555 Kimberly Drive
Carol Stream, Illinois 60188
customerservice@srtorque.com
Worldwide +1-847-455-8677
Toll Free US 800-877-1347
www.srtorque.com

Operating Instructions
Micrometer Adjustable Torque Wrench Series (SDR, SD, & CCM)

Sturtevant Richmont (SR) micrometer adjustable torque wrenches are designed and manufactured to provide consistent and rapid user-selectable torque in a variety of manufacturing and maintenance operations. They meet or exceed ASME B107.300 and ISO 6789, and AS28431. These wrenches are accurate to +/- 4% of indicated value from 20% to 100% of capacity.

The Ratchet and Square Drive tools operate and deliver torque in one direction only, as indicated by the arrow on the case (Figure 1). The wrench will not indicate torque but can be used in the reverse direction, provided you do not exceed the rated capacity of the wrench. The Dovetail series can be used in either direction with the same accuracy by removing the head and turning the wrench 180 degrees.

Figure 1

Figure 3

Figure 2

Cautions
A. Always wear appropriate safety equipment when using any hand tool.
B. Only use hand tools for their intended purpose.
C. NEVER EXCEED the rated capacity of the tool.

Capacity and Range
The range of each tool is from 20% to 100% of the rated capacity of the tool. The rated capacity of the tool is the highest value shown on the major scale in the unit of measure for the tool.

Torque Setting
The case (Figures 1 & 2) is engraved with graduations (major scale) and the aluminum grip with increments (minor scale). The torque setting is the sum of the largest graduation below the end of the aluminum grip plus the increment aligned with the centerline of the graduations. One complete revolution of the grip is equal to one graduation on the major scale.

To set the desired torque, rotate the lock control knob (Figure 3) clockwise (CW) until the grip can be readily rotated.

Next, grasp the case firmly with one hand and rotate the Knurl-Grip handle clockwise (CW) to increase torque or counter-clockwise (CCW) to decrease torque. Once the desired torque has been set, lock the lock control knob by rotating it in the CCW direction until it stops. Recheck torque to confirm proper setting.

Interchangeable Head Capacity
Always use an interchangeable head with sufficient capacity for the torque to be applied. Each interchangeable head is marked with the maximum capacity of the head. For heads having a fastener engagement size in English units of measure, the capacity is always given in inch-pounds. For those with fastener engagement size given in SI units, the capacity is always given in Newton Metres.

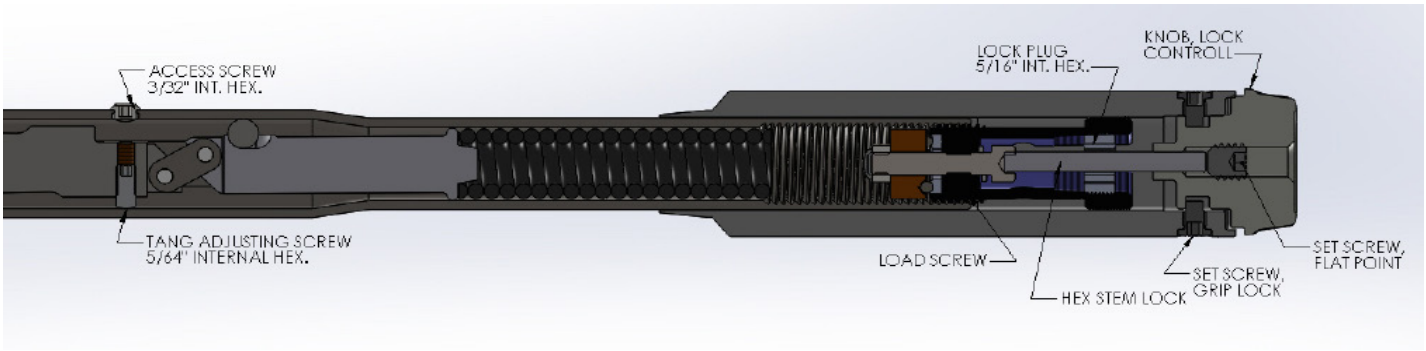
Part # 857451
March 8, 2017 Rev B

Operating the Wrench

1. Attach appropriate fastener engagement device (socket, SR interchangeable head, etc.) to the wrench.
2. For SDR tools assure ratchet direction is set properly before proceeding.
3. For CCM tools make certain the interchangeable head has the same length as was used during calibration.

WARNING: Failure to maintain length will cause applied torque to differ from set torque.

4. Engage the fastener while holding the wrench perpendicular to the axis of the fastener.
5. Grip the center of the handle and with a steady force, pull in the direction of the arrow on the case.
6. Continue to pull the wrench until an audible/tactile impulse (the “click”) is experienced.
7. Stop pulling immediately to prevent over torque application.



Required Equipment For Calibration:

Torque analyzer or tester accurate to 1% of indicated value or better, five (5) hex keys (7/64”, 5/64”, 3/32”, 5/32”, & 5/16”). Torque wrench set to 15 Ft. Lbs. (20.4 Nm) with 5/16 hex bit socket.

Test and Calibration Procedure Instructions

To determine the current performance compared to standard test the wrench on a torque analyzer or tester. A mechanical loader is always preferred and the test equipment must maintain at least a 4:1 ratio meaning that the tester must be at least 4 times more accurate than the tool being tested.

Prior to testing use the following procedure to assess wrench condition:

A. Cycle the wrench a minimum of three (3) times at 100% of wrench capacity.
B. Set wrench to 20% of rated capacity, cycle three (3) times and record readings.
C. Set wrench to 60% of capacity, cycle three (3) times and record readings.
D. Set wrench to 100% of capacity, cycle three (3) times and record readings.

Compare test results to required tolerance at each level. If the wrench is within tolerance it may be returned to service. If the wrench is out of tolerance calibrate the wrench.

To Calibrate the Wrench:

1. Remove tang access screw as shown in the image to the right. NOTE: Tools with capacity of 100 Ft. Lbs or 140 Nm or more have two (2) 5/64” set screws. The first set screw is a jam screw and must be removed in order to make the adjustment to the tang adjusting screw. The first set screw must be reinstalled at the end of calibration to ensure the wrench holds torque.
2. Remove the lock control knob and hex stem.
3. Rotate the aluminum grip to 100% of capacity (highest graduation +0 on increment)
4. Place wrench on tester. Click several times and note readings.
5. Adjust wrench.

5.1 If readings are above tolerance, turn tang adjustment screw slightly clockwise. (CW) Repeat Step 4.
5.2 If readings are below tolerance, turn tang adjustment screw slightly CCW. Repeat Step 4.
5.3 If readings are within tolerance go to next step.

Part # 857451
March 8, 2017 Rev B

6. Rotate the grip and adjust torque to 20% of rated capacity. This is the lowest graduation +0 on increment.
7. Place wrench on tester. Click several times and note the value readings.
8. Rotate the grip enough clicks to bring wrench into tolerance at 20% of scale.
9. Lock load screw by rotating internal 5/32” hex screw in CCW direction.
10. Use 5/16” hex key to remove the lock plug by rotating in the CCW direction.
11. Rotate grip until it aligns with the lowest graduation +0 increment. (20% of capacity)
12. Replace the lock plug using a torque wrench set to 15 Ft. Lbs or 20.4 Nm.

    NOTE: When the wrench has been tested, adjusted, and is within tolerance at 20%, 60%, and 100% of capacity move to Step 13.

13. Replace hex stem, lock control knob and lock control set screws. Tighten to 12.5 In. Lb.
14. If necessary, tighten set screw in lock control knob until it lightly touches bottom. Then back off 1/4 to 1/3 of a turn.
15. Replace tang access screw.

Use of Extensions and Adapters
Any style or type of interchangeable head or other device added to the wrench that changes the lever length after the tool has been calibrated will make the torque wrench settings inaccurate.

The CCM tools arrive calibrated using interchangeable heads that have a common centerline (CCL) as given below. If a head, extension, adapter or other attachment having a different CCL is to be used with the tool, the tool must be recalibrated using a head, extension, adapter or attachment with the same lever length that is to be used. This must be done before the tool is used with the item of a different CCL or the tool will be inaccurate.

Models
CCM 300, CCM 400, CCM 400 Nm, CCM 600 Nm use a Common Center Line of 3 7/8”

All other CCM models use 1 7/16” Common Center Line for calibration.

Care & Cleaning
Always store wrench in a clean dry environment. Do Not immerse wrench in cleaning fluids. When you have finished using the wrench, it should always be returned to its lowest setting.

Repair Parts, Service, and Calibration
All calibrations are performed in an ISO/IEC 17025 Accredited Calibration Laboratory, and certifications provide tabulated test data and traceability to national standards. Factory repair and NIST-traceable certification, can be obtained by calling +1 847-455-8677 to schedule your calibration.

Repair parts can be ordered through your local SR distributor. Call +1-847-455-8677 or email us at cusomerservice@srtorque.com for assistance.

Part # 857451
March 8 2017 Rev B