



KURT WORKHOLDING

PFW420C
PFW420D
PFW420S

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 PFW 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 (PFW420C)
 - Dovetail (PFW420D)
 - Serrated (PFW420S)
- Easily adjustable center line
- Fast and effortless lash removal system
- Double ended screw for flexible vise operation

PFW 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.

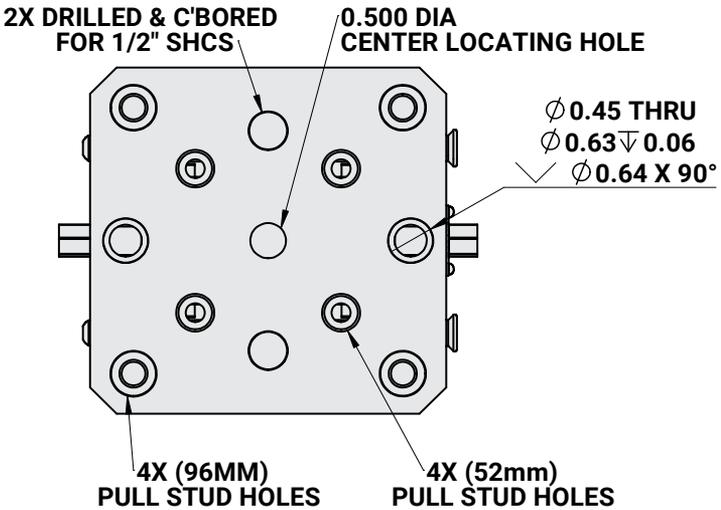
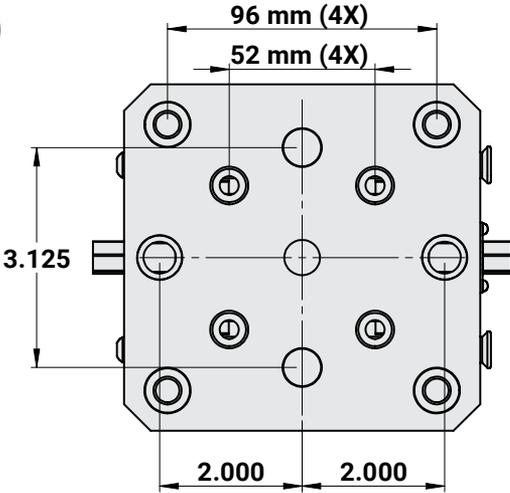
The uses of handle extensions, air impact wrenches, breaker bars, or hammer strikes are not recommended and will void the warranty if used. This will also cause damage to the central holding block and screw threads. If you need more clamping force you may require a larger vise.

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 PFW Series can be mounted using Kurt's zero point mounting systems or other zero point mounting systems with 96mm or 52mm spacing. The PFW Series can also 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 in Fig.1 below.

Fig.1



JAW INSTALLATION

The jaws of this vise can be easily installed and removed by hand.

1. Grasp the jaw with two hands with your fingers towards the center of the vise and your thumbs to the back.
2. Place the forward bottom edge of the jaw against the vise as shown and slide jaw back to hook jaw on nut.
3. Snap the back of the jaw down and over the spring-loaded plungers to finish installation.
4. Reverse installation steps to remove jaws.

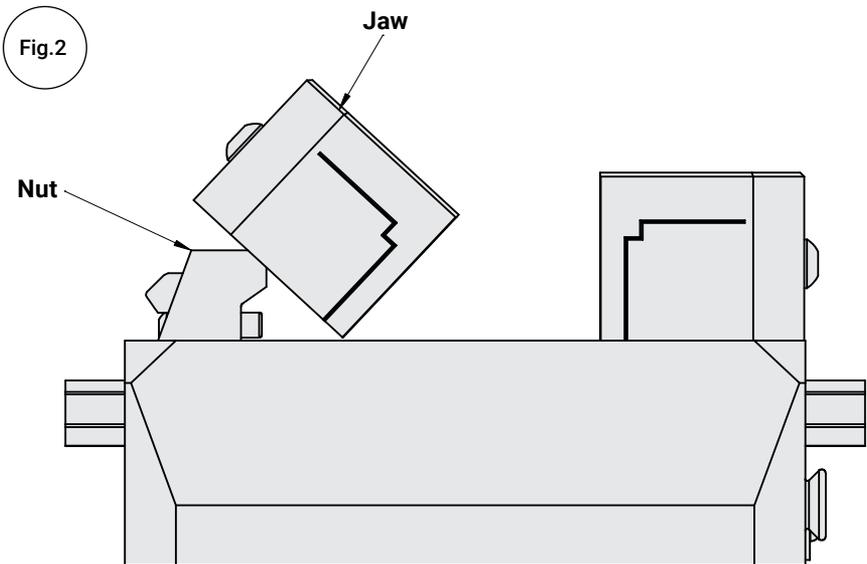


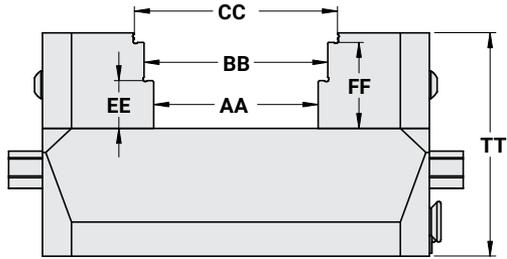
Fig.3

JAW POSITIONING

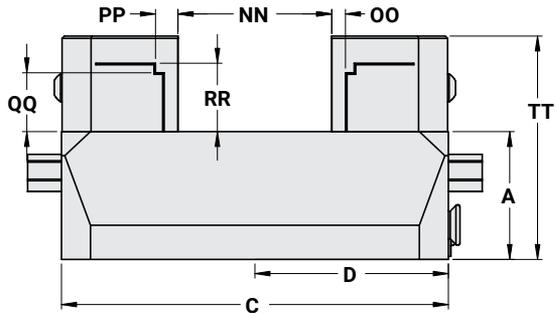
Note: Dimensions below are in inches unless specified.

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 (PFW420S)



Carvable Jaws (PFW420C)



Dovetail Jaws (PFW420D)

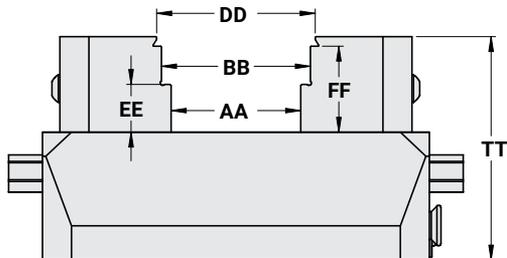
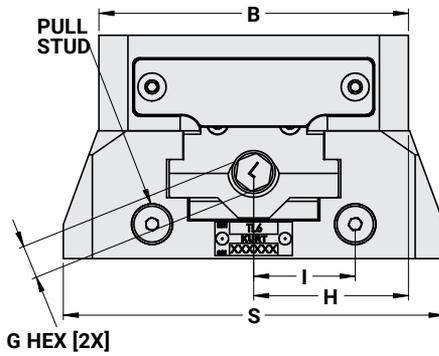
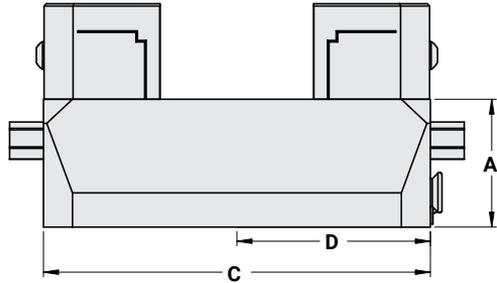


Fig.4

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



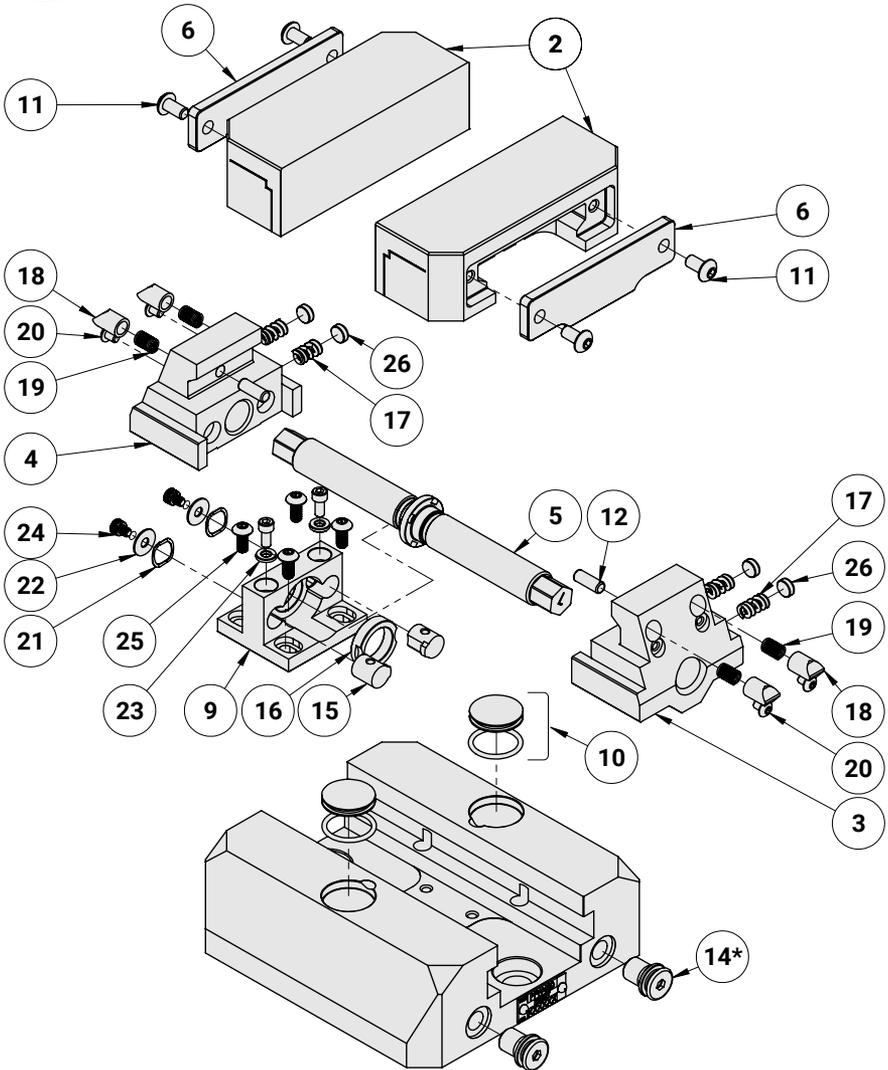
PFW420 PARTS LIST

ITEM#	PART#	DESCRIPTION	QTY.
1	PFW420-1	BODY	1
2	PF420-2*	MOVABLE JAW	2
3	PFW420-3L	NUT 9/16-18 LEFT HAND THREAD	1
4	PFW420-3R	NUT 9/16-18 RIGHT HAND THREAD	1
5	PFW420-5	SCREW	1
6	PFW420-53	REAR COVER	2
7	PFW420-102	MODEL/SERIAL NUMBER TAG	1
9	PFW420-212	CENTRAL HOLDING BLOCK	1
10	3600V-191-SA	Subassembly includes: Protective Plug (3600V-191) and O-Ring (605-03)	2
11	03-0021	SBHCS 10-32 X 0.375 LG	4
12	04-0028	DOWEL PIN 0.1875 X 0.5 LG	2
13	07-0230	U-TYPE DRIVE SCREW #2 X 1/4 L	2
14**	PF420-367	PULL STUD FOR LIFTING VISE	2
15	PFW420-366	SPRING PLUNGER	2
16	PFW420-272	THRUST WASHER COLLAR	1
17	PF420-169	COMPRESSION SPRING 0.250 OD X 0.47 LG X 0.065 Ø WIRE	4
18	PFW420-334	PLUNGER	4
19	PFW420-311	SPRING 0.219 O.D. X 0.75 F.L. X 0.03	4
20	03-0109	SBHCS 6-32 X 0.187 LG	4
21	PFW420-197	0.361 ID X 0.472 OD SMALLLEY WAVE SPRING	2
22	PFW420-29	0.438 OD X 0.156 ID x 0.02 - 0.04 THICK WASHER	2
23	PFW420-230	0.148 ID X 0.312 OD X 0.062 WIDE HARDENED WASHER	2
24	00-1156	SHCS 6-32 X 0.156 LG	2
25	03-0617	8-32 X 0.375 LG IP15 TORX DRIVE BUTTON HEAD SCREW	4
26	PF420-16	PAD GUIDE	4
27	00-0190	SHCS 6-40 X 0.312 LG	2
<p>*Note: PF420C Carvable Jaw - PF420-2C PF420D Dovetail Jaw - PF420-2D PF420S Serrated Jaw - PF420-2S</p>			

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

PFW420 MECHANICAL DRAWING

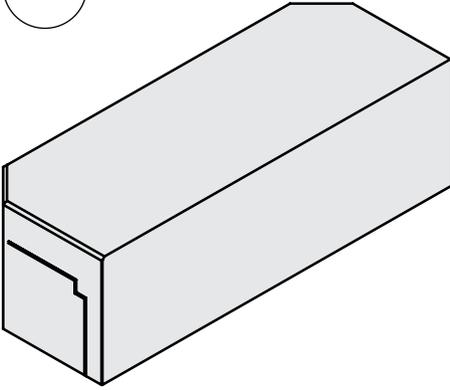
Fig.5



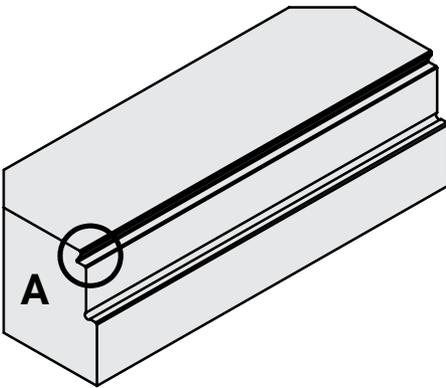
*Pull Stud not included – available as an accessory at www.kurtworkholding.com.

STANDARD JAW OPTIONS

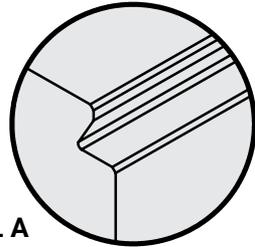
Fig.6



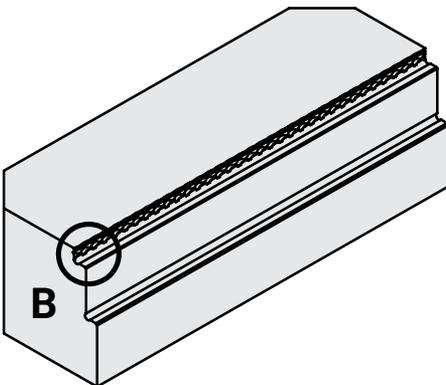
PF Series Carvable Jaws
Part Number: PF420-2C



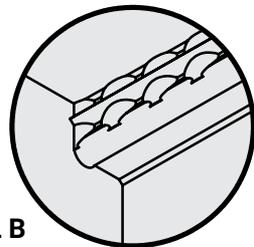
PF Series Dovetail Jaws
Part Number: PF420-2D



DETAIL A



PF Series Serrated Jaws
Part Number: PF420-2S



DETAIL B

CENTERLINE ADJUSTMENT

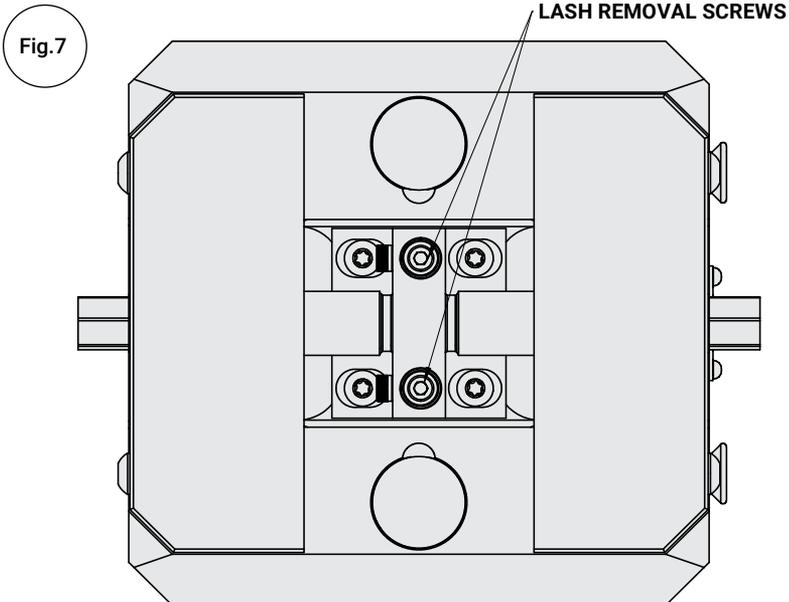
The PFW Series of vises are designed for quick and easy adjustment of the vise centerline.

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 PFW vises also have an extremely simple to use lash removal system.

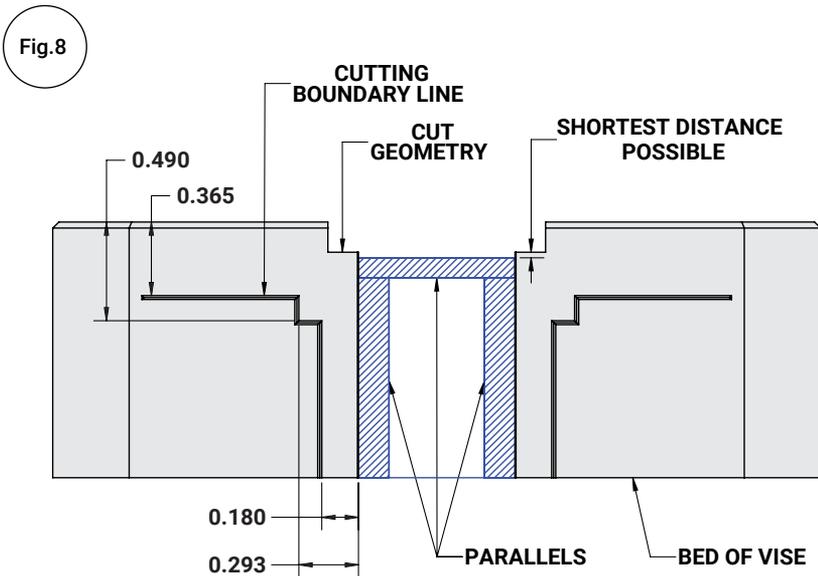
1. Loosen the top lash release bolts (2X) on the top surface of the central holding block, using a $7/64$ hex wrench.
2. Tap the top of the central holding block with your finger.
3. Re-tighten the lash release bolts.



MACHINING THE CARVABLE JAWS

For the best results when machining the carvable jaws for the PFW 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.



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.

All Kurt Manufacturing Company industrial workholding products and parts with the exceptions noted below, are warranted against defects in material and workmanship for the life of the product or part. (The life of the product is defined as that point in time when such item no longer functions due to normal wear and tear.) Failure to properly maintain and/or properly operate the product or part that has been worn out, abused, heated, ground or otherwise altered, used for a purpose other than that for which it was intended, or used in a manner inconsistent with any instructions regarding its use. The sole obligation of Kurt Manufacturing Company, Inc. (Kurt) and the purchaser's **SOLE AND EXCLUSIVE REMEDY** hereunder, shall be limited to the replacement or repair of any Kurt product or part (by an authorized Kurt technician) which are returned to Kurt Manufacturing Company's place of business or any authorized service center, transportation, shipping and postal charges prepaid, and there determined by Kurt Manufacturing Company to be covered by the warranty contained herein.



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KURT WORKHOLDING

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

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