

# Almost everything you need in one convenient package.

**Sturtevant Richmont Torque Tools** 

ADVANCED TORQUE SYSTEMS TORQUE APPLICATION & AUDIT TOOLS TORQUE CALIBRATION SYSTEM









# Welcome!

It has been almost seventy years since P.A. Sturtevant introduced the original deflecting beam torque wrench and shortly thereafter Frank Livermont designed, manufactured and sold the first "clicker " type torque wrench. Their two companies were eventually bought and combined into one organization. In 1984, the late John L. Reynertson, aware of the rich history and potential of the company, purchased Sturtevant Richmont and under his guidance directed a very successful revival of innovation and a singular devotion to the manufacture of the highest quality torque products.

As a customer of S/R we believe the above is important for you to know. Over the last twenty years our focus on innovation and quality has resulted in a string of firsts in our industry. These include, fully automated torque testers, microprocessor based torque testers, utilization of software for hands free torque testing, ISO 9001 Registration, ISO/IEC 17025 Accreditation, supplying certificates of calibration with all tools and successful RF transmission of data within manufacturing facilities.

But that is not all that sets S/R apart from its competitors. We are different in three very important ways. The first is

our sole focus on torque. We are the only independent full line torque products manufacturing company in the U.S. Unlike our competitors, torque is not a small part of what we sell, it is all we sell.

The second reason is our demanding industrial customer base. For decades our products have been and continue to be used for critical assemblies on aircraft, cars, trucks and off road equipment. These manufacturers demand durability, reliability, accuracy and innovation at competitive prices and that is why they use S/R.

The third reason is our systems approach to your torque applications, which is unlike all others. Our sales force has the training and complete range of products to help you develop torque management systems to make your products and processes better. We do not "sell tools," we provide solutions.

Recently, while reviewing past sales literature, I could not help but notice a headline from one of our ads written twenty years ago that is as valid now as it was then.

"Your quality is our business."

Sincerely

Raymond R. Reynertson President & CEO

John L. Reynertson Jr. Vice President Engineering

Donald J. Reynertson Vice President of Sales

# Global Reach... Local Support.

### **Worldwide Sales Representation**

S/R has trained and experienced representatives in 25 countries spanning four continents. This extensive network assures that you will receive the same level of service at virtually any manufacturing location you may develop or acquire.

### 24 x 7 Support via the Web

The S/R website – www.srtorque.com – provides immediate support and answers to your questions, 24 hours a day, 7 days a week. We are continually upgrading and expanding the information on our products, applications and how to obtain the greatest possible return on your investment from S/R products. From software to parts diagrams, product data to torque strategy options, the answers you seek will most likely be found at www.srtorque.com.

### Our Quality is Your Assurance ISO 9001:2000 and ISO/IEC 17025:1999

All S/R products manufactured in our Franklin Park facility are built within an ISO 9001 Registered Quality System and calibrated in our ISO/IEC 17025 Accredited Laboratories. Our focus on torque measurement ensures that you have the most advanced systems available for all your needs from initial process design, assembly, calibration, maintenance through field service.

### **Corporate Headquarters**

Located in Franklin Park, Illinois just west of Chicago and minutes from O'Hare Airport we are able to provide our customers with the service so important for today's business climate.

# table of contents

### Advanced Torque Systems Torque application and audit systems that feature

Torque application and audit systems that feature data acquisition, analysis and external communication capabilities

PTV & Switch Wrenches	ļ
PTV FM Generation II &	
FM Switch Wrenches	5
Torque Control Verifier	5
Control System Integration Devices	5
Exacta Plus7-8	3

### Torque Application & Audit Tools

Broad array of torque application and torque audit tools

Exacta	10
Dial Torque Wrenches	11
Flat Beam Torque Wrenches	12
Micrometer Adjustable	
Torque Wrenches	.14-15
Preset Torque Wrenches	.16-17
Interchangeable Head	
Torque Wrenches	.18-19
Interchangeable Heads	.20-23
ExacTorq	24
Cal 36/4	25
TIC Kit	26
Preset Torque Screwdrivers	27
Torque Multipliers & Spring Testing Fixtures	28

### **Torque Calibration Systems**

Digital torque testers and software for the calibration of torque wrenches, screwdrivers and power tools. Section also includes products required for the calibration of torque testers.

VeriTorq	30-31
TorqTronics	32-33
System 4/5	34-35
System 4/5 Static Transducers	36-37
Tester Accessories	
System 6	40-41
When should you calibrate your tools?	42

General Information	43
Product Warranties	44
Product Selection Information	45

# Torque Management & Cost Control



### Relationship of Torque Control to Ongoing Quality Costs



Level of Torque Management (Error-Proofing)

# Sound torque management leads directly to measurable profit improvement.

The relationship between sound torque management practices and profitability in assembly operations proves itself repeatedly in thousands of plants every month. Products assembled with threaded fasteners are dependent upon appropriate torque management for product quality. Optimizing the process vastly reduces all categories of nonconformance costs and the savings go directly to your bottom line. Not as readily measurable, but of equal or even greater impact, is the increased level of customer satisfaction that affects your product image, brand name, and sales volume.

Regardless of the term you choose – "Error-Proofing" or "Poka-Yoke" or "Robust Process" – the process objectives remain the same. The fastener tightening process must be as close to immune to error as possible, while retaining high throughput rates.

Torque management systems and equipment have made incredible advancements in this area in the last five years. In fact, the pace of change has been revolutionary. This diversity of new systems and equipment permits optimizing your process for quality, while sustaining or increasing throughput leading to remarkable ROI's for your investment.

The chart on the left is typical of the experience of our customers who have invested in optimizing their torque management. Decreases of 50% - 90% in internal and external nonconformance costs are frequently the result when appropriate torque management systems are designed and implemented.

Our Torque Management Pyramid graphic is provided as a tool to assist you in developing your thoughts about your current process, and how that process might be managed to improve your profitability. Our phone number, 847/455-8677, is provided to get you there.



# Advanced Torque Systems

# For Assembly and Audits

In today's business environment the need for documentation and communication is imperative. S/R has developed a range of products for both assembly and auditing to fill this need.

For assembly operations that include torque applications, manufacturers need to ensure that the torque was properly applied and to then capture the data proving the operation was completed correctly. The PTV and TCV Systems accomplish both objectives by first error proofing the torque application process and then transmitting verification that the proper torque has been applied and completed.

Torque auditing of assemblies is time consuming, laborious and often ineffective in immediately identifying non-compliance in your assembly operations. The Exacta Plus System is a giant step forward in reducing the time needed to actually perform the audits and to then analyze and take action on the information to better control your torque application processes.

If you are not sure of the tools you need after reviewing the following section, please visit our website at www.srtorque.com and go to the Torque Application Selection Chart or call us at 1-800-877-1347 or 847-455-8677.

# Advanced Torque Systems

PTV & Switch Wrenches	4
PTV FM Generation II &	
FM Switch Wrenches	5
Torque Control Verifier	6
Control System Integration Devices	6
Exacta Plus	7-8

Torque Application Systems page 9

Torque Calibration Systems page 29



# Integrated Error-Proofing Systems

S/R Controllers & Communicating Torque Tools



# Assemble your products without error.





# Error-Proofing Increases Profit. Integrated Error-Proofing Increases It Greatly.

Of all the quality techniques developed in the last half century, error-proofing is one of the most effective.

Designing assembly processes to reduce the possibility of error occurring has a direct and measurable effect on nonconformance costs. Properly designed, implemented and integrated, error-proofing systems reduce costs significantly and rapidly, resulting in a high return on investment.

S/R has led the industry in error-proofing torque application for over a decade. From purely mechanical Switch Wrenches to our newest multi-tool Ethernetcapable controllers, we have set the bar in error-proofing torque application.

The systems presented here span many levels of control and integration. If you assemble products with threaded fasteners, you will find one or more that meets your needs and integrates with your current - and likely future - systems.

# **1100-Series** Exacta<sup>®</sup> Digital Torque Wrenches



The 1100-Series **Exacta®** torque wrench incorporates virtually everything you could ask for into a single, easily programmed and userfriendly package!

### Features:

- +/- 1% Indicated Value Accuracy from 20% to 100% of capacity in both CW and CCW directions.
- Peak and Residual Torque modes, selectable.
- Large high-contrast LCD displays Mode, Unit of Measure, Target Torque Value, OK/BAD, Current Torque Value, and stored torque values.
- Yellow/Green/Red color scheme on LCD turns Yellow when user specification is being approached, Green when the specified torque is being applied, and Red if the maximum specification is exceeded. Just pull to Green!
- LED lens on back of tool displays color scheme so it is visible even in applications where the LCD is not!
- Uses 2.4 GHz RF communications (OUR-XBEE/OUR-XBEE Pro radio transceiver) for reliable communication and long battery life.
- Models of 150 ft. lb. capacity and below use the S/R Dovetail system and can be used with 100+ S/R Interchangeable Heads!
- Aluminum electronics module is incredibly tough and durable.
- Compatible with the Global 8, Global 8-Ethernet, RFE-Ethernet and RFE.
- Meets or exceeds requirements of ASME B107.28 and ISO 6789.
- Includes free certification from our ISO/IEC 17025 Accredited Calibration Laboratory!
- Serial communication port for ease in calibration.



# 2.4 GHz Wireless Clicker-Type Preset Torque Wrenches

The SLTC-FM 2.4 GHz family of tools is based on the proven S/R lineup of preset torque wrenches. These solid performers are the backbone of error-proof torque application for many leading manufacturers!

- Accuracy of +/- 4% of preset value from 20% to 100% of capacity meets or exceeds requirements of ASME B107.14 and ISO 6789!
- Extremely strong and durable S/R dovetail system works with any of over 100 S/R Interchangeable Heads!
- Monitors time in the "clicked" position to provide an "OK/Bad"



tool use evaluation for every fastener it is used on.

- Too little time in clicked position = tool was "jerked" (Bad, torque likely out of specification high or low)
- Correct time in clicked position = tool was used properly (OK, torque to specified preset value)
- Too much time in clicked position = tool was pulled past the click (Bad, torque over specification)
- Provides immediate on-tool feedback to operator through LED (Green is Good!).

- Provides immediate radio communication of torque status to controller, which also displays result.
- Dovetail and flattened body provide excellent fastener access in constrained-access applications!
- Tamper-resistant design discourages unauthorized torque setting changes.
- Light weight tool and new Cushion Grip for superior ergonomics!
- Excellent audible and tactile impulse when preset torque is achieved!

Note: 900 MHz version available in U.S.A.

## **PST 1000** Pressure Sensor/Transceiver

The innovative PST 1000 monitors your air tool performance, evaluates it against specifications stored on board, and provides immediate feedback to the operator and the Global 8 or Global 8-Ethernet. Your air tools <u>and</u> your hand tools can be integrated without purchasing and operating a second controller!

The PST 1000 works with ported autoshutoff tools to create a profile of the air pressure over time during rundown and shutoff. The profile for a known conforming rundown and tightening is stored on the PST 1000, and all the subsequent uses are compared to the profile. Conforming tightenings result in: immediate feedback to the operator via an LED on the PST 1000, transmission to the Global 8, and confirmation on the display and LED's on the Global 8 unit!

- Works with ported automatic shutoff pneumatic tools, including clutch and pulse types.
- Works with your Global 8 or Global 8-Ethernet to convert a known "good" tightening into specifications, then compares subsequent tightenings of that joint to the specifications.
- LED provides immediate feedback on the PST of the "OK/BAD" attribute status to the operator for each use of the tool.
- Provides immediate radio communication of the status and data to the Global 8 for display, tracking and I/O use.
- CE and RoHS compliant.
- Rehargable 5200 mAh Lithiumion battery for extended periods between chargings.



- Battery can be recharged 500+ times.
- Data from each tightening can be graphed and displayed on the Global 8's.



# *Global 8 Global 8*-Ethernet

For the first time you can have a controller that works with up to eight PST 1000-equipped air tools, 1100-Series **Exacta®** and 2.4 GHZ SLTC-FM preset torque wrenches – in any combination! Better still, these controllers provide clear communication of tightening and process status to the operator and update your system information with every torque event!

Whether your line uses Ethernet communications, 24 VDC systems or both, there is a Global 8 controller that fits your needs!





Feature	Global 8-Ethernet	Global 8
Maximum number of torque tools controlled in any combination	8	8
Works with 1100-Series <b>Exacta®</b> Digital Torque Wrenches	Yes	Yes
Works with SLTC-FM 2.4 GHz Preset Torque Wrenches	Yes	Yes
Works with PST 1000 Pressure Sensor/Transceiver for auto-shutoff pneumatic tools	Yes	Yes
Accepts variable torque data	Yes	Yes
Accepts attribute torque data	Yes	Yes
Downloads specifications to tool	Yes	Yes
Provides internal task sequencing	Yes	Yes
Task sequencing changes accepted from external commands	Yes	Yes
Large front panel display shows current tool and current status of tightening	Yes	Yes
Soft-key programming on front panel	Yes	Yes
Large LED's for Cycle Accept, Cycle Reject & Batch Complete, augmented by Beeper with adjustable volume	Yes	Yes
2.4 GHz radio communication with tools at up to 50' (16m) distance (OUR X-BEE/OUR-XBEE Pro Transceiver)	Yes	Yes
USB connector for computer communications	Yes	Yes
14 character, 2 line Human-Machine Interface for Ethernet status	Yes	No
RJ-45 Network Connector	Yes	No
9 pin serial connectors for serial printer & bar code reader	Yes	No



# PTV-FM 2.4 GHz

When multiple clicker-type torque wrenches are used at a location on the line and RF communication of the status of the process is needed, the 2.4 GHZ PTV is the reliable and costeffective answer!

The PTV-FM 2.4 GHz offers multiple tool and batch options. Each unit can control up to four SLTC-FM 2.4 GHz Switch Wrenches and can support differing specifications and batch sizes on each. Immediate operator feedback for each cycle and count display for tracking batch progress make the operator's job easier. PLC communications are supported through an I/O port and 24 VDC relays.

### Features:

- Uses SLTC-FM 2.4 GHz Preset Switch Wrenches for accurate and repeatable torques and extremely high communication reliability.
- Immediately informs operator via lights and a buzzer of proper (Accept) or improper (Reject) wrench use.



- Notifies operator and line when batch is complete.
- Allows up to 99 fasteners per batch.
- Counts fasteners in batch in either direction (up or down).
- Cycle Accept, Cycle Reject, Batch Complete and Reset relays for use with line control system.
- Simple and straightforward front panel programming with security control.
- Each parameter set (group of specifications) can be used on any of up to four tools tied into the unit.
- Tool use sequencing can be controlled through the unit or via 24 VDC control system.
- Operates on either 110-120 VAC or 220-240 VAC power.

Note: 900 MHz version available in U. S. A.

# TCV-FM 2.4 GHz

The TCV-FM 2.4 GHz is ideal when the application calls for the accuracy and repeatability provided by the SLTC-FM 2.4 GHz preset torque wrenches, and only a single tool at the station needs to be controlled and batch counting can be performed by the PLC. This is the high-reliability, lowcost solution you have been looking for!

### Features:

- Uses SLTC-FM 2.4 GHz Preset Switch Wrenches for accurate and repeatable torques and extremely high communication reliability.
- Immediately informs operator via lights and a buzzer of proper (Accept) or improper (Reject) wrench use.



- 5 pin connector for use with 24 VDC I/O system.
- Cycle Accept, Cycle Reject and Reset relays keep line control system informed of status at all times.
- The tool use specifications are easily programmed with supplied software through the serial port.
- Operates on either 110-120 VAC or 220-240 VAC power.

Note: 900 MHz version available in U. S. A.



# **TCV Ethernet**

The TCV Ethenet extends the functionality of the TCV by incorporating Ethernet communications using the Atlas Copco® Open Protocol. Users who need data via Ethernet and 24 VDC I/O communications for their line have the product that suits their needs! The TCV Ethernet works with the accurate and reliable SLTC-FM 2.4 GHz Switch Wrenches to provide the accuracy and reliability you count on!

- Works with any of the SLTC-FM 2.4 GHz Switch Wrenches.
- Ethernet port and built-in compatibility with the Atlas Copco® Open Protocol!
- Uses OUR X-BEE/OUR X-BEE Pro 2.4 GHz communications for reliable bi-directional tool communications at distances up to 50 feet (16m)!
- Front panel LED's for Cycle Accept, Cycle Reject and Batch Complete for immediate operator feedback on each use of the tool.
- Simple front panel programming via keypad and 2 line, 14 character display.
- Password protection to prevent unauthorized changes.
- Operates on either 110-120 VAC or 220-240 VAC power.



# SLTC-Series Hardwired Preset Torque Wrenches

Our SLTC-Series is the ideal preset torque wrench for those who wish to design their own controls using hardwired tools and PLC's. These tools have the legendary accuracy and reliability built in to all S/R torque wrenches, augmented with a solid and durable mechanical switch system.



- +/- 4% Indicated Value Accuracy from 20% to 100% of capacity in the clockwise direction.
- Five models have the incredibly strong S/R Dovetail and can be used with any of over 100 S/R Interchangeable Heads!
- Tamper-resistant design discourages unauthorized torque setting changes.
- Meets or exceeds requirements of ASME B107.14 and ISO 6789!
- Light weight and new Cushion Grip for superior ergonomics!
- Excellent audible and tactile impulse when preset torque is achieved!

Design Your	<b>Own System:</b>	Tool/Controller	Compatibility	Chart
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	Global 8 Ethernet	Global 8	RFE Ethernet	RFE	TCV Ethernet	PTV-FM 2.4GHz	TCV-FM	PLC Direct
1100-Series Exacta®	X	X	X	X				
PST 1000	X	X						
SLTC-FM 2.4GHz Preset Clicker	X	X			Х	х	X	
SLTC Preset Hardwire								x

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Part No.	Model	Description
Control and	d Communication Devi	ces
10477	Global 8-Ethernet (ACOP)	Global 8 Controller with Ethernet card and Atlas Copco® Open Protocol
10476	Global 8-Ethernet (PFCS)	Global 8 Controller with Ethernet card and PFCS
10473	Global 8-Ethernet (IP)	Global 8 Controller with Ethernet card and Ethernet IP
10479	Global 8	Global 8 Controller
10470	RFE-Ethernet	RFE Controller with Ethernet card and Atlas Copco® Open Protocol
10471	RFE	RFE Controller
10466	PTV-FM 2.4	PTV Controller, 2.4 GHz
10469	TCV-Ethernet	TCV Controller with Ethernet card and Atlas Copco® Open Protocol
10467	TCV-FM 2.4	TCV Controller, 2.4 GHz
Attribute a	nd Variable Data Torq	ue Tools
10478	PST 1000	PST 1000 Pressure Sensor/Transceiver for ported, auto-shutoff air tools
10581	1100 Exacta 25	25 ft.lb./33.8 Nm cap., <sup>3</sup> /8" SD int. head inc., batteries not included**
10582	1100 Exacta 75	75 ft. lb./101.5 Nm cap., 3/8" SD int. head inc., batteries not included**
10583	1100 Exacta 150	150 ft. lb./203.3 Nm cap., 1/2" SD int. head inc., batteries not included**
10584	1100 Exacta 250	250 ft. lb./338.9 Nm cap., ½" ratcheting S. D., batteries not included**
10580	1100 Exacta 400	400 ft. lb./542 Nm cap., SR dovetail, batteries not included**
10585	1100 Exacta 600	600 ft. lb./813 Nm cap., ¾" ratcheting S. D., batteries not included**
Switch Wre	enches	
810311	SLTC-2.4 FM 501	FM Switch Wrench, 2.4 GHz, 50 in.lbs./6 Nm cap.
810312	SLTC-2.4 FM 1501	FM Switch Wrench, 2.4 GHz, 150 in.lbs./17 Nm cap.
810313	SLTC-2.4 FM 3001	FM Switch Wrench, 2.4 GHz, 300 in.lbs./34 Nm cap.
810310	SLTC-2.4 FM OHT	FM Switch Wrench, 2.4 GHz, 300 in.lbs./34 Nm cap., (Length same as 810312)
810314	SLTC-2.4 FM 7501	FM Switch Wrench, 2.4 GHz, 750 in.lbs./85 Nm cap.
810315	SLTC-2.4 FM 18001	FM Switch Wrench, 2.4 GHz, 1800 in.lbs./204 Nm cap.
810305	SLTC-2.4 FM Ergo	FM Switch Wrench, 2.4 GHz, 1800 in.lbs./204 Nm cap., (6" longer than 810315)
810316	SLTCR-2.4 FM 30001	FM Switch Wrench, 2.4 GHz, 3000 in.lbs./339 Nm cap., ½" ratcheting S.D.
810317	SLTC-2.4 FM 36001	FM Switch Wrench, 2.4 GHz, 3600 in.lbs./408 Nm cap.
810318	SLTC-2.4 FM 48001	FM Switch Wrench, 2.4 GHz, 4800 in.lbs./542 Nm cap.
810319	SLTCR-2.4 FM 72001	FM Switch Wrench, 2.4 GHz, 7200 in.lbs./813 Nm cap., ¾″ ratcheting S.D.
810854	SLTC-1501	Switch Wrench, Hardwire, 150 in.lbs./17 Nm cap.
810855	SLTC-3001	Switch Wrench, Hardwire, 300 in.lbs./34 Nm cap.
810856	SLTC-7501	Switch Wrench, Hardwire, 750 in.lbs./85 Nm cap.
810857	SLTC-1800I	Switch Wrench, Hardwire, 1800 in.lbs./204 Nm cap.
810858	SLTC-36001	Switch Wrench, Hardwire, 3600 in.lbs./408 Nm cap.
810859	SLTCS-72001	Switch Wrench, Hardwire, 7200 in.lbs./813 Nm cap., ¾″ fixed S.D.
810860	SLTCR-72001	Switch Wrench, Hardwire, 7200 in.lbs./813 Nm cap., ¾" ratcheting S.D.
<b>Required</b>	or Supporting Products	
21259**	Charger & 4 AA NiMH*	4-AA NiMH 2200 mAh batteries & charger, for 1100-Series Exacta®
816261	4 AA NiMH Batteries*	2500 mAh NiMH batteries, spare, for 1100-Series Exacta®
10474	Cable, Global 8, to bare	Cable for Global 8 24 VDC I/O system, Global 8 connector to bare wire
10440	Cable for SLTC	Cable, Switch Wrench, SLTC 1501 only (required)
10/21	Cable for SITC	Cable Switch Wrench, AUI other SLTC/SLTCS/SLTCR models, (required)



### Sturtevant Richmont

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\*NAFTA Only. Go to web site for battery and charger information for other countries.

LIT-IEPS100827



# Accurate. Versatile. Digital. Durable.

This is the one you've been waiting for!



**Exacta<sup>®</sup> 2** is the latest addition to the S/R lineup of accurate, versatile and durable tools for assembly and torque auditing! The **Exacta<sup>®</sup> 2** has an extraordinary combination of features that provide an array of benefits for operations large and small!

### Large, Bright Display

The instruction to Engineering was simple: "The display must be legible at arm's length, even in shadow." This emulates the conditions found in many manufacturing applications where the lighting is less than ideal. As a result, **Exacta® 2** has a large, highcontrast LCD to display the torque and other critical information. You can read it readily in shadow!

### Three Modes of Operation - Track, Peak and Residual

Assembly and auditing are both accommodated with these three modes! The residual mode improves torque audit consistency for most hard and many medium joints.

#### **Extremely Accurate**

**Exacta® 2** is accurate to +/- 1% of Indicated Value from 20% to 100% of rated capacity in Track and Peak modes. The Residual mode assists the user in determining retained torque on a joint. The actual accuracy percentage is contingent upon joint condition and user technique.

#### Programmable Limits With Visual Notification

Want a visual guide and an audible prompt when you've reached the torque specification? Want a visual guide on your progress as you use the tool? **Exacta® 2** has both!

**Exacta® 2** has a Yellow/Green/Red illumination system to guide you as you use the wrench. The display and a raised lens on the back of the wrench both illuminate when each significant torque value is reached. An LED provides a Yellow/Orange light as you approach the minimum torque specification. The light turns Green when you reach the minimum torque, and remains green until you either stop pulling on the wrench or the maximum torque specification is attained. If you overtorque, it turns bright Red to let you know. Just pull to Green!

### Audible Prompts

Supplementing the visual information are audible prompts from a beeper. You'll always know when the torque is right!

### **Serial Computer Communications**

**Exacta<sup>®</sup> 2** comes with a serial cable for communication with a PC, and can download readings as they are taken, or in a batch mode! The readings can be saved as a text file and imported by almost any statistical or spreadsheet software. This is an invaluable aid when performing process design and process analysis!

### **Exawin Software**

We have developed software for programming **Exacta® 2** from a PC. The Exawin software permits downloading maximum and minimum torque limits, units of measure and other key operating functions directly from a PC. It does so with ease and simplicity! Exawin is available for immediate download from our website. Details are included for warranty registration and software download with each tool. Take advantage of this software and the capabilities it affords!

### Front Panel Programming via Four Keyswitches

Four keyswitches on the front of the **Exacta® 2** electronics module permit programming and operation of all key functions. Whether accessing the memory, setting the units of measure, printing/ downloading the stored values or clearing the memory, operation is simple and easy!

### 999 Memory Locations

Need to check the last 1 to 999 installation torques? Simply access the memory and scroll through the values! Better yet, download the entire memory via the serial port to your computer for statistical analysis and record keeping!





Meets or exceeds the requirements of ASME B107.28.

**Exacta® 2** Comes With a FREE Certificate of Calibration from our ISO 17025 Accredited Calibration Laboratory!



### Exacta<sup>®</sup> 2 Uses the S/R Interchangeable Head System

The S/R line of Interchangeable Heads provides exceptional strength and rigidity of connection through our unique dovetail connection. Virtually all of these heads are made from a single piece of alloy steel, which assures durability and strength. With over 100 heads of 1 7/16" Common Centerline Length to choose from, the versatility of your **Exacta® 2** is multiplied greatly! Note: 250 and 600 foot-pound capacity tools use a fixed S/R slide pin ratchet.

### **Extended Battery Life**

The **Exacta<sup>®</sup> 2** uses four (4) AA NiMH batteries of 2200 mAh capacity. These batteries (sold separately with 15-minute charger in NAFTA countries only) provide ample operating time between charges. Backup batteries (NAFTA countries only) are available with 2500 mAh capacity.

### **Dimensional / Physical Information**

Model	Lever Length	<b>Overall Length</b>	Weight	
Exacta 2 - 25	12.5" / 317 mm	16.1" / 409 mm	2.8 lbs. / 1.27 kg	
Exacta 2 - 75	15.8" / 401mm	19.4" / 493 mm	3.0 lbs. / 1.36 kg	
Exacta 2 - 150	17.8" / 452 mm	21.5" / 546 mm	3.1 lbs. / 1.40 kg	
Exacta 2 - 250	21.0" / 533 mm	25.2" / 640 mm	4.1 lbs. / 1.86 kg	
Exacta 2 - 400	36.5" / 927.1 mm	35.9" / 911.8 mm	7.7 lbs. / 3.49 kg	
Exacta 2 - 600	55.1" / 1399 mm	59.7" / 1516 mm	13.0 lbs. / 5.90 kg	

### **Ordering Information**

Part No.	Model	Description
10530	Exacta 2 - 25	25 ft.lb, 33.8 Nm cap., 3/8" SD Int. Head inc., batteries not inc.*
10531	Exacta 2 - 75	75 ft.lb, 101.5 Nm cap., 3/8" SD Int. Head inc., batteries not inc.*
10532	Exacta 2 - 150	150 ft.lb, 203.3 Nm cap., 1/2" SD Int. Head inc., batteries not inc.*
10533	Exacta 2 - 250	250 ft.lb, 338.9 Nm cap., 1/2" Ratcheting Sq. Dr., batteries not inc.*
10534	Exacta 2 - 600	600 ft.lb, 813 Nm cap., 3/4" Ratcheting Sq. Dr., batteries not inc.*
10535	Exacta 2 - 400	400 ft.lb, 543 Nm cap., Dovetail, batteries not inc.* **
21259*	Charger & 4 AA NiMH	4 AA NiMH 2200 mAh batteries & charger, NAFTA only
21258	4 AA NIMH	Batteries 2500 mAh NiMH batteries, spare

\*\* Wrenches calibrated for use with heads having 3 7/8" Common Centerline.



### Sturtevant Richmont

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Login

The 3000-Series redefines your remote assembly and auditing!



The **3000-Series Exacta**<sup>®</sup> **2** system allows you to organize your torque tasks, prioritize them, guide the operator in performing them and collect the data - all with a single tool! Better still, the system software downloads the specifications to the tool, then later records and saves the data!

# *It's a System - Torque Wrench and Software Working Together!*

The 3000-Series system incorporates a specially-designed **Exacta® 2** digital torque wrench that communicates with and is controlled by proprietary software. The data export capabilities of the system facilitate integration with your plant's quality software. This eliminates inefficiencies associated with information and data handling, and allows you to focus on joint quality!

The software manages three databases.

- The Task database holds information pertinent to each single task, such as: unit of measure, min torque, max torque, number of fasteners, mode of operation and related specifications.
- The Tools database contains information on the 3000-Series Exacta<sup>®</sup> 2 wrenches you have, such as capacity and serial number of each.
- The Users database contains the data on your operators, such as employee number, name, and what operations they are permitted to perform with the software and tool.

These databases are combined to create Job Templates. Job templates are combinations of tasks that are assigned to a tool and user when a job is created. They speed job creation for future uses of the same task sequence. To create a job, you simply open a window, select the tool from the Tools Database and the appropriate Job Template. Enter the information pertinent to what is to be worked on and the work order number to be used. Save it and you are done. Now it's in a list that the operator will use when beginning the work order!

58	1 🥙 🗞	• E 🕭		▶    4 • •	• • 🖹 🗎	■	
				Job Card			
	Date 2	6 Jan 2010	We	ork Order	12345A		Tas
Worke	er ID	admin	Unit	t Number	Day 10012	26	Reco
Too	DI SN	892692					
Custome	er ID	Brakes		]			
Template N	lame	Widget Sub Ass	sy BA1				
Task Number	Lo	cation	1	Description	Socket Head	Number of Records	м
1	Brake A	lssy Area 1	Widget	Subassembly 1		4	22
2	Brake A	lssy Area 1	Widget	Subassembly 2		3	24

The operator then logs in, selects the work order from the list, prints the Job Card that contains all of the information, downloads the matching information to the tool (1 Button!), logs out and goes to work!

### Visual Support at Each Step; Making the Operator's Life Easy!

Each job is a series of sequential tasks to be performed with the wrench; torque three nuts here, four there, and so forth. This information is on the Job Card that was printed at download.

The tool display augments and supports this at every step!

At the start of the job, the lower right-hand corner of the display shows the operator he is at "Task 01 Nut 01". The main part of the display shows the target torque (mid-spec value), the unit of measure and the mode of operation.

As the operator begins applying torque to the first fastener, the display changes to provide current information on the status of the torque application. The current torque shows as it is applied, and when the operator gets close to the torque specification, an LED emits a bright yellow-orange light that backlights the display and appears in a prominent lens on the back of the wrench. Warning - you're getting close!

When the torque specification is achieved, the light turrns bright green. All the operator needs to do is stop applying force - "Green is Good!"

The tool displays the torque for a couple of seconds longer in case the operator wishes to review it, then stores the value and indexes to the next fastener - "Task 01 Nut 02"!

In the event of an error, the tool informs the operator by illuminating a bright red backlight and activating a "BAD" icon on the bottom of the display. This gives the operator the opportunity to correct the error immediately, and to record the new correct torque before moving on!





### Green is good!





This Inform/Record/Index cycle repeats until all of the fasteners in the first task are complete. The operator can then move to "Task 02 Nut 01". There is never a question about what is to be done or where the operator is in the job - the current status is in hand and on display!

When all of the individual tasks in the work order are complete, the data is uploaded to the computer. The operator plugs the serial cable into the tool, logs on to the software, clicks on one button (Finish a Job) and at the screen that follows, uses one more button to upload the data. The software stores the data and can clear the tool memory so it's ready for the next job. At every step the operator has been guided through the tasks with the information immediately needed!

### Audible Prompts

Supplementing the visual information are audible prompts from a beeper. You'll always know when the torque is right!

### **User-Friendly Job Data Management**

The data on every fastener torqued by every tool and every operator on every assembly is in the database. Preformatted reports can be viewed or printed for every completed job, or the data can be exported for analysis and reporting by spreadsheets or quality software.

Since the data is in the database these functions can be performed immediately upon upload from the tool or reserved for later, as best fits your needs.

### Three Modes of Operation - Track, Peak and Residual

Assembly and auditing are both accommodated with these three modes! The residual mode improves torque audit consistency for most hard and many medium joints.

### **Extremely Accurate**

The 3000-Series **Exacta**<sup>®</sup> **2** is accurate to +/- 1% of Indicated Value from 20% to 100% of rated capacity in Track and Peak modes. The Residual mode assists the user in determining retained torque on a joint. The actual accuracy percentage is contingent upon joint condition and user technique.

### Multiple Units of Measure

English and Standard International units of measure are on each tool. The exact units vary by tool capacity.

# The 3000-Series Exacta<sup>®</sup> 2 Uses the S/R Interchangeable Head System

The S/R line of Interchangeable Heads provides exceptional strength and rigidity of connection through our unique dovetail connection. Virtually all of these heads are made from a single piece of alloy steel, which assures durability and strength. With over 100 heads of 1 7/16" Common Centerline Length to choose from, the versatility of your 3000-Series **Exacta® 2** is greatly multiplied! Note: 250 and 600 footpound capacity tools use the S/R slide pin ratchet.



Meets or exceeds the requirements of ASME B107.28.

The 3000-Series Exacta<sup>®</sup> 2 Comes with a FREE Certificate of Calibration from our ISO 17025 Accredited Calibration Laboratory!



### **Extended Battery Life**

The 3000-Series **Exacta<sup>®</sup> 2** uses four (4) AA NiMH batteries of 2200 mAh capacity. These batteries (sold separately with 15-minute charger in NAFTA countries only) provide ample operating time between charges. Backup batteries (NAFTA countries only) are available with 2500 mAh capacity.

### **Dimensional / Physical Information**

Model	Lever	Overall		
Capacity	Length	Length	Weight	
25 ft. lbs.	12.5" / 317 mm	16.1" / 409 mm	2.8 lbs. / 1.27 kg	
75 ft. lbs.	15.8" / 401mm	19.4" / 493 mm	3.0 lbs. / 1.36 kg	
150 ft. lbs.	17.8" / 452 mm	21.5" / 546 mm	3.1 lbs. / 1.40 kg	
250 ft. lbs.	21.0" / 533 mm	25.2" / 640 mm	4.1 lbs. / 1.86 kg	
400 ft. lbs.	36.5" / 927.1 mm	35.9" / 911.8 mm	7.7 lbs. / 3.49 kg	
600 ft. lbs.	55.1" / 1399 mm	59.7" / 1516 mm	13.0 lbs. / 5.90 kg	

### **Ordering Information**

Part No.	Model	Description
10550	3000-Series Exacta 25	25 ft.lb, 33.8 Nm cap., 3/8" SD Int. Head inc., batteries not inc.*
10551	3000-Series Exacta 75	75 ft.lb, 101.5 Nm cap., 3/8" SD Int. Head inc., batteries not inc.*
10552	3000-Series Exacta 150	150 ft.lb, 203.3 Nm cap., 1/2" SD Int. Head inc., batteries not inc.*
10553	3000-Series Exacta 250	250 ft.lb, 338.9 Nm cap., 1/2" Ratcheting Sq. Dr., batteries not inc.*
10554	3000-Series Exacta 600	600 ft.lb, 813 Nm cap., 3/4" Ratcheting Sq. Dr., batteries not inc.*
10555	3000-Series Exacta 400	400 ft.lb, 543 Nm cap., Dovetail, batteries not inc.* **
21259*	Charger & 4 AA NiMH	4 AA NiMH 2200 mAh batteries & charger, NAFTA only
816261	4 AA NIMH	Batteries 2500 mAh NiMH batteries, spare

\*\* Wrenches calibrated for use with heads having 3 7/8" Common Centerline.



### Sturtevant Richmont

3203 N. Wolf Road Franklin Park, IL 60131 Phones: 847/455-8677 800/877-1347 Fax: 847/455-0347 E-mail: CustomerService@srtorque.com Web: www.srtorque.com

# Torque Application Tools

# For Assembly, Auditing, and Maintenance

The focus on quality for manufactured products over the last 20 years has been nothing short of extraordinary. One of the areas receiving significant attention has been on assemblies that require threaded fasteners.

There are numerous ways a product can be assembled but if the need exists to disassemble the product, the use of threaded fasteners remains the most cost effective and popular method of assembly. To ensure the integrity of an assembly using threaded fasteners, the proper application of torque is the method of choice.

In this section you will find the broadest array of torque application tools available worldwide. The basic categories consist of preset tools for repetitive assembly operations, micrometer adjustable tools for assembly and maintenance and direct reading tools for assembly, maintenance and auditing.

If you are not sure of the tools you need after reviewing the following section, please visit our website at www.srtorque.com and go to the Torque Application Selection Chart or call us at 1-800-877-1347 or 847/455-8677. Advanced Torque Systems page 3

## **Torque Application Tools**

Programmable Torque Verifier

Exacta		10
Dial Torq	ue Wrenches	
Flat Beam	n Torque Wrenches	
Micromet	er Adjustable	1 19
Torque W	renches	14-15
Preset Tor	que Wrenches	16-17
Interchan	geable Head	
Torque W	renches	
Interchan	geable Heads	
ExacTorq	<u> </u>	
Cal 36/4		
TIC Kit	Maria I	
Preset Tor	que Screwdrivers	27
Torque M	ultipliers & Spring Tes	sting
Fixtures	154 - <b>A</b>	

Torque Calibration Systems page 29



### **MD** Series Features

- Oversized single scale dial face is extremely easy to read and helps to eliminate parallax error.
- Heavy duty dial guard protects against breakage.
- Memory indicator is provided on each wrench and remains at the maximum torque achieved for positive verification.
- Each wrench comes in its own custom storage box.
- Wrench can be used in both the left and right hand direction.
- Accuracy of +/- 3% Indicated Value (from 20% to 100% of capacity) meets or exceeds ASME B107.14M and ISO 6789.
- A neoprene rubber grip is provided for comfort and to insure proper hand placement for maximum accuracy; not available on 3/4" and 1" sq. dr. models.
- Dial faces are color coded: silver for inch pounds, gold for foot pounds and white for Newton metres.
- Extension handle included on 600 ft.-lb/800Nm and greater capacity models for ergonomic advantage.
- Includes FREE NIST-traceable tabulated certification!

#### Memory Dial Series – English Part Torque Steps of Square Overall Weight Number Model Capacity Graduation Drive Length (lbs.) 850719 MD 501 50 in. lbs. 1 in. lb. 10.3 in. ¼ in. 1.2 MD 150I 150 in. lbs. 2 in. lbs. 10.3 in. 1.2 850701 ¾ in. 850702 MD 300I 300 in. lbs. 5 in. lbs. ¾ in. 10.3 in. 1.2 850703 MD 600I 600 in. lbs. 10 in. lbs. 12.3 in. ¾ in. 1.4 MD 150 850704 150 ft. lbs. 2 ft. lbs. ½ in. 20.9 in. 2.8 850705 MD 250 250 ft. lbs. 5 ft. lbs. 20.9 in. 2.8 ½ in. 600 ft. lbs. 850706 MD 600\* 10 ft. lbs. ¾ in. 46.5 in. 7.5 850722 MD 1000\* 1000 ft. lbs. 20 ft. lbs. 1 in. 71.5 in. 17.0

#### Memory Dial Series – Newton Metre

Part Number	Model	Torque Capacity	Steps of Graduation	Square Drive	Overall Lenath	Weight (lbs.)
0.50700			1.21	1/ 1	10.0.:	1.0
850/20	MD 6 Nm	6 Nm	.INm	½ in.	10.3 in.	1.2
850707	MD 15 Nm	15 Nm	.25 Nm	¾ in.	10.3 in.	1.2
850708	MD 35 Nm	35 Nm	.5 Nm	% in.	10.3 in.	1.2
850709	MD 70 Nm	70 Nm	1 Nm	¾ in.	12.3 in.	1.4
850710	MD 200 Nm	200 Nm	2.5 Nm	½ in.	20.9 in.	2.8
850711	MD 350 Nm	350 Nm	5 Nm	½ in.	20.9 in.	2.8
850712	MD 800 Nm*	800 Nm	10 Nm	¾ in.	46.5 in.	7.5
850723	MD 1300 Nm*	1300 Nm	25 Nm	1 in	71.5 in	17.0

\*Includes extension handle.



FREE Custom Storage Case Included









# Flat Beam

## Flat Beams Are Superior

The four most important requirements of a torque wrench, accuracy, reliability, durability, and low ownership cost, are combined into these exceptional tools. Accuracy is literally ground into the wrench. The special alloy steel beam is ground to a rate of deflection with the use of dead weights, rather than a dimensional tolerance. This process is time consuming and very labor intensive, but the result is a tool that remains accurate as long as the beam is intact and the pointer is on zero under noload condition. The flat shape of the beam insures the wrench remains at a right angle to the fastener, reducing or eliminating side-loading error. This unique taper-grinding distributes stress evenly along the entire length of the beam, extending tool life indefinitely. With a minimum of moving parts, these tools are virtually repair and maintenance free.

### **M** Series Features

- Incredibly durable design actual service life frequently measured in decades!
- Very low cost of ownership exceptional accuracy retention permits extended calibration intervals, and they are virtually maintenance and repair free!
- Ideal for prevailing-torque and destructive testing applications.
- Low mass/low inertia design of pointers helps eliminate reading distortion.
- Memory feature consists of fingers which follow a track in the scale and remain in place to indicate maximum torque achieved.
- Peak torque indicated on scale is accurate, even on destructive testing applications.
- Pivoted handle concentrates load at precise point on lever to assure torque accuracy.
- Meets or exceeds ASME B107.14M and ISO 6789.
- Accuracy of all flat beams is +/- 2% of indicated value from 20% to 100% of capacity, in both directions.
- Includes FREE ISO/IEC 17025 tabulated certification!

#### Crowfoot Adapter

- Gain the significant advantage of our interchangeable head system by attaching the SRA to any fixed square drive wrench.
- Ideal for use when a direct reading torque wrench is required but space is limited.
- B
- Use of an adapter requires calculation of torque output.
- When used with our 1 7/16" Interchangeable Heads the adapter length will be 3".

Part Number	Model	Torque Capacity	Steps of Graduations	Square Drive	Lever Arm Distance	Weight (lbs.)
•850233	M 32 IO	0-32 in. ozs.	2 in. ozs.	¼ in.	6.0 in.	0.2
•850254	M 80 IO	0-80 in. ozs.	5 in. ozs.	¼ in.	6.2 in.	0.25
850202	M 160 IO	0-160 in. ozs.	10 in. ozs.	¼ in.	6.0 in.	0.25
•850188	M 10 I	0-10 in. lbs.	½ in. lb.	¼ in.	6.0 in.	0.25
850222	M 25 I	0-25 in. lbs.	1 in. lb.	¾ in.	6.3 in.	0.4
•850242	M 50 I	0-50 in. lbs.	2 in. lbs.	¾ in.	6.0 in.	0.4
850191	M 100 I	0-100 in. lbs.	5 in. lbs.	¾ in.	6.5 in.	0.4
•850211	M 200 I	0-200 in. lbs.	10 in. lbs.	¾ in.	9.0 in.	0.5
■850228	M 300 I	0-300 in. lbs.	10 in. lbs.	¾ in.	13.5 in.	2.75
■850246	M 600 I	0-600 in. lbs.	25 in. lbs.	¾ in.	13.5 in.	2.75
∎850247	M 600 I	0-600 in. lbs.	25 in. lbs.	½ in.	13.5 in.	2.75
■850195	M 1200 I	0-1200 in. lbs.	50 in. lbs.	½ in.	15.0 in.	2.75
■850205	M 1800 I	0-1800 in. lbs.	50 in. lbs.	½ in.	18.0 in.	3.75
■850220	M 25	0-25 ft. lbs.	1 ft. lb.	¾ in.	13.5 in.	2.75
■850240	M 50	0-50 ft. lbs.	2 ft. lbs.	¾ in.	13.5 in.	2.75
■850241	M 50	0-50 ft. lbs.	2 ft. lbs.	½ in.	13.5 in.	2.75
■850190	M 100	0-100 ft. lbs.	5 ft. lbs.	½ in.	15.0 in.	2.75
■850198	M 150	0-150 ft. lbs.	5 ft. lbs.	½ in.	18.0 in.	3.75
■850227	M 300	0-300 ft. lbs.	10 ft. lbs.	¾ in.	30.0 in.	10.75

### Flat Beam Memory Series - English



### Flat Beam Memory Series - Newton Metre

Part Number	Model	Torque Capacity	Steps of Graduations	Square Drive	Lever Arm Distance	Weight (lbs.)
•855276	M 110 cNm	0-110 cNm	5 cNm	¼ in.	6.0 in.	0.25
•855280	M 1 Nm	0-1 Nm	.05 Nm	¼ in.	6.0 in.	0.25
•855281	M 2.5 Nm	0-2.5 Nm	.1 Nm	¾ in.	6.3 in.	0.34
•855282	M 5 Nm	0-5 Nm	.2 Nm	¾ in.	6.0 in.	0.34
•855283	M 12 Nm	0-12 Nm	.5 Nm	¾ in.	6.3 in.	0.38
•855284	M 22 Nm	0-22 Nm	1 Nm	¾ in.	9.0 in.	0.50
■855285	M 34 Nm	0-34 Nm	1 Nm	¾ in.	13.5 in.	2.75
■855287	M 70 Nm	0-70 Nm	2 Nm	¾ in.	13.5 in.	2.75
■855288	M 70 Nm	0-70 Nm	2 Nm	½ in.	13.5 in.	2.75
■855289	M 140 Nm	0-140 Nm	5 Nm	½ in.	15.0 in.	2.75
■855290	M 210 Nm	0-210 Nm	10 Nm	½ in.	18.0 in.	3.75
■855292	M 410 Nm	0-410 Nm	10 Nm	¾ in.	30.0 in.	10.75







### **Crowfoot Adapter**

Part		
Number	Model	Description
850653	SRA-%	% Female-Male Dovetail
850655	SRA-1/2	1/2 Female-Male Dovetail



Micrometer

Adjustable

Fixed Ratchet SDR Series



- Wrench is adjustable to torque value by rotating grip.
- Simple thumbscrew mechanism locks handle to avoid changing torque value while in use.
- Fast adjustment-takes the fewest rotations of any tool to reach full scale!
  Ball bearing rockover assembly assures smooth operation, enhances
- repeatability and increases the cycle life of the wrench.
- At preset torque value a strong audible and tactile impulse is emitted.
- Neoprene rubber grip for cushioning and oil/chemical resistance.
- Includes custom molded plastic case (250 ft. lbs./300 Nm and below).
- Aluminum increment band is color coded: black for inch lbs.; gold for foot lbs.; blue for Newton metre.
- Ratchet design is very strong and durable.
- Accuracy of +/- 4% Indicated Value (from 20% to 100% of capacity) meets or exceeds ASME B107.14M , ISO 6789, and AS 28431.
- Includes FREE ISO/IEC 17025 tabulated certification!

#### **SDR Fixed Ratchet Head Series - English**

Part Number	Model	Torque Capacity	Steps of Graduations	Square Drive	Overall Lenath
810749	2 SDR 501	10-50 in lbs.	1 in. lb.	½ in.	10.1
810750	2 SDR 1501	30-150 in. lbs.	2 in. lbs.	¼ in.	10.1
810751	3 SDR 1501	30-150 in. lbs.	2 in. lbs.	¾ in.	10.6
810761	3 SDR 2001	40-200 in. lbs.	2 in. lbs.	¾ in.	10.7
810748	3 SDR 6001	100-600 in. lbs.	5 in. lbs.	¾ in.	14.0
810752	3 SDR 7501	150-750 in. lbs.	5 in. lbs.	¾ in.	14.0
810756	3 SDR 75	15-75 ft. lbs.	½ ft. lb.	¾ in.	14.0
810747	3 SDR 12001	200-1200 in. lbs.	10 in. lbs.	¾ in.	17.6
810754	3 SDR 100	20-100 ft. lbs.	1 ft. lb.	¾ in.	17.6
810755	4 SDR 18001	300-1800 in. lbs.	10 in. lbs.	½ in.	18.3
810757	4 SDR 150	30-150 ft. lbs.	1 ft. lb.	½ in.	18.3
810758	4 SDR 250	50-250 ft. lbs.	2 ft. lbs.	½ in.	24.3
810760	6 SDR 300	50-300 ft. lbs.	2½ ft. lbs.	¾ in.	29.0
810597	6 SDR 600*	100-600 ft. lbs.	5 ft. lbs.	¾ in.	39.2
810525	6 SDR 700**	100-700 ft. lbs.	5 ft. lbs.	¾ in.	39.2

#### **SDR Fixed Ratchet Head Series - Newton Metre**

Part Number	Model	Torque Capacity	Steps of Graduations	Square Drive	Weight (lbs.)
810774	2 SDR 6 Nm	1-6 Nm	.1 Nm	¼ in.	10.1
810775	2 SDR 20 Nm	4-20 Nm	.2 Nm	¼ in.	10.1
810776	3 SDR 20 Nm	4-20 Nm	.2 Nm	¾ in.	10.6
810782	3 SDR 50 Nm	10-50 Nm	.5 Nm	¾ in.	14.6
810777	3 SDR 100 Nm	20-100 Nm	.5 Nm	¾ in.	14.6
810797	4 SDR 100 Nm	20-100 Nm	.5 Nm	½ in.	14.6
810798	4 SDR 140 Nm	28-140 Nm	1 Nm	½ in.	17.9
810783	3 SDR 140 Nm	28-140 Nm	1 Nm	¾ in.	17.9
810778	4 SDR 200 Nm	40-200 Nm	1 Nm	½ in.	18.5
810779	4 SDR 300 Nm	60-300 Nm	2 Nm	½ in.	24.3
810789	6 SDR 300 Nm	60-300 Nm	2 Nm	¾ in.	24.3
810598	6 SDR 800 Nm*	160-800 Nm	5 Nm	¾ in.	39.2

\* Optional extension tube, Part # 853363, can be ordered. Use of the extension requires recalibration of wrench.

\*\* Includes extension tube.



## **SD** Series Features

- Wrench is adjustable to torque value by rotating grip.
- Simple thumbscrew mechanism locks handle to avoid changing torque value while in use.
- Fast adjustment-takes the fewest rotations of any tool to reach full scale!
  Ball bearing rockover assembly assures smooth aperation, enhances
- repeatability and increases the cycle life of the wrench.When preset torque value is reached a strong audible and tactile impulse is emitted.
- Neoprene rubber grip for cushioning and oil/chemical resistance.
- Includes custom molded plastic case (250 ft. lbs. and below).
- Aluminum increment band is color coded: black for inch lbs.; gold for foot lbs.; blue for Newton metre.
- Accuracy of +/- 4% Indicated Value (from 20% to 100% of capacity) meets or exceeds ASME B107.14M, ISO 6789, and AS 28431.
- Includes FREE ISO/IEC 17025 tabulated certification!

		1			
Part Number	Torque Model	Steps of Capacity	Graduations	Square Drive	Overall Length
810160	2 SD 501	10-50 in. lbs	1 in. lb.	¼ in.	9.4
810161	2 SD 1501	30-150 in. lbs	2 in. lb.	¼ in.	9.4
810159	3 SD 2001	40-200 in. lbs	2 in. lb.	% in.	9.4
810163	3 SD 7501	150-750 in. lbs	5 in. lb.	% in.	13.6
810167	4 SD 150	30-150 ft. lbs	1 ft. lb.	½ in.	17.0
810600	6 SD 600*	100-600 ft. lbs	5 ft. lb.	¾ in.	36.4

### SD Fixed Male Square Drive Head Series - English

#### SD Fixed Male Square Drive Head Series - Newton Metre

Part	Torque	Steps of		Square	Overall
Number	Model	Capacity	Graduations	Drive	Length
810601	6 SD 800 Nm*	160-800 Nm	5 Nm	¾ in.	36.4

\* Optional extension tube, Part # 853363, can be ordered. Use of the extension requires recalibration of wrench.

### **Carry and Storage Cases**

Strong, durable cases for carrying and storing your S/R brand micrometer adjustable torque wrenches. Fits SDR, SD, and CCM series tools.

Part Number	Size	Туре	Wrench Range
820122	Small	Molded Plastic	50I-200I, 6 Nm-20 Nm
820123	Medium	Molded Plastic	600I-150 ft. lbs., 50 Nm-200 Nm
820124	Large	Molded Plastic	250 ft. lbs., 300 Nm
820127	Extra Large	Metal	600-700 ft. lbs., 800 Nm



Each wrench includes molded plastic case. (250 ft. lbs./300 Nm and below)



# Micrometer Adjustable

Fixed Square Drive SD Series





### LTCR Series Features

- Designed specifically for use on production lines where many fasteners are to be tightened to the same torque.
- For handle extension, order Extension Adapter PN 853538 and custom length extension. Details on website.
- Light weight new comfort grip provides superior ergonomics, reducing operator fatigue.
- Accuracy of +/- 4% meets or exceeds ASME B107.14M and ISO 6789, offering consistent assembly quality.
- Wrench can be calibrated using any unit of torque measure.
- Ball bearing rockover assembly assures smooth operation, enhances repeatability, increases cycle life of wrench, and helps control ownership costs.
- Excellent audible and tactile impulse when preset torque is achieved.
- Slide pin ratchet is extremely strong and durable.
- Torque tester must be used to set torque value.

#### LTCR Fixed Ratchet Head Series

Part			Square	Weight (lbs. <u>)</u>
Number	Model	Torque Capacity*	Drive	Length (in.)
810400	LTCR 50I	50 in. lbs./6 Nm/	¼ in.	0.5
		58 kgf∙cm		7.3
810401	LTCR 1501	150 in. lbs./17 Nm/	¼ in.	0.5
		173 kgf∙cm		7.3
810589	LTCR 150I	150 in. lbs./17 Nm/	¾ in.	0.5
		173 kgf∙cm		7.9
810058	LTCR 300I	300 in. lbs./34 Nm/	¾ in.	1.0
		346 kgf∙cm		10.4
810055	LTCR 750I	750 in. lbs./85 Nm/	% in.	1.25
		864 kgf∙cm		14.8
810060	LTCR 750I	750 in. lbs./85 Nm/	½ in.	1.25
		864 kgf∙cm		14.8
810402	LTCR 12001	1200 in. lbs./100 ft. lbs./	¾ in.	1.5
		136 Nm/14 kgf∙m		17.6
810056	LTCR 18001	1800 in. lbs./150 ft. lbs./	½ in.	1.75
		204 Nm/21 kgf•m		18.3
810059	LTCR 30001	3000 in. lbs./250 ft. lbs./	½ in.	3.0
		339 Nm/35 kgf∙m		22.9
810138	LTCR 36001	3600 in. lbs./300 ft. lbs./	¾ in.	7.75
		407 Nm/41 kgf∙m		27.4
810151	LTCR 72001**	7200 in. lbs./600 ft. lbs./	¾ in.	10.0
		813 Nm/83 kqf•m		37.4

\* Minimum capacities of preset tools can be calculated at 20% of full capacities. \*\* Optional extension tube, Part # 853363, can be ordered. Use of the extension requires recalibration of wrench.

> Combination adjusting and release tool (CART 819117) allows operator to easily adjust the torque on all S/R preset wrenches.



Sturtevant Richmont



Fixed Ratchet LTCR Series





# LTCS Series Features

- Designed specifically for use on production lines where many fasteners are to be tightened to the same torque.
- For handle extension, order Extension Adapter P/N 853538 and custom length extension. Details on website.
- Light weight new comfort grip provides superior ergonomics, reducing operator fatigue.
- Accuracy of +/- 4% meets or exceeds ASME B107.14M and ISO 6789, offering consistent assembly quality.
- Wrench can be calibrated using any unit of torque measure.
- Ball bearing rockover assembly assures smooth operation, enhances repeatability, increases cycle life of wrench, and helps control ownership costs.
- Excellent audible and tactile impulse when preset torque is achieved.
- Can be ordered preset from the factory or torque tester can be used to set torque value.
- Adjustments to torque settings can only be made with a Combination Adjusting and Release Tool (CART) to prevent tampering on the production line.

LTCS Fixed Male Square Drive Head Series					
Part Number	Model	Torque Capacity*	Square Drive	Weight (lbs.) Length (in.)	
810168	LTCS 501	50 in. lbs./6 Nm/ 58 kgf∙cm	¼ in.	0.5 6.8	
810170	LTCS 1501	150 in. lbs./17 Nm/ 173 kgf∙cm	¾ in.	0.5 6.8	
810171	LTCS 300I	300 in. lbs./34 Nm/ 346 kgf∙cm	¾ in.	1 9.4	
810172	LTCS 7501	750 in. lbs./85 Nm/ 864 kgf•cm	% in.	1.25 13.3	
810174	LTCS 18001	1800 in. lbs./150 ft. lbs. 204 Nm/21 kgf•m	½ in.	1.5 16.9	
810485	LTCS 3600I	3600 in. lbs./300 ft. lbs./ 407 Nm/41 kgf•m	¾ in.	5.5 25.1	
810153	LTCS 72001**	7200 in. lbs./600 ft. lbs./ 813 Nm/83 kgf•m	¾ in.	8.25 35.1	

\* Minimum capacities of preset tools can be calculated at 20% of full capacities. \*\* Optional extension tube, Part # 853363, can be ordered. Use of the extension requires recalibration of wrench.





Preset Fixed Square Drive LTCS Series





Head

Interchangeable

Micrometer

Adjustable CCM Series **CCM Series Features** 

- Incredible Versatility! Accepts over 100 interchangeable heads, as well as custom heads and extensions, and offers micrometer torque adjustment!
- The +/- 4% Indicated Value Accuracy meets or exceeds ASME B107.14M, AS 28431 and ISO 6789.
- Fast adjustment-takes the fewest rotations of any tool to reach full scale!
- Comes with FREE ISO/IEC 17025 calibration certificate!
- Neoprene rubber grip offers oil and chemical resistance, as well as cushioning and firm grip for excellent ergonomics!
- Excellent audible and tactile impulse when set torque achieved.
- Unique dovetail design transmits the load at right angle from the wrench to the head; exceptional strength and rigidity of connection.
- The pin lock assures positive head connection, yet permits head changeover in seconds!
- Bi-directional versatility obtained by simply removing head, turning wrench over, and replacing head.
- Aluminum increment band is color-coded: black for inch-pounds, gold for foot-pounds, and blue for Nm.

#### CCM Dovetail Head Series – English

Part		Torque	Steps of	Overall
Number	Model	Capacity	Graduations	Length
810769	CCM 50I	10-50 in. lbs.	1 in. lb.	9.0
810765	CCM 150I	30-150 in. lbs.	2 in. lbs.	9.0
810763	CCM 600I	100-600 in. lbs.	5 in. lbs.	12.8
810766	CCM 750I	150-750 in. lbs.	5 in. lbs.	12.8
810770	CCM 75	15-75 ft. lbs.	½ ft. lb.	12.8
810764	CCM 1200I	200-1200 in. lbs.	10 in. lbs.	16.3
810762	CCM 1800I	300-1800 in. lbs.	10 in. lbs.	16.3
810771	CCM 150	30-150 ft. lbs.	1 ft. lb.	16.3
810335	CCM 300†	50-300 ft. lbs.	2½ ft. lbs.	26.0
810772	CCM 400†	50-400 ft. lbs.	5 ft. lbs.	36.0

#### CCM Dovetail Head Series – Newton Metre

Part Number	Model	Torque Capacity	Steps of Graduations	Overall Length
810784	CCM 6 Nm	1-6 Nm	.1 Nm	9.0
810785	CCM 20 Nm	4-20 Nm	.2 Nm	9.0
810786	CCM 100 Nm	20-100 Nm	.5 Nm	12.8
810787	CCM 200 Nm	40-200 Nm	1 Nm	16.3
810788	CCM 400 Nm†	75-400 Nm	2.5 Nm	26.0
810794	CCM 600 Nm†	100-600 Nm	5 Nm	36.0

 $\dagger$  Wrenches calibrated for use with heads having 3%" common centerline. On request wrenches can be calibrated for 1%" centerline.

Includes FREE certification from our ISO/IEC 17025 Accredited calibration laboratory!

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Tester:         SYSTEMS         Tester: Serialit         0656           Tanaducer:         TT3000         Transducer Serialit         718855           Accuracy:         a: 400 %         TempMumidhy:         75 *F/         47 %           Operator:         MI         Wein Order:         0         TempMumidhy:         75 *F/         47 %	Rates	Notion of contracts	E Reproduction, except in ful Intron APPROVED BY IRO	Lor allerator of the perfice N BERG, G.A. WINAGER	a is not allowed without the orga	nn ceinei d'Stateve	
Transducer         T1300         Transducer Serialit         718855           Accuracy:         =         4.00         %         TempMumidity:         75 °F / 47 %           Operator:         MB         Work Order:         0         Teat Station:         PCX 48	Ratino	R10751	E Reproduction, oxing to 14 kitton anymoved by Rol 350R	Lor advandor of his confilent N BERG, G.A. WAVAGER	n is not allowed without the regr Model Serialit	105297	
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Page 18

Sturtevant Richmont

## LTC Series Features

- The LTC-Series is superb for use on the assembly line AND in field maintenance kits!
- The +/- 4% Accuracy meets or exceeds ASME B107.14M and ISO 6789, and provides the quality your customers demand!
- The pin lock assures positive head connection, yet permits head changeover in seconds!
- Bi-directional versatility obtained by simply removing head, turning wrench over, and replacing head.
- Extremely versatile system permits use of fewer wrenches by connecting to over 100 standard interchangeable heads, plus extensions, adapters, and your own custom heads!
- Excellent audible and tactile impulse when set torque achieved.
- Unique dovetail design transmits the load at right angle from the wrench to the head; exceptional strength and rigidity of connection.
- Light weight new comfort grip provides superior ergonomics, reducing operator fatigue.
- For handle extension, order Extension Adapter P/N 853538 and custom length extension. Details on website.



#### LTC Dovetail Head Series

Part Number	Model	Torque Capacity*	Weight (lbs.)	Overall Length (in.)
810100	LTC 50I	50 in. lbs./6 Nm/ 58 kgf•cm	0.5	6.9
810011	LTC 1501	150 in. lbs./17 Nm/ 173 kgf∙cm	0.5	6.9
810574	LTC OHT**	300 in. lbs./34 Nm/ 346 kgf∙cm	0.5	6.9
810016	LTC 3001	300 in. lbs./34 Nm/ 346 kgf•cm	0.75	8.8
810013	LTC 7501	750 in. lbs./85 Nm/ 864 kgf∙cm	1.0	12.6
810014	LTC 18001	1800 in. lbs./150 ft. lbs./ 204 Nm/21 kgf•m	1.25	15.9
810334	LTC 36001	3600 in. lbs./300 ft. lbs./ 407 Nm/41 kgf•m	5.5	24.3
810137	LTC 48001	4800 in. lbs./400 ft. lbs./ 542 Nm/55 kgf•m	8.25	34.3

\* Minimum capacities of preset tools can be calculated at 20% of full capacities.

\*\* For this tool only, minimum capacity is 50% of maximum capacity.



# Interchangeable Head Preset







# Interchangeable Heads



SQUARE DRIVE (SD)



SQUARE DRIVE RATCHET (SDRT)



OPEN END (OE)

### Why Our Interchangeable Head System is the World's Best

Virtually all interchangeable heads on these pages are made as a single piece from alloy steel. This construction method provides strength and durability rarely attained by the more common cut and weld method. In addition, to achieve constant torque values when changing heads, exact lever length must be maintained. S/R heads share a precise distance from end of wrench to center of fastener. This is referred to as a Common Centerline and is very difficult to maintain when using the welded construction method.

The unique dovetail design used to join head and wrench provides exceptionally strong connection and allows complete interchange-ability. Competing manufacturers find it necessary to increase the size of the mating connection at higher torque values, creating duplication of wrenches and heads while losing interchangeability.

SQUARE DRIVE	(SD)

1%" Common Centerline

SQUAR	e drive		
Part		Drive	Max.Torque
Number	Model	Size	(in. lbs.)
819057	SD-¼	1/4"	250
819058	SD-%	3/8"	1250
819059	SD-½	1/2"	2500
819119	SD-3/4*	3/4"	4800
* 3% Com	imon Cente	rline	

SQUARE DRIVE RATCHET(SDRT)

1%" Common Centerline

RATCHET SQ. DR.					
Part		Drive	Max.Torque		
Number	Model	Size	(in. lbs.)		
809504	SDRT-1/4	1/4″	250		
809505	SDRT-%	3⁄8″	1250		
809506	SDRT-1/2	1/2"	2500		
809507	SDRT-¾*	3/4"	4800		
* 37/ Con	nmon Centerline				

RATCHET RENEWAL KITS for ratcheting wrenches

1/4" Ratchet Renewal Kit P/N 816998 %" Ratchet Renewal Kit P/N 816958 1/2" Ratchet Renewal Kit P/N 816956 and SDRT Heads 3/1" Ratchet Renewal Kit P/N 816999

#### OPEN END (OE) 1%" Common Centerline

OPEN END - ENGLISH					
Part		Hex	Max.Torque		
Number	Model	Size	(in. lbs.)		
819000	OE-1⁄4	1/4″	100		
819001	OE-5/16	5/16"	150		
819002	OE-%	3⁄8″	200		
819003	OE-7/6	7/16"	300		
819004	OE-½	1/2"	350		
819005	OE-%	%16"	400		
819006	OE-%	5%"	600		
819007	OE-11/16	11/16″	800		
819008	OE-¾	3⁄4″	1000		
819009	OE-13/16	13/16"	1250		
819010	OE-%	‰″	1500		
819011	OE-15/6	15/16"	1750		
819012	OE-1	1″	2000		
819013	OE-11/16	11/16″	2250		
819014	OE-11%	1 ¼″	2500		
819015	OE-1%	13/16"	2750		
819016	OE-11/4	11//"	3000		

See website for head dimensions.

OPEN END - METRIC					
Part		Hex	Max.Torque		
Number	Model	Size	(Nm) <sup>'</sup>		
809294	OE-5mm	5mm	8		
809290	OE-6mm	6mm	9		
809291	OE-7mm	7mm	11		
809292	OE-8mm	8mm	16		
809293	OE-9mm	9mm	22		
819943	OE-10mm	10mm	22		
819944	OE-11mm	11mm	34		
809226	OE-12mm	12mm	39		
819945	OE-13mm	13mm	39		
819946	OE-14mm	14mm	45		
809227	OE-15mm	15mm	67		
819947	OE-16mm	16mm	67		
819948	OE-17mm	17mm	90		
809228	OE-18mm	18mm	90		
819949	OE-19mm	19mm	113		
819950	OE-21mm	21mm	141		
819951	OE-22mm	22mm	169		
819952	OE-24mm	24mm	197		
809229	OE-27mm	27mm	254		
819956	OE-30mm	30mm	310		
853043	OE-31mm	31mm	328		
819958	OE-32mm	32mm	338		

# FLARE NUT (FN) 1%6" Common Centerline

FLARE NUT - ENGLISH					
Part Number	Model	Hex Size	Max.Torque (in. lbs.)		
819025	FN-¼	1/4"	100		
819026	FN-%	5/16"	150		
819027	FN-%	3⁄8″	200		
819028	FN-⅔	7/16"	250		
819029	FN-½	1/2"	300		
819030	FN-%	%6″	350		
819031	FN-%	5 <b>%</b> "	400		
819032	FN-¹⅓₀	11/16"	475		
819033	FN-¾	3/4″	600		
819034	FN-13/16	13/16"	700		
819035	FN-%	7/8″	800		
819036	FN-15/6	15/16"	900		
819037	FN-1	1″	1000		
819038	FN-11/16	11/16″	1050		
819039	FN-11%	1%″	1100		
819040	FN-1%	1¾″	1150		
819041	FN-1¼	1¼″	1200		

### BOX HEAD (BH) 1%" Common Centerline

BOX HEAD - EINGLISH				
Part Number	Model	Hex Size	Max.Torque (in.lbs.)	
819060	BH-¼	1/4"	250	
819061	BH-‰	5/16"	350	
819062	BH-%	3/8"	450	
819063	BH-%₀	7/16"	650	
819064	BH-½	1/2"	850	
819065	BH-%₀	%16″	1050	
819066	BH-%	5/8"	1250	
819067	BH-11/16	11/16″	1450	
819068	BH-¾	3/4″	1800	
819069	BH-13/6	13/16"	2100	
819070	BH-%	7/8″	2400	
819071	<b>BH-</b> ¹%₀	15/16"	2700	
819072	BH-1	1″	3000	
819073	BH-11/16	11/16″	3150	
819074	BH-11%	1%″	3300	
819085	BH-13/6	13/16"	3450	
819075	BH-1¼	11/4″	3600	

# HEX DRIVE (HD)

HEX DRIVE - ENGLISH				
Part Number	Model	Hex Size	Max.Torque (in. lbs.)	
853030	HD-¾	5/64"	20	
819687	HD-3/2	<sup>3</sup> /32″	30	
853031	HD-‰	7/64″	40	
819689	HD-16	1/8″	70	
853032	HD-‰	%4″	70	
819691	HD-5/2	5/32"	135	
819692	HD-36	3/16"	235	
819693	HD-732	7/32"	340	
819694	HD-¼	1/4″	450	
819695	HD-%	5/16"	850	
819696	HD-%	3/8"	850	
819697	HD-7/6	7/16"	1450	
819699	HD-%	%6″	1450	
819700	HD-%	5/8"	2100	
819701	HD-¾	3/4"	2400	
819702	HD-76	7//"	2700	

#### FLARE NUT - METRIC

Part Number	Model	Hex Size	Max.Torque (Nm)
809243	FN-8mm	8mm	16
809217	FN-9mm	9mm	19
809218	FN-10mm	10mm	22
809221	FN-11mm	11mm	28
809241	FN-12mm	12mm	30
809000	FN-12mm*	12mm	30
809219	FN-13mm	13mm	33
809220	FN-14mm	14mm	40
809001	FN-14mm*	14mm	40
809222	FN-15mm	15mm	45
809238	FN-16mm	16mm	50
809223	FN-17mm	17mm	54
809239	FN-18mm	18mm	61
809224	FN-19mm	19mm	68
809240	FN-21mm	21mm	80
809242	FN-22mm	22mm	90
809225	FN-24mm	24mm	105
809244	FN-27mm	27mm	118
* 6 pt hex	(		





FLARE NUT (FN)

BOX HEAD - METRIC				
Part Number	Model	Hex Size	Max.Torque (Nm)	
809301	BH-7mm	7mm	28	
809302	BH-8mm	8mm	39	
809303	BH-9mm	9mm	50	
809230	BH-10mm	10mm	50	
809231	BH-11mm	11mm	73	
809304	BH-12mm	12mm	96	
809232	BH-13mm	13mm	96	
809233	BH-14mm	14mm	119	
809234	BH-15mm	15mm	141	
809305	BH-16mm	16mm	141	
809235	BH-17mm	17mm	163	
809306	BH-18mm	18mm	163	
809236	BH-19mm	19mm	203	
809307	BH-21mm	21mm	237	
809308	BH-22mm	22mm	271	
809237	BH-24mm	24mm	305	
809352	BH-27mm	27mm	355	



BOX HEAD (BH)



HEX DRIVE (HD)

809304	BH-12mm	I 2mm
809232	BH-13mm	13mm
809233	BH-14mm	14mm
809234	BH-15mm	15mm
809305	BH-16mm	16mm
809235	BH-17mm	17mm
809306	BH-18mm	18mm
809236	BH-19mm	19mm
809307	BH-21mm	21mm
809308	BH-22mm	22mm
809237	BH-24mm	24mm
809352	BH-27mm	27mm

HEX DRIVE - METRIC				
Part Number	Model	Hex Size	Max.Torque (Nm)	
809315	HD-4mm	4mm	15	
809316	HD-5mm	5mm	27	
809317	HD-6mm	6mm	38	
809328	HD-8mm	8mm	96	
809330	HD-10mm	10mm	141	
809332	HD-12mm	12mm	164	
809334	HD-14mm	14mm	164	
809339	HD-19mm	19mm	270	

See website for head dimensions.







## Interchangeable Heads



#### RATCHETING OPEN END (ROE)



# RATCHETING OPEN END (ROE)

Slight disengagement from the fastener allows operator to rapidly rotate wrench.

PATCHETINIC OPEN END - ENGLISH

Part Number	Model	Hex Size	Max.Torque (in. lbs.)
819200	ROE-1/4	1/4"	60
819202	ROE-%	3/8"	120
819203	ROE-7/6	7/16 <b>"</b>	180
819204	ROE-½	1/2"	210
819205	ROE-%	%16"	240
819206	ROE-%	5/8"	360
819208	ROE-¾	3/4"	600
819209	ROE-13/16	13/16"	750
819210	ROE-%	7/8″	900
819211	ROE-15/16	15/16"	1050
819212	ROE-1	1″	1200
819213	ROE-11/16	11/16"	1350
819214	ROE-11%	1%″	1500
819215	ROE-1%	13/16"	1650

RATCHETING OPEN END - METRIC				
	Part Number	Model	Hex Size	Max.Torque (Nm)
	819217	ROE-7mm	7 mm	7
	819218	ROE-8mm	8 mm	10
	819219	ROE-9mm	9 mm	13
	819220	ROE-10mm	10 mm	13
	819221	ROE-11mm	11 mm	20
	819222	ROE-12mm	12 mm	23
	819223	ROE-13mm	13 mm	23
	819224	ROE-14mm	14 mm	27
	819225	ROE-15mm	15 mm	40
	819226	ROE-16mm	16 mm	40
	819227	ROE-17mm	17 mm	54
	819228	ROE-18mm	18 mm	54
	819229	ROE-19mm	19 mm	68
	819231	ROE-22mm	22 mm	101
	819232	ROE-24mm	24 mm	118
	819233	ROE-27mm	27 mm	152
	819238	ROE-32mm	32 mm	203

### RATCHETING FLARE NUT (RFN)

17/6" CommonCenterline Single-direction ratchet for use with hydraulic or pneumatic fittings.

Part Number	Model	Hex Size	Max.Torque (Nm)
819086	RFN-10mm	10 mm	25
819087	RFN-11mm	11 mm	25

#### RATCHETING FLARE NUT (RFN)



RATCHETING TUBE WRENCH (RTW)

# RATCHETING TUBE WRENCH (RTW) RTW snaps open to fit around hydraulic, AC lines, etc. When jaws close, wrench ratchets.

RATCHET	ING TUBE V	VRENCH	I - ENGLISH
Part Number	Model	Hex Size	Max.Torque (in. lbs.)
853151	RTW-%	3⁄8″	225
853152	RTW-%₀	7/16″	250
853154	RTW-%₀	%6″	400
853156	RTW-11/16	11/16"	750
853157	RTW-¾	3/4"	850
853158	RTW-13/16	13/16"	1000
853159	RTW-%	7/8″	1250
853160	RTW-15/16	15/16"	1400
853161	RTW-1	1″	1500
853180	RTW-11/16	11/16″	2210
853194	RTW-2	2″	3600

RATCHETING TUBE WRENCH - METRIC				
Part Number	Model	Hex Size	Max.Torque (Nm)	
853164	RTW-13mm	13mm	34	
853165	RTW-14mm	14mm	68	
853170	RTW-16mm	16mm	68	

CAUTION WHEN USING RTW HEADS! Because of the configuration of the ratcheting tube wrenches, it is not possible to maintain our common centerline for these heads. We, therefore, recommend these heads for the LTC preset wrenches and when setting the torque value of the wrench, to use the appropriate head to insure accuracy.

## See website for head dimensions.



# See website for head dimensions.



### STANDARD TOOLING ADAPTERS\*

When fabricating special heads to be used with CCM torque handles other than Model CCM 300 and CCM 400, the 1% in. dimension must be maintained betwe the inside of the attachment block and the centerline of the wrench head. Model CCM 300 and CCM 400 arr calibrated to 3% in. common centerline.

Part Number	Model	Max.Torque (in. lbs.)
819901	STA-1	1600
819902	STA-2	2500
809917	STA-3	4800
* * * * *	rı	

<sup>6</sup> Made of heat treated 4140 alloy steel.

Standard Tooling Adapter



### STRAIGHT EXTENSION

Part Number	Model	Angle (degrees)	Max.Torque (in. lbs.)
819424	LTCE-4	0	300
819467	LTCE-6	0	800
819021	LTCE-14	0	4800
819768	LTCE-20	0	4800

### 15° ANGLE EXTENSION

Part Number	Model	Angle (degrees)	Max.Torque (in. lbs.)
819487	LTCE-4-15°	15	300
01/004		10	000



### ADAPTERS FOR DIN STYLE HEADS

- Can be used to convert most DIN style heads to a female dovetail for use on all S/R LTC series wrenches. Torque values should be set with the adapter and head attached to the wrench.
- Because of the variation in the length of the DIN plug type heads it is not recommended that this adapter be used with CCM micrometer adjustable wrenches.

Part Number	Model	
819136	Adapter, 9mm x 12mm	
819137	Adapter, 14mm x 18mm	

### ADAPTERS FOR ROUND STYLE HEADS

- Can be used to convert most round style heads to a female dovetail for use on all S/R LTC series wrenches. Torque values should be set with the adapter and head attached to the wrench.
- Because of the variation in the length of the round plug type heads it is not recommended that this adapter be used with CCM micrometer adjustable wrenches.

Part .		
Number	Model	Description
853021	BAJ	"J" size female-female dovetail
853022	BAY	"Y" size female-female dovetail





ADAPTER FOR DIN STYLE HEADS



ADAPTER FOR ROUND STYLE HEADS



# See website for head dimensions.



### STANDARD TOOLING ADAPTERS\*

When fabricating special heads to be used with CCM torque handles other than Model CCM 300 and CCM 400, the 1% in. dimension must be maintained betwe the inside of the attachment block and the centerline of the wrench head. Model CCM 300 and CCM 400 arr calibrated to 3% in. common centerline.

Part Number	Model	Max.Torque (in. lbs.)
819901	STA-1	1600
819902	STA-2	2500
809917	STA-3	4800
* * * * *	rı	

<sup>6</sup> Made of heat treated 4140 alloy steel.

Standard Tooling Adapter



### STRAIGHT EXTENSION

Part Number	Model	Angle (degrees)	Max.Torque (in. lbs.)
819424	LTCE-4	0	300
819467	LTCE-6	0	800
819021	LTCE-14	0	4800
819768	LTCE-20	0	4800

### 15° ANGLE EXTENSION

Part Number	Model	Angle (degrees)	Max.Torque (in. lbs.)
819487	LTCE-4-15°	15	300
01/004		10	000



### ADAPTERS FOR DIN STYLE HEADS

- Can be used to convert most DIN style heads to a female dovetail for use on all S/R LTC series wrenches. Torque values should be set with the adapter and head attached to the wrench.
- Because of the variation in the length of the DIN plug type heads it is not recommended that this adapter be used with CCM micrometer adjustable wrenches.

Part Number	Model	
819136	Adapter, 9mm x 12mm	
819137	Adapter, 14mm x 18mm	

### ADAPTERS FOR ROUND STYLE HEADS

- Can be used to convert most round style heads to a female dovetail for use on all S/R LTC series wrenches. Torque values should be set with the adapter and head attached to the wrench.
- Because of the variation in the length of the round plug type heads it is not recommended that this adapter be used with CCM micrometer adjustable wrenches.

Part .		
Number	Model	Description
853021	BAJ	"J" size female-female dovetail
853022	BAY	"Y" size female-female dovetail





ADAPTER FOR DIN STYLE HEADS



ADAPTER FOR ROUND STYLE HEADS





ExacTorq®

**Adjustable Series** 



### Exact Torque Adjustment Using Digilock Control Mechanism

Gone are the days of estimating torque. A simple twist of ExacTorq's endmounted DigiLock mechanism sets your torque levels in exact, single digit increments. The positive locking detent secures your selection.

#### Enhance Comfort and Accuracy with Advanced Ergonomics

Enhanced comfort translates into enhanced accuracy. The ExacTorq<sup>®</sup> features a tri-lobular handle design. This gives users enhanced leverage, plus rounded surfaces for comfort and superior grip control. With each turn, this unique design involves only major muscle groups to reduce strain and potential repetitive-motion injury. Additionally, the ExacTorq<sup>®</sup> is comfortable in even the smallest of hands, performing flawlessly when used by women and men on the assembly line.

### Features

- DigiLock Control Mechanism revolutionizes manual torque adjustment.
- Positive locking detent secures selected torque value.
- Can be used in both right and left hand directions.
- Designed to meet or exceed ASME B107.14M and ISO 6789 specifications, each ExacTorq ships with a calibration certificate from our ISO/IEC 17025 Accredited laboratory.
- Operator cannot over torque. Clutch releases automatically when desired torque has been achieved.
- Uses standard bits, sockets and adapters.
- Anti-backlash design enhances repeatability.
- Accuracy of +/- 6% Indicated Value.



Specifications	ExacTorq 100	ExacTorq 74
Part Number	810045	810046
Capacity	20-100 in. oz.	15-74 cNm
Graduation	1 in. oz.	1cNm
Length (less bit)	6.8 in.	6.8 in.
Weight	0.4 lbs	0.4 lbs
Drive Size	¼ in. Female Hex	¼ in. Female Hex



Includes FREE certification from our ISO /IEC17025 Accredited calibration laboratory.



& Kits

## CAL 36/4 Screwdriver & Kits

- Accuracy of +/- 6% Indicated Value (from 20% to 100% of capacity) meets or exceeds ASME B107.14M and ISO 6789.
- Incredibly durable! Many users have experienced a service life of 10+ years!
- Operators cannot overtorque clutch releases at set torque.
- Anti-backlash design for repeatability.
- To operate, simply dial in torque and insert bit.
- Bi-directional CW/CCW versatility.
- Polished aluminum exterior.
- Scales clearly engraved on shaft and magnified for ease of reading.
- Comes with FREE calibration certificate from our ISO/IEC 17025 Accredited laboratory! Can be ordered with certification for English or Metric units of measure. (Use P/N 810017 for Nm certification on Cal 36/4.)
- Uses standard bits, adapters, and sockets.

Specifications	CAL 36/4 Part No. 810587	CAL 40 Part No. 810477
Capacity	2-36 in. lbs./.2-4 Nm	3-40 kgf∙cm.
Graduation	2 in. lbs./.2 Nm	2 kgf∙cm
Length (less bit)	7.8 in.	7.8 in.
Grip Diameter	1.4 in.	1.4 in.
Weight	0.5 lbs.	0.5 lbs.
Drive Size	¼″ Female Hex	1/4" Female Hex



CAL 36/4K Screwdriver Kit 29 Piece Kit

Part No. 810568 Contains 1 each of th	ne listed bits and a CA	L 36/4 screwdriver
Hex ¾	Slotted 8-10	Torx T20
Hex 3/2	Slotted 12-14	Torx T25
Hex ¾	Socket Adapter ¼	Torx T30
Hex ¼	Bit Holder ¼	Torx T40
Hex ‰	Phillips #0	Sq. Recess 0
Posidriv #1	Phillips #1	Sq. Recess 1
Posidriv #2	Phillips #2	Sq. Recess 2
Slotted 0-1	Phillips #3	Sq. Recess 3
Slotted 3-4	Torx T10	
Slotted 5-6	Torx T15 Include	es Custom Case



	Description
810587	CAL 36/4 Screwdriver
819953	1/4" Hex to 1/4" Sq. Drive
809449	No. 1 Phillips Power Bit
809467	No. 2 Phillips Power Bit
809434	No. 2 Slotted Power Bit
809448	No. 4 Slotted Power Bit

**Includes Custom Case** 

EMTSK 36/4 Screwdriver Kit 6 Piece Kit





Includes FREE certification from our ISO/IEC 17025 Accredited calibration laboratory.







TIC Kit Torque Inserts Correctly Kit



## Making Chips? You need the TIC Kit!

The "TIC Kit" will eliminate the problems associated with overtightened or loose tool insert screws!

The TIC Kit comes with a torque limiting screwdriver marked with the correct torque for each size of Torx screw used in toolholders, Torx bits for each of the screw sizes (T6, T7, T8, T9, T10), all contained in a custom molded plastic case. To use the TIC Kit, simply adjust the screwdriver to the size Torx screw to be tightened, insert the Torx bit from the kit, and tighten the screw. When the correct torque is reached, the clutch will index and no greater torque will be applied to the screw, even if the operator keeps turning the screwdriver!

The TIC Kit will eliminate the expense and problems of buying and keeping track of multiple keys and T-handles, as well as the problems associated with their inability to assure the correct torque.

The screwdriver in the TIC Kit is accurate to +/- 6% of the indicated T value, and is calibrated in our ISO/IEC 17025 Accredited Calibration Laboratory. It even comes with a FREE NIST-traceable calibration certificate!

It's time to stop drilling out toolholder screws and breaking expensive insert bits! The TIC Kit will increase your uptime and profits!

Part No.	Description
810581	TIC Kit w/TIC screwdriver, 1 each bits T6 – T10, case
810582	TIC screwdriver only
816771	T6 bits, pack of 5
816772	T7 bits, pack of 5
816773	T8 bits, pack of 5
816774	T9 bits, pack of 5
816775	T10 bits, pack of 5
816776	Bits, pack, 1 ea. T6 – T10



Increase your cutting tool and tool holder life!

### **PM Series Features**

- Perfect for assembly of electronic components and precision mechanical products!
- Ideal for use in field maintenance kits factory assembled quality in field reassembly!
- Clutch releases automatically when preset torque attained no overtorquing.
- Anti-backlash design for repeatability.
- Long shaft allows operator to reach limited-access applications.
- Accuracy of +/- 6% (from 20% to 100% of capacity) meets or exceeds ASME B107.14M and ISO 6789 requirements.
- Bi-directional versatility CW and CCW operation.
- Uses standard bits, adapters, and sockets.
- Torque value can be set using any unit of torque measure.
- Polished aluminum exterior.
- Minimum capacity of PM-series torque screwdrivers is 20% of maximum capacity.

Specifications	PM-5 Part No. 810007	PM-15 Part No. 810064	PM-36 Part No. 810563
Capacity	100 in. ozs. 70 cNm 7.2 kgf∙cm	15 in. lbs. 1.65 Nm 17.2 kgf∙cm	36 in. lbs. 4 Nm 40 kgf∙cm
Length (less bit)	5.5 in.	6.3 in.	7.8 in.
Grip Diameter	0.8 in.	1.0 in.	1.4 in.
Weight	0.25 lbs.	0.3 lbs.	0.5 lbs.
Drive Size	1/4" Female Hex	1/4" Female Hex	1/4" Female Hex



### COLOR CODE ALL YOUR SCREWDRIVERS.

When you place your order, just mention you want colors and we will send a package of five easy-to-apply heat shrink sleeves.

**PM-5** 

Part No.	Package Contents
816734	Multi-color (1 each)
816735	Blue (5)
816736	Yellow (5)
816737	Red (5)
816738	White (5)
816739	Green (5)





# Preset Screwdriver

PM-15







# **Torque Multipliers**

Torque multipliers with S/R Flat Beam torque wrenches are perfect for the high torque/limited access applications frequently found in the construction, heavy equipment, and power generation industries! The Flat Beam torque wrench provides accurate torque measurement, which is then multiplied by the gears in the multiplier for torque achieved. This combination is extremely portable, thus well-suited to job site use.

Two styles are available, high- and low-ratio, offering the versatility of either design approach. For those with limited height applications, the low-ratio style offers a lower, longer profile. For those with restricted diameter applications, the taller, high-ratio style is offered.

- Capacities to 4000 ft.-lbs. or metric equivalent.
- Multipliers can be used with either English or Metric Flat Beam wrenches.
- Reaction bar or reaction foot keeps gear box from turning.
- Gear train within multiplier has natural frictional loss. For normal requirements, a loss factor of 10% to 20% may be used.

Part Number Model	Style	Max. Torque ft. lbs.	Input Drive Size	Output Drive Size	Gear Ratio	Overall Length	Weight
850369 TM 1000	Low-ratio	1000	1/2"	3/4"	4-1	26 in.	12 lbs.
850367 TM 2000	Low-ratio	2000	3/4"	1″	4-1	26 in.	14 lbs.
850368 TM 4000	Low-ratio	4000	1″	1½″	4.33:1	30½ in.	35 lbs.
806300 XVK 15	Low-ratio*	* 1250	3/4″	1″	4.5:1	17% in.	7 lbs.
	Low rand	1200	/4	•	4.0.1	17 /0 111.	/ 100.

\*Made in Germany



- Simple-to-use spring tester can be used to inspect coil springs up to 7" in length and 2½" in diameter, minimum I.D. %".
- Provides the accurate tension readings necessary to match sets of springs.
- Height of test platform is adjusted by rotating platform on threaded column. A flat is milled on the column and stamped with 1/6" increments. One full revolution of the platform adjusts the height by 1/6".
- During compression testing an audible tone is emitted when arm is parallel to the test base indicating predetermined compression length is achieved.
- Maximum capacity of torque wrench that can be used is 150 ft. lbs. or equivalent.
- Wrench not included.

Model SPT Part No. 850285



# Torque Calibration Systems

### Torque Tools and Power Tools

Ensuring that the tools used to apply torque and those used for auditing have been properly calibrated and remain in calibration is the foundation of every torque program. "Best practice" for today's programs includes a two-step system of certifying and regularly checking each tool.

The first step in a "Best Practice" system is certifying tools, which would typically require test equipment of the highest accuracy and the use of mechanical loaders. Often the capability of testing a wide range of tools is necessary. The use of multiple sensors with a single test device, such as the System 5 with a mechanical loader, is generally the most cost-effective alternative for certifying tools.

The second step is the regular checking of tools, usually performed by the user of the tool. The tester used for this purpose would require simplicity of operation, ease of use and be readily accessible. Not surprisingly cost and durability are significant factors when purchasing testers for this application. Torq-Tronics and VeriTorq have been designed to meet the needs of this user and the purchasing department.

If you are not sure of the calibration system you need after reviewing the following section, please visit our website at www.srtorque.com and go to the Torque Tester Selection Chart or call us at 1-800-877-1347 or 847/455-8677.



Torque Application Tools page 9

## **Torque Calibration Systems**

VeriTorq	30-31
TorqTronics	32-33
System 4/5	34-35
System 4/5 Static Transducers	36-37
Tester Accessories	38-39
System 6	40-41
When should you calibrate your too	ls?42

General Information	.43
Product Warranties	.44
Product Selection Information	.45



**VeriTorq**<sup>®</sup>

**Digital Tester Series** 

CLICKER

IN LB

CLEAR

PRINT

PEAK

SELEC

UNITS

ZERO



TRACK PEAK

VeriTorg ®



VeriTorq<sup>®</sup> is a  $\pm 1\%$  I.V. digital torque wrench tester suitable for calibrating all clicker and camover-type torque wrenches, and torque screwdrivers as well. It can also test beam, dial, and digital torque wrenches!

If you have 10 or more torque wrenches that you send out for calibration - whether to the manufacturer or an independent laboratory - you can now bring those calibrations in-house and turn expense to profit! VeriTorq<sup>®</sup> is so simple to use and so affordable that it can even be put at the assembly line for use at the start of each shift.

How simple? Perhaps 15 minutes to install. Maybe another 15 minutes to learn to use. You could have your first two torque wrenches calibrated within an hour of opening the box!

And talk about return on investment! If you have as few as 10 torque wrenches that you calibrate twice a year, and you spend \$50 per tool per calibration (including shipping both ways), your VeriTorq<sup>®</sup> may pay for itself in less than 18 months.

It's time to increase your profits and reduce your overhead!

Accurate torque wrench testing at a very affordable price!





### Features

- Three modes of operation: Track, Peak, and Clicker (Initial Peak).
- Clockwise and counter-clockwise test capability.
- +/- 1% Indicated Value Accuracy from 10% to 100% of capacity.
- Units of measure include English, Standard International, and metric.
- Integral "L" bracket for horizontal or vertical mounting.
- Electronics Module rotates in two planes.
- Large LCD displays settings and values.
- Serial port for immediate or batch data transfer.
- Four button control panel.
- Meets or exceeds ASME B 107.29M.
- FREE ISO/IEC 17025 long-form certification!
- Made in USA by ISO 9001 manufacturer!
- Custom plastic Carrying/Storage Case and Power Supply included.

### **Benefits**

- Allows daily checking of tools and instant resolution in event of a question.
- Savings in calibration fees can pay for tester in less than a year.
- Reduces downtime and saves money by eliminating unneeded calibrations.
- Perfect for testing clicker and camover torque wrenches and torque screwdrivers.
- Serial output for use with terminal program or serial printer.
- Large LCD and rotating Electronics Module make it easy to read regardless of wrench length or technician height.
- Multiple Units of Measure to accommodate a wide range of tools.
- Very easily programmed via the four buttons on the Electronics Module.

# **VeriTorq**<sup>®</sup> Digital Torque Tester

Part No.	Model	Drive Size	
10362	VeriTorq® 1 Nm/10 in.lbs 120 VAC	.25" Male Hex	
10363	VeriTorq® 6 Nm/50 in.lbs 120 VAC	.25"Male Hex	
10364	VeriTorq® 12 Nm/100 in.lbs 120 VAC	.375" Male Hex	
10365	VeriTorq® 34 Nm/300 in.lbs 120 VAC	.375" Male Hex	
10366	VeriTorq® 109 Nm/80 ft.lbs 120 VAC	.5" Female Square*	All VeriTora® Digital
10367	VeriTorq® 201 Nm/150 ft.lbs 120 VAC	.5" Female Square*	Torque Testers Include:
10368	VeriTorq® 339 Nm/250 ft.lbs 120 VAC	.5" Female Square*	
10369	VeriTorq® 814 Nm/600 ft.lbs 120 VAC	.75" Female Square**	• 120 VAC of 240 VAC to
10371	VeriTorq® 1 Nm/10 in.lbs 240 VAC	.25" Male Hex	
10372	VeriTorq® 6 Nm/50 in.lbs 240 VAC	.25" Male Hex	Custom Plastic Carrying/
10373	VeriTorq® 12 Nm/100 in.lbs 240 VAC	.375" Male Hex	Shipping Case
10374	VeriTorq® 34 Nm/300 in.lbs 240 VAC	.375" Male Hex	Serial Cable
10375	VeriTorq® 109 Nm/80 ft.lbs 240 VAC	.5" Female Square*	<ul> <li>Quick Start Instructions</li> </ul>
10376	VeriTorq® 201 Nm/150 ft.lbs 240 VAC	.5" Female Square*	<ul> <li>1-Year Warranty on Electronics</li> </ul>
10377	VeriTorq® 339 Nm/250 ft.lbs 240 VAC	.5" Female Square*	<ul> <li>Includes FREE certification from</li> </ul>
10378	VeriTorq® 814 Nm/600 ft.lbs 240 VAC	.75" Female Square**	our ISO/IEC 17025 Accredited
			calibration laboratory.

\* Includes .5" M Square to .375" F Square Adapter.

\*\* Includes .75" M Square to .5" F Square and .5" M Square to .375" F Square adapters.







**Digital Tester Series** 

### **Torq-Tronics® Features**

- +/- 1% Indicated Value Accuracy from 10% to 100% of Rated Capacity.
- 3/8" High, 16-Character, Backlit LCD screen on testers of 80 ft.lbs. capacity or above. New 3/4" High, 16-character Backlit LCD screen on smaller testers!
- Capacities range from 10 inch-pounds to 600 foot-pounds, or equivalent Metric and S. I. units of measure.
- Voltage convertors available for 120 VAC and 240 VAC power.
- Easy to use dedicated Power Tool testing mode!

*Torq-Tronics®* changes the economic landscape of calibration! At about 1/3 the cost of most torque testers, manufacturers with as few as ten torque wrenches, screwdrivers, or nonimpacting power tools can now perform calibration in-house profitably! Return on investment can be as short as 18 months for a manufacturer with only a dozen torque tools to calibrate!

You will experience less downtime for each torque tool, plus avoid all the packing, shipping, and paperwork costs associated with calibration. When used with S/R's Torque Tool Manager [TTM] Software, NIST-traceable certifications to meet your ISO and QS requirements can be printed out immediately, and the records stored on disk, providing storage efficiency and instant access.

*Torq-Tronics®* six touchpads access all functions, making use both quick and easy! Switching from torque wrench calibration to power tool calibration requires only adding a joint simulator and pushing the touchpads—a two-minute changeover! Stall, clutch, pulse, and electric tools can all be calibrated rapidly and reliably.

*Torq-Tronics®* rugged design is equally at home in the lab, tool crib, or on the shop floor! Its' simplicity and efficiency enable deployment as a "line checker" at the start of each shift, or it can be used as the primary torque tool tester in the lab.

The Torq-Tronics® of 34 Nm capacity and below use a design optimized for horizontal mounting on a workbench or cart. This design reduces gravitational effect, and the large, sloped display is very easy to read!





### **System Specifications**

Feature	Specification
Accuracy	+/- 1% of Indicated Value
Accuracy Range	10% - 100% of Rated Capacity
Accuracy Direction	Bi-directional, CW + CCW
Modes	Track, Peak, Initial Peak, Power Tool
Rundown Fixture	Option for units 250 foot-pound capacity and below
Display	16-Character Backlit LCD, 3/8" High on 80 ft.lbs. testers and above,
	3/4" High in smaller testers
Controls	6 Touchpads: Zero, Clear/Print, Auto, Units, Peak Select, Filter
Filter	Five user-selectable cutoff frequencies in Power Tool mode
Communications	RS-232C Serial Port, 9-pin, Baud Rate 4800, Stop Bits 1, Parity None
Voltage	120 VAC or 240 VAC, standard
Voltage Convertor	Standard
Batteries	4 each AA NiCd, 1000mA, 1.2VDC
Charge Life	5 hours
Full Charge Time	20 hours



Part No.	Model	Range	Drive Size
10391	Torq-Tronics 1Nm	1-10 in.lbs. / 1.13-11.3 dNm / 11.5 kgf•cm	.25″ M Hex
10392	Torq-Tronics 6Nm	5-50 in.lbs. / 5.65-56.5 dNm / 57.6 kgf•cm	.25″ M Hex
10393	Torq-Tronics 12Nm	10-100 in.lbs. / 1.13-11.3 Nm / 115.2 kgf•cm	.375″ M Hex
10394	Torq-Tronics 34Nm	30-300 in.lbs. / 3.39-33.9 Nm / 345.6 kgf•cm	.375″ M Hex
10195	Torq-Tronics 80	8-80 ft.lbs. / 10.8-108 Nm / 1106 kgf•cm	.5″ F Sq*
10196	Torq-Tronics 150	15-150 ft.lbs. / 20.3-203 Nm / 2074 kgf•cm	.5″ F Sq*
10197	Torq-Tronics 250	25-250 ft.lbs. / 33.9-338.9 Nm / 3456 kgf•cm	.75″ F Sq**
10198	Torq-Tronics 600	60-600 ft.lbs. / 81.3-813 Nm / 8295 kgf•cm	.75″ F Sq**
		* 075"       . **	<b>F</b> "



#### **Units and Increments of Measure**

Part No.	in.oz.	in.lb.	ft.lb.	cNm	dNm	Nm	kgf∙cm	
10391	0.1	0.01		0.1	0.01	0.001	0.01	
10392	0.6	0.04			0.04	0.004	0.04	
10393		0.07	0.006		0.1	0.01	0.1	
10394		0.22	0.02			0.03	0.3	
10195		0.7	0.06			0.08	1	
10196		1	0.11			0.2	2	
10197		2	0.18			0.3	3	
10198		5	0.4			0.6	6	

### **Options / Accessories**

Description	
F Adapter, .25" F square to .375" M square	
" F Adapter, .375" F square to .5" M square	
Adapter, .5" F square to .75" M square	
Batteries (4 pack), NiCd, "AA" size, 1.2VDC, 1000mA	-
Torque Tool Manager software. See Page 11.	
e Single Stand, holds one Torq-Tronics upright for use.	
Dual Stand, holds two Torq-Tronics upright for use.	
0 VAC Voltage Convertor, 120 VAC to 6 VDC	
0 VAC Voltage Convertor, 240 VAC to 6 VDC	
	Description         F       Adapter, .25" F square to .375" M square         " F       Adapter, .375" F square to .5" M square         Adapter, .5" F square to .75" M square         Batteries (4 pack), NiCd, "AA" size, 1.2VDC, 1000mA         Torque Tool Manager software. See Page 11.         e       Single Stand, holds one Torq-Tronics upright for use.         Dual Stand, holds two Torq-Tronics upright for use.         0 VAC       Voltage Convertor, 120 VAC to 6 VDC         0 VAC       Voltage Convertor, 240 VAC to 6 VDC











See Page 39 for Rundown fixtures for power tool testing.





System 4/5 Accurate, Versatile, Durable, Easy to Use



The System 4/5 is the heart of the torque calibration systems at many Fortune 500 companies - for some very good reasons!

The System 4/5 provides the choice of two accuracy levels to meet your requirements; the System 4 has a +/-0.5%Indicated Value accuracy, and the System 5 provides an even tighter +/-0.25% I. V. accuracy to meet even the most stringent requirements.

Thirty torque transducers in three different designs are available, providing calibration capability ranging from a low of 2.5 in.ozs. through 2,000 ft.lbs.! This extensive range is coupled with a modular system structure to give you the ability to create a system tailored to your current needs, then incrementally expand to fill future requirements.

The use of MIL-spec connectors, shock-resistant bezel, and recessed/oil resistant/RF-shielded membrane switch panel in an aluminum housing provides exceptional durability. This makes the System 4/5 as suitable for shop floor, aircraft hanger, and tool crib use as it is in the laboratory.

System 4/5's four modes of operation enable it to calibrate all types of torque wrenches and non-impacting power tools. The broad range of accessories for the System 4/5 extends its' capabilities while increasing its' already significant efficiency! Torque Tool Manager software, mechanical loaders in three capacities, the Switch Box, joint simulators; all combine to make the System 4/5 the tester of choice for assemblers and laboratories seeking to optimize their torque tool calibration system.

www.srtorque.com



#### **System Specifications**

Measurement	System 4	System 5			
Accuracy @ 72° F (22° C)	0.5% I.V.	0.25% I.V.			
Accuracy Range	10% - 100% Cap.	10% - 100% Cap.			
System Resolution	3.5 Digit	4.5 Digit			
Resolution (A/D Convertor)	1/65,536	1/65,536			
Conversion Rate	100Khz	100Khz			
Signal to Noise Ratio	82 dB	78 dB			
			_		
Physical	Each System				
Weight, Battery Model	6.9 lbs. (3.1 Kg)				
Weight, AC Model	4.3 lbs. (2.0 Kg)				
Dimensions	3.375" (96mm) H x 7.3	56″ (192mm) W x			
	8.64" (220mm) D				
Display	1 x 16, 0.5" (12.7mm)	high characters,			
	backlit LCD				
Keyboard	Membrane switch pane				
Enclosure	Aluminum, plastic beze	I. Meets MIL-T-			
	28800E, Type 5, Class	E specifications.			
Transducer Interface	MS3102A 18-01S Amphenol				
	Serial Interface RS 232	С,			
	4800/n/1, ASC II han	dshake			
Characteristic	Specification				
Operating Temperature Range	32° E to 125° E (0° C #	51 6º C)			
Storage Temperature Range	-80° E to 160° E (-26.7	°C to 71 1°C)			
Storage Humidity Maximum	95% non-condensing				
Power Requirements	Each System				
Line Voltage/Frequency	120 or 240 VAC/50 o	r 60 Hz			
Serial Interface	Each System				
Туре	RS232C				
Baud Rate	Selectable: 300/1200/2	400/ <u>4800</u> /9600/19200			
Stop Bits	1				
Parity	Selectable: even/odd/r	no/stick/mark			
Connector	DB9 female				
Handshake	None, ASCII text				
Classification	System 4; ASME B107.	29M, Type 2, Class B			
	System 5; ASME B107.	29M, Type 2, Class A			



Note: Interface defaults underlined.

#### **Ordering Information**

Part No.	Model	Description
10000	System 4-BATT	System 4 w/battery & charger
10050	System 4-AC 120	System 4 w/120 VAC line operation
10051	System 5-BATT	System 5 w/battery & charger
10052	System 5-AC 120	System 5 w/120 VAC line operation
10053	System 4-AC/240VAC	System 4 w/240 VAC line operation*
10054	System 4-BATT/240VAC	System 4 w/battery & charger, 240VAC*
10055	System 5-240VAC	System 5 w/240VAC line operation*
10056	System 5-BATT/240VAC	System 5 w/battery & charger, 240VAC*

\*Requires special power cable, for cable descriptions and part numbers, visit the website or contact Customer Service.

See next page for transducer data.



Each tester includes a FREE NISTtraceable Certificate of Calibration from our ISO/IEC 17025 Accredited laboratory!





# Static Transducers

For System 4/5 & PTM-D S/R is proud of our flexible transducers for the System 4/5-designs with the legendary S/R quality built in!

Most System 4/5 transducers now come in four designs; two flanged designs for those with existing systems that are expanding their line or using an S/R Mechanical Loader, a Quick Connect design for use with our 1000 and 2000 pound capacity Mechanical Loaders, and a new "L" design that incorporates its' own mounting bracket for rapid horizontal or vertical mounting.

### **TT-Series Transducers**

- Traditional S/R Round Flange Style
- Can be mounted to ML 250 and ML 600 Mechanical Loaders.
- Can be Mounted to Quad Plate for multiple mounting on ML 250.
- Smaller sizes (up to 400 in. oz. capacity) can be mounted to SSMB, STMB, or UMB brackets.
- Larger sizes (500 ft. lbs. and above) can be mounted on UMB L-bracket.

• Fixed cable.

	Part. No.	Model
	10009	TT-2510
	10011	TT-100IC
	10012	TT-250IC
	10013	TT-400IC
60	Part. No.	Model
	10026	TT-1000
	10027	TT-2000

			Torque Range			
art. No.	Model	in.ozs.	in.lbs.	cNm	kgf∙cm	Hex
0009	TT-2510	2.5 - 25	0.16 - 1.6	1.77 - 17.7	0.18 - 1.8	.25" M
0011	TT-100IO	10 - 100	0.625 - 6.25	7.0 - 70.6	0.72 - 7.2	.25" M
0012	TT-250IO	25 - 250	1.6 - 15.6	17.7 - 177	1.8 - 18	.25" M
0013	TT-400IO	40 - 400	2.5 - 25	28 - 280	2.9 - 29	.25" M
			Torque Range			
art. No.	Model	in.lbs.	ft.lbs.	Nm	kgf∙m	Square
0026	TT-1000	1200 - 12000	100 - 1000	135 - 1355	13.5 - 130	1.00" F

200 - 2000

270 - 2710

27 - 270

1.00" F



### **STT-P Series Transducers**

- Hex Flange Style
- Can be mounted to ML 250 and ML 600 Mechanical Loaders.
- All up through 250 ft. lbs. capacity can be mounted to Quad Plate for multiple mounting on ML 250.
- Smaller sizes (up to 300 in. lb. capacity) fit SSMB, STMB, or UMB brackets.
- Larger sizes can be mounted on UMB L-bracket.
- Requires detachable cable P/N 10293 for use with System 4/5.

			Torque Range	:		
Part. No.	Model	in.lbs.	ft.lbs.	Nm	kgf∙cm	Hex
10286	STT-P50I	5 - 50		.56 - 5.6	6 - 60	.25" M
10287	STT-P100I	10 - 100		1.2 - 12	11.5 - 115	.375" M
10288	STT-P300I	30 - 300	2.5 - 25	3.4 - 34	34.5 - 345	.375" M

			Torque Range			
Part. No.	Model	in.lbs.	ft.lbs.	Nm	kgf∙cm	Square
10290	STT-P150	180 - 1800	15 - 150	20 - 200	210 - 2100	.75" F
10291	STT-P250	300 - 3000	25 - 250	34 - 340	350 - 3500	.75" F



### **STT-QC Series Transducers**

- Quick Connect System
- Can be mounted to ML 1000 and ML 2000 Mechanical Loaders.
- Removal of adapter plate permits use with ML 250 (250 ft. lbs. capacity and below).
- Requires detachable cable P/N 10293 for use with System 4/5.
- TT-MLQC Series can also be used with ML 1000 and ML 2000. See below.

Torque Range						
Part. No.	Model	in.lbs.	ft.lbs.	Nm	kgf∙cm	Hex
10301	STT-QC50I	5 - 50		.56 - 5.6	6 - 60	.25" M
10302	STT-QC100I	10 - 100		1.2 - 12	11.5 - 115	.375" M
10303	STT-QC300I	30 - 300	.5 - 25	3.4 - 34	34.5 - 345	.375" M

			Torque Range	e		
Part. No.	Model	in.lbs.	ft.lbs.	Nm	kgf∙cm	Square
10305	STT-QC150	180 - 1800	15 - 150	20 - 200	210 - 2100	.75" F
10306	STT-QC250	300 - 3000	25 - 250	34 - 340	350 - 3500	.75" F
10434	STT-QC500	600 - 6000	50 - 500	67.5 - 675	700 - 7000	.75" F

### **TT-MLQC** Series Transducers

- Quick Connect System
- Designed for use with System 4/5, ML 1000 or ML 2000.
- Permanently attached cable.

Torque Range						
Part. No.	Model	ft.lbs.	Nm	kgf∙m	Square	
10209	TT-1000MLQC	100 - 1000	135 - 1355	13.5 - 130	1" F	
10210	TT-2000MLQC	200 - 2000	270 - 2710	27 - 270	1" F	

### **STT-L Series Transducers**

- Built-in L-bracket for mounting vertically or horizontally.
- Requires detachable cable P/N 10293 for use with System 4/5.
- •Mounting holes drilled for 5/16" bolts, 3.25" on center.

Torque Range						
Part. No	Model	in.lbs.	ft.lbs.	Nm	kgf∙cm	Hex
10258	STT-L50I	5 - 50		.56 - 5.6	6 - 60	.25" M
10259	STT-L100I	10 - 100		1.2 - 12	11.5 - 115	.375" M
10260	STT-L300I	30 - 300	2.5 - 25	3.4 - 34	34.5 - 345	.375" M

			Torque Range	e		
Part. No	Model	in.lbs.	ft.lbs.	Nm	kgf∙cm	Square
10262	STT-L150	180 - 1800	15 - 150	20 - 200	210 - 2100	.75" F
10263	STT-L250	300 - 3000	25 - 250	34 - 340	350 - 3500	.75" F
10433	STT-L500	600 - 6000	50 - 500	67.5 - 675	700 - 7000	.75" F

To see larger photos and obtain additional information, go to www.srtorque.com!











# **Tester Accessories**



## Mechanical Loaders

A mechanical loader is the perfect accessory to increase the repeatability and productivity of the System 4/5! The drive system for each loader assures 90 degree load application, reducing operator-induced test error. In addition, the loaders' mechanical advantage reduces the operator effort required to attain and sustain torque during the calibration process. The -QC Series transducers include adapter plates for use with the ML 1000 and ML 2000 loaders, and make changeover a matter of seconds. The -P Series transducers (up to 250 foot-pound capacity) can be used with the ML 250. S/R mechanical loaders meet or exceed requirements for ASME B107.29M Type 1 loaders.

The Quad Plate permits mounting up to four transducers to the ML 250 to facilitate changeover. When coupled with the Switch Box both mechanical and electrical changeover can be accomplished in seconds!

Part No.	Model	Description	
10168	ML 2000	Mechanical Loader, 2000 ft.lb./2710 Nm capacity	
10167	ML 1000	Mechanical Loader, 1000 ft.lb./1355 Nm capacity	
10160	ML 250	Mechanical Loader, 250 ft.lb./338 Nm capacity	
10208	Lg. Cart	Roller Cart for ML 1000, 64"W x 30"D x 30"H	
10161	Std. Cart	Roller Cart for ML 250, 46"W x 24"D x 46"H	
10308	Quad Plate	Rotating plate attaches four -P Transducers to ML 250.	
10185	Switch Box	Electrically connects four transducers to System 4/5.	



# Transducer Mounting Brackets

Transducer mounting brackets are an excellent means of providing the stability the System 4/5 transducers need to deliver optimum performance. Each Lshaped bracket has the table and transducer mounting surfaces precision ground to eliminate deflection during tool and transducer calibration processes. These brackets are designed for use with TT-Series and STT-P Series transducers.

Part No.	Model	Description
10154	STMB	Small Triple Mounting Bracket, 3 transducers, max. 300 in.lb. capacity
20435	UMB	Universal Mounting Bracket, maximum 2000 ft.lb. capacity



# Transducer Calibration

A variety of transducer calibration equipment is available for those who wish to calibrate their own transducers. S/R has calibration fixtures, calibration arms (from 2.5" through 48" in length), weight platforms and weights available for all transducer sizes sold.

We can help you select the optimum equipment needed to calibrate the transducers you already have or will be acquiring. Simply contact Customer Service by phone, fax, or e-mail!



## Torque Tool Manager Software

Torque Tool Manager (TTM) is calibration and certification software specifically engineered to work with your System 4/5, System 6, or Torq-Tronics Digital Torque Testers!

TTM software will fulfill your TS 16949 and ISO calibration requirements far more cost-effectively than manual record keeping systems!

- Choose from standard calibration routines or customize your own to assure proper test procedures and accuracy every time! TTM is flexible; it accommodates the full range of manual and power torque tools.
- TTM error-proofs calibration procedures and virtually eliminates retesting due to operator error! TTM downloads the proper test protocol to your S/R tester and sets the tester up for the tool. It will only accept results that are in line with the test protocol, so errors resulting from failure to follow the programmed procedure are automatically rejected.
- TTM keeps records for each tool, including calibration date, serial number, tester and transducer serial numbers, operator, "As Found" and "As Left" test results, NIST traceability numbers, and all other data required for ISO and QS compliance!

For more information on TTM, contact Customer Service via phone, fax, or e-mail!





Part No. 10309, TTM Software

## Rundown Fixtures

Rundown fixtures are designed to assist in testing the output of pulse, stall and clutch power tools. This is accomplished by allowing the tool to achieve rotational speed prior to torque measurement. The rundown fixtures all come with the components to emulate either a hard or medium joint, thus assuring greater test accuracy.

Rundown fixtures may be used with either the System 4/5 or the Torq-Tronics series testers.

Part No.	Model	Description
10349	RDF 1 Nm	Rundown Fixture, 1 Nm/10 in.lb. capacity, .25" F Hex
10350	RDF 3 Nm	Rundown Fixture, 3 Nm/25 in.lb. capacity, .25" F Hex
10351	RDF 6 Nm	Rundown Fixture, 6 Nm/50 in.lb. capacity, .25" F Hex
10352	RDF 17 Nm	Rundown Fixture, 17 Nm/150 in.lb. capacity, .375" F Hex
10353	RDF 34 Nm	Rundown Fixture, 34 Nm/300 in.lb. capacity, .375" F Hex
10354	RDF 34 Nm	Rundown Fixture, 34 Nm/300 in.lb. capacity, .5" M Square
10355	RDF 68 Nm	Rundown Fixture, 68 Nm/600 in.lb. capacity, .5" M Square
10356	RDF 109 Nm	Rundown Fixture, 109 Nm/960 in.lb. capacity, .5" M Square
10357	RDF 204 Nm	Rundown Fixture, 204 Nm/1800 in.lb. capacity, .5" M Square
10358	RDF 339 Nm	Rundown Fixture, 339 Nm/3000 in.lb. capacity, .75" M Square
10295	RDF 250	Rundown Fixture, 250 ft.lb. capacity, .75" M Square
10135	JSK 50I*	Rundown Fixture Kit, 50 in.lb. capacity, .25" F Hex
		* Kits are for use with System 4/5 only.



Make your power tool testing easier and more repeatable – use a Rundown Fixture!







System 6

**Digital Tester** 

### On-Line Power Tool Testing at Its Finest!

The System 6 Power Tool Tester is designed for one purpose - to provide the finest in on-line power tool testing! It uses noncontact rotary sensors that completely eliminate the problems associated with slip-ring/brush-type sensors, to provide the high accuracy and the long operational life that comprises value!

The System 6 uses the same sturdy and reliable physical envelope and protection systems found on the System 4/5 tester, and like them it works well in a wide variety of demanding physical environments. The convenient plastic carryall case will take it there!

The +/-0.5% Indicated Value Accuracy of the System 6 is perfect for all types of non-impacting power tools; stall, clutch, and impulse, pneumatic or electric. This versatility makes it the rotary system of choice for many companies.



Interface specifications are the same as those of the System 4/5. See Page 35 for details.

#### **Ordering Information**

Part No.	Model	Description
10095	System 6-BATT 120	System 6 w/battery & charger
10101	System 6-AC 120	System 6 w/120 VAC line operation
10102	System 6-AC 240	System 6 w/240 VAC line operation*
10103	System 6-BATT 240	System 6 w/battery & charger/240 VAC*
10096	6 Ft. RTT Cable	RTT Transducer Cable to System 6
10104	30 Ft. RTT Cable	RTT Transducer Cable to System 6
10105	50 Ft. RTT Cable	RTT Transducer Cable to System 6

Sturtevant Richmont Bolisactus V Bolisactus V Bolisactus

\*Requires special power cable, for cable descriptions and part numbers visit our web site or contact Customer Service.

#### **Torque Specifications and Ordering Information**

		Torque Range				
Part No.	Model	in.ozs.	in.lbs.	cNm	kgf∙cm	
10110	RTT-10I	16 - 160	1 - 10	11.3 - 113	1.2 - 11.5	
10111	RTT-50I	80 - 800	5 - 50	56 - 560	6 - 60	
Part No.	Model	in.lbs.	ft.lbs.	Nm	kgf∙cm	
10112	RTT-100I	10 - 100		1.2 - 12	15 - 115	
10113	RTT-3001	30 - 300	2.5 - 25	3.5 - 35	35 - 350	
10114	RTT-50	60 - 600	5 - 50	6.8 - 68	69.1 - 691	
10115	RTT-100	120 - 1200	10 - 100	13.6 - 136	138 - 1382	
10116	RTT-200	240 - 2400	20 - 200	27.1 - 271	277 - 2765	
10118	RTT-700	840 - 8400	70 - 700	95 - 950	968 - 9678	



#### **Other Transducer Specifications**

Specification	Value
Output	0 to +/-3 VDC
Excitation	+12 VDC
Current Draw	250mA
Operating Temperature	14º F to 160º F (-10º C to 70º C)
Compensated Temp.	40° F to 110° F (5° C to 4° C)
Temperature Effect	.001% F.S./℃
Max Shaft Speed	5000 RPM
Overload (max.)	100%
Country of Origin	Germany

Each tester includes a FREE NIST-traceable Certificate of Calibration from our ISO/IEC 17025 Accredited laboratory!





# When should you calibrate your torque tools?

Finally–an answer that works!

## The Problem

That torque tools go out of calibration is no surprise to anyone who uses them. This has traditionally been addressed by periodic calibration, with tools sent for calibration internally or externally every "X" number of months or days.

This approach has guaranteed persistent and expensive shortcomings. If the calibration interval is too long, then the tool is used for assembling products after it has gone out of calibration, defeating the whole purpose of using a torque tool. If the calibration interval is too short, then \$50 or more has just been wasted.

And that is just the beginning of problems with calendar-based calibration. Torque tools of different types, brands and models wear at different rates. Torque tools purchased at different times also differ in where they are in their life cycle. A tool with 300,000 cycles on it is likely to behave differently than the one with 10,000 cycles. Add varying usage rates (cycles per day) to the picture and the result is no calendar-based interval will provide cost-effective calibration for all of your tools.

Even with a calibration program in place, nonconformances and their related expenses still occur, yet money is wasted calibrating some tools too frequently.

# The Solution

Technological and economic fact - electronics get more powerful and less expensive every year. This progression has led to the development of very inexpensive torque testers. And herein lies the seed of the solution.

Torque calibration laboratories use very high quality torque testers and usually specialized mechanical loaders and software. They require a controlled environment and technicians with a high level of knowledge about torque, calibration, and the interaction of the two. Expensive!

Fortunately there is now a middle ground. The last several years have seen the development of a class of torque testers with sufficient accuracy for torque "checks". A "check" is just that - a check on the accuracy of the torque tool. It is not a calibration. It does, however, allow one to catch any significant change in torque accuracy and in the environment in which the tool is used. Better still, it is very inexpensive in time and money to perform, and provides the warning needed when a tool is losing accuracy.

Torque checkers, such as our VeriTorq® for torque wrenches and Torq-Tronics® for power tools and torque wrenches, are inexpensive and designed to be deployed in the plant as lineside torque checkers. With just a little training and practice, your assembly personnel can check their torque tools as often as you see fit, be it the start of each week, each day, or even each shift.

With this approach, you are frequently checking the tools, sending them out for actual laboratory calibration only when it is genuinely needed. The nonconformances and waste are reduced – cost-effectively!

If you would like some assistance in seeing how this can work in your operation, give us a call! We will be glad to have one of our representatives help you find the best method for deploying this best practice in your operation!





# **General Information**

### Certification

All S/R torque testers, torque wrenches (except dial wrenches and preset tools) and torque screwdrivers are certified in our ISO/IEC 17025:1999 A2LA accredited laboratories. Below is a flow chart depicting S/R traceability to the National Institute of Standards and Testing (N.I.S.T.) which has reciprocity with all major standards bodies.

### **Specifications and Dimensions**

All specifications and dimensions contained in this catalog are subject to change without notice. Please contact the factory for the latest information.

### Safety

The following precautions should always be taken when using any hand tool to avoid possible injury:

- Safety glasses or goggles should be worn at all times when using any hand tool.
- Be sure wrench or socket is properly seated on the nut prior to applying torque.
- A "cheater bar" should never be used on a torque wrench to apply excess leverage.
- Firm footing and proper position are both extremely important when applying torque.

For extensive information on the safe use of hand tools and for safety programs visit www.hti.org.

#### **Organizations**

S/R is a member of ISA the Industrial Supply Association and HTI the Hand Tool Institute.

















Sturtevant Richmont Traceability System

National Institute of

# SR Product Warranties

### Warranty

Sturtevant Richmont Division of Ryeson Corporation warrants all products in this catalog against defective material and workmanship for the periods given in the table below. Upon inspection, Sturtevant Richmont shall have the option to repair or replace the defective product and such repair or replacement, free of charge, shall be the Customer's sole and exclusive remedy. Sturtevant Richmont Division of Ryeson Corporation furnishes this limited warranty in lieu of all other warranties, express or implied, including warranties of merchantability and fitness for a particular purpose. Any and all warranties shall be void as to products damaged or rendered unserviceable while in the custody of the customer or third parties. This includes but is not limited to negligence, misuse, modification, repair or alteration of the product.

Product Family	Warranty Duration	
Torque Transducers	1 year from date of purchase	
Torque Testers	1 year from date of purchase	
Mechanical Loading Systems	5 years from date of purchase	
Calibration Arms	5 years from date of purchase	
Load Platforms, Weights	5 years from date of purchase	
Software	90 days from date of purchase	
All other products	1 year from date of purchase	

### Liability

Sturtevant Richmont Division of Ryeson Corporation shall not be liable for any damages, incidental, consequential, or otherwise, or commercial loss from any causes, nor for personal injury or property damage. Sturtevant Richmont Division of Ryeson Corporation's liability is limited to the

repair or replacement of defective material or workmanship of the product.

### **Factory Repair & Calibration**

Torque wrenches, torque screwdrivers, torque testers – all are precision measurement instruments. You rely on each to assure the quality of your products, which means that tool and tester uptime and calibration are critical to your business.

We offer our customers factory-quality repair using original S/R parts, and calibration in our ISO/IEC 17025 Accredited Laboratory. There is no better level of repair available anywhere, and you can rely on our calibration process to assure you are working with accurate tools and testers.

Contact us by phone, fax, or e-mail to discuss your repair and calibration needs for all S/R products.

Torque Conver	sion Formu	ulas
Known inch grams	Multiplier .249085 .0249085 .00249085	Result milli Newton metres centi Newton metres deci Newton metres
inch ounces	28.349527 72.007 .706156 .0706156	inch grams gram centimeter centi Newton metres deci Newton metres
inch pounds	453.59243 16 1.1521193 .011521193 11.2985 1.12985 .112985	inch grams inch ounces kilogram centimeters kilogram meters centi Newton metres deci Newton metres Newton metres
foot pounds	12 .1382541 1.355818	inch pounds kilogram meter Newton metres
kilogram meters	9.80665 7.233058	Newton metres foot pounds
Newton metres	.101971 8.850744 .737562	kilogram meters inch pounds foot pounds
deci Newton metres	14.161184 .885074	inch ounces inch pounds
centi Newton metres	1.4161184 .0885074	inch ounces inch pounds
kilogram centimeters	.86796 .0980665	inch pounds Newton metres



# Torque Application Tool Selection Chart

The chart below will assist you in selecting the torque tools that will fit the requirements of your torque needs.

Exacta® Digital Wrenches M Series Flat Beam Wrenches MD Series Dial Wrenches SDR, SD, CCM Micrometer Adjustable Wrenches LTC, LTCR, LTCS Series Preset Wrenches Cal, Exactorq Series Adjustable Screwdrivers PM Series Preset Screwdrivers PTV, TCV Series Advanced Torque Systems Exacta® Plus



# Torque Tester Selection Chart

The chart below is provided to assist you in selecting the torque tester that fits your individual needs. In the leftmost column, find the torque tools that you have or wish to calibrate, then read across to find the testers that will fit your needs.



For all tools, the test equipment selected should be at least four times as accurate as the tools tested on it.

# Torque Tester Accessories Chart

Selecting the best accessories for your torque tester improves your quality, efficiency, and bottom line!

Torque Tool Manager Mechanical Loader 250 Mechanical Loader 600 Mechanical Loader 1000 Mechanical Loader 2000 Rundown Fixtures 4-Transducer Quad Plate Quick-Connect Transducers L-Series Transducers P-Series Transducers Rotary Transducers Transducer Mounting Brackets Switch Box Tester Stands















### www.srtorque.com

### Sturtevant Richmont

Division of Ryeson Corporation 3203 N. Wolf Road Franklin Park, IL 60131 Tel: 847-455-8677 Tel: 800-877-1347 Fax: 847-455-0347 email: customerservice@srtorque.com LIT-107 Form No. C070330

ISO/IEC 17025 Accredited Calibration Laboratory/ISO 9001:2000 Registered Company

#### **North America Customer Service Centers**

Location	Telephone	Fax	Address
Anchorage	907.248.4624	904.243.4150	4451 Aircraft Dr., Ste C, Anchorage, AK 99502-0906
Atlanta	770.473.1610	770.473.1617	574 Airport S. Parkway, Ste 200, Atlanta, GA 30349-8604
Calgary	403.291.4140	403.291.5234	Bay 106, 5421-11 St., NE, Calgary Alberta, T2D 6M4, Canada
Chicago	630.513.9599	630.513.6651	3950 Swenson Ave., St. Charles, IL 60174-3446
Cincinnati	513.871.6623	513.871.0573	4228 Airport Rd., Ste. B, Cincinnati, OH 45226-1646
Dallas	972.586.1564	972.586.1982	PO Box 619048, 2755 Regent Blvd, Dallas, TX 75261-9048
Denver	303.792.0972	303.792.3751	7285 S Revere PKWY, Ste. 703, Centennial, CO 80112-3947
Ft. Lauderdale	954.625.3930	954.625.3931	3200 W Prospect Rd., Ste 100, Fort Lauderdale, FL 33309-2587
Halifax	902.873.4646	902.873.3932	588 Barnes Rd., Ste 103, Enfield, NS, B2T 1K3 Canada
Houston	713.948.1700	713.645.9507	8887 W Monroe, Houston, TX 77061-5207
Kansas City	913.371.52222	913.371.5292	1312 Adams St., Kansas City, KS 66103-1321
Lafayette	337.839.8801	337.839.8805	101 Rolls Royce Dr., Broussard, LA 70518-4352
Los Angeles	818.997.0242	818.997.0473	8045 Woodley Ave, Van Nuys, CA 91406-1259
Memphis	901.362.6710	901.362.0024	5851 Advantage Cover, Memphis, TN 38141-8212
Minneapolis	651.452.1680	651.452.1584	2995 Lone Oak Circle, Ste 5, Eagan, MN 55121-1431
Montreal	450.437.3844	450.437.3997	907 Du Cure-Boivin Blvd, BoisBriand, QC, J7G 2S8 Canada
New England	843.706.3527	843.706.3529	
New York	973.263.0443	973.263.0662	2 Cranberry Rd, Parsippany, NJ 07054-1053
Philadelphia	800-AVIALL-1	215.741.1599	2260 Cabot Blvd, W Ste 2, Langhorne, PA 19047-1883
Phoenix	480.668.1551	480.668.5654	2340 W Broadway Rd., Ste 101, Mesa AZ 85202
Pittsburgh	412.788.8040	412.788.8044	1518 Parkway View Dr., Pittsburgh, PA 15205-1407
Pontiac	248.666.2240	248.666.2833	5600 N Williams Lake, Waterford, MI 48329-3283
Portland	503.253.6505	503.253.7021	16343 NE Cameron Blvd, Portland, OR 97230-5030
Raleigh	800-AVIALL-1	919.462.9212	951 Aviation PKWY, STE 1000, Morrisville, NC 27560-6635
San Jose	408.434.1020	408.434.1615	1538 Montague EXPY, San Jose, CA 95131-1408
Toronto	905.676.1695	905.676.9046	1840 Alstep Dr., Unit 5, Mississauga, ON, L5S 1W1, Canada
Vancouver	604.270.6144	604.270.3115	#1-13511 Crestwood PL, Richmond, BC V6C 2N3, Canada
Winnipeg	204.775.8004	204.786.1556	9-2073 Logan Ave., Winnipeg, MB, R2R 0J1, Canada

### **International Customer Service Centers**

Location	Telephone	Fax	Address
ASIA			
Beijing	86-10-6410-6086	86-10-6410-6091	Rm 1205, Beijing Silver Tower, No 2, Dong San Huan Bei Lu, Chao Yang District, Beijing, China 100027
			Dubai Airport Freezone Authority, Unit F-09, PO Box 293879, Dubai, United Arab
Dubai	971-4-2998980	971-4-2998985	Emirates
Hong Kong	852-2318-0233	852-2331-9222	604 New Bright Bldg. 11, Sheung Yuet Rd., Kowloon Bay, Kowloon, Hong Kong
India	91-120-4738000	91-120-4284860	Boeing Int'l Corp India Pvt. Ltd, SDF J-5, First Floor, Noida Special Economic Zone (NSEZ), Noida-201305 (U.P.), India
			29F The Landmark Tower Yokohama, 2-1-1, Minatomirai 2-Chrome, Nishi-Ku,
Japan	81-45-226-0236	81-45-226-0237	Yokohama, Kanagawa 220-8129, Japan
Singapore	65-6542-5420	65-6542-8222	2 Loyang Lane #05-02, Singapore 508913
Shanghai	86.2163910619	86.216391.0987	Rm 2202, Shanghai Times Square Office, No. 93 Haui Hai Rd (M), Luwan District, Shanghai 200021 P.R.China
AUSTRALIA/NE	V ZEALAND		
Auckland	64-9-275-0571	64-9-275-6569	Unit 2, 17 Airpark Dr., Airport Oaks, Auckland 1701, New Zealand
Brisbane	61-7-3277-8322	61-7-3274-1170	Building 111, Ditchman Ave. Archerfield Airport, Archerfield, QLD 4108, Australia
Cairns	61-7-4032-4299	61-7-4032-4677	11/450 Sheridan St., Cairns, QLD 4870, Australia
Melbourne	61-3-9339-3000	61-3-9338-9773	20-22 Lindaway Pl, Tullamarine, VIC, 3043 Australia
Moorabbin	61-3-9580-7644	61-3-9580-6267	Bldg 115, Northern Ave., Moorabbin Airport, Moorabbin, VIC 3194 Australia
Perth	61-8-9332-7855	61-8-9332-8858	11 Eagle Dr. 126, Jankakot Airport, Jandakot, WA 6164 Australia
Sydney	61-2-9791-0511	61-2-9791-0102	453 Airport Ave, Bankstown Airport, Bankstown, NSW 2200 Australia
EUROPE/AFRICA	4		
Amsterdam	31-252-245-919	31-252-245-970	Schillingweg 40, Nieuw Vennep, The Netherlands 2153PL
France	33-3 22 31 03 27	33-3 22 31 00 16	Sales Support Only
Israel	972-4-929-4447	972-4-629-1741	Sales Support Only
Italy	39-06-808-3560	39-06-807-8354	Sales Support Only
Scandinavia	46-431-456-570	46-431-456-572	Sales Support Only
South Africa	27-83-3090-706	31-11-455-4405	Sales Support Only
Spain	34-91-664-0637	34-91-617-3560	Sales Support Only
United			
Kingdom	44-1753-689-090	44-1753-680-755	Aviall UK Inc., Orion Business Park, Bird Hall Lane, Cheadle, Stockport, SK3 0WF, UK
LATIN AMERICA	/CARIBBEAN		
Ft. Lauderdale	954.625.3930	954.625.3931	3200 W Prospect Rd., Ste 100, Fort Lauderdale, FL 33309-2587

