



**PF420C
PF420D
PF420S**

Operating Instruction Manual



ENGLISH

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WISE DATA

Use this to fill out information about your vise for quick reference.

Purchase Date: _____ - _____ - _____

Purchase Order: _____

Purchased From: _____

Delivery Date: _____

Serial No.: _____

**NOTE: MAKE SURE TO REGISTER YOUR WARRANTY ONLINE AT
KURTWORKHOLDING.COM**

INTRODUCTION

Thank you for purchasing a Kurt Precision Force vise. The PF Series of vises are top of the line workholding options for today's rapidly growing 5-Axis market. Backed by a lifetime warranty against workmanship and material defects, these vises will perform at the highest levels of precision and reliability for years to come, when used and maintained properly.

Kurt Anglock maintains it's time tested design, which gives you the part pull down that you need when machining high end parts. Other features Include:

- Gibbed jaws for maximum clamping repeatability
- Multiple interchangeable jaw options
 - Carvable (PF420C)
 - Dovetail (PF420D)
 - Serrated (PF420S)
- Easily adjustable center line
- Fast and effortless lash removal system
- Double ended screw for flexible vise operation

PF VISE CLAMP FORCE	
TORQUE FT-LBS	FORCE IN LBS.
10	720
20	1,520
30	2,250
40	3,050
45	3,375

OPERATING INSTRUCTIONS

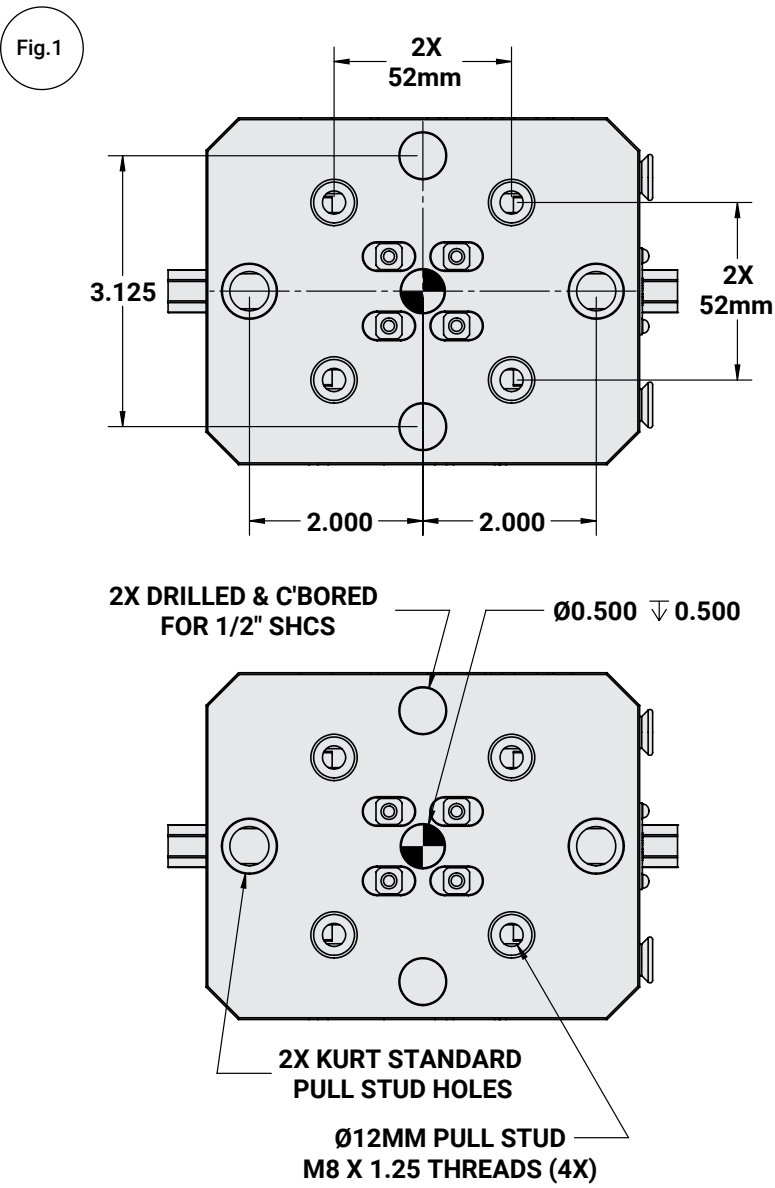
For proper vise operation insert the handle onto the hex of the vise. This handle, combined with the correct amount of torque will provide you with all the clamping force you will need to machine your parts. **DO NOT** use any other type of pressure to open or close your vise.

The uses of handle extensions, air impact wrenches, breaker bars, or hammer strikes are not recommended and will void the warranty if used. This will also cause damage to the central holding block and screw threads. If you need more clamping force you may require a larger vise.

To properly clamp a part in your Kurt vise you should place the part in the center of the jaws. Clamping only on one side can result in loss of accuracy. If one-sided clamping is necessary you **MUST** use a dummy part on the other side.

INSTALLATION & MOUNTING

All of the vises in the PF Series can be mounted with 1/2 inch SHCS using the counter-bored through holes in the center of the rails of the vise. Additional hole locations are shown below.



JAW ASSEMBLY

When you receive your new PF Series vise, you will notice that the jaws do not come attached. To install the vise jaws, follow the steps given below.

1. Place both movable jaws on the rails of the vise, and slide the movable jaws over the beaks of the nuts.
2. Set the rear covers into their slots in the back of the movable jaws, then use the button head screws to anchor the rear covers to the movable jaws.
3. Finish Securing the movable jaws by installing the spring plungers into the rear covers. Tighten the spring plungers until they are snug, then loosen them by 1/8 to 1/4 turn.

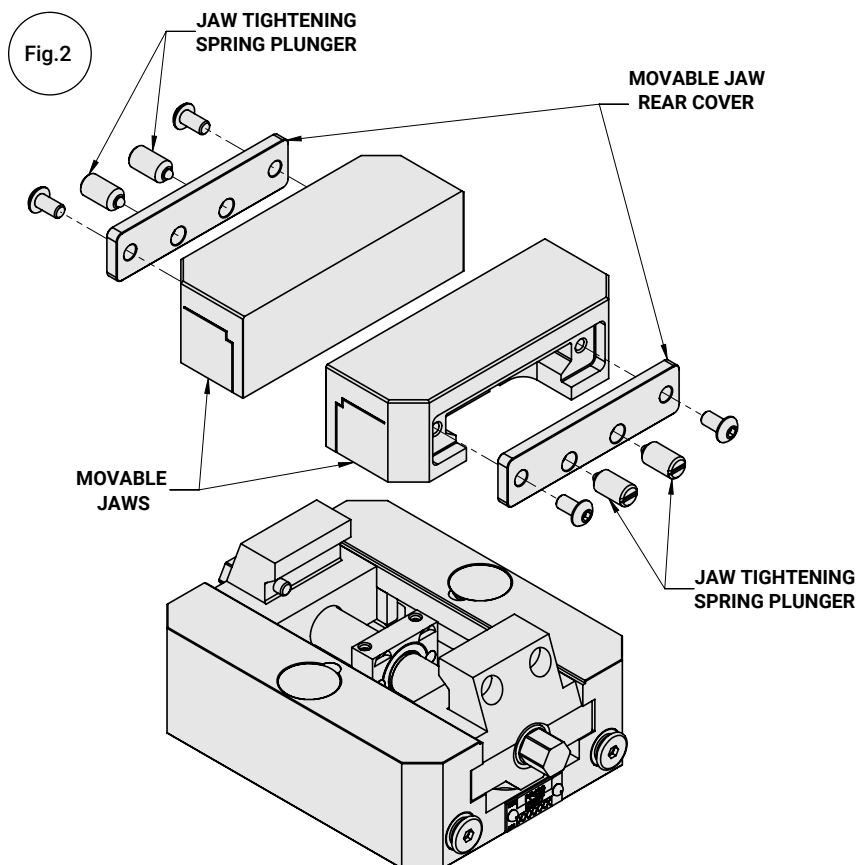


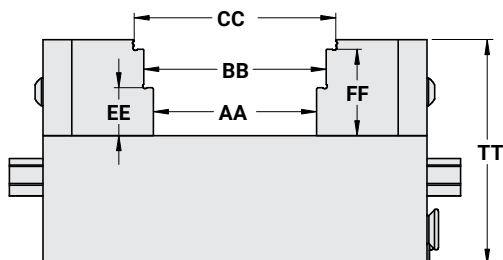
Fig.3

JAW POSITIONING

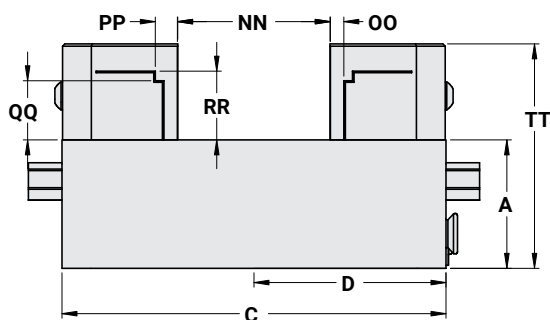
Note: Dimensions below are in inches unless specified.

A	1.672
C	5.000
D	2.500
AA	2.125
BB	2.375
CC	2.625
DD	2.501
EE	0.625
FF	1.125
NN	2.000
OO	0.190
PP	0.303
QQ	0.770
RR	0.885
TT	2.922

Serrated Jaws (PF420S)



Carvable Jaws (PF420C)



Dovetail Jaws (PF420D)

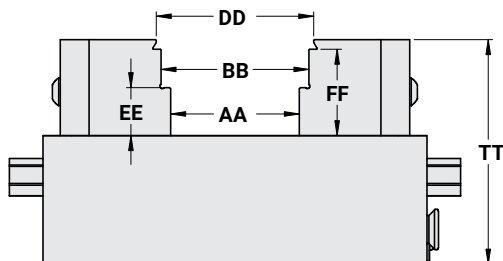
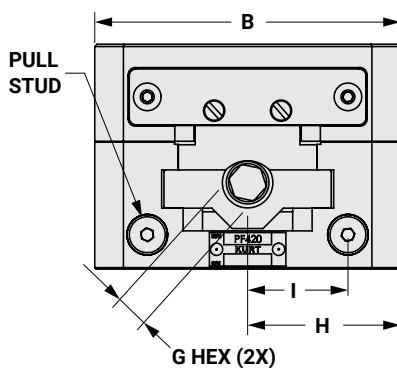
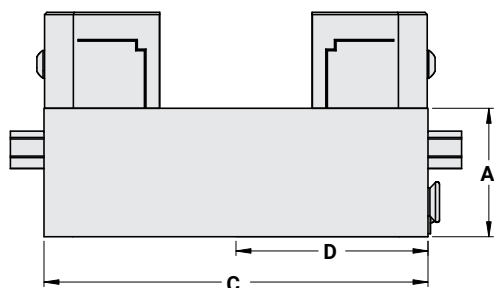


Fig.4

SIDE & END VIEW

Note: Dimensions below are in inches unless specified.

A	1.672
B	4.000
C	5.000
D	2.500
G	7/16
H	2.000
I	1.313
S	4.921

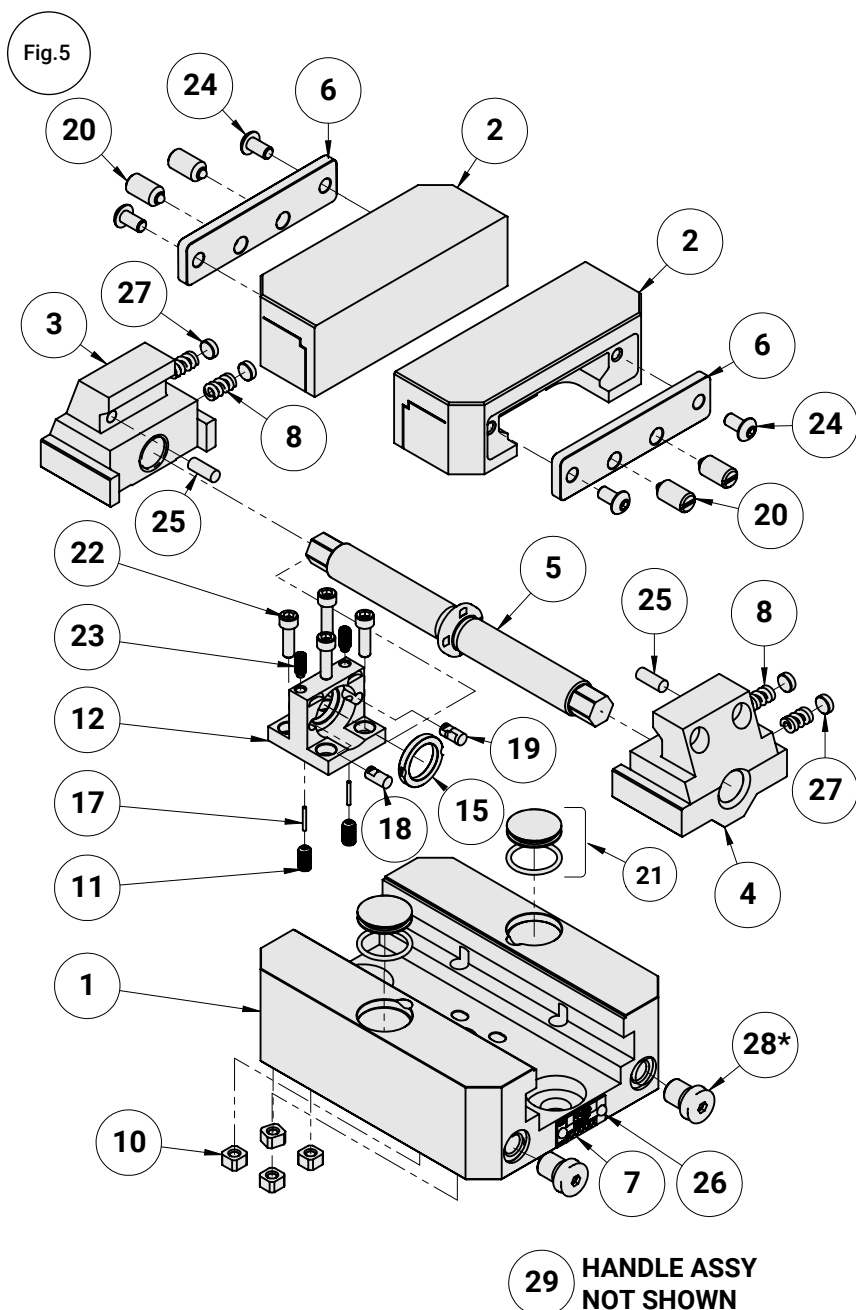


PF420 PARTS LIST

ITEM#	PART#	DESCRIPTION	QTY.
1	PF420-1	Body	1
2	PF420-2*	Movable Jaw	2
3	PF420-3R	Nut 9/16-18 Right Hand Thread	1
4	PF420-3L	Nut 9/16-18 Left Hand Thread	1
5	PF250-5	Screw	1
6	PF420-53	Rear Cover	2
7	PF420-102	Model/Serial Number Tag	1
8	PF420-169	Compression Spring	4
10	PF250-195	Heavy Duty Square Nut	4
11	PF250-196	Set Screw w/Nyloc Modified	2
12	PF420-212-CP	Central Holding Block	1
15	PF250-272	Thrust Washer Collar	1
17	PF250-311	Straight Wire Spring	2
18	PF250-364L	Locking Pin Left Hand	1
19	PF250-364R	Locking Pin Right Hand	1
20	PF420-366	Spring Plunger	4
21	3600V-191-SA	Subassembly includes: Protective Plug (3600V-191) and O-Ring (605-03)	2
22	00-1194	SHCS 8-32 X 0.562 LG	4
23	01-1853	Half Dog Set Screw	2
24	03-0021	SBHCS 10-32 X 0.375 LG	4
25	04-0028	Dowel Pin	2
26	07-0230	U-Type Drive Screw	2
27	PF420-16	Pad Guide	4
28**	PF420-367	Pull Stud for Lifting Vise	2
29	PF420-10-SA	P420-10-SA Handle Assembly	1
*Note: PF420C Carvable Jaw - PF420-2C PF420D Dovetail Jaw - PF420-2D PF420S Serrated Jaw - PF420-2S			

**Pull Stud not included – available as an accessory at www.kurtworkholding.com.

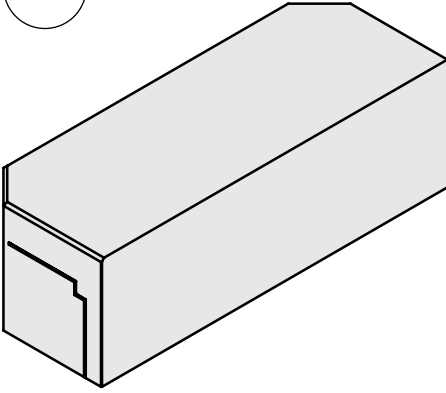
PF420 MECHANICAL DRAWING



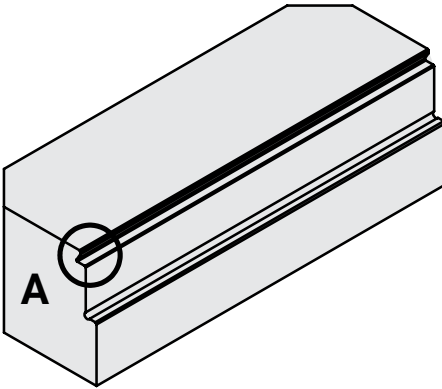
*Pull Stud not included – available as an accessory at www.kurtworkholding.com.

STANDARD JAW OPTIONS

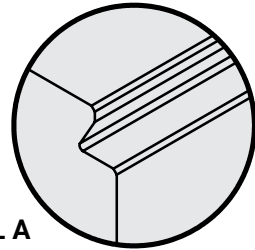
Fig.6



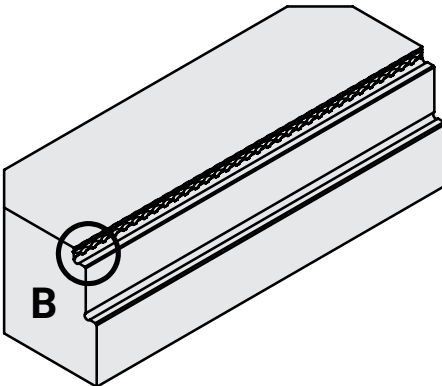
PF Series Carvable Jaws
Part Number: PF420-2C



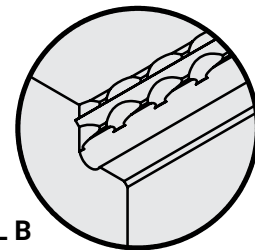
PF Series Dovetail Jaws
Part Number: PF420-2D



DETAIL A



PF Series Serrated Jaws
Part Number: PF420-2S



DETAIL B

CENTERLINE ADJUSTMENT

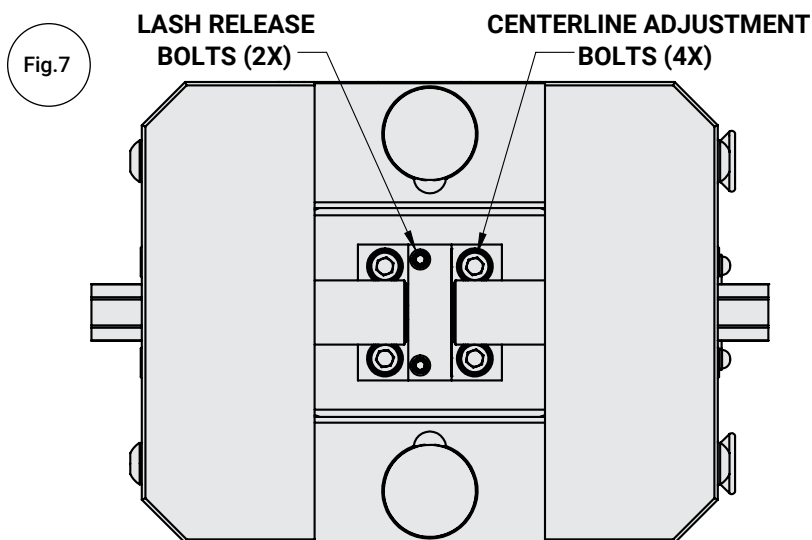
The PF Series of vises are designed for quick and easy adjustment of the vise centerline.

1. Loosen the four centerline adjustment bolts using a 9/64 hex wrench
2. Adjust the centerline by sliding the nut and screw assembly within the body of the vise. A mallet may be required to gently tap the ends of the screw in the direction of the desired adjustment.
3. When the centerline is in the desired position, re-tighten the four centerline adjustment bolts.

LASH REMOVAL

Along with an easily adjustable centerline, the PF vises also have an extremely simple to use lash removal system.

4. Loosen the two lash release bolts on the top surface of the central holding block, using a 5/64 hex wrench.
5. Tap the top of the central holding block with your finger.
6. Re-tighten the lash release bolts.

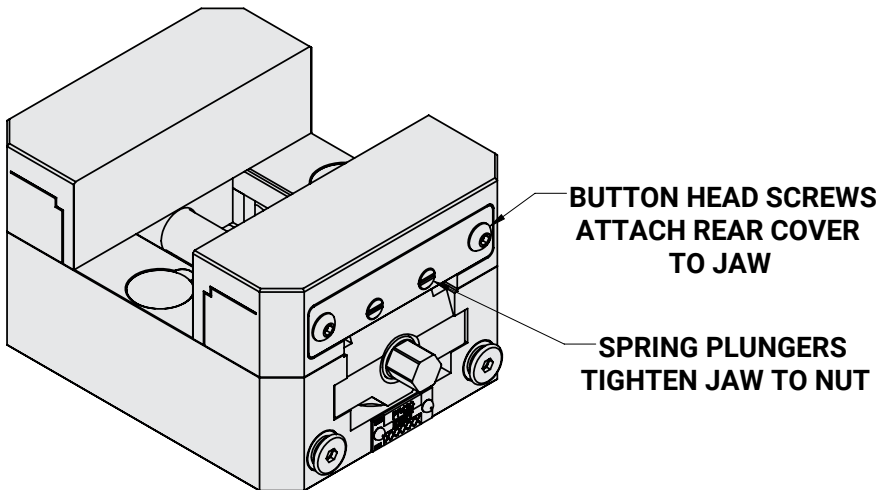


JAW REMOVAL

The Jaws on the PF420 are easily removed. The following steps will help you remove them for replacement or maintenance purposes.

1. Loosen the spring plungers with a flat head screwdriver, to remove any spring forces that may be pushing against the rear cover plate.
2. Loosen and remove the two button head screws that attach the rear cover plate to the movable jaw, using a 1/8 hex wrench.
3. Slide the free jaw forward on the bed of the vise until it clears the beak of the nut. Then lift the freed jaw off of the vise.
4. Repeat the above process for the second jaw.

Fig.8

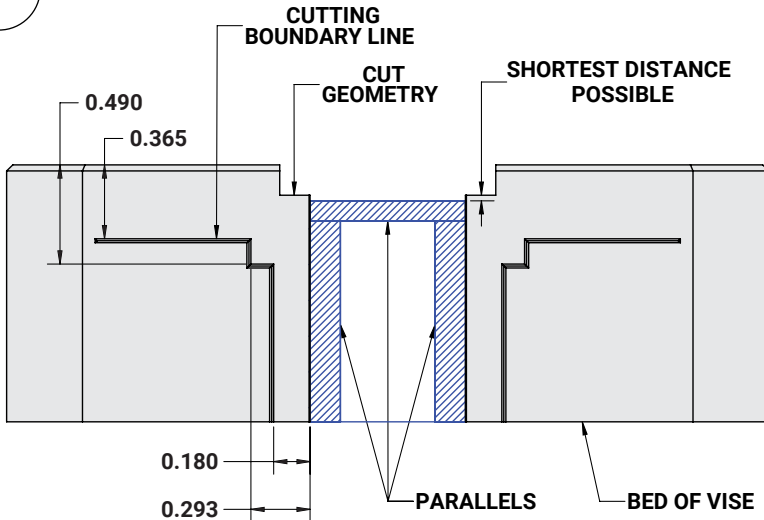


MACHINING THE CARVABLE JAWS

For the best results when machining the carvable jaws for the PF Series of vises, follow the procedure below.

1. Use parallels, vise hard jaws, or other precision cut blocks that are set just below the cut surface as shown in the diagram below.
2. Clamp your precision blocks in the vise. For the best accuracy, clamp the vise to the same amount of torque you will be using during production when cutting your jaws.
3. **DO NOT** cut inside the boundaries of the scribed lines on the jaw blanks. Cutting inside of these lines will damage the internal features of the jaw. Dimensions are shown below.

Fig.9



MAINTENANCE SCHEDULE

It is very important to perform regular maintenance on your Kurt vise to assure proper operation. Improper maintenance will result in poor vise performance and may void your warranty.

Daily/Weekly

1. Remove chips from surface of vise.
2. Visually inspect for chips, seals for damage and cleanliness.
3. Visually inspect for chip entrapments and remove when necessary.
4. Air-dry and apply rust inhibiting oil to the machined surface of the vise.

Monthly

1. Open the vise to the maximum opening.
2. Remove the movable jaws using the procedure on page 10.
3. Turn the movable jaw over and clean the inside cavity.
4. Remove any chips, clean and apply a light coat of machine oil to the machined surface of the following item
 - a. Nut and Screw assembly (clean exposed threads on the screw)
 - b. Bed of vise (top of "rails")
 - c. Inside of the vise between the center ways.
5. Your vise is now ready for use. Open and close your vise to check for proper operation. Center the part to be clamped in the vise and close. Your parts should be centered from side to side to insure proper clamping.

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purchase! If you have any
feedback or questions
please contact us:

Kurt Industrial Products // A Division Of Kurt Manufacturing

9445 East River Road NW | Mpls, MN 55433
Phone 763-574-8309 | Toll Free 877-226-7823
Fax 763-574-8318 | Toll Free Fax 877-226-7823

kurtworkholding.com | workholding@kurt.com

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