



**Sturtevant
Richmont®**

Torque Measurement Systems

Sturtevant Richmont

The Tools You Trust

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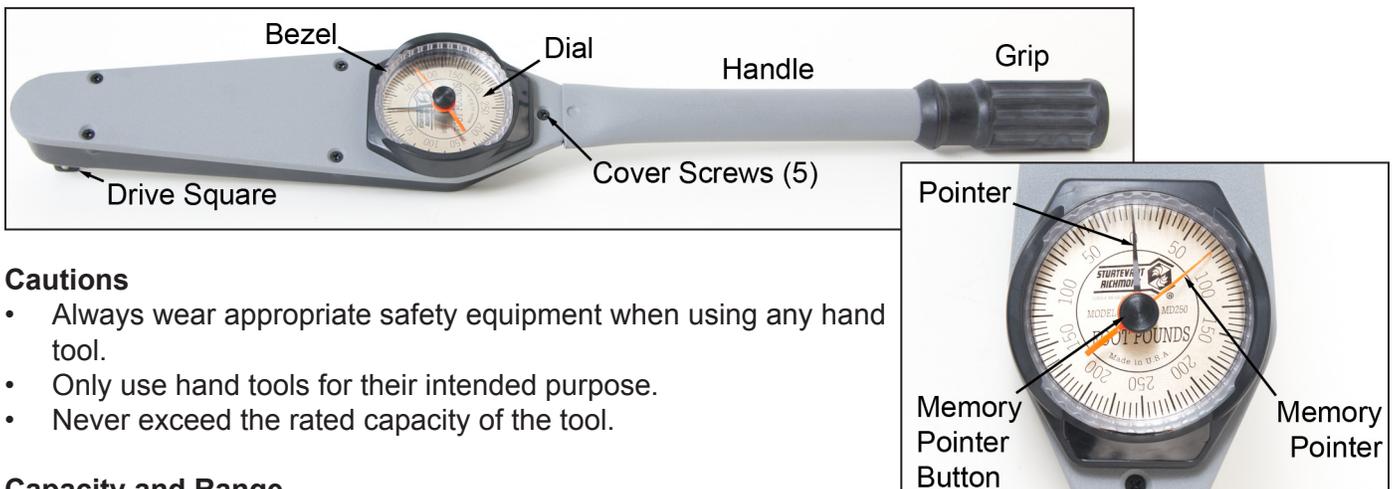
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Operating Instructions Dial Torque Wrenches - MD Models

Sturtevant Richmont dial torque wrenches are designed & manufactured to provide consistent and accurate torque application in a variety of manufacturing and maintenance fastener tightening operations. They meet or exceed ASME B107.300-2010 and ISO 6789. These wrenches are accurate to +/- 3% of indicated value from 20% to 100% of rated (marked) capacity.



Cautions

- Always wear appropriate safety equipment when using any hand tool.
- Only use hand tools for their intended purpose.
- Never exceed the rated capacity of the tool.

Capacity and Range

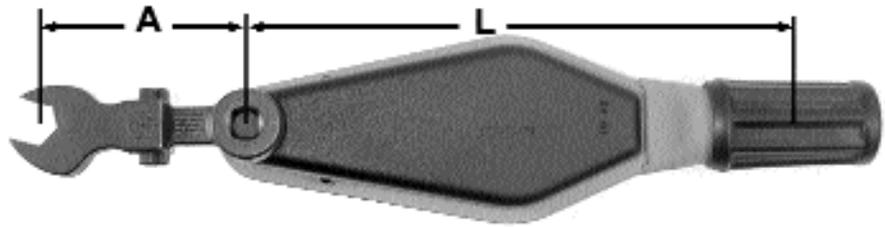
The range of each tool is from 20% to 100% of the rated capacity of the tool in both the clockwise (CW) and counter-clockwise (CCW) directions. The rated capacity of the tool is the highest value shown on the scale in the unit of measure for the tool.

Operating the Wrench

1. On MD-Series tools with a Handle Extension, attach Handle Extension to torque wrench.
 - A. Depress Release Button on Handle Extension.
 - B. Slide into Handle of torque wrench until hole in Handle aligns with pin on Handle Extension.
 - C. Release the Release Button on Handle Extension to lock components together.
2. Attach desired socket or attachment to Square Drive.
3. Set Pointer to zero by turning bezel. For best accuracy, this should be performed while wrench is held in orientation such that no torque is applied to square drive by socket or extension.
4. Bring the Memory Pointer into position next to, but not touching, the Pointer. This is done by turning the Memory Pointer Button on the dial.
5. Engage the item to have torque applied with the engagement device while gripping the center of the Grip or marked position on the Handle Extension. Pull the handle with a slow, steady force in the direction desired until the pointer reaches the desired torque value, then stop pulling.

Use of Extensions and Adapters

Any style or type of interchangeable head or other device added to the wrench that changes the lever length will make the marked torque wrench readings inaccurate.



Use of extensions or adapters affects the torque applied to the fastener, so is necessary to calculate the actual applied torque rather than simply read the dial. Calculate the torque applied using the definitions and formulae supplied below.

Formula for Auditing
[Single use after reading]

$$T_a = \frac{T_w \times (L+A)}{L}$$

T_a = Torque exerted on object (actual torque)
 T_w = Wrench dial reading
 L = Lever length of wrench
 A = Length of adapter

Formula for Assembly
[Constant use]

$$C = \frac{L}{L+A}$$

C = Conversion constant for wrench and adapter assembly
 L = Lever length of wrench
 A = Length of adapter

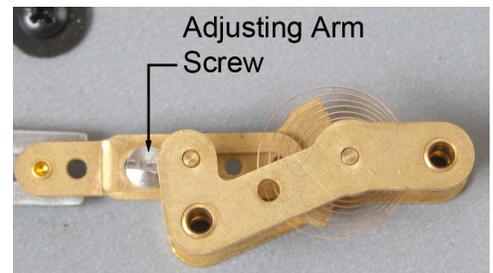
Care & Cleaning

Always store wrench in a clean dry environment. Do Not immerse wrench in cleaning fluids. It is further suggested that if the wrench is to sit idle for very long periods of time it should be set to its lowest setting.

Calibration

All torque wrenches should be checked periodically for accuracy. Accuracy tests on MD-Series torque wrenches must be performed using a tester certified to +/-0.5% Indicated Value accuracy or better.

1. Test the wrench at 20%, 60%, and 100% of capacity.
2. Compare readings to +/-3% tolerance.
 - A. If in tolerance, no adjustment is needed. If cover was removed, reinstall cover.
 - B. If out of tolerance, adjust the wrench.
 1. Remove the rubber O-ring from around the drive square, if so equipped
 2. Loosen and remove the 5 Cover Screws holding the Cover to the frame.
 3. Turn wrench drive side up and remove the Cover.
 4. Loosen the Adjusting Arm Screw.
 - a. Slide the Adjusting Arm towards the square drive end to increase torque reading on wrench.
 - b. Slide the Adjusting Arm towards the handle end to reduce the torque reading on the wrench.
 - c. Retighten Adjusting Arm Screw.
 - d. Return to Step 1 of this procedure.



Certification, Service and Repair

For service and calibration, contact us using the information on the front of this document, or send us the tool and your written instructions. All calibrations are performed in an ISO/IEC 17025 Accredited Calibration Laboratory, and certifications provide tabulated test data and traceability to national standards.