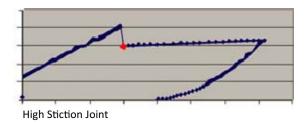
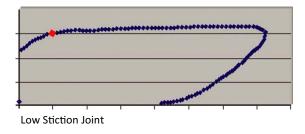
LightStarTM Residual Torque Measurement Error-Proof and Reliable

ASI DATAMYTE's LightStarTM torque and angle wrenches reduce variability in torque measurement. The LightStarTM system gives you the most reliable way to eliminate false readings and increase accuracy of residual torque measurement. The time between fastener motion and operator response is a key driver of variability when measuring peak torque. This is why assessing residual torque by measuring peal torque is subject to operator error that induces false high and false low readings, as well as much higher variability than measured installed torque.





These false high and low readings are a result of the operator's perception of when the fastener begins to turn. High readings are caused by too much operator follow through, or over-shoot, after fastener motion begins. Low readings are caused by an operator releasing the wrench before fastener thread motion begins due to the operator mistaking a bump or a jar for fastener motion.

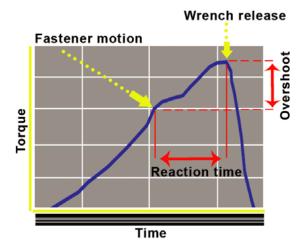


A Complete System Solution

LightStarTM wrenches, along with ASI DATAMYTE model 600 data collectors and software, measure torque at angle using new technology. A solid-state gyro in the wrench captures torque only when the fastener actually turns. The data collector's instrumentation differentiates between windup – the flexing of the work piece, drive, socket and extension – and actual fastener motion.

This system consists of:

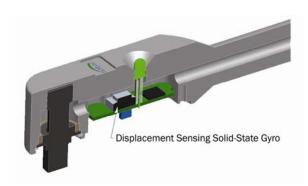
- > LightStar[™] Torque Wrenches with angle measurement capability
- > Model 600 Data Collector with torque option
- > TranSend II utility software
- > ASI DATAMYTE Reporting and Analysis Software





Eliminates False Readings

LightStarTM technology virtually eliminates operator error and significantly reduces variability. LightStar's solid-state gyro senses angular displacement, while the advanced firmware of ASI DATAMYTE data collectors captures residual torque at actual fastener motion. False high readings caused by overshoot and false low readings caused by early release are eliminated, and labor time is no longer wasted chasing nonexistent problems with perfectly good installation tools.



Reduces Costs

A multi-colored LED in the wrench head instantly notifies the operator of measurement status when the wrench is connected to the ASI DATAMYTE Data Collector. This notification happens as soon as fastener motion begins and lets the operator know that the measurement has been taken. This means that you avoid costly recalls, comply with regulatory requirements and safety standards, decrease the possibility of errors, and increase the speed of measurement.

Saves Time

You'll also find that labor time is reduced because less time is needed to take the same number of measurements. Training time is also reduced because accurate readings are no longer highly dependent on the operator. Anyone can take quality measurements with minimal training. Measuring residual torque now requires no more training time than

learning to use a digital caliper to measure a diameter.

Detects Problems Sooner

Because variability is reduced, residual torque specification limits may be tighter. These tighter limits mean that you will detect actual problems sooner, and prevent costs that result from:

- > Quarantined suspect lots
- > Labor used to check error-free suspect lots
- > Unnecessary product recalls

Multiple Applications

The LightStarTM wrench is designed for applications where bolted joints must be checked for residual torque following assembly. It can also be used for accurate hand assembly to a target torque, measuring of shear torque on welded fasteners, or for many other applications. LightStarTM wrenches are available in multiple metric sizes to fit virtually any torque audit or hand assembly application.



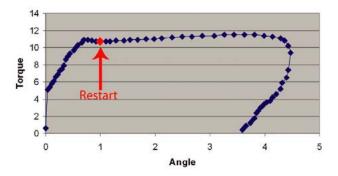
How the LightStarTM Solution Works

The LightStarTM system solution includes the LightStarTM torque wrench, the Model 600 data collector, TranSend II Software and ASI DATAMYTE Analysis and Reporting Software.

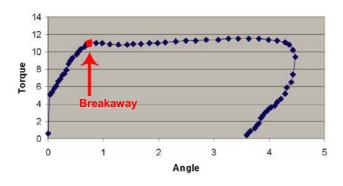


When used with LightStarTM wrenches, the Model 600 with torque option measures torque as qualified by detected angular rotation. The data collector includes two new algorithms that let you customize applications for all types of joint mechanics. These algorithms are: angle restart, and angle breakaway. All require a rotationally stable work piece. The Angle Breakaway and Torque at Angle algorithms are not suitable for fasteners torqued to yield.

Angle Restart captures torque as the fastener starts moving after overcoming static friction. This form of measurement is particularly useful when the effects of corrosion or locking adhesives need to be removed to more accurately assess clamp load.



Angle Breakaway captures the torque needed to set a fastener in motion. This is often referred to as "torque to turn." Unlike torque/time breakaway, angle-based breakaway is not subject to variations in operator technique.



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The algorithms in the Model 600 convert a torque transducer's analog signal to a digital value that represents the force applied. The LCD panel on the collector displays a torque curve plot for the joint being measured. The algorithm selects the desired point or a unique "Pick-a-Point" feature lets you select any point from the curve as the data value.

Model 600 Data Collector

The rugged yet lightweight ASI DATAMYTE 600 is the ideal solution for torque audits, especially when a portable device is required. The 600 is designed to collect data from a wide variety of torque wrenches, torque transducers and rundown tools, as well as serial and analog gages and metrology tools. Easy-to-use with intuitive, menu-driven commands, the 600 features a large color backlit easy to read LCD panel to display collected information. The ergonomic design has keys oriented for both right- and left-hand operation, and the contoured grip reduces operator fatigue and possible motion injuries.

Torque Applications

In addition to residual torque applications, the Model 600 can also be used for these torque operations:

- > Real-time installation torque from DC/electric, air stall or impulse tools can be captured with Peak or Pulse strategies. Angle of rotation or pulse count between Snug and Peak may be captured concurrently with appropriate transducer.
- > Torque tool cutoff and angle encoder accuracy can be verified off-line.
- > Hand assembly and rework operations can be performed where a fastener is to be driven to a given torque or is to a given angle past a given torque.

Rugged Design

The 600 data collector is designed to survive a four-foot drop to a concrete surface without

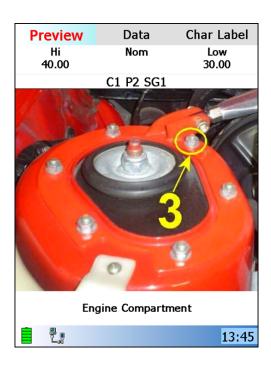


loss of function. It resists damage from puddled oil, water-based cutting fluid, abrasives, dust, metal chips and filings. Standard power is delivered by a rechargeable battery or by an AC adaptor.

TranSend II Software

ASI DATAMYTE TranSend II utility software simplifies data transfer between ASI DATAMYTE data collectors, third party analysis systems and Microsoft® Excel® spreadsheets. TranSend II lets you upload torque curve data from the 600 Data Collector. This data is uploaded directly to an Excel spreadsheet to automatically produce a chart using an Excel macro. All relevant characteristic and gage configuration values are available along with the torque curve data. This has two distinct benefits:

- All torque, time and angle sampling values are available for further analysis by a fastener engineer for troubleshooting or blueprinting a fastening system.
- > Immediate technical support is available by emailing the Excel file directly to ASI DATAMYTE.



Analysis and Reporting Software

The Analysis and Reporting program offers a full range of charts and reports, and report creation is simplified using built-in tools. It is designed to be HTML compliant for use on both intranets and extranets for quick and easy reporting.



