

BREAKBACK  
**TORQUE  
WRENCH**

**24071, 24072**



**24072**

**24071**

# 1. Preface

## 1.1 Product Reference

**User Manual for:** Breakback Torque Wrench

**Stock No:** 24071, 24072

**Part No:** BTW-3/4, BTW-1

## 1.2 Revisions

**Version 1:** March 2025

First release

Read this manual in full before using this product and retain it for future use. Always use the latest version of the manual. Please visit [drapertools.com/manuals](http://drapertools.com/manuals) for the latest version.

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# 2. Product Introduction

## 2.1 Intended Use

This industrial breakback torque wrench has been designed to tighten screws, bolts and other fixings to the required torque in a clockwise and anticlockwise direction.

Any other application beyond the conditions established for use will be considered misuse. Draper Tools accepts no responsibility for improper use of this product.

## 2.2 Specification

Stock No.	24071	24072
Part No.	BTW-3/4	BTW-1
Drive size	3/4"	1"
Torque Range	200 – 800Nm (150 – 600ft-lb)	300 – 1000Nm (200 – 750ft-lb)
Accuracy (clockwise)	+/-4%	+/-4%

## Application

Tightening	Clockwise/ Anti-clockwise	Clockwise/ Anti-clockwise
Torque Measurement	Clockwise only	Clockwise only
Head Style	Push through ratchet	Push through ratchet
Tooth Count	36T	36T
Overall Length	1310mm	1550mm

This torque wrench is accurate to +/- 4% of the set load and has been manufactured and tested in accordance to ISO 6789-1:2017.

**Important:** Read all the Health and Safety instructions before attempting to operate, maintain or repair this product. Failure to follow these instructions may result in damage to the workpiece, tool or cause it to require recalibration.

- **Important: ALWAYS** read the manufacturer's instructions for the recommended torque settings. Incorrect torque settings can result in serious damage or injury when the workpiece is used.
- This torque wrench is a precision tool. It must NOT be used to pry or loosen nuts, bolts or fixings; to separate materials; as a substitute for ratchet spanners or hammers; or as a breaker bar. Used in such a way will damage the calibration setting and invalidate your warranty.
- **DO NOT** interfere with or loosen the lock nut as this will affect the calibration. If it becomes loose do not use the torque wrench.
- Before first use, test the torque wrench on non-critical fixings to familiarise yourself with the responses that indicate the configured torque is reached.

**Important:** Some responses may be less noticeable at lower torques.

- **ALWAYS** select the correct size and type of socket for use with the fixing.
- **NEVER** set the torque wrench beyond its maximum or minimum settings as this may damage the internal spring and distort the calibration.
- **ALWAYS** return the torque wrench to its minimum setting when not in use. – Failure to do this will weaken the internal spring and distort the calibration of the tool. Damage caused to the tool in this way is not covered by your warranty.
- **DO NOT** over-tighten fixings as this may result in breakages.
- Stop applying force as soon as a noticeable 'Click' is heard.
- **DO NOT** turn the adjustment nut (6) anti-clockwise while setting the torque as this may cause incorrect setting of the required torque.
- **DO NOT** place tubes over the handle as this will result in damage to the torque wrench.
- Observe all standard safety precautions and good practices when in a workshop environment.
- Inspect the product before every use for cracked, corroded or broken parts.



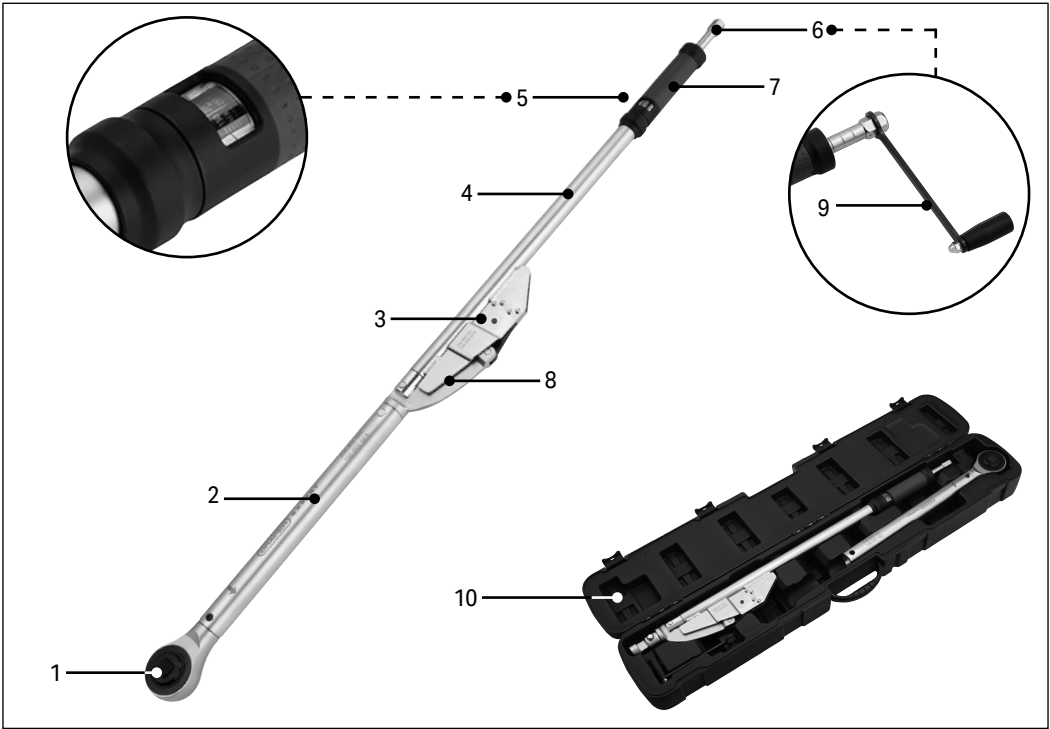
**WARNING! DO NOT use this product if it is damaged in any way. Contact Draper Tools for repair and replacement options.**

- Use this product only for its intended purpose and do not modify it in any way.

# 4. Identification and Unpacking

Carefully remove the product from the packaging and examine it for any signs of damage that may have occurred during shipment. If any part is damaged or missing, do not attempt to use the product. Please contact the Draper Helpline; contact details can be found at the back of this manual.

## 4.1 Product Overview



- |                                |                             |
|--------------------------------|-----------------------------|
| 1. Push through drive square   | 6. Torque adjustment nut    |
| 2. Head unit section           | 7. Grip handle              |
| 3. Linkage mechanism           | 8. Breakback mechanism      |
| 4. Handle shaft reaction point | 9. Torque adjustment handle |
| 5. Torque scale                | 10. Storage box             |

## 4.2 Packaging

Keep the product packaging for the duration of the warranty period for reference should the product need to be returned for repair.



**WARNING! Keep packaging materials out of reach of children. Dispose of packaging correctly and responsibly and in accordance with local regulations.**

Please visit [drapertools.com](https://www.drapertools.com) for our full range of accessories and consumables.

## 5. Assembly Instructions

### 5.1 Assembling the Torque Wrench

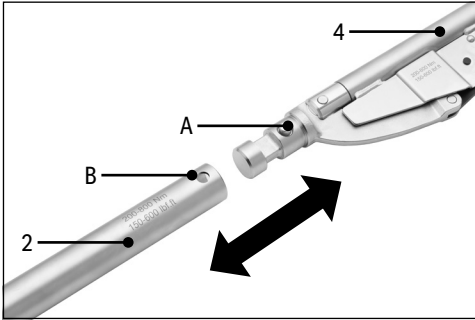


Fig. 1

- Connect the drive head section (2) to the handle shaft section (4) by aligning the pin (A) with the hole (B). Then press together.
- To separate for storage - Push the pin (A) in and then pull out the drive head section.

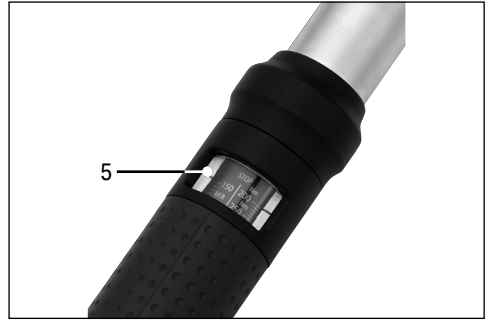


Fig. 3

2. Set the required torque by turning the handle (9) clockwise only until the selected torque aligns with the red index line on the torque scale (5).
- **DO NOT** set torque coming down the range.
  - When the torque wrench is not in use, ensure the adjustment is at the lowest torque setting.

## 6. Operating Instructions

### 6.1 Setting the Torque

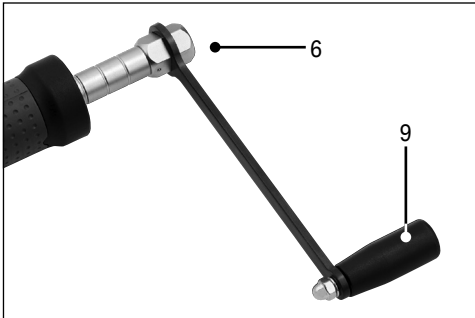


Fig. 2

1. Fit the adjustment handle (9) to the torque nut (6).

### 6.2 Using the Torque Wrench

#### Important:

- **Always** use the correct size socket.
- Apply a consistent controlled force on the handle (7). When the required torque is reached, this will be indicated by the following:
  - Touch: The handle will be felt to “break away” at the point of the set torque.
  - Visually: The handle will be seen to “break away” at the point of the set torque.
- The breakback mechanism (8) gives the user a clear indication that the required torque has been reached. Note: The mechanism pivots back at the joint to indicate the preset torque has been achieved.

**Note:** Responses may be less perceptible at lower torques.



**WARNING! Once the set torque is reached, DO NOT continue to turn the torque wrench as this will deliver an incorrect torque and may damage the parts. Only apply preset torque once.**

1. Select the required socket or bit and adaptors as appropriate and fit onto the square drive (1).
2. Set the operation direction by pushing the drive square block (1) through the head. Then apply the force in the direction indicated by the arrow marked on the drive head section.

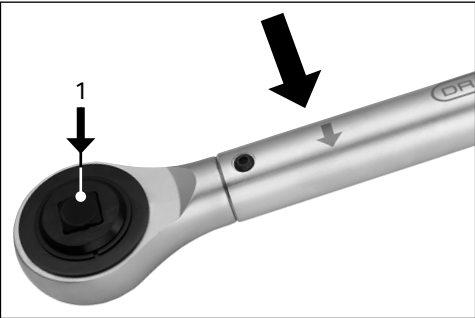


Fig. 4

3. Set the torque; **see section 6.1.**
4. Place the bit or socket onto the fixing and apply controlled consistent force in the desired direction.
5. When the set torque has been reached, the tool will exhibit a tangible and visual response.
6. Carefully remove the wrench from the fixing.

6.3 Using Socket extensions & Adaptors

- When using a socket extension or adaptor to increase the effective length of the wrench the output torque value will change.
- The length of the extension/adaptor/wrench and variation in hand position will affect the accuracy of the calculation below.
- To calculate the new torque output use the following equation:

A = (L+C) X B / L

A = Torque exerted at end of the adaptor.

B = Scale reading

C = Length of extension or adaptor.

L = Distance between square drive and hand position.

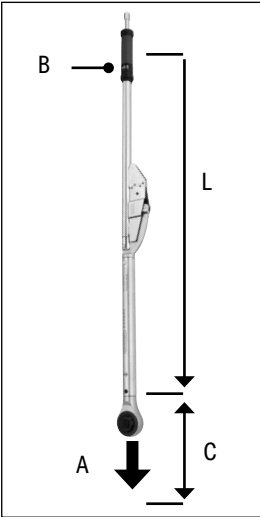


Fig. 5

6.4 Conversion Chart

	mN/m millinewton-metre	cN/m centinewton-metre	N/m newton-metre	daN/m decanewton-metre	cm/kg centimetre-kg	m/kg metre-kg	in-oz inch-ounce	in-lb inch-pound	ft-lb foot-pound
1mN/m	1	0.1	0.001	0.0001	0.0102	0.000102	0.1416	0.00885	0.000738
1cN/m	10	1	0.01	0.001	0.102	0.00102	1.416	0.0885	0.00738
1N/m	1000	100	1	0.1	10.2	0.102	141.6	8.85	0.738
1daN/m	10000	1000	10	1	102	1.02	1416	88.5	7.38
1cm/kg	98	9.8	0.098	0.0098	1	0.01	13.9	0.868	0.0723
1m/kg	9810	981	9.81	0.98	100	1	1390	86.8	7.23
lin-oz	7.06	0.706	0.00706	0.0007	0.072	0.00072	1	16	192
lin/lb	112.9	11.29	0.1129	0.01129	1.152	0.0115	0.063	1	12
lft-lb	1355	35	1.355	0.1135	13.8	0.138	0.0052	0.083	1

## 7.1 General Maintenance and Storage

**Important:** A torque wrench is a precision tool. Failure to calibrate your tool regularly or to store correctly will constitute misuse and invalidate your warranty.

- The torque wrench is lubricated for life and should not be oiled. The only exception is the head which may be lubricated as needed for smooth operation.
- Keep the product free from grease, chemicals and other substances to prevent damage from corrosion.
- Wipe the wrench with a dry cloth only.
- **DO NOT** use solvents or chemicals that may interfere with the internal lubrication.
- Store this product in the storage case supplied, in a clean and dry location, out of direct sunlight and out of reach of children.
- **ALWAYS** return the torque wrench to its lowest setting before storage. Failure to do this will weaken the internal springs and distort the calibration of the tool.
  - Frequently used tools should be calibrated more often.
- **NEVER** attempt to repair or adjust this product. Servicing, repairs and calibration must be carried out **ONLY** by qualified and authorised service agents.
- If the torque wrench fails to function correctly for any of the following reasons, return the tool to an authorised Draper Tools agent:
  - The ratchet fails to function.
  - The handle lock fails to function.
  - The handle does not break away at the set torque.
- At the end of its working life, dispose of the product responsibly and in line with local regulations; recycle where possible.

## 7.2 Calibration

- Have the torque wrench calibrated at least once a year or after approximately 5000 cycles by a certified calibration centre. **For the first recalibration, the period of validity starts with user's first operation of the torque tool.**
- Torque tools are classified as test devices. If a calibration routine is required, the calibration interval shall be chosen on the basis of the factors of operation such as required accuracy, frequency of use, typical load during operation as well as ambient conditions during operation and storage conditions.
- The interval should be decided according to the user's procedures for the control of test devices and by the requirements of the user.
- The torque tool shall be recalibrated when it has been subjected to an overload greater than 125% of maximum rated load and after repair, or after any improper handling which might influence any errors in measurement.

**NOTE:** the recalibration routine for the torque wrench is **NOT** covered by the product warranty.

## 8. Warranty

Should the tool develop a fault, return the complete tool to your nearest distributor or contact Draper Tools directly. Proof of purchase must be provided.

If, upon inspection, it is found that the fault occurring is due to defective materials or workmanship, repairs will be carried out free of charge. This warranty covers parts and labour for the lifetime of the product. However, if the tools are hired out, the warranty period is 90 days from the date of purchase.

This warranty does not apply to any consumable parts, batteries or normal wear and tear, nor does it cover any damage caused by misuse, careless or unsafe handling, alterations, accidents, or repairs attempted or made by any personnel other than the authorised Draper Tools repair agent.

Visit [drapertools.com/warranty](https://www.drapertools.com/warranty) for full details.

## Contact Details

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Please contact the Draper Tools Product Helpline for repair and servicing enquiries.