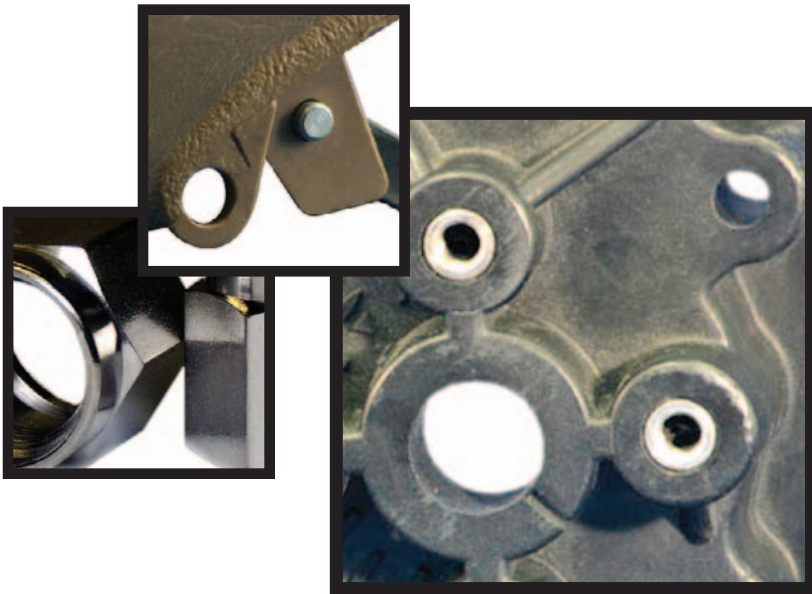


WE LOVE YOUR PARTS SO MUCH WE WANT EACH ONE TO BE PERFECT

Monith Uk
Miyano Department
Leader



GROOV-PIN CORP.[®]
Performance Products



In this Brochure:

- Performance Products for You
- Solid Pins: Stronger Hold is Our Goal
- Threaded Inserts: The Beauty of One-Step Installation
- Precision Turned Components: We Help Solve Your Problems



OUR PEOPLE LOVE YOUR PARTS

The people of Groov-Pin are 100% committed to serving our clients with highest-quality parts and the utmost-responsive service. We are a proud American manufacturer, supplying pins, inserts and precision turned components as LEAN partners.



PERFORMANCE PRODUCTS FOR YOU

Groov-Pin Corporation produces products with unique advantages that help ensure unsurpassed performance. Engineers choose our products to extend or optimize the performance of their designs. Groov-Pin® press-fit fasteners combine high shear strength with a unique locking mechanism to make these versatile pins both strong and vibration-resistant. Tap-lok® and SpeedSert® self-tapping inserts install in one step and extend the pull-out resistance of fasteners in plastic or metal moldings. Our precision turned components enhance the performance of high-pressure fittings and high-frequency connectors.

Reliable problem-solvers. Many of our long-term customers have come to us after trying to solve difficult fastener problems on their own. From our experience in press-fit fasteners, threaded inserts, and complex turned parts, we have developed solutions to enhance their product quality, manufacturing efficiency, and bottom line.

Consistent performance. Whatever your particular Groov-Pin solution may be, you'll find us committed to developing a strong and responsive supplier relationship. Groov-Pin has been a leader in the design and manufacture of engineered fasteners for broad base of OEMs since we introduced the "grooved" pin in 1926 and patented a self-tapping screw in 1942. Today, our products are produced in facilities certified to ISO 9001.

How can we help you?

Whether you serve commercial, military, or aerospace markets, chances are we can help improve your products and your profitability. For details, please contact your Groov-Pin representative or visit us at www.groov-pin.com today.

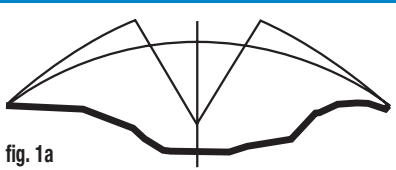
SOLID PINS

STRONGER HOLD IS OUR GOAL

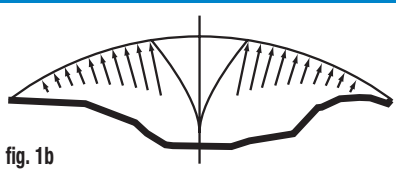
GROOV-PIN LOCKING FORCES

Locking forces are created when the pin expanded diameter (fig. 1a) is compressed in a hole the size of the pin nominal diameter (fig. 1b). Locking forces are created both around the pin diameter and along the pin length in the vicinity of the grooves (fig. 1c).

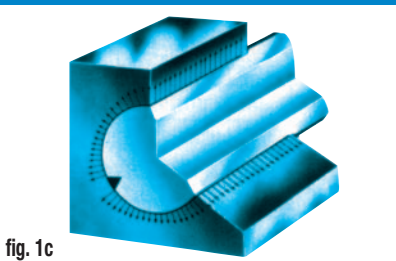
BEFORE INSERTING GROOV-PIN



AFTER INSERTING GROOV-PIN

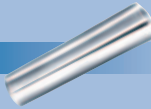


DISTRIBUTION OF LOCKING FORCES

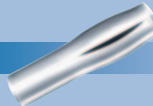


TYPES OF GROOV-PINS:

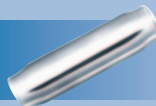
Full-Length Taper



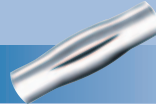
Half-Length



Full-Length Parallel, Symmetrical for Hopper Feeding



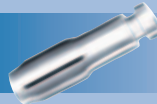
Half-Length Center



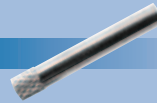
Quarter-Length Parallel



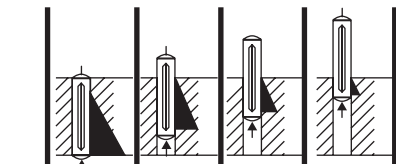
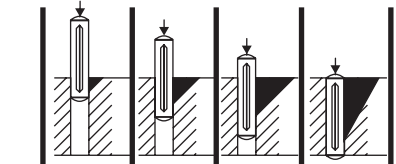
Half-Length Parallel with Annular Groove



Knurl Pins



INSERTING GROOV-PIN



The locking force of a Groov-Pin increases with the length of groove engagement (1d). A fully engaged pin has maximum holding power. Holding power decreases only gradually as the pin is disengaged (1e). As a result, Groov-Pins perform well even in the presence of shock and vibration.

What is a Groov-Pin?

A groov-pin is a versatile press-fit fastener that combines superior holding power and vibration resistance with extraordinary ease of application. Superior performance in locking-pin, hinge-pin, and pivot-pin applications

Why use Groov-Pins?

Solid construction makes them stronger than spring pins. And their unique locking feature makes them easier to apply than dowel pins. Made of steel or stainless steel, groov-pins feature three longitudinal grooves that expand the pin's diameter in a precisely controlled manner to create an integral spring mechanism.

What makes them "special"?

When pressed into a straight drilled hole of the proper diameter, a groov-pin is compressed to produce a holding force and a unique locking action – without permanently deforming the pin or the base material.

With a locking force proportional to the length of the engaged groove, this holding force increases until the groove is fully engaged. The result – excellent holding power in the most hostile environment – even following severe vibration and shock, and even in instances of axial displacement.

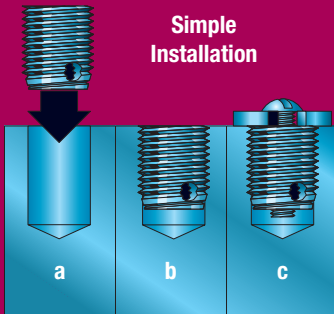
What range of Groov-Pins is available?

Groov-Pins are available in a range of groove types, diameters, lengths, and finishes to suit a wide range of applications – and to meet ASTM and military specifications. Groov-Pins are commonly used in hinge & axle applications.

THREADED INSERTS

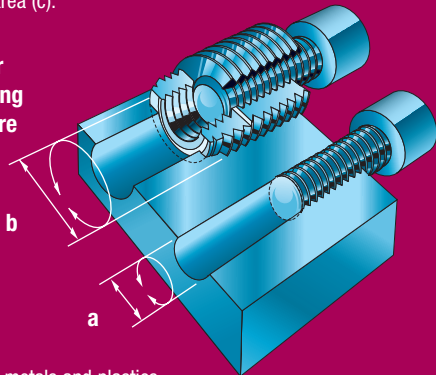
THE BEAUTY OF ONE-STEP INSTALLATION

INSERT BASICS



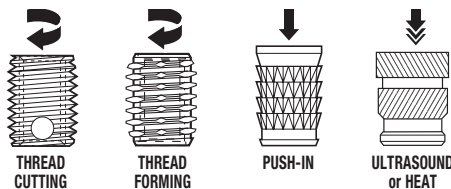
Starting with a molded or drilled hole (a), the insert is installed in a single step (b) via thread-cutting, thread-forming, push-in, ultrasound or heat techniques. Special features on the insert "lock" it into the base material and distribute forces from the fastener over a large area (c).

Greater Clamping Pressure



In softer metals and plastics, the shear force required to tear the fastener from the base material is much less than the tensile strength of the fastener (a). The threaded insert distributes forces from the fastener over a larger area to realize a much greater clamping force with the same fastener (b).

Variety of Installation Methods



Depending on the type selected, threaded inserts are installed by one of four methods. Thread-Cutting and Thread-Forming inserts twist themselves into the base material. The Push-In method involves simply pressing the insert into a hole. Ultrasonic installation involves pressing the insert into a hole while softening the surrounding base material with ultrasonically generated heat.

TYPES OF THREADED INSERTS:

Tap-Lok®

Hole Series



Slotted Series



Coarse Series



Wood Series



Speed-Sert®



Barb-Sert®



Vibra-Sert®

Vibra-Sert I



Vibra-Sert II



How do threaded inserts compare to other fastener options?

Groov-Pin threaded inserts reinforce low shear strength metals and plastics. They are a great solution for applications that demand high-quality permanent, wear-resistant internal threads to anchor fasteners in plastics or softer metal base material. Threaded inserts become structural elements in the base material, so they actually enhance the performance of high-tensile fasteners in clamping and service-point applications alike.

How are Groov-Pin threaded inserts different than others?

Our threaded inserts work by distributing forces from the fastener over a larger area in the base material, thereby increasing the load-bearing capability. For metals like aluminum, this translates into full utilization of high-tensile-strength fasteners. For plastics, it means an end to the wear and cold-flow problems encountered with thread-forming screws. Whatever the base material, threaded inserts deliver greater clamping pressure for tighter seals as well as outstanding vibration resistance.

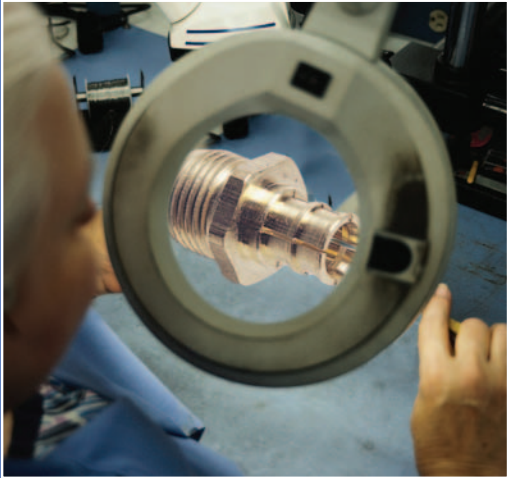
What threaded insert options are available?

Whether you choose thread-cutting, thread-forming, push-in, or ultrasound inserts, you'll find a Groov-Pin threaded insert that's suited for any application. Most important: all our threaded inserts are designed for easy, one-step installation in either molded or drilled holes.



PRECISION TURNED COMPONENTS

WE HELP SOLVE YOUR PROBLEMS

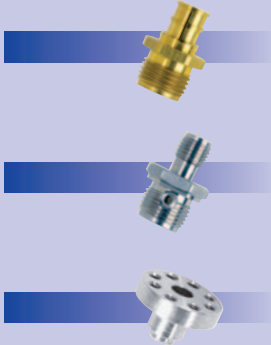


A closer examination of our parts will reveal the attention to detail our customers from various industries depend upon.

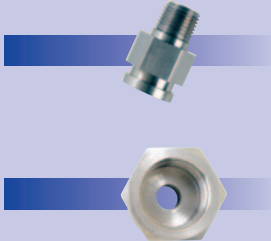
Industry	Thread Quality	Difficult Materials	Bore Dimensions	Finish Quality	Burr-Free Edges
Connectors		■	■	■	■
Medical		■		■	
Fluid Control	■	■	■	■	■
Fittings	■		■	■	■

PRECISION TURNED COMPONENT APPLICATIONS:

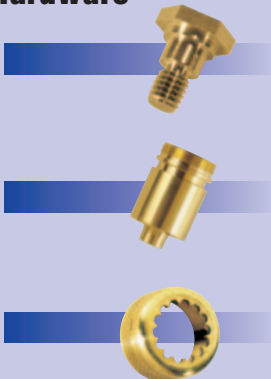
Connectors



Fittings



Precision Hardware



Does Groov-Pin provide custom components?

In addition to producing custom modifications to standard components, Groov-Pin's Precision Turned Components group specializes in manufacturing components in stainless-steel, brass, and copper. We excel in thread quality, critical tolerances, finish, and burr-free edges demanded by our discerning customers in the microwave-connector and pneumatic-fitting industries.

Our clients tell us the challenges they're facing. Method engineers then determine the most efficient and cost-effective method for producing quantities from 1000 to a million pieces or more. We specialize in developing cost-effective processes to quickly respond to needs in connector, medical, fluid control, and fittings applications.

We define our processes starting with a foundation of multi-spindle and single-spindle screw machines. We supplement our capability for complex work with CNC machining centers, and a variety of special processes.

The result is a trusted, lean partner for both standard and custom components.



CONTACT US TODAY!

Our People Want to Help Your People

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