

# Operation and Maintenance Manual

# Battery Torque Wrench Models BTW500, BTW1000, BTW2000, BTW3000, and BTW6000





To reduce the risk of injury, user must read and understand this document before use.

# **ABOUT US**

Enerpac is a global market leader in high pressure hydraulic tools, controlled force products, portable machining, onsite services and solutions for precise positioning of heavy loads. As a leading innovator with over a 100 year legacy, Enerpac has helped move and maintain some of the largest structures on earth. When safety and precision matters, elite professionals in industries such as aerospace, infrastructure, manufacturing, mining, oil & gas and power generation rely on Enerpac for quality tools, services and solutions. For additional information, visit www.enerpac.com.

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in www.linkedin.com/company/enerpac
www.twitter.com/enerpac

# WARRANTY

Refer to the Enerpac Global Warranty document for terms and conditions of the product warranty. Such warranty information can be found at www.enerpac.com.

### **NAMEPLATE**

Refer to the battery torque wrench nameplate for the product model number, serial number and other applicable information.

Use the serial number to lookup additional information on individual tools including the date of manufacture on enerpac. com or the Enerpac Connect mobile app.



# AVAILABLE LANGUAGES

An electronic copy of this document is available online in multiple languages:

- CS Čeština Další jazyky naleznete na adrese www.enerpac.com.
- DE Deutsch Weitere Sprachen finden Sie unter www.enerpac.com.
- ES Español Para otros idiomas visite <u>www.enerpac.com</u>.
- FI Suomi Muita kieliä on osoitteessa www.enerpac.com.
- FR Français Pour toutes les autres langues, rendez-vous sur www.enerpac.com.
- IT Italiano Per altre lingue visitate il sito www.enerpac.com.
- NL Nederlands Ga voor de overige talen naar <u>www.enerpac.com</u>.
- NO Norsk For alle andre språk henviser vi til www.enerpac.com.
- PL Polski Inne wersje językowe można znaleźć na stronie www.enerpac.com.
- PT Português Para outros idiomas consulte <u>www.enerpac.com</u>.
- RO Română Per altre lingue visitate il sito www.enerpac.com.
- RU Информацию на других языках вы найдете на сайте <u>www.enerpac.com</u>.
- SV Svenska För andra språk, besök www.enerpac.com

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### 1.0 SAFETY

Read all instructions carefully. Follow all recommended safety precautions to avoid personal injury as well as damage to the product and / or damage to other property. Enerpac cannot be responsible for any damage or injury from unsafe use, lack of maintenance, or incorrect operation. Do not remove warning labels, tags, or decals. In the event that any questions or concerns arise, contact Enerpac or a local Enerpac distributor for clarification.

### Save these instructions for future use.

Appropriate training in the safe use of torque electrical tools is required prior to the operation of the battery operated tool or device. If training is needed, contact your local Enerpac distributor or authorized service center for information.

This manual follows a system of safety alert symbols, signals, words, and safety messages to warn the user of specific hazards. Failure to comply with these warnings could result in death or serious personal injury, as well as damage to the equipment or other property.



The Safety Alert Symbol appears throughout this manual. It is used to alert you to potential physical injury hazards. Pay close attention to Safety Alert Symbols and obey all safety

messages that follow this symbol to avoid the possibility of death or serious injury.

Safety Alert Symbols are used in conjunction with certain Signal Words that call attention to safety messages or property damage messages and designate a degree or level of hazard seriousness. The Signal Words used in this manual are WARNING, CAUTION and NOTICE.

**A WARNING** Indicates a hazardous situation that, if not avoided, could result in death or serious personal injury.

**A CAUTION** Indicates a hazardous situation that, if not avoided, could result in minor or moderate personal injury.

**NOTICE** Indicates information considered important, but not hazard related (e.g. messages related to property damage). Please note that the Safety Alert Symbol will not be used with the signal word.

# 1.1 Battery Operated Torque Wrench Safety Precautions

### **WARNING**

Failure to observe and comply with the following precautions could result in death or serious personal injury. Property damage could also occur.

 Do not use a battery operated torque wrench in an explosive atmosphere, such as in the presence of flammable liquids, gases, or dust. Sparks and electrical arcing could ignite combustible vapors or airborne dust.

- Do not expose the battery torque wrench (Torque Wrench) to rain, water spray or wet conditions.
   Water entering the torque wrench will increase the risk of electric shock and may damage the motor and other components. The torque wrench can be used outdoors, but should be brought inside in the event of rain or other moisture.
- Battery power will remain connected to some electrical components inside the torque wrench even when the torque wrench is OFF. For this reason, always remove the battery from the torque wrench before opening the torque wrench housing for any reason. All servicing must be performed only by qualified personnel with appropriate training and expertise, following standard shop safety precautions.
- Use insulated tools and wear electrician's gloves if it is necessary to troubleshoot the torque wrench or observe operation with the torque wrench housing removed (qualified personnel only).
- Do not use the torque wrench if the trigger switch is damaged or do not turn the motor on and off. Any power tool that cannot be controlled with the trigger switch is dangerous and must be repaired before being used.
- Use the Enerpac BTW series torque wrench only with the specified Enerpac Lithium-Ion battery. Use of any other battery may create a risk of injury and fire
- When the battery is not in use, keep it away from other metal objects like paper clips, coins, keys, nails, screws, or other small metal objects that can make a connection from one terminal to another. Shorting the battery terminals together may cause burns or a fire.
- The battery cells may develop a small leak under extreme usage or temperature conditions. Avoid contact with battery liquid. Liquid ejected from the battery may cause irritation or burns. Refer to Section 1.2 for battery first aid instructions.
- If the battery case is broken or damaged and/or if leakage occurs, do not reinstall the battery on the torque wrench. Replace with a new battery.
- Recharge the battery only with the specified Enerpac battery charger. A charger that is suitable for one type of battery may create a risk of fire when used with another battery.
- Separate manuals are provided with the battery and battery charger and are also available online at www.Enerpac.com. Read and understand all information contained in these manuals. Observe and comply with all communicated safety precautions when using the battery or charger.
- Remove the battery from the torque wrench before storing the torque wrench.
- The battery and battery charger have no serviceable parts. Do not attempt to disassemble or repair these items.

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- Always use Personal Protective Equipment appropriate to the tool used and the material being worked on. This may include dust mask or other breathing apparatus, safety glasses, ear plugs, gloves, apron, safety shoes, hard hat and other equipment. The protective clothing must not interfere with safe operation of the tool or restrict the ability to communicate with coworkers.
- Tightening and loosening nuts and bolts involves little visible movement. The loads, however, are extreme. Keep your hands away from the fastener being loosened or tightened.
- Keep loose clothing, hair and other items from being caught in any rotating part of the tool.
- Avoid breathing in any exhaust from tool use as example:

Some dust may also be created by working in close proximity to the following chemicals:

- 1. Lead from lead-based paints.
- 2. Crystalline silica from bricks and cement and other masonry products.
- 3. Arsenic and chromium from chemically treated lumber.

### 1.2 Battery First Aid Instructions

- If battery liquid comes in contact with skin, wash immediately with soap and water, then neutralize with lemon juice or vinegar.
- If battery liquid gets in your eyes, flush with clean water for a minimum of 10 minutes, then seek immediate medical attention.
- If battery liquid is swallowed, seek immediate medical attention.

### 1.3 Symbols

Various pictorial symbols are affixed to the torque wrench or molded directly into the torque wrench housing or components. Additional pictorial symbols are located on the battery and battery charger nameplates.

In some instances, these symbols may advise the user of potentially hazardous situations. Other symbols may be informational only. Understand the meaning of each symbol before using the torque wrench.

Selected symbols are shown in the following chart:

Symbol	Definition			
4	Risk of electric shock. High voltage.			
	Device shall not be exposed to high heat, fire/flame, or any heat source.			
	Read instruction manual. Save instructions for future use.			
	Do not expose device to rain, water or moisture.			
7	Do not dispose of device in trash.			

### 1.4 Labels

Make sure all labels and decals are legible and securely affixed to the torque wrench. If worn or missing, obtain replacements from Enerpac.

# 1.5 State of California Proposition 65 Warning (battery)

A WARNING
The battery used with the torque wrench can expose you to chemicals including cobalt lithium manganese nickel oxide and carbon black, which are known to the State of California to cause cancer and reproductive harm. For additional information go to www.P65Warnings.ca.gov.

### 2.0 COMPLIANCE

### 2.1 Compliance Statements

Battery Torque Wrench Models BTW500, BTW1000, BTW2000, BTW3000, and BTW6000



Enerpac declares that the model battery torque wrench has been tested and conforms to applicable standards and are approved to carry the CE, RCM, UKCA and TUV certification marks.

**NOTICE** For all torque wrench, a copy of the product's EU Declaration of Conformity is enclosed with each shipment. A copy of the UK Self-Declaration of Conformity is also enclosed.

### 2.2 Electromagnetic Compatibility (EMC)

The torque wrench has been tested and certified to conform to CE-EMC and FCC emission and immunity standards.

### 2.3 Battery Safety Certifications

Refer to the separate battery manual (L4807) for additional certifications pertaining to the Li-Ion battery used with the torque wrench.

# 3.0 TECHNICAL PRODUCT DATA

# 3.1 Dimensions

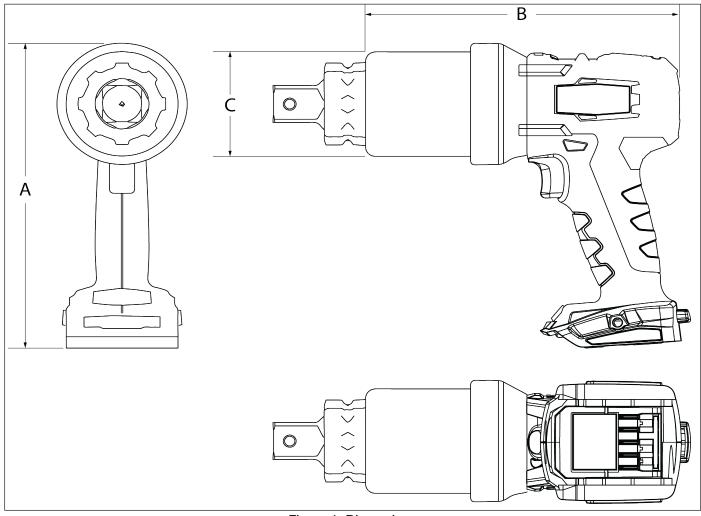


Figure 1: Dimensions

Torque Wrench Model	BTW500	BTW1000	BTW2000	BTW3000	BTW6000
Height A (w/ battery) (in)	10.57	10.54	10.54	10.76	11.39
Height A (w/ battery) (mm)	267.67	267.67	267.67	273.3	289.0
Length B (in)	7.65	9.28	9.72	12.49	13.17
Length B (mm)	194.28	235.59	246.84	317.14	334.42
Diameter C (in)	2.56	2.85	3.09	3.75	5.00
Diameter C (mm)	65.0	72.4	78.5	95.3	127.0

### 3.2 Specifications

Torque Wrench Model	BTW500	BTW1000	BTW2000	BTW3000	BTW6000
Square Drive	3/4"	1"	1"	1"	1.5"
Min. Torque (lb-ft)	120	240	500	750	1200
Max. Torque (lb-ft)	500	1000	2000	3000	6000
Min. Torque (Nm)	160	330	680	1020	1626
Max. Torque (Nm)	670	1350	2710	4030	8133
Weight (w/o reaction arm & battery) (lbs)	8.3	11.5	13.1	19.6	33.5
Weight (w/o reaction arm & battery) (kg)	3.8	5.2	5.9	8.9	15.2
Weight (w/ reaction arm & battery) (lbs)	10.4	14.5	15.9	22.5	43.3
Weight (w/ reaction arm & battery) (kg)	4.7	6.6	7.2	10.2	19.6
RPM at Min. Torque	12	2	1	0.5	0.9
RPM at Max Torque	20	8	5	2	1.2

# 3.3 Battery Specifications

Battery	Power Output		Weight		Approximate Charging Time	
Model Number	Volts DC	Ah	Wh	lb	kg	Minutes
EB18V5*	18	5.5	99	2.16	0.98	41
EB18V8**	18	8.0	144	2.16	0.98	60

### Notes:

### 3.4 Battery Charger Specifications

Region/Country	Model Numbers
North America 115V	EC181BQC*
Europe 230V	EC182EQC**
Australia 230V	EC182AUSQC***

### Notes

- Charger must be purchased separately if not included in the shipment with the battery or tool.
- North America, Europe and Australia: Charger includes battery charger and the AC power cord for use in the selected region. Power cord is permanent.
- CAS chargers can operate with Enerpac CAS batteries and all other CAS batteries.
- \*EC181BQC ENERPAC Quick Charger 18V 120VAC Plug.
- \*\*EC182EQC ENERPAC Quick Charger 18V 230VAC EU Plug.
- \*\*\*EC182AUSQC ENERPAC Quick Charger 18V 230VAC AUS/NZ Plug.

<sup>•</sup> CAS batteries can be used with CAS devices.

<sup>\*</sup>EB18V5 - ENERPAC Battery, 18V, 5.5Ah,LiHD CAS.

<sup>\*\*</sup>EB18V8 - ENERPAC Battery, 18V, 8.0Ah, LiHD CAS.

### 4.0 FEATURES AND COMPONENTS



Figure 2: Features & Components

# 5.0 DESCRIPTION

The Enerpac Battery Torque Wrench (BTW) offers a cordless operation for high torque applications. Designed to be used as a hand-tool, this compact and lightweight torque wrench features a high-performance, brushless DC electric motor. It is manually operated by a trigger switch.

The power is supplied by a rechargeable Lithium-Ion battery which is capable of providing extended run times, even under demanding conditions.

The torque wrench is designed to be operated with righthand thread fasteners. There is a 15% reverse bias to asssit with the breakout. If this tool is to be used with lefthand thread fasteners, then consult Enerpac.

# 5.1 Receiving Instructions

Visually inspect all components for shipping damage. Shipping damage is not covered by warranty. If shipping damage is found, notify carrier at once. The carrier is responsible for all repair and replacement costs resulting from damage in shipment.

The torque wrench can be ordered either with or without batteries and a compatible AC-powered battery charger. These items will be included in the shipment if ordered.

### 6.0 BATTERY

**NOTICE** Press battery charge indicator button to determine charge level before using or charging battery for the first time.

**NOTICE** New batteries should be fully charged before use. Battery and charger must be purchased separately if not included in the shipment with the torque wrench.

**NOTICE** Refer to L4807 and L4808 for complete battery and charger use, care information and charging instructions.

# 6.1 Overcurrent and Overtemperature Protection

The battery will shut-off automatically in the event that battery current draw becomes excessive or if the battery's internal temperature rises above acceptable limits.

Both faults are self-resetting. Normal battery operation will resume when the excessive current draw condition is eliminated or after the battery has cooled down.

In order to reset these faults, it may sometimes be necessary to cycle the torque wrench power switch off and on, or to remove and reinstall the battery.

### 6.2 Cold Weather Operation

If the battery's internal temperature drops below approximately -13°F [-25°C], battery shut-down will occur and the torque wrench will be prevented from starting.

If the torque wrench will not start and the ambient temperature is very cold, remove the battery from the torque wrench and take it to a room temperature location. Allow time for the battery to warm-up and make sure it is fully charged. Then, re-install the battery and try starting the torque wrench again.

### 6.3 Battery Installation and Removal

- To install battery on torque wrench: Slide the battery down onto the battery interface at the rear of the torque wrench. Make sure it latches securely into place.
- To remove battery from torque wrench: Press and hold the release button located on back side of the torque wrench. Then, slide the battery off of the battery interface and remove it.

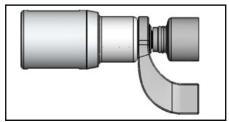
**NOTICE** To ensure compatibility and proper operation, use only the specified Enerpac Lithium-lon battery with the torque wrench.

# 7.0 OPERATION

### 7.1 Setup Before Operation

- Make sure the reaction arm (1) is correctly attached and secured to the splined section of the torque wrench.
- Select the correct square drive size and bolt/nut AF

- size impact socket or hex-drive socket for the task.
- Install the impact socket onto the tool square drive with a safety pin (2) and secure a safety o-ring on the socket. Refer to Figure 3 for details.



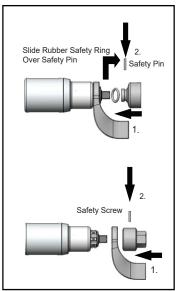


Figure 3: Impact Socket Installation

# 7.2 Torque Setting

It is recommend calibration every 12 months from date of purchase.

- Press the trigger switch to activate the LCD display
   Note: The board will keep illuminated for 30 seconds after the trigger switch is released.
- To set the torque, use the two arrow buttons up or down as necessary.
  - Note: Pressing and holding a button will cycle through the torque settings.
- To change the display torque between lb-ft and Nm, press and hold both bottons at the same time.
  - Note: When changing the measurement unit, the torque setting will reset to the lowest possible value.
- If the LCD display turn off, pull the trigger switch to reactivate it. The values will remain as set.

Keep in mind that if the BTW is used continuously to the point that the tool feels hot to the touch, then the torque wrench may be less accurate. Once the torque wrench cools down, the accuracy should return to normal.

It is recommended to change the battery when its charge

gets down to 25% of battery life. However, the torque set will be accurate until the last fastener.

### 7.3 Power Switch

The torque wrench is equipped with a trigger switch. It is located on the front side of the torque wrench handle. Refer to Figure 2.

Pressing the trigger, connects battery power to the torque wrench motor control circuit. Releasing the trigger switch disconnects battery power to the motor control circuit.



Figure 4: Trigger Switch

Always turn the trigger switch OFF in any of the following conditions:

- If an emergency occurs and the torque wrench must be stopped immediately.
- Before moving or transporting the torque wrench.
- When performing routine inspection and maintenance procedures while the battery is installed.

**NOTICE** The torque wrench motor control circuits will consume a small amount of battery power when the torque wrench is idle.

# 7.4 Operating Precautions

- Keep hands, loose clothing and long hair away from the reaction arm and working area during operation.
- Use proper mechanical support and correct reaction arm positioning to control reaction forces.
- Do not position the reaction arm so that it tilts the tool off the axis of the bolt.
- Use only impact sockets and accessories rated for approperiate torque output. Do not use hand (chrome) sockets or accessories.
- Use only sockets and accessories that correctly fit the bolt or nut and function without tilting the tool off the axis of the bolt.
- Always place the impact socket or hex driver snugly onto the screw or nut/bolt. Faulty screw or nut/bolt connections may result in exceeding the mechanical stress limit of the material, causing it to break. Parts

- that splinter off may cause bruises or even lifethreatening injuries.
- This equipment must not be operated or serviced unless the operator reads the operating instructions and fully understands the purpose, consequences and procedures of each step.

# 7.5 Tightening And Loosening Pro-

### cess

Your personnel can be trained by your Enerpac Representative or Distributor on use of this product if so desired.

### Tightening

- Place the BTW fully over and on the fastener to be tightened.
- Make sure that the reaction area / movement is correctly setted against the reaction arm. Also, make sure that the reaction point is stable and will support counter torque force.
- Hold the BTW perpendicular to the fastener axis for the complete duration of the rotation process for tightening.
- Make sure the direction switch is set to forward. Then, press the trigger on the pistol grip to tighten the fastener.
- The tool will rotate and tighten the fastener.
- The tool will stop, beep, and the reaction arm will back off of the surface it is reacting against when the required torque is achieved.
- If torque requirements need the use of torque increments, set the BTW to the first torque requirement. Tighten fastener as per the required tightening bolt sequence. Then, reset for the next setting(s).

### Loosening

- For loosening a fastener, place the direction switch in reverse. Then, press the trigger on the pistol grip to loosen the fastener. The unit will continue to rotate until the fastener is removed or once the fastener is loosened, it can be removed by hand. Then, move on to the next fastener.
- There may be additional torque required to break out the bolt.

# 8.0 STORAGE

- When battery pack is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails, screws or other small metal objects, that can make a connection from one terminal to another. Shorting the battery terminals together may cause burns or a fire.
- Protect battery packs from water and moisture.
- Do not expose battery packs to open flame.

**NOTICE** After removing battery from storage, press charge indicator button to determine battery charge level. Do this *before* using or charging battery.

**NOTICE** Refer to the separate manuals for the battery and battery charger for additional storage information pertaining to those items.

# 9.0 PART LIST

Only qualified technicians should service the components. For repair service, contact your Enerpac authorized service center.

# 9.1 Handle Adaptor Kit

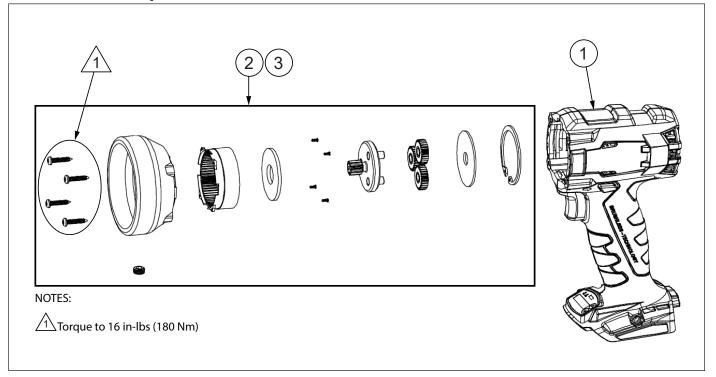


Figure 5: Handle Adaptor Kit



Tool requires calibration after any of these parts are replaced. Contact your local Enerpac representative for calibration services.

# 9.1.1 Table of Parts (Figure 5)

Item	Description	Qty.	Part Number
	BTW500 Handle, Complete (motor and controlers)	1	BTW5HMC
	BTW1000 Handle, Complete (motor and controlers)	1	BTW1HMC
1	BTW2000 Handle, Complete (motor and controlers)	1	BTW2HMC
	BTW3000 Handle, Complete (motor and controlers)	1	BTW3HMC
	BTW6000 Handle, Complete (motor and controlers)	1	BTW6HMC
2	BTW500 Handle Adaptor Kit ◆	1	BTW5HAK
3	BTW Handle Adaptor Kit ◆	1	BTWHAK
◆ Parts	s not sold separately		

# 9.2 Handle Repair Kit

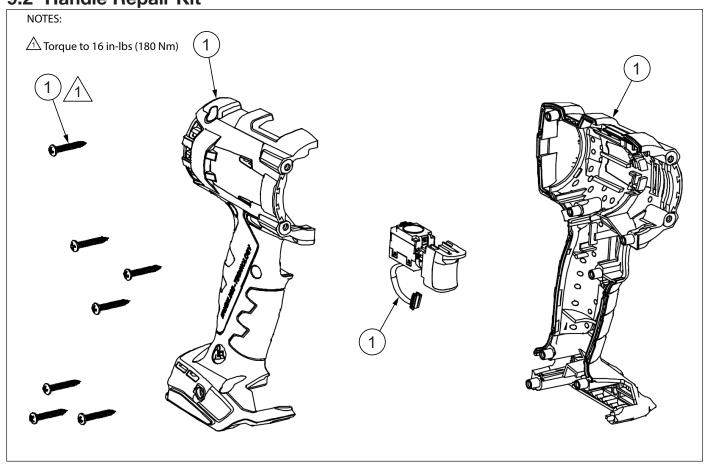


Figure 6: Handle Repair Kit



Tool does not requires calibration after any of these parts are replaced.

# 9.2.1 Table of Parts (Figure 6)

Item	Description	Qty.	Part Number
1	Handle Repair Kit	1	BTWHRK

# 9.3 BTW500 Gearbox Assembly Parts View

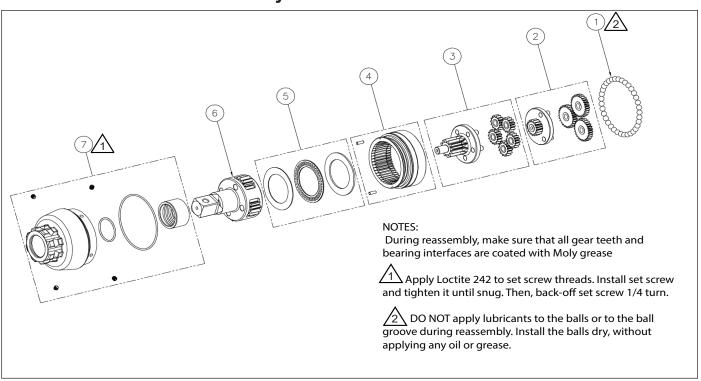


Figure 7: TW500SR Gearbox Assembly



Tool requires calibration after any of these parts are replaced. Contact your local Enerpac representative for calibration services.

### 9.3.1 Table of Parts (Figure 7)

Item	Description	Qty.	Part Number
1	Steel Bearing Ball Kit	1	TWBBK
2	Stage 1 Gear Kit	1	TW500ST1K
3	Stage 2 Gear Kit	1	TW500ST2K
4	High-Speed Annulus Assembly	1	TW500HSA
5	Thrust Washer Kit	1	TW500TWK
6	Drive Assembly	1	TW500DA
7	Annulus Kit	1	TW500AK
8	Grease, Moly, 16 oz (454gr)	A/R	DD5587600SR

### 9.4 BTW1000 Gearbox Assembly Parts View

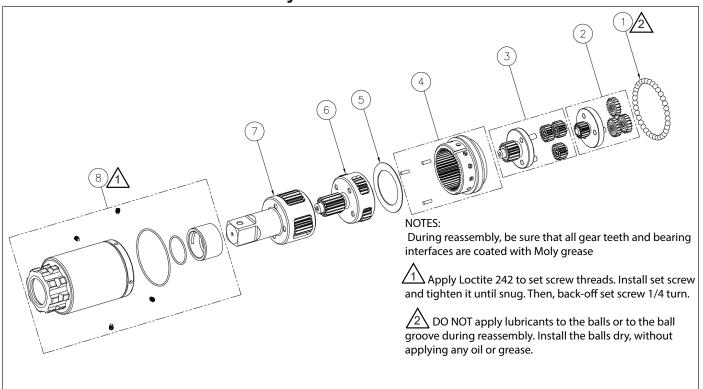


Figure 8: TW1000SR Gearbox Assembly



Tool requires calibration after any of these parts are replaced. Contact your local Enerpac representative for calibration services.

### 9.4.1 Table of Parts (Figure 8)

Item	Description	Qty.	Part Number
1	Steel Bearing Ball Kit	1	TWBBK
2	Stage 1 Gear Kit	1	TW1000ST1K
3	Stage 2 Gear Kit	1	TW1000ST2K
4	High-Speed Annulus Assembly	1	TW1000HSA
5	Thrust Washer	1	TW1000TW
6	Stage 3 Gear	1	TW1000ST3
7	Drive Assembly	1	TW1000DA
8	Annulus Kit	1	TW1000AK
9	Grease, Moly, 16 oz (454gr)	A/R	DD5587600SR

### 9.5 BTW2000 Gearbox Assembly Parts View

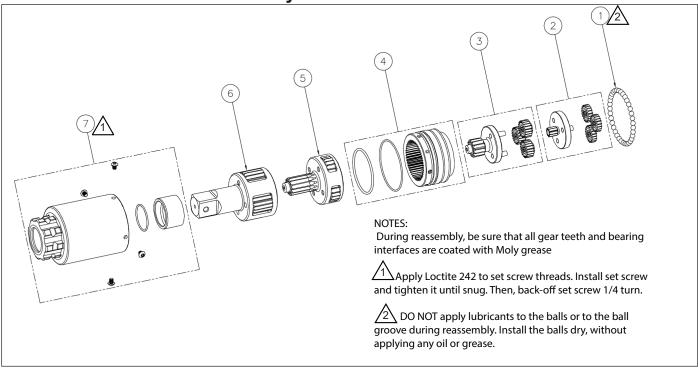


Figure 9: TW2000SR Gearbox Assembly



Tool requires calibration after any of these parts are replaced. Contact your local Enerpac representative for calibration services.

### 9.5.1 Table of Parts (Figure 9)

Item	Description	Qty.	Part Number
1	Steel Bearing Ball Kit	1	TWBBK
2	Stage 1 Gear Kit	1	TW2000ST1K
3	Stage 2 Gear Kit	1	TW2000ST2K
4	High-Speed Annulus Assembly	1	TW2000HSA
5	Stage 3 Gear	1	TW2000TWK
6	Drive Assembly	1	TW2000DA
7	Annulus Kit	1	TW2000AK
8	Grease, Moly, 16 oz (454gr)	A/R	DD5587600SR

9.6 BTW3000 Gearbox Assembly Parts View

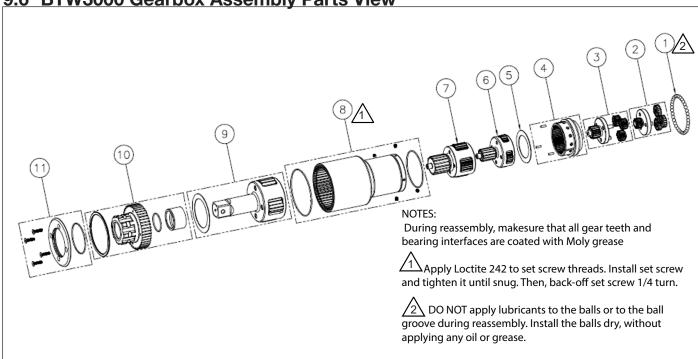


Figure 10: TW3000SR Gearbox Assembly



Tool requires calibration after any of these parts are replaced. Contact your local Enerpac representative for calibration services.

### 9.6.1 Table of Parts (Figure 10)

Item	Description	Qty.	Part Number		
1	Steel Bearing Ball Kit	1	TWBBK		
2	Stage 1 Gear Kit	1	TW3000ST1K		
3	Stage 2 Gear Kit	1	TW3000ST2K		
4	High-Speed Annulus Assembly	1	TW3000HSA		
5	Thrust Washer	1	TW3000TW		
6	Stage 3 Gear	1	TW3000ST3		
7	Stage 4 Gear	1	TW3000ST4		
8	Annulus Kit	1	TW3000AK		
9	Drive Assembly Kit	1	TW3000DAK		
10	Annulus Head Kit	1	TW3000AHK		
11	Annulus Cap Kit	1	TW3000ACK		
12	Grease, Moly, 16 oz (454gr)	A/R	DD5587600SR		

### 9.7 BTW6000 Gearbox Assembly Parts View

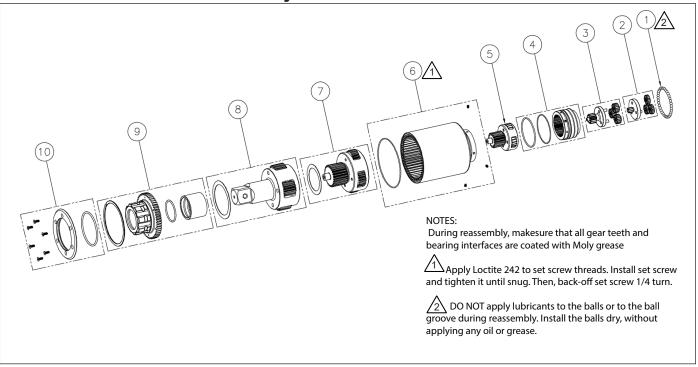


Figure 11: TW6000SR Gearbox Assembly



Tool requires calibration after any of these parts are replaced. Contact your local Enerpac representative for calibration services.

### 9.7.1 Table of Parts (Figure 11)

Item	Description	Qty.	Part Number		
1	Steel Bearing Ball Kit	1	TWBBK		
2	Stage 1 Gear Kit	1	TW6000ST1K		
3	Stage 2 Gear Kit	1	TW6000ST2K		
4	High-Speed Annulus Assembly	1	TW6000HSA		
5	Stage 3 Gear	1	TW6000ST3		
6	Annulus Kit	1	TW6000AK		
7	Stage 4 Gear Kit	1	TW6000ST4K		
8	Drive Assembly Kit	1	TW6000DAK		
9	Annulus Head Kit	1	TW6000AHK		
10	Annulus Cap Kit	1	TW6000ACK		
11	Grease, Moly, 16 oz (454gr)	A/R	DD5587600SR		

### 9.8 Accesories

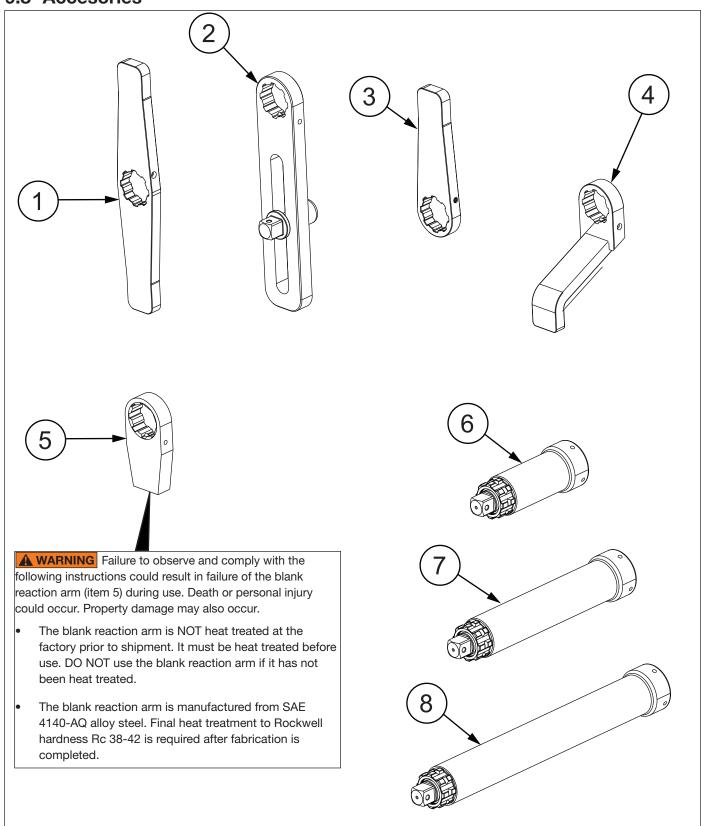


Figure 12: Accesories

# 9.8.1 Table of Parts (Figure 12)

	Description	Qty.	Part Number			
Item			BTW500	BTW1000, BTW2000, BTW3000	BTW6000	
	Reaction Arm, Straight, Double	1		DSATWS	DSATWL	
1	Screw	1	DSATW			
	Nylon Hex Nut	1				
	Reaction Arm, Sliding	1		SLRATWS	SLRATWL	
2	Screw	1	SLRATW			
	Nylon Hex Nut	1				
	Reaction Arm, Straight	1		SRATWS	SRATWL	
3	Screw	1	SRATW			
	Nylon Hex Nut	1				
	Reaction Arm, Extended	1		ERATWS	ERATWL	
4	Screw	1	ERATW			
	Nylon Hex Nut	1				
	Reaction Arm, Blank	1		BLTWS	BLTWL	
5	Screw	1	BLTW			
	Nylon Hex Nut	1				
6	Extended Drive, 6" long	1	ED6TW	ED6TWS	ED6TWL	
0	Screw	1				
7	Extended Drive, 12" long	1	ED12TW	ED12TWS	ED12TWL	
	Screw	1				
8	Extended Drive, 18" long	1	ED10TW	ED10TWC	N/A	
°	Screw	1	ED18TW	ED18TWS		

# 9.9 Cases

### 9.9.1 Table of Parts

Item	Description	Qty.	BTW500, BTW1000, BTW2000, BTW3000	BTW6000
1	Case	1	DD9694530SR	DD9738530SR

# **NOTES**

# **NOTES**



Menomonee Falls, WI 53051, USA

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