

Snap-on Tools Standard Calibration Terms and Conditions for Returned Devices

The **Name and Address** details entered on the certificate will be completed using the company name and invoice address as agreed with customer under contract review.

The **Calibration Method** used will follow the current ISO/BS standard or SAC approved method used by the laboratory for the type of device to be calibrated.

Torque measurement device calibrations to **BS 7882:2017** will follow the two-plane method giving a best achievable class of 0.2. **Hand torque tool** calibrations to **ISO 6789-2:2017** will be for torque tools calibrated using the specified accuracy as the expected measurement error unless stated otherwise by the customer. Tools not manufactured by Norbar and where the customer has not specified an accuracy requirement will be calibrated using the maximum permissible deviation given in clause 5.1.5 of ISO 6789-1:2017 (i.e. 4% or 6% as the expected measurement error dependent on tool type and maximum torque value). All torque wrenches will be calibrated using the standard output drive of the tool unless otherwise specified by the customer. For tools with an interchangeable interface, they will be calibrated using an appropriate adaptor supplied by the calibration laboratory unless otherwise specified by the customer. Where a dominant type B uncertainty has been identified in accordance with clause 7.2 of ISO 6789-2:2017, the expanded uncertainty will be calculated using Monte Carlo Simulation (MCS) instead of the usual Root Sum Squared (RSS) method.

The current standards and the schedule of accreditation can be viewed on the following link:

<https://sacinet2.enterprisesg.gov.sg/sacsearch/search>

Only for ISO 6789:1 (Certificate no.: LA-2022-0819-G)

<https://sacinet2.enterprisesg.gov.sg/sacsearch/search>

The laboratory can be contacted for specific details of particular methods and standards used.

The standard **Calibration Range** and **Units of Measurement** used for:

Torque transducers will be as detailed on the products previous calibration certificate issued by Snap-on Tools if one exists, otherwise those indicated on the equipment.

TruChecks will be as detailed against the calibration part number, using the primary units marked on the tool.

Torque wrenches/Screwdrivers will be calibrated from 20% to 100% of wrench capacity using the primary units marked on the tool. Where the lowest mark is below the lower limit of the measurement device, an alternative measurement point will be used; this will be no greater than 10% of the torque wrench capacity. Electronic indicating wrenches (Type 1 Class C or E) will be calibrated to the manufactures specified range as required by clause 5.1.3 of ISO 6789-1:2017. Where the lowest value is below the lower limit of the measurement device, an alternative measurement point will be used; this will be no greater than 10% of the torque wrench capacity.

Torque multipliers will be calibrated from 20-100% of full scale using the primary units marked on the tool. The expanded uncertainty will be calculated using MCS, instead of the usual RSS method.

N.B.: Additional readings or alternate units of measure if specifically requested will be detailed on the quotation, sales order acknowledgement, any other document with agreement with customer.

The **Direction of Calibration** will be as detailed on the products previous calibration certificate issued by Snap-on Tools if one exists, otherwise as follows:

- i. Clockwise and Anti-Clockwise for all Transducers.
- ii. Clockwise and Anti-Clockwise for all Torque Multipliers.
- iii. Clockwise for all Torque Wrenches.
- iv. Clockwise and Anti-Clockwise for Display Instruments.

N.B.: Additional readings or alternate units of measure if specifically requested will be detailed on the quotation, sales order acknowledgement, any other document with agreement with customer.

Transducers and display instruments will be calibrated as a **System** if Snap-on Tools believe the equipment has been returned as a system, where possible reference will be made to the products previous Snap-on Tools calibration certificate (if one exists). If a system calibration is specifically requested it will be detailed on the quotation, sales order acknowledgement, any other document with agreement with customer. If the transducer and display instrument does not appear to be a system, they will be calibrated individually using Snap-on Tools laboratory equipment.

Customer specific **References and/or Asset Numbers** detailed on the products previous calibration certificate if one exists or if specifically requested and will appear on the certificate in the observation section, the references and/or asset numbers will be detailed on the quotation, sales order acknowledgement, any other document with agreement with customer. e.g. "Certificate note: ABC123".

Adjustments: Where possible, calibrations will be performed both before and after adjustment unless specifically requested not to attempt adjustment.

Where it is not possible to take As-Found readings, the device (where possible) will be repaired and calibrate As-Left only. Calibration results As-Found may be better or worse than previous calibrations due to general variances and usage of the equipment.

Calibration results As-Left may be better or worse than As-Found results due to repairs or adjustments, particularly on system calibrations.

We cannot guarantee to improve results on As-Left calibrations. However we attempt to adjust and optimise performance wherever possible.

For hand torque tools, adjustments will only be considered if the tool does not satisfy the accuracy requirements between 20-100% of full scale.

Statements of conformity are by default only available for calibration of **Hand torque tools** (ISO 6789). Statements of conformity for any other calibration will not be provided unless requested/ instructed by the customer, where Snap-on Tools offer the following options:

1 = Pass/Fail against customer specified Uncertainty Interval (**ONLY for BS 7882 and ISO 6789 calibrations**)

Specified by the customer, where for:

Torque Measurement Devices, customer can specify different values at $<5\%$, $\leq 5\%$ and $\geq 20\%$ of full scale.

Hand Torque Tools, customer can specify different values at $<10\%$, $<20\%$ and $\geq 20\%$ of full scale.

2 = Pass/Fail against the manufacture's OEM specification and a Conformance Probability. Default values for OEM Spec and 95.45% Conformance Probability will be used by default, but an alternative value may be requested.

3 = Pass, Conditional Pass, Conditional Fail or Fail against OEM Specification or customer specified accuracy.

For Hand Torque Tools, customer can specify different values at $<10\%$, $<20\%$ and $\geq 20\%$ of full scale.

For Torque Multipliers, customers can specify a single accuracy.

For Display Instruments, fixed OEM specifications will be used.

4 = Pass/Fail against a Classification (**ONLY for BS 7882 calibrations**)

When a conformance statement has been requested, a **Pass, Fail, N/A, Conditional Pass** or **Conditional Fail** will be quoted after the following statement reported on the front page of the certificate:

"Conformance with customer's agreed specification:"

Where a conformance statement has not been requested, our default position is for:

Torque measurement devices (BS 7882) –using default classifications.

Torque Multipliers - No conformance statement.

Display instruments – No conformance statement.

Confidentiality: Snap-on Tools will treat all information provided by the customer for the purpose of conducting the calibration and all information generated by Snap-on Tools in the course of conducting the calibration as confidential information belonging to the customer. Snap-on Tools will not disclose that information to any third party or use that information for any purpose other than the purpose of conducting the calibration, provided that Snap-on Tools may disclose the information to those of its employees who reasonably need to know it for the purpose of conducting the calibration and as may be required by law, court order or any governmental or regulatory authority that has jurisdiction over Snap-on Tools. This duty of confidence and non-use will survive for a period of 6 years after the date of the calibration certificate.

Receipt of the order confirmation will be deemed as acceptance of the above terms; any queries should be brought to Snap-on Tools's attention as soon as possible as calibrations may commence shortly after order entry.