

How do I set the torque on S/R preset torque wrenches?

*Torque Adjustment Procedure:
S/R Preset Torque Wrenches: LTC,
LTCR, and LTCS Series*



**Sturtevant
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Torque Measurement Systems

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Needed Items:

- S/R preset torque wrench from the LTC, LTCR, or LTCS Series.
- If LTC wrench, an SD or SDRT interchangeable head must be used.
- S/R Combination Adjusting and Release Tool (CART Tool).
- Torque Tester of +/- 1% I.V. Accuracy or better.
- Veritorq, Torq-Tronics® (Used in this demonstration.) or System 4/5

Start torque tester.

- Allow tester to warm up.
- Check tester for zero.
- Set tester to use selected unit of measure.
- Set tester to capture initial peak torque.

The CART Tool has two hex keys, one inside the other. The inner hex key is "T" shaped, enclosed in a vinyl cushion, and is pointed. This is the Torque Adjustment Key. It is used to adjust the torque setting. Rotating it clockwise when it is engaged with the adjustment nut increases the torque setting; rotating it counter-clockwise when it is engaged with the torque adjustment nut decreases the torque setting.



The outer key is the Locking Key. It is "L" shaped and has a larger hex size. This key engages a jam nut inside the wrench to lock the torque setting in place. To adjust the torque, the nuts must first be disengaged from contact with each other.

Align the CART Tool with the rear of the torque wrench as shown here.



Insert the Torque Adjustment Key into the wrench as shown. The Locking Key should not yet be engaged. The Torque Adjustment Key will slide easily into the center of the wrench adjustment mechanism. Some slight rotation of the key may be necessary to assure it fully engages the torque adjustment mechanism.



Insert the Locking Key into the jam nut by sliding it forward on the CART Tool. Only finger pressure will be needed to tell when the Locking Key meets the jam nut. It may be necessary to slightly rotate the Locking Key to allow the hex on the key to engage the hex on the nut. When the engagement occurs, you will feel the Locking Key slide further forward slightly.



Frequently Asked Questions

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Hold the Locking Key in position and rotate the Torque Adjustment Key slightly clockwise to insure the jam nut is disengaged from the torque adjustment mechanism.

Engage the square drive of the torque wrench to the tester. The drive must be fully engaged for proper testing.



Cycle ("click") the torque wrench 4 times to determine the current torque setting. Read and note the last reading displayed by the tester.

This is the start point for torque adjustment.

For this demonstration, our target torque is 20 foot pounds. Since the wrench is currently set at 7.6 foot pounds, the torque setting will need to be adjusted upwards



With the wrench still engaged to the tester, grasp the wrench grip and rotate the CART Tool clockwise to increase the torque setting. If there is a large difference between the current torque



level and the desired setting, repeat the rotation several times. The further the clockwise rotation, the higher the torque is adjusted. Care should be taken not to exceed the maximum torque; small amounts of rotation between tests on the tester are recommended.

Retest the torque wrench on the tester to determine the current torque setting. This is necessary each time the Torque Adjustment Key is rotated.

Note the reading of 11 foot pounds in the photograph. It is better to make several small adjustments to the torque setting instead of trying to make one large one.



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Repeat Steps 7 and 8 until the target torque is reached, as displayed by the tester.

TIP! If the adjustment is made to just a few percentage points above the target torque, any settling of the adjustment mechanism in the next step will bring the torque into almost the exact torque desired.



Grasp the wrench and the CART Tool. Hold the Adjustment Key in place and rotate the Locking Key clockwise until it jams against the torque adjustment mechanism. This will be felt as firm resistance to further rotation. Then hold the Locking Key in place and attempt to rotate the Adjustment Key counter-clockwise. It should not move more than a small fraction of a turn. When that is the case, the torque is set and locked in place.

Test the wrench again on the torque tester to verify that the torque setting was not accidentally changed during the locking procedure.

Remove the CART Tool from the torque wrench.

The torque is now set and the wrench ready for use!



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