
PennEngineering®

PEM[®]LINE

Fastening Products, Systems, and Applications from the Industry Pioneer

NEW FASTENER SOLUTION

PEM[®] SELF-CLINCHING MICRO STANDOFFS

- *Thread sizes available as small as M1 and lengths as short as 2mm.*
- *Can be installed closer to the edge of sheet than standard standoffs.*
- *Installs into sheet metal (including stainless steel) as thin as 0.4mm / .016".*
 - *Replaces welded standoffs.*
 - *Can be installed automatically.*



SEE PAGE 3 FOR MORE INFORMATION

www.pemnet.com

PEM® FASTENER SOLUTION

APPLICATION NOTES

Problem: A manufacturer of digital cinema projectors was using a large one-piece cast aluminum part as the base frame in the production of their projectors. Some disadvantages of this design were; expensive tooling costs; long lead times to build tools; and it was very difficult to make changes without generating additional costs and longer lead times.



Solution: A completely new adaptable design using a sheet metal chassis with PEM® R'ANGLE® fasteners was the solution. There are approximately seventy-three custom unthreaded R'ANGLE® fasteners used in this application. The metal base is attached to these fasteners using steel rivets with a countersunk head. This new design gives the manufacturer the flexibility to make design changes without additional costs or longer lead times.

PEM® R'ANGLE® fasteners provide efficient and reliable methods to create permanent right-angle attachment points in thin metal assemblies. These fasteners are a cost-effective alternative to bent tabs at edges of sheets, bent tabs in the middle of sheets, bent flanges, right-angle brackets, or tack welds. The PEM® R'ANGLE® right-angle clinch fastener was the right choice for the new design.

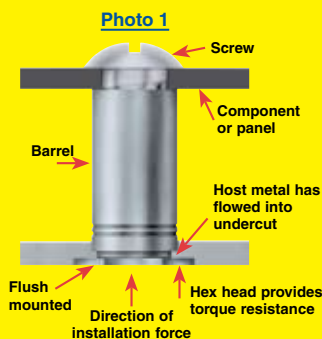


PEM® R'ANGLE® fastener

TECH TIP

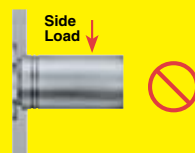
Proper (or improper) use of a standoff

Correctly used, (Photo 1), PEM standoffs enable components to be stacked or spaced away from the panel in an assembly. However in some cases, users may apply a standoff in a slightly different way because of the unique requirements of their assembly. While this may work in some cases, at times, users will experience failures because of the misapplication or improper standoff use. To make you aware of the potential risks, several of these “not recommended” uses are shown below. If you have any questions please contact techsupport@pemnet.com at anytime. For more on standoff basics consult Tech Sheet PEM - Ref/Standoff Basics at: www.pemnet.com/design_info/articles/Standoff_Tech_Sheet.pdf

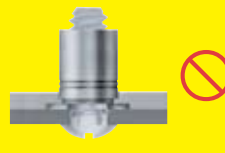


NOT RECOMMENDED

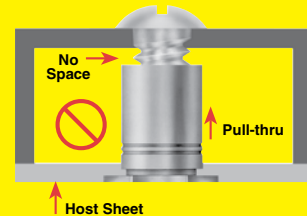
Using a standoff as a pivot point



Using a standoff as a nut



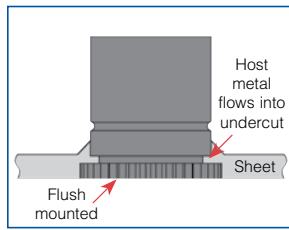
Supported sheet should rest on barrel of standoff



NEW FASTENER SOLUTION

PEM® SELF-CLINCHING MICRO STANDOFFS

PEM® micro self-clinching standoff fasteners introduce ideal hardware for spacing or stacking applications in



compact electronic assemblies. These micro standoffs can serve as practical, cost-effective, and permanently secure solutions enabling quicker assembly of devices ranging from hand-held consumer electronics to medical equipment, among others.

PEM® Type MS04™ micro self-clinching standoffs are manufactured from 400 Series stainless steel and are engineered with threads

as small as M1.0 / #00 and in lengths as short as 2mm / .080". They can be installed into sheet metal (including stainless steel) as thin as 0.4mm / .016" with maximum hardness up to HRB 88 on the Rockwell "B" scale.

The micro standoffs clinch permanently into place by simply pressing them into a properly sized mounting hole using a punch and anvil until the fastener's head is flush with the stainless steel sheet. Upon installation, they become a permanent part of an assembly, will not loosen or fall out, and provide strong and reusable load-bearing threads. Automatic installation can help accelerate production and eliminate any need to handle the small parts.

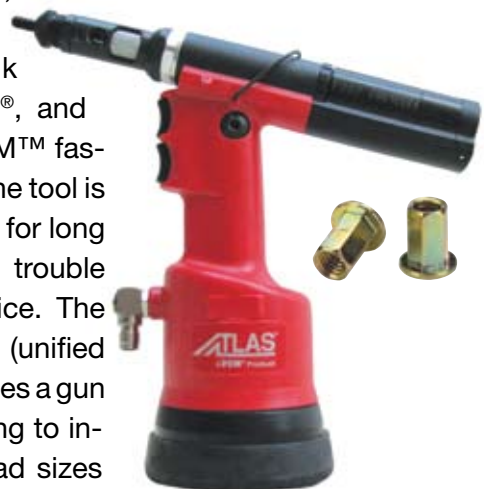
For more information go to literature section of our website and download bulletin MS04.

NEW ATLAS® INSTALLATION TOOLS

The ATLAS® 911 (2200 RPM), 912 (1100 RPM), and 913 (400 RPM) spin-spin right-angle installation tools are designed to provide a user friendly, light weight, quiet, fast and powerful threaded insert installation tool. These tools are totally pneumatic, easy to handle, and can install Atlas SpinTite® and pre-bulbed Plus+Tite® fasteners into various material thickness.



The ATLAS® AE60 spin-pull tool provides powerful spin/pull action to easily install Atlas MaxTite®, straight shank Plus+Tite®, and ATLAS FM™ fasteners. The tool is designed for long life and trouble free service. The AE60-UN (unified kit) includes a gun and tooling to install thread sizes #6-32 through 5/16-18. The AE60-MT (metric kit) includes a gun and tooling to install thread sizes M3 through M8.



UPDATES

PEM® PS BULLETIN

An updated 16-page bulletin (available online and in print) profiles the complete line of PEMSERTER® fastener installation equipment, including automated and manual presses, tooling, and accessories to enable safe, reliable, precise, and accurate installation of fasteners.

The PS Bulletin covers features, benefits, and specifications for all PEMSERTER presses engineered to install PEM fasteners into thin metal sheets.



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Videos of the PEMSERTER® presses, the ATLAS® tools, and the STICKSCREW® tool are now available to view on our website. The PEMSERTER press videos include the Series 3000™ press, the Series 3000™ multi-bowl system, the Series 2000® press, the Series 4® press, and the in-die system. The ATLAS videos include the AE45 spin/pull tool operation and the Series 800 spin/spin tools.



Go to [video/animation library portion of technical support section on our website.](#)

NEW SALES APPOINTMENTS

Ferran Prat Navarro, Territory Manager for Spain and Portugal, will be responsible for developing the sales of PEM products at key Spanish and Portuguese OEM's in cooperation with Aerotecnica SA and assisting with the day to day management and development of Aerotecnica SA. Ferran was previously a Program Manager where he worked with GM, Ford and VW Group. More recently Ferran has worked as a Key Account Manager.

Austin Washington, Global Accounts Manager, will manage major global business accounts for PennEngineering with particular focus on Apple, Cisco, and other high-tech global accounts. He will direct and monitor the specification and delivery of products to specific global customers throughout North America, Asia, and Europe. Washington has more than 25 years of industry experience and will be based in San Jose, CA.

Jeff Rindskopf, Director of Sales for 3V Fasteners Company, will oversee all sales efforts for 3V, which is a leading manufacturer of externally threaded aerospace fasteners. He has served in a successive series of sales-related positions over the years for a variety of major suppliers to the aerospace industry. He is based at 3V headquarters in Corona, CA.

PennEngineering® develops and manufactures PEM® brand fasteners, 3V® brand precision aerospace 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®



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