OPERATOR'S MANUAL

THORSTONE

For 1/4"

DRIVE CLICK TORQUE WRENCH

10~150 IN.-LB./1.13~16.95 NM

SPECIFICATION

Product: Thorstone N1

Model: CTR14150M

Torque Ranges	
Maximum Torque Setting	150 in.-lb.
Minimum Torque Setting	10 in.-lb.
Torque Setting Increments	1 in.-lb.
Ratchet Head	
Style	Fixed
Square Drive Size	1/4"
Number of Teeth	72
Ratcheting Reengagement	**5° Swing**
Accuracy	**±2% Clockwise**
Length	**8.7 in**
Weight	**0.7 lbs**
Accessories included	**Blow mode case**

*Orientation of this torque wrench will affect the operation. The torque wrench is calibrated in a clockwise position (weight of the wrench doesn't affect the torque measurement). In this orientation, the accuracy will be within ±2% of setting.

SAFETY WARNINGS AND CAUTIONS

⚠ WARNING Read all safety warnings and instructions before using.

⚠ Failure to follow the warnings and instruction may result in injury.

⚠ Save all warnings and instructions for future reference.

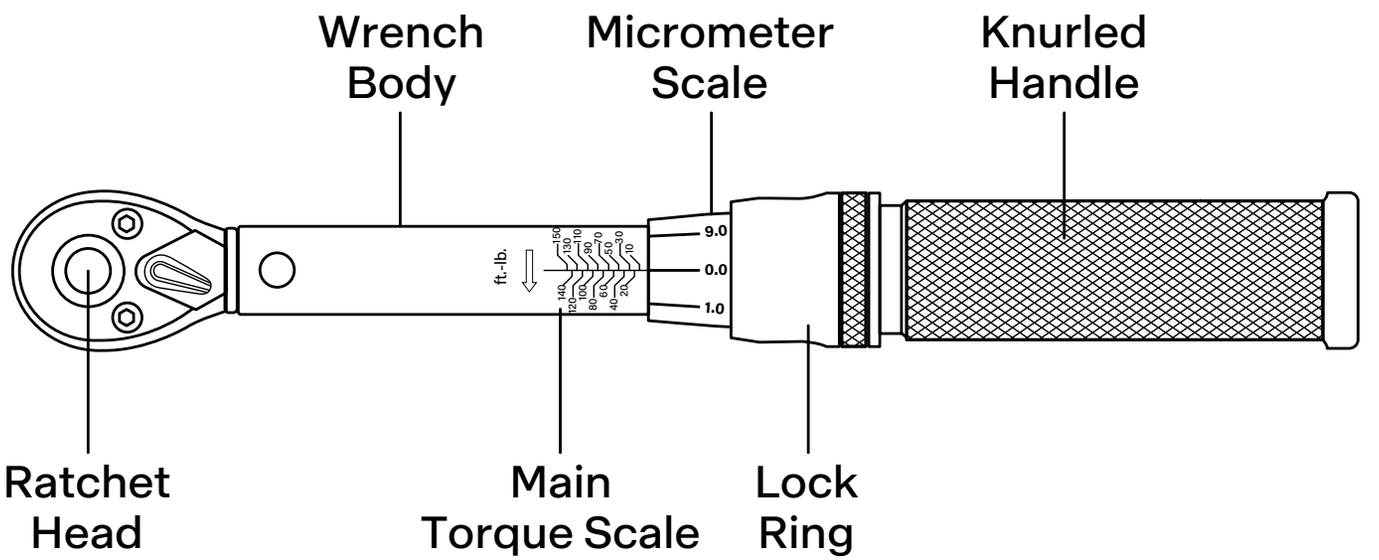
1. Use only within rated torque range, and sockets with the correct drive and rated to at least the torque that will be applied to it.
2. Inspect before every use; do not use if damaged or if parts are loose.
3. Use ANSI-approved safety goggles and protective clothing while operating.
4. Do not use for loosening fasteners. This can damage the tool and result in inaccuracy.
5. Use as intended only. Do not use as hammer, pry bar, or breaker bar.
6. Do not use cheater extension on the handle to apply torque.
7. Do not exceed the capacity of the Torque Wrench, which can cause breakage.
8. Do not use handle extension to increase force.
9. Do not use a dropped Torque Wrench. Prior to reuse, have it tested for safety.

11. Periodic recalibration is necessary to maintain accuracy. Have the Torque Wrench calibrated and serviced only by a qualified technician. An out of calibration torque wrench can cause part or tool breakage.
12. Periodically inspect the sealed ratchet mechanism. Avoid using a slip or broken ratchet mechanism caused by dirty, mismatched, or worn parts, or incomplete engagement of the direction lever.
13. The warnings, cautions, and instructions in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that comon sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

1. Ensure you use the torque wrench within its calibrated range of 20%-100% of its capacity to maintain accuracy and prevent damage.
2. Grip handle in the middle for optimal control.
3. Apply force slowly and evenly when reaching the final torque value.
4. Stop applying force once target torque is reached.
5. Clean and store the torque wrench properly on a regular basis.
6. After touching the scale markings, promptly wipe them dry to prevent rusting.
7. After each use, adjust the torque to the lowest value and avoid lubricating the internal mechanical structure.
8. "Preheat" torque wrench three times at full capacity before use.
9. Use the same torque unit during calibration as used during operation.
10. Avoid unsuitable extensions or similar objects for accurate readings and to prevent damage.
11. Regularly maintain wrench for longer service life.
12. Recalibrate annually or after 5000 uses by a professional laboratory.

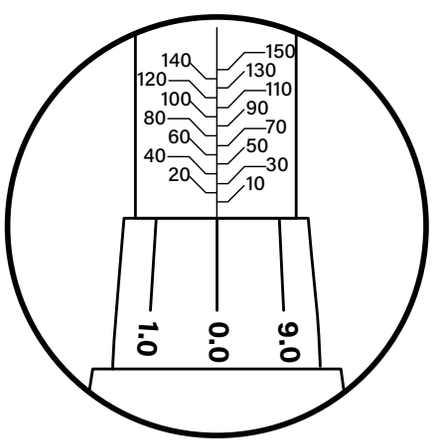
Note: These quick tips are intended as general guidance. Please refer to the complete operator's manual for detailed instructions and safety information.

INTRODUCTION



⚠ Example model in this manual is CTR12150H.

Note: This dual-range torque wrench is marked with Feet pounds (ft.-lb.) and Newton meters (Nm) on opposites sides of handle.



The torque scale is marked on the handle body with more precise subdivisions on the knurled handle. In these instructions the handle body scale will be referred to as the **"main scale"** and the knurled handle scale will be referred to as the **"micrometer scale"**.

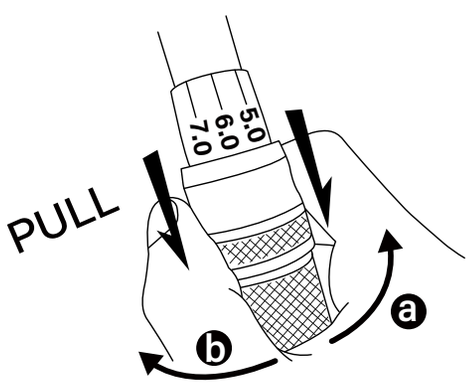
⚠ Wear ANSI-approved safety goggles during use.

SETTING TORQUE

1. BEFORE EVERY USE, exercise Torque Wrench. Pull down Lock Ring, then perform the following exercise three times:

   ⓐ Turn Knurled Handle to the right until maximum torque setting is reached.

   ⓑ Turn handle to the left until minimum torque setting is reached.



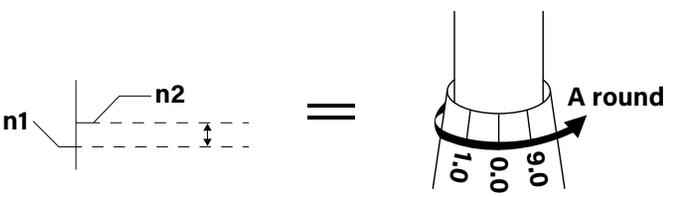
   ⚠ **Tighten/adjust lock ring and knurled handle by hand only.**

2. Refer to equipment manufacturer's instructions for torque value.
3. Pull down Lock Ring and hold in place while adjusting torque.
4. To set torque value.
5. Release the Lock Ring to lock the Knurled Handle in place.

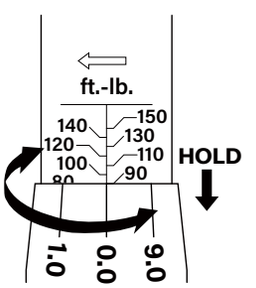
FOOT POUNDS

(Example of setting 94 ft.-lb.)

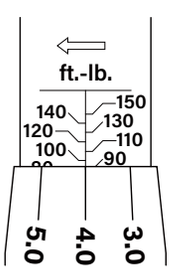
One full rotation of the micrometer scale corresponds to one increment on the main scale. You can check the "Torque Setting Increments" in SPECIFICATION in Page 01 for the or unit in micrometer scale marking.



ⓐ Turn Knurled Handle until top of handle lines up with bottom horizontal mark for "90" on main scale, and "0" mark on micrometer scale lines up with vertical center line.



ⓑ Turn Khurled Handle clockwise until the 4 lines up with the center line. The torque value is set to 94 ft-lb.
(90 + 4 = 94)



Formula:
Main scale + Micrometer scale
= 90 ft.-lb. + 4 ft.-lb.
= 94 ft.-lb.

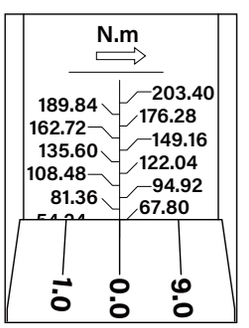
NEWTON POUNDS

(Example of setting 80.0 Nm)

Setting desired torque on Nm scale uses the same procedure described above for ft.-lb. scale. General principle is that the micrometer scale divides the main scale markings into 10 divisions. But now some simple calculations needed.

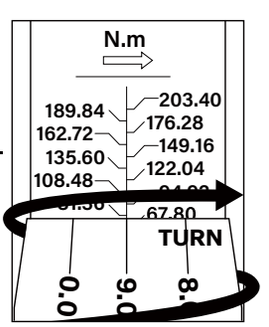
> *Formula:*
> *Get the unit in micrometer scale*
> *203.4 Nm -189.84 Nm = 13.56 Nm*
> *13.56 Nm / 10 = 1.36 Nm*

ⓐ Turn knurled micrometer handle until top is aligned with "67.8" mark on main scale, and "0" mark on micrometer scale lines up with vertical center line.



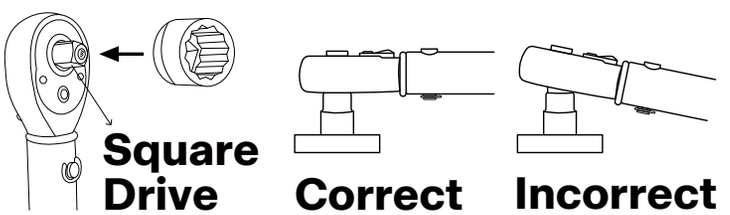
> *Formula:*
> *80.0 Nm - 67.8 Nm = 12.2 Nm*
> *12.2 Nm / 1.36 Nm = 9 micrometer scale markings*

ⓑ To increase torque from 67.8 Nm to 80.0 Nm, turn micrometer handle clockwise until the "9" mark is centered on vertical line of main scale.



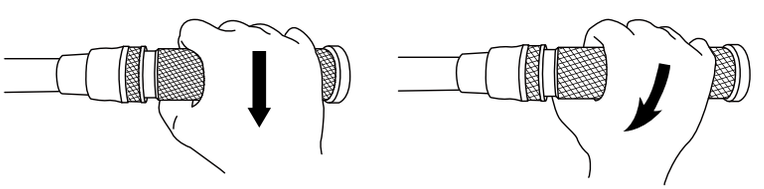
WRENCH OPERATION

1. Clean the fastener's threads. Dirty threads may result in a misleading torque reading.
2. Select socket that properly fits the fastener. Press socket firmly onto Square Drive so that Torque Wrench sits at a 90 degree angle.



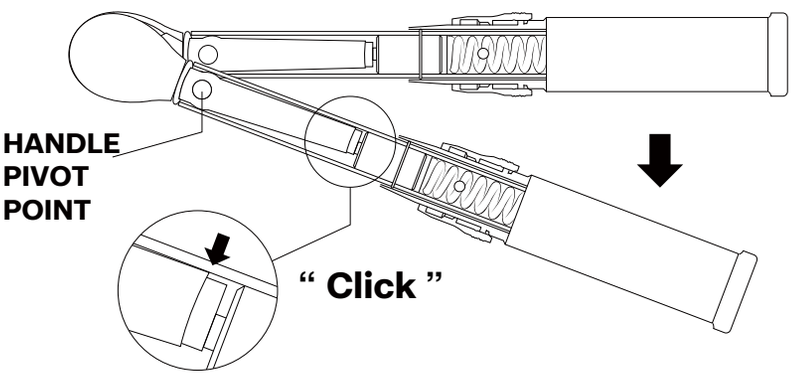
⚠ **To prevent damage to the Torque Wrench, do not use for loosening fasteners.**

3. It's recommended to set Switch to turn clockwise.
4. Place socket on fastener and grasp Knurled Handle.



> *NOTE: To ensure accuracy, hold center of Knurled Handle and rotate Wrench in a vertical motion.*

5. Pull smoothly and slowly until the handle breaks away and a click is heard or felt.
   STOP PULLING! The proper torque has been achieved. Further pulling may damage fastener.



THE BASIC OPERATION OF THE TORQUE WRENCH: *When the desired torque setting is reached, the roller bearing and roller pin will roll over each other, causing a click you can hear and feel.* ***NOTE: At low torque settings, click can be subtle. Use wrench in a quiet environment.***

6. Release pressure to allow the handle to reset for the next operation.
7. AFTER EVERY USE, set Wrench to the lowest torque setting.
8. Store Wrench inside its case, indoors, in a clean, dry location that is out of reach of children.

MAINTENANCE

Procedures not specifically explained in this manual must be performed only by a qualified technician.

⚠ TO PREVENT INJURY FROM TOOL FAILURE: Do not use damaged equipment. If abnormal noise or vibration occurs, have the problem corrected before further use.

BEFORE EACH USE

Inspect the general condition of the tool. Check for:
- Loose hardware
- Misalignment or binding of moving parts
- Cracked or broken parts
- Any other condition that may affect its safe operation

AFTER USE

- Pull back Lock Ring and set Wrench to the lowest torque setting.
- DO NOT turn the handle below lowest torque setting.
- Wipe Wrench with a clean, dry, lint-free cloth. Do not use liquid on the cloth or immerse wrench in any type of liquid, which may damage the internal components.

EVERY 12 MONTHS

Have the Torque Wrench calibrated and serviced by a qualified technician.

Note: Replacement parts are not available.

FREQUENTLY ASKED QUESTIONS

CUSTOMER SERVICE IS AVALIABLE

24 hours a day, 7 days a week at
Support@thorstonetool.com
visit your online store **www.thorstonetools.com**
to learn more about extended service!

Q: How often should I calibrate my torque wrench, and can I calibrate the torque wrench myself?

A: Torque wrenches should be calibrated annually or after every 5,000 cycles at a certified calibration laboratory. However, for critical or high-precision applications, more frequent calibration may be required. DIY calibration is not recommended unless you have the necessary expertise and equipment.

Q: How can I ensure the click sound is working properly?

A: The click sound in the torque wrench indicates that the roller bearing and roller pin have engaged. Use the wrench in a quiet environment for better audibility. If the click sound is not audible or inconsistent, it is advisable to contact a qualified service center for inspection, repair, or replacement.

Q: What is the warranty period for my torque wrench?

A: We provide basic 1 year warranty, and you can register another 1 year warranty service online at **www.thorstonetools.com** within 90 days from the purchase. And there is online support service available for troubleshooting at **Support@thorstonetool.com**

Q: Can I rely on the torque wrench readings for precise torque applications?

A: Our torque wrenches are designed to provide accurate readings within their specific range. For precise torque applications, it's recommended to use a higher-precision torque measuring device. Additionally, please follow up proper operating procedures, ensure regular calibration, use the correct techniques.

Q: What are the advantages and disadvantages of a high tooth count torque wrench?

A: High tooth count torque wrenches offer increased precision and smoother operation, reducing the risk of overtightening or undertightening, and providing a wider torque range for versatile applications. However, With higher tooth count, the internal mechanism becomes more intricate, increasing susceptibility to damage from mishandling or excessive force. These torque wrenches may require a low dust, minimal oil contamination environment, as well as more frequent maintenance and calibration to ensure accuracy and reliability.

Q: Can I use different sockets or adapters with this torque wrench?

A: You can use different sockets or adapters with your wrench as long as they are compatible in terms of drive size. Ensure that the socket or adapter has an equal or higher torque rating than the wrench for accurate torque measurements.

WARRANTY

Keep Everything Simple. If the wrench doesn't perform like it should be, please let us know and we'll make it right with 24h*7d service.

TIME LIMITS
Our warranty policy applies for basic 1 year, and can be extended to 2 years online at our website.
NO RECEIPTS
Our support comes with the wrench you own. Often, picture of the product and additional information are needed for verification.
SHIPPING ON US
We cover the cost of shipping replacement item, ensuring a hassle-free experience for you.
REQUEST A WARRANTY REPLACEMENT:
www.thorstonetools.com

*Register your new product online at www.thorstone.com, in order to extend your warranty service for **2 years**.*

LIMITATIONS

The Thorstone Torque Wrench is backed by **a two year warranty**. This warranty covers manufacturer defects and workmanship. The warranty excludes misuse, abuse and normal wear and tear. Other exclusions are following:

1. Alteration or modification of the click torque wrench by anyone other than professionals.
2. Use of the click torque wrench for any purpose other than its intended use.
3. Failure to follow the instructions provided in the operator's manual.
4. Negligence or lack of proper maintenance of the click torque wrench.
5. Use of non-standard or improper accessories with the click torque wrench.
6. Exposure of the click torque wrench to extreme temperatures or environmental conditions beyond its specified range.
7. Use of the click torque wrench by anyone who is not properly trained or qualified to use it.

⚠ **Please use the click torque wrench responsibly and only for its intended purpose.**

QUICK CONVERSIONS

1 ft.-lb. =	1 in.-lb. =	1 Nm =
0.138 m-kg	0.0833 ft.-lb.	0.737 ft.-lb.
12.0 in.-lb.	0.113 Nm	8.85 in.-lb.
1.35 Nm	0.0115 m-kg	0.102 m-kg
13.8 cm-kg	1.15 cm-kg	10.2 cm-kg

⚠ Caution:

Always use manufacturers specifications when available. These specifications are approximate and may not be appropriate for some applications. No liability is assumed for errors which may result from the use of any of these specifications.

VARIOUS UNITS OF TORQUE CONVERSION

COVERT		COVERT	
from → to	multiple	from → to	multiple
lb.in. → oz.in.	16	oz.in. → lb.in.	.0625
lb.in. → lb.ft.	.08333	lb.ft. → lb.in.	12
lb.in. → kg.cm.	1.1519	kg.cm. → lb.in.	.8681
lb.in. → kg.m.	.011519	kg.m. → lb.in.	86.81
lb.in. → N*m	.133	N*m → lb.in.	8.85
lb.in. → dN*m	1.13	dN*m → lb.in.	.885
lb. ft. → kg.m.	.1382	kg.m. → lb. ft.	7.236
lb. ft. → N*m	1.356	N*m → lb. ft.	.7376
N*m → dN*m	10	dN*m → N*m	.10
N*m → kg.cm.	10.2	kg.cm. → N*m	.09807
N*m → kg.m.	.102	kg.m. → N*m	9.807

TORQUE UNIT CONVERSION RATE

FOOT POUNDS (ft.-lb.)	INCH POUNDS (in/-lb.)	NEWTON METERS (Nm)	NEWTON METERS (Nm)	FOOT POUNDS (ft.-lb.)	INCH POUNDS (in/-lb.)	INCH POUNDS (in/-lb.)	FOOT POUNDS (ft.-lb.)	NEWTON METERS (Nm)
5	60	6.78	5	3.69	44.26	10	0.833	1.13
10	120	13.56	10	7.38	88.51	15	1.2495	1.70
15	180	20.34	15	11.07	132.77	20	1.666	2.26
20	240	27.12	20	14.76	177.02	25	2.0825	2.83
25	300	33.90	25	18.45	221.28	30	2.499	3.39
30	360	40.68	30	22.14	265.53	35	2.9155	3.96
35	420	47.46	35	25.83	309.79	40	3.332	4.52
40	480	54.24	40	29.52	354.04	45	3.7485	5.09
45	540	61.02	45	33.21	398.30	50	4.165	5.65
50	600	67.80	50	36.90	442.55	55	4.5815	6.22
55	660	74.58	55	40.59	486.81	60	4.998	6.78
60	720	81.36	60	44.28	531.06	65	5.4145	7.35
65	780	88.14	65	47.97	575.32	70	5.831	7.91
70	840	94.92	70	51.66	619.57	75	6.2475	8.48
75	900	101.70	75	55.35	663.83	80	6.664	9.04
80	960	108.48	80	59.04	708.08	85	7.0805	9.61
85	1020	115.26	85	62.73	752.34	90	7.497	10.17
90	1080	122.04	90	66.42	796.59	95	7.9135	10.74
95	1140	128.82	95	70.11	840.85	100	8.33	11.30
100	1200	135.60	100	73.80	885.10	105	8.7465	11.87
105	1260	142.38	105	77.49	929.36	110	9.163	12.43
110	1320	149.16	110	81.18	973.61	115	9.5795	13.00
115	1380	155.94	115	84.87	1017.87	120	9.996	13.56
120	1440	162.72	120	88.56	1062.12	125	10.4125	14.13
125	1500	169.50	125	92.25	1106.38	130	10.829	14.69
130	1560	176.28	130	95.94	1150.63	135	11.2455	15.26
135	1620	183.06	135	99.63	1194.89	140	11.662	15.82
140	1680	189.84	140	103.32	1239.14	145	12.0785	16.39
145	1740	196.62	145	107.01	1283.40	150	12.495	16.95
150	1800	203.40	150	110.70	1327.65	155	12.9115	17.52
155	1860	210.18	155	114.39	1371.91	160	13.328	18.08
160	1920	216.96	160	118.08	1416.16	165	13.7445	18.65
165	1980	223.74	165	121.77	1460.42	170	14.161	19.21
170	2040	230.52	170	125.46	1504.67	175	14.5775	19.78
175	2100	237.30	175	129.15	1548.93	180	14.994	20.34
180	2160	244.08	180	132.84	1593.18	185	15.4105	20.91
185	2220	250.86	185	136.53	1637.44	190	15.827	21.47
190	2280	257.64	190	140.22	1681.69	195	16.2435	22.04
195	2340	264.42	195	143.91	1725.95	200	16.66	22.60
200	2400	271.20	200	147.60	1770.20	225	18.7425	25.43
205	2460	277.98	250	184.50	2212.75	250	20.825	28.25

THORSTONE

- Support Email: Support@thorstonetools.com
- Warranty Registration: www.thorstonetools.com
- Thank you for purchasing our product. Before using this product, please read this manual carefully. To ensure your safety and avoid damaging the product, please operate it in accordance with the instructions provided in this manual.

Scan for Warranty

CTR1415OM