

TECHNI-GRIP

WORK HOLDING SYSTEMS

ALLIANCE
Manufacturing Group



Proudly made in the USA

TECHNI-GRIP

WORK HOLDING SYSTEMS

In today's just-in-time manufacturing environment, Techni-Grip systems enable progressive manufacturing companies to further their lean operating strategies.

From our smallest 5 Axis system to our largest Universal and Tombstone, every Techni-Grip system enables estimators, programmers, set-up personnel, machine operators and inspectors to increase efficiency, utilize more effective/creative manufacturing methods, reduce material requirements, increase process control capabilities, lessen personnel training requirements, decrease required operations and promote profitability.



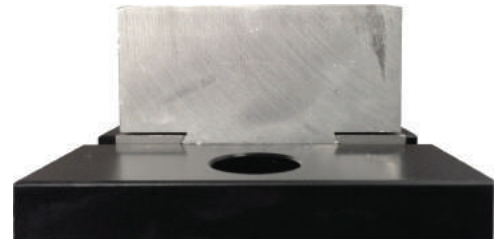
The Techni-Grip is a revolutionary work holding system utilizing two proven concepts:

PIN & HOLE



1 Enables consistent positive location.

THE DOVETAIL CUT



2 Provides exceptional gripping strength.

The Techni-Grip Work holding System was borne directly from an aerospace manufacturing company's efforts to solve a number of work holding challenges faced by all CNC mill work.

PUBLISHED DIMENSIONAL TOLERANCES

Upon delivery Techni-Grip fixtures and assemblies shall meet the following physical characteristics:

- Parallelism: < .0015 over 12"
- Perpendicularity: < .0015 over 12"
- Diametrical positional tolerance: .007 true position max material condition
- Radial axial rotational error: < .010

* Note: Listed specs apply to the Techni-Grip Assembly. Material and finishes for risers may vary.

GENERAL FIXTURE INFORMATION (all fixtures:)

- The body of the fixture is 6061-t651 aluminum, hard anodized .0018/.0020 thick*
- The dovetail clamp bodies are 15-5 steel, heat treated to 180/200ksi
- The locating pins are 15-5 steel and .4984 +/- .00035 diameter, on 1.375 centers
- Material Prep: (2) .500 diameters, .125 deep and 30 degree dovetail cuts, also .125 deep. May be offset in x,y or z for cutter accessibility or established in multiple directions/configurations on the material
- Units may also be mounted parallel allowing to double the clamping platform width by using an extended bolt in the clamp assemblies and locating on (2) diagonal pins
- Diametrical tolerance on the .500 diameters in the stock is contingent upon the dimensional precision required for the given application

THE TECHNI-GRIP ADVANTAGE

STANDARDIZATION

- All stock is prepped using the same method.
- All jobs are set up the same.
- All parts are held the same.

SIMPLIFICATION

- Work shifts and 'Z' shifts never change.
- Extensive documentation is eliminated.

TIME REDUCTION

- Eliminates changing jaws.
- Eliminates parallels and spreaders.
- Eliminates milling step jaws and dovetail jaws.
- Eliminates constructing work stops or programmable stops.
- Eliminates maintenance, cleaning and organizing of shop aids.
- Increases stock removal capabilities.
- Multiple parts can be set up on a single unit.

SCRAP REDUCTION

- Eliminates dimensional distortion in parts caused by vise pressure while running.
- No air under parts.
- Eliminates scrap generated by parts coming loose while running.
- Allows precise relocation of parts should rework be required or if removed prematurely.

COST REDUCTION

- Eliminates tool and machine damage from parts coming loose in a cut.
- Eliminates the need to buy and repair expensive vises.
- Only .125 excess (max) stock is required to hold parts.
- Stock can be prepped off-line through unskilled labor.
- Minimal training is required to load and unload parts.

“The Techni-Grip System simplified my job by reducing obstacles in tool paths. I gained the ability to be much more aggressive about cutting - parts won't come loose. Our tooling design requirements have been reduced by 80%... wish I had it 10 years ago!”

*- Doug St. John
Programmer, JWD Machine*



TECHNI-GRIP REDUCES COSTS

The chart to the right is data that was extracted from shop production software and indicates a 57% reduction in direct machining and fixturing cost. This is merely one example of the numerous advantages that Techni-Grip products provide.

PREVIOUS FIXTURING	w/ TECHNI-GRIP
Required Operations: 7	Required Operations: 3
Machine Time*: 3.08 hrs.	Machine Time*: 1.39 hrs.
Machine Cost*: \$277.20	Machine Cost*: \$125.10
Additional Fixtures: 2	Additional Fixtures: 0
Fixturing Cost**: \$430.00	Fixturing Cost**: \$0.00
Cost of 30 pc. run: \$8,746.00	Cost of 30 pc. run: \$3,753.00

* per part / ** non-recurring



Introducing our newest innovation to the Techni-Grip family...

5-AXIS

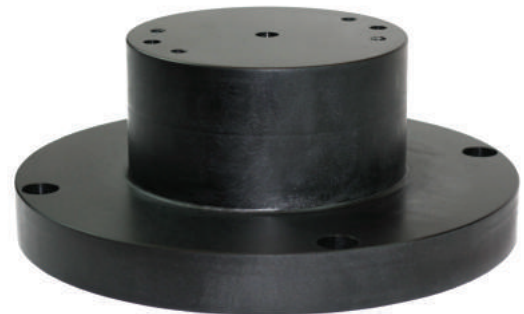
The compact design of our new 5-Axis models offers increased access, allowing a part to be machined from all directions. With sizes ranging from 2" to 10", multiple parts can be made with just an easy swap of the top to an already dialed in base. Features the same rigid clamping as the standard Techni-Grip and utilizes the same hardware.

MADE IN THE U.S.A.



8" RISER
PART #: MCVS-8R
HEIGHT - 3"

Available in 30 and 45 degree bolt patterns



11" RISER
PART #: MCVS-11R
HEIGHT - 4.25"



2" 5-AXIS
PART #: MCVS-R2



3.5" 5-AXIS
PART #: MCVS-R3.5



6" 5-AXIS
PART #: MCVS-R6



10" 5-AXIS
PART #: MCVS-R10

"Its genius is in its simplicity – it requires remarkably few parts to achieve very rigid clamping. Its small footprint, simple design, and low profile clamping means it can be adapted to an endless combination of machine configurations and fixturing setups."

*- Ted Winkle
Tech Center Coordinator, Okuma America Corp*



5-AXIS RISER
PART #: MCVS-3.75-12R



2" 5-AXIS (Back Bolt)
PART #: MCVS-2D



2" 5-AXIS (Bolt Down)
PART #: MCVS-2.1



3.75" 5-AXIS
PART #: MCVS-3.75



UNIVERSAL FIXTURES

Our modular **Universal fixtures**, as all Techni-Grip systems, offer consistent locating allowing for quick repeatable change outs, reducing set up/machine time and scrap. These fixtures can be used individually or in multiples, by utilizing different configurations such as side by side or in a string for larger jobs.

“ While providing outstanding part access, the Techni-Grip vises are very rigid and allow high metal removal rates without the typical ‘pull-out’ problems of more conventional vise designs. This is very helpful to us when demonstrating the maximum capabilities of our machine tools.”

*- Alan Hollatz
Proposal Engineer, Makino Inc.*



5" UNIVERSAL (Back Bolt)
PART#: MCU01-A45



5" UNIVERSAL (Bolt Down)
PART#: MCU01-A45-2



5" RAIL
PART#: MCVS-R52



8" UNIVERSAL
PART#: MCU01-A48



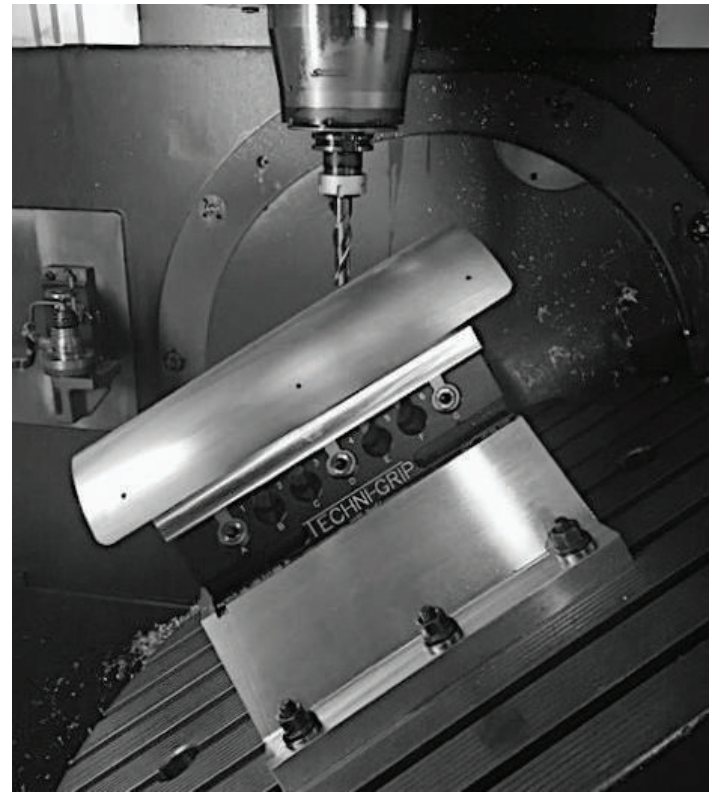
12" UNIVERSAL
PART #: MCU01-A412



16" UNIVERSAL
PART #: MCU01-A416



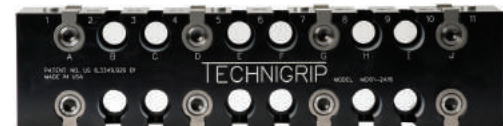
24" FULL HEIGHT UNIVERSAL
PART #: MCU01-A424



24" LOW PROFILE UNIVERSAL
PART #: MCU01-A424



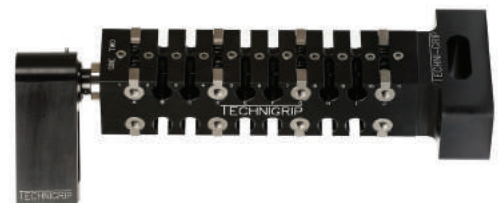
24" x 8 UNIVERSAL
PART #: MCU01-A824



16" 4-AXIS NAKED
PART#: MCI01-2A16



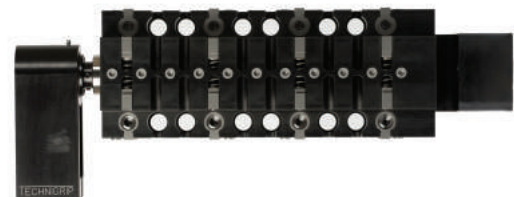
30" x 6 LOW PROFILE UNIVERSAL
PART #: MCU01-A6302



16" 4-AXIS w/ PILLOW BLOCK & PLATE
PART #: MCI01-2A16-6



36" x 8 UNIVERSAL
PART #: MCU01-A836

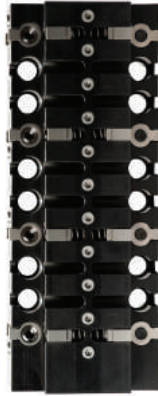


**16" 4-SIDED 4th AXIS
w/ PILLOW BLOCK & MOUNTING PLATE**
PART#: MCT01-420-6

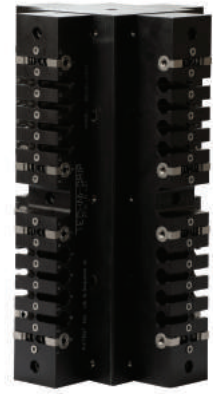
TOMBSTONES

“...The Techni-Grip tombstone is a terrific tool to maximize cellular machining capabilities while reducing the number of pallets required.”

*- Brian Cox
Ellison Machinery*



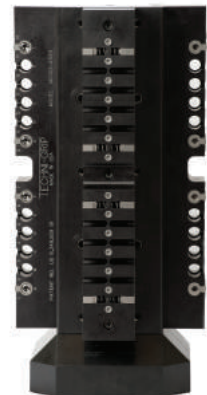
**16" 4-SIDED,
HORIZONTAL TOMBSTONE**
PART #: MCT01-420



**24" 4-SIDED,
HORIZONTAL TOMBSTONE**
PART #: MCT01-424



**24" 2-SIDED,
HORIZONTAL TOMBSTONE**
PART #: MCT01-224



**24" 4-SIDED, HORIZONTAL
TOMBSTONE w/RISER**
PART #: MCT01-428

Our **Tombstone** configurations are the perfect solution for your horizontal or cell system. The 24" 4-Sided Tombstone utilizes our 24" Universal fixture which can be set up with one per side, four total, or two per side, eight total.



DOVETAIL CUTTERS

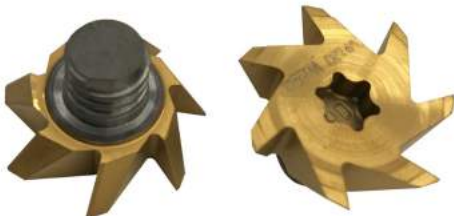
Our new coated carbide **dovetail cutter** was thoughtfully designed to go hand-in-hand with the entire **Techni-Grip** product line. The cutter features 7 flutes, which provides great wear resistance with easy prep and less waste. The body and inserts were made exclusively for **Techni-Grip** and intended for use with hard material workpieces.

"The tool life is incomparable to every other dovetail cutter I have tried. I no longer have to lose machine run time by changing out dovetail inserts on my old cutters. I would highly recommend this cutter to anyone who wants a cleaner and faster cut without any of the hassle"

- Bryon Mowry
Mowry Machine Works

GENERAL CUTTER INFORMATION:

Included Angle	60° or 45°
Number of Flutes	7
Shank Material	Steel
Tip Material	Coated Carbide
Shank Length	3.50 inches
Shank Diameter	.5 inches
Cutting Diameter	.921 inches
Mating Diameter	.48 inches
Shank Style	Cylinder
Thread Size	T08
Coolant	No



*Each shank is sold with 2 tips
Tips may be purchased separately*



4" UNIVERSAL DOVETAIL CUTTER - 45°

PART#: DTC04-45



4" UNIVERSAL DOVETAIL CUTTER - 60°

PART#: DTC04-60

ACCESSORIES



5-AXIS RISER
PART #: MCVS-3.75-12R



PILLOW BLOCK
PART #: PB-01-6



TOMBSTONE RISER
PART #: TR01-12D2



MOUNTING PLATE
PART #: MP01-1



DOVETAIL CLAMP ASSEMBLY
Available in 2", 3", 6", and 7" lengths

NEED A PART? ALL TECHNI-GRIP HARDWARE IS AVAILABLE FOR INDIVIDUAL PURCHASE:

2" DOVETAIL CLAMP ASSEMBLY	PART #: DT01-2
3" DOVETAIL CLAMP ASSEMBLY	PART #: DT01-1
6" DOVETAIL CLAMP ASSEMBLY	PART #: DT01-1K
7" DOVETAIL CLAMP ASSEMBLY	PART #: DT01-1X
LOCATING PIN	PART #: MC001-5
LOCATING PIN SPACER	PART #: MC001-6
2" CAP SCREW	PART #: MC001-2
3" CAP SCREW	PART #: MC001-7
6" CAP SCREW	PART #: MC001-14
7" CAP SCREW	PART #: MC001-13
CAP SCREW WASHER	PART #: MC001-8
CLAMP SPRING	PART #: MC001-12



LOCATING PIN
PART#: MC001-5



LOCATING PIN SPACER
PART#: MC001-6



CLAMP SPRING
PART#: MC001-12



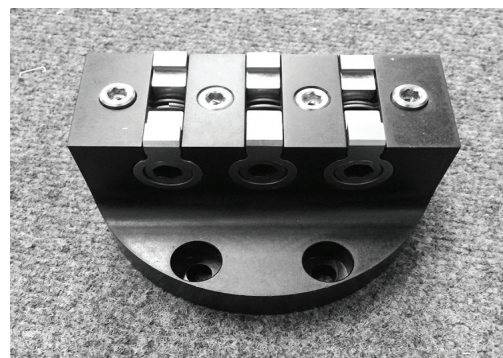
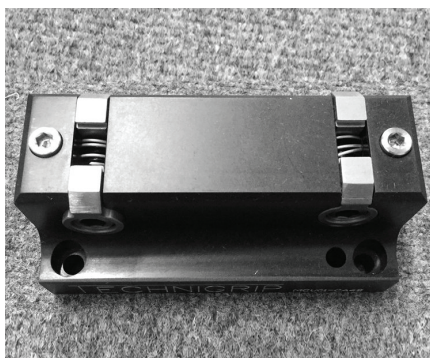
CAP SCREW
Available in 2", 3", 6", and 7" lengths

CUSTOM FIXTURES

“After crediting the substantial savings in tooling costs attributable to our Techni-Grip 4-Axis Assembly, I decided to incorporate both of their tombstone configurations in our horizontal cells.”

- Todd Reitan VP, Axxis Manufacturing

In order to ensure we are meeting the needs of all our customers, Technigrip offers custom fixturing solutions that are catered to your specific application. Contact us now to speak with our custom solutions experts and find out if we can help you solve your individual workholding challenges.



Implementing **Techni-Grip** in to your lean manufacturing will simplify your process, saving you time and money. Please contact us for a preferred Distributor in your area.

Phone: 253.922.3090 / Fax: 253.588.0119 / Toll Free: 877.841. GRIP (4747)

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