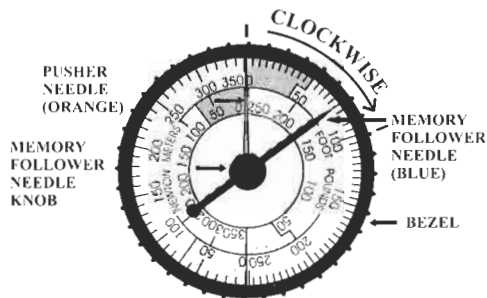
### CAUTION - RATCHET

Ratchet mechanism may slip or break if dirty, mismatched or worn parts are used, or direction lever is not fully engaged. Ratchets that slip or break can cause injury.

### MAINTENANCE / SERVICE

1. Clean torque wrench by wiping. **Do not immerse.**
2. Store torque wrench in protective case.

## SETTING MEMORY FOLLOWER NEEDLE ON DUAL SCALE MODELS

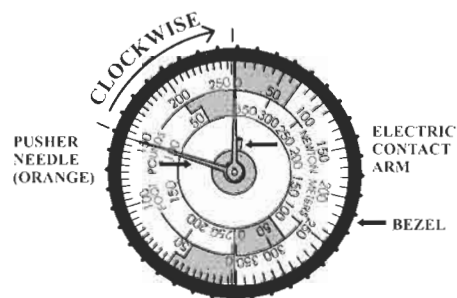


Follower Needle Dial

Before using all models of dial torque wrenches, it is strongly suggested to cycle/operate them 3 times at full scale in the torque direction in which they will be used. *Dial torque wrenches must always be zeroed before use.* To set orange pusher & blue follower needle for right-hand (C W) torquing:

1. Turn bezel in left-hand (CCW) direction until, blue memory follower needle contacts orange pusher needle.
2. Continue to turn bezel left-hand (CCW) until blue memory follower needle is lined up with **zero** (0) of outer graduation on portion of dial for IN.LB., FT.LB., METRIC readings.
3. Apply force on the wrench handle until blue follower needle reaches desired torque. When force is released orange pusher needle will return to **zero** and blue memory follower needle will remain at torque applied.
4. For repetitive torque operations (once the **zero** has been set as instructed above), the blue memory follower needle can be returned to **zero** by use of the follower needle knob. It is ready for the next operation.
5. **IMPORTANT** - When using the memory feature always make sure that the blue follower memory needle is on **zero** before torquing.

## SETTING ELECTRIC CONTACT ARM ON DUAL SCALE MODELS



Electric Signal Dial

Setting electric arm at **zero** with all torque readings made from inner circle of numbers on the scale for right-hand (CW) torquing, and the outer circle of numbers on the scale for left-hand (CCW) torquing:

1. Turn bezel (CCW) until light and buzzer goes on.
2. Continue to turn bezel (CCW) until inner **zero** of desired scale (English or Metric) is lined up with orange pusher needle.
3. Now turn bezel (CW) until light goes off and orange pusher needle is aligned with desired torque graduation in inner portion of scale orange pusher needle is now preset to desired torque value.
4. Apply force to handle in the (CW) direction. When the preset torque value is reached the light and buzzer will go on. When force on the handle is released orange pusher needle will return to the preset torque value.
5. To change the preset torque value to another, turn the bezel as required to the new torque value within the same dial graduation and proceed as in step 4 above.
6. **IMPORTANT** - Always make sure that the **electric contact arm is zeroed.**