



Quality Assurance Instrumentation Precision Assembly Automation

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ST-100 Calibration Procedure

Select the Setup Mode from the Main Menu by pressing the "DOWN" and "OK" buttons simultaneously. Upon releasing the buttons, "MODE: SETUP" appears on the display. There are several sub-menus in the SETUP menu: CALIBRATION, SETUP DELAY, and SETUP FEATURES (in newer firmwares there is also a password configuration submenu). Selecting one of the sub-menus is accomplished by pressing the "YES" or "NO" button as each option appears on the display. Pressing the "ESC" button (EXIT) leads back to the previous menu mode. Select CALIBRATION.

The calibration parameters are set here. If you need to check the calibration of the unit or need to recalibrate it, you must obtain a Calibration Kit from Sure Torque. If you do not have it, you must not make any changes in this mode.

If you obtained the Calibration Kit, please follow this procedure:

Enter the CALIBRATION sub-menu by pressing "YES" when the display reads: "CALIBRATION". The display then will read:

"TORQUE: + 0.0"
" EXIT RECAL"

In this mode the transducer is directly connected to the display for continuous observation and dead weight calibration of the ST-100 cap torque tester/tightener. Follow these steps to verify the unit's calibration:

1. Remove the platform
2. Using 5/16-18 hand knobs, install the weight roller assembly (roller side up).
3. Remove the existing collet
4. Remove the left clamp assembly
5. Slide back the right clamp assembly all the way to the right
6. Install the desired test pulley into the chuck
7. Raise the roller assembly to align the test pulley with the roller assembly. The top of the rollers should be in level with the middle of the pulley.
8. Attach the wire to the test pulley with the loop at the end of the wire set over the head of the socket screw in the middle of the pulley. Wrap the wire around pulley at least 180 degrees and hang it over the appropriate roller. If you hang the wire over the right hand side roller, you test the machine for release; if over the left hand side roller, you test for applied.
9. Hang the desired weight on the end of the wire. Be sure not to drop the weight and shock the testing head.
10. If the reading on the display is within the $\pm 1\%$ range of the torque (the radius of the pulley multiplied by the weight), the torque tester meets the calibration requirements.

Pressing the "ESC" button will terminate the calibration mode and return to the previous sub-menu.

If your machine does not meet the above criteria, press the "Ok" button to recalibrate the machine. The display then will read:

"REMOVE WEIGHT"
"THEN PRESS A KEY"

Remove the weight from the wire, then press any key. The display will read:

“HANG THE WEIGHT”
“THEN PRESS A KEY”

Hang the weight on the wire, then press any key. The display will read:

“RADIUS x WEIGHT”
“Set: XX.X in-lbs“

Calculate the torque by multiplying the radius of the pulley by the weight being used. Enter this value using the “Up” or “Down” keys. Press “OK”.

The ST-100 is calibrated and it should display the nominal torque value +/- 0.2 in-lbs.