INNOVATIONS IN ELECTRIC TOOL DURABILITY

Electric bolting tools are increasingly used on job sites in every conceivable industry. They can be found in wind turbines hundreds of feet in the air and in mining applications deep below the earth, as well as in nuclear plants, refineries, pipelines, oil rigs, processing plants, bridges and skyscrapers throughout the world. The portability, versatility and documentation capability of these tools make them highly valuable for accurate, consistent bolting. Until recently, however, no electric torque tool has proven to be rugged and dependable enough for long-term heavy usage in tough industrial environments.

Today, however, new innovations in electric bolting tools offer significant advancements in durability to address these concerns. Advanced bolting devices such as HYTORC's new **LITHIUM SERIES® II Electric Torque Tool** incorporate highly efficient motors, stronger gearboxes, more robust housings and higher reliability components that offer significantly improved tool life and greatly increased durability.

How have these features evolved to provide such advances in industrial bolting?

Brushless Motor

The workhorse of any power tool, the motor is what converts electrical power into mechanical power. Brushed motors were the first commercially viable application of electric power used to produce mechanical power. These motors were generally inexpensive, fairly reliable, and provided adequate torque for most jobs. Brushed motors also tend to handle rough environments well. However, these motors require regular maintenance and replacement. One of the main downsides of a brushed motor is that brushes simply wear out over time, thereby limiting the useful life of the tool.

In contrast, modern power tools such as the LITHIUM SERIES II Tool, utilize a brushless DC motor. The advantages of brushless motor technology are numerous. The absence of brushes eliminates problems such as hazardous sparks commonly caused by arcing in the brushes. Brushless motors are lighter and more compact; this makes them more portable than their brushed counterpart, and aids in reducing noise. A brushless motor such as in the LITHIUM SERIES II Tool has up to 5 times longer life, extending the overall life of the tool and providing greater efficiency and durability than ever before.

BRUSHLESS MOTOR

- Long life
- Quiet operation
- No sparks

BRUSHED MOTOR

- Limited life
- Noiser operation
- Emits sparks

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Stronger Gearbox

Electric bolting tools utilize a planetary gearbox that needs to be light and compact and be able to perform numerous high-load operations and to handle the high internal stresses associated with every bolting operation. The gearbox on the LITHIUM SERIES II Tool has been redesigned to provide a 20% increase in strength for improved endurance. Corrosion resistance has been enhanced with a nickel-plated exterior for greater protection against compounds commonly found in industrial environments such as salt solutions/brines, chemical or petroleum products, all types of hydrocarbons, solvents, ammonia solutions, and acids.

All Aluminum Housing

The housing of any industrial tool must be durable enough to handle daily use as well as the inevitable mishandling that occur on worksites. They must also be properly designed to contain the motor, electronics and other internal parts of the tool firmly in position while being strong enough to resist the wide range of physical abuse these tools are subject to every day in the field. The LITHIUM SERIES II Tool has a nickel-plated all-aluminum housing which protects the critical internal components. The robust housing has been designed for ease of disassembly, allowing for simpler and faster maintenance.

Rear Shock Guard

Many modern “smart” tools offer sophisticated data recording technology and an advanced user interface that is vulnerable to damage without proper protection. The LITHIUM SERIES II Tool’s user interface is protected with a rear cover shock guard which absorbs impact and abrasion, protecting the high-resolution LCD display and control buttons. The display is recessed within the rear cover shock guard to reduce the likelihood of damage. The rear shock guard is also designed for simple disassembly for ease of maintenance.

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Reliable Switches

Traditional mechanical switches wear over time and require maintenance to extend the life of the tool. The LITHIUM SERIES II Tool's directional and trigger switches utilize Hall Effect sensors to detect the switch position in the presence of a magnet. Hall sensors are well suited for harsh environments and work over a wide temperature range. And because they are non-contacting, they are wear-free and highly reliable, with practically infinite life.

Testing

HYTORC tools undergo extensive testing to ensure they can survive the many rigors of heavy duty use. From humidity and thermal cycling to shock, vibration and drop testing, every part of a HYTORC tool has been thoroughly evaluated to ensure it exceeds customers' expectations.

THE **LITHIUM SERIES®** II TORQUE TOOL INCORPORATES ADVANCEMENTS IN DURABILITY TO INCREASE TOOL LIFESPAN, SAVE DOWNTIME AND REDUCE MAINTENANCE EXPENSES, SETTING THE STANDARD FOR ELECTRIC BOLTING IN TOUGH INDUSTRIAL ENVIRONMENTS.

HYTORC

Headquarters:
333 Route 17 N., Mahwah, NJ 07430
+1-201-512-9500

Email:
info@hytorc.com

Phone:
1-800-FOR-HYTORC

Online:
hytorc.com/contact-us