

Experience the Invert-A-Bolt™ (IVB) Advantage

HIGH CLAMPING FORCE AND TINY FOOTPRINT OF IVB FASTENERS CREATES IDEAL CONDITIONS FOR HIGH

STAGE 2
Complete the process

- Locate using Xzerts™ or equiv.
- Screw IVB fastener up into work-piece

IVB Fasteners center stud engages/dis-engages work piece

Operations

- Load & locate work piece
- Finish remaining machining leaving base profile for last
- Mill profile leaving thin foil
- Screw down IVB stud which releases the work-piece.
- Remove the work-piece
- Run scriber along edge of base profile, separating the nested parts without handwork. Parts are complete.

SPEED MACHINING OF PARTS IN SECOND & THIRD STAGE MACHINING WITH NO OBSTRUCTIONS.

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SETUP TIMES

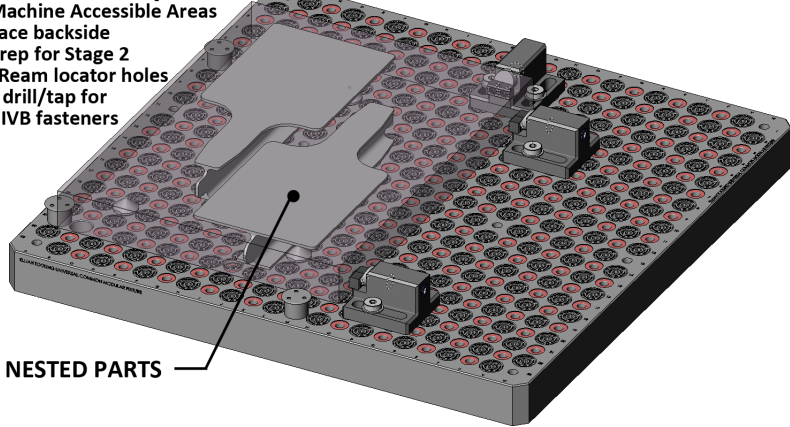
CHANGE OVER

IN-PROCESS TIME

How to Use it?

STOCK PREP/ STAGE 1

- Machine Accessible Areas
- Face backside
- Prep for Stage 2
- Ream locator holes
- drill/tap for IVB fasteners



NESTED PARTS

**CRUSH MACHINE TIME & SETUP TIME
BY NESTING PARTS.**

What's So GREAT About it?

The Elijah Tooling Universal Common Modular Fixture (UCMF) provides a **standardized** method of work-holding that facilitates the **positive location** and **holding** of both the tooling plate and the machined piece while also making **quick changes** possible. The benefits of such a modular fixture include:



- ✓ **Eliminate dedicated fixtures** - reduces tool design & capital expenditures
- ✓ **Flexibility**
 - Hold using IVB fasteners, locator screws, and/or regular screws
 - Locate with Xzerts™ retractable screw-in locators, dowel pins & similar locators
 - Use edge locators, radial locators and supports
 - Incorporated off-the-shelf modular tooling components.
- ✓ **One-of-a-kind holding** with the patented Invert-A-Bolt™ Fasteners – get more from high speed machining by creating the most stable setup and ideal harmonics for optimal speeds/ feeds
 - Eliminating Clamps & related clamp changes
 - Ease of programming
 - Reduced setup times
 - Reduced obstruction to machine helps prevent spindle crashes and costly repairs
- ✓ **Eliminate** storage/ maintenance of dedicated fixtures
- ✓ **Eliminate** tool rework for engineering changes to the part definition
- ✓ **Establish standardized work-holding methods**
- ✓ **Benefit** from quick-change pallet on/ pallet off solutions

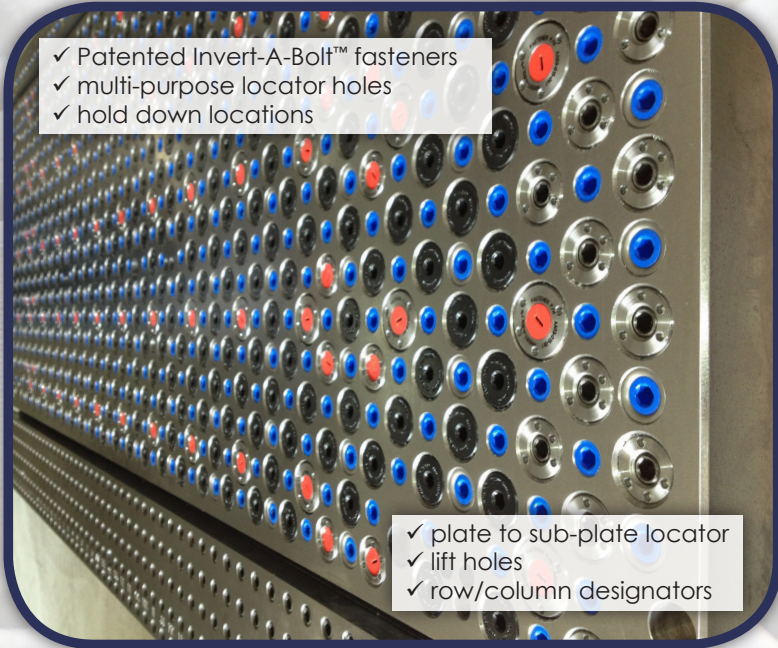
Simple. Easy. Right.

Modular Tooling for Today's Manufacturer.

Elijah Tooling is a North Texas manufacturing company that specializes in bringing lean tooling solutions to manufacturers of all sizes and market segments.

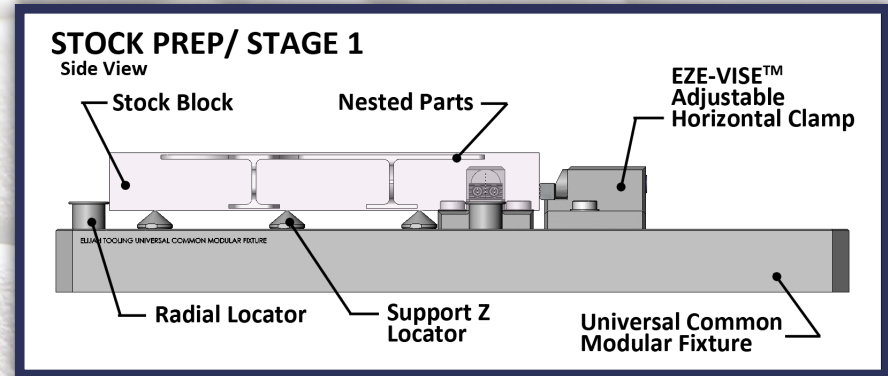
Our product line is centered around modular tooling fixtures that incorporate 6 basic features:

- ✓ Patented Invert-A-Bolt™ fasteners
- ✓ multi-purpose locator holes
- ✓ hold down locations



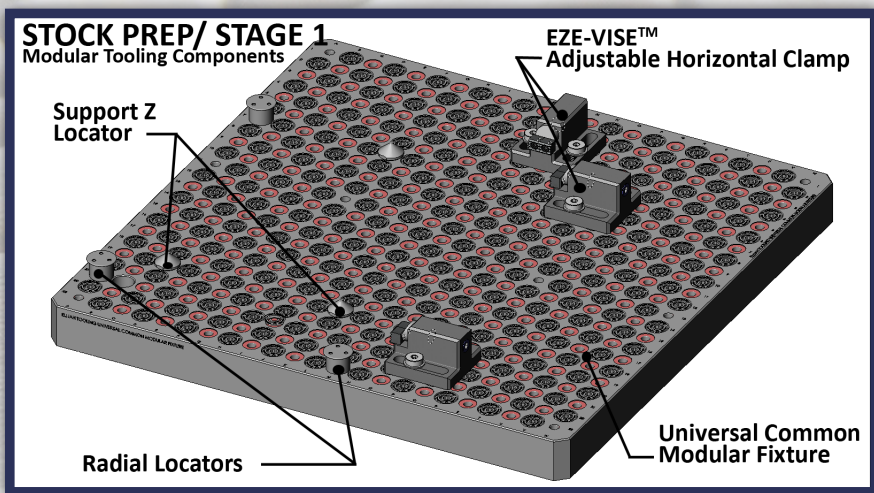
- ✓ plate to sub-plate locator
- ✓ lift holes
- ✓ row/column designators

Elevate the Stock Material for Superior Results



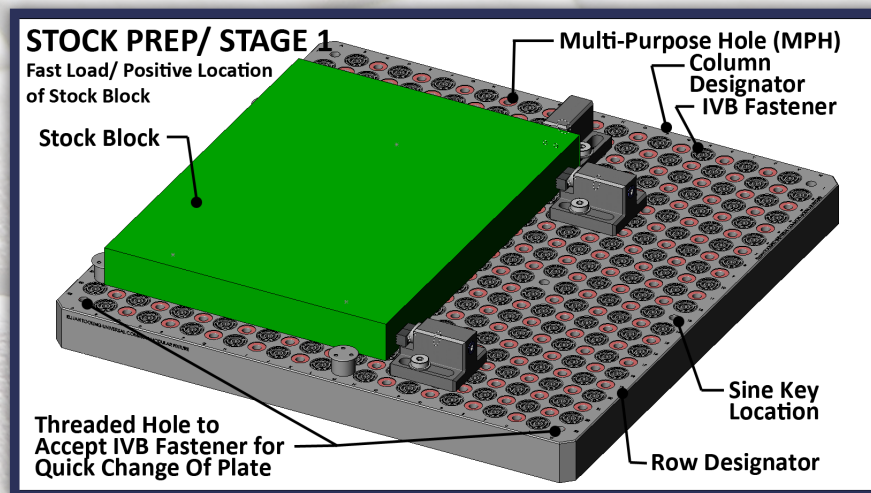
STOP WASTE BY ELIMINATING SACRIFICE PLATES USED IN DRILLING HOLES ETC.

Flexible Use of Modular Components



***SIMPLE, STANDARDIZED SETUPS
MULTIPLY SAVINGS OVER TIME***

Characteristics of Elijah Tooling Universal Common Modular Fixtures



***SUPER FAST LOADS & POSITIVE
LOCATION ADD VALUE.***