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TAC FM 2.4 GHz Wireless Click Wrench
Operating Instructions



Sturtevant Richmont TAC FM 2.4 GHz torque wrenches are designed and manufactured to provide consistent torque application in multiple manufacturing and maintenance applications. They meet or exceed the requirements of ASME B107.300 and ISO 6789.

Features

Bidirectional Measurement (The tool only clicks in the clockwise direction.)
Traceable Results with Global 400, Global 400mp, and TCVe2
Two Modes of Operation: Peak Torque and Torque with Angle Monitoring (TAM)
Two Indication LEDs

Accuracy

Torque: CW +/-4% and CCW +/-6% of the preset value from 20% to 100% of rated capacity.
Angle: +/-1° at angular velocity > 10°/sec < 180°/sec.

Environmental Conditions

This tool is intended for indoor use.
Operating/Storage Temperature: 32°F to 122°F (0°C to 50°C)
Operating/Storage Maximum Relative Humidity: 95% non-condensing
Maximum Altitude: 2000 meters

Electrical Ratings

Tool Input: 1.2 V ⎓ 1 A Max.
Optional Battery Charger Input: 110-240 V~, 50/60 Hz, 1.0 A Max. / 18 V⎓ 1 A

Important User Information

The user shall consult this documentation in all cases where this caution symbol ⚠ is marked. If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

Safety

- ALWAYS wear safety glasses and all other required safety equipment when operating this tool.
- Do NOT exceed the rated capacity of the wrench.
- Do NOT use this wrench for any purpose other than that for which it was designed and manufactured.
- Never immerse the tool in liquids.

Battery and Battery Replacement

This tool is designed to operate on a single rechargeable AAA NiMH battery, 1.2V nominal voltage. Always respect polarity requirements for the tool. Batteries with higher rated capacity will provide longer continuous operation. Use of any batteries not meeting Sturtevant Richmont NiMH rechargeable battery requirements could electrically or physically damage the tool and immediately voids the warranty. To replace the battery:

1. The battery compartment is located along the tool body. Turn the tool over.
2. Use a pen head or small screwdriver to depress the battery cover spring and slide the battery cover off.
3. Replace the discharged battery with a fully charged battery and replace the battery cover.
4. Recharge the discharged battery.

Modes of Operation

The TAC has two modes of operation: Peak Torque and Torque with Angle Monitoring (TAM). When communicating with a process monitor, the tool is capable of reporting the click torque (torque value at the point the tool "clicked") and the peak torque (peak torque value after torque was released). TAM mode will also report the angle of rotation of the fastener from the snug point (the point at which the head of the fastener has bottomed out).

Peak Torque Mode measures the current peak torque on the wrench until torque is released. If torque is between the minimum and maximum settings, the tightening event will be qualified as OK. Settings in this mode include:

- Target Torque –This is typically the torque that the tool is set to click at. The OK/NOK LED turns green at this point.
- Minimum Torque – This is the minimum acceptable torque for the joint. The OK/NOK LED will turn orange as the measured torque approaches this value. It will stay orange until the target torque is met or torque is released and the dwell timer has expired, at which point the LED will turn green.
- Maximum Torque – This is the maximum acceptable torque for the joint. The OK/NOK LED turns red at this point.
- Auto Clear Time (ACT): This controls the amount of time after torque is released before the tool reports the result to the controller.
- Dwell Time (DT): This controls the amount of time allowed to reposition the tool and reapply torque before the result is qualified.

TAM mode is an extension of Peak Torque mode, adding the ability to detect cross-threaded fasteners, double hits on a joint, and the like. Primarily, it adds the constraint that a fastener must turn through a minimum angle before minimum torque is reached. TAM mode uses the same settings as Peak mode, plus:

- Snug Torque – This is the torque value at which angle measurement starts. This is typically set to the point at which the head of the fastener has bottomed out.
- Target Angle – This is the minimum angle needed before minimum torque is reached. The OK/NOK LED will turn red if minimum torque is reached before minimum angle.
- Maximum Angle – This is the maximum acceptable angle. The OK/NOK LED will turn red if angle exceeds this setting.

Radio Communications - 2.4 GHz Communication Overview

These tools use the 2.4GHz band for communication with the controller. As with all radio communications, there are limits on the distance at which reliable bidirectional communication may be obtained. Physical barriers such as steel framing, sheet metal and other objects that impede radio waves can significantly reduce the reliable communication distance. Another factor affecting the reliability and distance is the radio environment in which the unit will be used. The controller and tool may operate on any of the 15 channels these products use. It is best to think about this before the unit is installed.

The radio modules in the controllers and tools used with them comply with the IEEE 802.15.4 standard. The channel numbers loosely match the channels used by the IEEE 802.11b/g WLAN standard. For the most reliable communication between the Sturtevant Richmont controller and the tool in an 802.11b/g LAN environment, it is usually best to choose a channel for the controller and tool that is separated from the channel of the LAN. Refer to the controller user manual for the specific frequencies being used.

Establishing RF Communication With Sturtevant Richmont Controllers

The transceiver in the controller and the one in the torque wrench each have radio identification numbers. When communication between the two is first established, the numbers are exchanged and stored in memory. The controller and tool will thereafter ignore communications from other radios until the number stored in memory is replaced with a different identification number.

Under all conditions, the controller and the tool must be on the same radio channel. If the channel on the controller is changed and the channel on the tool is not, they will not communicate or will cease communicating if they have previously been associated with each other. To establish communication with the controller, it is necessary to follow the instructions included with the specific controller to be used. Refer to the Global 400, Global 400mp, or TCVe^2 user manual for details.

Interchangeable Heads and Dovetail

These tools use the SR dovetail system. The tools are calibrated for use with SR Interchangeable Heads having a 1 7/16" (36.5mm) Common Centerline. Any SR heads with this centerline length may be used without affecting torque accuracy.

If a different head length is used, the parameter must be modified on the controller. Failure to do so will generate incorrect torque output during use.

To attach the head:

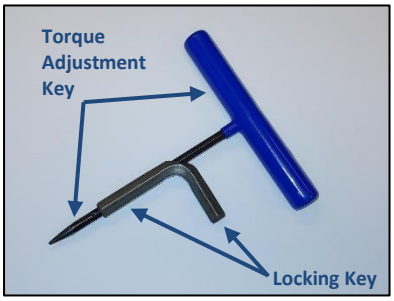
1. Align the head with the dovetail and slide it onto the dovetail until it contacts the retaining pin.
2. Use a small hex key or other device to depress the locking pin.
3. Slide the head completely onto the dovetail.

To remove the interchangeable head:

1. Use small hex key or similar object to depress locking pin through the access hole in rear of the head.
2. While the pin is depressed, slide the head sideways to hold the pin down and remove the hex key.
3. Slide the head completely off the dovetail.

Torque Setting

A torque tester of +/- 1% indicated value accuracy or better, a Sturtevant Richmont CART (Combination Adjusting and Release Tool shown at right), and an interchangeable head having the same common centerline length as the head that will be used in assembly and capable of engaging the tester are required for setting the click torque value.



1. Insert the Torque Adjustment Key fully into the rear of the wrench so the hex engages the adjustment nut. Do not engage the Lock Key. Rotate the Torque Adjustment Key slightly clockwise to disengage the adjustment nut from the lock nut.
2. Slide the Lock Key in until it engages the lock nut. You may need to rotate the lock key slightly to align it with the internal hex of the lock nut. Rotate the Lock Key counterclockwise several turns to assure the lock nut is fully disengaged from the adjustment nut and that there is sufficient travel available for the adjustment nut to attain the desired torque setting.
3. Install the interchangeable head on the wrench. Engage the wrench to the tester and click the wrench once or twice while noting the readings. To adjust the wrench to a higher torque setting, rotate the Torque Adjustment Key clockwise. To adjust the wrench to a lower torque setting, rotate the Torque

Adjustment Key counterclockwise. Torque adjustments should be made in small increments with several checks made between each movement of the Torque Adjustment Key.

4. Once the desired torque has been attained, hold the Torque Adjustment Key steady and rotate the Lock Key clockwise until the lock nut firmly engages the torque adjustment nut, locking it in place. Remove the CART from the wrench and perform a final torque check on the tester. When the reading matches the desired torque and the lock nut is firmly engaged to the torque adjustment nut, the procedure is complete.



Note: Any time the mechanical torque setting is adjusted, the tool must be power cycled or the parameter resent so the electronics can determine the new zero load point. Performing the peak adjustment routine may also be needed to realign the digital peak torque measurement.

Peak Calibration Adjustment

Any time the mechanical torque setting is adjusted, the Peak Calibration routine must be run to ensure best results of the reported torque value. Refer to the Peak Adjustment (Tool Click Point Adjusted) section of the calibration instructions at the end of this document.

LED Indication

Once the tool has been preset, the interchangeable head installed, and the radio transceiver has been associated with the controller, the tool must be assigned a parameter before it can be used. Refer to the controller user manual for complete details. When the tool is receiving the parameter, the blue LED will flash.



Note: It is important not to move the tool during the first second of the blue LED flashing so that the tool can initialize properly. Movement during this time may produce inaccurate measurement results.

In normal operation, the tool will emit a strong tactile and sound impulse when it clicks. The tool will also provide audible feedback with a beeper and visual feedback through LEDs. The various LED indications are shown in Table 1.

Table 1: LED Indication

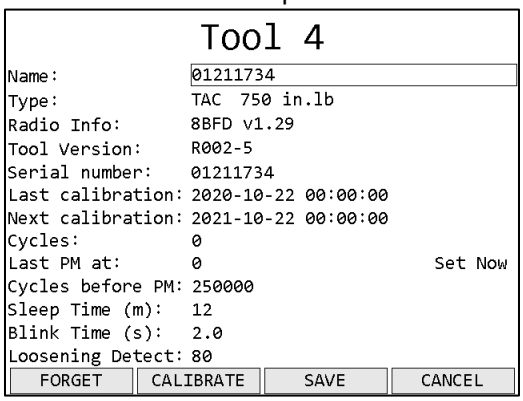
OK/NOK LED Color	**Meaning**
Orange-flashing	Low battery
Orange	Approaching minimum torque/torque within specification before click is sensed (see note below)
Green-flashing	Tool powering up (lasts for 5 seconds)
Green	Accepted tightening; Minimum torque/Minimum angle met and click detected
Green	Accepted tightening; Minimum torque/Minimum angle met and dwell time expired
Red	Rejected tightening; Maximum torque/Maximum angle exceeded
Red	Rejected tightening; Minimum torque/Minimum angle not met and dwell time expired
BATCH LED Color	
Blue-flashing	Parameter received from controller; this can be set to blink for up to 65 seconds. The flashing blue LED will turn off once torque is applied.
Blue	Batch complete

Note: An orange OK/NOK LED after torque is released indicates that target torque has not been reached. After the dwell time expires, the tool will qualify the event, change the LED to green or red, and transmit the result to the controller.

Tool Settings

Some tool settings may be modified after the tool has been learned into the controller. Go to the Tool Edit screen or use Global Manager to access these settings:

- Sleep Time – Set the amount of time in minutes before the tool will enter low power mode. This can be disabled by setting the value to 0. Default is 12 minutes.
- Blink Time – Set the amount of time in seconds the blue LED will flash upon being enabled by a parameter sent from the controller. Blinking will stop when the timer expires or the tool senses torque applied. Default is 2 seconds.
- Loosening Detect – Set the percentage of minimum torque the tool rejects a result if torque is seen in the opposite direction after exceeding minimum torque in the desired direction. This is disabled by setting the value to 0. It is also disabled when the parameter direction is set to “Both”. Default is 80%.



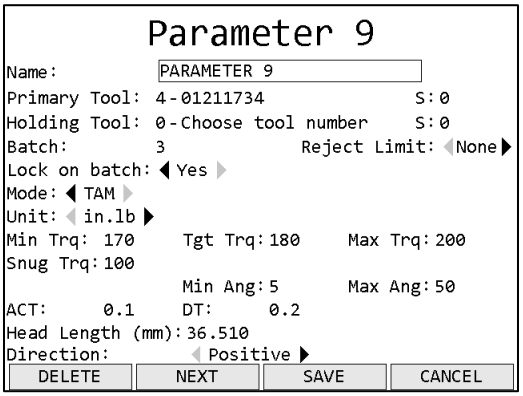
Parameter Settings

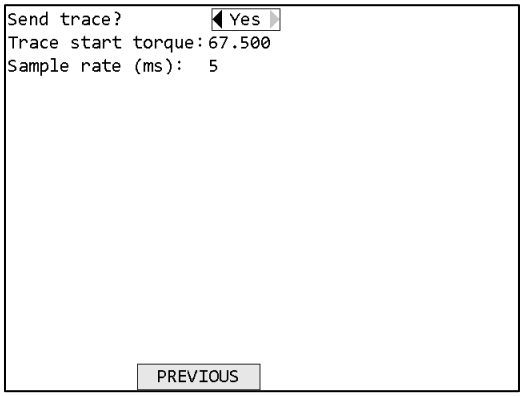
Although this tool will only click in one direction, digital torque measurement can be made in both directions. The direction field of the parameter defines the functionality of the tool.

- Positive: The tool clicks and measures torque in the clockwise direction. The result is rejected if loosening torque is detected.
- Negative: The tool does not click but measures torque in the counterclockwise direction. The result is rejected if loosening torque is detected.
- Both: The tool clicks in the positive direction and torque is measured in both directions. The final result is reported as a positive value (CW) or a negative value (CCW) based on the direction of torque at the end of the event. Loosening detection is disabled.

The tool is able to provide trace curve data for each event. The following details pertain to the Global 400 or Global 400mp. The TCVe2 has similar functionality. Pressing “NEXT” in the parameter setup will display the trace data settings screen.

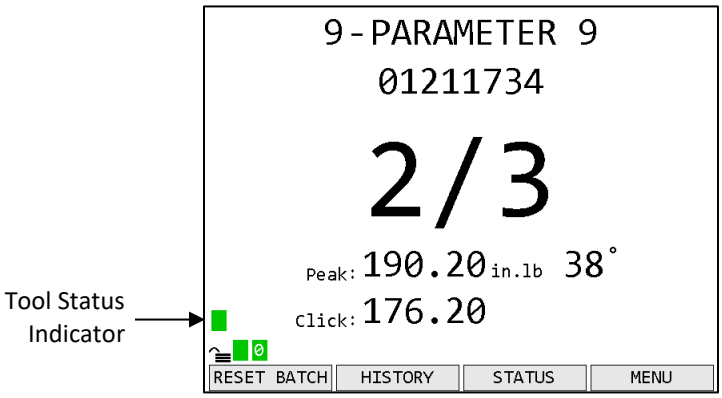
- Send trace: “Yes” activates trace curve data collection. Default is “No” (off).
- Trace start torque: Defines the torque value at which trace data will start being collected.
- Sample rate (ms): Amount of time in milliseconds between samples. Default (and minimum) is 5 ms.



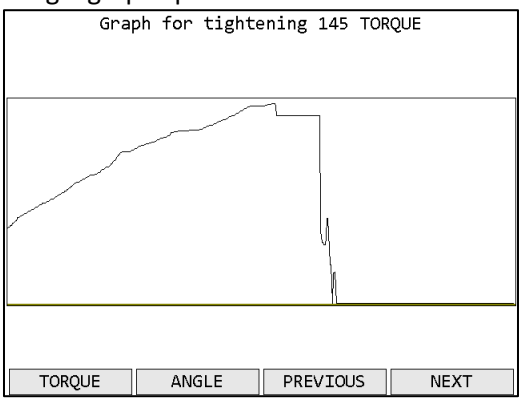


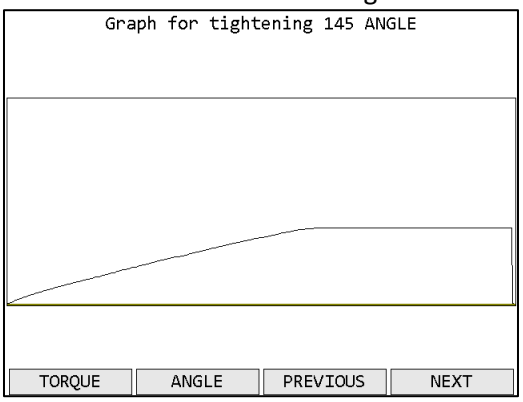
Results

After the result is reported to the controller, the Click torque, Peak torque, and angle (if applicable) are displayed on the controller.

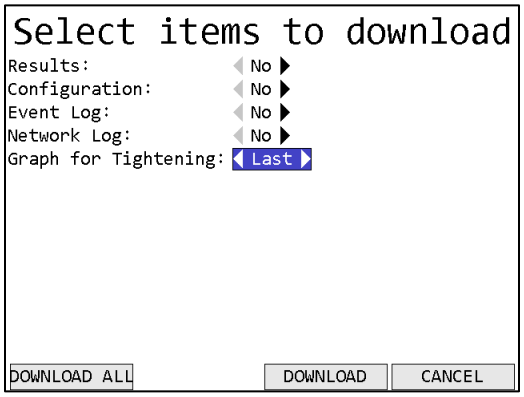


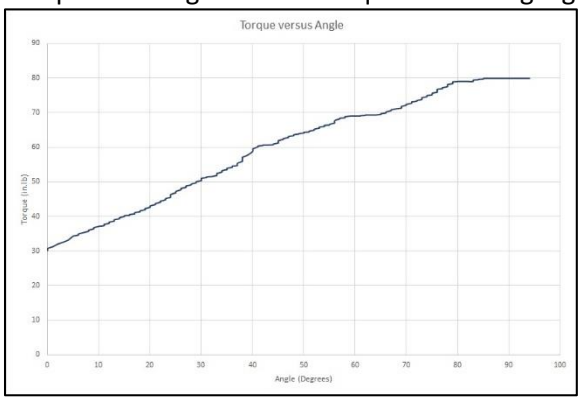
The tool then sends the trace data, if enabled. The Tool Status Indicator will turn blue while the tool is sending the data. The time it takes to transmit this data depends on the number of data points captured. The torque and angle graphs may be viewed by pressing “STATUS” then “GRAPH”. Softkeys are used to switch between the torque and angle graphs plotted versus time. Press “NEXT” or “PREVIOUS” to move through all collected graphs.





A CSV file for each set of trace curve data may be downloaded from Global Manager or by inserting a USB stick into the Global. Once this data is downloaded, it can be manipulated to generate a torque versus angle graph.





Troubleshooting

Problem	Possible Causes	Possible Solutions
Tool does not power up (no LED indication).	Battery is low.	Replace it with a fully charged battery.
	Battery is damaged.	Replace it with a new battery.
	Damaged battery holder.	Contact the factory.
The OK/NOK LED is flashing orange.	Battery is low.	Replace it with a fully charged battery.
Tool settings (Sleep Time, Blink Time, and Loosening Detect) did not update on the tool.	The tool has not been power cycled.	Power cycle the tool.
The controller does not show new calibration dates.	Calibration dates only update when a tool is learned in.	Forget the tool and learn it back in to the controller.
LED is orange after the tool clicked.	Parameter target torque is set higher than the click point.	Decrease the value of the parameter target torque.
	Click point is set too low.	Increase the mechanical torque setting on the wrench.
	The joint is soft.	The electronics may not detect the click on a soft joint.
Tool blue LED is not flashing when a parameter is selected.	Tool has gone into sleep mode.	Move the tool to exit sleep mode.
	Battery has died.	Replace it with a fully charged battery.
	Blink Time is set to zero.	Increase the Blink Time value.
Digital output value is not accurate.	Mechanical click value was adjusted after receiving a parameter.	Power cycle the tool so it can recalculate the offset.
	Tool is out of calibration.	Calibrate the tool.
Graph of trace data does not show on controller.	Tool is still sending trace data.	Allow time for the tool to complete sending all of the data.

Care and Maintenance

This wrench should be cleaned with a soft cloth dampened with water. Do not immerse this tool in liquid or use any solvent other than water to clean the tool.

Presetting, Calibration and Repair

Factory presetting and calibration from our ISO 17025 Accredited Calibration Laboratory are available. Calibration and verification are performed using the SR Connect PC application. Contact your SR distributor for details. Parts and factory repair are also available. All repairs are to be performed by factory trained technicians or the factory only.

Additional Information

Additional information is available at ***www.srtorque.com***. You can also call customer service at 1-847-455-8677 or send e-mail to customerservice@srtorque.com.

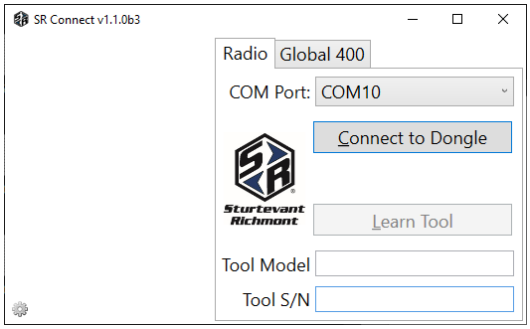
TAC FM 2.4 GHz Wireless Click Wrench
Calibration Adjustment Instructions

1. REQUIRED EQUIPMENT

1.1. Mechanical Loader with tester and applicable transducer
1.2. Properly sized square drive head
1.3. CART Tool (SRT819117)
1.4. 3/16” Hex key
1.5. Calibration kit (SRT816793) – contains spacers of various size
1.6. SR Connect USB Radio Dongle and Connect software application (SRT10711)
1.7. PC with the SR Connect application installed
1.8. Fully charged AAA NiMH battery
1.9. Extension Handle (if used with the tool)
1.10. New grip – short (SRT812352) or long (SRT812353)

2. TOOL & TEST SETUP BASE DATA

2.1. Allow the tool to acclimate to the room for at least 12 hours prior to performing the calibration adjustment and calibration verification procedures.
2.2. Select the appropriate capacity transducer and power the torque tester on.
2.3. IF AN EXTENSION HANDLE IS USED, THE WRENCH MUST BE CALIBRATED WITH THE EXTENSION HANDLE ATTACHED.
2.4. Open the SR Connect application. Enter the password (“010436” by default) and click “Submit”. Use the “COM Port:” dropdown menu to select the COM port that the radio dongle is connected to. Click “Connect to Dongle” and wait for the button to change to “Disconnect from Dongle”.



2.5. Type the wrench serial number in the “Tool S/N” field.
2.6. Click “Learn Tool”. Insert the AAA battery and wait for the “Tool Model” field to be populated. This completes the learn process. **NOTE: If the OK/NOK LED is flashing orange, the battery is at low voltage and must be replaced with a fully charged battery.**
2.7. Verify the Tool Model and Tool S/N are correct.
2.8. Insert battery door.
2.9. If only the peak value needs to be adjusted, proceed to Section 3.4. Otherwise, proceed to Section 3.

3. CALIBRATION ADJUSTMENT PROCEDURE

3.1. Unclicked Calibration

3.1.1. Cut the grip off the tool. Keep the grip for use during the calibration process.

3.1.2. Use the CART Tool to remove the lock washer, jam nut, and adjusting plug.

3.1.3. Remove torque spring.

3.1.4. Insert spacer(s) leaving enough room to reinsert the adjusting plug.

3.1.5. Reinsert adjusting plug and tighten it with the hex key until just touching against the spacers. NOTE: Overtightening the adjusting plug will induce an offset and generate incorrect readings. The tang should not be able to move from the "unclicked" position.

3.1.6. Apply the cut grip on the tool.

3.1.7. Click "Calibrate Tool".

3.1.8. Click "Calibrate Unclicked"

3.1.9. With the tester in Track mode, zero the tester. Place the wrench on the tester and load it in the clockwise (CW) direction to 100% capacity and then unload to 0% 3 times. Remove the wrench and zero the tester.

3.1.10. The application requests calibration point inputs based on the full scale of wrench capacity beginning with 0 (unloaded) in the clockwise (CW) direction. Navigation through the calibration process utilizes the "Save CAL Point" button to save the current point and the "Next CAL Point" button to advance to the next point.

3.1.11. Proceed as prompted to record the CW calibration points:

3.1.11.1. Stand the wrench vertically for the 0% unloaded state. Click "Save CAL Point". Click "Next CAL Point". Place the wrench back on the mechanical loader.

3.1.11.2. Load the wrench to 100% capacity CW and click "Save CAL Point". Verify that the "Measured:" field is populated before releasing the load on the wrench for all points. If the wrench is loaded too high or too low, unload the wrench to zero and repeat the same capacity. When an acceptable value is saved, click "Next CAL Point".

3.1.11.3. Load the wrench to 60% capacity CW and click "Save CAL Point". Click "Next CAL Point".

3.1.11.4. Load the wrench to 20% capacity CW and click "Save CAL Point". Click "Next CAL Point".

3.1.12. Upon completion of the CW direction points, the software will advance to request inputs for the counterclockwise (CCW) direction.

3.1.13. Load the wrench in the counterclockwise (CCW) direction to 100% and then unload to 0% 3 times. Remove the wrench and zero the tester.

3.1.14. Proceed as prompted to record the CCW calibration points:

3.1.14.1. Stand the wrench vertically for the 0% unloaded state. Click "Save CAL Point". Click "Next CAL Point". Place the wrench back on the mechanical loader.

3.1.14.2. Load the wrench to 100% capacity CCW and click "Save CAL Point". Click "Next CAL Point".

3.1.14.3. Load the wrench to 60% capacity CCW and click "Save CAL Point". Click "Next CAL Point".

3.1.14.4. Load the wrench to 20% capacity CCW and click "Save CAL Point".

3.1.14.5. Unclicked calibration is complete. Click "Exit Calibration".

3.1.14.6. Click "Complete Calibration".

3.2. Clicked Calibration

3.2.1. Remove the wrench from the loader.
3.2.2. Remove the cut grip from the end of the tool.
3.2.3. Using the hex key, remove the adjusting plug and any spacers. Clicked calibration will proceed without these components installed.
3.2.4. Replace the cut grip on the end of the tool.
3.2.5. Click “Calibrate Clicked”.
3.2.6. With the tester in Track mode, zero the tester and load the wrench in the clockwise (CW) direction to 100% and then unload to 0% 3 times. Remove the wrench and zero the tester.
3.2.7. The application requests calibration point inputs based on the full scale of wrench capacity beginning with 0 (unloaded) in the clockwise (CW) direction.
3.2.8. Proceed as prompted to record the CW calibration points:
    3.2.8.1. Stand the wrench vertically for the 0% unloaded state. Click “Save CAL Point”. Click “Next CAL Point”. Place the wrench back on the mechanical loader.
    3.2.8.2. Load the wrench to 100% capacity CW and click “Save CAL Point”. Click “Next CAL Point”.
    3.2.8.3. Load the wrench to 60% capacity CW and click “Save CAL Point”. Click “Next CAL Point”.
    3.2.8.4. Load the wrench to 20% capacity CW and click “Save CAL Point”. Click “Next CAL Point”.
3.2.9. Upon completion of the CW direction points, the software will advance to request inputs for the counterclockwise (CCW) directions.
3.2.10. Load the wrench in the counterclockwise (CCW) direction to 100% and then unload to 0% 3 times. Remove the wrench and zero the tester.
3.2.11. Proceed as prompted to record the CCW calibration points:
    3.2.11.1. Stand the wrench vertically for the 0% unloaded state. Click “Save CAL Point”. Click “Next CAL Point”. Place the wrench back on the mechanical loader.
    3.2.11.2. Load the wrench to 100% capacity CCW and click “Save CAL Point”. Click “Next CAL Point”.
    3.2.11.3. Load the wrench to 60% capacity CCW and click “Save CAL Point”. Click “Next CAL Point”.
    3.2.11.4. Load the wrench to 20% capacity CCW and click “Save CAL Point”.
3.2.12. Clicked calibration is complete. Click “Exit Calibration”.
3.2.13. Click “Set Cal Dates”.
3.2.14. Verify the date in the field is correct. Click “Set Last Cal Date”.
3.2.15. Modify the date for one year later. Click “Set Next Cal Date”.
3.2.16. Click “Exit”

3.3. Peak Adjustment (Full Calibration)

Use this procedure when the grip was removed to perform the unclicked and clicked calibration procedures.

3.3.1. Remove the wrench from the loader.
3.3.2. Remove the cut grip from the end of the tool.
3.3.3. Reinstall torque spring, spacer (if used), adjusting plug, lock washer and jam nut.
3.3.4. Replace the cut grip on the end of the tool.
3.3.5. Proceed with section **3.4. Peak Adjustment (Tool Click Point Adjusted)** below.

3.4. Peak Adjustment (Tool Click Point Adjusted)

Use this procedure when only the mechanical click point has been adjusted (the grip has not been removed).

3.4.1. Zero the tester and load the wrench in the clockwise (CW) direction to 100% and then unload to 0% 3 times. Remove the wrench and zero the tester.
3.4.2. Set the click point for the wrench by rotating the adjustment nut and checking the value on the tester.
3.4.3. Pull the tool to a click at least 3 times.
3.4.4. Click “Calibrate Peak”. The application will display “[C] Rest”
3.4.5. Remove the tool from the tester and leave at rest.
3.4.6. Click “Continue”. The application will display “Pull”
3.4.7. Set the tester to Initial Peak mode.
3.4.8. Pull the tool to a click.
3.4.9. Type the initial peak value shown on the tester into the “Tester Initial” field and click “Send Initial”.
3.4.10. Set the tester to Peak mode.
3.4.11. Pull the tool through a click.
3.4.12. Type the peak value shown on the tester into the “Tester Peak” field and click “Send Peak”.
3.4.13. Click “Continue”. The application will display “Pull” again.
3.4.14. Repeat steps 3.4.7 through 3.4.13 until the application displays a calibration result values summary – a total of 5 times.
3.4.15. Click “End”.
3.4.16. Click “Exit”.
3.4.17. Calibration adjustment of the tool is complete.

4. CALIBRATION VERIFICATION

4.1. Calibration Verification Procedure Notes

4.1.1. The accuracy tables for each model are located in Section 6 of this procedure.

4.2. Calibration Verification Procedure

4.2.1. If the tester has not been zeroed in the CW direction, zero the tester and load the wrench in the clockwise (CW) direction to 100% and then unload to 0% 3 times, remove the wrench, and zero the tester. Do this prior to the start of testing and after a break when test is a continuation.

4.2.2. Set the tester to Peak mode.

4.2.3. Click “Check Tool”.

4.2.4. Check click at 20% capacity setting.

4.2.4.1. Adjust the wrench such that it will click at 20% capacity.

4.2.4.2. Use the “Units” dropdown menu to select the desired units. Click “Update Tool”. The blue LED on the tool will flash.

4.2.4.3. Apply three (3) torque loads until the wrench clicks.

4.2.4.4. Record or observe readings and compare to the wrench accuracy tolerance. If any reading is outside the tolerance range, rerun the calibration adjustment procedure.

4.2.5. Check click at 60% capacity setting.

4.2.5.1. Adjust the wrench such that it will click at 60% capacity.

4.2.5.2. Click “Update Tool”. The blue LED on the tool will flash.

4.2.5.3. Apply three (3) torque loads until the wrench clicks.

4.2.5.4. Record or observe readings and compare to the wrench accuracy tolerance. If any reading is outside the tolerance range, rerun the calibration adjustment procedure.

4.2.6. Check click at 100% capacity setting.

4.2.6.1. Adjust the wrench such that it will click at 100% capacity.

4.2.6.2. Click “Update Tool”. The blue LED on the tool will flash.

4.2.6.3. Apply three (3) torque loads until the wrench clicks.

4.2.6.4. Record or observe readings and compare to the wrench accuracy tolerance. If any reading is outside the tolerance range, rerun the calibration adjustment procedure.

4.2.7. Click “Exit”.

4.2.8. Click “Forget Tool”.

4.2.9. Remove battery from the wrench.

4.2.10. Replace the battery cover.

4.2.11. Verification is complete.

4.2.12. If necessary, remove test grip from the wrench and apply new grip.

5. TROUBLESHOOTING

This section provides instructions for addressing issues that may be seen during calibration.

5.1. Calibration points are reported as “0” in the SR Connect application regardless of the load applied to the tool.

5.1.1. The tool is not reading the transducer properly. Contact your representative for repair.

5.2. “CALPOINT BAD” is displayed in the “Measured:” field when saving a calibration point.

5.2.1. The internal wiring may have been damaged. Contact your representative for repair.

5.3. OK/NOK LED is flashing orange.

5.3.1. Battery is low. Replace battery with a fully charged battery.

5.4. The tool click point is not accurate.

5.4.1. The adjusting plug may have been tightened too much during unclicked calibration.

5.4.2. Repeat the unclicked calibration procedure making sure no pressure is placed on the adjusting plug and spacer(s). The spacers and plug are only there to prevent movement of the tang.

6. ACCURACY CHARTS

Accuracy tables are based on CW +/-4% and CCW +/-6% tolerance.

6.1. TAC-150I – 150 Inch-Pound Capacity

Capacity in In.Lb	% FS	Torque Value in In.Lb	Clockwise		Counterclockwise	
			+ Tol.	-Tol.	+ Tol.	-Tol.
150	20	30	31.2	28.8	31.8	28.2
	30	45	46.8	43.2	47.7	42.3
	40	60	62.4	57.6	63.6	56.4
	50	75	78.0	72.0	79.5	70.5
	60	90	93.6	86.4	95.4	84.6
	70	105	109.2	100.8	111.3	98.7
	80	120	124.8	115.2	127.2	112.8
	90	135	140.4	129.6	143.1	126.9
	100	150	156.0	144.0	159.0	141.0

6.2. TAC-300 – 300I Inch-Pound Capacity

Capacity in In.Lb	% FS	Torque Value in In.Lb	Clockwise		Counterclockwise	
			+ Tol.	-Tol.	+ Tol.	-Tol.
300	20	60	62.4	57.6	63.6	56.4
	30	90	93.6	86.4	95.4	84.6
	40	120	124.8	115.2	127.2	112.8
	50	150	156.0	144.0	159.0	141.0
	60	180	187.2	172.8	190.8	169.2
	70	210	218.4	201.6	222.6	197.4
	80	240	249.6	230.4	254.4	225.6
	90	270	280.8	259.2	286.2	253.8
	100	300	312.0	288.0	318.0	282.0

6.3. TAC-750I/TAC-750 ERGO – 750 Inch-Pound Capacity

Capacity in In.Lb	% FS	Torque Value in In.Lb	Clockwise		Counterclockwise	
			+ Tol.	-Tol.	+ Tol.	-Tol.
750	20	150	156.0	144.0	159.0	141.0
	30	225	234.0	216.0	238.5	211.5
	40	300	312.0	288.0	318.0	282.0
	50	375	390.0	360.0	397.5	352.5
	60	450	468.0	432.0	477.0	423.0
	70	525	546.0	504.0	556.5	493.5
	80	600	624.0	576.0	636.0	564.0
	90	675	702.0	648.0	715.5	634.5
	100	750	780.0	720.0	795.0	705.0

6.4. TAC-1200I – 1200 Inch-Pound Capacity

Capacity in In.Lb	% FS	Torque Value in In.Lb	Clockwise		Counterclockwise	
			+ Tol.	-Tol.	+ Tol.	-Tol.
1200	20	240	249.6	230.4	254.4	225.6
	30	360	374.4	345.6	381.6	338.4
	40	480	499.2	460.8	508.8	451.2
	50	600	624.0	576.0	636.0	564.0
	60	720	748.8	691.2	763.2	676.8
	70	840	873.6	806.4	890.4	789.6
	80	960	998.4	921.6	1017.6	902.4
	90	1080	1123.2	1036.8	1144.8	1015.2
	100	1200	1248.0	1152.0	1272.0	1128.0

6.5. TAC-1800I/TAC-1800I ERGO – 1800 Inch-Pound Capacity

Capacity in In.Lb	% FS	Torque Value in In.Lb	Clockwise		Counterclockwise	
			+ Tol.	-Tol.	+ Tol.	-Tol.
1800	20	360	374.4	345.6	381.6	338.4
	30	540	561.6	518.4	572.4	507.6
	40	720	748.8	691.2	763.2	676.8
	50	900	936.0	864.0	954.0	846.0
	60	1080	1123.2	1036.8	1144.8	1015.2
	70	1260	1310.4	1209.6	1335.6	1184.4
	80	1440	1497.6	1382.4	1526.4	1353.6
	90	1620	1684.8	1555.2	1717.2	1522.8
	100	1800	1872.0	1728.0	1908.0	1692.0