

Innovation Alley

新品大道



compiled by Fastener World

Japanese Lobtex Rolls out In-line Type Pneumatic Riveter ARV-015MX

日本Lobtex公司推出組裝線專用氣動鉚釘機「ARV-015MX」

Lobtex Co. Ltd. rolled out the In-line Type Pneumatic Riveter ARV-015MX, an improved version of the old models. It changes the position of chute hose to enable straight-line rivet mandrel ejection and prevent stuck mandrels in the hose, improving operating performance. Stroke is increased from 14mm (.55") of the old models to 16mm (.63"). It comes with Soft-Set shock-less function that reduces riveting impact on operators, and can pull 4.8mm (3/16") stainless steel rivets. One-touch detachable jaw case makes maintenance easier. Its vacuum system keeps rivets to the nosepiece so that they will not fall off.



Japanese Daimaru Byoura Develops Large Grip Nuts & Bolts

日本大丸鉚螺製作所開發大尺寸的防鬆螺栓螺帽

The large grip nuts & bolts developed by Daimaru Byoura Seisakusho Ltd. have been available on the market since May. The products feature the grip portion as large as $\phi 70$. The unique shape design makes it easy to grip them by hands. The plastic portion adopts glass-beads-reinforced polyamide that has excellent impact resistance and weatherability.





Mac Tools Introduces New Cordless Brushless Impact Wrench And Impact Driver

美國Mac Tools公司推出新的無線無刷衝擊式扳手和衝擊式起子

Mac Tools announces the launch of its new 20V MAX* 1/4" Brushless Impact Driver (MCF886) and 20V MAX* 3/8" Brushless Impact Wrench (MCF891). These new tools are powered for productivity and designed for automotive applications.

At just 5.69" in length and with 275 ft.-lbs. of breakaway torque, the MCF891 provides compact power. Likewise, the MCF886 is just 5.53" in length and provides 250 ft.-lbs. of breakaway torque. On both tools, three-speed settings and a variable speed trigger enables the user to control the tool's speed, delivering 0-1,700, 0-1,950, and 0-2,800 rpm. The variable speed trigger also features an electronic brake for speed regulation.

Both the MCF886 and MCF891 are designed with an ergonomic grip. Each tool includes a three-point LED light to help illuminate dark work areas and anti-mar bumpers for increased durability. In addition, both tools have glass-filled nylon housings to resist damage from most solvents present in an automotive environment.



Japanese Matsunaga Kouki Develops New Scaffold Anchor Bolt

日本松永工基公司開發出新的鷹架專用錨栓

Matsunaga Kouki Co., Ltd, a specialized scaffold construction company, developed a new removable scaffold anchor bolt that can reduce danger caused by anchor bolt corrosion in the building. The feature is that it can be easily removed by electric tools regardless of the worker's level of dexterity so as to complete construction in a short time. The product is pending for patent and is expected to be sold for 3 million units in 5 years.

The product is named "Anchor Bird". It can replace average anchor bolts used for building or bridge constructions. Average anchor bolts are usually left in the concrete after construction, but if they rust in the concrete, the building will start to deteriorate or crack. Conversely, Anchor Bird can be removed after construction and therefore increases better appearance and safety of the building.

Although there have been removable anchor bolts since the past, they have fixed thickness and are mostly cylindrical. Anchor Bird has the characteristic of springs at its front tip. At setup, the hole expands from the inside. This increases the strength of the anchor bolt and broadens its application. It is priced between JPY 250 to 550, but the company will lower the price by increasing production in the future. Sales will launch after this summer.



Ecosyn®-PXL Optimizes the Assembly of Lightweight Construction Panels and Foamed Plastic Materials

德國KVT-Fastening公司發表可優化輕量建築板材和多孔塑料組裝的Ecosyn®-PXL螺絲



The new ecosyn®-PXL is a screw developed by KVT-Fastening for which a patent application has been made. It has been specially designed for use in processing porous timber applications and materials with foamed materials based on PET or aluminum. The particular thread geometry ensures that the fastener can be set at any desired position without any risk of the working material splitting. Unlike traditional screws, over-tightening is not possible and incorrect installation and damage are excluded. Furthermore, ecosyn®-PXL carries conviction with a very high resistance to vibration and a tear-out resistance of more than 400 N with a screw depth of 10 mm in lightweight wood paneling. Together with pot fasteners and mountings with plugs, the fastener can not only be used in several different ways, but also be used repeatedly. No special tools or machines are needed for the installation of ecosyn®-PXL, they are tightened with standard Torx T20. The fastener is available in galvanized steel in lengths of 15 or 25 mm, while other lengths can be supplied by special request.

UK Hafren Fasteners Rolls out New PowerSIX™ Security Screw

英國Hafren Fasteners公司推出新的PowerSIX™安全螺絲

PowerSIX™ is a versatile tamper resistant self-threading security screw. Ideal for all types of fencing applications, the tri-lobular self-threading screw eliminates the need for nuts, reducing labour costs & installation time. For added security PowerSIX™ security screws also feature a unique 2-way (removable) security drive. Regular 6-Lobe/Pin Torx tooling will not fit this unique security drive.

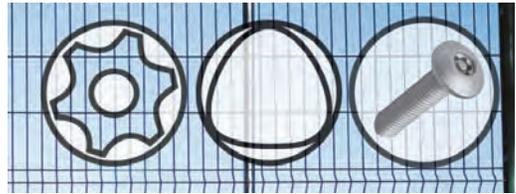
Tri-Lobular self-threading screws are designed to tap (cut) their own threads as they are driven into a pre-drilled hole. This helps to eliminate the need for nuts or pre-tapped holes, dramatically reducing labour costs for installation.

The unique tri-lobular configuration provides a built-in locking device to help ensure joint integrity and resist loosening caused by vibration.

Materials and finish

The PowerSIX™ Screws are Case Hardened Steel with a Geomet® 500 B coating. Benefits include:

- Excellent corrosion protection
- Integrally lubricated for quick and easy installation
- Bimetal compatibility with aluminium
- Paintable coating ideal for fencing applications



Enhanced Hidden Deck-Fastening System for Premium Decking Delivers Increased Versatility

美國Simpson Strong-Tie公司發表強化隱藏式底板緊固系統

Simpson Strong-Tie, the industry leader in engineered structural connectors and building solutions, has redesigned the award-winning EB-TY® hidden deck fasteners for premium wood decking in both residential and commercial applications. The new EB-TY Premium Hidden Deck-Fastening System™ provides professional builders and do-it-yourselfers a unique method of fastening deck boards that leaves the fasteners virtually invisible.

EB-TY® Premium™ is the ideal fastening solution for ensuring structural durability without detracting from the beauty of a deck's finished appearance, especially when working with high-end decking materials such as exotic hardwood, cedar and redwood. The biscuit-shaped fastener installs inside a slot cut in the narrow side of the deck boards, and is reinforced with a stainless-steel plate for enhanced holding power. The steel plate also prevents over-driving of the screw, and has angled screw holes that guarantee a direct connection of the decking to the joist. Along with this added strength, the fasteners also maintain the necessary flexibility to accommodate seasonal contraction and expansion of the deck boards. Combining this innovative design with the EB-GUIDE predrilling guide creates a system that not only has hidden strength, but is also precise and easy to install.



New NutBee and PowerRiv Riveting Tools for Increased Reliability

德國KVT-Fastening公司發表新NutBee和PowerRiv系列拉鋸工具

With the new NutBee and PowerRiv, and with immediate effect, KVT-Fastening have extended their product range with two programmable battery-powered riveting tools for reliable installation work: NutBee for power-controlled setting of pop rivets and blind rivbolts, and PowerRiv for processing pop rivets and lockbolts. One major advantage of these new tools: To ensure that the setting operation is carried out precisely with the required power, the latter can be individually adjusted with the HST Tool Manager software package. Thanks to this function, every connecting element can be set accurately with maximum precision. The tool immediately checks whether the correct reference value has been reached, and evaluates the operation. The result appears in the digital display. Another useful extension of this functionality is the optional barcode scanner, which permits existing programs to be loaded directly into the machine. Consequently, the operator must not select new software when changing to a different rivet. All it needs is a simple scan of the barcode.





New, Stainless-Steel Titen HD® Screw Anchor from Simpson Strong-Tie Combines Cutting Ability with Improved Corrosion Resistance

Simpson Strong-Tie公司發表全新整合切削能力和具備更好抗腐蝕力的不鏽鋼Titen HD®螺絲錨栓

Simpson Strong-Tie, the industry leader in engineered structural connectors, fasteners, anchors and building solutions, has launched the next era of stainless-steel screw anchors for concrete and masonry. The new stainless-steel Titen HD® heavy-duty screw anchor (THDSS) delivers a new standard of performance in exterior applications, even in severely corrosive environments. The introduction of THDSS offers a state-of-the-art screw anchor solution that combines the corrosion resistance of Type 316 stainless steel with the undercutting ability of heat-treated carbon-steel cutting threads.

The THDSS screw anchor's cutting ability comes from a proprietary bi-metal design that uses a carbon-steel helical-coil thread brazed into the shank of the anchor. These serrated carbon-steel threads undercut the concrete allowing subsequent threads to securely interlock with the concrete.

Key features and benefits of the THDSS screw anchor:

- Ideal for exterior applications and corrosive environments
- Minimized carbon steel for less corrosion expansion
- Type 316 stainless steel
- Installs with an impact wrench or a hand tool



The New Invention of SKH Li Ping Secondary School's Students- Way to Monitor Airplane Screws

李炳學生新發明 監測飛機螺絲防脫

Three eleventh-grade students, Ko Chen Lam, Li Pui Shan and Wu Ga Kei from SKH Li Ping Secondary School invented "Airplane security alarm meson". If there's any loosened screw, the system will give an alarm so that the mechanic can easily see the damage and fix it as soon as possible, ensuring the plane can fly in the sky safely.

The "Airplane security alarm meson" uses the principle of spring. The spring is connected to the bottom of the screws and the meson, if the two washers aren't fastened, which means screws may be loosened, the upper washer will give a red alarm. Li Pui Shan mentioned, the staff can observe the condition of the screw through visual inspection or telescope without climbing in the plane to check them one by one. As for how to determine whether the screws are loosened, through different experiments, they discovered that when dynamic is higher than 5N, screws will loosen. They also carried out a temperature test, putting screws into fridges and ovens to make sure screws can endure different extreme temperatures. The result shows that the screw can function normally between -14°C and 130°C.

Ko Chen Lam said, the advantage of this invention is its low cost and wide usage. Since all the materials are magnetic-free, aircraft signal won't be influenced. Basically, all kinds of machine can adapt to it. She claimed that they had presented their work to HAECO. The company agreed with their concept, and yet it is still not in practical use.



AME Offers Torque Wrench Stabilizer

美國AME公司推出扭矩扳手專用穩定板



AME International has released a torque wrench-stabilizing accessory for commercial fleet tire service called the Torque Fin.

The Torque Fin was made to enable one person to torque wheel nuts. The Torque Fin links to torque wrenches to provide leverage and allow a single person to torque with precision and ease. The stabilizer is made out of recycled plastic, enabling it to be durable, yet lightweight.

The Torque Fin is made in America.



Japanese MORI BYO and Pan Automation Co-developed Visual Sorting Machine with Counting Function

日本守製鋏公司與電氣設備公司開發可計數的影像處理分檢機

MORI BYO Co., Ltd. and Pan Automation co-developed a visual sorting machine that can count $\phi 10\sim 15\text{mm}$ rivets. The machine can simultaneously sort 4 lanes of rivets to reduce the time required for checking, and through bar codes it can automatically configure for each item type, strengthening corporate competitiveness.



SEM Introduces Structural Impact-Resistant Adhesive

美國SEM公司推出結構體專用的抗衝擊黏著劑

Dual-Mix Structural Impact-Resistant Adhesive is the latest addition to the SEM Products lineup. The two-component, epoxy-based adhesive is designed for bonding structural and non-structural components where specified by the vehicle manufacturer.

“With its multiple cure options, easy application and Dual-Mix Forever Warranty, the Structural Impact-Resistant Adhesive is the best choice for collision centers,” said Product Manager Larry Trexler. Compatible with rivet and weld bonding, the Dual-Mix adhesive features spacer beads for consistent bond-line thickness.



Chief Highlights Heavy-Duty Rivet Gun

Chief 公司推出重型鉚釘槍

Chief highlights its Heavy-Duty Rivet Gun, which puts out 10 metric tons of compression force to install new rivets or press out existing rivets in the thick steel and aluminum. It also uses 8 metric tons of tension force to hydraulically retract the punching tool from metal sheets.

Heavy-Duty Rivet Gun includes a dial to provide infinite adjustment of the working pressure, which allows the technician to control the output compressive force as well as the retract tension force. The rivet gun can be used to press out or install self-piercing rivets and to punch precisely sized holes to accept flow form or blind rivets.



Japanese Ikeda Neji Shokai Develops "Female Thread Go/No-go Tester"

日本池田螺絲商會開發「母螺紋通過性能測試機」

Ikeda Neji Shokai Co., Ltd developed a thread go/no-go tester that checks the quality of female threads by passing the nut through the bolt. Users can monitor the tester via PCs or smartphones. The air chuck finger of the tester snatches the nut coming from the feeder, passes the nut through the tooling (namely the bolt) connected with the sensor, and then sort out good and defect products. This tester can check the company's "PACT fastener" series. "PACT" is the final product integrating a thin film with a fastener.





PEM® VARIMOUNT® Fastening System Enables Use of Self-Clinching Fasteners for Attachment Applications in Composites, Plastics, and Other Rigid Materials

美國PennEngineering公司發表全新VARIMOUNT®緊固系統



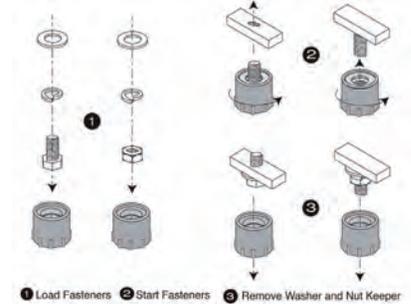
The PEM® VariMount® fastening system from PennEngineering® enables the use of PEM® self-clinching fasteners for attachment applications in composites, plastics, metal, and any rigid material or panel. The system integrates a self-clinching nut, stud, or standoff pre-installed permanently into a steel or stainless steel base plate. The base plate with multiple radial holes effectively becomes a mounting platform, which can be bonded or mechanically attached to virtually any rigid material. Once mounted, the pre-installed PEM self-clinching fastener ultimately is positioned where designed to accept mating hardware.

A variety of standard PEM self-clinching fasteners can be specified for installation into the base plate. These include steel and stainless steel nuts, steel blind nuts, steel standoffs, and steel and stainless steel threaded studs in a range of metric and unified thread sizes and lengths. Custom designs to meet specific needs also can be provided. As an option, base plates can be supplied with or without a pre-installed self-clinching fastener.



New Patented Tool Prevents Dropped Fasteners

新的可預防扣件掉落專利工具



The patented Washer and Nut Keeper is a rubber socket set that can be loaded with any combination of nuts, bolts or washers of a given size. Once loaded, the fasteners stay in the flexible socket and in perfect alignment. The flexible socket has ribs for easy gripping. Once the fastener stack is started, the Washer and Nut Keeper is removed and the final torqueing is done with conventional sockets or wrenches.

While in most cases being struck by a falling fastener isn't lethal, OSHA calculates the direct cost to the employer for a lost time injury is over \$27,000. If a worker is just one floor up and drops a fastener, it can

take several minutes to retrieve the fastener and try again.

Each socket is designed with a series of cavities that securely hold the fasteners in place, and the base has an opening for a standard ratchet drive or extension. A Washer and Nut Keeper can be designed for any combination of standard, metric or specialty fasteners.



NanoSteel Launches 3D Printable Tool Steel

美國NanoSteel公司推出可3D列印的工具專用鋼，扣件產業樂見其成



NanoSteel®, the leader in nanostructured steel materials, announced the launch of BLDRmetal™ L-40, a case-hardening steel powder that provides high hardness and ductility (case hardness >70HRC, 10%+ core elongation) and prints easily on standard commercial equipment. BLDRmetal™ L-40 is designed to be used for parts including tools, dies, bearings and gears.

The capabilities of BLDRmetal™ L-40 were demonstrated by printing an 8-inch roll thread die set. "We tried nearly every combination of material and conventional CNC machining process to create our dual-thread die sets, none of which could cut or grind the complicated dual-thread geometry," said Mark Doll, President and CEO of Perfect Lock Bolt America Inc., the only manufacturer of dual-thread fasteners in North America. "The NanoSteel solution delivers exactly what we are looking for, including excellent surface finish, flexibility, as well as strength and hardness for maximum die life. This is a welcomed technological innovation to the fastener industry. We have been pleased with our testing and are slated to start production this year."





Japanese SAIMA Corporation Adds the Pan Head Type to Hexalobular Drive Screws

日本賽一馬(SAIMA)公司的梅花槽系列螺絲新增皿頭的款式

SAIMA Corporation added the pan head type to its anti-theft TRF hexalobular drive screws. The release of this new type is to respond to the request and demand of clients from not just Japan but also Germany and other overseas countries. The new type is currently available for small volume purchase even for as few as only one piece.

Specs:

- Size: M4, M5, M6
- Length: 10mm-50mm
- Material: Stainless Steel A2



MobileTron Launches AC Delco Torque Master

車王電子(Mobiletron)公司推出AC德科扭矩扳手

The tool has up to 800Nm of reverse torque to remove wheels quickly whilst the forward torque is set at 70Nm. The Torque master has a powerful brushless motor to increase reliability and give better control.

Business Development Manager Michael Gater said “There is an issue with garages over-tightening wheel nuts and studs. This can be just as bad as under-tightening as it can have an impact on the integrity of the thread potentially making the wheel become loose. Torque Master gives peace of mind that nuts will never be tightened to more than 70Nm whilst having the advantage of being able to remove wheels very quickly.”

Torque Master is patented technology and unique to AC Delco. Other tool manufacturers offer Impact Wrenches with variable torque settings however there is still a possibility of human error by selecting the incorrect torque setting whereas the Torque Master only has one torque setting and all risks are removed. The AC Delco Torque Master is set to be available in July or so. Mobiletron, a company which has been in business for 35 years now, entered the UK market 15 years ago.



Imada RGED Wireless Torque Wrenches

美國Imada公司推出RGED無線扭矩扳手

RGED Series wireless digital torque wrenches capture and transmit peak data to included Torque Management software from up to 130 feet away. A single wireless receiver supports up to 10 wrenches. When out of range, wrenches can store up to 200 data for future upload—syncing can restart as soon as wrenches are back in range of the receiver.

In the age of wireless technologies, these wrenches streamline torque auditing with the capability of multiple wrenches collecting data on a single computer. This simplifies access to torque data by not having to combine data files from different sources and minimizes computer investment. Plus, these wrenches offer a robust range of capabilities, ensuring users get the quality data they need.

RGED Series wrenches measure in peak mode, peak with auto zero reset, and real time. Five programmable Go/No Go torque presets can be stored, allowing users to quickly access frequently used values.



RGED Series wireless torque wrenches are available in ratchet and adjustable models, with capacities up to 1770 lbf-in. Ratchet models are constructed with forged steel ratchet heads, positive-lock drives and 36-tooth gear with double claw ratchets. Adjustable wrenches feature specially designed jaws that maintain a constant working length, whether open or closed. Both models feature a sensor embedded in their handles, to accurately detect and analyze load applied to the grip, to enable precise torque measurement.



South Korean DaeKwang Metal Rolls out Anti-loosening Bolt Utilizing Thread Deforming Technology

韓國大光金屬公司推出採用螺紋變形技術的防鬆脫螺帽



With 40 years of history, DaeKwang offers bolts, nuts, washers, rivets and other fasteners. The anti-loosening bolts currently available on the market adopts ways that require additional attachments such as inserted springs, wedge-shaped double nut fastening structure, machined slots, fixing agent, and coating. These bolts are expensive and only applicable to specific industries. DaeKwang's V-LOCK nut has the threads that brings a double fastening effect with ordinary bolts without the use of thread tapping tools, and its price is 16 times cheaper than overseas counterparts. Based on NAS 3350 (KS W ISO 7481) standard, V-LOCK's performance passed the extreme vibration test never seen before on Earth (test level (pp) 11.43mm; acceleration peak 20.7G; test frequency 30Hz; duration 17 minutes with 30 thousand cycles).

V-LOCK nut has the same specifications as an ordinary nut, and is applicable to the construction, machinery, ship building, electronics, railway, and automotive industries. Currently DaeKwang has test manufactured M12 V-LOCK Nut and had it passed the NAS 3350 test. Other specifications are in development.



Nederschroef Introduces Next-Generation High-Productivity Fastening Solution

荷蘭內德史羅夫發表新世代高生產力緊固系統

Light, robust and easy-to-process TICnut[®] (thin sheet inner clinch nut) increases manufacturing productivity.

For manufacturers looking to improve productivity and increase their return on investment, Nederschroef, Europe's leading fastening technology provider, has developed the world-class TICnut[®].

The TICnut[®] satisfies today's demand for connecting elements that are compatible with ever thinner sheets, sandwich panels and an increasingly diverse range of materials. Smart geometry allows the TICnut[®] to be attached to metal without pre-punching holes.

TICnut[®] benefits:

- Cost-saving: considerably cheaper than adhesive processes
- Reliable: application is stronger than thermal welding
- Versatile: applicable in combination with various materials



- Eco-friendly: material-saving, clean and quiet
- Efficient: quick and easy to process

Its high levels of reliability, robustness and ease of use make the TICnut[®] an ideal solution for the fixation of all kinds of flexible sheet metal and most applications in body in white, chassis, interior and electrics. Application examples include heat shields with or without compensating elements, aluminum frames for doors, control units and wiring harness connectors.

Fixation of the nut can be performed fully automatic with a progressive tool as well as in classic line assembly. Nederschroef offers full-service support including a feeding system and maintenance. An optional hand-held tool allows for fast, easy and reliable nut attachment in practically any environment.

The TICnut[®] comes in thread sizes ranging from M5 to M8 and can be attached to sheet metal between 0.1 and 1.2 mm thick.



Vampire Tools Expands Line of Tools with New Recessed Screw Extractor

美國Vampire Tools公司擴增產品陣容 推出新的含溝槽螺絲專用取出器

Vampire Tools, creators of the powerful VamPLIERSTM screw extracting pliers have tightened their grip on the market with a brand-new offering: the RSE-60, or recessed screw extractor. With the ability to lock on to stripped fasteners, the RSE-60's innovative design delivers unprecedented extraction ability for recessed or countersunk M3, M4, and M5 screws.

Where the RSE differs from previous stripped screw extraction methods is in its simplicity. No power or drilling is necessary, and for normally stripped screws, a hammer isn't required. For heavily stripped fasteners, the RSE-60 also comes with an alternate specially designed bit. With a simple tap of a hammer, the bit digs in to make extraction a snap.

In addition to the two bits that the RSE-60 currently comes with, Vampire Tools is in the process of developing additional bits, which will make the extraction of other standard fasteners simpler.

