



NEW POWERLOK® II™ FASTENERS

REMINC is pleased to introduce new POWERLOK® II™ screws to all our licensees and friends throughout the fastener industry. The new POWERLOK® II™ screw is an all-metal locking fastener that resists heat and cold, and resists vibrational loosening. The locking action results from a thread design so revolutionary that it was granted a patent. POWERLOK® II™ screws provide locking action without the use of patches or adhesives and the locking action runs the entire length of the screw.

ENHANCED LOCKING ABILITY

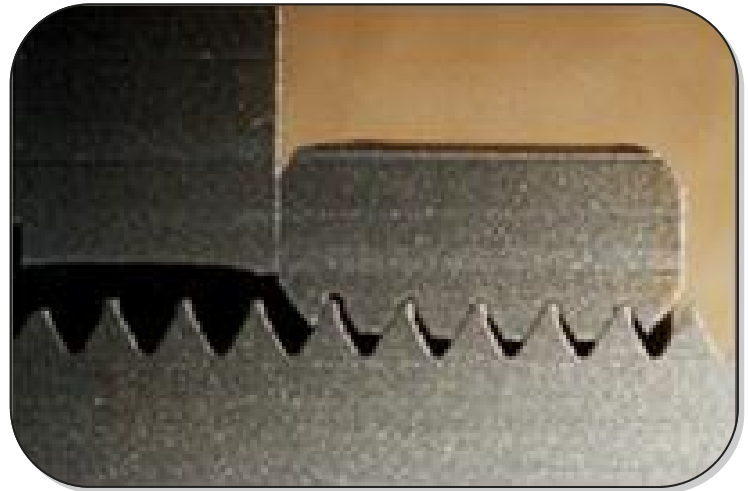
A POWERLOK® II™ screw's TRILOBULAR® shape and self-locking action makes it a unique locking screw. Made from carbon or alloy steel, hardened and tempered to an optimum strength for toughness and serviceability, POWERLOK® II™ screws achieve enhanced locking action through the combination of a novel thread form and a TRILOBULAR® thread body section. A significant mechanical advantage of this design is that the locking action is developed at the outermost radius of the torque arm of the screw body, whereas other locking screws develop their effective resistance at lesser radius points on the thread flanks, down even to the thread root surface. The deeper geometry of the POWERLOK® II™ screw thread, along with a slight increase in the thread's major diameter over an equivalent size machine screw, adds to the effective stripping resistance of the fastener. In addition, the centralization of the POWERLOK® II™ screw lobes in the nut member thread allows the crest on the fastener to flex elastically under clamp load, simulating the live action of spring washers.

CONTINUOUS LOCKING ACTION

POWERLOK® II™ screws do not have to be seated to lock, as the locking thread feature extends the entire length of the fastener. They resist vibration at any point along their body length. Consequently, POWERLOK® II™ screws are excellent adjusting screws. The locking action is instantaneous and, unlike chemical locking agents, no reaction or curing time is required.

RESISTANT TO HIGH TEMPERATURES

POWERLOK® II™ screws do not lose their action or efficiency in high temperature environments. Non-metallic additives, featured with many locking screw designs, lose much or all of their developed force and/or deteriorate with time under the influence of temperatures of 200°F or higher. A POWERLOK® II™ screw, being an all-metal locking fastener, is completely unaffected by these high operating temperatures. *(cont. on Page 3)*



REMINC STAFF

Laurie Mandly	Chairman & CEO
Tim Egan	President
Ken Gomes	VP - Engineering/Product Development
John Reynolds	Manager - Fastener Engineering
Dennis Boyer	Senior Project Engineer
Bill St. Angelo	Director - Marketing and Licensing
Bob Budziszek	Lab Technician
Suzanne Lilly	Administrator - Intellectual Properties
Beth Rondeau	Director of Financial Administration
Marena Boyadjian	Executive Assistant
Ralph Barton	Associate

SPOTLIGHT ON MATTHIAS JOKISCH



Matthias Jokisch is Director of Market Development at CONTI. Prior to joining REMINC's sister company, CONTI, Matthias worked for Acument/Avdel for 13 years in several key R&D and Application Engineering functions with a concentration on developing and applying solutions to solve customer fastener problems. Matthias is very conversant with the "In-Place-Cost-Savings Philosophy" that CONTI promotes so successfully. Matthias is a Dipl.-Ing. in Manufacturing and Process Engineering from the University of Rostock in Germany. In addition to leading the CONTI team, he provides technical and marketing support to our licensees and end-users of our proprietary products.

PRESIDENT'S PERSPECTIVE - EDUCATION

by Tim Egan



There is considerable controversy in the United States about the relatively poor academic performance of our teenage students. A [USA Today](#) survey reflects that American students ranked 24th globally in mathematics achievement; yet U.S. education expenditures per-student far exceed those of all countries surveyed.

This apparent disconnect raises questions which are numerous and varied; but the most common one is simply - Why? So we, as Americans, need to find a solution.

Education is critical to academic and commercial success, whether it be a nation, a community, a household or individual company. An understanding of the environment in which we operate is one of the most important elements of success. Understanding only comes through education; it is not something we inherit naturally. At REMINC we subscribe to that premise and it is the foundation of our licensing program. We can easily document that education; i.e. a comprehensive knowledge of our thread-forming technology, is essential to the successful marketing and understanding of our proprietary products. Our fastener licensees must be able to (1) identify potential applications for our fasteners, (2) specify the most appropriate product design for the application site, (3) develop convincing performance data through extensive testing that affirms the proposed application, (4) prove that the application will lower the cost of assembly, and finally (5) produce the fasteners to implement the solution. This detailed and deliberate procedure requires the input of educated individuals, those competent in thread-forming fastener technology as well as an understanding of our complete product range and its capabilities.

At REMINC we assume the entire responsibility for educating our "army" of licensees by providing at no charge a comprehensive training program. This program is directed by our staff personnel located globally: Ken Gomes, Don Fosmoen (representative), John Reynolds, Dennis Boyer and Bill St. Angelo in North America; Matthias Jokisch and Peter Egger in Europe and Matt Hara and Leiji Su in Asia. This experienced team of professionals is dedicated to education and training, whether it be conducted in REMINC's laboratory-conference center or at individual licensees locations. Every training session is customized to meet an end-user's or licensee's perceived needs and can take from one to three days. Our staff can focus on the basic thread-forming technology, one or more specific product designs, application-engineering fundamentals, marketing techniques, manufacturing methods, tooling requirements or quality assurance. In many cases staff members do hands-on training on the factory floor, whether perfecting heading and rolling techniques or trouble-shooting. We are flexible and can generally accommodate your schedule of availability and needs at your preferred location, but the best venue for training is generally in the fully-equipped REMINC training laboratory which is also free of distractions. In achieving success, education is paramount and REMINC takes this challenge seriously. Call upon us to help solve your problems; we have the answers!

SHORT-TERM UTILIZATION OF TAPTITE® FASTENERS INTO THREADED NUTS

Our proprietary thread-forming fasteners are all designed to generate threads in non-threaded nut members; however, on occasion, these products are driven into threaded nuts or components. These situations typically result in inquiries about how our TRILOBULAR® fasteners perform in threaded nut members.

TAPTITE® fasteners are essentially made to tap dimensions. Therefore, when installed in a threaded hole, there is usually some prevailing torque experienced, as the fastener is threaded in due to a minor amount of pitch diameter interference. It's possible that with a tapped hole on the maximum dimension and the TAPTITE® fastener on the minimum dimension, the screw could freely spin into an existing thread, but generally some prevailing torque is experienced.

Note that many end-users have a fear that the TAPTITE® fastener will try to form a new thread in the second installation. With a thread-cutting screw, this concern is valid, because the sharp cutting edge will likely dig into the sidewall and start a new thread. TAPTITE® thread-rolling screws, with their inherent tapered lead, take the path of least resistance and follow the already-formed thread. We have inserted TAPTITE® fasteners into threaded tensile test fixtures in our lab using a power driver and not hand-started the bolts, yet we still did not experience any cross-threading or other problems.

A great example is that of several seat belt bolt applications changed from machine/metric screws and tapped nuts to TAPTITE® products and unthreaded weld nuts, at mid-product cycle, because of severe cross-threading problems. In such situations, it is generally not possible to have the TAPTITE® screws and the un-threaded weld nuts arrive on the assembly line at the same time. Typically the TAPTITE® fasteners arrive first and the phase-in of the un-threaded weld nuts follows later on. This transition approach was utilized by General Motors years ago when they originally switched all their auto lines to TAPTITE® seatbelt bolts (within a 6-month time period); a similar approach was employed previously by Ford Motor Company and then subsequently by Chrysler. With the Chrysler autos, the cross-threading problem was cured by using TAPTITE® bolts, even before the un-threaded nuts were introduced. In one application, Chrysler never completed the switch to un-threaded nuts, preferring to wait until the auto model change. Chrysler was well satisfied when the cross-threading was eliminated, saving an estimated US\$1,000,000 worth of repair work annually. We have concluded that installing TAPTITE® fasteners into threaded holes presents no problems and therefore is a useful technique when switching from pre-threaded to un-threaded nut members.

NEW POWERLOK® II™ FASTENERS (cont. from Page 1)

REUSABLE

Subjecting a POWERLOK® II™ screw to increasing clamp load results in continuously increasing thread flank contact so that unit pressure between the mating surfaces tends to remain constant, an important factor in minimizing galling and abrasion. Combined with the burnishing action of the TRILOBULAR® crests, the POWERLOK® II™ screw maintains continued locking effectiveness, even after repeated insertions and removals.

LOCKING PERFORMANCE

POWERLOK® II™ screws will meet or exceed IFI 124 (inch) or IFI 524 (metric) specifications for prevailing-torque locking screws. Transverse vibration test data is available upon request. Actual performance will vary depending upon effective finish lubricity and nut condition.

NO SPECIAL TAPS

POWERLOK® II™ screws save time and money by allowing the use of standard nuts or Class 2B (6G) tapped holes. POWERLOK® II™ screws are precision made, so the threaded hole can be made using standard customary tolerances.

APPLICATIONS

POWERLOK® II™ screws are widely used in automotive and other mass-assembly operations. POWERLOK® II™ screws are ideally suited wherever you need reliable vibration resistance and continued high performance, despite repeated assembly/disassembly, using standard tapped holes. They can also be used in pre-tapped holes in ductile metals.

STANDARD MATERIAL

POWERLOK® II™ screws are manufactured from low carbon, medium carbon or alloy steel and then hardened and tempered to the optimum combination of tensile strength and toughness. Screws can be made in strength levels to suit a wide range of application requirements. Property Class 10.9 is often preferred. Finishes can be applied as required.

ANTI-CROSS-THREADING FEATURE

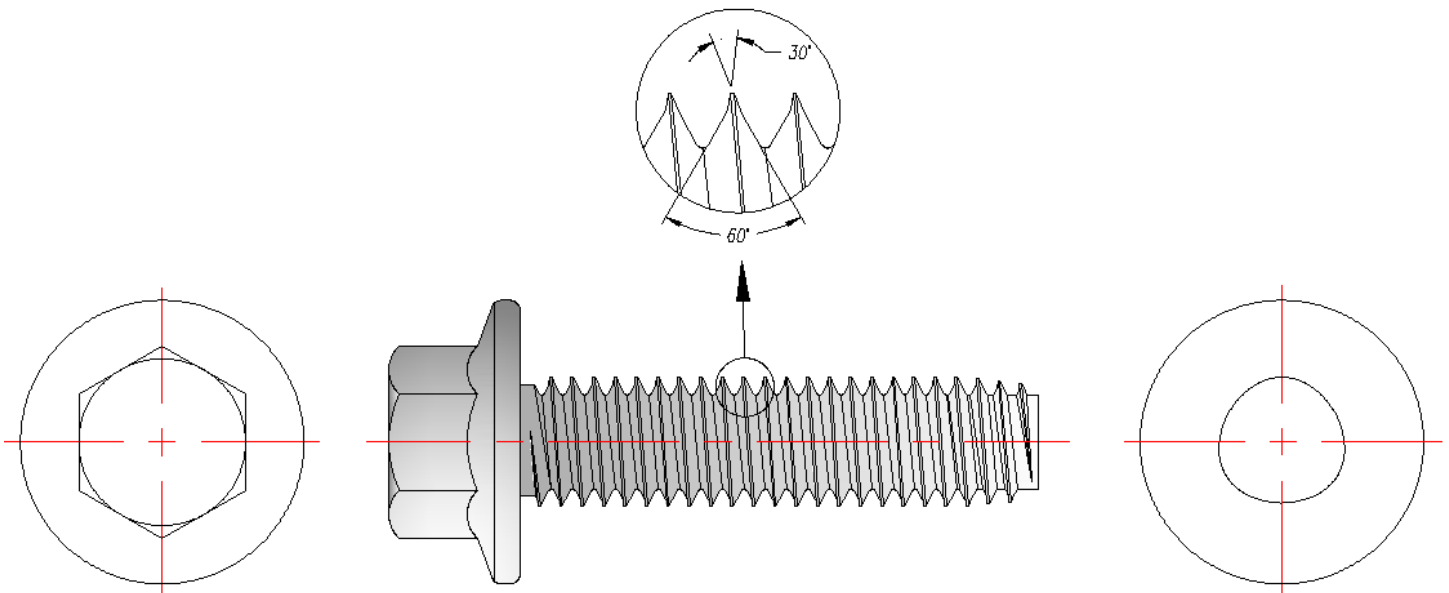
POWERLOK® II™ screws are used in pre-threaded nuts or threaded holes, conditions which typically create the same concern about cross-threading that exists when using standard machine/metric screws. POWERLOK® II™ screws have been evaluated for starting efficiency, using the same test procedures and equipment utilized to examine the potential for machine/metric screws cross-threading. In an extensive test comparing M6x1 POWERLOK® II™ screws with popular competitive anti-cross-threading screws, POWERLOK® II™ screws experienced a zero incidence of cross-threading, while the competitive screws experienced an 11% cross-threading incidence. These tests were performed using 7° and 9° degree off-axis angles with several different types of standard commercial threaded nuts. (Test data available upon request). The standard 4-pitch sharp-crested lead threads, that are incorporated in the POWERLOK® II™ screw design, provide excellent anti-cross-thread protection.

RECAP

Let's recap the critical points why POWERLOK® II™ screws should be your first choice when searching for a superior locking fastener.

- No need for patches or adhesives
- Locking action is over the entire length of the screw.
- Locking action is not affected by temperature.
- No adhesive curing time, instantaneous locking action.
- No need for under head locking elements, such as lock washers.
- Works with all finishes.
- Easily hand started.
- Cross-threading resistant.

Contact REMINC at 401-841-8880 with your questions about POWERLOK® II™ screws or visit our website www.taptite.com.



REMINC Training / Brochure Request Form

Name: _____

Company: _____

Address: _____

Telephone: _____

Fax: _____

E-mail: _____

Please Check:

- Contact me regarding a training visit
- REMINC General Products Catalog
- TAPTITE 2000® Products Application Guide
- TAPTITE 2000® Products Brochure
- REMFORM® Products Brochure
- TRU-START® Products Brochure
- FASTITE® 2000™ Product Brochure
- "54 Ways TAPTITE 2000® Fasteners Lower the Cost of Assembly" Request Form
- Receive Newsletter by e-mail

Mail this form to REMINC at 55 Hammarlund Way, Tech II, Middletown, RI 02842 USA or fax it to (401) 841-5008

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