SEGEN
QUICK-CHANGE

QUICK-CHANGE

PRECISION MECHANICAL LOCATING SYSTEMS

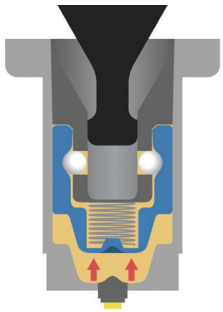
TOOLINGTECH GROUP

QUICK-CHANGE

How It Works

Step 1: Burst of Pneumatic Pressure Releases Cylinder

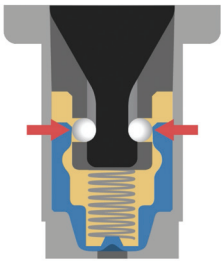
Released



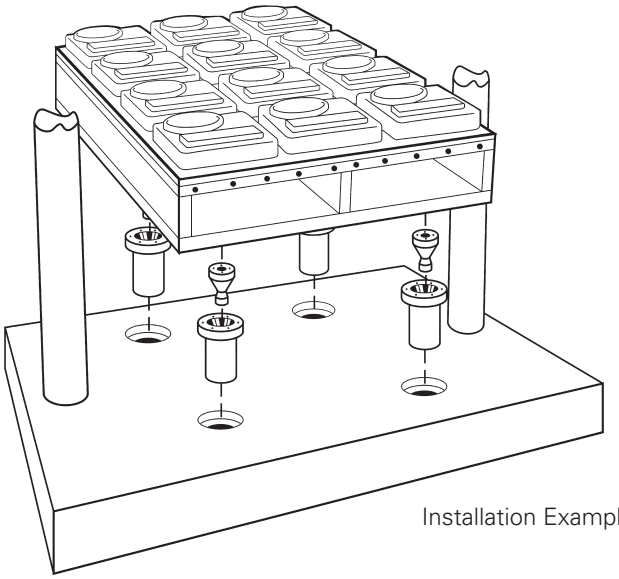
Shop Air ON

Step 2: Remove Air Pressure to Lock

Secured



Shop Air OFF



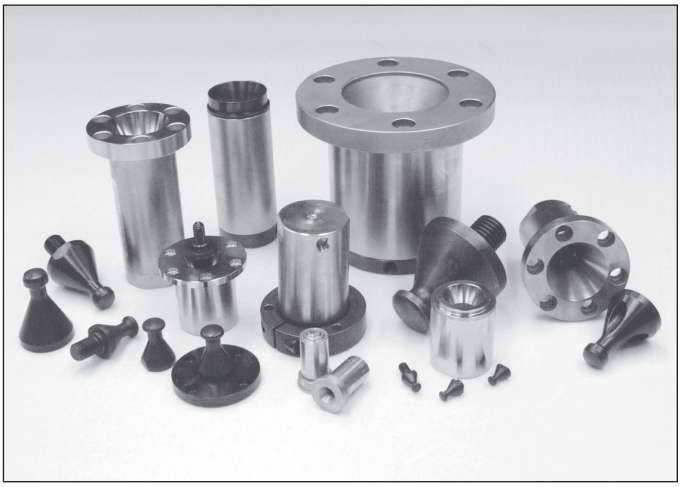
Installation Example

Say goodbye to dowels and bolts.

Installing and removing bolts and dowels takes time and wastes money, especially on frequently changed components. Tooling Technology's Segen Cylinder Locks and Knobs are precision quick-change devices with the ability to save you time, money and energy. Our powerful, pneumatically actuated devices lock and locate precisely, quickly and accurately, speeding changeovers and increasing productivity.

Great for frequently changed components including...

- Molds
- Logos and Bottom Inserts
- Plug Assists
- Steel Rule Die Boards
- Robotic End of Arm Tooling
- Welding Fixtures
- CNC Machines
- Pick and Place Applications
- Component Changeover
- Anywhere you need precise and repeatable locking and location



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MICRO QUICK-CHANGE CYLINDER LOCKS

PD250 Micro Quick-Change Cylinder Lock

Install our Micro Cylinder Locks instead of bolts and dowels. Precisely and instantly locate anything to within 0.0002". Change your smaller dies, fixtures, tools and parts quickly, saving downtime and cutting production costs.

Holding force: rated at 500 lbs. (static) Temperature rated from -65 to 450° F. Release pressure: 65 psi. Corrosion resistant stainless steel. Weight: 0.13 lbs. including knob.

Suitable for mounting in a plate with through-hole utilizing air fitting at rear or enclosed in a pressurized housing with supply manifold.

PD250X3 Standard Micro Cylinder (1.8 oz.)

Overall Height: 1.563". 7/8"x 20 thread
Flange Diameter: 0.9375" x 0.060"
#10-32 UNF-2B air supply fitting at rear.

PD250X2 Metric Micro Cylinder (.057 kilos)

Overall Height: 40 mm x 1.5 thread
Flange Diameter: 22 mm x 2 mm
M5 x 0.8 air supply fitting at rear.

Micro Cylinder Installation Tool

PDIT250 Micro Cylinder Installation Tool

Fits standard 1/4" socket drive.

Refer to technical data sheet on website for detailed installation requirements.

PD250 Knobs – 0.2 oz (5.7 grams)

All knobs are made of hardened steel designed for maximum strength and durability.

PD250STD4 Knob – Stud

Overall Size: 1.043" H x 0.437" Dia.
Location Boss: 0.100" H x 0.2805" Dia.
#1/4-28 UNF

PD250T Knob – Tapped

Overall Size: 0.643" H x 0.437" Dia.
Location Boss: 0.100" H x 0.2805" Dia.
Center tapped with #8-32 UNF.

PD250SA Knob – Self-Aligning

Overall Size: 0.5343" H x 0.437" Dia.
Center tapped with #8-32 UNF.
Designed to self-align.
Knob mounted through clearance hole in plate.

PD250 Fittings

PD250X3LB1 Elbow Hose Barb – Single barb for 1/16" ID hose. Brass with #10-32 thread. Includes fiber gasket. Sold in packs of 10.

PD250X3TE1 Tee Hose Barb – Double barbs for 1/16" ID hose. Brass with #10-32 thread. Includes fiber gasket. Sold in packs of 10.

PD250X2LB1 Elbow Hose Barb – Single barb for 1/16" ID hose. Brass with M5 x 0.8 thread. Includes fiber gasket. Sold in packs of 10.

PD250X2TE1 Tee Hose Barb – Double barbs for 1/16" ID hose. Brass with M5 x 0.8 thread. Includes fiber gasket. Sold in packs of 10.

Note: Above fittings to be used with Polyurethane Hose part number PD375UT1. See page 4.

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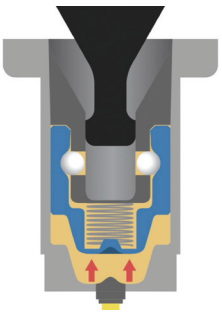
MINI QUICK-CHANGE CYLINDER LOCKS

How It Works

Step 1: Burst of pneumatic pressure releases cylinder

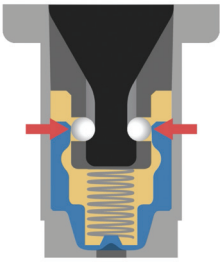
Released



Shop Air ON

Step 2: Remove air pressure to lock

Secured



Shop Air OFF

PD375 Mini Cylinder Lock —Shouldered (12 oz)

Size: 2" H x 1.625" Dia. Mounts in counter-bore, with clips (PD375CLP). Rated at 1,800 lbs. (static). Temperature rated to 450° F.

Mini Cylinder Lock

Without the need for old-fashioned nuts, bolts, wrenches and hand tools, the Quick-Change Cylinder Locks quickly pay for themselves by adding production time to your workday. The systems are ideal for precisely and instantly locating and holding just about anything, making changeovers and setups simple, safe and secure.

Tooling Technology's "Segen Locks" are reducing downtime and waste for numerous industries including plastics, machining, stamping, welding, robotics, automation, extrusion, aerospace, automotive, marine, windows & doors, appliances, rubber, fabricating, racing, metalworking, medical, electronics, defense and more.

Makes changeovers simple, safe and fast!

Streamline production and increase productivity with fast, precise and repeatable installations. Improved production and reduced downtime mean Segen's Cylinder Locks quickly pay for themselves.

Fail-safe security with holding force of 1,800 lbs. (static)

Our mini cylinders operate in extreme conditions and temperatures up to 450° F.

PD375F Mini Cylinder Lock – Flange-Mount (14 oz)

Size: 2" H x 1.625" Dia. x 2.375" flange. Identical to shouldered Mini Cylinder Lock with an integral flange added for surface mounting. Mounts with six #10 button head screws (Not included). Rated at 1,800 lbs. (static). Temperature rated to 450° F.

A higher temperature version is also available. Please call for details.

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PD375CLP
Mounting Clips for Shouldered Mini Cylinder Lock

Hardened clips clinch on to cylinder. Mounts easily with 1/4" screws.

Installed

PD375T (1.5 oz. - 2 oz.)
Knob –Tapped & Piloted

5/16"-18 tapped hole.
.500" Dia. pilot.

PD375SA (1.5 oz. - 2 oz.)
Knob – Self-Aligning

5/16"-18 tapped hole without locating boss.

PD375STD5 (1.5 oz. - 2 oz.)
Knob – Piloted with 5/16"-18 Stud

5/16"-18 stud. .500" Dia. pilot.

PD375STD8 (1.5 oz. - 2 oz.)
Knob – Piloted with 1/2"-13 Stud

1/2"-13 stud. .625" Dia. pilot.

PD375SXP (1.5 oz. - 2 oz.)
Knob – Sliding Expansion

Allows for thermal expansion.
Flange mount 2 1/2" Dia.
Mounts with four #10 cap screws.

PD375UT1 Polyurethane Hose

Plumb air easily to 375 Mini or 250 Micro Cylinder Locks. Durable, flexible and requires no clamps. Just push on to connect. 1/8" OD x 1/16" ID. Pushes on to barb. Temperature rated at 150° F. Clear color. 50' Roll.

Weld spatter resistant tubing is also available.

PD375LB1 Elbow Hose Barb

Single barb for 1/16" ID hose. Brass. 1/16"-27 NPT. Hose barb threads into back of model 375 Mini Cylinder Locks. Used with polyurethane hose for fast, easy installations. Available in two styles. Sold in packs of ten.

PD375TE1 Tee Hose Barb

Double barbs for 1/16" ID hose. 1/16"-27 NPT. Hose barb threads into back of model 375 Mini Cylinder Locks. Used with polyurethane hose for fast easy installations. Available in two styles. Sold in packs of ten.

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PD438 QUICK-CHANGE CYLINDER LOCKS

PD438 Standard Retention Cylinder (2 lbs., 10 oz.) 300° F

Cylinder Size: 4.875" H x 1.875" Dia. Holding force: Rated at 2,700 lbs. (static). Suitable for most installations, i.e. gridded press platens, master mold bases, form tool, platen bolster plates, etc. Mounts with collar shown on page 6.

(Also available in a high temperature version PD438V 400° F)

PD438F Flange Mount Standard Retention Cylinder (3 lbs., 1 oz.) 300° F

Size: 4.875" H x 2.875" Flange Dia. with six counterbored holes for 5/16" bolts. Holding force: Rated at 2,700 lbs. (static). Identical to #438 standard cylinder with integral flange added for surface mounting.

(Also available in a high temperature version PD438FV 400° F)

PD438C Compact Retention Cylinder (1 lb., 11 oz.) 300° F

Size: 3.375" H x 1.875" Dia. Holding force: Rated at 2,700 lbs. (static). Fits inside of die sets and form tools where space is limited. Designed to individually change molds, mold inserts, plug assists and trim tool components. Mounts with collar shown on page 6.

(Also available in a high temperature version PD438CV 400° F)

PD438CF Compact Flange Mount Retention Cylinder (2 lbs., 2 oz.) 300° F

Size: 3.375" H x 2.875" Flange Diameter with six counterbored holes for 5/16" bolts. Holding force: Rated at 2,700 lbs. (static). Identical to #438C compact cylinder with integral flange added for surface mounting.

(Also available in a high temperature version. PD438CFV 400° F)

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PD438 QUICK-CHANGE CYLINDER LOCKS

PD438T
Knob – Tapped (5.6 oz.)

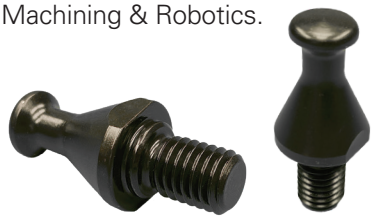
Size: 2.250" H x 1.500" Dia. Three 5/16"-18 tapped holes with .250 location hole. Knob mounts with 5/16" cap screw from backside of tool, mounting plates, stand-off platen straps, mold inserts, etc.

PD438SA
Knob – Self Aligning (5.6 oz.)

Size: 2.250" H x 1.500" Dia. Center tapped with 1/2"-13. Designed to self align. Knob mounts through clearance holes drilled into backside of tool mounting plates, bolster plates, stand-off, platen straps, etc.

PD438STD
Knobs – Stud (8 oz.)

Overall Size: 3.125" H x 1.50" Dia. Location Boss: 0.250" x 1.00" Dia. with a 5/8"-11 stud, 3/4" long. Designed to withstand high shear loads. Uses include trim press and trim tool component mounting, CNC Machining & Robotics.



PD438CB
Knob – Counterbored (5.6 oz.)

Size: 2.250" H x 1.500" Dia. Three counterbored holes for 1/4" cap screws, with .250" location hole. Counterbored holes allow knob to be fastened from the top for face mounting onto tool mounting plates, mold cavities, stand off platen straps, cavity inserts, etc.

PD438SXP
Knobs – Sliding Expansion (15 oz.)

Overall Size: 2.500" H x 1.500" Dia. Retainer Ring: 2.750" Dia. x .0375" thick with four counterbored holes for 1/4" cap screws. Designed to allow for thermal expansion. Uses included heated platens, heated trim tooling, large single-sheet vacuum molds.

PD438CLR
Cylinder Collars (10 oz.)

Size: 1.875" ID x 3.000" OD Three 9/32" through holes. Collar clamps in any position around 438 retention cylinder to mount cylinder through the back of a plate or flat surface.

PD438BX
Air Terminal Box

Size: 4.0" L x 4.0" W x 4.0" H Connection box to pneumatically release retention cylinders. Designed to accept quick air connector. Works with all style cylinder locks.

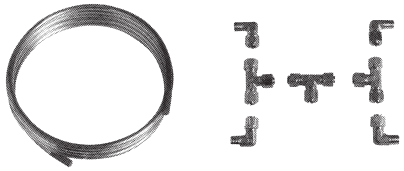
(Open View)

(Closed)

PD438KIT
Pneumatic Plumbing Kit

Size: 1/4" compression with 1/8" NPT Air line plumbing from connection box to four cylinders. (Model PD438 only) Kit includes:

10 ft. - 1/4" copper tubing
(4) - 1/4" compression elbow fittings
(3) - 1/4" compression tee fittings
(1) - 1/4" compression straight fitting



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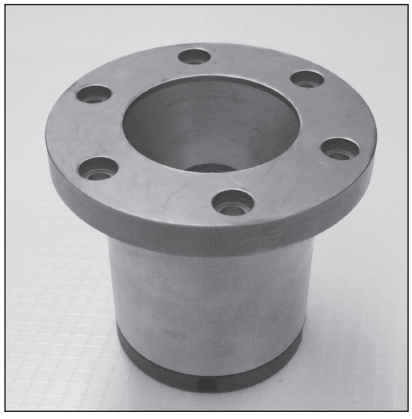
Model 500 Mega Cylinder Lock

OVER 12 TONS OF HOLDING CAPACITY!

- Thermoforming
- Injection Molding
- Blow Molding
- Trim Dies
- Automotive
- Robotics
- Machining
- Welding
- Stamping
- Aerospace



PD500 – Mega Cylinder Lock (11 lbs.)

Rated to 25,000 lbs. (static) holding force.

5" H x 4" Dia. Flange Dia.: 5.75". Mounts with six 3/8"-16 socket head cap screws. Temperature rated to 300° F.

PD500STD – Mega Knob (2 lbs.)

Mates with Model 500 Mega Cylinders.
Designed to locate large tools and withstand high shear loads.
Overall Size: 3.675" H x 2.75" Dia.
Knob Height: 2.5625"
1 1/4-7 UNC stud; stud length: 3/4"
1-1/2" Locating Boss: 0.25" H

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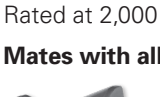
HIGH-STRENGTH QUICK CHANGE KNOBS

Tooling Technology is always on the cutting edge of metallurgical science and innovation. This special steel formula in our High-Strength Quick-Change Knobs offers more holding power and higher tensile limits for the most demanding industrial applications.

PD250 High Strength Knobs

Rated at 2,000 lbs. of static holding force.

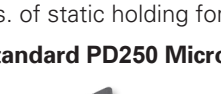
Mates with all standard PD250 Micro Cylinder Locks.



PD250THS
Tapped

Overall Size: 0.5343" H x .0437" Dia. Center tapped with #8-32.

Use Grade-8, high-strength mounting screws when installing this product.



PD250STD4HS
With Threaded Stud

Overall Size: 1.043" H x .0437" Dia. Location Boss 0.2805" Dia. x 0.100" H 1/4-28 Stud x 0.500" L.

PD250SAHS
Without Locating Boss

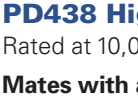
Overall Size: 0.5343" H x .0437" Dia. Center tapped with #8-32.

Use Grade-8, high-strength mounting screws when installing this product.

PD438 High Strength Knobs

Rated at 10,000 lbs. of static holding force.

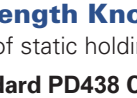
Mates with all standard PD438 Cylinder Locks. Use Grade-8, High-Strength mounting screws when installing product.



PD438THS
Tapped

Mounts with 5/16" high-strength cap screw from backside. 2.112" H x 1.463" Dia.

Three 5/16"-18 tapped holes with .250" location.



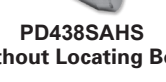
PD438CBHS
Counterbored

Counterbored holes allow knob to be fastened from the top for face-mounting. 2.112" H x 1.463" Dia.

Three counterbored holes for 1/4" cap screws with .250" location hole.

PD438SAHS
Without Locating Boss

2.112" H (overall) x 1.463" Dia. Center tapped with 1/2"-13.



PD438STDHS
Threaded Stud

3.125" H (overall) x 1.462" Dia. Locating Boss: 0.250" H x 1.0" Dia., with a 0.625"-11 stud, .75" long

PD375FHS High Strength Mini Cylinder Lock

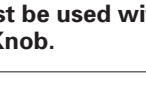
Flange-Mount

Engineered with thicker mounting flange to match the strength of the high-strength PD375 Knobs. Use Grade-8, high-strength mounting screws when installing this product. Rated at 10,000 lbs. (static) when used with high-strength PD375 Knobs. Rated temperature to 450° F

Standard PD375 Knobs will not fit with this Cylinder Lock. Must be used with the High-Strength PD375 Knob.

PD375 High Strength Knobs

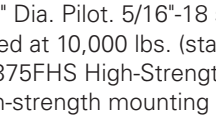
PD375SAHS
Without Locating Boss



PD375THS
Tapped & Piloted

500" Dia. Pilot. 5/16"-18 stud tapped hole
Rated at 10,000 lbs. (static) when used with the PD375FHS High-Strength Cylinder Lock. Use Grade-8, high-strength mounting screws when installing product.

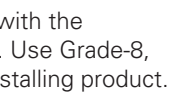
Compatible ONLY with PD375FHS Cylinder.



PD375STD5HS
Piloted 5/16"-18
Threaded Stud

.500" Dia. Pilot. 5/16"-18 stud. Rated at 10,000 lbs. (static) when used with the PD375FHS High-Strength Cylinder Lock.

Compatible ONLY with PD375FHS Cylinder.

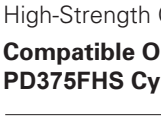


PD375STD8HS
Piloted 1/2"-13
Threaded Stud

.625" Dia. Pilot. 1/2"-13 stud. Rated at 10,000 lbs. (static) when used with the PD375FHS High-Strength Cylinder Lock.

Compatible ONLY with PD375FHS Cylinder.

PD500STDHS High Strength Mega Knob



Overall Size: 3.5625" H x 2.75" Dia.
Knob Height: 2.5625". 1.25"-7 UNC stud
Locating Boss: 1.25" H x 1.5" Dia.
Rated at 50,000 lbs. of static holding force.

Mates with the standard PD500 Cylinder Lock.

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SENSOR QUICK-CHANGE CYLINDER LOCKS

This enhanced version of the Segen Quick-Change device utilizes an internal electronic sensor to offer the machine operator a visual means of identifying that the mechanism is positively locked or unlocked. This option may be used to help enhance the safety, reliability, efficiency and overall effectiveness of a Segen Quick-Change installation.
Patent Pending

Additional details on the Sensor Cylinders can be found on our website.

- Easy to read indicator light tells you if your Segen Quick-Change components are properly locked.
- Immediately discover the slightest tooling installation errors before lifting the locked mold, die or tool.
- Prevent tool damage or injury. (Machine operator can verify that tooling is locked before running the machinery.)
- No modifications or changes necessary – simply slide the sensor cylinder into your existing PD438 or PD375 installation cavity.
- Comes pre-assembled and calibrated with 6-foot cable and wiring diagram.
- Sensors protrude approximately 3/4" from the base of the cylinder.
- Connect the cable to a simple indicator box, or to your machine interface.
- Illuminated LED Light = Locked Light Not Illuminated = Error

PD375FS Sensor Cylinder
(See page 3 for Cylinder Specifications)

PD438FVS Sensor Cylinder
(See page 5 for Cylinder Specifications)

PD438CFVS Sensor Cylinder
(See page 5 for Cylinder Specifications)

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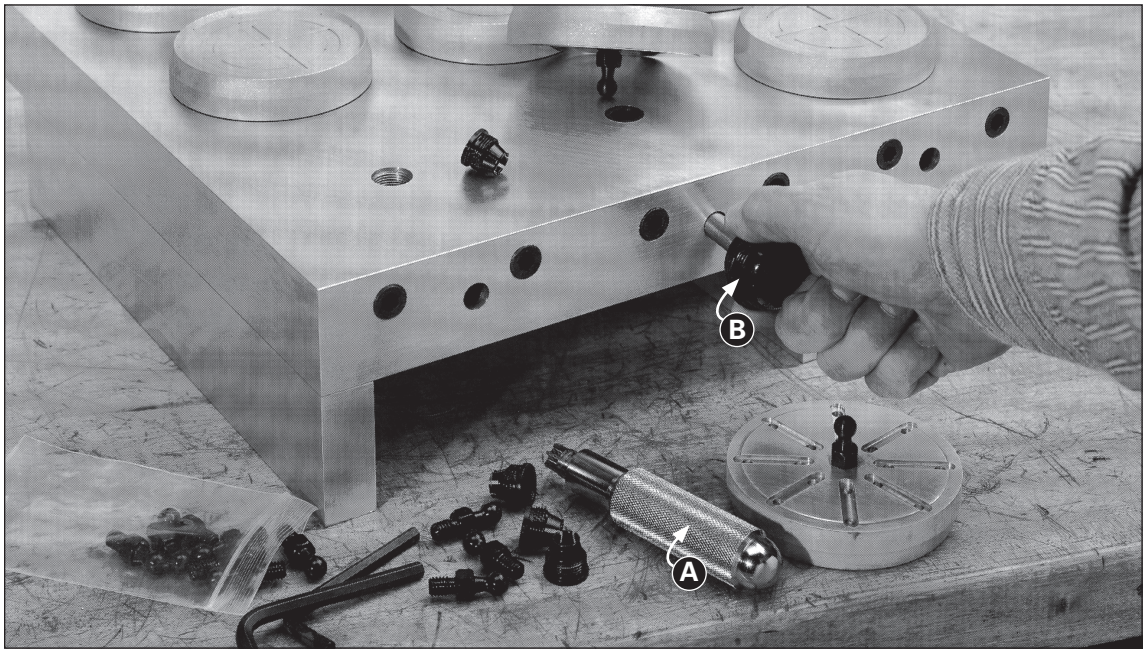
SNAP FASTENERS Make even tough changeovers a snap!



Get instant access to the unreachable! Segen's Snap Fastener is an easy-to-use, snap-in/snap-out fastening device designed to speed changeovers, increase production and reduce downtime. Simply push and it snaps into place. Removal is just as fast and easy. A smart, time-saving alternative when access to screws is difficult. The snap fasteners are rated to 100 lbs. holding force.

Instantly fasten...

- **Frequently changed tool components**
- **Logo plates**
- **Bottom inserts**
- **Access plates...**

...and more

Refer to Technical Data Sheet on website for detailed installation requirements.

PDSNP390 Snap Lock Post
Snap Lock Post locates on .500" diameter to accurately mount components to be quick changed. 5/16"-18 thread stud. Hardened black oxide finish.

PDSNC390 Snap Lock Collet
Snap Lock Collet locates on .750" diameter to accurately locate and mount onto parent component. 11/16"-20 thread. .750" locator pilot. Hardened black oxide finish.

Post and collet shown together

PDIT390 Snap Lock Installation Tool
For installing or removing Snap Lock Collets. Tool securely holds and positions collet for ease of installation. See image Ⓐ above.

PDSNBAR Release Bar
36" long with plastic ball handle. See image Ⓑ above.

NOTICES:
Tooling Technology has no way of testing every possible scenario in which our products could be used. If you are unsure about choosing the right product for your proposed application, please contact us. The published load ratings for each product are reliant on mating the knobs and cylinders with fasteners that are compatible with those respective loads.

The Segen Quick-Change system replaces old-fashioned nuts, bolts, fasteners and hand tools, which significantly reduces the time wasted on industrial setups, changeovers, workholding, clamping, fixturing and alignment.

Our strong, precise and reliable cylinders and mating knobs pay for themselves quickly by replacing "downtime" with "production time."

Applications for improvement with our Quick-Change mechanisms are numerous. These innovative and practical products will reduce downtime, improve quality, eliminate waste, enhance efficiency, and increase your overall profitability.

TOOLINGTECH GROUP

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