

PEM LINE

Fastening Products, Systems, and Applications from the Industry Pioneer

New...New...New...New...Products!

NEW FASTENING SOLUTIONS

**NEW microPEM® TackScrew™
FASTENERS FOR COMPACT
ELECTRONICS ADD REMOVABILITY
TO ORIGINAL TackPin® DESIGN**



See page 2 for more information

**NEW PEM® SELF-CLINCHING
NUTS AND STUDS FOR
HARD SHEET MATERIALS**



See page 3 for more information

**NEW ATLAS® RIV949
HYDROPNEUMATIC TOOL
ENABLES QUICK AND EASY
VERTICAL INSTALLATION OF
BLIND THREADED INSERTS**

See page 3 for more information



NEW . . . NEW . . . NEW

microPEM® TackScrew™ Fasteners

New microPEM® TackScrew™ fasteners from PennEngineering® integrate proven self-clinching technology for permanent sheet-to-sheet attachment while also incorporating a unique thread-like feature to allow fastener removal when necessary. This combination adds functionality to the original microPEM TackPin™ fastener product line for thin sheet attachment applications, especially compact electronics. TackScrew fasteners can even be reinstalled one time if desired.

These hardened stainless steel Type TS™ fasteners ultimately can serve as highly practical solutions to attach a top sheet or panel to a base material in applications ranging from laptops, notebooks, and tablet computers to smart phones, gaming and hand held devices, and wearable electronics, among others.

As suitable replacements for micro screws, TackScrew fasteners will not require the added costs of locking patches, threaded inserts, tapped holes or driver bits for initial installation, or potential rework due to cross threading and

driver bit “cam out.” The clinch technology resists vibrational loosening in service and the fastener’s low-profile head can add cosmetic value.

The fasteners install in thin sheets by preparing properly sized mounting holes in the sheet to be attached and the base panel. After inserting the fastener into these holes, the fastener is pressed into place. The fastener then clinches into the base panel and its head subsequently holds the top sheet (as thin as 0.2mm / .008”) firmly and permanently in place. The base panel can be as hard as HRB 89 / HB 187 or less on the Rockwell “B” and Brinell scales, respectively, and as thin as 0.91 mm / .036”.

These RoHS-compliant fasteners can be installed automatically for high-volume applications and can be reinstalled once by screwing them back into the sheet and using a thread-locking adhesive. Detailed specifications, CAD models, [animations](#), and performance data ([Bulletin TS](#)) can be accessed at www.pemnet.com

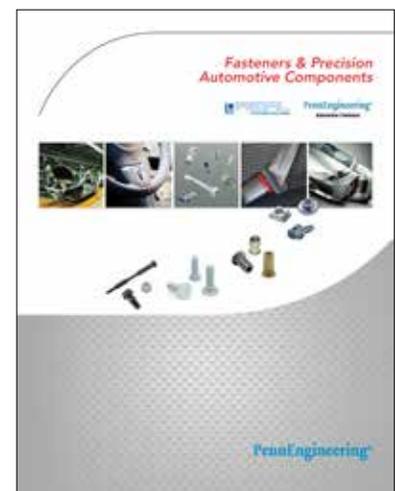


Fasteners and Precision Automotive Components

A new brochure presents PennEngineering’s select group of products and focused engineering services to specifically target the unique assembly challenges of the automotive, transportation and heavy industrial equipment markets. The combined resources of products, global facilities and years of expertise offer a unique combination of standard and “make-to-print” components and fasteners along with customized installation solutions for any automotive assembly application.

Fasteners for automotive range from large thread sizes and types for frame attachment and component mounting to microPEM® fasteners used in auto infotainment and other electronic systems.

[Click here to view the brochure.](#)



NEW . . . NEW . . . NEW

Nuts and Studs for Hard Sheets

New PEM® self-clinching nuts and studs introduced for permanent installation into especially hard sheet materials deliver design and assembly benefits for automotive and other component attachment applications. Both types (SH™ hard panel nuts and HFLH™ hard panel studs) are manufactured from hardened alloy steel to provide stronger thread strength. They further enable close-to-edge mounting without risking panel buckling and resolve environmental concerns typically associated with alternative thin-sheet fastening devices.



In addition, these fasteners can promote lower installed cost by eliminating any need for embossing operations, reducing the amount of required hardware in an assembly, and installing automatically using a standard press or in-die technology.

Type SH™ hard panel nuts feature a small outer diameter and lightweight design. They can install reliably into high-strength steel sheets at 975MPa maximum ultimate tensile and in panels as hard as HRC 30 / HB 277 or less on the Rockwell “C” and Brinell scales, respectively. Host panels can be as thin as 1.4mm / .056” and, upon fastener installation, the reverse side of the panel remains flush to enhance cosmetics. Nut thread sizes range from M6 through M10 / ¼-20 through 3/8-16.

Type HFLH™ hard panel studs can install into high-strength steel sheets at 700MPa maximum ultimate tensile and in panels as hard as HRB 96 / HB 216 or less on the Rockwell “B” and Brinell scales, respectively. Host panels can be as thin as 1mm / .040”. Stud thread sizes range from M5 though M8 / #10-32 through 5/16-18.

Detailed specifications, CAD models, [animations](#) and performance data ([Bulletin HPF](#)) for these RoHS-compliant fasteners can be accessed at www.pemnet.com

ATLAS® RIV949 Hydropneumatic Tool

The new ATLAS® RIV949 hydropneumatic tool enables quick and easy installation of blind threaded inserts by eliminating any need to reposition work pieces from their typical horizontal orientation. This innovative tool allows users to install all types of ATLAS steel, stainless steel, aluminum, and brass inserts in a wide variety of applications.

The ATLAS® RIV949 tool installs blind threaded hardware without requiring access to both sides, making it ideally suited for tubing, extrusion, and similar types of applications. Upon installation, the inserts provide strong and reusable threads to accommodate mating hardware for final component attachment.

The tool is engineered with two different systems of regulation for insert installation – pull-to-pressure or pull-to-stroke. The pull-to-pressure mode in particular results in more consistent installations, especially in materials that vary in thickness within the grip range of the fastener, and prevents over-installing or double installing of the fastener.

The ATLAS® RIV949 tool can be equipped with unified or metric nose assemblies for installation of blind threaded inserts M3 to M12 / #4 to ½” or blind threaded studs from M4 to M8 / #8 to 5/16”. The tool operates on 90 PSI air pressure and can develop 4721 pounds of pull force.

The new [RIV949 tool](#) and the entire line of ATLAS tools and blind threaded insert products is profiled in the comprehensive [Atlas Catalog](#) or [here](#) on our website.



ATLAS
a PennEngineering® Product

COMPANY NEWS

PEMSpec™ App Updates

The PEMSPEC app has now been expanded to work with iOS and android operating systems.

Current features include:

- Part number search
- Photo search
- **NEW** email link feature
- View image of fastener along with critical design specifications.

All data is pulled from our online catalog navigator tool which is constantly being updated.

[Click here for more.](#)

Product Selector and CAD Library Updates

A significant upgrade was recently implemented to our online product selector and CAD library tool. These include:

- Improved speed
- Multi CAD download capability
- Improved printable page layout
- Improved product page layout
- Improved image viewer
- Mobile device friendly layout
- Improved navigation

User tips and troubleshooting section

[Click here to enter.](#)

PEM® Fasteners in the News

Design News Magazine Blog – March 4th, 2015
Fasteners Get Tinier, Tougher, and Smarter. Some of the major innovative fastening designs and assembly methods have been around for decades. Yet lighter, thinner materials that must withstand higher temperatures are challenging suppliers to devise new fastening systems that are smaller, stronger, and weigh less. Shrinking mobile consumer electronics and, more recently, even tinier wearables are also posing challenges for fastener makers. [Click here](#) to read more.

Design World Magazine

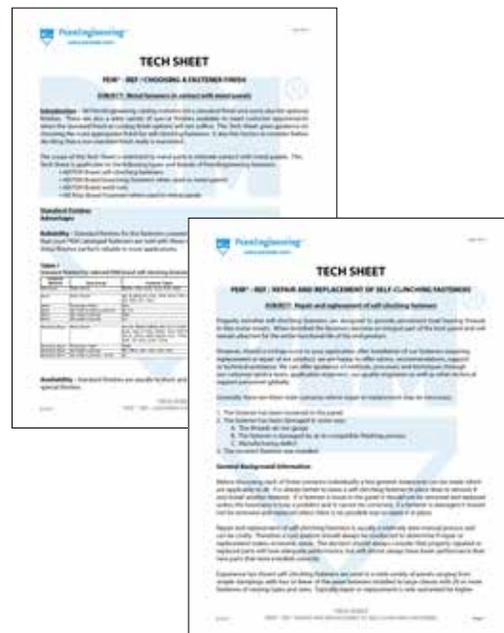
Design World reader community votes PennEngineering as a winner in their 2014 Leadership in Engineering Program. [Click here.](#)

DesignFAX Online

September 2nd, 2014
Engineer's Toolbox: Micro fasteners introduce big solutions for consumer electronics. Sub-compact consumer electronic devices can present particularly outsized challenges when it comes to hardware for attaching components and assemblies. [Click here](#) to read more.

New Tech Sheets now Available

- PEM® - REF/Choosing A Fastener Finish [\(Link\)](#) (Subject: Metal fasteners in contact with metal panels)
- PEM® - REF/Repair And Replacement [\(Link\)](#) (Subject: repair and replacement of self-clinching fasteners)



COMPANY NEWS

ATLAS® Brand Mil Spec Fasteners

ATLAS® Brand MaxTite® blind threaded inserts are manufactured in PennEngineering's Danboro, PA USA facility. These fasteners can be certified to meet all active pertinent military specifications, including NAS 1329, NAS1330 and BACR16E and F (Boeing). The Danboro facility is certified to both 1509001:2008 and AS9100 quality management systems.

The ATLAS product group has formed a partnership with Engineered Fasteners Company (ENFASCO) of Pennsauken, NJ USA. As an ATLAS Brand master distributor, ENFASCO carries significant inventory of mil-spec products that can be shipped worldwide to end users or distributors. Same day shipping on in-stock inventory can be accommodated. ENFASCO is an AS9100C certified distributor.

Tech Tips & Solutions

Plated Thru-hole in Circuit Boards

We offer a wide range of products to use in or with PC boards ([PEM® Bulletin K](#)). With regard to these applications we occasionally get questions about using our PEM broaching style fasteners in plated through holes. To help address these concerns we have added the following note in our literature:

*Broaching and broach/flare types are designed for unplated thru-hole applications. If used in plated thru-hole applications, the stresses involved can damage the plating, push out the plating entirely, or break any traces inside the board that might be connected to the plated hole. Increasing the mounting hole size +.005" to +.008" / +0.13 to +0.2 may relieve these conditions. In non-plated thru-holes this will also help when delamination, measeling or crazing is evident after installation. **When none of the above can be tolerated, we recommend Type SMTSO (surface-mount) type fasteners.***

General recommendations for "Keep Out" areas are the same as our "Min. Distance Hole C/L to Edge" dimensions stated in the dimensional chart of our literature.

PEMspec™ App

The PEMspec app includes all of the newest PEM specifications and photos.

[Click here](#) to take a look.



Stay connected to PennEngineering

Now you can follow us for the latest news releases, new products, bulletin updates, tech tips, job postings, videos and more.



PennEngineering® develops and manufactures PEM® brand fasteners, SI® inserts for plastics, and ATLAS® blind threaded inserts.

Fastener installation systems include PEMSERTER® automatic and manual precision presses, In-Die and robotics capabilities, and the StickScrew® System for small-screw insertion.

PennEngineering®



North America: Danboro, PA USA • E-mail: info@pemnet.com • Tel: +1-215-766-8853 • Fax: +1-215-766-0143 • 800-237-4736 (USA Only)
Europe: Galway, Ireland • E-mail: europe@pemnet.com • Tel: +353-91-751714 • Fax: +353-91-753541
Asia/Pacific: Singapore • E-mail: singapore@pemnet.com • Tel: +65-6-745-0660 • Fax: +65-6-745-2400
Shanghai, China • E-mail: china@pemnet.com • Tel: +86-21-5868-3688 • Fax: +86-21-5868-3988

Visit our PEMNET™ Resource Center at www.pemnet.com