



Impact Tool Testing and Validation

Ensure your tools perform with confidence and precision

At Crane Electronics we are regularly approached by manufacturers in a range of industries to provide testing and validation systems for impact tools used in various different applications.

As impact tools have become more repeatable, they are increasingly being used on critical fasteners in assembly. Manufacturers often rely on our solutions because they have no straightforward way of validating their tools' repeatability against a calibrated reference. Without periodic tool validations, any change in the tool's output or repeatability could lead to failures or expensive product recalls, with limited insight as to when the issue began and how many fasteners have been affected.

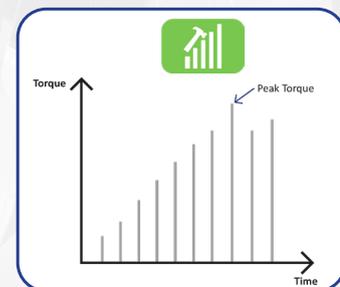
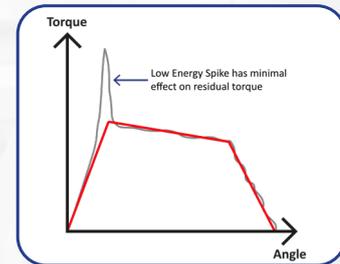
Whilst it is always vital to use a calibrated digital torque wrench to set up a tool for any given joint and torque, speed is frequently critical in most assembly processes, making it impractical to 'over-check' every single fastener with a torque wrench. In such cases, Crane provides a solution to benchmark the torque output and repeatability of the tool, once it has been set up. This allows for periodic verification against this initial benchmark.

Crane offers the following solutions to allow manufacturers to benchmark tool torque output and repeatability:

- Impact tool compatible stationary transducers accurate to 0.25% of FSD (Full Scale Deflection), available in ranges from 75Nm up to 600Nm
- A range of digital torque wrenches including the WrenchStar Multi and IQWrench3, accurate to 0.25% of FSD, available in ranges from 10Nm up to 1500Nm
- Configurable 'joint kits', adjustable to include joint conditions specified by ISO 5393
- Traceable 3rd-party calibration certifications such as UKAS (UK) and NIST traceable (USA) etc.

Tool Setup and Validation: 4 Step Process

- 1 Step 1**
 Set up the impact tool on the actual joint by 'over-checking' the joint with a WrenchStar Multi (and accompanying data collector) or IQWrench3 digital torque wrench.
- 2 Step 2**
 Set up the frequency response of the tool for the torque and joint rate. Each power setting and joint rate can have slightly different frequency response settings.
- 3 Step 3**
 Benchmark the tool by taking the initial 5 or 10 samples to record the repeatability and torque output of the tool.
- 4 Step 4**
 Periodically repeat **Step 3** to ensure the same level of repeatability is achieved and the output torque has not drifted beyond the acceptable tolerance from the original benchmark.



The test joint could give different values compared to the actual joint. It is essential to set up the impact tool initially on the actual joint with a digital torque wrench, before benchmarking the tool.

Product Code	Impact Tool Stationary Transducers
STU1X-0075-CR1XX	75Nm 3/8" Impact Tool Compatible Stationary Transducer
STU1X-0180-CR1XX	180Nm 1/2" Impact Tool Compatible Stationary Transducer
STU1X-0340-CR1XX	340Nm 3/4" Impact Tool Compatible Stationary Transducer
STU1X-0600-CR1XX	600Nm 3/4" Impact Tool Compatible Stationary Transducer

Product Code	Joint Kits & Accessories
JK-874-07CR-135-0	Female Stationary Joint Kit 3/8"
JK-874-08CR-271-0	Female Stationary Joint Kit 1/2"
JK-874-09CR-1017-0	Female Stationary Joint Kit 3/4"
TO-899-09CR-0-0	5-Way Automatic Switching Module

Product Code	WrenchStar Multi Digital Torque Wrenches
WS1JX-0075-C1DARX	75Nm WrenchStar Multi - DIN Head
WS1JX-0120-C1DARX	120Nm WrenchStar Multi - DIN Head
WS1KX-0180-C1DARX	180Nm WrenchStar Multi - DIN Head
WS1KX-0340-C1DARX	340Nm WrenchStar Multi - DIN Head
WS1KX-0500-C1DARX	500Nm WrenchStar Multi - DIN Head
WS1DX-0750-C1FARX	750Nm WrenchStar Multi - Fixed Head

Product Code	IQWrench3 Digital Torque Wrenches
IQW3A-0075-CRDARX	IQWrench3 75Nm Advanced Angle - DIN Head
IQW3A-0120-CRDARX	IQWrench3 120Nm Advanced Angle - DIN Head
IQW3A-0180-CRDARX	IQWrench3 180Nm Advanced Angle - DIN Head
IQW3A-0250-CRDARX	IQWrench3 250Nm Advanced Angle - DIN Head
IQW3A-0340-CRDARX	IQWrench3 340Nm Advanced Angle - DIN Head
IQW3A-0600-CRDARX	IQWrench3 600Nm Advanced Angle - DIN Head

For pricing, availability or further technical information about our impact tool validation solutions, please contact us at www.crane-electronics.com or alternatively email us at sales@crane-electronics.com.



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