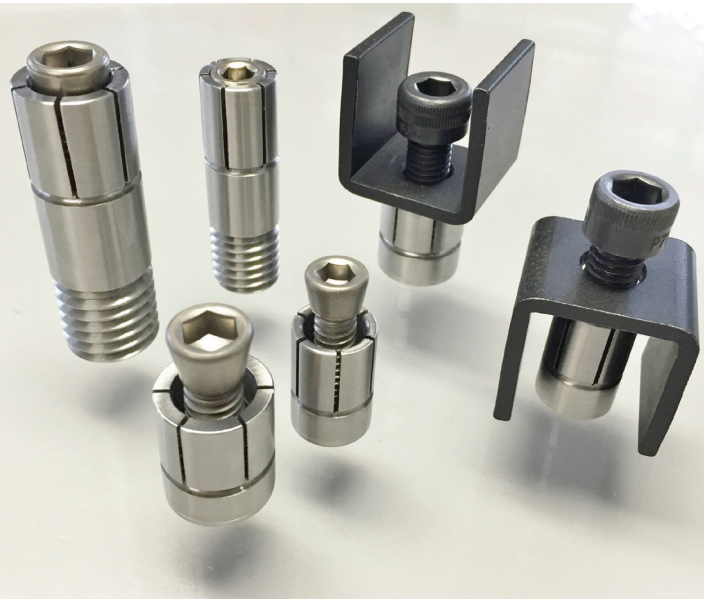
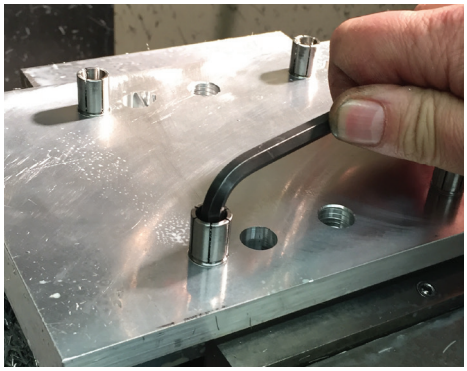
Modular XYZ Xpansion™ Pins

NEW!

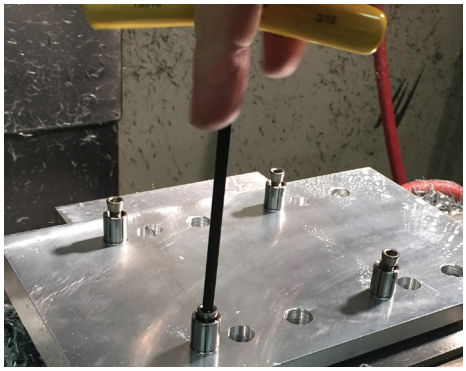


MITEE-BITE Products releases the new Modular XYZ Xpansion™ Pins for Tombstone, Grid Plate and Fixture Plate applications. The unique, patent pending design provides accurate location, repeatability and high holding forces for securing parts on the inside diameter. The XYZ Pin provides “out of the way workholding” and accessibility to all work surfaces with absolutely no external clamping interference. Press Fit Pins are available in 1/4, 3/8, 1/2, 5/8, M6, M10, M12 and M16 diameters for custom applications and the Threaded version in standard sizes of 1/2, 5/8, M12 and M16 for tombstones and grid plates. Manufactured from “heat treatable” 17-4PH stainless steel, the Pins expand up to 0.030″ (0.7mm) and the diameter can be machined for specific applications. The top of the Pins have a slight taper creating maximum line contact in bore and provides clearance during load/unload. Designed for quick set-ups on secondary operations, material coming off prep stations, water-jets or even applications outside of your machining centers!

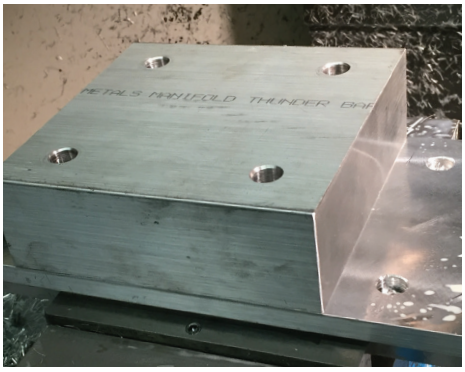
Prep stock with through hole



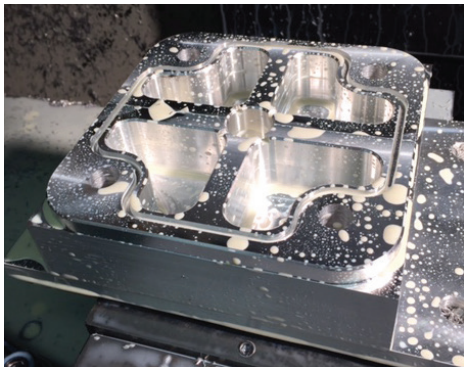
Install pin body



Install tapered drive screw



Raw stock on pins



Op 1

Op 2 including c’bore on same fixture

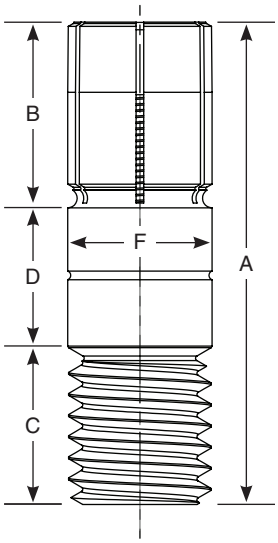
Continuous Improvement Programs = Innovation!

PATENT PENDING #62/254,456

Threaded Pins

Threaded XYZ Pins incorporate an internal rotary broached hex for simple installation and removal from a tombstone, grid plate or fixture plate. Threaded Pins may be installed in a drilled and reamed hole for precise location or set in a hardened drill bushing for fixture strength and wear resistance.

To install a Threaded XYZ Pin in a precision bore, drill and ream the hole over the nominal diameter minimum of +0.0001 to +0.0005". (+.003 to +0.013mm)



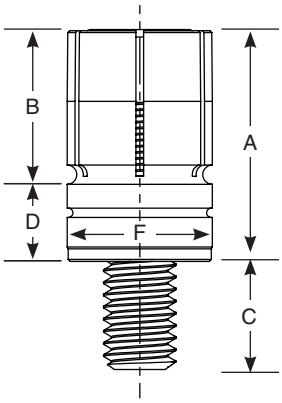
Part Number	Description	A	B	C	D	F (+/-) .000/.001" (.000/.025mm)	G*	Replacement Tapered Screw
31850	Threaded 1/2"	1.625"	0.60"	0.53"	0.50"	.500"	0.413"	31010
38850	Threaded M12	40mm	15mm	13mm	12.00mm	12.00mm	10.5mm	38010
31860	Threaded 5/8"	1.875"	0.62"	0.62"	0.62"	.625"	0.472"	31020
38860	Threaded M16	45mm	16mm	13mm	16.00mm	16.00mm	12mm	38020

*G minimum diameter pin can be machined or turned down to
**Torque of Pin body needs to exceed torque of Tapered screw

Press Fit Pins

Pins are intended for press fit or close tolerance removable slide fit applications. Install in a precision bore or a bushing with the center threaded for the Tapered screw. If precise location is not necessary, pin can be used on top of fixture plate. Mitee-Bite provides a simple tool to make Installation and Removal (I/R) of the XYZ Pins quick and easy.

NOTE: If recessing pin into fixture beyond slits be sure to provide clearance for expanding segments.



Part Number	Description	A	B	C	D	F (+/-) .000/.001" (.000/.025mm)	G*	Replacement Tapered Screw	Installation/ Removal (I/R) Tool Set**
31730	Press Fit 1/4"	.500"	0.27"	.29"	.23"	0.250"	.219"	31731S	31720
38730	Press Fit M6	13mm	7mm	7.3mm	5.8mm	6.00mm	5.5mm	38731S	38720
31740	Press Fit 3/8"	.750"	0.50"	.33"	0.25"	0.375"	0.281"	31002S	31721
38740	Press Fit M10	19mm	12.7mm	8.4mm	6.35mm	10.00mm	7.5mm	38002S	38721
31750	Press Fit 1/2"	.750"	0.50"	.45"	0.25"	.500"	0.413"	31010S	31722
38750	Press Fit M12	19mm	12.7mm	11.1mm	6.35mm	12.00mm	10.5mm	38010S	38722
31760	Press Fit 5/8"	.750"	0.50"	.52"	0.25"	.625"	0.472"	31020S	31723
38760	Press Fit M16	19mm	12.7mm	13mm	6.35mm	16.00mm	12mm	38020S	38723

*G minimum diameter pin can be machined or turned down to **Set includes screws (2) SHCS

SPECIFIC FEATURES/INSTALLATION

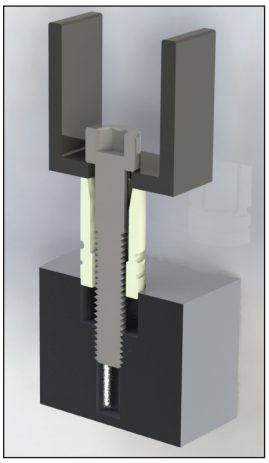


Figure 1

PRESS FIT INSTALLATION: Place Pin in prepared bore, place I/R Tool over pin as shown in figure 1. Using the smaller socket head cap screw (SHCS) provided, thread into fixture to evenly draw down pin. Remove SHCS and replace with Tapered screw when ready to use.

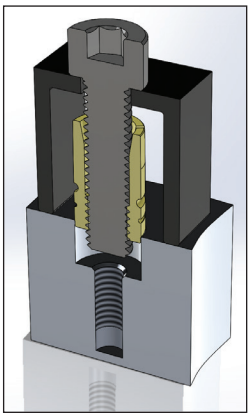


Figure 2

PRESS FIT REMOVAL: Place the I/R Tool over the clamp as shown in figure 2, thread the larger SHCS into the "internal threads" of the Pin and tighten the screw to extract the Pin.

NOTE: It is recommended to fit Pin with a drill bushing when the Pin must be frequently removed. Or drill and ream the bore hole over the nominal diameter minimum of +0.0001 to +0.0005" (+0.003 to +0.013mm)