TECHWRENCH November 30, 2005

TECHWRENCH® CALIBRATION (NON-MEMORY MODELS)

Calibration events are recorded in the wrench memory and provide evidence to void factory certification. Contact your *Snap-on* sales representative for authorized calibration and repair services.

Use this procedure to calibrate the following TECHWRENCH Models:

TECH1R240	TECH1FR240	TECH1J240	TECH1JD240	(240 in-lb full-scale)
TECH2R100	TECH2FR100	TECH2Y100	TECH2YD100	(100 ft-lb full-scale)
TECH3R250	TECH3FR250	TECH3X250	TECH3XD250	(250 ft-lb full-scale)
TECH4R600		TECH4Z600	TECH4ZD600	(600 ft-lb full-scale)

All non-memory “SJ” models

Equipment Required:

A static torque source, accurate to within 0.5% of reading. Refer to Snap-on TTC2000/2800 Torque Calibration Systems or VERSATEST250/600 Torque Testers. Snap-on fixed-square drive adaptors, (round shank insert tools) QJSD8A, QYSD12A, QXSD16A and QZSD24A for the J,Y,X and Z models, respectively.

NOTES:

1. If the wrench display shows "**Err0**" at power on, the wrench is damaged and must be repaired before attempting calibration.
2. When calibrating or checking flex-ratchet models, insure that the head is straight (non-flexed).
3. When calibrating or checking wrenches, always apply load (clockwise or counter-clockwise) at the appropriate “V” notch near the center of the handle.
4. Use its TRACK mode if calibrating or checking with an electronic torque tester.
5. Always calibrate with new “AA” cells installed.
6. If the ON/ZERO key is pushed any time before completing step 7 the wrench will escape from the calibration mode and default to the previous calibration parameters.
7. “SJ” models display “Nm” units of measure only.
8. Alert tolerance is programmable between ±1% and ±16% of the preset torque value on the “D” models. Early alert is fixed at –2% of the preset torque value on non-D models. (Refer to the instruction manual, 05-03 version or later, for details).

Calibration Procedure

1. Push the ON/ZERO key to turn the wrench on.
2. Momentarily apply full-scale torque three times in the clockwise direction.
3. Select a unit of measure, “Nm,” “ft-lb,” or “in-lb,” by momentarily pushing the UNITS key. (See note 7 above).
4. While pushing and holding the ON/ZERO key, push the UP key once momentarily and then push and hold the DOWN key until the display shows "**CAL**."
5. With no torque applied, (completely remove the wrench from the torque source and wait at least 15 seconds) push the UNITS key once to set zero into memory. (If using an electronic torque tester, activate its zero tare function).

6. Apply continuous full-scale torque, (see notes 2, 3 and 4 above) in the clockwise direction using the certified torque source. Use the UP and DOWN keys to adjust the wrench display to match the applied torque.
7. (Before proceeding, refer to note 6). Push the UNITS key to accept the new calibration parameters into memory. The display will momentarily read "**CAL**" and then "**End.**"
8. Release the torque and the wrench will revert to measurement mode. To negate the audible and tactile alerts at the low-end check points, use the UP and DOWN keys to adjust the torque preset to maximum value on non-D models. On "D" models refer to the instruction manual to change the torque preset value if desired. (See note 8 above).
9. Verify calibration at the 20%, 60% and 100% of F.S. check points in the clockwise direction. (See notes 2, 3 and 4 above). All readings must be within 2% of the applied torque on the "FR" and "R" models, or 4% on the "J,Y,X and Z" models, plus the accuracy of the torque source.*
10. Momentarily apply full-scale torque three times in the counter-clockwise direction.
11. With no torque applied, (completely remove the wrench from the torque source and wait at least 15 seconds) push the ON/ZERO key to establish zero tare. (If using an electronic torque tester, activate its zero tare function as well).
12. Verify calibration at the 20%, 60% and 100% of F.S. check points in the counter-clockwise direction. (See notes 2, 3 and 4 above). All readings must be within 3% of the applied torque on the "FR" and "R" models, or 6% on the "J,Y,X and Z" models, plus the accuracy of the torque source.*

*For example: If the certified torque source is within 0.5% then, for a properly calibrated TECHxFRxxx wrench, readings should be within 2.5% of the applied torque in the clockwise direction and within 3.5% of the applied torque in the counter-clockwise direction.