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Operating Instructions

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

Sturtevant Richmond micrometer adjustable torque wrenches are designed & manufactured to provide consistent and rapid user-selectable torque in a variety of manufacturing and maintenance operations. They meet or exceed ASME B107.14M and ISO 6789. These wrenches are accurate to +/- 4% of indicated value from 20% to 100% of capacity.

The Ratchet and Square Drive tools operate & 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.



To set the desired torque:

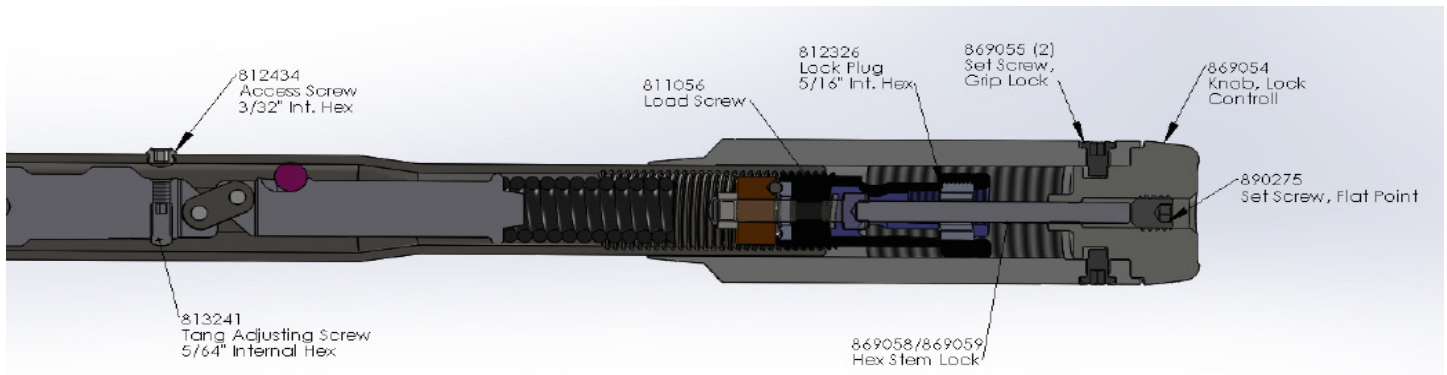
The case (Figures 1 & 2) is engraved with graduations (major scale) and the aluminum grip with increments (minor scale). The torque setting is the sum of the largest graduation below the end of the aluminum grip plus the increment aligned with the centerline of the graduations. One complete revolution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

To set the desired torque, rotate the lock control knob (Figure 3) counter-clockwise (CCW) 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 CW direction until it stops. Recheck torque to confirm proper setting.

To use the torque wrench:

- 1) Attach appropriate fastener engagement device (socket, SR interchangeable head, etc.) to the wrench. Note: It is imperative the fastener engagement device maintain the same lever length as was used during calibration. Failure to maintain lever length will cause applied torque to differ from set torque.
- 2) Engage the fastener while holding the wrench perpendicular to the axis of the fastener.
- 3) Grip the center of the Knurl-Grip and with a steady force pull in the direction of the arrow on the case. Note the easy to read load point stripe on the Knurl-Grip handle as the center of your hand.





Calibration Process

Use a mechanical loader with a tester possessing an accuracy of at least $\pm 1\%$. A more accurate tester is always preferable.

Procedure

1. Determine current performance to standard.
 - Test wrench on torque analyzer/tester.
 - Cycle wrench at 100% of capacity a minimum of three times.
 - Set wrench to 20% of capacity, cycle three (3) times and record readings.
 - Set wrench to 60% of capacity, cycle three (3) times and record readings.
 - Set wrench to 100% of capacity, cycle three (3) times and record readings.
 - Compare readings to tolerance for each torque level.
 - If wrench is within tolerance, it may be returned to service.
 - If wrench is out-of-tolerance, go to next step.
2. To Calibrate The Wrench.
 - a. Remove tang access screw.
 - b. Remove griplock control knob and hex stem lock.
 - c. Rotate aluminum grip to 100% of capacity (highest graduation + 0 on increment).
 - d. Place wrench on torque analyzer/tester, click several times, note values obtained.
 - e. Adjust wrench.
 - If readings are above tolerance, turn tang adjustment screw slightly CW, then repeat step 2d.
 - On the models highlighted on the last page there is a second set screw that is used as a jam nut. That (jam nut) set screw needs
 - If readings are below tolerance, turn tang adjustment screw slightly CCW, and repeat step 2d.*
 - If readings are in tolerance, go to next step.
 - f. Rotate grip and adjust torque to 20% of capacity (lowest graduation + 0 on increment).
 - g. Place wrench on torque analyzer/tester, click several times, note values obtained.
 - If out-of-tolerance, adjust tang adjustment screw CW or CCW depending on result.
 - If in tolerance, check at 60% and 100% of capacity.

Note: While reassembling the wrench for return to service use a click wrench set to 15 Ft. LBS. to tighten the lock plug.

Repair Parts, Service, and Calibration

Repair parts can be ordered through your local SR distributor. Call 1-847-455-8677 or email us at customerservice@sr torque.com for assistance in finding your sales professional.

Factory repair and NIST-traceable certification, can be obtained by calling +1 847-455-8677 to schedule your calibration.