

CDI **TORQUE** PRODUCTS®



TORQUE TOOLS



MULTITEST CALIBRATION SYSTEMS

The MULTITEST Torque, Force and Tension Calibration System is the most sophisticated system available in the industry. This system will test and calibrate most types of torque wrenches, torque screwdrivers, torque multipliers, cable tensiometers, tension and compression gauges and non-impact power tools such as nutrunners and electric screwdrivers.

The Multitest Calibration System can be ordered several ways. Each system begins with the same three basic components: the Multitest Digital Monitor, the Roller Cabinet and the 2000 ft. lb. Mechanical Loader. We offer three different systems, the "Premier", the "Supreme" and the "Basic". These systems and their components are described in detail on the next few pages.

In addition, you may order any component separately to build your own "custom" system.

Features

- Automatic sensor recognition with "smart" transducers
- Range: 5 in. oz. to 2000 ft. lb. torque (bi-directional)
- Accuracy: $\pm 0.25\%$ of indicated value, cw & ccw, from 10% to 100% of full scale, (except 2000-4-02*)
- Built-in, low profile serial printer
- Date and time stamp for stored values
- Statistical analysis performed on stored data
- Stores up to 3000 torque values
- Programmable manual or automatic options for clear, store and print functions
- 110 or 220 Volts selectable. Foreign plugs are included
- Recall and review of stored torque values
- Track, peak, first peak, power tool modes
- RS232C port, analog output
- Eight torque measurement units:
in. oz., in. lb., ft. lb., Nm, dNm, cNm, mkg and cmkg
- Six force units: ounce, pound, newton, deciNewton, kilopound (kilogram) and gram
- Automatic lock-up for transducer protection
- All transducers supplied with certification
- Individually serialized with matching certificate of calibration traceable to N.I.S.T.



Made in U.S.A.



Multitest Digital Monitor with Soft Touch Keys.





MULTITEST PREMIER CALIBRATION SYSTEM

CDI's All Inclusive Calibration System Model 2000-1 Grainger Part # 5PVG3

Features

- Our most comprehensive calibration system for torque and force
- Calibrate torque wrenches up to 2000 ft. lbs.
- Check the accuracy and calibrate cable tensiometers, tension and compression gauges
- Includes the easy-to-use 4-in-1 transducer kit
- Eleven single transducers ranging from 5 in. oz. up to 2000 ft. lbs.
- Includes torque screwdriver testing kit
- Automatic safety feature locks system to prevent overloading and possible damage to transducers
- Displays eight units of torque and six units of force
- Also includes a calibration stand and all necessary calibration wheels, arms, weights and trays
- Downloading software included

MODEL 2000-1 INCLUDES:

Product Code	Description	Grainger Part#	Product Code	Description	Grainger Part#
2000-610-02	MULTITEST Monitor	38A861	2000-550-02	Extension Arm Kit for Long Torque Wrenches	38A853
2000-600-02	Mechanical Loader 2000 ft. lb. capacity	38A859	2000-750-02	Torque Screwdriver Testing Kit	38A865
2000-100-02	Roller Cabinet	38A286	2000-320-0	No. 1 Weight Set	38A351
2000-400-02	4 in 1 Transducer Kit, 4 in. lbs. to 250 ft. lbs.	38A323	2500-50-0	2-1/2" Calibration Wheel	38A317
2000-500-02	4 In 1 Transducer Adapter Kit	38A322	2000-151-0	5" Calibration Wheel	38A796
2000-4-02*	Transducer Range From 5 - 50 in. ozs. (*± 0.5%)	38A344	2000-152-0	10" Butterfly Wheel	38A795
2000-5-02A	Transducer Range From 15 - 200 in. ozs.	38A339	2000-154-0	40" Calibration Arm	38A325
2000-6-02	Transducer Range From 4 - 50 in. lbs.	38A343	390-2-2	4 oz. Weight Hanger	38A324
2000-65-02	Transducer Range From 15 - 150 in. lbs.	38A338	2000-301	8 oz. Weight Hanger	38A328
2000-7-02	Transducer Range From 30 - 400 in. lbs.	38A342	2000-304-0	7.5 lb. Weight Hanger	38A327
2000-8-02	Transducer Range From 80 - 1000 in. lbs.	38A346	2000-302-0	15 lb. Weight Hanger	38A316
2000-10-02	Transducer Range From 10 - 125 ft. lbs.	38A337	2000-303-0	50 lb. Weight Hanger	38A326
2000-11-02	Transducer Range From 20 - 250 ft. lbs.	38A341	2000-250-02	Calibration Stand Kit	38A333
2000-12-02	Transducer Range From 60 - 600 ft. lbs.	38A345	2000-260-0	Tension Meter	38A856
2000-13-02	Transducer Range From 100 - 1000 ft. lbs.	38A336	2000-261-0	Force Gauge	38A857
2000-14-02	Transducer Range From 200 - 2000 ft. lbs.	38A340	2000-262-0	Compression Gauge	38A855
900-0-1KIT	Joint Rate Simulator 50 in. lbs. capacity	4YVT5	2000-263-02	Force Arm Kit	38A854
900-2-01KIT	Joint Rate Simulator 400 in. lbs. capacity	38A321	2000-SW	PC Software	38A350
900-3-01KIT	Joint Rate Simulator 1000 in. lbs. capacity	38A320	2000-50-1	Cable from MULTITEST to PC	38A331



4 in 1 Transducer Kit with Mounting Adapter





MULTITEST SUPREME CALIBRATION SYSTEM

CDI's Torque-Only System Model 2000-2. Listed below are all of the components to CDI's "Supreme" MULTITEST Torque Calibration System. This is our mid-range system for torque, which has a range from 15 in. ozs. to 2000 ft. lbs. Designed for the user who requires precision accuracy and reliability in a torque calibration system. This set includes an extension arm for long torque wrenches and 3 joint rate simulators for testing power tools. (Not for use with impact and pulse tools.) PC compatible software and cables are also included.

MODEL 2000-2 GRAINGER PART # 5PVG4 INCLUDES:

Product Code	Description	Grainger Part#
2000-610-02	Multitest Digital Monitor	38A861
2000-600-02	Mechanical Loader Max 2000 ft.lb.	38A859
2000-100-02	Roller / Storage Cabinet 45"W x 24"D x 33"H	38A286
2000-400-02	4 in 1 Transducer Kit-Range 4 in. lb. to 250 ft. lb.	38A323
2000-500-02	4 in 1 Transducer Adapter Kit	38A322
2000-4-02	Transducer Kit-Range 5-50 in. oz.	38A344
2000-5-02A	Transducer Kit-Range 15-200 in. oz.	38A339
2000-12-02	Transducer Kit-Range 60-600 ft. lb.	38A345
2000-13-02	Transducer Kit-Range 100-1000 ft. lb.	38A336
2000-14-02	Transducer Kit-Range 200-2000 ft. lb.	38A340
2000-550-02	Extension Arm for Long Torque Wrench, Reach up to 80"	38A853
900-0-1KIT	1/4" drive, 50 in. lb. Capacity Joint Rate Simulator	4YVT5
900-2-01KIT	3/8" drive, 400 in. lb. Capacity Joint Rate Simulator	38A321
900-3-01KIT	3/8" drive, 1000 in. lb. Capacity Joint Rate Simulator	38A320
2000-SW	Wedglink Software	38A350
2000-50-1	Cable from MULTITEST or SURETEST to PC	38A331



4 in 1 Transducer Kit with Mounting Adapter.



MULTITEST BASIC CALIBRATION SYSTEM

Listed below are all of the components to CDI's "Basic" MULTITEST Calibration System Model 2000-3. The system includes the 4 in 1 transducer, which is capable of calibrating torque tools from 4 in. lbs. through 250 ft. lbs. Also included is the 2000 ft. lb. loader and the MULTITEST monitor.

MODEL 2000-3 GRAINGER PART # 22N915 INCLUDES:

Product Code	Description	Grainger Part#
2000-610-02	Multitest Digital Monitor	38A861
2000-600-02	Mechanical Loader Max 2000 ft.lb.	38A859
2000-100-02	Roller / Storage Cabinet 45"W x 24"D x 33"H	38A286
2000-400-02	4 in 1 Transducer Kit-Range 4 in. lb. to 250 ft. lb.	38A323
2000-500-02	4 in 1 Transducer Adapter Kit	38A322





CDI TORQUE PRODUCTS

MULTITEST MOTORIZED SYSTEM

MODEL 2800-1 GRAINGER PART # 22N916

CDI has taken torque calibration to a higher level. Increase your productivity with the 2000 ft. lb. fully automatic motorized loader. Designed for the high volume calibration laboratory that requires a high-speed, automatic torque calibration system. In the automatic mode, the MULTITEST Motorized System Model 2800-1 will cycle, test and calibrate most torque wrenches. With our optional kits, you can calibrate torque screwdrivers, cable tensiometers, tension and compression gauges utilizing the manual mode, (hand crank only).

The MULTITEST Motorized System consists of the Monitor, Motorized Loader, Roller Cabinet and Extension Arm. Please order the transducers separately based on your individual needs. (Not for use with impact and pulse tools.)

- Automatic sensor recognition with "smart" transducers
- Range: 5 in. oz. to 2000 ft. lb. torque (bi-directional)
- Accuracy: $\pm 0.25\%$ of indicated value, CW & CCW, from 10% to 100% of full scale
- Dual mode function (manual & automatic)
- Automatic speed control
- Built-in, low profile serial printer
- Date and time stamp for stored values
- Statistical analysis performed on stored data
- Emergency stop button
- Programmable manual or automatic options for clear, store and print functions
- Recall and review of stored torque values
- Track, peak, first peak, power tool modes
- RS232C port, analog output
- Eight torque measurement units: in. oz., in. lb., ft. lb., Nm, dNm, cNm, mkg and cmkg
- Six force units: ounce, pound, newton, deciNewton, kilopound and gram
- Automatic lock-up for transducer protection
- All transducers are individually serialized with matching certificate of calibration traceable to N.I.S.T.



Dual Mode Function Manual and Automatic



SURETEST PREMIER CALIBRATION SYSTEM

The SURETEST Model 5000-1 is a laboratory grade instrument which captures torque measurements with a user friendly interface. It features a large LCD graphical display. It may be used with a single transducer or can be used as the principal component of a Torque Calibration System.

The SURETEST features versatile data acquisition capabilities including measurement storage, retrieval, statistical analysis and automatic downloading to an external printer/ computer. The SURETEST stores, recalls and downloads up to 3000 torque readings. The system provides readings with an accuracy of $\pm .25\%$ of indicated value and features multiple languages: English, Spanish, French, Japanese and German.

The SURETEST Torque Calibration System may be ordered in three different combinations. The "Premier", the "Supreme" and the "Basic" systems are described on these pages. In addition, you may order any component separately to build your own "custom" system.

Features

- Large LCD graphical display
- Five built-in languages
- Date and time stamp
- Dual RS-232 ports, analog output
- SPC built-in
- Automatic downloading
- Accuracy: $\pm 0.25\%$ of indicated value, CW & CCW, from 10% to 100% of full scale
- Transducers available from 5 in. ozs. to 2000 ft. lbs. of torque
- All transducers are "smart" (plug and play)
- Readout in eight different engineering units
- Stores and recalls 5000 torque values (date & time)
- Fully automatic voltage input adaptation (100 - 240 VAC input)
- Data is saved when SURETEST is turned off
- All transducers are individually serialized with matching certificate of calibration traceable to N.I.S.T.

MODEL 5000-1 GRAINGER PART # 5PVG5 INCLUDES:

Product Code	Description	Grainger Part #	Product Code	Description	Grainger Part #
5000-ST	Suretest Monitor w/Cable and Case	38A863	2000-320-0	Weight Set #1	38A351
2000-600-02	Mechanical Loader Max 2000 ft.lb.	38A859	2500-50-0	2½" Calibration Wheel	38A317
2000-100-02	Roller / Storage Cabinet 45"W x 24"D x 33" H	38A286	2000-151-0	5" Calibration Wheel	38A796
2000-400-02	4 in 1 Transducer Kit-Range 4 in. lb. to 250 ft. lb.	38A323	2000-152-0	10" Butterfly Calibration Wheel	38A795
2000-500-02	4 in 1 Transducer Adapter Kit	38A322	2000-154-0	40" Calibration Arm	38A325
2000-4-02	Transducer Kit-Range 5-50 in. oz.	38A344	390-2-2	4 oz. Hanger Calibration Weight Tray	38A324
2000-5-02A	Transducer Kit-Range 15-200 in. oz.	38A339	2000-301	8 oz. Hanger Calibration Weight Tray	38A328
2000-12-02	Transducer Kit-Range 60-600 ft. lb.	38A345	2000-304-0	7.5 lb. Calibration Weight Tray	38A327
2000-13-02	Transducer Kit-Range 100-1000 ft. lb.	38A336	2000-302-0	15 lb. Calibration Weight Tray	38A316
2000-14-02	Transducer Kit-Range 200-2000 ft. lb.	38A340	2000-303-0	50 lb. Calibration Weight Tray	38A326
2000-550-02	Extension Arm for Long Torque Wrench, Reach up to 80"	38A853	2000-250-02	Calibration Stand Kit	38A333
900-0-1KIT	¼" drive, 50 in. lb. Capacity Joint Rate Simulator	4YVT5	2000-SW	Wedglink Software	38A350
900-2-01KIT	⅜" drive, 400 in. lb. Capacity Joint Rate Simulator	38A321	2000-50-1	Cable from MULTITEST or SURETEST to PC	38A331
900-3-01KIT	⅝" drive, 1000 in. lb. Capacity Joint Rate Simulator	38A320			
2000-750-02	Torque Screwdriver Testing Kit for 2000-600-02 Loader	38A865			



Set-up is quick and easy utilizing soft touch keys.



Easy, quick change transducers.





CDI TORQUE PRODUCTS

SURETEST SUPREME CALIBRATION SYSTEM

CDI's Mid-Range Torque System Model 5000-2. Listed below are all of the components to CDI's "Supreme" SURETEST Torque Calibration System. This mid-range torque system has a range from 5 in. ozs. to 2000 ft. lbs. Choose SURETEST for unsurpassed accuracy and reliability in a torque calibration system. Also includes an extension arm for long torque wrenches and 3 joint rate simulators for testing power tools. (Not for use with impact and pulse tools.) PC compatible software and cables are included.

MODEL 5000-2 GRAINGER PART # 5PVG6 INCLUDES:

Product Code	Description	Grainger Part #
5000-ST	Suretest Monitor w/Cable and Case	38A863
2000-600-02	Mechanical Loader Max 2000 ft.lb.	38A859
2000-100-02	Roller / Storage Cabinet 45"W x 24"D x 33"H	38A286
2000-400-02	4 in 1 Transducer Kit-Range 4 in. lb. to 250 ft. lb.	38A323
2000-500-02	4 in 1 Transducer Adapter Kit	38A322
2000-4-02	Transducer Kit-Range 5-50 in. oz.	38A344
2000-5-02A	Transducer Kit-Range 15-200 in. oz.	38A339
2000-12-02	Transducer Kit-Range 60-600 ft. lb.	38A345
2000-13-02	Transducer Kit-Range 100-1000 ft. lb.	38A336
2000-14-02	Transducer Kit-Range 200-2000 ft. lb.	38A340
2000-550-02	Extension Arm for Long Torque Wrench, Reach up to 80"	38A853
900-0-1KIT	1/4" drive, 50 in. lb. Capacity Joint Rate Simulator	4YVT5
900-2-01KIT	3/8" drive, 400 in. lb. Capacity Joint Rate Simulator	38A321
900-3-01KIT	3/8" drive, 1000 in. lb. Capacity Joint Rate Simulator	38A320
2000-SW	Wedgelink Software	38A350
2000-50-1	Cable from MULTITEST or SURETEST to PC	38A331



Set-up is quick and easy utilizing soft touch keys



4 in 1 Transducer Slides Easily into Adapter Kit



Telescoping Arm extends to accommodate 600 ft. lbs. wrenches



Quick Release Pins make changing transducers a snap



SURETEST™ BASIC CALIBRATION SYSTEM

The SURETEST Model 5000-3 is a laboratory grade instrument which captures torque measurements with a user friendly interface. It features a large LCD graphical display. It may be used with a single transducer or can be used as the principal component of a Torque Calibration System.

The SURETEST features versatile data acquisition capabilities including measurement storage, retrieval, statistical analysis and automatic downloading to an external printer/computer. The SURETEST stores, recalls and downloads up to 3000 torque readings. The system provides readings with an accuracy of +/- .25% of indicated value and features multiple languages: English, Spanish, French, Japanese and German.

Features

- Large LCD graphical display
- Five built-in languages
- Date and time stamp
- Dual RS-232 ports, analog output
- SPC built-in
- Automatic downloading
- Accuracy is +/- 0.25% of indicated value, CW & CCW, from 10% to 100% of full scale
- Transducers available from 5 in. ozs. to 2000 ft. lbs. of torque
- All transducers are "Smart" (Plug and Play)
- Readout in eight different engineering units
- Stores and recalls 3000 torque values (Date & Time)
- Fully automatic voltage input adaptation (100 - 240 VAC input)
- Data is saved when SURETEST is turned off
- All transducers supplied with certification
- All transducers are individually serialized with matching certificate of calibration traceable to N.I.S.T.

MODEL 5000-3 GRAINGER PART # 5PVG7 INCLUDES:

Product Code	Description	Grainger Part #
5000-ST	Suretest Monitor w/Cable and Case	38A863
600TL-2	Mechanical Loader 600 ft. lb.	38A858
2000-400-02	4 in 1 Transducer Kit-Range 4 in. lb. to 250 ft. lb.	38A323
2000-500-02	4 in 1 Transducer Adapter Kit	38A322
2000-12-02	Transducer Kit-Range 60-600 ft. lb.	38A345



4 in 1 Transducer Kit with Mounting Adapter.

CUSTOM CALIBRATION SYSTEMS

Don't see the exact system you're looking for? Please call customer service to request a quotation on a custom calibration system. We will provide assistance designing a testing system to fit your application and specifications.





CDI TORQUE PRODUCTS

TEST/CALIBRATION ACCESSORIES

CDI's calibration equipment is expressly designed to calibrate the complete line of CDI Torque Transducers. All weight trays, arms and brackets supplied by CDI Torque Products are built with precision accuracy to meet the demanding needs of the calibration professional. All calibration wheels and arms are certified as to length, and supplied with a certificate of accuracy, which is traceable to N.I.S.T. (National Institute of Standards and Technology). Weights, trays and hangers are weight certified and are also supplied with a certificate of accuracy traceable to N.I.S.T. Mass Classification is Class F. Mating adapters are available to facilitate the use of the various components. Written procedures are available upon request for calibrating any of CDI's manufactured torque products.

TEST/CALIBRATION ACCESSORIES

Product Code	Description	Grainger Part #
2000-750-02	Torque Screwdriver Testing Kit for 2000-600-02 Loader	38A865
2000-750-06	Torque Screwdriver Testing Kit for 600TL Loader	38A866
2000-320-0	Weight Set #1 - For all Transducers	38A351
2000-321-0	Weight Set #2 - For 200 in. oz. to 600 ft. lbs.	38A352
2000-322-0	Weight Set #3 - For 600 ft. lb. to 2000 ft. lbs.	38A353
390-2-2	4 oz. Hanger Calibration Weight Tray	38A324
2000-301	8 oz. Hanger Calibration Weight Tray	38A328
2000-302-0	15 lb. Calibration Weight Tray	38A316
2000-303-0	50 lb. Calibration Weight Tray	38A326
2000-304-0	7.5 lb. Calibration Weight Tray	38A327
2000-250-02	Calibration Stand Kit	38A333
2500-50-0	2½" Calibration Wheel	38A317
2000-151-0	5" Calibration Wheel	38A796
2000-152-0	10" Butterfly Calibration Wheel	38A795
2000-154-0	40" Calibration Arm	38A325
2000-152-3	½" x ¾" Calibration Arm Adapter	38A313
2000-226-3	¾" x ½" Sq. Drive Reducer	38A319
2000-226-2	1" x ¾" Calibration Arm Adapter	38A312
2000-154-8	1 ¼" x ¾" Calibration Arm Adapter	38A315
S/2000-221-0	1 ¼" x ¾" Adapter for 40" Arm	38A314
342-35	Transducer Mounting Bracket up to 1000 in. lb. (TB342/1)	38A347
342-36	Transducer Mounting Bracket 125-600 ft. lb. (TB342/2)	38A348
2000-150-03	Transducer Bracket, 1000-2000 ft.lb.	38A335
343-25	Transducer Mounting Bracket 4 in 1 ETT (TB343)	38A349



DIGITAL TORQUE TESTER™ (DTT)

TEST THE HEALTH OF YOUR TORQUE WRENCHES - ANYWHERE WITH THE DIGITAL TORQUE TESTER.

Utilizing the testing protocol and standards developed by the American Society of Mechanical Engineers (ASME)

The Digital Torque Tester™ (DTT) is designed to be an affordable torque tester that can be mounted on a wall or used in a bench-top vise to allow the operator to conveniently test torque wrenches and torque screwdrivers. It features an easy to use touch pad screen to capture peak torque values during a test in real time, and download stored torque data to a PC. All DTT torque testers are sold in a kit with the complete tester, hard carrying case, a socket driver reducer adapter and AC/DC power supply.



DIGITAL TORQUE TESTER™ (DTT)

Product Code	Grainger Part #	Female Drive	Range English	Range, Nm	Range, kgcm
1001-O-DTT	4YWR7	1/4"	10 - 100 in.oz.	.07 - .706	.72 - 7.20
1001-I-DTT	30HM04	1/4"	10 - 100 in.lb.	.07 - .706	.72 - 7.20
501-I-DTT	5PVG8	1/4"	5 - 50 in.lb.	.56 - 5.65	5.76 - 57.60
8001-O-DTT*	46E688	1/4"	20 - 800 in.oz.	.001 - .056 cNm	.014 - .56 dNm
2502-I-DTT	4YWR8	3/8"	25 - 250 in.lb.	2.82 - 28.25	23.80 - 288.0
4002-I-DTT	22N914	3/8"	40 - 400 in.lb.	4.52 - 45.2	46.08 - 460.8
10002-I-DTT	5PVG9	3/8"	100 - 1000 in.lb.	12 - 112	115 - 1152
2503-F-DTT	4YWR9	1/2"	25 - 250 ft.lb.	33 - 338.96	1.93 - 34.56 kgm
6004-F-DTT	4YWT1	3/4"	60 - 600 ft.lb.	81.35 - 813.5	8.30 - 82.95 kgm

Accuracy: ± 0.50% 10% to 100% CW & CCW of indicated test value @ 25° C (Except 2503-F-DTT)

*Accuracy: ± 1% CW & CCW from 2-1/2% to 100% of full scale. New for Torque Screwdriver.

Units of Measure: Nm, kgcm, ft.lb., in.lb., in.oz., kgm, cNm

Operation Modes: TRACK, PEAK, FIRST PEAK

Operating Temperature: 10 to 32° C (50 to 90° F)

Storage Temperature: -20 to 50° C (-2 to 122° F)

Humidity: 85% Relative Humidity @ 21° C (70° F)

Power Supply: Included 9-volt A/C D/C adapter. 6 AA batteries included.

Data Storage/Recall: Memory Capacity – 500 Records (Complete Check Mode Only.)

Dimensions: W - 10" x H - 16" x D - 2.5"

Weight: (Tester Only) - 10.7 lbs., (with Carrying Case) - 17.4 lbs.



DTT OPTIONAL ACCESSORIES

Product Code	Description	Grainger Part #
2344-0050-03	Table Mounting Bracket for DTT Series Testers	38A864
2344-0051-02	Male SQ Adapter 3/8" x 3/8"	46E692
2344-0051-11	1/4" to 1/4" adapter	46E690
2344-0051-13	1/2" to 1/2" adapter	46E689
2344-0051-16	3/8" to 1/2" adapter	46E691
2344-0051-19	Male Square Adp 3/4" x 1-1/4"	30HL86



CDI TORQUE PRODUCTS

DIGITAL TORQUE TESTER™ (DTT) QUICK CHECK MODE



Features

- Integral Transducer and sturdy housing allow mounting in virtually any position
- Integral Transducer: Full bridge strain gage, 350 ohm, 1500uE, 3mV/V F.S, 3.75 excitation.
- Units of Torque: Nm, kgcm, ft.lb., in.lb., in-oz.
- Audible (tone) and LED light-bar Present Alerts
- Torque Accuracy: $\pm 0.5\% \pm 1$ count CW and CCW from 10 to 100% of full scale at 25° C
- LCD Touch Screen: 4.7 in. color graphics display
- Screen resolution: 480 X 272 pixels
- Display Accuracy: 4 digits, 9999 cycle counts
- Six "AA" Alkaline cells for battery power included
- Track, Peak and First Peak modes of operation
- Operating Temperature: 40 to 110° F (5 to 42° C)
- Storage Temperature: 0 to 122° F (-20 to 50° C)
- Humidity up to 85% non-condensing
- EU/CE-DE, ES, FR, IT, NL, PT, UK and Japanese language manual
- Certificate of N.I.S.T. traceability from 10% to 100% of full scale
- Includes storage case, AC adapter and USB cable

DIGITAL TORQUE TESTER™ (DTT) AUDIT MODE

The Audit mode is an ASME emulation which tests the wrench at 20%, 60% and 100% of full scale. This provides a complete diagnostic analysis of the wrench. Testing validates the linearity of the wrench.



Select Audit (ASME emulation)



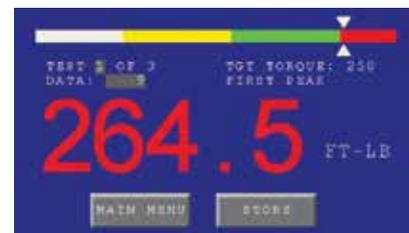
Select Wrench Type



Example shows testing a 250 ft.lb. wrench at 20% of full scale. Yellow indicates low reading.



Example shows testing a 250 ft.lb. wrench at 60% of full scale. Yellow indicates low reading.



Example shows testing a 250 ft.lb. wrench at 100% of full scale. Red indicates high reading.





MULTITORQ TORQUE & DATA COLLECTION SYSTEMS

The MULTITORQ portable electronic torque meter displays torque readings from sensors that attach between sockets and driver. MULTITORQ is a highly versatile torque analyzer/data acquisition system that can be used with sockets, extensions, universal joints, ratcheting drivers or any combination of these. Sensors are sold separately, available in 8 ranges from 2-20 in. ozs. to 150-1500 ft. lb. Accuracy ± 1% of reading (± 2% reading for 20 in. oz., and 10 in. lb.) 10-100% of sensor range.

The torque analyzer features a wide angle viewing LCD display with selectable readouts; ft. lb., in. lb., in. oz., Nm, dNm, mkg, and cmkg units. Torque target settings are entered via a push button membrane keyboard. High and low torque limits are adjustable to give an audible and visual alarm. The user selects Track mode to display torque values as they are applied, or Peak mode to display the highest torque value applied.

Features

- 4 digit w/ alpha & numerical function flags
- 4 digit, 8000 counts display capacity
- Accuracy: ± 1% of indicated value, cw & ccw, from 10% to 100% of full scale, 201-O-MT and 101-I-MT are ± 2%
- Soft touch keys: hi/lo alarm, zero tare, set-up, units, store/recall/clear, send, statistics, enter
- Units of measurement: ft. lb., in. lb., in. oz., Nm, dNm, mkg and cmkg
- Storage: -20 to 50 degrees C (-2 to 122 degrees F)
- Humidity: up to 90%, non-condensing
- Dimensions: 3" wide, 2.5" high (3" with belt clip), 6" deep
- Weight: 1 pound
- Charge life (full charge to shutoff): 20 hours continuous
- Battery chargers: 120 VAC or 220 VAC (50-60Hz)
- Output: 9VDC, 200mA
- Data storage/recall: 3500 measurements
- Serial output port: RS-232 (true), 300-19.2k baud, and mitutoyo (statistical protocol)
- Rechargeable Ni-Cad batteries
- Reads bi-directionally (cw and ccw)



Turns any ordinary ratchet wrench.....



...into a highly accurate digital torque tool.

MULTITORQ TORQUE & DATA COLLECTION SYSTEMS

Standard Set Includes:

Product Code	Grainger Part #	Description
1600-MT	4YVT6	MULTITORQ Unit includes: power pack/charger (P115-30) and case (1600-50)

Sensors: (sold separately)

Product Code	Grainger Part #	Torque Range	Drive
201-O-MT	5PVH0	2 - 20 in. oz.	¼"
101-I-MT	4YVT7	1 - 10 in. lb.	¼"
501-I-MT	5PVH1	5 - 50 in. lb.	¼"
2001-I-MT	4YVT8	20 - 200 in. lb.	¼"
1002-F-MT	4YVT9	10 - 100 ft. lb.	¾"
2503-F-MT	4YVU1	25 - 250 ft. lb.	½"
6004-F-MT	4YVU2	0 - 600 ft. lb.	¾"
15005-F-MT	5PVH2	150 - 1500 ft. lb.	1"

Optional Accessories:

Product Code	Description	Grainger Part #
1600-10	Interface Cable: RS-232 to serial printer	46E687
1600-20	Interface Cable: RS-232 to P.C.	4YVU3



Certificate of accuracy traceable to N.I.S.T. supplied with each transducer. All components ordered separately.



CDI TORQUE
PRODUCTS

**COMPUTORQ ASG - ADVANCED STEEL GRIP
ELECTRONIC TORQUE WRENCH**

The Computorq ASG Electronic Torque Wrenches are truly revolutionary, supplying torque in less time with more control and accuracy. Available in a wider range of sizes for every industry, including, 1/4", 3/8", 1/2" and 3/4" models. They unite torque and angle in a single mode to provide the most accurate and fastest way to achieve torque while applying the right angle tightening sequence. In addition to the LED indicator lights, an audible beep and handle vibration alert you when target torque is achieved. The rugged all-steel construction is designed to stand-up to even the toughest work conditions with an easy-to-use software solution and highly programmable features.

Features

- Rugged all-steel body is designed to stand-up to industrial use
- Fully programmable for reliable, repeatable torque application
- Torque and Angle combo modes (patent pending)
- Calculates calibration factor automatically
- Backlit LCD screen, LED indicator lights, audible beep and handle vibration signal when torque is within range
- Time based calibration-needed indicator (patent pending)
- 50 memory presets, sequence programming and job mode
- High storage capacity for 1,500 readings
- USB downloadable, time stamped data trail for quality control
- Industry-leading 2 year warranty

**COMPUTORQ ASG -ADVANCED STEEL GRIP
ELECTRONIC TORQUE WRENCHES**

Product Code	Grainger		Ft. Lb.	In. Lb.	Nm	Length		Wt.	
	Part #	Drive				In. (mm)	Lbs. (kgs)		
2401CASG	30HL99	1/4"	1-120	12-240	1.4-27.2	12.5-317.5		1.80	
1002CASG	30HM01	3/8"	5-100	60-1200	6.8-135.6	18.9 - 480		3.10	
2503CASG	30HM02	1/2"	12.5-250	150-3000	16.9-339	26.7-678.2		4.50	
6004CASG	30HM03	3/4"	30-600	360-7200	40.7-813.50	48.6-1234.44		10.48	



WILLIAMS

TORQUE COMPARATOR

Large dual scale. Perfect when a quick check of your wrench is required before usage. Compact design allows for mounting on any flat surface in either horizontal or vertical position. Torque Comparator is calibrated on torque testers which are certified using test bars and "F" weights traceable to NIST. +/- 2% accuracy from 20% of full scale to full scale. Calibration Compliance Certificate.

Product Code	Grainger Part #	Square Drive	English Capacity		Inc.	Nm, Capacity Inc.	
1753-TC	4YVU4	1/2"	175 ft. lbs.	5 ft. lbs.	230 Nm	10 Nm	
6004-TC	22N912	3/4"	600 ft. lbs.	5 ft. lbs.	800 Nm	20 Nm	





COMPUTORQ 3 ELECTRONIC TORQUE WRENCHES

The COMPUTORQ 3 Electronic Torque Wrench is a simple to use digital readout wrench that displays real time torque values in any of four torque units, ft.lbs., in.lbs., Nm, kg.cm. Simply set the desired torque value and apply force until the green LED illuminates. Great for light industrial, automotive, motorcycle, watercraft and aircraft applications.

Features

- Sleek new design
- 15-degree flex ratcheting head
- Push button socket release head
- Large, easy to read digital display
- Long battery life, uses 2 each CR123 lithium batteries
- Ergonomically designed molded non-slip rubber grip
- Torques in both clockwise and counterclockwise directions
- Battery saving auto-shutoff after two minutes
- COMPUTORQ 3 remembers last unit and torque setting selected
- Audible tone sounds when set torque value is reached, if the set torque value is exceeded, an alarm tone will sound.
- 3 color LED light bar
 - YELLOW LED indicates approaching desired torque setting
 - GREEN LED indicates desired torque value is reached
 - RED LED indicates fastener was overtorqued, loosen and retighten.
- When desired torque value is reached, display will hold value and flash for ten seconds.
- COMPUTORQ 3 will operate in any of four torque units, foot pounds (ft. lbs.), inch pounds (in. lbs.), newton meter (Nm) or kilogram centimeter (kg. cm.).
- ACCURACY:
 - ±2% CW of readings from 20% to 100% of full scale
 - ±3% CCW of readings from 20% to 100% of full scale
- N.I.S.T. traceable certificate of calibration included



STANDARD MODELS

Product Code	Grainger		Length			Wt.		
	Part #	Drive	Ft. Lb.	In. Lb.	Nm	Kg. Cm.	In. (mm)	Lbs. (kgs)
2401C3	4YVR3	¼"	2.0 - 20.0	24 - 240	2.71 - 27.10	27.6 - 276	15 (381)	2.0 (.91)
1002CF3	4YVR1	⅜"	10.0 - 100.0	120 - 1200	13.6 - 135.6	138 - 1382	17 (432)	2.2 (1.0)
2503CF3	4YVR4	½"	25 - 250	300 - 3000	33.8 - 338	345 - 3456	27 (686)	3.5 (1.59)



HIGH ACCURACY MODELS

Product Code	Grainger		Length			Wt.		
	Part #	Drive	Ft. Lb.	In. Lb.	Nm	Kg. Cm.	In. (mm)	Lbs. (kgs)
2401C3HA*	22N917	¼"	2.0 - 20.0	24 - 240	2.71 - 27.10	27.6 - 276	15 (381)	2.0 (.91)
1002CF3HA*	22N918	⅜"	10.0 - 100.0	120 - 1200	13.6 - 135.6	138 - 1382	17 (432)	2.2 (1.0)
2503CF3HA*	22N919	½"	25 - 250	300 - 3000	33.8 - 338	345 - 3456	27 (686)	3.5 (1.59)

The certification of accuracy provided per ASME and ISO Standards is 20% to 100% of full scale.

*HIGH ACCURACY 1% Clockwise direction only. It couldn't be easier to use!



COMPUTORQ 3 Display and 3 Color LED Light Bar



CDI TORQUE PRODUCTS

TORQUE & ANGLE™ ELECTRONIC TORQUE WRENCHES

The CDI Torque and Angle Electronic Wrench incorporates 21st Century Technology in a simple to use digital wrench. Specifically designed to meet the needs of the torque professional where torque plus angle is required. It features three units of torque, ft.lbs. In.lbs. and Nm as well as the angle mode.

The Torque and Angle wrench allows the technician to apply a specific torque load, followed by the angle specification, all in one convenient wrench. It features a three LED light bar and audible buzzer. As the angle mode is a separate function, the wrench can also be used as a stand alone digital torque wrench.

Features

- Accuracy is +/- 2% CW, +/- 3% CCW of indicated value
- Gyro chip senses 360° of movement, and is accurate to within +/- 3.8°
- No maintenance, just change batteries at 80 hours
- VERY easy to set up and use quickly
- Almost impossible to over torque
- Digital torque measurement and digital angle measurement in one convenient package
- Ergonomic non-slip cushion grip
- 15% Flex Ratchet head
- Long battery life, uses two CR123 lithium batteries
- Convenient, push button socket release ratchet head
- 3 step LED visual signal system:
 Yellow Light = approaching target torque
 Green Light = target torque reached
 Red Light = over torque indicator
- N.I.S.T. traceable certificate of calibration included

TORQUE & ANGLE™ ELECTRONIC TORQUE WRENCHES

Product Code	Grainger		Drive	Ft. Lb.	In. Lb.	Nm	Angle	Length	Wt.
	Part #							In. (mm)	Lbs. (kgs)
1002TAA-CDI	4YVR2		3/8"	10 - 100	120 - 1200	12.6 - 135.6	0-360°	17 (432)	2.2 (1.0)
2503TAA-CDI	4YVR5		1/2"	25 - 250	300 - 3000	33.8 - 338	0-360°	27 (686)	3.5 (1.59)

The certification of accuracy provided per ASME and ISO Standards is 20% to 100% of full scale.



CDI TORQUE PRODUCTS

HEAVY-DUTY TORQUE & ANGLE™ TORQUE WRENCH

LEADING THE WAY IN HEAVY-DUTY TORQUE AND ANGLE APPLICATIONS WITH INNOVATIVE SOLUTIONS THAT MAKE A DIFFERENCE IN DOING THE JOB RIGHT.

The CDI 600 ft.lb. Heavy-Duty Torque & Angle™ Torque Wrench eliminates the need for angle gauges and protractors, providing the most accurate and efficient way to achieve torque plus angle tightening sequences now specified by many manufacturers. The digital readout displays a torque setting then with a push of a button, switches to the angle mode. Angle readout not affected by ratcheting. Angle calculation based on the same gyroscopic technology that maintains helicopters at level flight.

- Torque Accuracy: (2% CW & 3% CCW FROM 20 – 100% F.S.)
(4% CW & 6% CCW FROM 10 – 19% F.S.)
- Angle Accuracy: ± 3.8% of indicated value
- Angular Display Resolution: 1°

Features

- Torque Units: ft.lb., in.lbs., Nm
- Audible (tone) Preset Alerts
- Display Resolution: 0.1 ft.lb., 0.1 Nm, 1 in.lb.
- Comfortable non-slip grip handle
- Sealed Ratchet Head
- 4 "AA" Alkaline Batteries Included
- Low Battery Indicator and Auto Shutoff after two minutes idle
- Operating Temperature: 40 - 110° F. (5 - 42° C)
- Storage Temperature: 0 - 122° F (-20 - 50° C)
- Humidity up to 90% non-condensing
- EU/CE-DE, ES, FR, IT, NL, PT, UK and Japanese language manual
- Certificate of N.I.S.T. traceability for 20% to 100% of full scale
- Includes storage case

HEAVY-DUTY TORQUE & ANGLE™ TORQUE WRENCH

Product Code	Grainger		Drive	Ft. Lb.	In. Lb.	Nm	Angle	Length	Wt.
	Part #							In. (mm)	Lbs. (kgs)
6004TAA	22N913		3/4"	120 - 600	1440 - 7200	156 - 780	0-360°	49 (1244.6)	14 (6.35)





TORQUE SCREWDRIVERS - MICRO-ADJUSTABLE

Adjustable models offer versatility for applications that require more than one torque value. These torque screwdrivers are particularly suited for the electronics industry and for instrument assembly work. A simple, cam-over design prevents over-tightening and possible damage to components.

Torque settings are easily and accurately changed with a unique adjusting knob and easy-to-read window scale. Adjusting the screwdriver is simple. Just pull out the adjusting knob to unlock, turn to the desired setting, then push the knob in until it clicks!

Positive locking knob makes accidental setting changes impossible. Automatic lock in counterclockwise direction makes fastener removal a snap. The Micro-Adjustable series includes six models with torque settings ranging from 20 in. ozs. to 40 in. lbs.

Features

- 6 models available
- Positive locking pull down adjustment knob
- Trilobular comfort grip
- Universal 1/4" hex bit holder with strong rare earth magnet
- Cam-over torque limiting clutch
- Slip resistant finish
- Easy-to-read window scale
- Light weight
- Automatic lock in CCW direction for disassembly
- Accuracy: ± 6% of indicated value, CW, from 20% to 100% of full scale
- Individually serialized with matching certificate of calibration traceable to N.I.S.T.
- Meets or exceeds ASME B107.14 - 2004



TORQUE SCREWDRIVERS - MICRO-ADJUSTABLE

Product Code	Grainger Part #	Torque Range	W x L		Oz.
			Increments	Inches	
61SM	4YVT4	20 - 100 in. ozs.	1 in. oz.	1.1 x 5.5	6.8
151SM	4YVR9	3 - 15 in. lbs.	.2 in. lbs.	1.1 x 6.25	8.0
401SM	4YVT2	5 - 40 in. lbs.	.5 in. lbs.	1.2 x 6.75	10.8
61NSM	38A849	10 - 80 cNm	1 cNm	1.1 x 5.5	6.8
151NSM	38A850	40 - 200 cNm	2 cNm	1.1 x 6.25	8.0
401NSM	38A851	50 - 450 cNm	5 cNm	1.2 x 6.75	10.8





TORQUE SCREWDRIVERS - SINGLE SETTING

The tamper resistant design of the Single Setting series is particularly suited for high-volume use in assembly operations. A simple, cam-over design prevents over-tightening and possible damage to components.

Torque screwdrivers may be ordered factory pre-set at an additional charge or they may be easily set by the operator with any quality torque calibration system. The end cap removes for easy access to the 1/8" hex adjustment screw. A hex adjustment key is included with each driver.

The Single Setting series includes four models with available torque settings from 6 in. ozs. up to 40 in.lbs. When precision and repeatability are a must, the choice is simple - CDI Torque Screwdrivers.

Features

- Factory Pre-Set models are set at the factory to the customer's specified torque setting and are furnished with a Certificate of Calibration
- Please specify desired torque setting when order is placed
- 4 models available
- Trilobular comfort grip
- Universal 1/4" hex bit holder with strong rare earth magnet
- Cam-over torque limiting clutch
- Rugged, light weight aluminum body
- Automatic lock in CCW direction
- Accuracy: ± 6% of indicated value, CW, from 20% to 100% of full scale
- Meets or exceeds ASME B107.14 - 2004



TORQUE SCREWDRIVERS - SINGLE SETTING

Product Code	Grainger	Product Code	Grainger	Torque Range	W X L Length	Wt. Oz.
Un-Set	Part #	Factory Pre-Set	Part #			
21SP	38A852	21SP-SET	38A846	6-32 in.ozs	1.1 x 4.5	5.3
61SP	38A848	61SP-SET	38A845	10 - 100 in.ozs.	1.1 x 5.6	7.0
151SP	4YVT1	151SP-SET	38A844	1.5 - 15 in. lbs	1.1 x 5.6	7.0
401SP	4YVT3	401SP-SET	38A843	4 - 40 in. lbs.	1.2 x 6.3	9.6



TORQUE LIMITING T-HANDLE - PRE-SET

Product Code	Grainger Part #	Pre Set Value			
		Nm	Ft. Lb.	In. Lb.	Bit
TLPT4NM	22N920	4.0	2.9	35.4	4 mm
TLPT5NM	22N921	5.0	3.7	44.3	4 mm
TLPT6NM	22N922	6.0	4.4	53.1	4 mm

Features

- Torque Limiting Technology to Prevent Over-Tightening
- Magnetic Shank to Interchange Bits as Needed
- Rounded T-Handle Grip for Added Comfort
- Hi-Vis Color for Easy Identification
- Shaft accepts 1/4" hex shank bits, a 4 mm bit is included in each driver





TORKY - SINGLE SETTING WRENCHES

CDI's TORKY is a right angle pre-set torque wrench. Torky is designed for production torque applications that require higher values than a torque screwdriver can deliver. The comfortable design eases the strain of repeated uses. Torque value may be ordered factory pre-set at an additional charge or it may be easily set by the operator with any quality torque calibration system. When the proper torque value is reached, a momentary release or "break" can be felt. Available in three drive styles to fit most needs.

Features

- Factory Pre-Set models are set at the factory to the customer's specified torque setting and are furnished with a Certificate of Calibration
- Please specify desired torque setting when order is placed
- Three models available
- Simple, easy to use design
- Ruggedly built for years of reliable service
- Operates bi-directionally
- Accuracy: ± 6% of indicated value, CW, from 20% to 100% of full scale



TORKY - SINGLE SETTING WRENCHES

Product Code	Grainger	Product Code	Grainger		W X L	Wt.	
Un-Set	Part #	Factory Pre-Set	Part #	Drive	Torque Range	Length	
1501TPA-1	4YVR6	1501TPA-1-SET	38A847	1/4" Female Hex	20-170 in.lbs.	1 x 5.25	8.3
1501TP-1	4YVR7	1501TP-1-SET	38A810	1/4" Male Square	20-170 in.lbs.	1 x 5.25	8.3
1502TP-1	4YVR8	1502TP-1-SET	38A839	3/8" Male Square	20-170 in.lbs.	1 x 5.25	8.3



Prevents premature wear of carbide inserts and damage to cutter head due to improper clamp load.





CDI TORQUE PRODUCTS

ELECTRONIC DIAL TORQUE WRENCH

The new Electronic Dial (ED) torque wrench features solid-state electronics for accurate torque application and measurement. ED's design provides easy set-up and usage. There is no need to look directly at the digital readout as the wrench features 3 indicating lights and an audible buzzer.

The ED wrench has unsurpassed reliability and durability -- 21st century technology in a simple, easy to read digital torque wrench.

Features

- 4 units of measure...ft lb, in lb, Nm, kg.cm.
- Accuracy: ± 1% of indicated value CW & CCW, from 20% to 100% of full scale
- 3 step LED visual signal system
 YELLOW LIGHT = approaching target torque
 GREEN LIGHT = target torque reached
 RED LIGHT = over torque indicator
- Audible tone when desired torque is reached
- Alarm tone sounds if wrench is overtorqued
- Ergonomically designed wrench body
- Display can be turned 180 degrees to allow left hand usage
- Battery cover designed to be aviation FOD proof
- Holds "peak" torque reading for 10 seconds
- Constructed of special Capron® material for long life and durability
- Resistant to the majority of chemicals used in industrial environments
- Wrench can be hung on tool board
- Bar graph displays orientation of torque application (left or right hand)
- Uses standard 9 volt alkaline battery
- N.I.S.T. traceable certificate of calibration included
- Meets or exceeds ASME B107.28 – 2005

ELECTRONIC DIAL TORQUE WRENCH

Product Code	Grainger Part #	Drive	Length						Wt. Lbs. (kgs)
			In. Lb.	Ft. Lb.	Nm	Kg. Cm.	In. (mm)		
501ED-CDI	4YVP3	1/4"	5 - 50	42 - 4.17	.56 - 5.65	57 - 57.61	11.5 (292)	1.25 (.57)	
2502ED-CDI	4YVP2	3/8"	25 - 250	2.08 - 20.83	2.82 - 28.25	28 - 280.03	14.5 (368)	1.51 (.68)	
6002ED-CDI	4YVP4	3/2"	60 - 600	5 - 50	6.79 - 67.79	69 - 691.27	14.5 (368)	1.51 (.68)	



CDI "ED": Easy to change dial orientation.



The yellow LED illuminates within 10% of target torque.



The green LED illuminates within 4% of target torque. Continuous buzzer sounds when target is reached.



The red LED illuminates 4% beyond target torque, indicating fastener was overtorqued. Rapid "alarm" buzzer sounds.

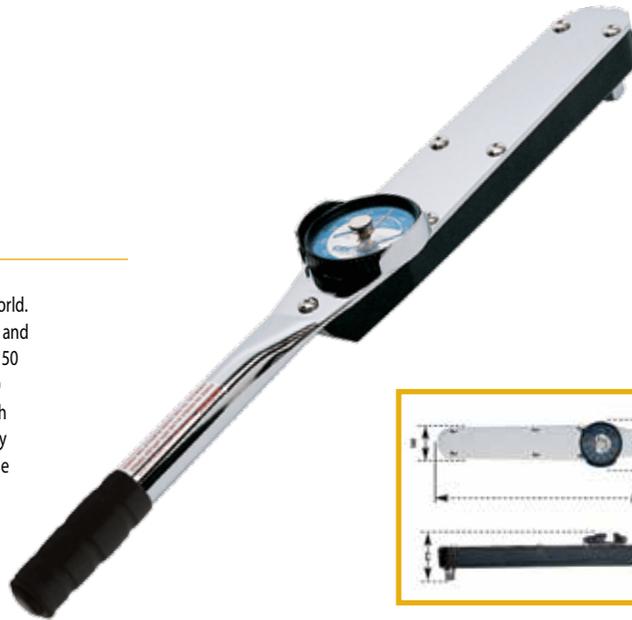


DIAL TORQUE WRENCHES - SINGLE SCALE

Dial Torque Wrenches are designed for the automotive, nuclear and industrial markets in addition to military installations throughout the world. This series features sturdy torsion beam design for dependable long life and accuracy. The small frame model offers working ranges from 3 in. lbs. to 50 ft. lbs. in 1/4" and 3/8" drives. The large frame model continues from 100 ft. lbs. through 2,000 ft. lbs. with 1/2", 3/4" and 1" drives. Accuracy of both series of ± 3% meets or exceeds B107.14 - 2004, ISO 6789 bi-directionally from 20% to 100% of scale. All wrenches supplied with a N.I.S.T. traceable certificate of calibration.

Features

- Sturdy body construction insures maximum durability
- Easy to read laser marked single scale
- Large easy to read dial is shock resistant and protected by a tough metal guard
- Memory needle retains highest torque reading applied
- Calibrated in both CW and CCW direction
- Accuracy: ± 3% of indicated value, CW & CCW, from 20% to 100% of full scale
- Individually serialized with matching certificate of calibration traceable to N.I.S.T.



T-TYPE DIAL WRENCHES must be operated by two persons or a torque multiplier. The handle is over 10 ft. long.

DIAL TORQUE WRENCHES - SINGLE SCALE

Product Code	Grainger Part #	Drive Size (In.)	English Range	Incr.	A In.	B In.	C In.	D In.	WT. Lbs.
Memory Needle Models									
301LDINSS	38A262	¼"	0-30 in.lb.	.5 in.lb.	11.5	1.1	1.2	2.75	1.1
751LDINSS	38A264	¼"	0-75 in.lb.	1 in.lb.	11.5	1.1	1.2	2.75	1.1
752LDINSS	38A283	⅜"	0-75 in.lb.	1 in.lb.	11.5	1.1	1.2	2.75	1.1
3002LDINSS	38A278	⅜"	0-300 in.lb.	5 in.lb.	11.5	1.1	1.2	2.75	1.1
6002LDINSS	38A281	⅜"	0-600 in.lb.	10 in.lb.	15	1.5	1.2	2.75	1.6
502LDFNSS	38A280	⅜"	0-50 ft.lbs.	1 ft.lb.	15	1.5	1.2	2.75	1.6
1003LDFNSS	38A257	½"	0-100 ft. lb.	2 ft. lb.	21.75	2.25	1.50	2.75	3.70
1753LDFNSS	38A258	½"	0-175 ft. lb.	5 ft. lb.	21.75	2.25	1.50	2.75	3.70
2503LDFNSS	38A259	½"	0-250 ft. lb.	5 ft. lb.	21.75	2.25	1.50	2.75	3.70
3504LDFNSS	38A270	¾"	0-350 ft. lb.	10 ft. lb.	28.00	2.25	1.50	2.75	5.75
6004LDFNSS*	38A271	¾"	0-600 ft. lb.	10 ft. lb.	47.00	2.50	1.50	2.75	10.10
10005LDFNSS*	38A249	1"	0-1000 ft. lb.	20 ft. lb.	74.00	2.50	3.50	3.00	30.00
Electric Signaling Models									
6004LDFESS**	38A272	¾"	0-600 ft. lb.	10 ft. lb.	47.00	2.50	1.50	2.75	10.10
10005LDFESS**	38A250	1"	0-1000 ft. lb.	20 ft. lb.	74.00	2.50	3.50	3.00	30.00
20005LDFESS***	38A251	1"	0-2000 ft. lb.	40 ft. lb.	122.00	3.50	6.50	3.50	47.00

*NOTE: 6004LDFNSS and 10005LDFNSS include 1 extension handle.

**NOTE: 6004LDFESS and 10005LDFESS include 1 extension handle, indicating light and buzzer.

***NOTE: 20005LDFESS is a "T" style wrench with 1" drive female head that can be used with a torque multiplier. Includes 5 piece handle assembly, indicating light and buzzer.





DIAL TORQUE WRENCHES NEWTON METER - SINGLE SCALE



DIAL TORQUE WRENCHES NEWTON METER - SINGLE SCALE

Product Code	Grainger Part #	Drive Size (In.)	Nm Range	Incr.	A In.	B In.	C In.	D In.	Wt. Lbs.
Memory Needle Models									
1.81NLDNSS	38A260	¼"	0-1.8 Nm	.05 Nm	11.5	1.1	1.2	2.75	1.1
3.51NLDNSS	38A261	¼"	0-3.5 Nm	.1 Nm	11.5	1.1	1.2	2.75	1.1
91NLDNSS	38A265	¼"	0-9 Nm	.2 Nm	11.5	1.1	1.2	2.75	1.1
92NLDNSS	38A284	⅜"	0-9 Nm	.2 Nm	11.5	1.1	1.2	2.75	1.1
182NLDNSS	38A276	⅜"	0-18 Nm	.5 Nm	11.5	1.1	1.2	2.75	1.1
302NLDNSS	38A277	⅜"	0-30 Nm	.5 Nm	11.5	1.1	1.2	2.75	1.1
352NLDNSS	38A279	⅜"	0-35 Nm	1 Nm	11.5	1.1	1.2	2.75	1.1
702NLDNSS	38A282	⅜"	0-70 Nm	2 Nm	15	1.5	1.2	2.75	1.6
1403NLDNSS	38A253	½"	0-140 Nm	2.5 Nm	21.75	2.25	1.50	2.75	3.70
2403NLDNSS	38A255	½"	0-240 Nm	5 Nm	21.75	2.25	1.50	2.75	3.70
3503NLDNSS	38A256	½"	0-350 Nm	10 Nm	21.75	2.25	1.50	2.75	3.70
4804NLDNSS	38A267	¾"	0-480 Nm	10 Nm	28.00	2.25	1.50	2.75	5.75
8004NLDNSS*	38A269	¾"	0-800 Nm	20 Nm	47.00	2.50	1.50	2.75	10.10
14005NLDNSS*	38A246	1"	0-1400 Nm	25 Nm	74.00	2.50	3.50	3.00	30.00

*NOTE: 8004NLDNSS and 14005NLDNSS include 1 Extension handle.





DIAL TORQUE WRENCHES - DUAL SCALE

Dial Torque Wrenches are designed for the automotive, nuclear and industrial markets in addition to military installations throughout the world. This series features sturdy torsion beam design for dependable long life and accuracy. The small frame model offers working ranges from 3 in. lbs. to 50 ft. lbs. in 1/4" and 3/8" drives. The large frame model continues from 100 ft. lbs. through 2,000 ft. lbs. with 1/2", 3/4" and 1" drives. Accuracy of both series of ± 3% meets or exceeds B107.14 - 2004, ISO 6789 bi-directionally from 20% to 100% of scale. All wrenches supplied with a N.I.S.T. traceable certificate of calibration.

Features

- Sturdy body construction insures durability
- Easy to read laser marked dual scale
- Large easy to read dial is shock resistant and protected by a tough metal guard
- Memory needle retains highest torque reading applied
- Calibrated in both CW and CCW direction
- Accuracy: ± 3% of indicated value, CW & CCW, from 20% to 100% of full scale
- Individually serialized with matching certificate of calibration traceable to N.I.S.T.



20005LDFE "T" type Dial Wrench must be operated by two persons or a torque multiplier. The handle is over 10 ft. long.

DIAL TORQUE WRENCHES - DUAL SCALE

Product Code	Grainger Part #	Drive Size	English Range	Incr.	Nm Range	Incr.	A In.	B In.	C In.	D In.	Wt. Lbs.
Memory Needle Models											
301LDIN	38A263	1/4"	0-30 in. lb.	.5 in. lb.	0-3.5 Nm	.1 Nm	11.5	1.1	1.2	2.75	1.1
751LDIN	4YVP6	1/4"	0-75 in. lb.	1 in. lb.	0-9 Nm	.2 Nm	11.5	1.1	1.2	2.75	1.1
1502LDIN	38A285	3/8"	0-150 in. lb.	2 in. lb.	0-18 Nm	.5 Nm	11.5	1.1	1.2	2.75	1.1
2502LDIN	38A273	3/8"	0-250 in. lb.	5 in. lb.	0-30 Nm	.5 Nm	11.5	1.1	1.2	2.75	1.1
3002LDIN	4YVP5	3/8"	0-300 in. lb.	5 in. lb.	0-35 Nm	1 Nm	11.5	1.1	1.2	2.75	1.1
6002LDIN	38A275	3/8"	0-600 in. lb.	10 in. lb.	0-70 Nm	2 Nm	15	1.5	1.2	2.75	1.6
502LDFN	38A274	3/8"	0-50 ft. lb.	1 ft. lb.	0-70 Nm	2 Nm	15	1.5	1.2	2.75	1.6
1003LDFN	38A252	1/2"	0-100 ft. lb.	2 ft. lb.	0-140 Nm	2.5 Nm	21.75	2.25	1.50	2.75	3.70
1753LDFN	38A254	1/2"	0-175 ft. lb.	5 ft. lb.	0-240 Nm	5 Nm	21.75	2.25	1.50	2.75	3.70
2503LDFN	4YVP7	1/2"	0-250 ft. lb.	5 ft. lb.	0-350 Nm	10 Nm	21.75	2.25	1.50	2.75	3.70
3504LDFN	38A266	3/4"	0-350 ft. lb.	10 ft. lb.	0-480 Nm	10 Nm	28.00	2.25	1.50	2.75	5.75
6004LDFN*	4YVP8	3/4"	0-600 ft. lb.	10 ft. lb.	0-800 Nm	20 Nm	47.00	2.50	1.50	2.75	10.10
10005LDFN*	4YVP9	1"	0-1000 ft. lb.	20 ft. lb.	0-1400 Nm	25 Nm	74.00	2.50	3.50	3.00	30.00
Electric Signaling Models											
6004LDFE**	38A268	3/4"	0-600 ft. lb.	10 ft. lb.	0-800 Nm	20 Nm	47.00	2.50	1.50	2.75	10.10
10005LDFE**	38A245	1"	0-1000 ft. lb.	20 ft. lb.	0-1400 Nm	25 Nm	74.00	2.50	3.50	3.00	30.00
20005LDFE***	38A248	1"	0-2000 ft. lb.	40 ft. lb.	0-2800 Nm	50 Nm	122.00	3.50	6.50	3.50	47.00

*NOTE: 6004LDFN and 10005LDFN include 1 Extension handle.

**NOTE: 6004LDFE and 10005LDFE include 1 Extension handle, indicating light and buzzer.

***NOTE: 20005LDFE is a "T" style wrench with 1" drive female head that can be use with a torque multiplier. Includes 5 piece handle assembly, indicating light and buzzer.





COMFORT GRIP MICROMETER ADJUSTABLE TORQUE WRENCHES - DUAL SCALE

Comfort-Grip Handle Dual Scale

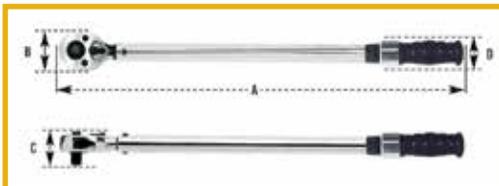
Features

- Dual scale, calibrated dual direction
- Positive lock with spring loaded pull down lock ring
- Fast, accurate and easy to set
- Easy-to-read laser marked scale
- Most feature quick release buttons which provide good socket retention as well as easy socket removal
- Ergonomic comfort-grip
- Accuracy: $\pm 3\%$ CW $\pm 5\%$ CCW of indicated value, CW, from 20% to 100% of full scale
- Meets or exceeds ASME B107.14-2004, ISO 6789 standards
- Individually serialized with matching certificate of calibration traceable to N.I.S.T.



COMFORT GRIP MICROMETER ADJUSTABLE TORQUE WRENCHES - DUAL SCALE

Product Code	Grainger Part #	Drive Size	English Range	Incr.	Nm Range	Incr.	A	B	C	D
							In.	In.	In.	In.
1501MRPH	4YVU6	1/4"	20-150 in. lb.	1	2.8 - 15.3 Nm	.12	10.00	1.06	.93	1.06
2502MRPH	4YVX7	3/8"	30-250 in. lb.	1	4.0 - 27.7 Nm	.12	11.25	1.06	1.06	1.06
10002MRPH	38A837	3/8"	150-1000 in. lb.	5	19.8 - 110.2 Nm	.6	16.00	1.43	1.20	1.40
1002MFRPH	4YVX1	3/8"	10-100 ft. lb.	1	16.9 - 132.2 Nm	.7	16.00	1.43	1.20	1.40
1503MFRPH	4YVX9	1/2"	20-150 ft. lb.	1	34 - 197 Nm	1.4	19.00	1.70	1.40	1.40
2503MFRPH	4YVY2	1/2"	30-250 ft. lb.	1	47 - 332 Nm	1.4	24.40	1.70	1.40	1.40
6004MFRPH	4YVY4	3/4"	100-600 ft. lb.	5	169 - 779 Nm	6.8	42.00	2.50	2.10	1.40





METAL HANDLE CLICK TYPE TORQUE WRENCHES - DUAL SCALE

Metal Handle Dual Scale. The metal handle series offers the user a rugged, industrial strength torque wrench able to withstand the rigors of professional use. Handles are lightly knurled for a tough, non-slip grip. There are 21 models of metal handle micrometer adjustable torque wrenches available.

Features

- Dual scale, calibrated dual direction
- Positive lock with spring loaded pull down lock ring
- Fast, accurate and easy to set
- Easy-to-read laser marked scales
- Most feature quick release buttons which provide good socket retention as well as easy socket removal
- Accuracy: $\pm 3\%$ CW $\pm 4\%$ CCW of indicated value, CW, from 20% to 100% of full scale
- Individually serialized with matching certificate of calibration traceable to N.I.S.T.



METAL HANDLE CLICK TYPE TORQUE WRENCHES - DUAL SCALE

Product Code	Grainger Part #	Drive Size	English Range	Incr.	Nm Range	Incr.	A	B	C	D	Wt.
							In.	In.	In.	In.	Lbs.
501MRMH	4YVU5	1/4"	10-50 in. lb.	0.5	1.4 - 5.4 Nm	0.5	10.15	1.06	0.93	1.06	0.85
1501MRMH	38A809	1/4"	20-150 in. lb.	05	2.8-15.3 Nm	0.12	10.15	1.06	0.93	1.06	0.90
1502MRMH	4YVX4	3/8"	20-150 in. lb.	1	2.8 - 15.3 Nm	.12	10.15	1.06	0.93	1.06	0.90
2002MRMH	4YVX5	3/8"	30-200 in. lb.	1	4.0 - 22.0 Nm	.12	10.15	1.06	0.93	1.06	0.85
2502MRMH	4YVX6	3/8"	30-250 in. lb.	1	4.0 - 27.7 Nm	.12	11.25	1.06	0.93	1.06	0.95
7502MRMH	4YVU8	3/8"	100-750 in. lb.	5	14.1 - 81.9 Nm	.6	16.00	1.43	1.20	1.40	2.50
10002MRMH	4YVX3	3/8"	150-1000 in. lb.	5	19.8 - 110.2 Nm	.6	16.00	1.43	1.20	1.40	2.50
25003MRMH	38A806	1/2"	300-2500 in. lb.	10	39.6 - 276.9 Nm	1.2	18.00	1.70	1.40	1.40	3.20
752MFRMH	4YVU7	3/8"	5-75 ft. lb.	0.5	10.2 - 98.3 Nm	.7	16.00	1.43	1.20	1.40	2.50
1002MFRMH	4YVU9	3/8"	10-100 ft. lb.	0.5	16.9 - 132.2 Nm	.7	16.00	1.43	1.20	1.40	2.55
1503MFRMH	4YVX8	1/2"	20-150 ft. lb.	1	34 - 197 Nm	1.4	19.00	1.70	1.40	1.40	3.15
2503MFRMH	4YVY1	1/2"	30-250 ft. lb.	1	47 - 332 Nm	1.4	24.40	1.70	1.40	1.40	3.15
2503MFRMH-TH***	30HM05	1/2"	30-250 ft. lb.	1	47 - 332 Nm	1.4	24.40	1.70	1.40	1.40	3.15
4004MFRMH	38A835	3/4"	80-400 ft. lb.	5	85 - 491 Nm	3.4	34.25	2.50	2.10	1.40	10.30
4504MFRMH	30HL93	3/4"	75-450 ft. lb.	5	119 - 593 Nm	3.40	34.25	2.50	2.10	1.40	10.30
6004MFRMH	4YVY3	3/4"	100-600 ft. lb.	5	169 - 779 Nm	6.8	42.00	2.50	2.00	1.15	11.85
10005MFRMH*	4YVY5	1"	200-1000 ft. lb.	5	305 - 1322 Nm	6.8	70.00	3.00	3.00	1.50	25.10
20005MFMHSS**	38A804	1"	300-2000 ft. lb.	10	N/A N/A	108.50	3.15	4.25	1.65	48.75	

*NOTE: 10005MFRMH supplied with one extension handle and is packed in a metal box.

**NOTE: 20005MFMHSS (English scale only) supplied with two extension handles, fixed/non-ratcheting head and is packed in a sturdy cardboard box.

***NOTE: 2503MFRMH-TH supplied with attachment point for tethering





MICROMETER ADJUSTABLE NEWTON METER TORQUE WRENCHES - SINGLE SCALE

Single Scale



MICROMETER ADJUSTABLE NEWTON METER TORQUE WRENCHES - SINGLE SCALE

Product Code	Grainger Part #	Nm Range	Sq. Drive	Incr.	A In.	B In.	C In.	D In.	Wt. Lbs.
602NMRMHSS	38A836	10-60 Nm	3/8"	0.5	16.00	1.43	1.20	1.40	2.50
1002NMRMHSS	38A838	20-100 Nm	3/8"	0.5	16.00	1.43	1.20	1.40	2.50
2003NMRMHSS	38A807	40-200 Nm	1/2"	2	19.00	1.70	1.40	1.40	3.25
3403NMRMHSS	38A808	60-340 Nm	1/2"	2	24.40	1.70	1.40	1.40	3.40
8004NMRMHSS	38A834	150-800 Nm	3/4"	5	42.00	2.50	2.10	1.40	11.85
15005NMRMHSS*	38A805	300-1500 Nm	1"	10	70.00	3.00	3.00	1.50	25.10

*NOTE: 15005NMRMHSS supplied with one extension handle and is packed in a metal box.





QUICK SET SPLIT BEAM TORQUE WRENCHES

This unique "split beam" measuring element provides consistently accurate readings and rugged, trouble-free performance. Fast setting of desired torque is easily accomplished by rotating adjustment knob until required torque value is displayed in the torque window. 3/4" drive model features three-piece construction for easy disassembly and storage.

Features

- CDI Sealed Ratchet Head - is virtually maintenance free; more time working with the tool, less time on tool maintenance
- Thumb Screw Type Adjustment - is faster than cycling through a micrometer style torque wrench. Guard prevents setting from being changed accidentally. Setting is displayed in window. Conversion table to Nm displayed on handle
- Sealed Neck - keeps dust and grit away from the torque mechanism for longer tool life
- "Split Beam" Measuring Element - provides accurate, reliable readings and eliminates the heavy coil spring used in conventional click type wrenches. This yields fewer moving parts, reducing friction and wear
- Cushion Grip Handle - provides comfort plus control and resists most automotive fluids
- Designed for measuring torque in a clockwise direction only. Wrench is not reversible
- Guaranteed Accuracy: Accurate within ±4% of any clockwise setting from 20% of full scale to full scale.



QUICK SET SPLIT BEAM TORQUE WRENCHES

Product Code	Grainger		Drive Size	Range	Increments	Length (in.)	Ratchet
	Part #						
WSC-50A	46E766		3/8"	120-600 in. lbs.	10.0 in. lbs.	17 1/8	Flex-Head
WSC-100CA	22N925		3/8"	20-100 ft. lbs.	2.0 ft. lbs.	17 1/8	Flex-Head
WSC-250CA	22N923		1/2"	40-250 ft. lbs.	5.0 ft. lbs.	21 7/16	Flex-Head
WSC-400CA	22N926		3/4"	80-400 ft. lbs.	10.0 ft. lbs.	38 1/8	Fixed-Head
WSC-600CA	22N924		3/4"	200-600 ft. lbs.	10.0 ft. lbs.	48 1/2	Fixed-Head



FLEX-HEAD MICROMETER ADJUSTABLE TORQUE WRENCH

Flex-Head English Single Scale

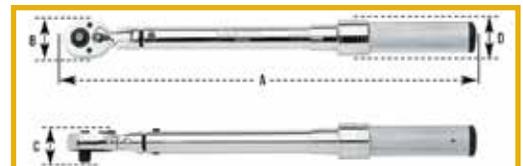
Features

- Single scale, dual direction
- Positive lock with spring loaded pull down lock ring
- Fast, accurate and easy to set
- Easy-to-read laser marked scales
- Flex Head pivots 15 degrees in both directions
- Rugged for Industrial use
- Accuracy: ± 4% CW ± 6% CCW of indicated value, CW, from 20% to 100% of full scale
- Meets or exceeds ASME B107.14-2004, ISO 6789 standards
- Individually serialized with matching certificate of calibration traceable to N.I.S.T.



FLEX-HEAD MICROMETER ADJUSTABLE TORQUE WRENCH

Product Code	Grainger		Torque Range	Sq. Drive	Incr.	A In.	B In.	C In.	D In.	Wt. Lbs.
	Part #									
802MFRFMHSS	4YVX2		10-80 ft. lb.	3/8"	0.5	16.60	1.25	1.15	0.90	2.500





CDI TORQUE PRODUCTS

CDI TORQUE PACK PRESET WRENCHES

CDI's Torque Pack for the Professional Tire Installer

Features

- Covers all automotive and light truck applications
- Color coding matches common torque sticks
- Rubber Boot cover on head protects expensive wheels
- One way ratchet prevents damage to torque wrench
- Easy to read torque values printed on each wrench
- Increased productivity by reducing adjustment time

MODEL PTWS-2-CDI GRAINGER PART # 46E765 INCLUDES:

- 5 Preset Color Coded Torque Wrenches
65 ft. lbs., 80 ft. lbs., 100 ft. lbs., 120 ft. lbs., 140 ft. lbs.
- 1 Micrometer Adjustable Torque Wrench
50 - 250 ft. lbs.
- 6 Deep Wall Sockets
3/4", 13/16", 7/8", 17 mm, 19 mm and 21 mm
- 1 Socket Extension Bar
1/2" X 6 Inch
- 1 Color coordinated lug nut torque chart
- 1 Wall mounted blow moulded rack

CDI TORQUE PRODUCTS

TPMS-4VC GRAINGER PART # 46E686 INCLUDES:

CDI's TPMS for the Professional Tire Installer

Features

- Prevents damage to costly componets
- No guessing, DO IT RIGHT the FIRST time
- Valve core tool prevents leaks and stripping
- Specifically designed to be used as a core remover and precise installer for TPMS tire valve to eliminate risk of damaging expensive TPMS sensors
- Preset to 4 ft. lbs. to prevent over or undertorquing
- Preset torque setting also helps prevent valve core leaks that lead to low tire pressure and TPMS alerts

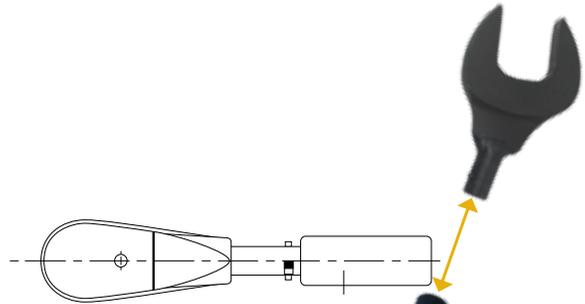




INTERCHANGEABLE HEAD TORQUE WRENCHES

Features

- Interchangeable heads permit ratcheting, fixed, or open end torquing capability with adjustable torque wrench bodies.
- A push of the locking pin provides quick-change action, with a wide range of head styles to choose from.
- Micrometer Type Adjustment-ensures fast, accurate settings and changes.
- *Part Number 800NMIMH has Dual Pin Release for added strength



*Note: 800NMIMH new dual pin "Z" receivers accept only dual pin interchangeable heads.

INTERCHANGEABLE HEAD TORQUE WRENCHES - DUAL SCALE

Product Code	Grainger Part #	Shank Size	Nm Range	Incr.	English Range
50NMIMH	38A298	J	10 - 50	0.5	7.4 - 44.2
100NMIMH	38A297	J	20 - 100	0.5	14.8 - 73.8
200NMIMH	38A288	Y	40 - 200	2	29.5 - 147.5
350NMIMH	38A287	X	70 - 350	2	44.3 - 250.8
800NMIMH*	38A296	Z	150 - 800	5	110.6 - 590

INTERCHANGEABLE HEAD TORQUE WRENCHES - SINGLE SCALE

Product Code	Grainger Part #	Shank Size	English Range	Incr.
75MFIMHSS	38A307	J	5 - 75	0.5
150MFIMHSS	38A295	Y	20 - 150	1
250MFIMHSS	38A302	Y	30 - 250	1



SINGLE SETTING TORQUE WRENCHES

Single setting torque wrenches are designed for use on production lines and other applications where a specific torque is required for repetitive operations.

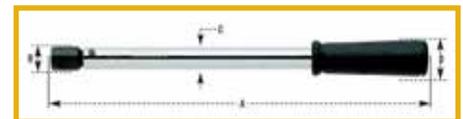
Features

- Factory Pre-Set models are set at the factory to the customer's specified torque setting, and are furnished with a Certificate of Calibration.
- Please specify desired torque setting when order is placed.
- Featuring a durable, non-slip cushion grip
- Uses universal round shank heads
- Audible click and feel impulse torque control mechanism
- Tamper proof torque setting for production line use
- Accuracy: ± 4% of indicated value, in direction of torque indicator, from 20% to 100% of full scale
- Meets or exceeds ASME B107.14-2004, ISO 6789



SINGLE SETTING TORQUE WRENCHES

Product Code	Grainger	Product Code	Grainger	English Range	Nm Range	Shank Size	A In.	B In.	C In.	D In.	Wt. Lbs.
Un-Set	Part #	Factory Pre-Set	Part #	Range	Range	Size	In.	In.	In.	In.	Lbs.
5T-I	38A291	5T-I-SET	38A292	10 - 50 in. lb.	1.1 - 5.6	J	6.5	0.63	0.61	1	0.35
10T-I	38A303	10T-I-SET	38A304	50 - 250 in. lb.	5.6 - 28	J	10	0.63	0.61	1	0.55
105T-I	38A310	105T-I-SET	38A311	60 - 300 in. lb.	6.8 - 34	J	6.2	0.68	0.86	1.4	0.75
50T-I	38A305	50T-I-SET	38A306	15 - 75 ft. lb.	20 - 102	J	11	0.68	0.96	1.4	1.4
100T-I	38A293	100T-I-SET	38A294	30 - 150 ft. lb.	41 - 203	Y	19.5	0.94	0.96	1.4	2.3
200T-I	38A299	200T-I-SET	38A301	40 - 200 ft. lb.	54 - 271	Y	23.5	0.94	0.86	1.4	2.6
300T-I	38A308	300T-I-SET	38A309	100 - 300 ft. lb.	135 - 406	X	27.7	1.12	1	1.4	3.9
600T-I	38A289	600T-I-SET	38A290	120 - 600 ft. lb.	162 - 814	Z	55	1.5	1.25	1.25	10.45





RATCHETING SQUARE DRIVE HEADS - SAE



Square Drive (Inches)	J (0.425")	Grainger Part #	Y (0.560")	Grainger Part #	X (0.735")	Grainger Part #	Z (0.990")	Grainger Part #	Z Dual Pins	Grainger Part #
1/4	TCQJD8A-72	38A644								
3/8	TCQJD12A-80	38A645	TCQYD12A-80	38A650						
1/2	TCQJD16A	38A643	TCQYD16A	38A649	TCQXD16A	38A647				
3/4					TCQXD24A	38A648	TCQZD24B	38A334	TCQZD24BDP	38A318
1					TCQXD32A	38A646	TCQZD32B	38A651	TCQZD32BDP	38A354

FIXED SQUARE DRIVE HEADS - SAE



Square Drive (Inches)	J (0.425")	Grainger Part #	Y (0.560")	Grainger Part #	X (0.735")	Grainger Part #	Z (0.990")	Grainger Part #	Z Dual Pins	Grainger Part #
1/4	TCQJSD8A	38A634								
3/8	TCQJSD12A	38A635	TCQYSD12A	38A640						
1/2	TCQJSD16A	38A633	TCQYSD16A	38A639	TCQXSD16A	38A637				
3/4					TCQXSD24A	38A638	TCQZSD24A	38A642	TCQZSD24ADP	38A405
1					TCQXSD32A	38A636	TCQZSD32A	38A641		

OPEN END HEADS - SAE



Square Drive (Inches)	J (0.425")	Grainger Part #	Y (0.560")	Grainger Part #	X (0.735")	Grainger Part #	Z (0.990")	Grainger Part #	Z Dual Pins	Grainger Part #
1/4	TCQJO8A	38A479								
9/32	TCQJO9A	46E740								
5/16	TCQJO10A	38A509								
3/8	TCQJO12A	38A508								
7/16	TCQJO14A	38A512								
1/2	TCQJO16A	38A478								
9/16	TCQJO18A	38A516	TCQYO18A	38A591						
5/8	TCQJO20A	38A510	TCQYO20A	38A589						
11/16	TCQJO22A	38A481	TCQYO22A	38A554						
3/4	TCQJO24A	38A507	TCQYO24A	38A584	TCQXO24A	38A549				
13/16	TCQJO26A	38A487	TCQYO26A	38A559	TCQXO26A	38A525				
7/8	TCQJO28A	38A513	TCQYO28A	38A590	TCQXO28A	38A552				
15/16	TCQJO30A	38A491	TCQYO30A	38A564	TCQXO30A	38A529				
1	TCQJO32A	38A794	TCQYO32A	38A553	TCQXO32A	38A518	TCQZO32A	38A594	TCQZO32ADP	38A355
1 1/16	TCQJO34A	38A482	TCQYO34A	38A555	TCQXO34A	38A519	TCQZO34A	38A595	TCQZO34ADP	46E693
1 1/8	TCQJO36A	38A484	TCQYO36A	38A558	TCQXO36A	38A522	TCQZO36A	38A598	TCQZO36ADP	38A358
1 3/16			TCQYO38A	38A560	TCQXO38A	38A526	TCQZO38A	38A602	TCQZO38ADP	38A389
1 1/4	TCQJO40A	38A483	TCQYO40A	38A557	TCQXO40A	38A521	TCQZO40A	38A597	TCQZO40ADP	38A357
1 5/16			TCQYO42A	38A565	TCQXO42A	38A530	TCQZO42A	38A604	TCQZO42ADP	46E737
1 3/8	TCQJO44A	38A488	TCQYO44A	38A562	TCQXO44A	38A528	TCQZO44A	46E737	TCQZO44ADP	38A391
1 7/16			TCQYO46A	38A569	TCQXO46A	38A532	TCQZO46A	38A606	TCQZO46ADP	38A393
1 1/2	TCQJO48A	38A495	TCQYO48A	38A556	TCQXO48A	38A520	TCQZO48A	38A596	TCQZO48ADP	38A356
1 9/16			TCQYO50A	38A573	TCQXO50A	38A536	TCQZO50A	38A608	TCQZO50ADP	38A395
1 5/8	TCQJO52A	38A492	TCQYO52A	38A566	TCQXO52A	38A531	TCQZO52A	38A605	TCQZO52ADP	38A392
1 11/16					TCQXO54A	38A523	TCQZO54A	38A599	TCQZO54ADP	38A359
1 3/4			TCQYO56A	38A561	TCQXO56A	38A527	TCQZO56A	38A603	TCQZO56ADP	38A390
1 13/16					TCQXO58A	38A524	TCQZO58A	38A601	TCQZO58ADP	38A360
1 7/8			TCQYO60A	38A570	TCQXO60A	38A533	TCQZO60A	38A607	TCQZO60ADP	38A394
2					TCQXO64A	38A539	TCQZO64A	38A609	TCQZO64ADP	38A396
2 1/16							TCQZO66A	38A610	TCQZO66ADP	38A397
2 1/8					TCQXO68	38A538	TCQZO68A	38A613	TCQZO68ADP	38A401
2 1/4			TCQYO72	46E745			TCQZO72A	38A612	TCQZO72ADP	38A399
2 3/8									TCQZO76ADP	38A402
2 1/2			TCQYO80	46E736			TCQZO80A	38A611	TCQZO80ADP	38A398
2 3/4							TCQZO88A	38A614		
3							TCQZO96A	38A617		

Center of fastener to retaining pin:

TCQJ Series - 2.50"

TCQY Series - 3.00"

TCQX Series - 4.50"

TCQZ Series - 5.75"





OPEN END HEADS - METRIC

Square Drive (mm)	J (0.425")	Grainger Part #	Y (0.560")	Grainger Part #	X (0.735")	Grainger Part #	Z (0.990")	Grainger Part #	Z Dual Pins	Grainger Part #
6	TCQJOM6A	38A511								
7	TCQJOM7A	38A514								
8	TCQJOM8A	38A515								
9	TCQJOM9A	38A517								
10	TCQJOM10A	38A480								
11	TCQJOM11A	38A485								
12	TCQJOM12A	38A486								
13	TCQJOM13A	38A489								
14	TCQJOM14A	38A490	TCQYOM14A	38A563						
15	TCQJOM15A	38A493	TCQYOM15A	38A567						
16	TCQJOM16A	38A494	TCQYOM16A	38A568						
17	TCQJOM17A	38A496	TCQYOM17A	38A571	TCQXOM17A	38A534				
18	TCQJOM18A	38A497	TCQYOM18A	38A572	TCQXOM18A	38A535				
19	TCQJOM19A	38A498	TCQYOM19A	38A574	TCQXOM19A	38A537				
20	TCQJOM20A	46E739	TCQYOM20A	38A575	TCQXOM20A	38A540				
21	TCQJOM21A	38A499	TCQYOM21A	38A576	TCQXOM21A	38A541				
22	TCQJOM22A	38A501	TCQYOM22A	38A577	TCQXOM22A	38A542				
23	TCQJOM23A	38A502	TCQYOM23A	38A578	TCQXOM23A	38A543				
24	TCQJOM24A	38A503	TCQYOM24A	38A579	TCQXOM24A	38A544	TCQZOM24A	38A615	TCQZOM24ADP	38A403
25	TCQJOM25A	38A504	TCQYOM25A	38A580	TCQXOM25A	38A545				
26	TCQJOM26A	38A505	TCQYOM26A	38A581	TCQXOM26A	38A546				
27	TCQJOM27A	38A506	TCQYOM27A	38A582	TCQXOM27A	38A547	TCQZOM27A	38A616	TCQZOM27ADP	38A404
29			TCQYOM29A	38A583	TCQXOM29A	38A548				
30			TCQYOM30A	38A585	TCQXOM30A	38A550	TCQZOM30A	38A618	TCQZOM30ADP	38A406
32			TCQYOM32A	38A586	TCQXOM32A	46E741	TCQZOM32A	38A619	TCQZOM32ADP	46E699
34			TCQYOM34A	38A587	TCQXOM34A	46E742			TCQZOM34ADP	38A408
36			TCQYOM36A	38A588	TCQXOM36A	38A551	TCQZOM36A	46E743	TCQZOM36ADP	38A410
38									TCQZOM38ADP	38A411
41					TCQXOM41A	46E744			TCQZOM41ADP	38A413
46									TCQZOM46ADP	38A415
50							TCQZOM50A	38A592	TCQZOM50ADP	38A417
55							TCQZOM55A	38A593	TCQZOM55ADP	38A419
60									TCQZOM60ADP	38A449
65									TCQZOM65ADP	38A450
70									TCQZOM70ADP	38A451



OPEN END THIN HEADS - SAE

Square Drive (Inches)	J (0.425")	Grainger Part #	Y (0.560")	Grainger Part #
11/16	TCQJ022ARTH60	38A628		
1	TCQJ032ARTH	38A620		
1 1/16	TCQJ034ARTH	38A621		
1 1/8	TCQJ036ARTH	38A623		
1 3/16	TCQJ038ARTH	38A624		
1 1/4	TCQJ040ARTH	46E756		
1 3/8	TCQJ044ARTH	38A625		
1 1/2	TCQJ048ARTH	38A622		
1 9/16	TCQJ050ARTH	38A627		
1 5/8	TCQJ052ARTH	38A626	TCQY052ARTH	38A630
1 3/4	TCQJ056ARTH	46E757	TCQY056ARTH	38A629
1 7/8	TCQJ060ARTH	46E758	TCQY060ARTH	38A631
2	TCQJ064ARTH	46E759	TCQY064ARTH	30HL92
2 1/16	TCQJ066ARTH	46E760		
2 1/8			TCQY068ARTH	38A632
2 1/4			TCQY072ARTH	46E738
2 11/16	TCQJ086ARTH	46E761		





12-POINT BOX END 15° OFFSET HEADS - SAE



Z Shank Dual Pins

Square Drive (Inches)	J (0.425")	Grainger Part #	Y (0.560")	Grainger Part #	X (0.735")	Grainger Part #	Z (0.990")	Grainger Part #	Z Dual Pins	Grainger Part #
1/4	TCQJX8A	38A664								
9/32	TCQJX9A	38A696								
5/16	TCQJX10A	46E755								
3/8	TCQJX12A	38A688								
7/16	TCQJX14A	38A691								
1/2	TCQJX16A	38A663	TCQYX16A	38A735						
9/16	TCQJX18A	38A695	TCQYX18A	38A767						
5/8	TCQJX20A	38A689	TCQYX20A	38A765	TCQXX20A	46E750				
11/16	TCQJX22A	38A666	TCQYX22A	38A736	TCQXX22A	46E746				
3/4	TCQJX24A	38A687	TCQYX24A	38A761	TCQXX24A	38A726				
13/16	TCQJX26A	38A670	TCQYX26A	38A740	TCQXX26A	38A706			TCQZX26ADP	38A817
7/8	TCQJX28A	38A692	TCQYX28A	38A766	TCQXX28A	38A731				
15/16	TCQJX30A	38A673	TCQYX30A	38A742	TCQXX30A	38A710	TCQZX30A	46E754		
1	TCQJX32A	38A662	TCQYX32A	38A734	TCQXX32A	38A698				
1 1/16	TCQJX34A	38A667	TCQYX34A	38A737	TCQXX34A	38A699	TCQZX34A	38A769	TCQZX34ADP	38A811
1 1/8			TCQYX36A	30HL94	TCQXX36A	38A703	TCQZX36A	38A772	TCQZX36ADP	38A814
1 3/16			TCQYX38A	38A733	TCQXX38A	38A707	TCQZX38A	38A768	TCQZX38ADP	38A818
1 1/4			TCQYX40A	38A739	TCQXX40A	38A702	TCQZX40A	38A771	TCQZX40ADP	38A813
1 5/16			TCQYX42A	38A743	TCQXX42A	38A711	TCQZX42A	38A775	TCQZX42ADP	38A820
1 3/8					TCQXX44A	38A709	TCQZX44A	46E753		
1 7/16			TCQYX46A	38A747	TCQXX46A	38A713	TCQZX46A	38A777	TCQZX46ADP	38A822
1 1/2			TCQYX48A	38A738	TCQXX48A	38A701	TCQZX48A	38A770	TCQZX48ADP	38A812
1 9/16			TCQYX50A	38A750	TCQXX50A	38A716	TCQZX50A	38A779	TCQZX50ADP	38A824
1 5/8			TCQYX52A	38A744	TCQXX52A	38A712	TCQZX52A	38A776	TCQZX52ADP	38A821
1 11/16					TCQXX54A	38A704	TCQZX54A	46E752	TCQZX54ADP	38A815
1 3/4					TCQXX56A	38A708	TCQZX56A	38A774	TCQZX56ADP	38A819
1 13/16					TCQXX58A	38A705	TCQZX58A	38A773	TCQZX58ADP	38A816
1 7/8					TCQXX60A	38A714	TCQZX60A	38A778	TCQZX60ADP	38A823
2					TCQXX64A	38A718	TCQZX64A	38A780	TCQZX64ADP	38A825
2 1/16							TCQZX66A	38A781	TCQZX66ADP	38A826
2 1/8							TCQZX68A	38A784	TCQZX68ADP	38A829
2 3/16									TCQZX70ADP	38A830
2 1/4							TCQZX72A	38A783	TCQZX72ADP	38A828
2 3/8									TCQZX76ADP	38A831
2 1/2							TCQZX80A	38A782	TCQZX80ADP	38A827



12-POINT BOX END 0° OFFSET - SAE



Square Drive (Inches)	J (0.425")	Grainger Part #	Y (0.560")	Grainger Part #
3/8	TCQJXD12A	38A455		
7/16	TCQJXD14A	38A456		
1/2	TCQJXD16A	38A452		
9/16	TCQJXD18A	38A457		
5/8			TCQYXD20A	38A460
11/16	TCQJXD22A	38A453	TCQYXD22A	46E715
3/4	TCQJXD24A	38A454	TCQYXD24A	38A459
7/8	TCQJXD28A	46E713	TCQYXD28A	30HL95
15/16	TCQJXD30A	46E714	TCQYXD30A	38A458
1	TCQJXD32A	46E712		



12-POINT BOX END 0° OFFSET - METRIC

Square Drive (mm)	J (0.425")	Grainger Part #	Y (0.560")	Grainger Part #	X (0.735")	Grainger Part #	Z (0.990")	Grainger Part #	Z Dual Pins	Grainger Part #
6	TCQJXM6A	38A690								
7	TCQJXM7A	38A693								
8	TCQJXM8A	38A694								
9	TCQJXM9A	38A697								
10	TCQJXM10A	38A665								
11	TCQJXM11A	38A668								
12	TCQJXM12A	38A669								
13	TCQJXM13A	38A671	TCQYXM13A	30HL87						
14	TCQJXM14A	38A672	TCQYXM14A	38A741						
15	TCQJXM15A	38A674	TCQYXM15A	38A745						
16	TCQJXM16A	38A675	TCQYXM16A	38A746	TCQXXM16A	46E747				
17	TCQJXM17A	38A676	TCQYXM17A	38A748	TCQXXM17A	38A715				
18	TCQJXM18A	38A677	TCQYXM18A	38A749	TCQXXM18A	38A732				
19	TCQJXM19A	38A678	TCQYXM19A	38A751	TCQXXM19A	38A717				
20	TCQJXM20A	38A679	TCQYXM20A	38A752	TCQXXM20A	38A719				
21	TCQJXM21A	38A680	TCQYXM21A	38A753	TCQXXM21A	38A720				
22	TCQJXM22A	38A681	TCQYXM22A	38A754	TCQXXM22A	38A721				
23	TCQJXM23A	38A682	TCQYXM23A	38A755	TCQXXM23A	38A722				
24	TCQJXM24A	38A683	TCQYXM24A	38A756	TCQXXM24A	38A723	TCQZXM24A	38A785	TCQZXM24ADP	38A832
25	TCQJXM25A	38A684	TCQYXM25A	38A757	TCQXXM25A	38A724	TCQZXM25A	38A786		
26	TCQJXM26A	38A685	TCQYXM26A	38A758	TCQXXM26A	46E748	TCQZXM26A	38A787		
27	TCQJXM27A	38A686	TCQYXM27A	38A759	TCQXXM27A	38A725	TCQZXM27A	38A788	TCQZXM27ADP	38A833
29			TCQYXM29A	38A760	TCQXXM29A	46E749	TCQZXM29A	38A789		
30			TCQYXM30A	38A762	TCQXXM30A	38A727	TCQZXM30A	38A790	TCQZXM30ADP	38A840
32			TCQYXM32A	38A763	TCQXXM32A	38A728	TCQZXM32A	38A791	TCQZXM32ADP	38A841
34			TCQYXM34A	46E751	TCQXXM34A	38A729	TCQZXM34A	38A792	TCQZXM34ADP	38A842
36			TCQYXM36A	38A764	TCQXXM36A	38A730	TCQZXM36A	38A793	TCQZXM36ADP	38A409
41									TCQZXM41ADP	38A412
46									TCQZXM46ADP	38A414
50									TCQZXM50ADP	38A416
55									TCQZXM55ADP	38A418
60									TCQZXM60ADP	38A448



Z Shank Dual Pins

12 POINT RATCHET WRENCH HEADS - METRIC



Square Drive (mm)	J (0.425")	Grainger Part #	Y (0.560")	Grainger Part #
16	TCQJBOERM16	38A383		
18	TCQJBOERM18	38A384	TCQYBOERM18	46E696
24			TCQYBOERM24	46E697



12 POINT RATCHET WRENCH HEADS - SAE

Square Drive (Inches)	J (0.425")	Grainger Part #	Y (0.560")	Grainger Part #
3/8	TCQJBOER12	38A385		
7/16	TCQJBOER14	38A387		
1/2	TCQJBOER16	38A381		
9/16	TCQJBOER18	38A388	TCQYBOER18	46E710
5/8	TCQJBOER20	38A386	TCQYBOER20	30HL89
11/16			TCQYBOER22	30HL88
3/4	TCQJBOER24	38A382	TCQYBOER24	46E698





12-POINT BOX END 10° OFFSET - SAE



Square Drive (Inches)	J (0.425")	Grainger Part #	Y (0.560")	Grainger Part #	X (0.735")	Grainger Part #
1/2	TCQXB16A	38A461				
9/16	TCQXB18A	38A469				
5/8	TCQXB20A	38A468	TCQYXB20A	463720		
11/16	TCQXB22A	38A462				
3/4	TCQXB24A	38A467	TCQYXB24A	38A477		
7/8			TCQYXB28A	46E719		
15/16			TCQYXB30A	38A474		
1			TCQYXB32A	38A472		
1 1/8			TCQYXB36A	38A473		
1 3/8					TCQXXB44A	38A471
1 1/2					TCQXXB48A	38A470

12-POINT BOX END 10° OFFSET - METRIC



Square Drive (mm)	J (0.425")	Grainger Part #	Y (0.560")	Grainger Part #
11mm	TCQXBM11A	46E716		
12mm	TCQXBM12A	46E717		
13mm	TCQXBM13A	38A463		
14mm	TCQXBM14A	46E718		
16mm	TCQXBM16A	38A464		
18mm	TCQXBM18A	38A465	TCQYXB18A	38A475
19mm	TCQXBM19	38A466		
24mm			TCQYXB24A	38A476
28mm			TCQYXB28A	30HL97

6-POINT BOX END 10° OFFSET - METRIC



Square Drive (mm)	Y (0.560")	Grainger Part #
18	TCQYSBXM18	30HL96
24	TCQYSBXM24	30HL98

12 POINT FLARE NUT HEADS - SAE



Square Drive (Inches)	J (0.425")	Grainger Part #	Y (0.560")	Grainger Part #
9/16	TCQJRX18A	38A368	TCQYRX18A	38A380
5/8	TCQJRX20A	38A366	TCQYRX20A	38A378
11/16	TCQJRX22A	38A362	TCQYRX22A	38A370
3/4	TCQJRX24A	38A365	TCQYRX24A	38A377
13/16	TCQJRX26A	38A363	TCQYRX26A	38A375
7/8	TCQJRX28A	38A367	TCQYRX28A	38A379
15/16	TCQJRX30A	38A364	TCQYRX30A	38A376
1	TCQJRX32A	38A361	TCQYRX32A	38A369
1 1/16	TCQJRX34A	46E694	TCQYRX34A	38A371
1 1/8			TCQYRX36A	38A373
1 3/16			TCQYRX38A	38A374
1 1/4			TCQYRX40A	38A372





6 POINT FLARE NUT HEADS - METRIC

Square Drive (mm)	J (0.425")	Grainger Part #	Y (0.560")	Grainger Part #
8	TCQJRXSM8A	46E707		
9	TCQJRXSM9A	46E708		
10	TCQJRXSM10A	38A421		
11	TCQJRXSM11A	38A423		
12	TCQJRXSM12A	38A424		
13	TCQJRXSM13A	38A425		
14	TCQJRXSM14A	38A426		
15	TCQJRXSM15A	46E702	TCQYRXSM15A	30HL90
16	TCQJRXSM16A	46E703	TCQYRXSM16A	38A439
17	TCQJRXSM17A	38A428	TCQYRXSM17A	38A440
18	TCQJRXSM18A	46E704	TCQYRXSM18A	38A441
19	TCQJRXSM19A	46E705	TCQYRXSM19A	38A442
20	TCQJRXSM20A	46E706	TCQYRXSM20A	38A443
21			TCQYRXSM21A	38A444



6 POINT FLARE NUT HEADS - SAE

Square Drive (Inches)	J (0.425")	Grainger Part #	Y (0.560")	Grainger Part #
1/4	TCQJRXS8A	46E701		
5/16	TCQJRXS10A	38A431		
3/8	TCQJRXS12A	38A430		
7/16	TCQJRXS14A	38A432		
1/2	TCQJRXS16A	38A420		
9/16	TCQJRXS18A	38A433	TCQYRXS18A	46E709
5/8			TCQYRXS20A	38A446
11/16	TCQJRXS22A	38A422	TCQYRXS22A	38A435
3/4	TCQJRXS24A	38A429	TCQYRXS24A	38A445
13/16			TCQYRXS26A	38A437
7/8			TCQYRXS28A	38A447
15/16	TCQJRXS30A	38A427	TCQYRXS30A	38A438
1			TCQYRXS32A	38A434
1 1/8			TCQYRXS36A	38A436

ADAPTORS

Product Code	Grainger Part #	Descriptions
TCQJ-Y	46E763	X to J
TCQXY	46E764	Y to X
TCQY-X	46E762	X to Y
TCQZ-X	30HL91	Z Male to X Female
TCQZD32A-1	46E711	Z Shank 1 Drive



RATCHETING FLARE NUT HEAD

Square Drive (Inches)	J (0.425")	Grainger Part #	Y (0.560")	Grainger Part #	X (0.735")	Grainger Part #
9/16	TCRTWH36J	46E734				
5/8	TCRTWH40H	46E732				
11/16	TCRTWH44J	46E722				
3/4			TCRTWH48Y	46E735		
13/16	TCRTWH52J	46E726				
7/8			TCRTWH56Y	46E733		
15/16			TCRTWH60Y	46E728		
1			TCRTWH64Y	46E721		
1 1/8			TCRTWH72Y	46E725		
1 1/4			TCRTWH80Y	46E724		
1 3/8			TCRTWH88Y	46E727		
1 1/2					TCRTWH96X	46E723
16mm	TCRTWHM16J	46E730				
1 5/8			TCRTWH104Y	46E729		
1 7/8			TCRTWH120Y	46E731		





TORQUE WRENCH SAFETY

These precautions should always be taken when using any torque wrench to avoid possible injury:

- Read instruction manual completely before using torque wrench.
- Safety glasses or goggles should be worn at all times when using any hand tool.
- Always pull, DO NOT PUSH, to apply torque and adjust your stance to prevent a fall.
- A “cheater bar” should NEVER be used on a torque wrench to apply excess leverage.
- Do not use with sockets or fasteners showing wear or cracks.
- Ratchet mechanism may slip or break if dirty, mismatched or worn parts are used.
- Make sure direction lever is fully engaged

TORQUE WRENCH USAGE

- All mechanical torque wrenches are calibrated from 20% to 100% of full scale, therefore, they should never be used below or above those limits
- To determine which torque wrench capacity is best suited for an application, many factors must be considered. However, as a recommendation, use a torque wrench in the middle 50% of the overall capacity of the tool. This will result in longer tool life, ease of use for the operator and increased accuracy from “clicker” type torque wrenches
- Always grasp handle firmly in the center of the grip
- Approach final torque slowly and evenly
- Stop pulling wrench immediately when target torque is reached
- Never use a torque wrench to break fasteners loose
- Should be cleaned and stored properly
- Should always be stored at it's lowest torque setting
- Wrenches should be re-calibrated if dropped. Should never be used in excess of it's capacity
- Torque wrenches should be “exercised” a minimum of three times at 100% of full scale before use
- The wrench selected should be calibrated in the same torque units that are specified
- Use of a “cheater bar” will result in an inaccurate reading and can possibly damage the wrench
- Torque wrenches will last longer if reasonable care is taken. Always unwind handle to the lowest setting after each use. Do not attempt to lubricate the internal torque mechanism. Clean torque wrench by wiping, do not immerse. The wrench should be sent to a qualified calibration lab once every year or every 5000 cycles for re-calibration



COMMON TORQUE ABBREVIATIONS

FOOT POUNDS – FT. LBS.
 INCH POUNDS – IN. LBS.
 INCH OUNCES – IN. OZS.
 NEWTON METER – Nm
 CENTI-NEWTON METER – cNm
 METER KILOGRAM – MKG

EASY-TO-USE TORQUE CONVERSION TABLE

TO CONVERT FROM	TO	MULTIPLY BY
IN. OZ.	IN. LB.	0.0625
IN. LB.	IN. OZ.	16
IN. LB.	FT. LB.	0.08333
IN. LB.	CMKG	1.1519
IN. LB.	MKG	0.011519
IN. LB.	NM	0.113
IN. LB.	dNm	1.13
FT. LB.	IN. LB.	12
FT. LB.	MKG	0.1382
FT. LB.	NM	1.356
dNm	IN. LB.	0.885
dNm	NM	0.10
NM	dNm	10
NM	CMKG	10.2
NM	MKG	0.102
NM	IN. LB.	8.85
NM	FT. LB.	0.7376
CMKG	IN. LB.	0.8681
CMKG	NM	0.09807
MKG	IN. LB.	86.81
MKG	FT. LB.	7.236
MKG	NM	9.807

Torque Products Warranty:

Snap-on Industrial Brands warrants to the original purchaser of CDI Torque Products that the company's torque products are free from defects in workmanship and materials. Snap-on Industrial Brands will repair or replace CDI Torque Products which fail to give satisfactory service due to defective workmanship or materials (excluding calibration) for 12 months from the date of original purchase. Snap-on Industrial Brands warrants "initial, out of box calibration" of each new, unused CDI Torque Product. Repair, replacement or recalibration shall be at the election and expense of Snap-on Industrial Brands, and is your exclusive remedy in place of all other rights and remedies. Products must be returned with proof of purchase, freight prepaid, to a CDI Torque Products repair center for warranty service. Snap-on Industrial Brands will repair or replace Williams' Torque Multipliers which fail to give satisfactory service due to defective workmanship or material for 90 days from the date of original purchase. Snap-on Industrial Brands does not provide any warranty for products subjected to abnormal use. Abnormal use includes misuse, accident, modification, unreasonable use, neglect, lack of maintenance, or use after the tool is significantly worn.

Torque Products Warranty Stations:

Team Torque, Inc.
1231 Park Avenue
Bismarck, ND 58504
Phone: 701.223.4552 or 888.682.8675
Fax: 701.222.3731
E-Mail: service@teamtorque.com
Web: www.teamtorque.com

Angle Repair
175 Angle Drive
Beckley, WV 25801
Phone: 304.253.5729
Fax: 304.252.0481
E-Mail: estimate@anglerepair.com

**For more information, contact your Grainger
Representative or visit Grainger.com®**

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AVAILABLE THROUGH
GRAINGER®
FOR THE ONES WHO GET IT DONE