



Dovetail Vise

Operating Instructions Manual

DT20/DTR20/DTR10

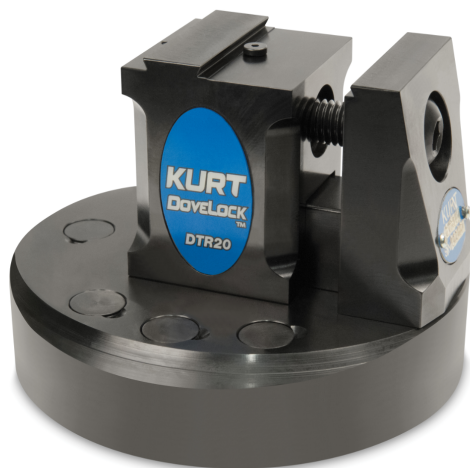


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Introduction

Thank you for purchasing a Kurt Dovetail vise.

The dovetail vise is a 5 axis vise meant for cutting dovetail parts or dovetail stock. The dovetail ensures a firm grip on the part while allowing access to the part for 5-axis machining.

Installation & Assembly Guide

The dovetail vise is a precision tool and must be handled carefully.

Begin by following the steps listed.

1. Clean the bottom of the vise.
2. Make sure the surface that the vise is being mounted to is clean and level. Hone it, if needed.
3. Make sure the stationary is securely mounted to the body base by the screws from underneath.
4. Attach the vise to the table using the screws that come down through the body base.

DTR10 Vise Clamp Force

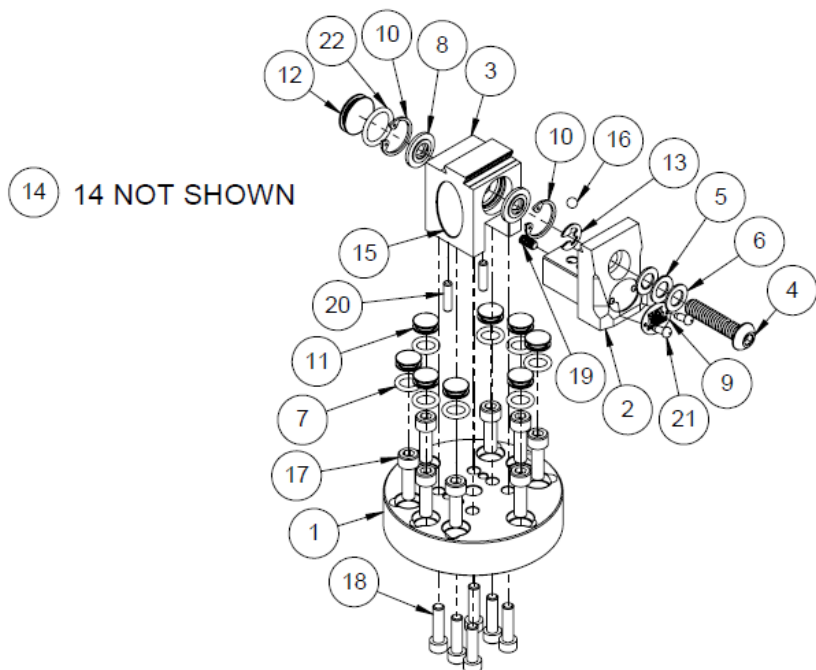
Torque: Inch-Lbs	Clamping Force: Lbs
30	360
60	760
90	1350
120	1900
150	2580

DT(R)20 Vise Clamp Force

Torque: Inch-Lbs	Clamping Force: Lbs
80	1000
160	2000
240	3000
320	4000

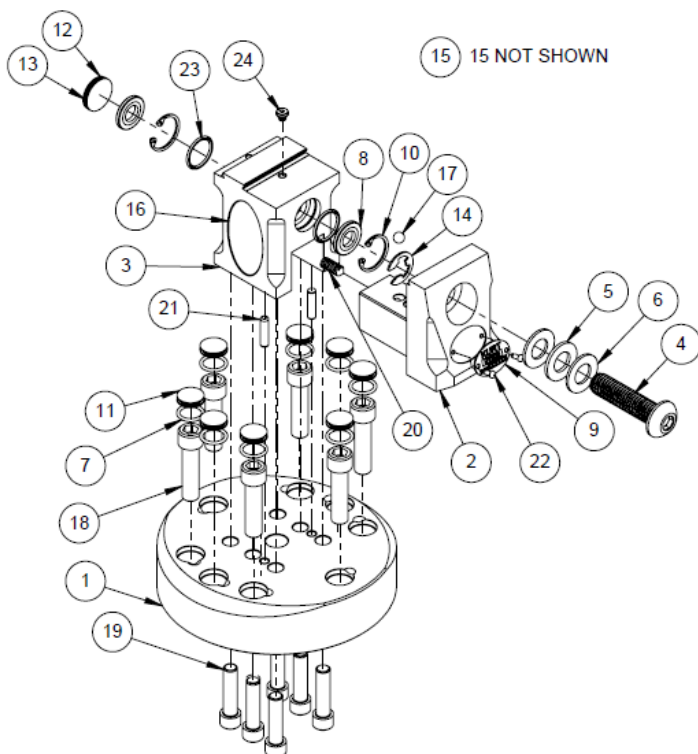
DTR10 Exploded Drawing

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	DTR10-1	DOVETAIL BODY BASE	1
2	DTR10-2-CP	DOVETAIL MOVABLE	1
3	DTR10-6-CP	DOVETAIL STATIONARY	1
4	DTR10-18	BHSHCS 1/4-20 X 1.125 LG MODIFIED	1
5	DTR10-41	THRUST BUSHING	1
6	DTR10-42	THRUST WASHER	2
7	DTR10-68	O-RING #010	8
8	DTR10-97	THREAD WIPER SEAL	2
9	DTR10-102	MODEL/SERIAL NUMBER TAG	1
10	DTR10-147	RETAINING RING	2
11	DTR10-191	PROTECTIVE PLUG	8
12	3400V-191	PROTECTIVE PLUG	1
13	DTR10-231	EXTERNAL RETAINING RING	1
14	DTR10-313	WEBSITE STICKER	1
15	DTR10-314	PRODUCT LOGO STICKER	1
16	DTR10-355	5/32Ø STEEL BALL	1
17	00-0257	SHCS 10-32 X .625 LG	8
18	00-1195	SHCS 8-32 X .625 LG	6
19	01-3241	6-32 CONE POINT SET SCREW	1
20	04-0016	DOWEL PIN .125Ø X .50 LG	2
21	07-0230	U-TYPE DRIVE SCREW #2 X 1/4 L	2
22	605-02	O-RING #014	1



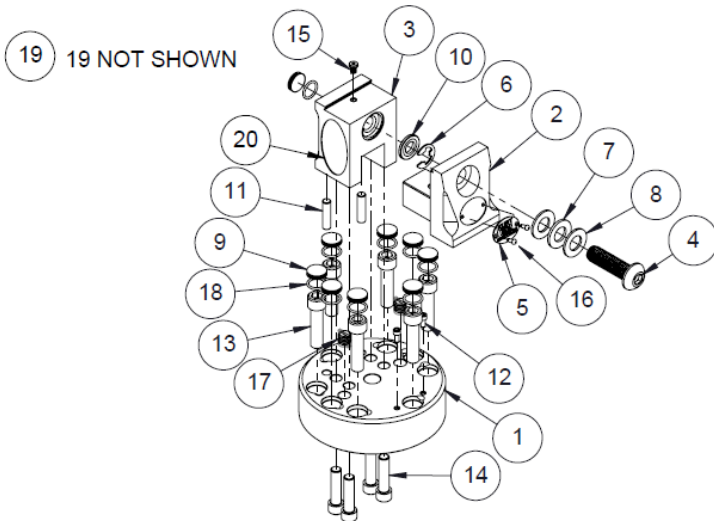
DTR20 Exploded Drawing

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	DTR20-1	DOVETAIL BODY BASE	1
2	DTR20-2-CP	DOVETAIL MOVABLE JAW	1
3	DTR20-6-CP	DOVETAIL STATIONARY JAW	1
4	DTR20-18	SBHCS 1/2-13 X 2.0 LG MODIFIED	1
5	SDW25-41	THRUST BEARING	1
6	SDW25-42	THRUST WASHER	2
7	605-02	O-RING #014	8
8	SDW25-211	BRUSH SEAL	2
9	DTR20-102	MODEL/SERIAL NUMBER TAG	1
10	DTR20-147	RETAINING RING	2
11	3400V-191	PROTECTIVE PLUG	8
12	3600V-191	PROTECTIVE PLUG	1
13	DLU4-96	O-RING #016	1
14	DT20-231	RETAINING RING	1
15	DT20-313	WEBSITE STICKER	1
16	DTR20-314	PRODUCT LOGO STICKER	1
17	DTR20-355	PRECISION .250 STEEL BALL	1
18	00-1359	SHCS 3/8-16 X 1.50 LG	6
19	00-0357	SHCS 5/16-24 X 1.25 LG	6
20	01-1277	CONE POINT SET SCREW 1/4-20 X 5/16 LG	1
21	04-0030	DOWEL PIN, 3/16 X .75 LG	2
22	07-0230	U-TYPE DRIVE SCREW #2 X 1/4 L	2
23	MT6-96	O-RING #017	2
24	00-3189	8-32 X 1/4 LG LOW HEAD SHCS	1



DT20 Exploded Drawing

ITEM NO.	PART NO.	DESCRIPTION	Default /QTY.
1	DT20-1	DOVETAIL BODY BASE	1
2	DT20-2-CP	DOVETAIL MOVABLE JAW	1
3	DT20-6-CP	DOVETAIL STATIONARY JAW	1
4	DT20-18	SBHCS 1/2-13 X 1.75 LG MODIFIED	1
5	DT20-102	MODEL/SERIAL NUMBER TAG	1
6	DT20-231	RETAINING RING	1
7	SDW25-41	THRUST BEARING	1
8	SDW25-42	THRUST WASHER	2
9	3400V-191	PROTECTIVE PLUG	9
10	SDW25-211	BRUSH SEAL	1
11	04-0043	DOWEL PIN 1/4 X 1.00 LG	2
12	00-1159	SHCS 6-32 X .3125 LG	2
13	00-1359	SHCS 3/8-16 X 1.50 LG	6
14	00-0357	5/16-24 x 1.25 LG	4
15	00-3189	8-32 X 1/4 LG LOW HEAD SHCS	1
16	07-0230	U-TYPE DRIVE SCREW #2 X 1/4 L	2
17	DT20-196	3/8-16 SLOTTED CUP POINT SET SCREW	2
18	DTR10-96	O-RING #014	9
19	DT20-313	WEBSITE STICKER	1
20	DT20-314	PRODUCT LOGO STICKER	1



Reversible Jaw Instructions

The DTR10 and DTR20 have a reversible movable jaw. The DT20 vise does not. Follow the directions below to reverse the jaw.

1. Loosen the set screw in the part of the movable jaw that protrudes through the stationary jaw. This set screw retains the movable jaw to the stationary jaw.
2. Back the screw out until the movable jaw is free from the stationary jaw.
3. Remove the protective plug assembly from the other side of the stationary jaw.
4. Insert the movable jaw and screw on the other side of the vise.
5. Tighten the set screw in the movable jaw so that it is retained again.
6. Insert the protective plug into the other side of the stationary jaw.

Note:

The set screw that retains the movable jaw pushes a ball into a cavity in the stationary jaw. If the set screw is tightened too hard, the ball can get stuck in that cavity. The set screw should be tightened to firmly push the ball into the cavity and then backed off about 1/4 turn. When loosening the set screw and removing the movable jaw, be careful not to lose the ball.

Maintenance Schedule

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

Daily / Weekly

1. Remove chips from surface of vise.
2. Visually inspect for damage and cleanliness.
3. Air-dry and apply rust inhibiting oil to the surface of the vise.

Monthly

1. Loosen the set screw in the movable jaw.
2. Open the vise until the screw releases from the stationary jaw.
3. Clean and grease the screw and threaded portion of the stationary jaw.

3-6 Months

1. Remove the ball from the movable jaw, then clean and oil the ball and the cavity it sits in. (DTR20 & DTR10 only)
2. Clean and oil the portion of the movable jaw that slides inside of the stationary jaw.
3. Inspect the brush seals and replace if needed.
4. Remove the retaining ring on the screw near the movable jaw, then remove the screw.
5. Clean and inspect the counterbore, thrust bearing, and thrust washers.
6. Grease the bearing and washers with water resistant (marine grade) grease.
7. Reinstall the bearing and washers along with the screw and the retaining ring.

Troubleshooting

Use the information below to help in troubleshooting.

Problem: The vise is difficult to turn.

-If it is a new vise, the brush seal could be stiff. Allow for break in of vise.

-If it is a used vise, it could be filed with chips. Clean and grease the screw.

Problem: The vise will not turn in either direction.

-The vise is rusted or jammed with debris. Disassemble and clean as needed.

Problem: The jaw is lifting.

-Recut the dovetail with Kurt's dovetail cutter.

-Check to see that the torque limits are not being exceeded. (see pg 3)

Problem: The hole pattern on the base does not match the table it is being mounted to.

-Kurt can provide a schematic of the hole pattern to help make a fixture plate.

-Kurt sells an adapter plate (BP8) that will allow the vise to be adapted to almost any machine table.

Maintenance Log/Notes:

Vise 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



LIFETIME WARRANTY

IRON CLAD™

On All Kurt® AngLock® Workholding Products

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, 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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If you have any feedback or questions.**

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