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## ***Glossary of terms***

- Torque* - Torque is a 'turning' or 'twisting' force and differs from tension which is created by a straight pull. Torque can be thought of informally as "rotational force". The force applied to a lever multiplied by its distance from the levers fulcrum, is the torque.
- Newton* - A Newton is the amount of force required to accelerate a mass of one kilogram at a rate of one meter per second<sup>2</sup>
- Dyne* - In physics the dyne is a unit of force specified in the centimetre-gram-second (cgs) system of units, symbol "dyn". One dyne is equal to exactly 10.5 Newtons. Further, the dyne can be defined as "the force required to accelerate a mass of one gram at a rate of one cm per second<sup>2</sup>
- Kilogram force* - The deprecated unit kilogram force (kgf) or kilopond (kp) is defined as the force exerted by one Kilogram of mass in standard Earth gravity. 1 kgf= 9.80665 Newton's.
- Pound force* - Is a non Si unit of force or weight lbf or lbF. The pound force is equal to a mass of one avoirdupois pound (which is defined as exactly 0.45359237 kg) multiplied by the standard acceleration due to Earth gravity.
- Dynamometer* - A device used to measure RPM and torque from which power produced by an engine or other rotating device can be calculated.
- Clicker tools* - When the preset torque value is reached the operator will hear an audible "click". And feel a small impulse, as there is approximately 3 degrees of movement at this point.
- Breaking tools* - On reaching the pre-set torque value these tools "break" at a specific point along the tools length. The break is at a greater angle (20 degrees) than a 'click' type wrench. Thereby reducing the possibility of over-tightening.

<i>Slipping tools -</i>	When the pre-set torque value is reached a mechanism in the tool causes the application of torque to cease and the tool “slips” free.
<i>Friction -</i>	A force that resists the relative motion of two bodies in contact.
<i>Transducer -</i>	A device (or medium) that converts energy from one form to another. The term is generally applied to devices that take a physical phenomenon (torque, pressure, temperature, humidity, flow etc) and converts it to an electrical signal.
<i>Deflection -</i>	The change in twist or length along the primary axis between no load and rated load conditions.
<i>Full scale/rated scale -</i>	The maximum value that a torque transducer is designed to measure.
<i>First peak torque -</i>	When a “click type” torque wrench signals that the torque has been achieved, the applied torque will momentarily drop before climbing again.
<i>Peak torque -</i>	In the case of a “click” or “break” type torque wrench, this may be higher than the actual break point if the wrench continues to be loaded beyond the break. Consequently, peak torque is more useful for calibrating devices without a break signal such as, a dial or electronic wrenches.
<i>Compression -</i>	This, as you would expect, describes a “squeezing” action or force on an object when being fastened or torqued.
<i>Tension -</i>	The opposite of compression, a “stretching” action or force on an object.
<i>Stress -</i>	A measure of force per unit area.
<i>Strain -</i>	A measure of deformation or elongation of a material, its units are inch per inch, it is the ratio of a change in length to the original length of a specimen, and as such has no units.
<i>Strength -</i>	The stress value at which a sample of material fails.
<i>Torque Calibration -</i>	A set of operations that establish, under specified conditions, the relationship between the values of quantities indicated by a torque measuring instrument or

torque measuring system, and the corresponding values realised by standards.

UKAS -	The United Kingdom Accreditation Service, is the UK national body responsible for assessing and accrediting the competence of organisations in the fields of measurement, testing inspection and certification of systems products and personnel.
Metrology -	The science of measurement.
Torque load cell -	A torque transducer typically employing strain gauges to measure elastic deformation.
TALS -	Torque activated logging system.
TSC -	Torque wrench slipper calibrated.
TSP -	Torque wrench slipping preset.
ESD -	Electrostatic discharge protected.
PSE -	Preset torque limiting screwdrivers with ergonomic grip.
CRS -	“Clean room” torque limiting screwdrivers.
IFR -	Impact free re-setting cams.
TCR -	A ratchet type adjustable “clicker” torque wrench.
TCS -	A range of adjustable “clicker” torque wrenches with 16mm spigot type carrier.
TCP -	A range of pre-set, production clicking type torque wrenches with 16mm spigot type carrier.
WSTT -	Weld stud test tool.
TLS -	Torque limiting screwdrivers.
TWD -	Torque wrench digital.
ISO -	(International standards organisation), an international organisation working with the United Nations that maintain standards for all applications of technology for global industry.
Wrench/spanner -	A wrench having a hook, hole, or pin at the end for meshing with a related device on another object.

Torque wrench -	A torque wrench is a wrench used to precisely apply or measure the torque of a fastening such as a nut or bolt. It is usually in the form of a socket wrench with special internal mechanisms. A torque wrench is used where the tightness of screws and bolts is crucial. This permits proper tension and loading of all parts.
Torque Screwdriver -	Precision tool, perfect for assembly operations where accurate torque values are required.
Torque limiter -	A mechanical overload protection device designed to protect mechanical equipment from damage.
Torque tool -	A device used to precisely set the torque of a fastening such as a nut & bolt.