

## TSP (Cam-Over Wrench) Operating Instructions

Rev 2.3 (4/13/2017)

### TSP Cam-Over Torque Wrenches

The TSP is a preset torque wrench that's ideal for maintenance and production applications where over-torque conditions are not tolerated. The use of cam-over wrenches takes the operator influence out of the torque equation and offers more accurate and repeatable results than a standard 'click' type wrench.

### Adjusting Torque Setting

1. Remove end cap from the wrench using the 5mm hex key.
2. Insert the 3mm hex key into set screw in the middle of torque adjusting bolt inside wrench handle. Turn counterclockwise to loosen set screw, but do not remove screw.

#### Increase Torque

3. Insert hex key into adjusting key and turn clockwise to increase torque. Using a torque tester or torque sensor, test the torque readings of the wrench at a minimum of 10 times to ensure the correct torque setting is set. Do not adjust torque above the recommended torque ranges.

#### Decrease Torque

4. When adjusting, always approach the required torque from a lower setting. To reduce the torque setting, insert hex key into the adjusting key and rotate counterclockwise past your setting. Then clockwise to increase torque to the required value. Using a torque tester or torque sensor, test the torque readings of the wrench at a minimum of 10 times to ensure the correct torque setting is set. Do not adjust torque below the recommended torque ranges.
5. After torque setting is completed, lock adjustment set screw at 2 N.m turning it clockwise.



### Applying Torque

1. Tighten nut or bolt by applying a steady even pull using built in ratchet as necessary. Wrench should be kept at 90 degrees to axis of bolt during tightening. When pre-set torque is reached, the wrench will 'slip.'
2. The wrench will automatically reset itself for the next application.
3. With its unique design, it's impossible to over tighten beyond the pre set load.



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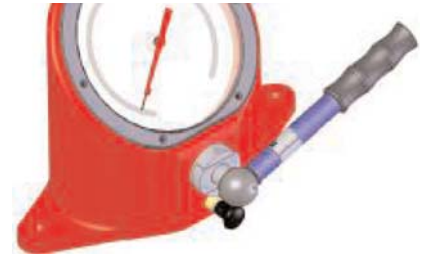
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### Calibrating Torque Wrenches

To calibrate torque wrenches either use a torque tester or torque sensor within the range of the torque wrench. For cam-over torque wrenches calibrate torque in “Peak” mode with a torque tester or torque sensor. Make sure to apply the torque slowly and smoothly.



1. Select a torque tester or torque sensor that covers the torque range of the TSP wrench.  
Connect wrench to the torque tester or torque sensor.
2. Apply torque clockwise slowly until wrench ‘slips’ and note reading.
3. Adjust wrench to required torque setting as described below.
4. Test and repeat adjustment as necessary to obtain desired value.
5. Recalibrate torque wrench at prescribed intervals.



*Note: Refer to ISO6789 International Standard for more information on hand tool testing requirements.*

### TSP Maintenance Schedule

#### Expected Tool Life

With normal use – 100,000 operations

#### Period between Resetting of Torque

5000 operations (as recommended in ISO6789). It is acknowledged that some TSP tools achieve 5000 operations in a relatively short period of time. Under these circumstances the User may decide, with the benefit of their experience, to increase the period between calibration checks.

#### Routine Maintenance

After 100,000 operations, strip, clean & re-grease the Spindle, Cam & Roller. Any worn components should be replaced.

*Note: Any tool that is dismantled during its life must be re-lubricated in accordance with the Mountz recommendations. Do not clean tools by immersing them in solvent, as this will destroy the internal lubrication and cause failure of the tool.*

### Tool Lubrication Chart for TSP

Lubricant:	Fuchs Renolit CXI 2 Grease	Rocol Dry Moly Paste
Product Part:	Bearings. TSP Locking Mechanism	Thrust Pin



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### **Mountz Calibration & Repair Services**

Mountz Inc. features an experienced calibration and repair staff. Our trained technicians can calibrate and repair most any tool. Mountz provides rapid service with quality that you can trust as we offer three state-of-the-art calibration lab and repair facilities that can calibrate up to 20,000 lbf.ft.

Since 1965, Mountz's in-depth knowledge of torque is reflected in our tool's craftsmanship and our ability to provide solutions to both common and uncommon torque applications. We perform calibrations in accordance with ANSI/NCSL-Z540. Mountz is dedicated solely to the manufacturing, marketing and servicing of high quality torque tools.

### **Tool Service & Repair Capability**

- Torque Wrench Calibration: Click Wrench, Dial Torque Wrench, Beam Wrench, Cam-Over & Break-Over Wrench
- Torque Screwdrivers: Dial, Micrometer, Preset & Adjustable
- Torque Analyzers/Sensors: All brands
- Electric Screwdrivers: All brands
- Air Tools: All brands
- Impact Wrenches, Drills, Pulse Tools, Grinders, Percussive Tools, Air Screwdrivers, Nutrunners, DC Controlled Nutrunners
- Torque Multipliers: All brands

### **Mountz Torque Testers and Calibration Equipment**

Torque tools go out of calibration with use. Calibrating a torque tool is a fine-tuning process of bringing the tool back within its tolerance. Torque testers can also be used for quick tools tests on the line or in the lab to determine whether torque tools are holding a given setting.

A regular torque tool calibration and re-calibration guarantees the operator repeatable accuracy and adherence to international standards. Torque testing also ensures torque equipment is operating to peak performance and can highlight potential tooling problems before they arise perhaps due to tool wear or broken components.

Controlling torque is essential for companies to ensure their product's quality, safety and reliability isn't compromised. The failure of a three-cent fastener that isn't properly tightened can lead to catastrophic or latent failures. Fasteners that are insufficiently torqued can vibrate loose and excessive torque can strip threaded fasteners. Using a quality torque tool has become increasingly important for many companies to ensure that proper torque is being applied and maintains gauge requirements associated with the ISO 9001 Quality Standard. Look for the Mountz hexagon logo - it's a stamp for quality tools, service and knowledge in the field of torque control.

### **Mountz Service Locations**

#### ***Eastern Service Center***

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**Twitter: @mountztorque**

Download a "Service Form" and include a copy when you send the tools in to be serviced.

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