Safety and Reliability Improved with Use of Security Locknut in Industrial Machinery

VERNON HILLS, Illinois – July 8, 2015 – Safety and reliability are always major concerns for any industry. Industrial processes that rely on efficient operation of highly engineered machinery often utilize threaded fasteners, such as nuts and bolts, that though typically easy to disassemble and re-use, can cause catastrophic failure if they become loose.

The self-loosening of fasteners has been a problem for decades. Extensive research conducted in the 1960's by German engineer Gerhard Junker revealed the major factors surrounding vibration-induced self-loosening. In recent decades, a group of degreed mechanical engineers in the Midwest have worked to address vibration-related fastener failure issues faced by several industries. This team of engineers has designed a lock nut that has been tested and proven to outperform other fasteners currently on the market.

The patented Security Locknut has been evaluated along with three other widely used fasteners in a vibration test using the NASM 1312-7 standard. The results of the test revealed the nylon locknut loosened after 15,000 cycles and failed (completely fell off) after 25,000 cycles; the conical (or top lock) locknut loosened after 2,000 cycles and failed after 6,000 cycles; the standard locknut with split washer loosened after only 100 cycles and failed after 500 cycles. In stark contrast, the Security Locknut withstood 55,000 cycles before showing signs of loosening, but did not fall off even at 90,000 cycles.

The Security Locknut has been engineered to hold bolted joints tight even in the most demanding, high-vibration applications. The key to the success of the Security Locknut is the patented alloy-steel lock ring. The durable alloy-steel lock ring, which holds the nut in place on the bolt, lifts away and is isolated from the vibrating nut body. This separation isolates the clamping load from the locking function and eliminates spinoff. The oval shape of the spring-steel lock ring creates a strong axial force that locks the nut in place. The design is unique because prevailing torque is maintained and the threads are never distorted even after repeated use.

Proven in practical applications, Security Locknuts have been installed by most major railroad track works, such as Amtrak and BNSF, as well as many mining operations across the Globe. In addition, hundreds of thousands of Security Locknuts are being used by manufacturers of vibratory and material handling equipment and machinery used in crushing and pulverizing applications. "The reports of improved equipment and machinery reliability, reduced downtime, and lower maintenance costs have been overwhelming," explains [Raymond T. Wiltgen CEO]. "What we're really trying to provide to our customers is peace of mind. Our vibration-resistant products do what they're supposed to do – they won't back off."

Security Locknut offers a wide range of standard sizes, thread pitches, classes, material grades, body styles and coatings, as well as customs, suitable for most industrial applications. *For more information, visit www.securitylocknut.com or contact [Raymond T. Wiltgen RWiltgen@SecurityLocknut.com 847-970-4050].*