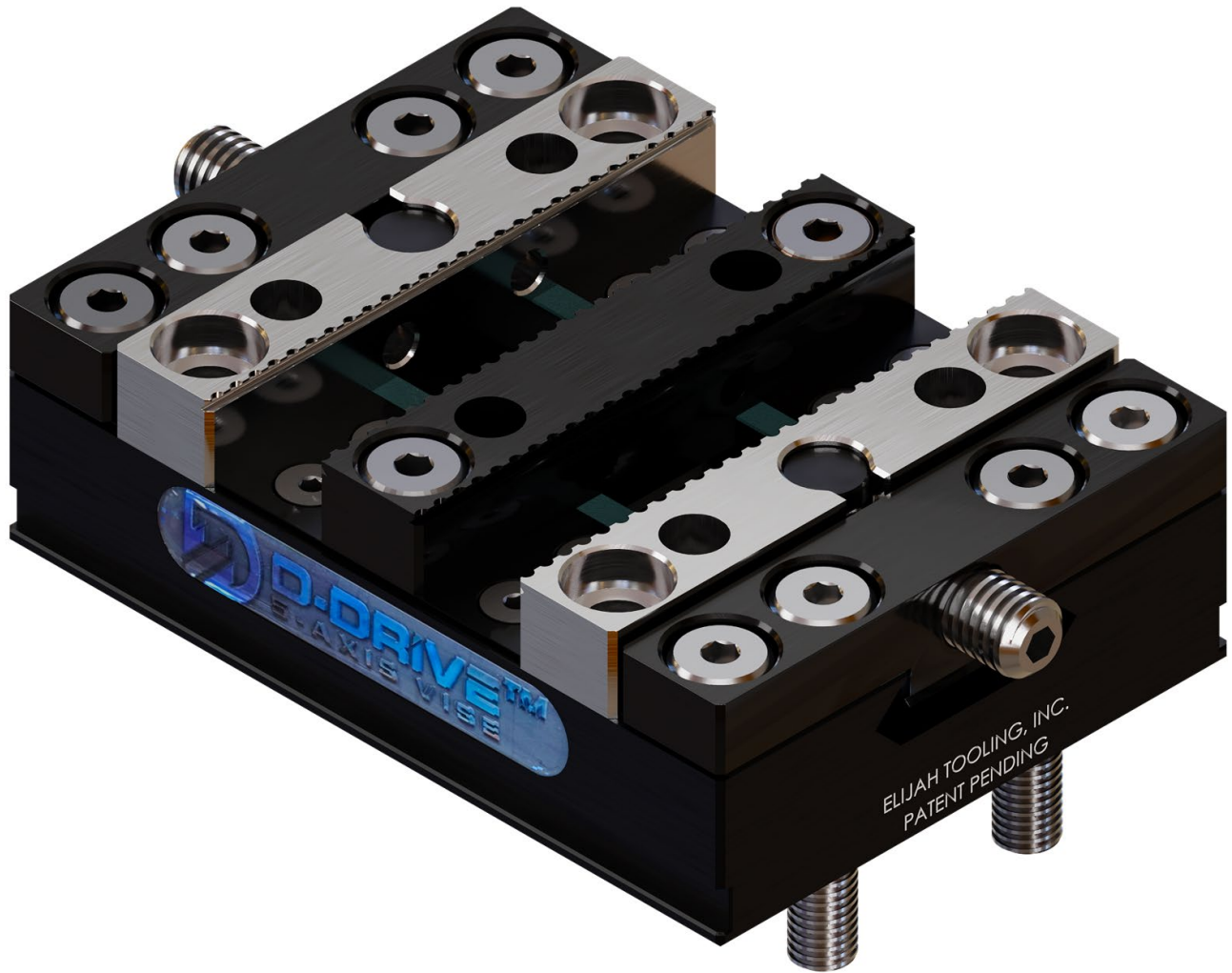


**ELT-D-DRIVE-3-1.500-.500-001**

**with optional Steady Rest/Soft Jaws/Riser Assy**

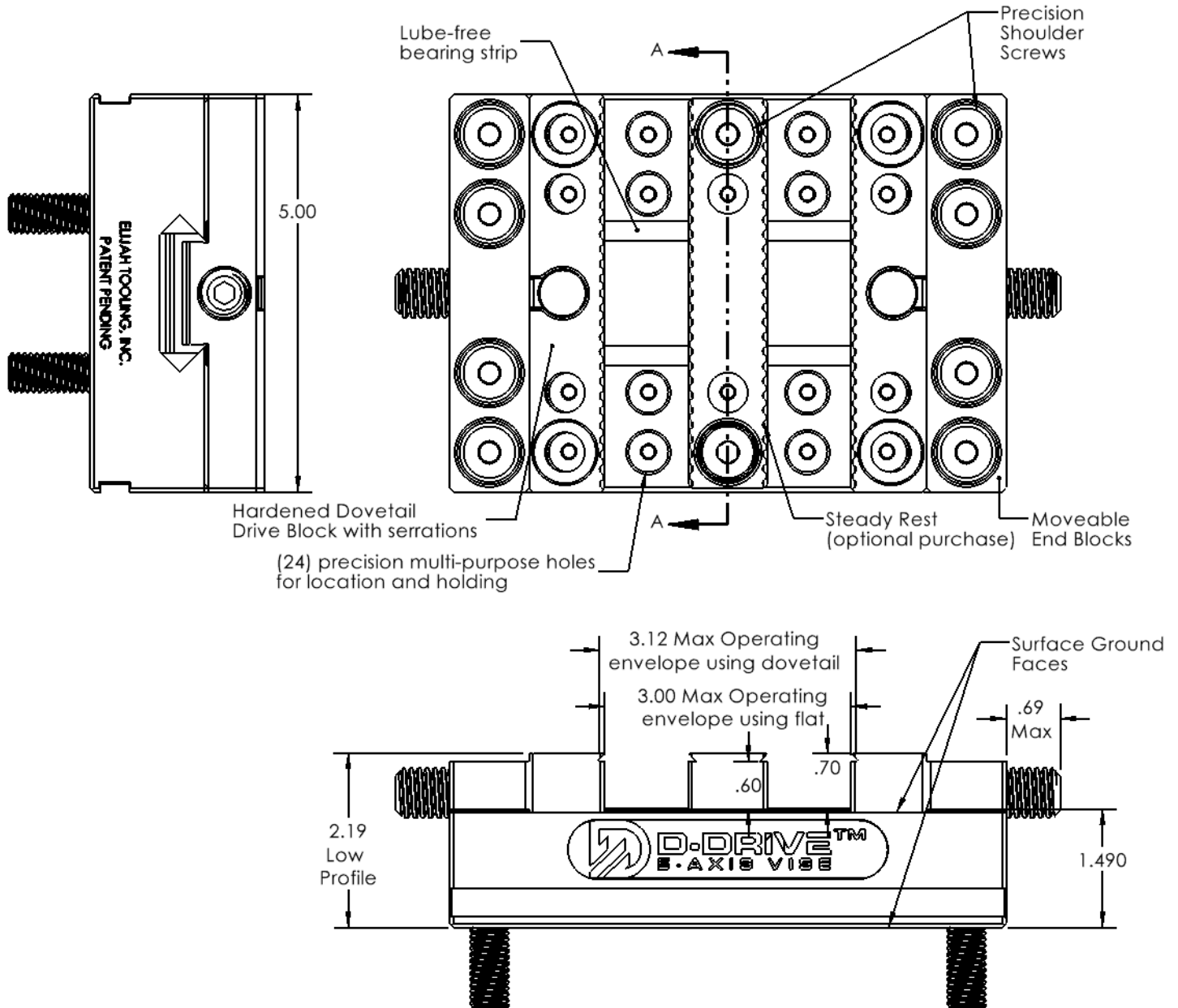


**User Manual**



The D-DRIVE™ Modular 5-Axis Vise is designed to be an all-round, versatile holding solution capable of use in many applications, ranging from small parts to very large parts. The following images provide insight to each of the interchangeable parts and how they are used.

## Overview

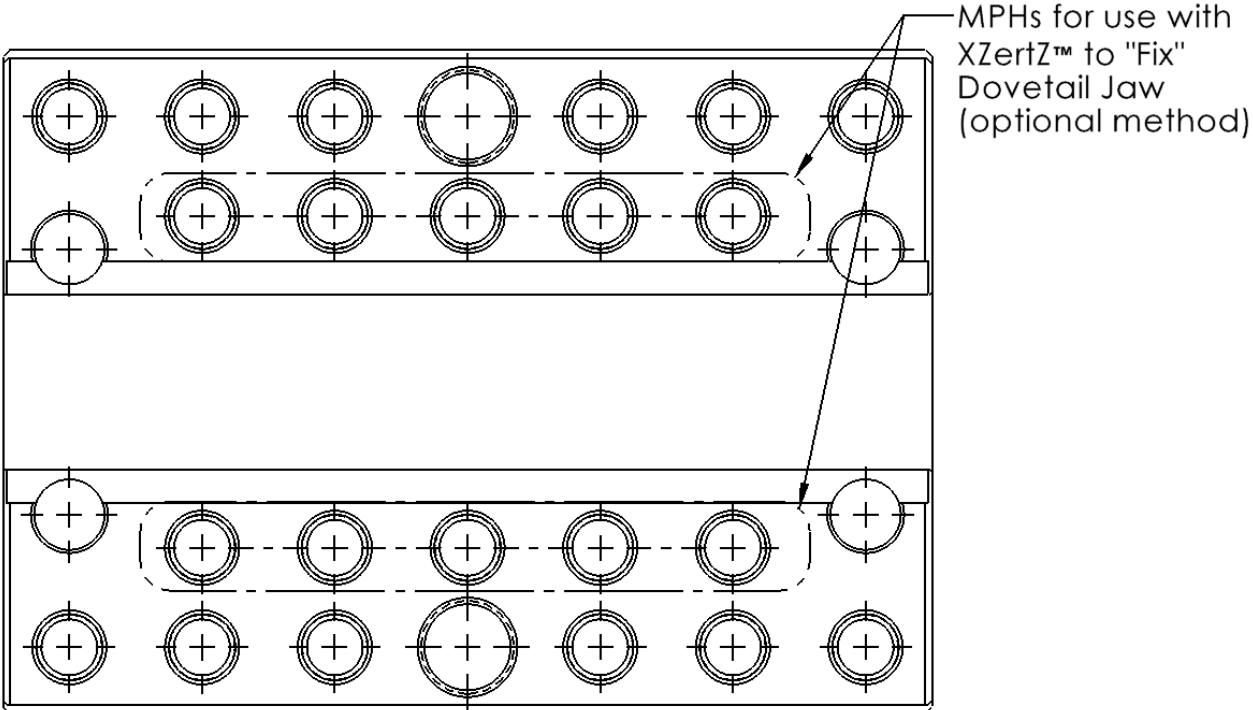
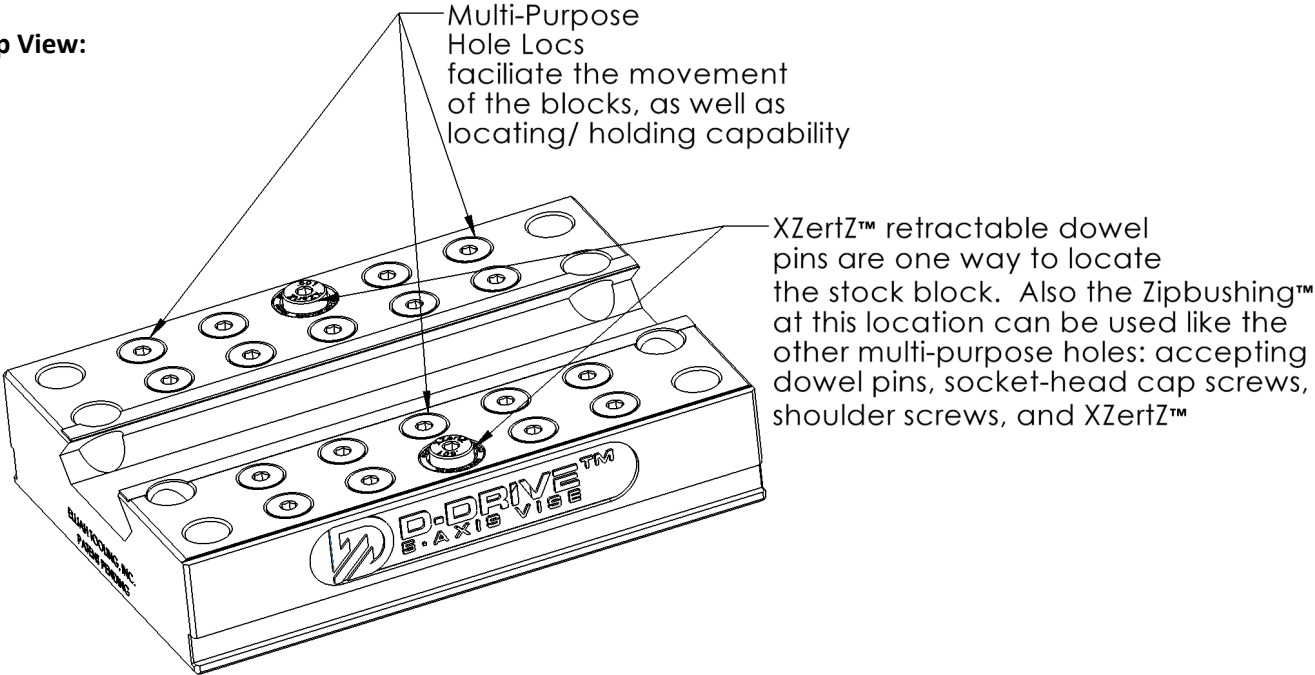


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	ELT-D-DRIVE-3-1.500-.500-031	Base Block Assy	1
2	ELT-D-DRIVE-3-1.500-.500-005	Drive Block Assy	2
3	ELT-D-DRIVE-3-1.500-.500-003	End Block Assy	2
4	ELT-D-DRIVE-3-1.500-.500-015	Center Rest Assy	1

# Baseplate

The baseplate is the key to all the options when using this vise. It provides precise multi-purpose hole (MPH) locations (top) from which the moveable End Blocks locate/hold. As shipped each hole is fitted with either an aluminum hole plug or a XZertZ™ Retractable Dowel Pin. The (2) center locations incorporate the XZertZ™ Retractable Dowel Pins. These XZertZ™ can be moved to any of the MPHs to 1) locate the stock material 2) stabilize the dovetail jaw, creating "fixed" side holding. The aluminum plugs simply prevent debris from entering any unused holes.

Top View:

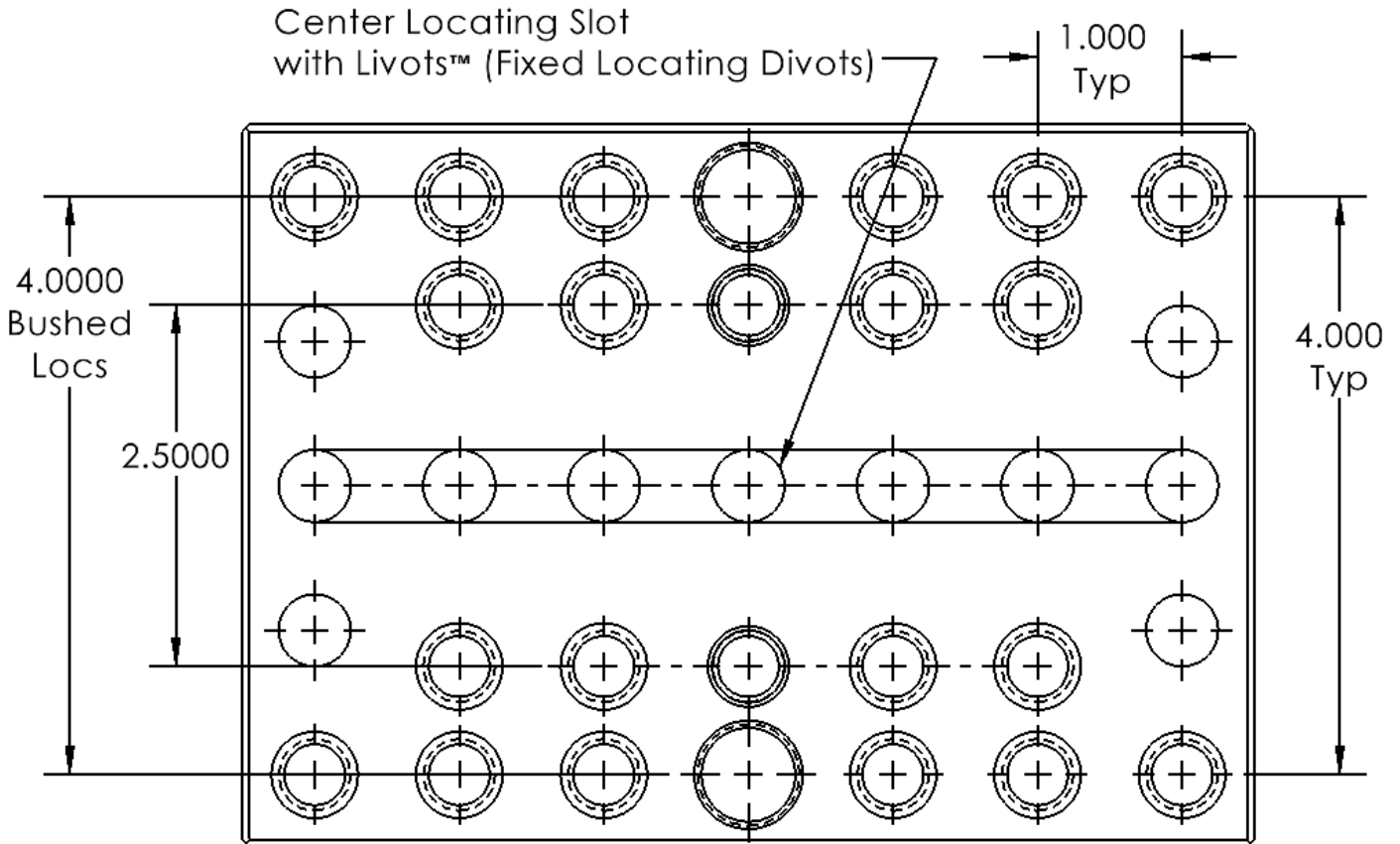
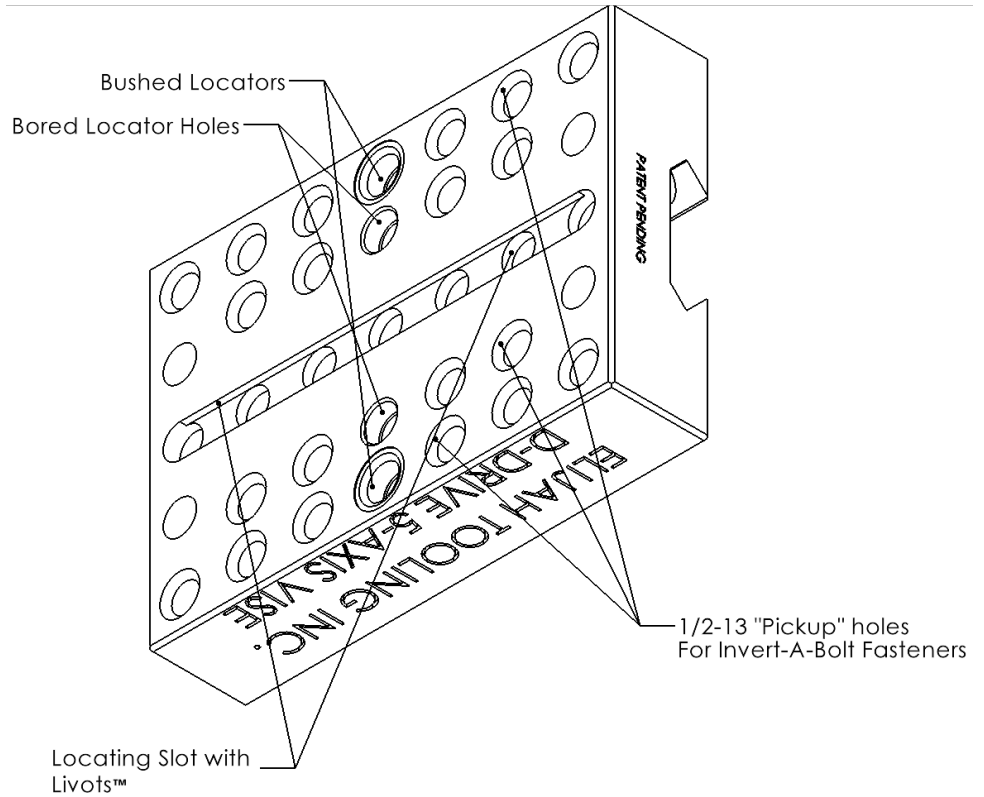


**Bottom View**

Locating the baseplate is facilitated by using dowel pins or XZert™ at

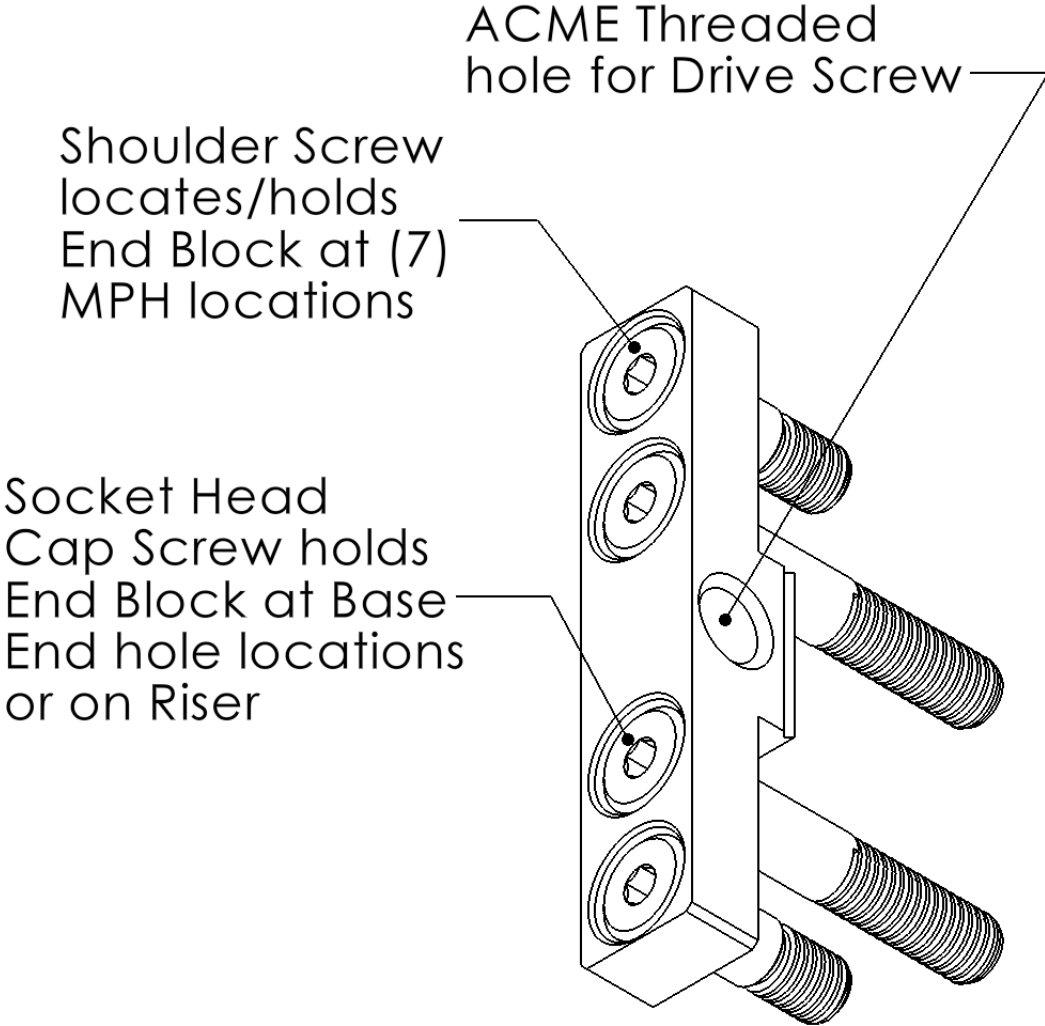
- 1) bushed hole locations
- 2) bored hole locations
- 3) center locating slot
- 4) center Livots™ Locating Divots

When using XZert™, raise them high enough (approximately .15") to engage the Livots™ if a fixed location is desired. Otherwise, with the XZert™ at a lower position (.10"), the baseplate will slide along the slot uni-directionally.



# End Block

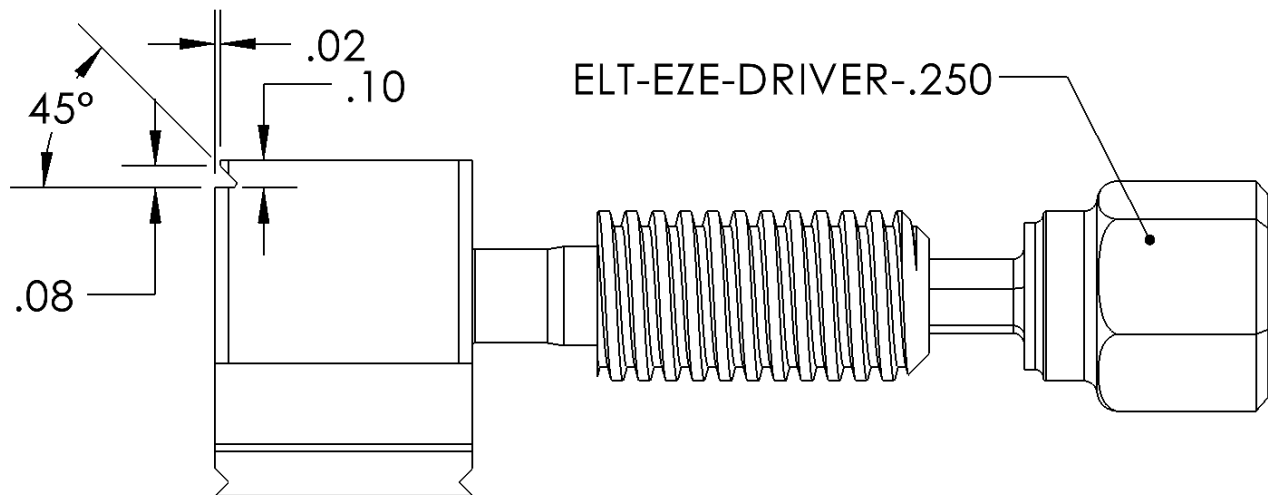
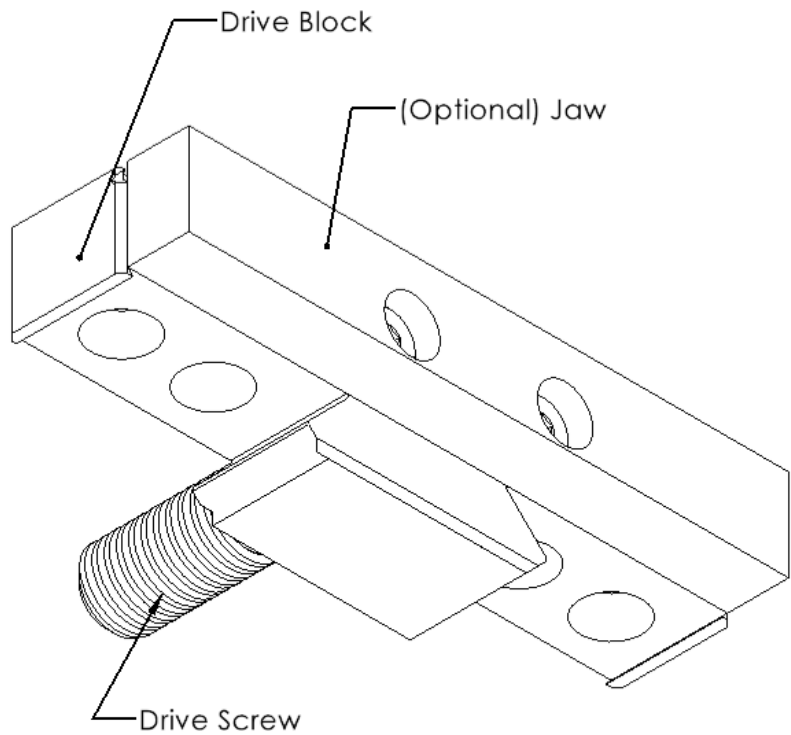
The End Block assembly facilitates movement of the Drive Block to various locations on the Baseplate. Torque screws to a minimum of 35 ft. lbs.



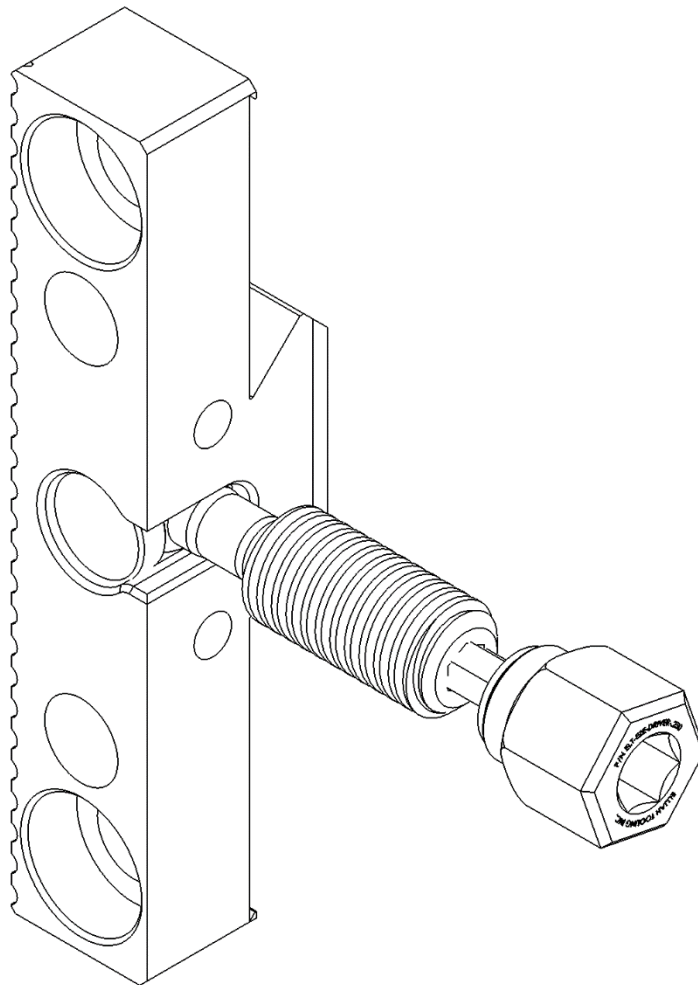
PART NUMBER	DESCRIPTION	QTY.
ELT-D-DRIVE-3-1.500-.500-004	End Block Detail	1
ELT-4990-13-1375-001	.500 Shoulder Screw	2
ELT-500-13-275-001	1/2-13 Low Hd Socket Head Cap Screw	2

# Drive Block

The Drive Block assembly is the “working” member of the Vise. By applying force directly to the center of the Drive Block via the Drive Screw, maximum gripping force is applied to the application. The Drive Block works in conjunction with the End Block to grip the stock material at the various available locations. The Drive Block is equipped with a 45 degree serrated dovetail grip. Thus, both dovetail gripping and straight-face gripping is available. The Drive Screw can be driven with a 1/4” hex wrench or the optional ELT-EZE-DRIVER-.250, 1/4” to 3/4” or 3/8” conversion Driver for higher torque (greater gripping force).



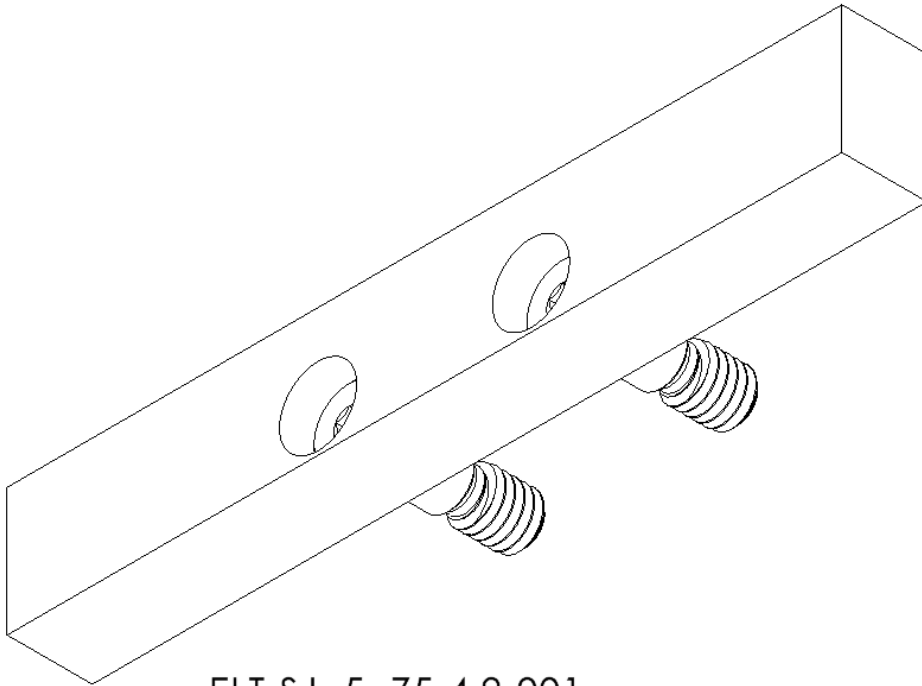
The drive block can be used by itself as a fixed vise by inserting the shoulder screws into the end counter-bored holes and attaching to the base at the (7) available locations.



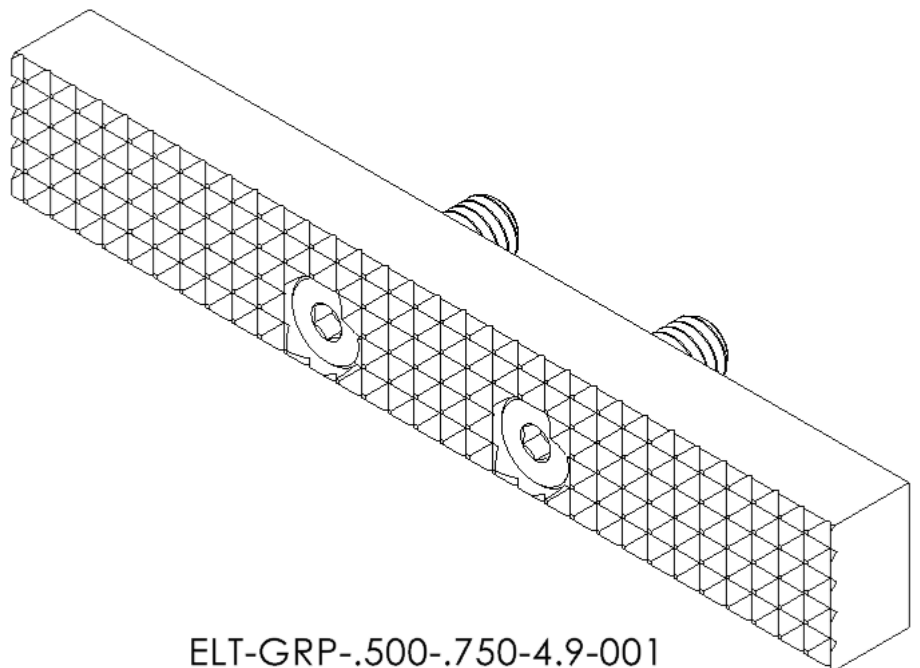
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	ELT-D-DRIVE-3-1.500-.500-036	Drive Block Detail	1
2	EZE-U-A-.500-1000-104	Drive Screw	1
3	ELT-D-DRIVE-3-1.500-.500-038	Capture Washer	1
4	ELT-EZE-DRIVER-.250		1

## Drive Block Accessories - Jaws

The aluminum soft jaws are easy to install – just two shoulder screws – which will locate the jaw to the Drive Block. The shoulder screws are counter-bored deep enough to provide enough space to mill steps or other geometry into the jaw. The hardened steel gripper jaw has serrations for better gripping if required.



ELT-SJ-.5-.75-4.9-001



ELT-GRP-.500-.750-4.9-001



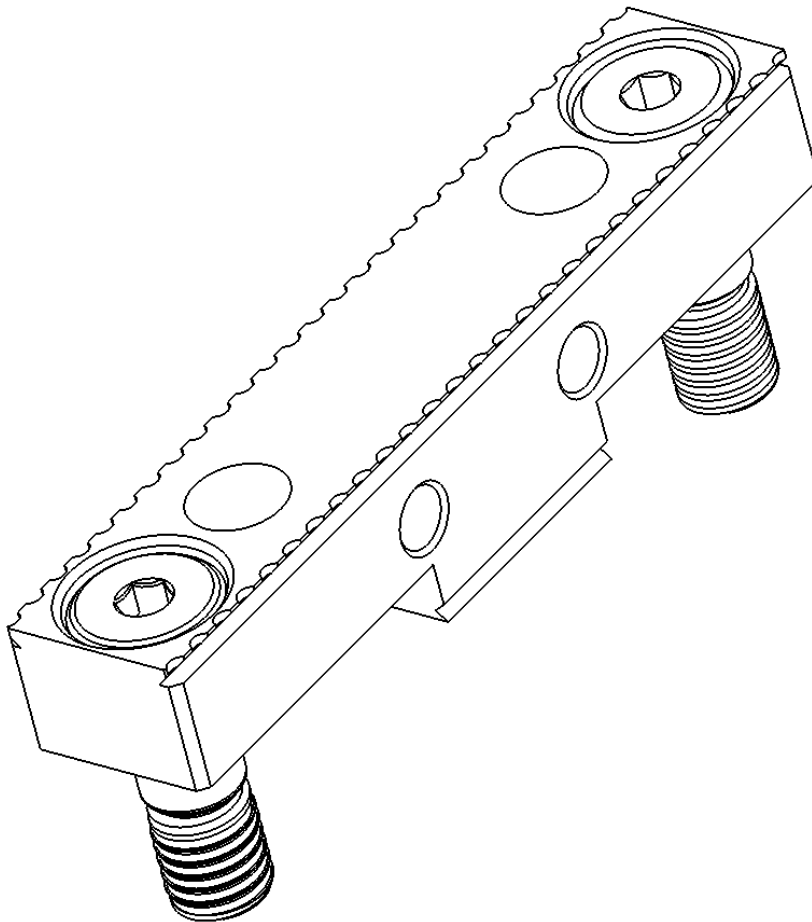
## Accessories - Steady Rest

The Steady Rest is used for the following applications:

- 1) Machining 2 or more parts at a time
- 2) Additional fixed locator is required

Like the Drive Block, it has holes that can accept XZertZ™ Retractable Dowel Pins (or dowels). It also has opposing holes that may be used to install soft jaws.

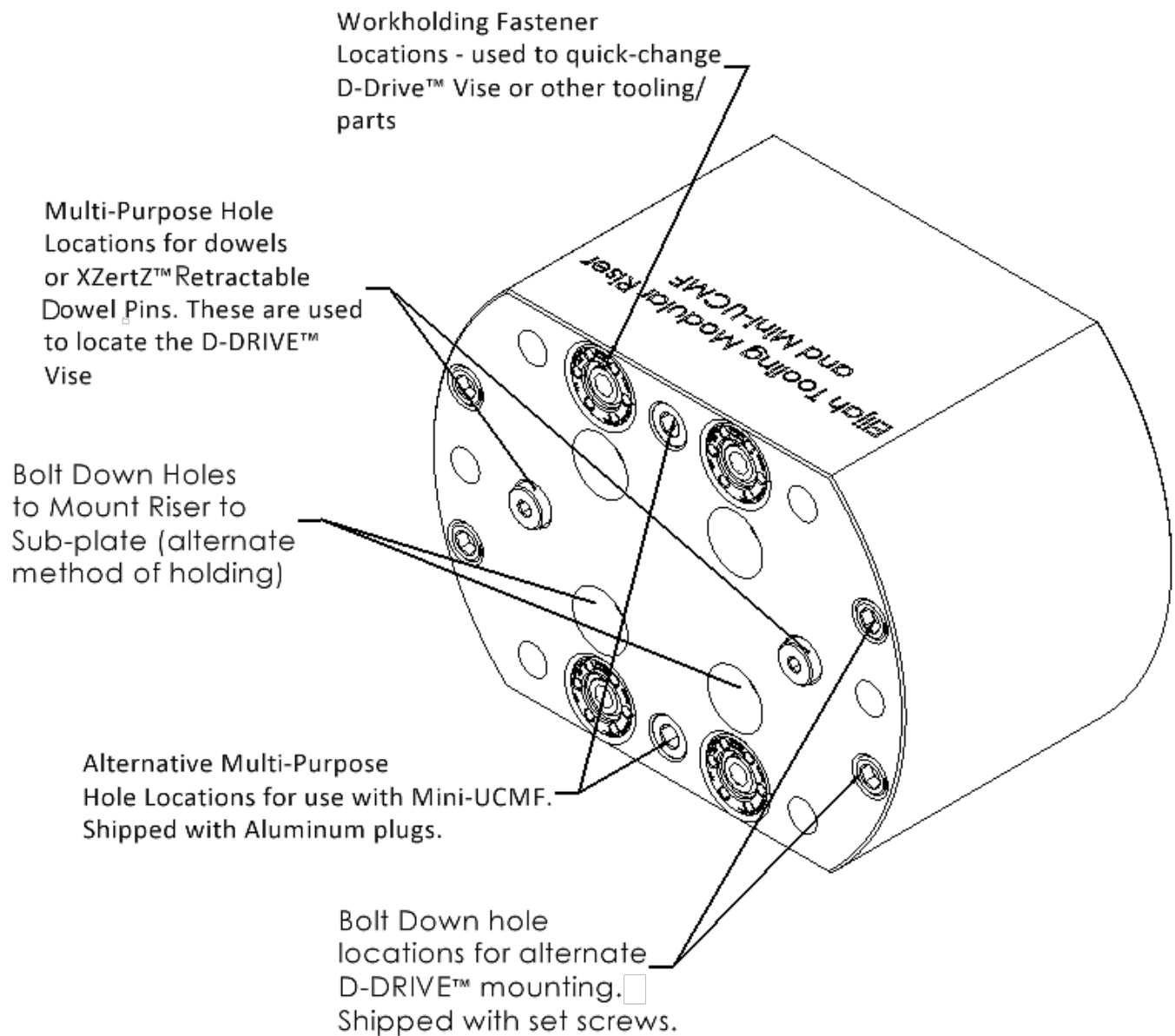
The Steady Rest is located and held to the Baseplate by two shoulder screws and may be inserted at any of the (7) MPH locations.



ELT-D-DRIVE-3-1.500-.500-015

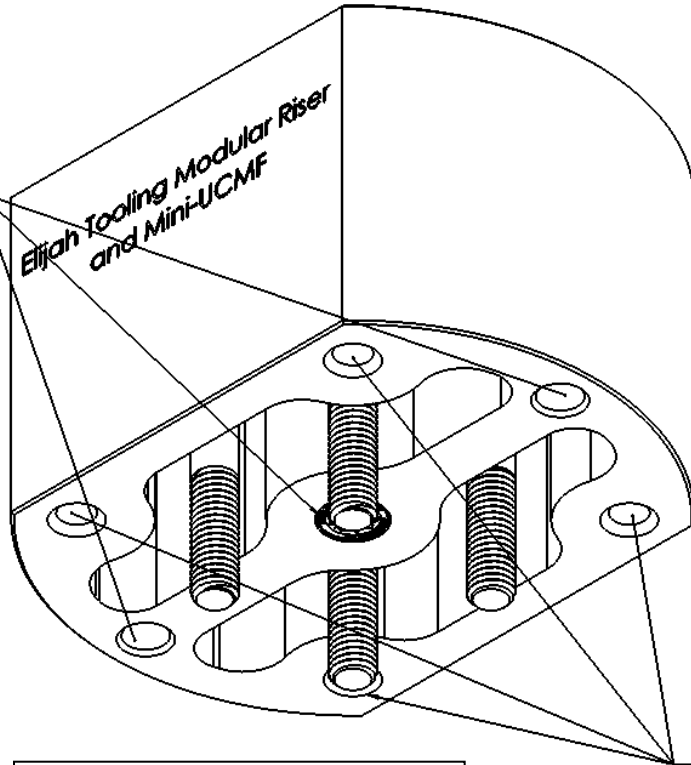
## Accessories - Riser

For added clearance, the Riser/Mini-UCMF can be used to mount and quick-change the D-DRIVE™ Vise or any other tooling/part. Additionally, the Riser can be quick-changed on/off the sub-plate as well.



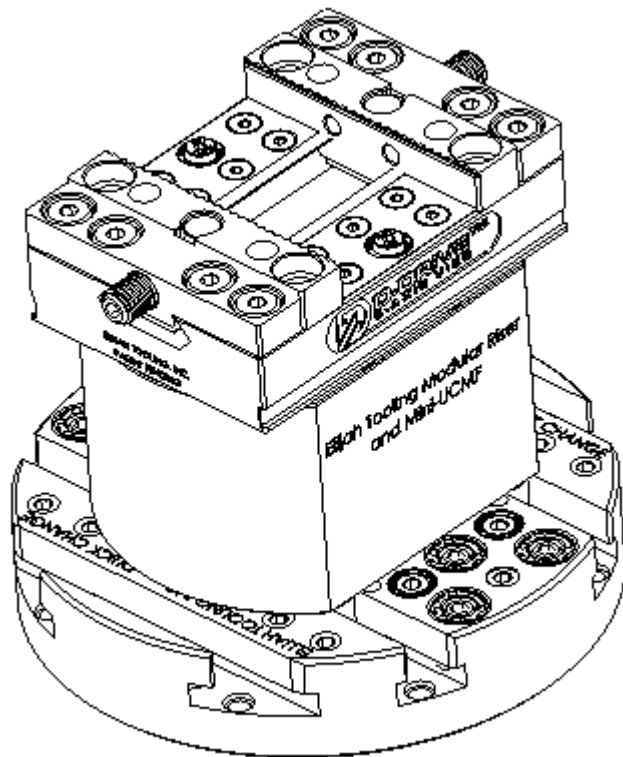
Locator holes  
to Locate the  
Riser

*Elijah Tooling Modular Riser  
and Mini-UCMF*



Invert-A-Bolt™ Fastener  
"Pickup" holes  
For quick-changing  
the Riser

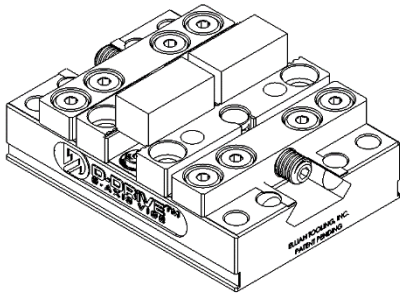
**ELT-RISER-4x.50-005**



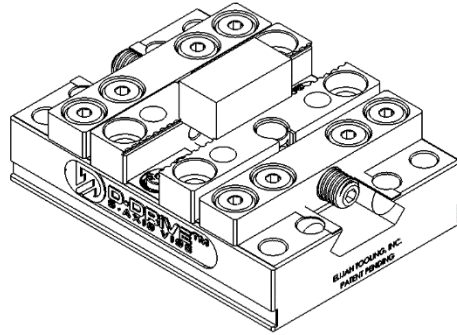
# Usage Instructions

## Loading

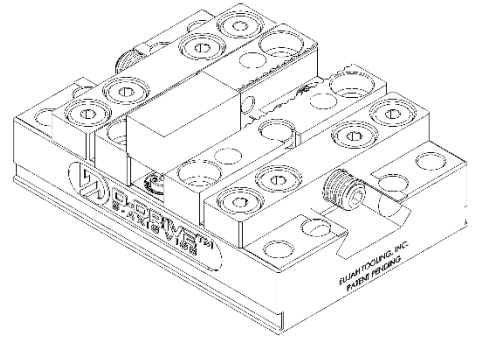
DO



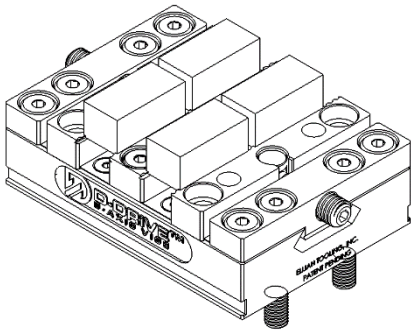
DO



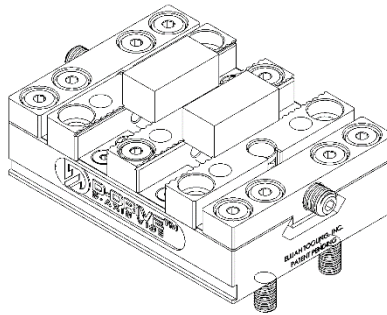
Don't



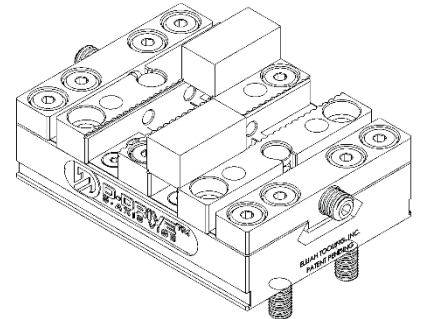
DO



DO

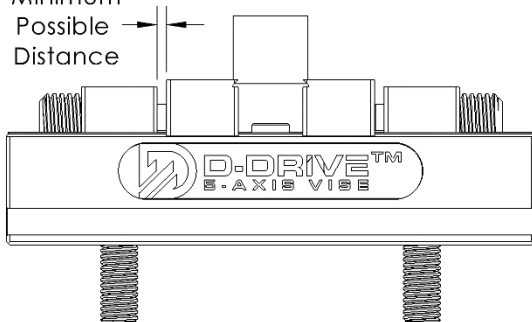


Don't



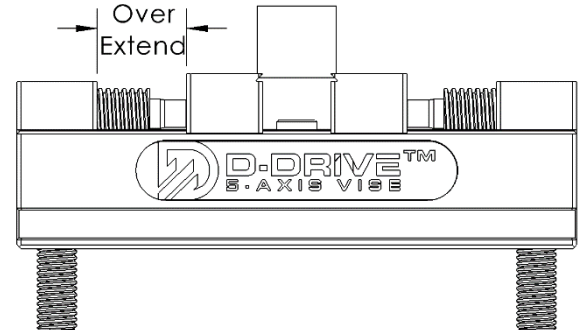
DO

Minimum Possible Distance

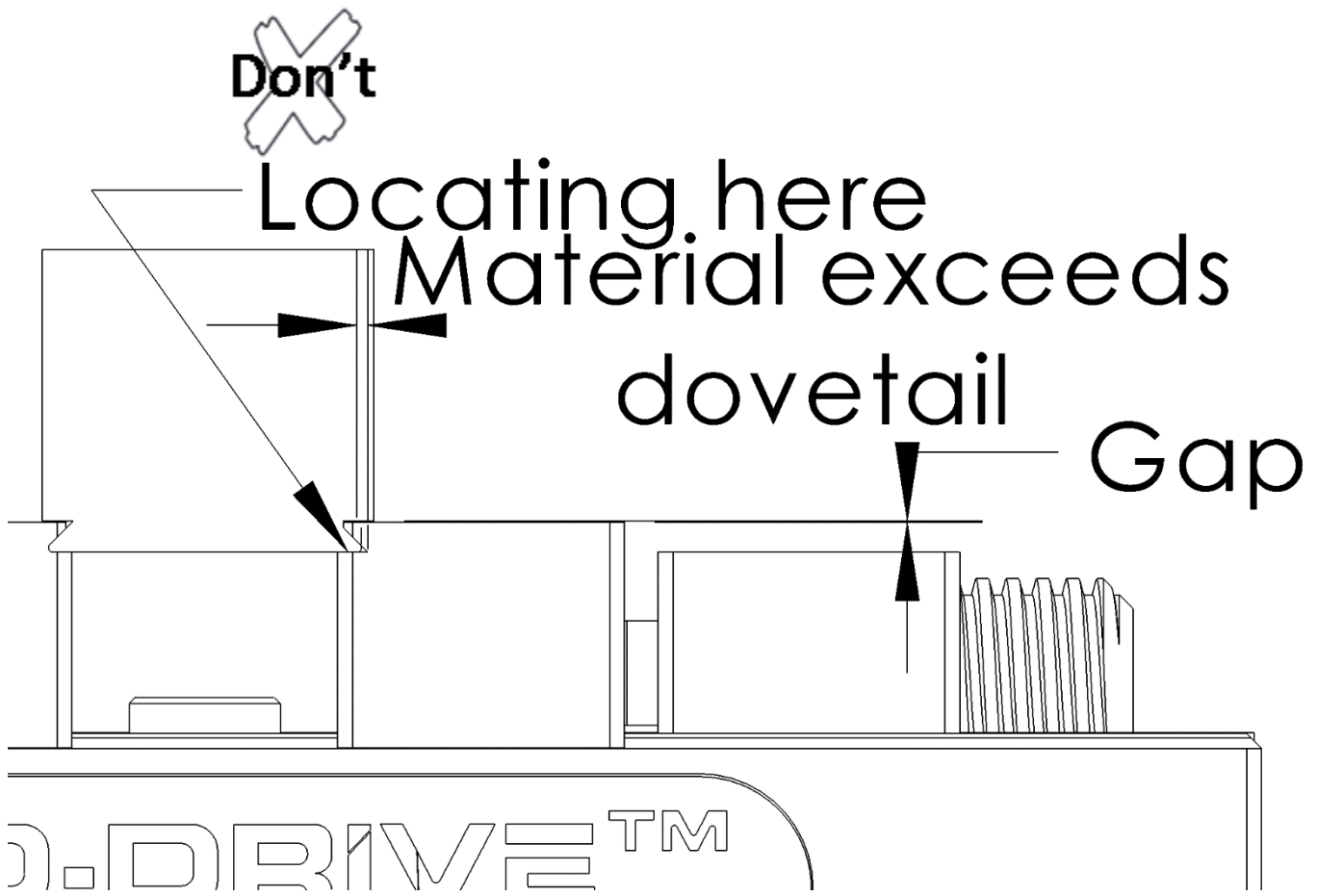
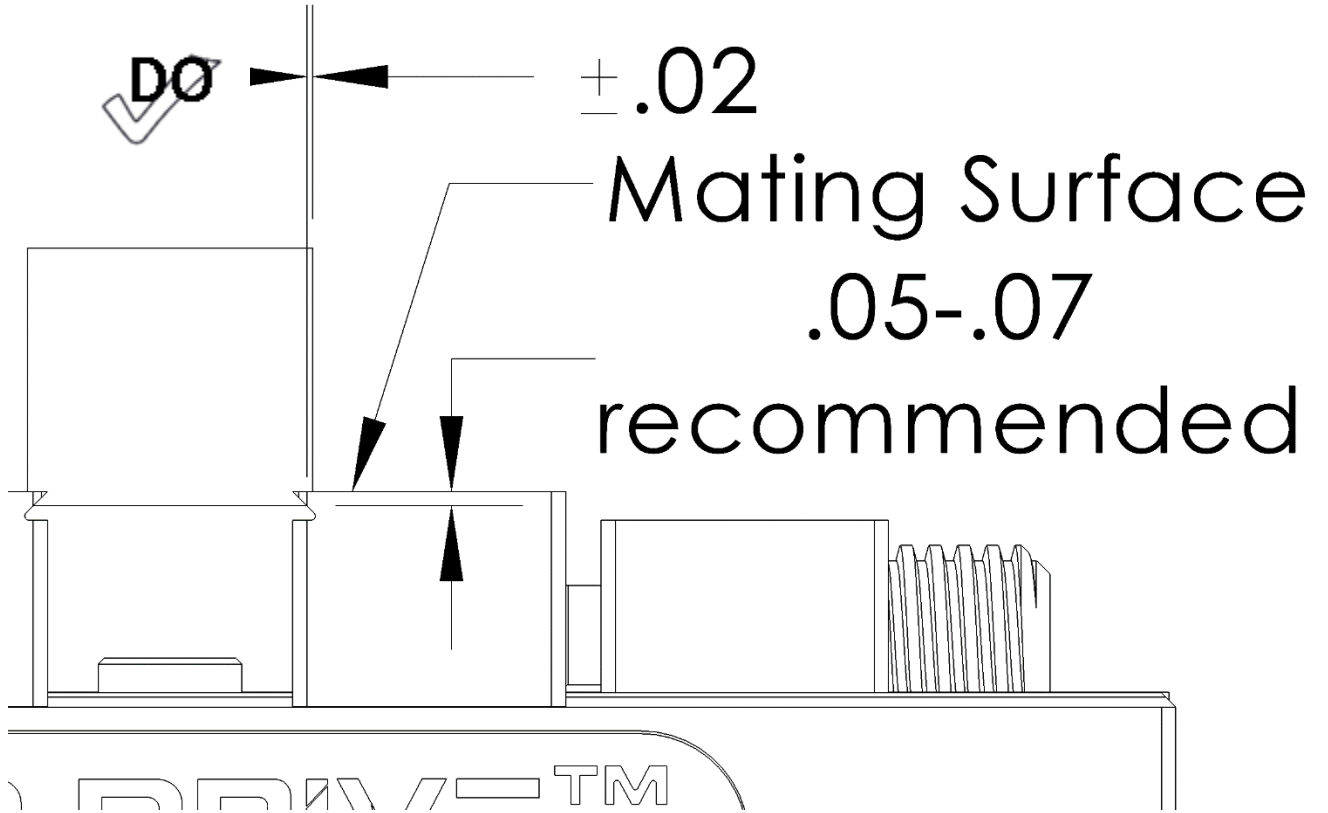


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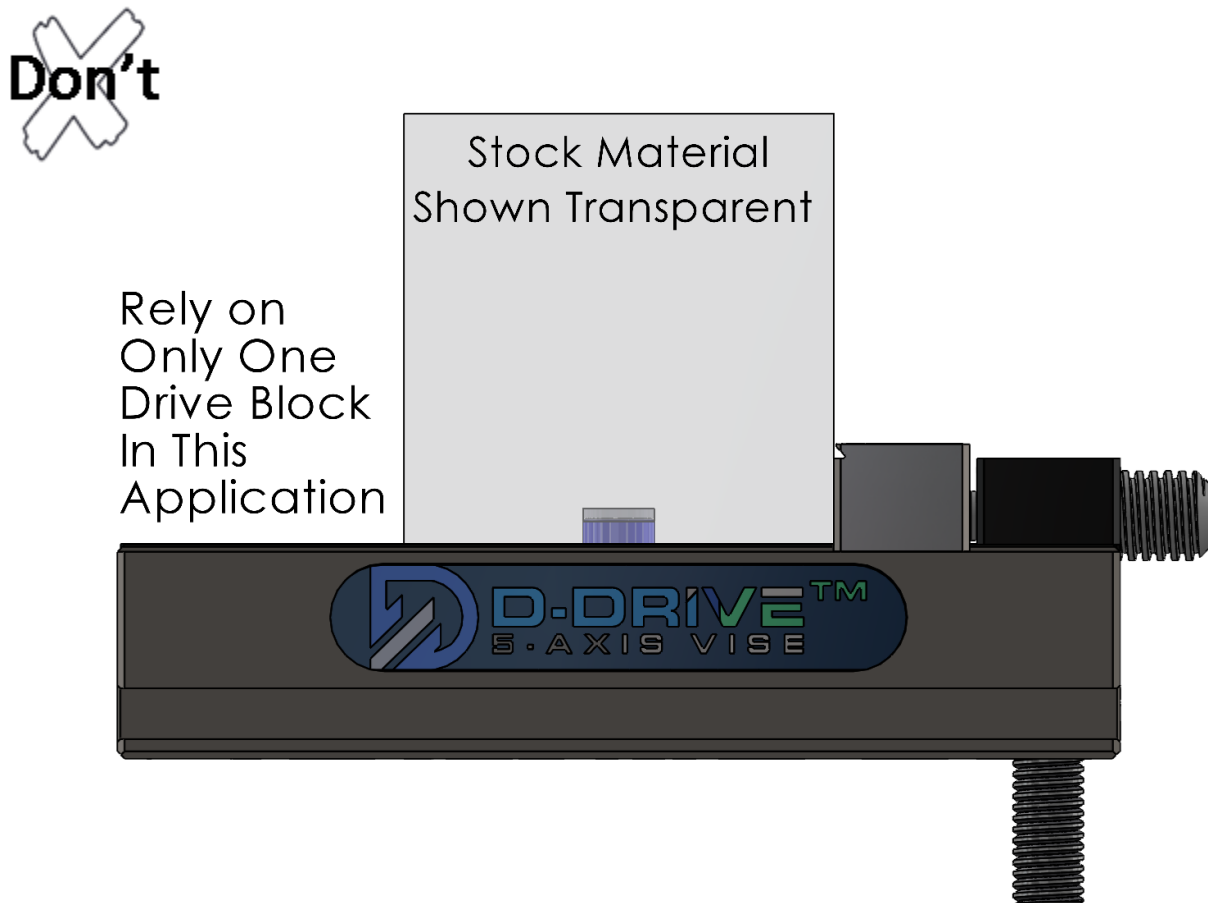
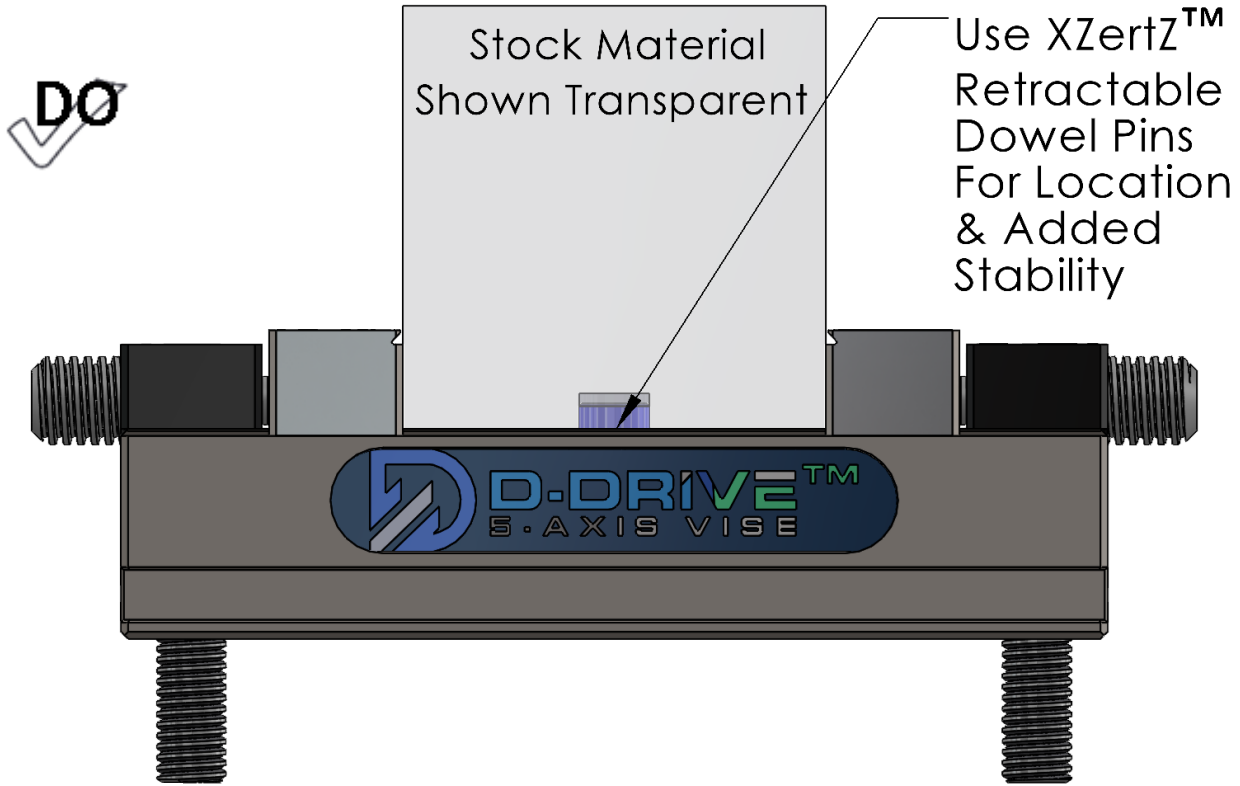
Over Extend



# Stock Preparation

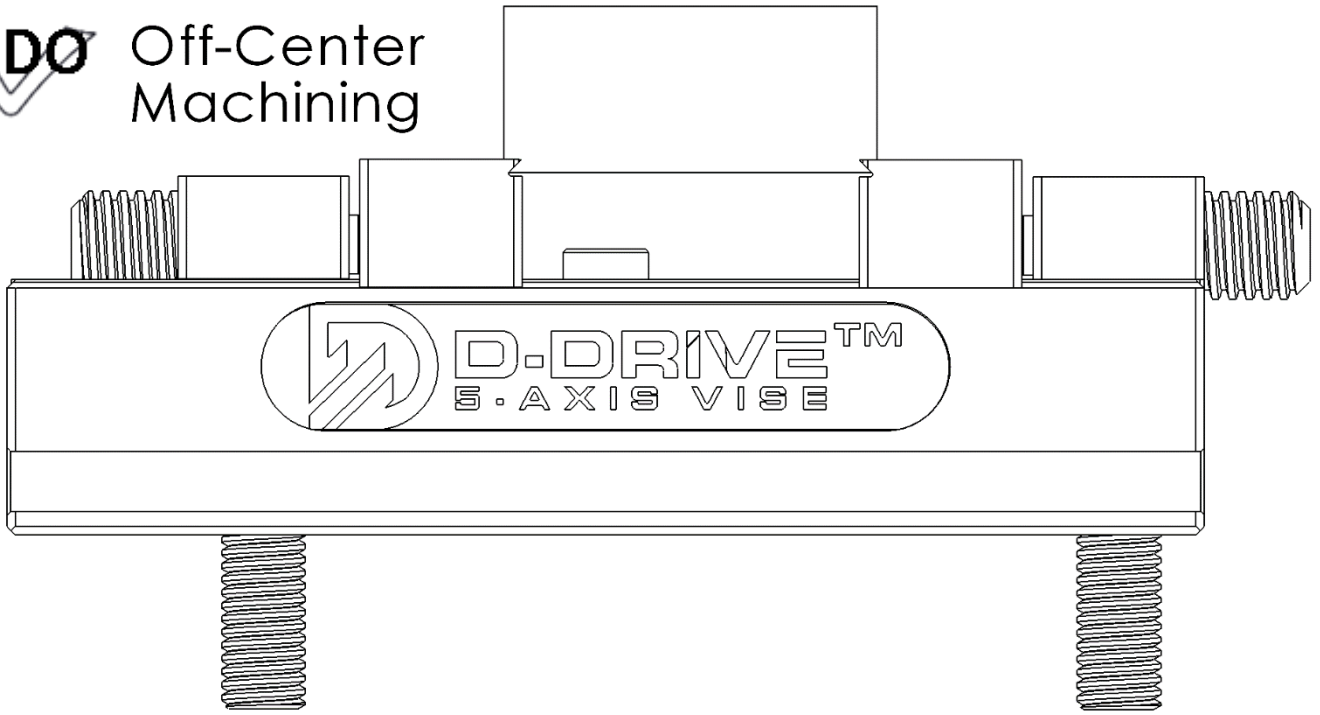


## Use of XZertZ™ Retractable Dowel Pins



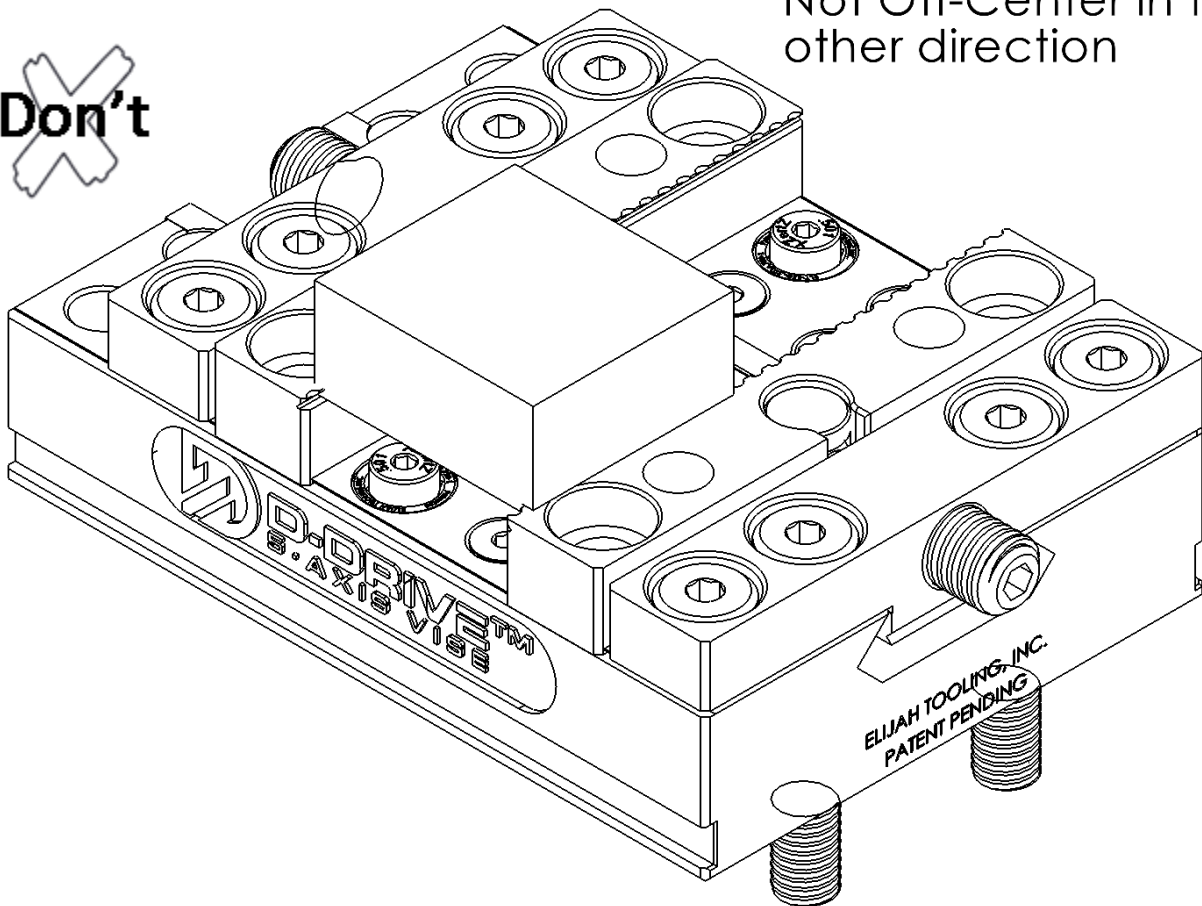
# Off-center Setup

**DO** Off-Center  
Machining



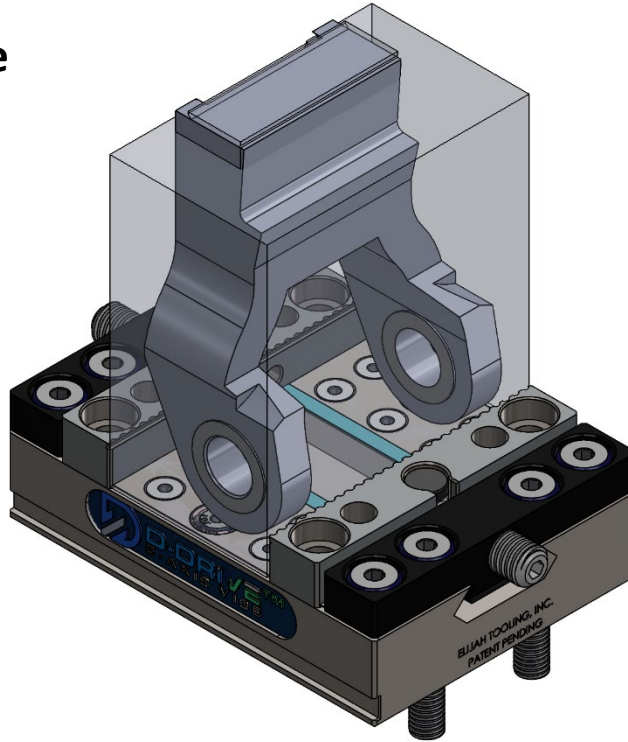
**Don't**

Not Off-Center in the  
other direction

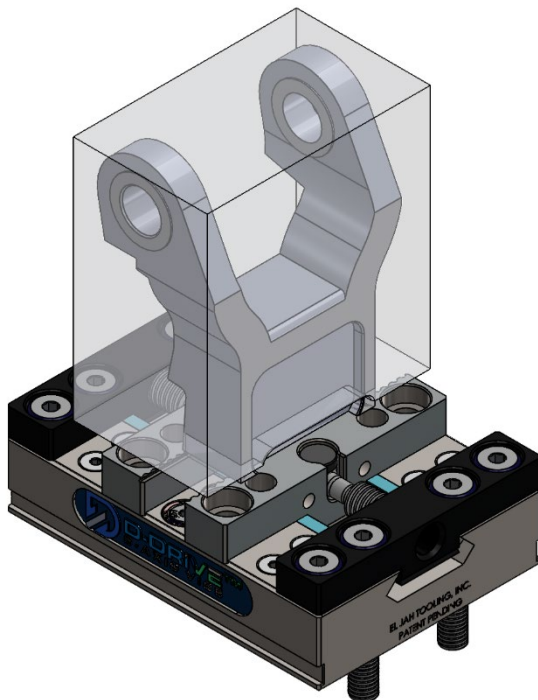


## Types of Setups

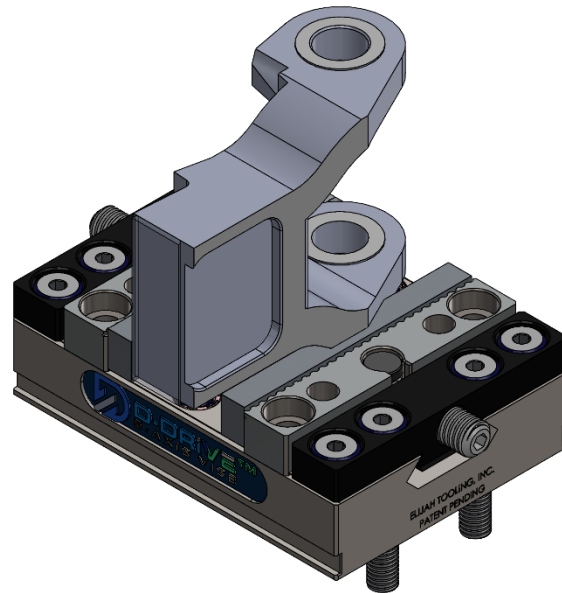
### Straight Vise



### Dovetail

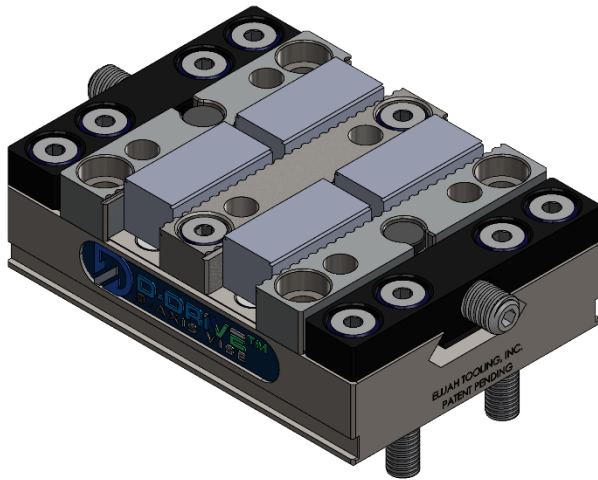


### Soft Jaws

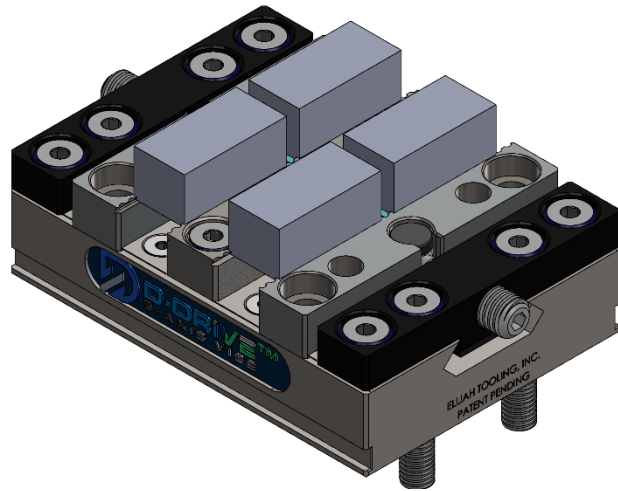




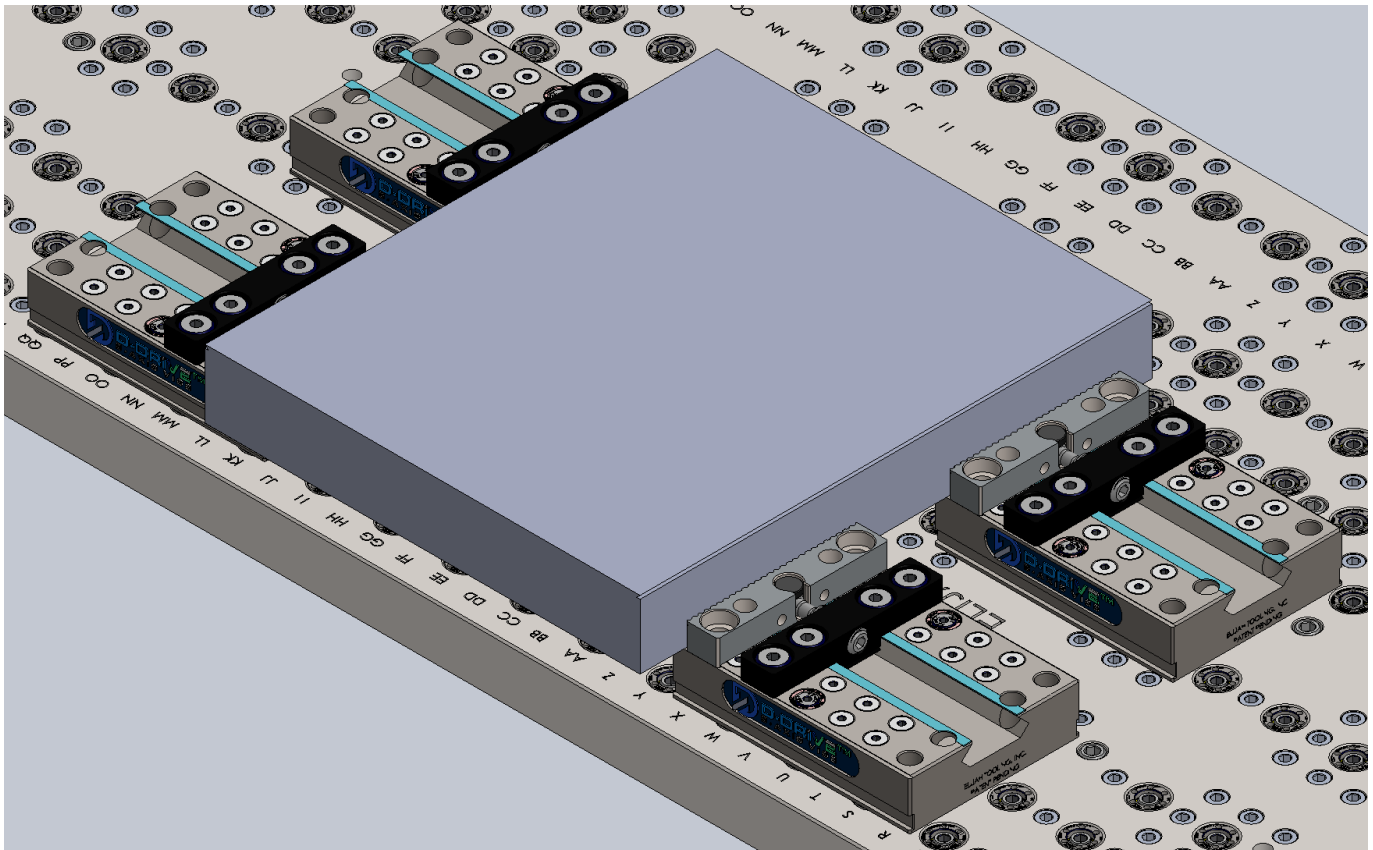
## Steady Rest –Straight



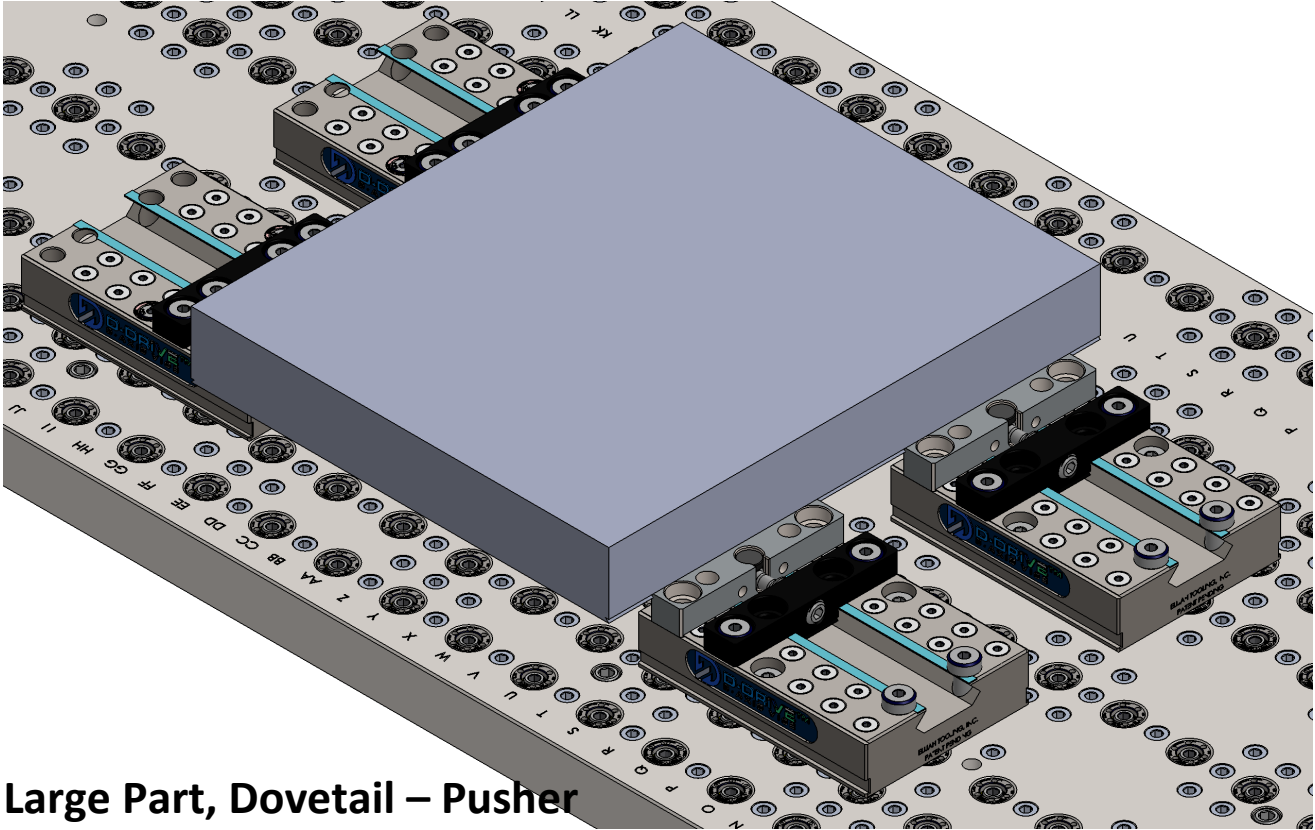
## Steady Rest - Dovetail



## Large Part - Straight

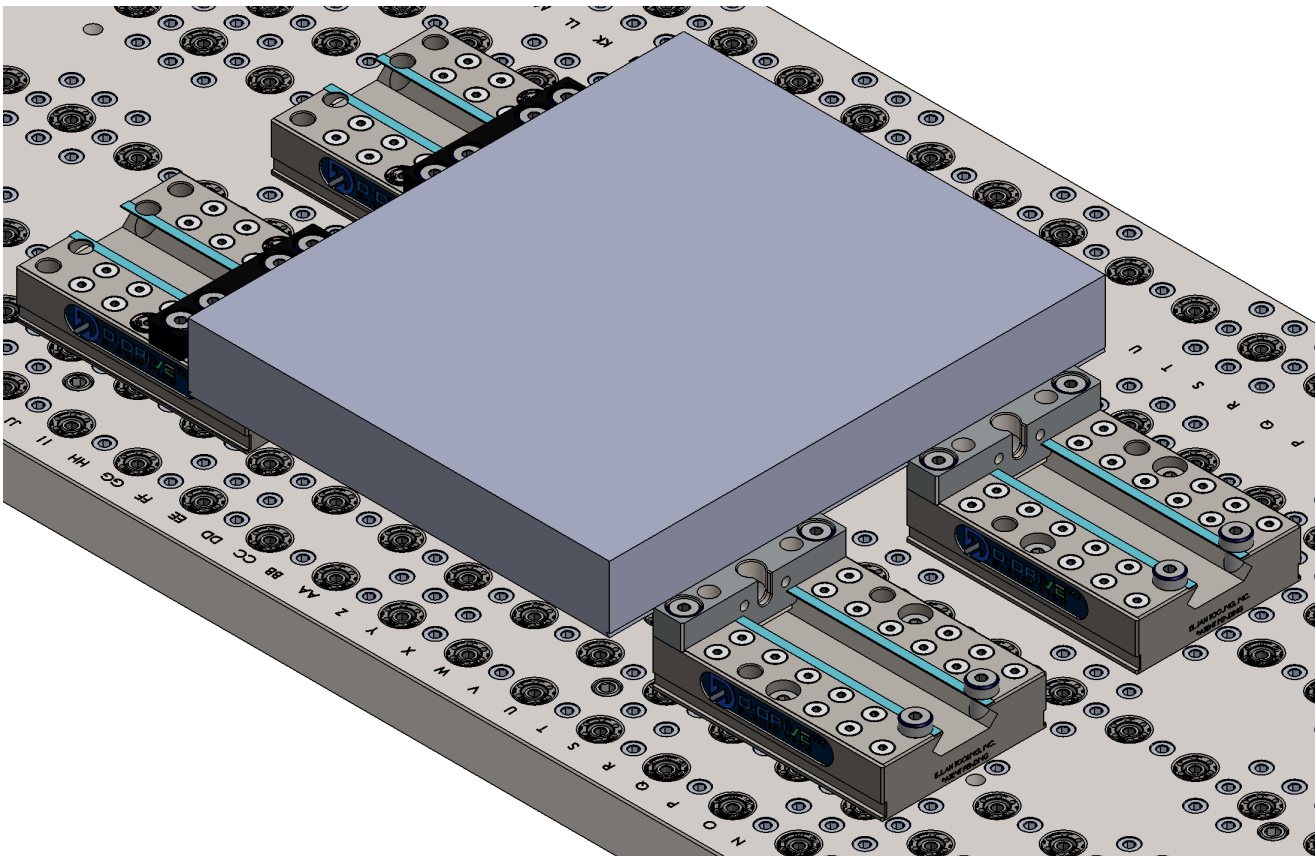


## Large Part – Dovetail



## Large Part, Dovetail – Pusher

## Block As Fixed Vise



## Tips on Usage



- Use copper/graphite anti-seize on drive screw & dovetail of drive block.
- Torque screws to +35 ft. lbs.
- Use ELT-EZE-DRIVER-.250 to produce higher holding force & protect hex in drive screw.
- Dowel locate the Vise for positive location.
- Dowel (with provided XZertZ™ or Shoulder Screw) Drive Block for Fixed Jaw operation.



- Side load the drive jaws.



**Denton, TX 76205**

**tel. 940-591-1340**

**toll free 877-462-BOLT**

**[www.elijahtooling.com](http://www.elijahtooling.com)**

**<https://elijahtooling.com/collections/d-drive-5-axis-vise-accessories>**

**<https://elijahtooling.com/collections/d-drive-5-axis-vise-accessories/products/d-drive-centering-modular-dovetail-milling-vise>**

#### **LIMITED WARRANTY**

We warrant that within 90 days from the date of shipment, if the product manufactured by us and sold by us (or an authorized distributor) is in the possession of the original buyer, we will replace or repair, at our option, free of charge, any part or parts which upon examination are found to be defective in workmanship or material, and not due to normal wear, provided that, upon our request, the product or parts thereof are returned to our location, with accompanying documentation that the product has been installed, used and maintained in accordance with instructions and has not been subject to abuse. We shall not be liable or responsible for any expense or liability for repairs, additions, or modifications made upon the product without our written consent.

This warranty is in lieu of all other express or implied warranties (including without limitation any warranty of merchantability or fitness for a particular purpose.) In no event shall we be liable for any indirect, special, or consequential damages (including, but not limited to, lost profits or other damages from loss of production) caused by defective material, or by unsatisfactory performance of the product, or by any other breach of contract by us.

The Elijah Tooling, Inc. Warranty shall apply in all cases to all products manufactured by us and sold by us. Elijah Tooling, Inc. reserves the right to modify or change the design of products shown in this specification/instruction sheet, without notice. Such modifications or changes may include, but are not limited to, changes in finish, materials, specifications, etc., from descriptions and illustrations of products listed herein.

**Proviso:** The D-DRIVE™ Modular Vise is not certified to any specification. If loading is a concern, you should perform your own load analysis prior to usage in an application.