



VAN F.

BELKNAP

COMPANY, INC.

The Leader in Torque Applications & Specialty Tooling

Torque Verification Wrenches

Dial & Adjustable Wrenches

Interchangeable Drive Ends

Preset Torque Wrenches

Torque Limiters

And More ...



2017

www.BELKNAPTOOLS.com

**BELKNAP is the ONLY company
SOLELY DEDICATED to TORQUE TOOLING.**

VAN F. BELKNAP CO., INC. was originally founded in 1936 in Detroit, Michigan USA as a small tool and die shop. In 1970, we became a major player in the automotive, heavy equipment, agricultural equipment, petro-chemical and aerospace industries by committing ourselves to supplying quality hand torque tooling, adapters and special application tooling. Today, we continue to do so with unequalled resources and commitment.

We guarantee our tools will perform the work for which they are designed, and will provide service for as long as is consistent with ordinary wear and usage. Any tools found defective in workmanship or material and returned to the factory for inspection will be replaced, repaired or credited, provided it has been used for the purpose for which the tool was designed. (And by the way, we do offer a one year warranty!)

OUR MISSION

*To thoroughly understand the needs of our valued customers,
provide the perfect solution of the highest quality tooling available,
exceed all expectations and deliver in a timely manner.*

Why Should You Put Your Trust in Belknap?

- We are torque application specialists, dedicated to helping you achieve torque perfection.
- Our Interchangeable Drive Ends are the standard, and most reliable, in the industry.
- Our in-house engineers can customize most of our products to fit your application, and design specialty tooling for your specific requirements.
- Quality is built into every tool at every aspect of production.
- The tooling life of our tools generally outlive their required performance.
- The reputation and trust we have developed over the years is important to us and we intend to keep it that way.
- Our knowledgeable staff and extremely fast turnaround is unsurpassed in the industry.
- Industrial grade tooling which is consistently being used all over the world in places like Belgium, Czech Republic, India, South Korea, Mexico, Chile, Brazil, Australia and right here in the USA.
- Customers like Ford, GM, Chrysler, Caterpillar, Harley-Davidson, Cummins Engine, Detroit Diesel and John Deere, to name a few, rely on our quality products and tremendous turnaround time.
- From the first time you contact us with your tooling needs to the shipping of your order, our entire staff knows that you not only placed an order with us, but you have also placed your trust in Van F. Belknap Co., Inc.

Let Us Prove Why Your Trust in Belknap is Warranted and Justified.



Table of Contents

VB Standard Interchangeable Drive Preset Torque Wrenches	2
Signal Sending Interchangeable Drive Preset Torque Wrenches	4
Maxi-Break Interchangeable Drive Preset Torque Wrenches	5
Interchangeable Drive Adjustable Torque Wrenches	6
Interchangeable Drive Ends	7
Ink Marking Torque Wrenches	8
Punch Marking Torque Wrenches	9
Fixed Head Preset Torque Wrenches	10
Electronic Dial Torque Wrenches	12
Dial Indicating Torque Wrenches	14
Micro-Adjustable Torque Wrenches	16
Crowfoot Adapters	18
T-Handle Torque Wrenches	19
Preset Torque Screwdrivers	20
Torky Torque Wrenches	20
Adjustable Torque Screwdrivers	21
Slip-Torq Torque Limiters	22
Specialty Application Tooling	24
Hose Clamp Tools	26
Torque Multipliers	27
Electronic Torque Testers	28
Repair & Calibration	30
Safety Guidelines	30
Warranty	31



VB Standard Interchangeable Drive Preset Torque Wrenches

Designed to withstand the abuse of modern, high production assembly companies while delivering thousands of accurate cycles.

There are 13 models ranging as low as 10 In. Lb. and as high as 1000 Ft. Lb., designed specifically to be used in conjunction with our Interchangeable Drive Ends found on page 7.

Belknap's application-oriented sales and engineering staff are available to solve your application requirements and provide you with the right tools.

Call us and find out why Belknap has been and still is the leader in torque applications for over 40 years!

Our online "Specialty Tools Gallery" features hundreds of our custom-made tools for special torque applications and assembly.



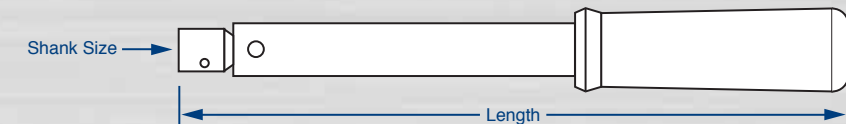
KEY FEATURES

- Torques in both left- and right-hand directions, others only operate in one direction.
- Loud audible and positive sensory "click" when calibrated torque is achieved.
- Accuracy is $\pm 4\%$ in direction of calibration.
- High alloy steel.
- Most models include comfortable rubber grip.
- Scientifically heat treated.
- Torque values can be calibrated in English or Metric settings.
- Tamper-proof preset torque.
- Calibration can be quickly adjusted in calibration lab.
- Meets or exceeds ASME B107.14M-2004.



Why use the VB Standard Interchangeable Drive Preset Torque Wrench?

- With a loud audible and positive sensory "click" signal, and with 10° of travel after having reached the pre-calibrated torque, it is very difficult for the operator to ignore these signs. This provides you with a better result in your torque operations.
- Bi-directional functionality coupled with our 15° offset open drive end gives the operator the ability to "turn the wrench over" to apply torque in tight access areas. (One-directional torque wrenches take away this important benefit from the assembly line operator.)
- We stock all models and can perform individual calibrations with certifications as requested.



Part#	Torque Range		Nm.	Shank Size	Length In.	Weight Lb
	In. Lb.	Ft. Lb.				
VB2T-I*	10 - 24	.8 - 2	1.13 - 2.71	J	4	0.25
VB5T-I	10 - 50	.8 - 4.2	1.1 - 5.6	J	6.25	0.38
VB10T-I		3 - 9	4.07 - 12.20	J	6	0.69
VB10ST-I		7 - 25	9.49 - 33.90	J	6.125	0.75
VB10AT-I		7 - 25	9.49 - 33.90	J	7	0.82
VB50ST-I		10 - 50	13.56 - 67.79	J	9.125	1.1
VB50T-I		10 - 50	13.56 - 67.79	J	11	1.3
VB100ST-I		45 - 150	61.01 - 203.37	Y	14.5	1.95
VB100T-I		45 - 150	61.01 - 203.37	Y	19.25	2.25
VB200T-I		45 - 200	61.01 - 271.17	Y	23.25	2.3
VB300T-I		100 - 300	135.58 - 406.75	X	27.5	3.75
VB600T-I**		200 - 600	271.17 - 813.50	Z	54	10.6
VB1000T-I**		300 - 1000	406.75 - 1355.83	Z	62	22

* No rubber grip.
** No rubber grip and includes extension handle.



Signal Sending Interchangeable Drive Preset Torque Wrenches

The wired version of our VB Standard Interchangeable Drive Preset Torque Wrenches.

A 24-VDC switch is mounted internally and allows the torque wrench to be tied into any monitoring system for torque verification. (You supply the + voltage in one side, we will return it when the switch is made, torque achieved.)

They are designed specifically to be used in conjunction with our Interchangeable Drive Ends found on page 7.

Various cables are available in different sizes and configurations to suit your application.



KEY FEATURES

- Torques in both left- and right-hand directions, others only operate in one direction.
- Loud audible and positive sensory “click” when calibrated torque is achieved.
- Accuracy is $\pm 4\%$ in direction of calibration.
- High alloy steel.
- Scientifically heat treated.
- Torque values can be calibrated in English or Metric settings.
- Tamper-proof preset torque.
- Calibration can be quickly adjusted in calibration lab.
- Meets or exceeds ASME B107.14M-2004.

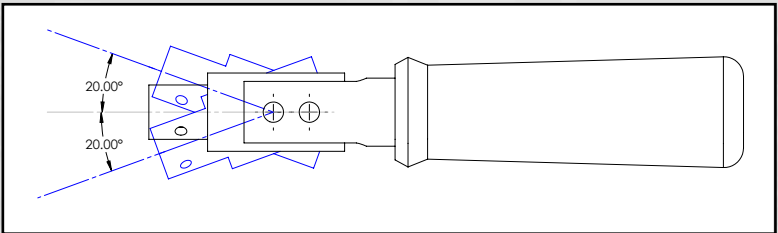
Part #	— Torque Range —		Shank Size	Length In.	Weight Lb.
	Ft. Lb.	Nm			
VBEL10T-I	3 - 9	4.07 - 12.20	J	7	0.75
VBEL10AT-I	7 - 25	9.49 - 33.90	J	8	0.88
VBEL50T-I	10 - 50	13.56 - 67.79	J	12	1.5
VBEL100T-I	45 - 150	61.01 - 203.37	Y	20.5	2.5
VBEL200T-I	45 - 200	61.01 - 271.17	Y	25	2.6



Maxi-Break Interchangeable Drive Preset Torque Wrenches

The Maxi-Break series extends the normal ten degree (10°) break to twenty degrees (20°). This torque wrench helps prevent over-torque on critical fasteners where specified torque is vital. The operator will definitely feel and see when torque is achieved.

They are designed specifically to be used in conjunction with our Interchangeable Drive Ends found on page 7.



KEY FEATURES

- Breaks away 20° after preset torque is achieved.
- Torques in both left and right hand directions, others only operate in one direction.
- Loud audible and positive sensory “click” when calibrated torque is achieved.
- Accuracy is $\pm 4\%$ in direction of calibration.
- High alloy steel.
- Scientifically heat treated.
- Torque values can be calibrated in English or Metric settings.
- Tamper-proof preset torque.
- Calibration can be quickly adjusted in calibration lab.
- Meets or exceeds ASME B107.14M-2004.

Part #	— Torque Range —		Shank Size	Length In.	Weight Lb.
	Ft. Lb.	Nm			
VBMX10T-I	3 - 9	4.07 - 12.20	J	7.5	1
VBMX10AT-I	7 - 25	9.49 - 33.90	J	8.5	1.2
VBMX50T-I	10 - 50	13.56 - 67.79	J	12.5	1.6



Interchangeable Drive Adjustable Torque Wrenches

Field operators and repair technicians have the ability to adjust torque and change the Interchangeable Drive End as required on the job.

When ordering an Interchangeable Drive End for these torque wrenches, you **MUST** specify the “YM” shank to achieve the proper connection and torque output. (See next page.)

KEY FEATURES

- Accuracy = ± 4% CW and ± 6% CCW of indicated value from 20% to full scale.
- Rugged, knurled metal handle for industrial use.
- Positive locking with pull-down lock ring.
- Loud audible and positive sensory “click” when torque is achieved.
- Molded plastic case (most models.)
- Easy to operate.
- Industrial strength.
- Exposed scale.
- Meets or exceeds ASME B107.14M-2004.
- Accepts a variety of Belknap Drive Ends with RYM shank.



Part #	Torque Range		Shank Size	Length In.	Increments In.	Weight Lb.
	Ft. Lb.	Nm.				
150MFIMH	30 - 150	34 - 197	YM	17.3	1	2.7
250MFIMHSS	50 - 250	---	YM	22.7	1	3



Interchangeable Drive Ends

QUALITY and INTEGRITY that is UNEQUALLED in the industry — Always has been and always will be!

- Trusted for assembly lines and by a multitude of industries since 1970.
- Stability tested continuously to withstand the demand required of them, when used as intended.
- Designed to be used in conjunction with any of our Interchangeable Drive Preset Torque Wrenches.
- Available in 13 standard styles with hundreds of sizes and combination configurations that can be custom-made for special applications; i.e. extra thin or thick, offset, long or short, straight or offset, narrow or wide.

Our online “Specialty Tools Gallery” features hundreds of our custom-made tools for special torque applications and assembly.

HOW TO DETERMINE A DRIVE END PART NUMBER

Considering this example: You can use the charts to select the codes that will determine your part number.

EXAMPLE REQUIREMENT

Target Torque to be Applied: 7 Ft. Lb.
Determines the “Shank Code” (J)
Drive End Style Choice: V-Bottom Open End
Determines the “Style Code” (E)
Fastener Size (across the flats): 9/16"
Determines the “Size Code” (9)

SIZE CODES

Sizes	Size Code
ENGLISH (1/16" Increments)	
1/4"	4
5/16"	5
3/8"	6
7/16"	7
1/2"	8
9/16"	9
5/8"	10
...	...
METRIC (1mm Increments)	
6mm	6M
7mm	7M
8mm	8M
9mm	9M
10mm	10M
11mm	11M
12mm	12M
...	...

— SAFETY PRECAUTION —
The torque **CAPACITY** of a Drive End is **LIMITED** by its opening or square drive size, **NOT** by the shank size or the torque wrench. See our website for recommended **MAX** torque values. Please check your requirements with us.

R J E - 9

SHANK CODES

Torque Range	Torque Wrench Part #	Shank Code
PRESETS		
10-24 In. Lb.	VB2T-I	J
15-60 In. Lb.	VB5T-I	J
3-9 Ft. Lb.	VB10T-I	J
7-25 Ft. Lb.	VB10ST-I	J
7-25 Ft. Lb.	VB10AT-I	J
10-50 Ft. Lb.	VB50ST-I	J
10-50 Ft. Lb.	VB50T-I	J
45-150 Ft. Lb.	VB100ST-I	Y
45-150 Ft. Lb.	VB100T-I	Y
45-200 Ft. Lb.	VB200T-I	Y
100-300 Ft. Lb.	VB300T-I	X
200-600 Ft. Lb.	VB600T-I	Z
300-1000 Ft. Lb.	VB1000T-I	Z
SIGNAL SENDING		
3-9 Ft. Lb.	VBEL10T-I	J
7-25 Ft. Lb.	VBEL10AT-I	J
10-50 Ft. Lb.	VBEL50T-I	J
45-150 Ft. Lb.	VBEL100T-I	Y
45-200 Ft. Lb.	VBEL200T-I	Y
MAXI-BREAK		
3-9 Ft. Lb.	VBMX10T-I	J
7-25 Ft. Lb.	VBMX10AT-I	J
10-50 Ft. Lb.	VBMX50T-I	J
ADJUSTABLE		
30-150 Ft. Lb.	150MFIMH	YM
50-250 Ft. Lb.	250MFIMHSS	YM

STYLE CODES

Drive End Names with Style Codes

 12 Pt. 15° Box (B)	 12 Pt. Reversible Box (BR)	 12 Pt. Straight Box (BS)	 12 Pt. 45° Box (BX)
 6 Pt. Flare Nut (C)	 Ratchet Drive (D)	 V-Bottom (E)	 Formax (F)
 Kwik-Tite (K)	 Plain Drive (P)	 12 Pt. Flare Nut (R)	 Speeder (S)
 U-Bottom (UE)			



Marking Preset Torque Wrenches

Designed for **FINAL TORQUE VERIFICATION ONLY** and are not intended to be used for running down the fastener. They will leave a positive mark (ink or indentation) for torque verification only when torque is achieved. **THEY WILL NOT MARK ACCIDENTALLY.**



INK MARKING

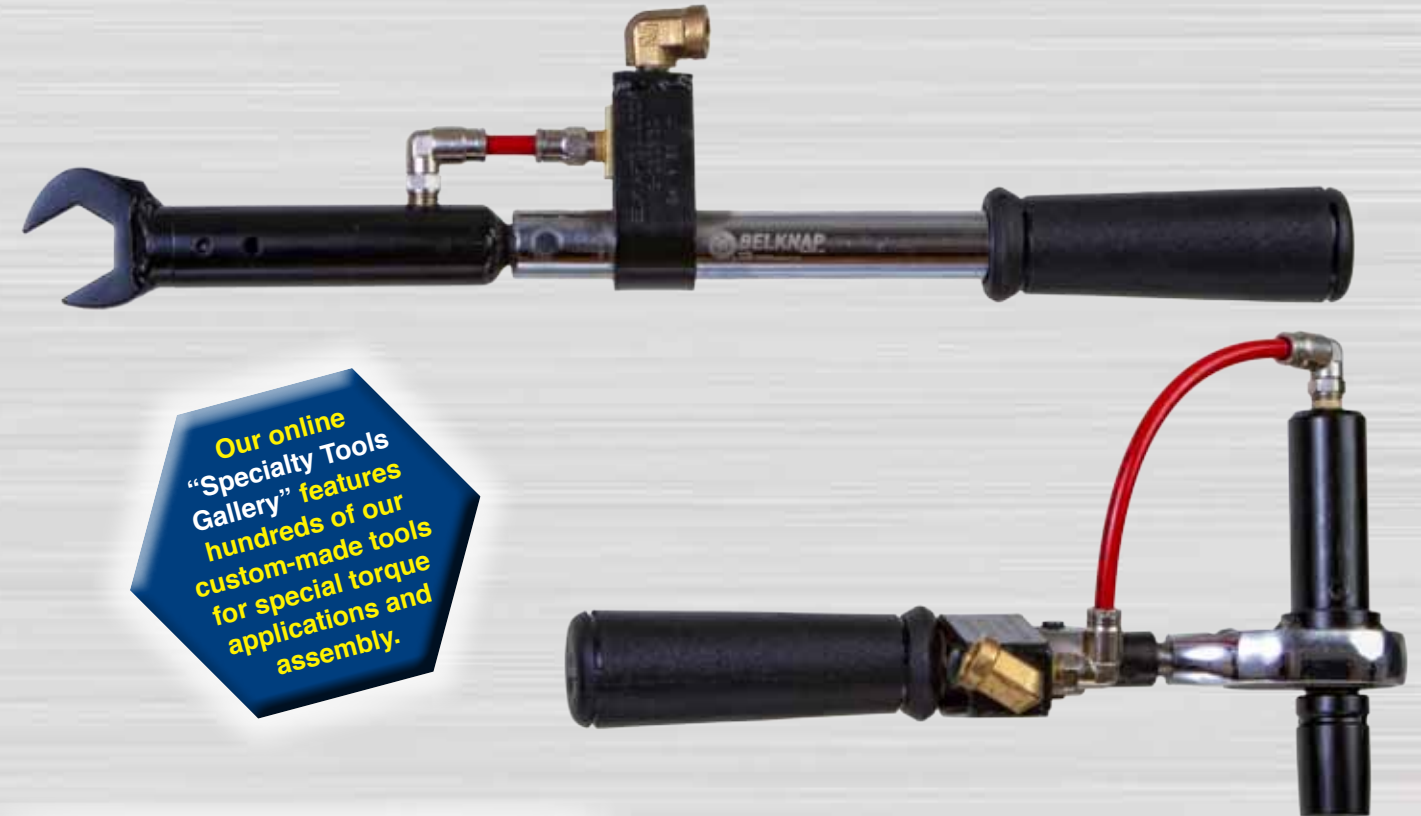
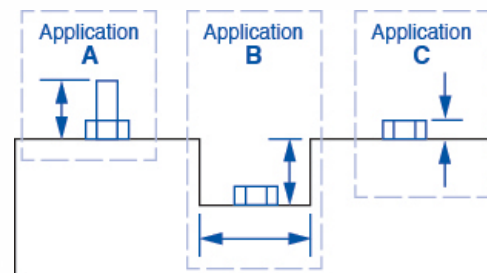
KEY FEATURES

- Accuracy is $\pm 4\%$.
- Only marks in CW direction.
- Manually operated.
- Non-coagulating ink.
- Includes two ink cartridges.
- Available ink colors are: Red, Blue, Yellow, Green and White.
- Felt tip left uncovered after long periods of time may require minimal priming.
- Approximate ink cartridge cycles: 350-400 (dependent upon the operator/application).
- Cannot mark any type of screws (but may be able to mark adjacent areas.)
- Minimum Torque: 4 Ft. Lb.
- Maximum Torque: Please inquire.

ALL MARKING WRENCHES ARE CUSTOM-MADE

Since all marking torque wrenches are custom-made to suit most applications, we must receive from you the following information:

1. Hex size of fastener (across the flats).
2. Target torque to be applied.
3. Engaging fastener from Top or Side:
TOP (with a socket) — We must know Application Type and Dimensions. See diagram below.
SIDE (with an open end)
4. Picture of your application.

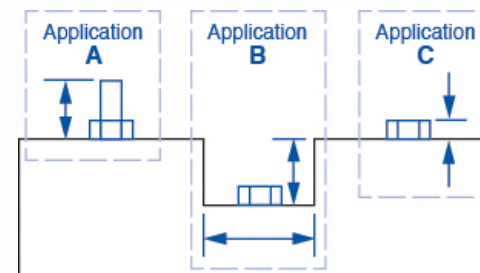


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ALL MARKING WRENCHES ARE CUSTOM-MADE

Since all marking torque wrenches are custom-made to suit most applications, we must receive from you the following information:

1. Hex size of fastener (across the flats).
2. Target torque to be applied.
3. Engaging fastener from Top or Side:
TOP (with a socket) — We must know Application Type and Dimensions. See diagram below.
SIDE (with an open end)
4. Picture of your application.



PUNCH MARKING

KEY FEATURES

- Accuracy is $\pm 4\%$.
- Only marks in CW direction.
- Requires 90 psi standard, non-lubricated shop air.
- Replaceable striking pins will eventually become a bit dull and will need to be re-sharpened on a belt sander.
- Approximate striking pin cycles are application dependent. In our lab tests, we obtained a minimum of 300 punches before sharpening and 10 resharpenings before replacing.
- Cannot mark any type of screws (but may be able to mark adjacent areas.)
- Minimum Torque: 4 Ft. Lb.
- Maximum Torque: Please inquire.



Fixed Head Preset Torque Wrenches

VB Standard Interchangeable Drive Preset Torque Wrenches with a ratcheting or non-ratcheting (plain) Interchangeable Square Drive End permanently attached. Ratcheting square drive ends are industrial grade double pawl. Non-ratcheting (plain) square drive ends meet industrial requirements and government specifications.

See page 18 for Crowfoot Adapters that are commonly used with these torque wrenches when a socket will not fit the application.

KEY FEATURES

- Torques in both left- and right-hand directions, others only operate in one direction.
- Loud audible and positive-sensory “click” when calibrated torque is achieved.
- Accuracy is ± 4% in direction of calibration.
- High alloy steel.
- Most models include comfortable rubber grip.
- Scientifically heat treated.
- Torque values can be calibrated in English or Metric settings.
- Tamper-proof preset torque.
- Calibration can be quickly adjusted in calibration lab.
- Meets or exceeds ASME B107.14M-2004.

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RATCHETING Fixed Head Torque Wrenches

Part #	Torque Range			Length In.	Square Drive Size In.	Weight Lb.
	In. Lb.	Ft. Lb.	Nm.			
VB2T-1R*	10 - 24	.8 - 2	1.13 - 2.71	6	0.25	0.5
VB5T-2R	10 - 50	.8 - 4.2	1.1 - 5.6	8.5	0.375	0.5
VB10T-2R		3 - 9	4.07 - 12.20	8.5	0.375	0.83
VB10AT-2R		7 - 25	9.49 - 33.90	9.25	0.375	0.83
VB50T-2R		10 - 50	13.56 - 67.79	13.25	0.375	1.5
VB50T-3R		10 - 50	13.56 - 67.79	13.5	0.5	2
VB100T-3R		45 - 150	61.01 - 203.37	22.25	0.5	2.75
VB200T-3R		45 - 200	61.01 - 271.17	26.375	0.5	3.4
VB300T-4R		100 - 300	135.58 - 406.75	31.25	0.75	4.75
VB600T-4R**		200 - 600	271.17 - 813.50	60.25	0.75	12
VB1000T-5R**		300 - 1000	406.75 - 1355.83	68	1	27
* No rubber grip.						
** No rubber grip and includes extension handle.						

NON-RATCHETING Fixed Head Torque Wrenches

Part #	Torque Range			Length In.	Square Drive Size In.	Weight Lb.
	In. Lb.	Ft. Lb.	Nm.			
VB2T-1P*	10 - 24	.8 - 2	1.13 - 2.71	4.5	0.25	0.5
VB5T-2P	10 - 50	.8 - 4.2	1.1 - 5.6	.675	0.375	0.5
VB10T-2P		3 - 9	4.07 - 12.20	7	0.375	0.75
VB10AT-2P		7 - 25	9.49 - 33.90	7.5	0.375	0.75
VB50T-2P		10 - 50	13.56 - 67.79	11.5	0.375	1.25
VB100T-3P		45 - 150	61.01 - 203.37	20.375	0.5	2.25
VB200T-3P		45 - 200	61.01 - 271.17	24.375	0.5	2.95
VB300T-4P		100 - 300	135.58 - 406.75	28.75	0.75	4
VB600T-4P**		200 - 600	271.17 - 813.50	56	0.75	10
VB1000T-5P**		300 - 1000	406.75 - 1355.83	64	1	24
* No rubber grip.						
** No rubber grip and includes extension handle.						



Electronic Dial Torque Wrenches

The most accurate, durable and easy to use electronic torque wrenches on the market. A significant advantage that these torque wrenches have over others, is that it will sample the inputted torque more often per second, allowing for a more accurate peak reading; the operator may pull at a normal rate without losing the actual peak torque.

Determining when target torque value has been reached is as easy as looking at the display, watching for the LED lights or listening for the buzzer.

THREE MODES OF OPERATION:

TRACK Display will track up and down as torque is applied.

PEAK HOLD Display will hold the highest torque applied.

AUTO CLEAR Display will automatically clear when wrench starts new torque application.

Computer downloading capability via RS232 available on models whose part numbers end with “-P”, (includes cable, transformer, and a rechargeable battery.)

See page 18 for Crowfoot Adapters that are commonly used with these torque wrenches when a socket will not fit the application.

KEY FEATURES

- Accuracy is ± 1% CW and CCW of indicated value from 10-100%.
- Equally accurate in both left- and right-hand directions.
- NIST certificate of calibration is included.
- 359° rotating bezel design is made of high impact nylon.
- Large, easy to read high contrast, non-glare scale.
- Torque readings can be displayed in In. Lb., Ft. Lb., or Nm.
- Ergonomic handle.
- Electric lights and buzzer on all models.
- High Alloy TORSION drive design for non-length dependent application of torque (accurate no matter where you apply force on the handle).
- Molded plastic case.
- Computer downloading capability on “-P” models.
- Automatically powers off after 30 minutes of non-use.



Part #	Torque Range			Square Drive Size In.	Length In.	Weight Lb.	Ext. Handle
	In. Lb.	Ft. Lb.	Nm.				
VBED-75I	7 - 75	0.625 - 6.25	0.85 - 8.5	0.25	10.5	1.6	
VBED-75I-P	7 - 75	0.625 - 6.25	0.85 - 8.5	0.25	10.5	1.6	
VBED-100I	10 - 100	0.8 - 8.3	1 - 11	0.25	10.5	1.6	
VBED-100I-P	10 - 100	0.8 - 8.3	1 - 11	0.25	10.5	1.6	
VBED-250I	25 - 250	2.1 - 21	3 - 30	0.375	10.5	1.6	
VBED-250I-P	25 - 250	2.1 - 21	3 - 30	0.375	10.5	1.6	
VBED-50F	60 - 600	5 - 50	7 - 70	0.375	10.5	1.6	
VBED-50F-P	60 - 600	5 - 50	7 - 70	0.375	10.5	1.6	
VBED-250F	300 - 3000	25 - 250	35 - 350	0.5	22	3	
VBED-250F-P	300 - 3000	25 - 250	35 - 350	0.5	22	3	
VBED-600F	720 - 7200	60 - 600	81 - 814	0.75	47	10	1
VBED-600F-P	720 - 7200	60 - 600	81 - 814	0.75	47	10	1



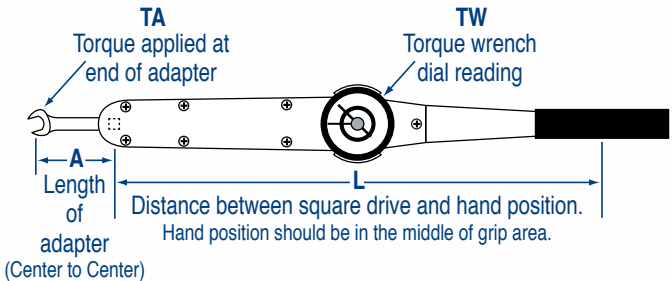
USING ADAPTERS OR EXTENSIONS

Adapters or extensions should only be used in line with the wrench, as opposed to being at an angle, and the actual torque applied (TA) will be greater than the torque reading shown.

Determine the actual torque applied by using the formula to the right:

TORQUE EXTENSION CALCULATOR*

$TW = (TA \times L) / (A + L)$



* Our online Extensions Calculator does all the calculating for you with real-time updates.



Dial Indicating Torque Wrenches

Enables the operator to view the torque as it is being applied and record it via the memory needle. These state of the art tools have an exclusive torsion beam designed to provide long life, accuracy and reliability demanded during use.

See page 18 for Crowfoot Adapters that are commonly used with these torque wrenches when a socket will not fit the application.



KEY FEATURES

- Accuracy is $\pm 4\%$ CW and CCW of indicated value from 20-100%.
- Secure bezel design is made of high impact nylon.
- Large, easy to read high contrast, non-glare scale.
- Dual scale.
- Ergonomic handle.
- Memory needle is standard on every wrench.
- Equally accurate in both left- and right-hand directions.
- Certification traceable to National Institute of Standards and Technology (NIST) available upon request.
- Meets ANSI B107.14M-2004.
- Molded plastic case (most models.)

Part #	Torque Range			Increments			Square Drive Size In.	Length In.	Weight Lb.	Ext. Handle
	In Lb.	Ft. Lb.	Nm.	In. Lb.	Ft. Lb.	Nm.				
VB151LDIN	3 - 15		.35 - 1.8	.25		.05	.25	10	1	
VB301LDIN	6 - 30		.70 - 3.5	.5		.1	.25	10	1	
VB751LDIN	15 - 75		1.8 - 9	1		.2	.25	10	1	
VB1502LDIN	30 - 150		2.6 - 13	2		.5	.375	10	1	
VB2502LDIN	50 - 250		6 - 30	5		.5	.375	10	1	
VB6002LDIN	120 - 600		14 - 70	10		2	.375	10	1.75	
VB502LDFN		10 - 50	14 - 70		1	2	.375	10	1.75	
VB1003LDFN		20 - 100	28 - 140		2	2.5	.5	21.5	2.75	
VB2503LDFN		50 - 250	70 - 350		5	10	.5	21.5	2.75	
VB3504LDFN		70 - 350	96 - 480		10	10	.75	27.875	5.75	
VB6004LDFN		120 - 600	160 - 800		10	25	.75	46.5	9.25	1
VB10005LDFN		200 - 1000	280 - 1400		20	25	1	74	30	1
VB20005LDFN*		400 - 2000	560 - 2800		40	50	1	125	46	5

* T-Handle style. Call us for more information.



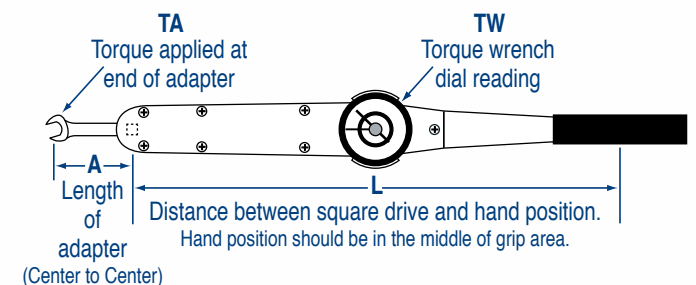
USING ADAPTERS OR EXTENSIONS

Adapters or extensions should only be used in line with the wrench, as opposed to being at an angle, and the actual torque applied (TA) will be greater than the torque reading shown.

Determine the actual torque applied by using the formula to the right:

TORQUE EXTENSION CALCULATOR*

$$TW = (TA \times L) / (A + L)$$



* Our online Extensions Calculator does all the calculating for you with real-time updates.



Micro-Adjustable Torque Wrenches

Offering versatility for applications that require more than one torque value. They feature a distinct breaking action when the set torque is reached. Simply pull down the spring-loaded lock ring and turn the handle to set your target torque value. The positive locking device cannot be jarred into an unlocked position.

Our own metrology lab tests have shown that repeatability and accuracy are maintained after thousands of cycles. Additionally, our customers over the years have proven our test reports through actual production line and maintenance use.

See page 18 for Crowfoot Adapters that are commonly used with these torque wrenches when a socket will not fit the application.



KEY FEATURES

- Standard industrial grade ratchet head.
- Accuracy is ± 4% CW and ± 6% CCW of indicated value from 20% to full scale.
- Easy to operate.
- Industrial strength.
- Easy to read, laser marked scale.
- Positive lock with spring loaded pull-down lock ring.
- Rugged, knurled metal handle for industrial use.
- English scale primary, Newton Meter scale secondary.
- Most models feature a quick release button which provides good socket retention and easy socket removal.
- Calibration certificate available upon request.
- Meets or exceeds ASME B107.14M-2004.
- Molded plastic case (most models.)

Part #	Torque Range			Increments			Square Drive Size In.	Length In.	Weight Lb.	Ext. Handle
	In. Lb.	Ft. Lb.	Nm.	In. Lb.	Ft. Lb.	Nm.				
501MRMH	10 - 50		1.4 - 5.4	1	.	06	.25	10	.85	
1501MRMH	30 - 150		2.8 - 16.4	1		.1	.25	10.25	.85	
2502MRMH	50 - 250		3.9 - 27.7	1		.1	.375	11	.95	
7502MRMH	150 - 750		14.1 - 81.9	5		.6	.375	15.5	2.5	
10002MRMH	200 - 1000		19.8 - 110.2	5		.6	.375	15.75	2.5	
25003MRMH	500 - 2500		39.6 - 276.8	10		1.2	.5	18	3.2	
752MFRMH		15 - 75	10.2 - 98.3		.5	.7	.375	15.5	2.5	
1002MFRMH		20 - 100	16.9 - 132.2		.5	.7	.375	15.5	2.55	
1503MFRMH		30 - 150	34 - 197		1	1.5	.5	19	3.2	
2503MFRMH		50 - 250	47 - 332		1	1.5	.5	24.5	3.75	
6004MFRMH		120 - 600	169 - 779		5	6.8	.75	41	12	
10005MFRMH		200 - 1000	305 - 1322		5	6.8	1	70	25.1	1
20005MFMHSS		400 - 2000			10		1	108.5	48.5	2

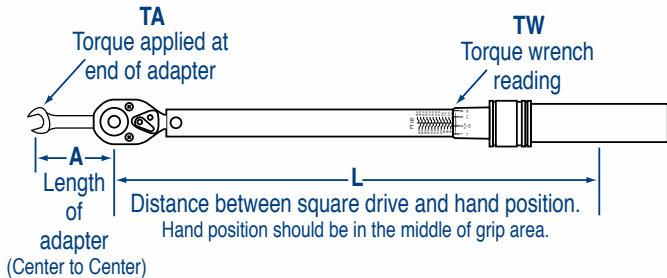
USING ADAPTERS OR EXTENSIONS

Adapters or extensions should only be used in line with the wrench, as opposed to being at an angle, and the actual torque applied (TA) will be greater than the torque reading shown.

Determine the actual torque applied by using the formula to the right:

TORQUE EXTENSION CALCULATOR*

$$TW = (TA \times L) / (A + L)$$



* Our online Extensions Calculator does all the calculating for you with real-time updates.



Crowfoot Adapters

Manufactured to meet the unique needs of industrial applications with virtually any specification. Please inquire about our design and prototype services, even for small runs. Crowfoots are generally used with Electronic Dial Torque Wrenches, Dial Indicating Torque Wrenches, Micro-Adjustable Torque Wrenches and Fixed Head Preset Torque Wrenches.

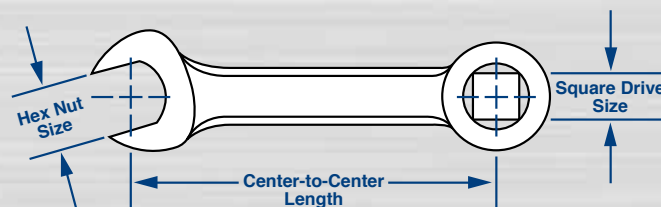
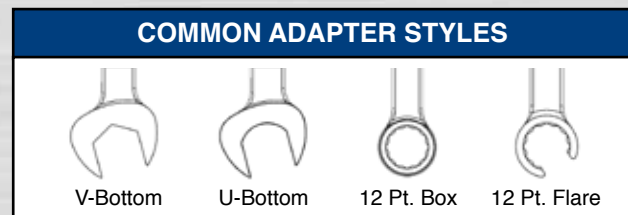
CROWFOOT ADAPTERS Our engineers and machinists can make specialty adapters to suit your specific requirement.



ALL CROWFOOT ADAPTERS ARE CUSTOM-MADE

In order to better assist you, our engineers will need the following information:

1. Target torque to be applied.
2. Adapter style.
3. Hex nut size.
4. Center-to-Center.
5. Square drive size.
6. Special head thickness.
7. Photo of your application.
8. Any other special requirements (i.e. offset, angle or finish.)

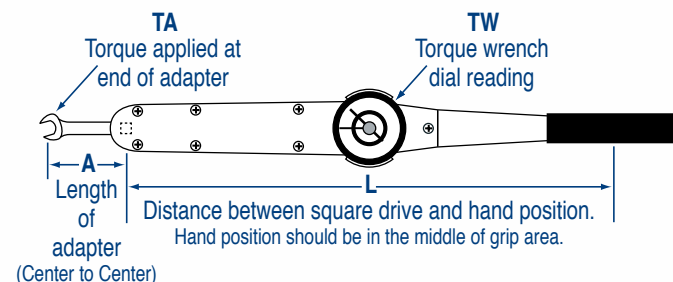


USING ADAPTERS OR EXTENSIONS

Adapters or extensions should only be used in line with the wrench, as opposed to being at an angle, and the actual torque applied (TA) will be greater than the torque reading shown.

Determine the actual torque applied by using the formula to the right:

TORQUE EXTENSION CALCULATOR*

$$TW = (TA \times L) / (A + L)$$


* Our online Extensions Calculator does all the calculating for you with real-time updates.



T-Handle Preset Torque Wrenches

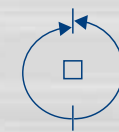
An extremely universal and unique torque wrench because of its over-torque prevention ability and added "T" handle leverage. These features result in benefits of components being assembled faster, yet torqued accurately.

The standard square drives will accept standard sockets or can be adapted to accept most replaceable insert bits.



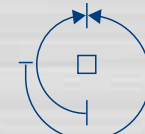
The T-Handle Torque Wrench can be preset at our factory or by user's own authorized personnel. The torque adjustment mechanisms can be sealed to help prevent unauthorized tampering by production personnel.

FOUR STYLES TO CHOOSE FROM:



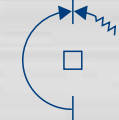
Lock-Up

CW: Slips when specified torque is achieved.
CCW: Locks-up after 1 full turn and will back the fastener off (no slipping.)
***Except VB85T-2L.**



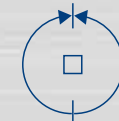
Back-Off

CW: Slips when specified torque is achieved.
CCW: Slips at approximately 1.5 times the clockwise torque.



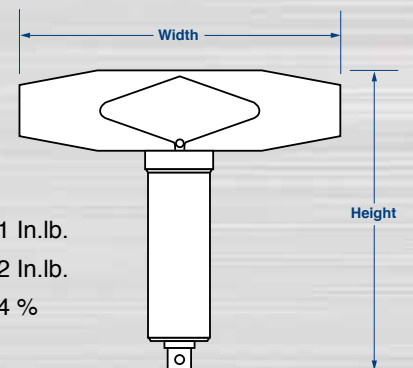
Ratchet

CW: Slips when specified torque is achieved.
CCW: Ratchets with almost no torque.



Direct Drive

CW: Slips when specified torque is achieved.
CCW: Slips when specified torque is achieved.



ACCURACY

10-25 In.lb. = ± 1 In.lb.
26-50 In.lb. = ± 2 In.lb.
51-Up In.lb. = ± 4 %

Part #	Style	Torque Range In. Lb.	Square Drive Size In.	Height In.	Width In.	Weight Lb.
VB40T-1	Ratchet	10 - 50	.25	3.375	3.5	0.75
VB40T-1B	Back-Off	10 - 50	.25	3.375	3.5	.75
VB75T-2L	Lock-Up	16 - 80	.375	3.5	4.125	.875
VB75T-2D	Direct Drive	16 - 80	.375	3.5	4.125	.875
VB75T-2	Ratchet	16 - 80	.375	3.5	4.125	.875
VB75T-1R	Ratchet	16 - 80	.25	3.5	4.125	.875
VB75T-1L	Lock-Up	16 - 80	.25	3.5	4.125	.875
VB75T-1D	Direct Drive	16 - 80	.25	3.5	4.125	.875
VB85T-2D	Direct Drive	50 - 250	.375	6.5	8.5	1.375
VB85T-2L*	Lock-Up*	50 - 250	.375	6.5	8.5	1.375
VB85T-2R	Ratchet	50 - 250	.375	6.5	8.5	1.375



Preset Torque Screwdrivers

Particularly suited for high-volume use in assembly operations. A simple, cam-over design allows the tool to slip; therefore, preventing over-torque and possible damage to components.

Preset Torque Screwdrivers may be ordered factory set or they may be easily set 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 new torque screwdriver.



Part #	Torque Range		Length In.	Weight Lb.
	In. Oz.	In. Lb.		
21SP	6 - 32		4.5	.375
61SP	10 - 100		5.6	.438
151SP		1.5 - 15	5.6	.438
401SP		4 - 40	6.1	.6

KEY FEATURES

- Accuracy $\pm 6\%$ CW of indicated value from 20-100% of full scale.
- Universal 1/4" hex bit holder with strong rare earth magnet.
- Cam-over torque limiting clutch.
- Rugged, lightweight aluminum body.
- Automatic lock in CCW direction.
- Certified to the following industry specification: ASME B107.14M-2004.

Torky Preset Torque Wrenches

Right-angle torque wrenches designed for production applications where clamp load is vital. The 1/4" female hex (bit holder) allows for numerous types of bits to be used. Standard factory color is blue, but other colors may be available in larger quantities.

Torque value can be preset and sealed at the factory (or at your calibration lab.)



KEY FEATURES

- Accuracy $\pm 4\%$ in direction of calibration.
- Torques in both left and right hand directions.
- Positive sensory "click" signals when desired torque is reached.
- Lever arm handle allows easy application of higher torque values.
- Industrial grade design has been proven through thousands of cycles of use in major auto manufacturer's facilities.
- Aluminum body.
- Alloy steel internal components

Part #	Torque Range		Length In.	Weight Lb.
	In. Lb.	Nm		
VB1501TPA-B	30 - 150	3.9 - 16.95	5.0	.5



Adjustable Torque Screwdrivers

Particularly suited for high-volume use in assembly operations. A simple, cam-over design allows the tool to slip; therefore, preventing over-torque and possible damage to components. These screwdrivers offer versatility for applications that require more than one torque value and are particularly suited for the electronics industry and for instrument assembly work.

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 counter-clockwise direction makes fastener removal a snap.

KEY FEATURES

- Accuracy $\pm 6\%$ CW of indicated value from 20-100% of full scale.
- Universal 1/4" hex bit holder with strong rare earth magnet.
- Cam-over torque limiting clutch.
- Easy to read window scale.
- Rugged, lightweight aluminum body.
- Automatic lock in CCW direction.
- Certified to the following industry specification: ASME B107.14M-2004.

Our online "Specialty Tools Gallery" features hundreds of our custom-made tools for special torque applications and assembly.

Part #	Torque Range	Increments	W x L Inches	Weight Oz.
61SM	20 - 100 In. Oz.	1 In. Oz.	1.0 x 5.5	6.8
151SM	3 - 15 In. Lb.	.2 In. Lb.	1.1 x 6.25	8.0
401SM	5 - 40 In. Lb.	.5 In. Lb.	1.2 x 6.75	10.8
61NSM	10 - 80 cNm	1 cNm	1.1 x 5.5	6.8
151NSM	40 - 200 cNm	2 cNm	1.1 x 6.25	8.0
401NSM	50 - 450 cNm	5 cNm	1.2 x 6.75	10.8



Preset Slip-Torq Torque Limiters

A simple concept in precision torque control. It attaches to any driving tool, ratchet, t-handle or breaker bar to provide the ultimate in torque control. When the torque value is reached, the unit slips with an audible “click” and automatically resets itself. Force applied cannot exceed the setting.

The standard Slip-Torq tool is designed to be used as a torque limiter in either the CW or CCW direction. When the torque release setting is established in either direction, CW or CCW, the user may expect repeatability from release-to-release within ± 5% of setting. Generally, however, as you approach the mid-range or higher of any particular model, the repeatability percentage from release-to-release will improve.

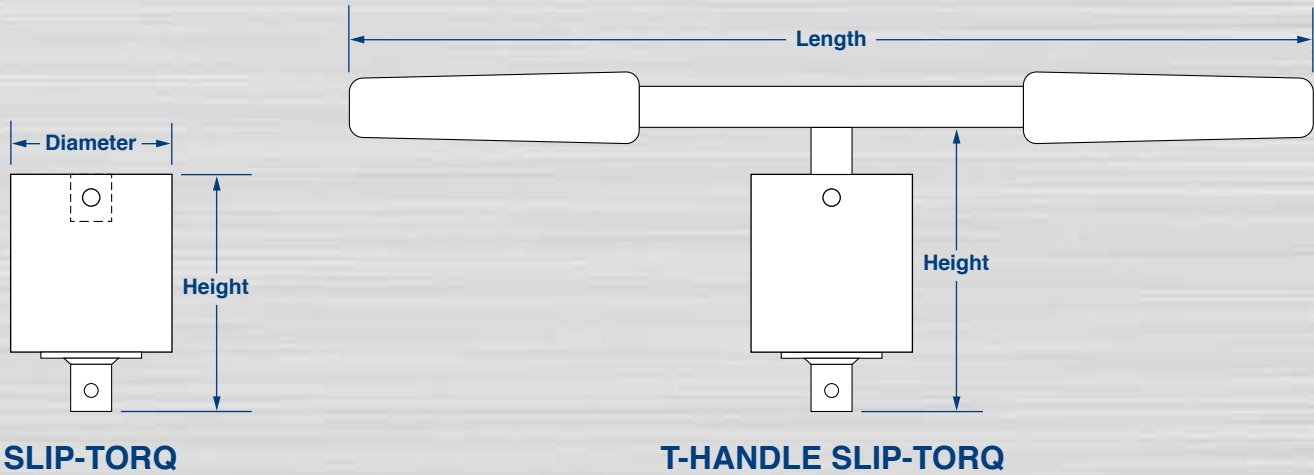
The ONE-WAY SLIP-TORQ will “click” and slip in a CW direction, and lock-up in a CCW direction (after 1 or 2 turns) allowing for the backoff of the fastener.



KEY FEATURES

- Accuracy = ± 5% (in the direction in which it is calibrated.)
NOTE: You must specify if you want the certification to show both CW and CCW directions.
- Tamper-proof torque value.
- Force applied cannot exceed torque setting.
- Most models torque in both CW and CCW direction.
- Impossible to over-torque.
- Torque is controlled within the capsule; lever length has no effect.
- Loud audible “click” when torque is achieved.
- Attaches to any driving tool, ratchet, t-handle or breaker bar.
- Lightweight, compact and rugged.
- All models are available with a “T” Handle.
- **Not recommended for use with power tool.**

Our online “Specialty Tools Gallery” features hundreds of our custom-made tools for special torque applications and assembly.



CAUTION: Not recommended for use with power tools.

SLIP-TORQ Torque Limiters

Part #	Torque Range In Lb.	Square Drive Size In.	Direction	Diameter	Height In.	Weight Lb.
38A-OW	24 - 180	0.375	CW	1.5	2.25	0.9
38A-1	24 - 180	0.375	CW & CCW	1.5	2.25	0.8
38B-OW	60 - 300	0.375	CW	1.5	2.25	0.9
38B-2	60 - 300	0.375	CW & CCW	1.5	2.25	0.8
12A-1	120 - 480	0.5	CW & CCW	1.625	2.625	1.1
12B-2	240 - 600	0.5	CW & CCW	1.625	2.625	1.1
12D-2	480 - 900	0.5	CW & CCW	2.7	2.2	1.4
12E-OW	720 - 1440	0.5	CW	2.9	3	3.3
12E-2	720 - 1440	0.5	CW & CCW	2.9	3	3

NOTE: Any of the Slip-Torq tools can be quoted as a T-Handle style.

T-HANDLE SLIP-TORQ Torque Limiters

Part #	Torque Range In Lb.	Square Drive Size In.	Direction	Length	Height In.	Weight Lb.
38AT	24 - 180	0.375	CW & CCW	11	3.75	1.8
38BT	60 - 300	0.375	CW & CCW	11	3.75	1.8
12AT	120 - 480	0.5	CW & CCW	11	4.25	2.4
12BT	240 - 600	0.5	CW & CCW	11	4.25	2.4



Specialty Application Tooling

OUR IN-HOUSE ENGINEERING AND MACHINING DEPARTMENTS ARE AT YOUR SERVICE!

We have designed and manufactured thousands of specialty tools to make your job easier. Our expert knowledge on torque dynamics, tool manufacturing, optimization, weight reduction and ergonomics, enables us to zero in on your specific needs and develop the exact tool you need.

Our online "Specialty Tools Gallery" features hundreds of our custom-made tools for special torque applications and assembly.

SOCKETS



Retaining Hex Socket with Square Drive and Nylon Sleeve



Slotted Nut Driver with Square Drive



Open Face Socket



Tail Light Socket



Heat Sensor Socket

DRIVE ENDS



Torx Offset Drive End



Pipe Wrench Drive End



Flare Nut Half Moon Drive End



Spanner Drive End



Allen Head Drive End

TORQUE WRENCHES



Torque Wrench with Spanner Drive End



Glass Adjustment Torque Wrench



Large Octal Nut Torque Wrench



Torque Wrench with Hex Flare Offset Drive End



Ratcheting Brake Bleeder

HOSE CLAMP TOOLS



Locking Hose Clamp Tool with Interchangeable Tips



Hand Hose Clamp Tool



Pneumatic Hose Clamp Tool with Retainer



Inverted Hose Clamp Tool

FIXTURES



Sunroof Height Gauge



Drill Location Fixture



Rear Axle Sway Bar Fixture



Window Button Fixture



Rear Axle Build-Up Table

MATERIAL HANDLING



Deck Locating Pin



Rear Axle Handling Hook



Water Pump Holding Torque Wrench



Automotive Instrument Panel Build-Up Fixture



Front Axle Handling Hook

ASSEMBLY & INSTALLATION



Freeze Plug Removal Tool



Door Glass Adjust Tool



Pneumatic Drum Handle Install Tool



Scrivit Install Tool



Tie Rod Adjusting Tool



Hose Clamp Tools

Designed with ergonomic principles in mind and can be made to comply with your safety regulation needs.

Van F. Belknap Co., Inc. has been making hose clamp tools with superior quality, reliability, and longevity for thirty years.

KEY FEATURES of Pneumatic Hose Clamp Tools

- Uses standard, non-lubricated shop air.
- Recommended PSI = 85 minimum.
- Low maintenance.
- Lightweight.
- One-handed use.
- Operates only when lever is depressed.
- Can be reversed.
- No additional tool oil/lube required.
- Will not scratch or deform clamp.

Our online "Specialty Tools Gallery" features hundreds of our custom-made tools for special torque applications and assembly.

HOSE CLAMP TOOLS CAN BE CUSTOMIZED

Each of our main styles of hose clamp tools can be customized to fit your application (in most cases.) In order to better assist you, please let us know the following:

1. Clamp style.
2. Orientation of clamp tips.
3. Provide size of clamp.
4. Provide a picture of your application(s).
5. Samples of the clamp may be required.

If your clamp style is not shown, please provide picture or drawing.



CLAMP STYLES



Torque Multiplier

Incomparable to any other tool. The multiplication is achieved through a planetary gear train at a ratio depending on the model. The precision gear train is totally enclosed.

This torque multiplier is a silent partner to all operators. It provides ample power by multiplying the amount of torque applied with your torque wrench. Basically, you can tighten high torque fasteners by only applying a few foot pounds. Relatively small, torque multipliers may be used with practically all accessory tooling.

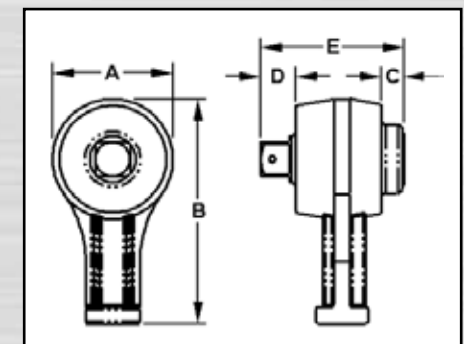
Use of a torque multiplier will vastly improve the overall efficiency of the operator. It is also an easier and safer way to achieve a high torque requirement.



Shown with Micro-Adjustable Torque Wrench

KEY FEATURES

- Alloy forged head.
- High grade alloy steel internal parts.
- General all-purpose tool.
- Provides ample torquing power.
- Requires limited space for use.
- May be compounded for multiplied ratios.



CAUTION: Do not use with impact-type driving tools.

Part #	Capacity Ft. Lb.	Input Drive	Output Drive	Gear Ratio	Weight Lb.	A	B	C	D	E	Reaction Bar Length In.	OAL In.
LW750	1000	.5	.75	4:1	7	3.5	6	.5	.75	3.35	18	22
TD1000	2000	.75	1	4:1	14	3.75	6.6	.75	1	4.37	22	25
TD1500	4000	1	1.5	4.33:1	30	5.2	9.7	1	1.5	6.2	25	30
TD2000	8000	1	1.5	4.33:1	47	6.5	12.1	.75	1.87	3.75	24	32
TD2500	12000	1	2.5	6:1	78	8.5	11.5	1	2.25	7.25	30	30



Electronic Torque Testers

Rugged with a small footprint. Designed to be placed on the factory floor or calibration lab to test and calibrate all types of torque wrenches. All steel construction with a durable no-break rotary neck that allows the display and keys to be rotated for easy viewing at all angles, from both sides. Each tester has a male square drive and comes standard with a female-to-female square drive adapter for the drive size.



NOTE: The 1000 and 2000 Ft.Lb. styles vary from the above picture. Please inquire with our sales department.

KEY FEATURES

- Accuracy up to 1% of indicated value, CW and CCW, from 10% to 100%.
- Extremely user-friendly.
- Integral mounting bracket.
- Three units of measure: In. Lb., Ft. Lb., Nm.
- Three modes of operation: First Peak (for testing click wrenches), Track, and Peak.
- Quick target torque setting for PASS/FAIL prompting.
- Target Torque Pass/Fail “zone” can be quickly set with one button from $\pm 1\%$ to $\pm 10\%$ of target torque value.
- Three alerts for approaching, reaching and exceeding target torque: Display, Lights, Buzzer.
- Powered by a standard 9 volt battery, with life up to 50 hours.
- Turns itself off after 30 minutes without use.
- Software LCD contrast control
- 2500 samples per second.
- Calibrated and certified, with an NIST traceable calibration certification.
- Meets ANSI Torque Tester Specs.
- “-P” models have computer downloading capability via RS232 and includes 9 volt internal NiMH battery charger with 110 volt power adapter.

Part #	Torque Range			Square Drive Size In.	Height In.	Depth In.	Width In.	Weight Lb.
	In. Lb.	Ft. Lb.	Nm.					
TED-50I	5 - 50		.56 - 5.65	.25	6	5.5	6.5	6
TED-50I-P	5 - 50		.56 - 5.65	.25	6	5.5	6.5	6
TED-100I	10 - 100		1 - 11	.25	6	5.5	6.5	6
TED-100I-P	10 - 100		1 - 11	.25	6	5.5	6.5	6
TED-250I	25 - 250		2.7 - 28.5	.375	6	5.5	6.5	6
TED-250I-P	25 - 250		2.7 - 28.5	.375	6	5.5	6.5	6
TED-50F		5 - 50	6.8 - 67.8	.375	6	5.5	6.5	6
TED-50F-P		5 - 50	6.8 - 67.8	.375	6	5.5	6.5	6
TED-250F		25 - 250	34 - 340	.5	6	5.5	6.5	6
TED-250F-P		25 - 250	34 - 340	.5	6	5.5	6.5	6
TED-600F		60 - 600	81 - 814	.75	6	5.5	6.5	6
TED-600F-P		60 - 600	81 - 814	.75	6	5.5	6.5	6





Repair & Calibration Lab

Fully equipped with calibration arms, dead weights, mechanical loaders and torque testers to accommodate up to 2,000 foot pounds of torque.

All of our testing equipment is certified to the National Institute of Standards and Technology (NIST) with certifications on file.

We will overhaul and inspect, replace broken parts, calibrate and certify most brands and types of torque products, such as:

- Preset Torque Wrenches
- Dial Torque Wrenches
- Adjustable Torque Wrenches
- Electronic Torque Wrenches
- Torque Testers
- Screwdrivers
- Drive Ends

Not all brands are supported. Please contact us for further information.

BELKNAP THE LEADER IN SPECIALTY TORQUE APPLICATIONS

Certificate of Calibration

Company Name: _____ POB: _____
 Street Address: _____
 City, State, Zip: _____

Item: _____ Tolerance: _____ CW _____ CCW _____
 Capacity: _____ Remarks: _____
 Serial No.: _____
 Condition: _____

This wrench should be recalibrated whenever adjustments are made. We recommend a six month recalibration from certificate date.

Calibration Method: _____

SET	BEFORE		AFTER	
	CW	CCW	CW	CCW

Model No. _____
 Serial No. _____

Applicable requirements of the appropriate specification have been met:

____ ASME-B107-14M-2004
 ____ MIL-H-4034C
 ____ MIL-T-29639C

THIS TORQUE MEASURING TOOL IS CERTIFIED TO HAVE BEEN CALIBRATED THIS DATE WITH THE RESULTS SHOWN. ACCURACY OF THE STANDARD USED IS TRACEABLE TO THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY # 90-01-10-19163.

Date of Certificate: _____ Technician: _____

WWW.belknaptools.com • SALES@belknaptools.com • CALL (248) 348-7800 • FAX (248) 348-9821 • 29164 Waf St • Wilson, MI 48393 USA



Warranty

VAN F. BELKNAP COMPANY, INC. (the "Company") warrants to the original purchaser that the Company's products are free from defects in workmanship and materials.

The Company will repair or replace products which fail to give satisfactory service due to defective workmanship or materials (excluding calibration) for 12 months from the date of original purchase. Products must be returned with proof of purchase, freight prepaid, to our facility for warranty evaluation.

The Company warrants "initial, out of box calibration" of each new, unused torque tool.

The Company does not provide any warranty for products subjected to abnormal use. Abnormal use includes, but is not limited to, misuse, accident, modification, unreasonable use, neglect, lack of maintenance, use under extreme weather conditions, or use after the tool is significantly worn.

Agents/Representatives of the Company have no authority to make representations of any sort beyond those contained in this warranty.

In no event shall the Company be liable to the customer or anyone claiming through or against customer for any special damages (including, without limitation, personal injury, lost time of production, lost profits, lost sales, interruption of business, or loss of business information).

"NO OTHER WARRANTIES, EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, SHALL APPLY, AND ALL SUCH WARRANTIES ARE HEREBY EXPRESSLY EXCLUDED."

Safety Guidelines for Torque Wrenches

The following precautions should always be taken when using torque wrenches:

- Read instruction manuals completely before using.
- 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 when applying force.
- Never use a torque wrench to break fasteners loose.
- Never use at its maximum capacity or in excess thereof.
- Do not attempt to lubricate the internal torque mechanism.
- Do not use torque wrenches that show signs of wear or damage.

