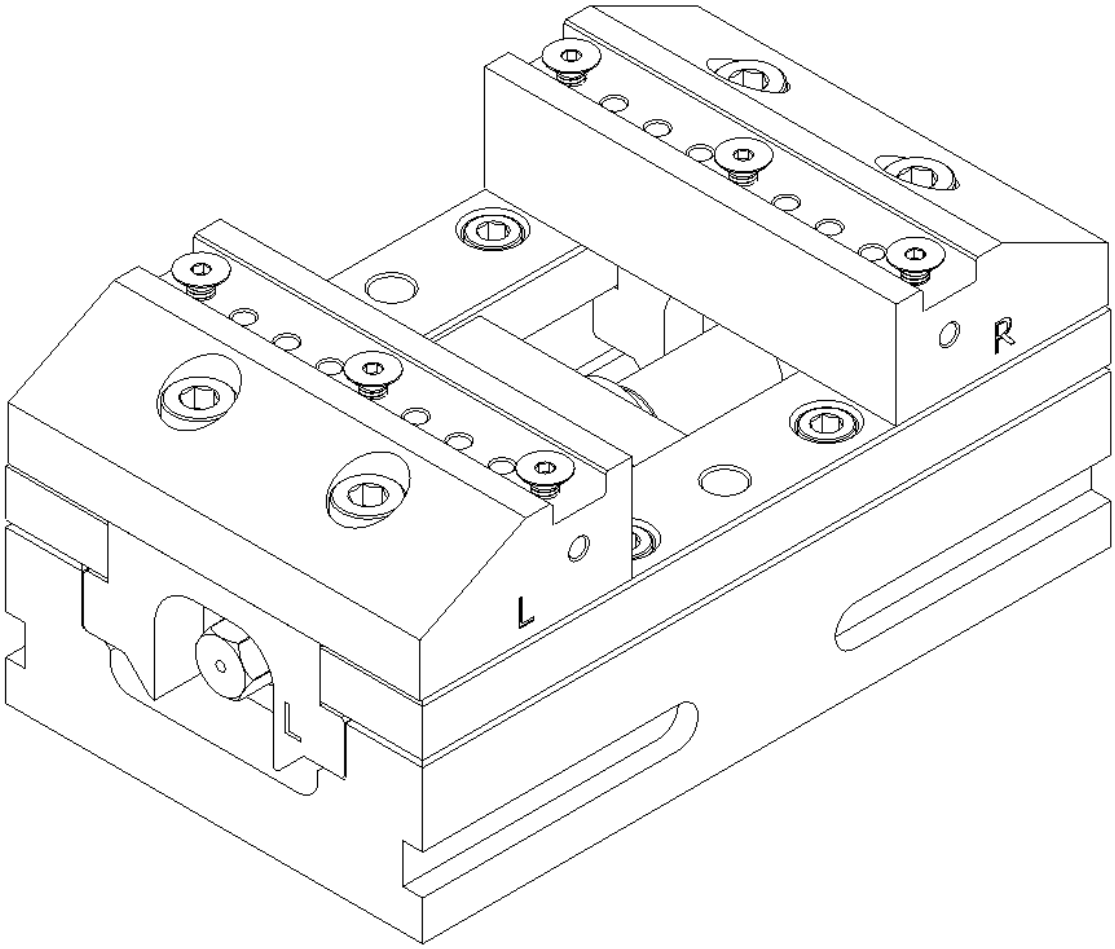
RAPTOR™
WORKHOLDING PRODUCTS

5-AXIS SELF-CENTERING VISE

OPERATION MANUAL

Model No. RWP-502 (REV B, LOT# 052516)



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RaptorWorkholding.com

The RWP-502 is a 100mm self-centering vise: designed to provide reliable, consistent workholding for your manufacturing needs. Raptor vises are shipped complete, assembled, and ready to use.

VISE SPECIFICATIONS:

Vise Model No.	RWP-502
Weight - kg (lbs)	6.35 (14)
Base Width – mm (in)	100 (3.94)
Base Length – mm (in)	165 (6.49)
Bed Height – mm (in)	50 (1.96)
Jaw Opening – mm (in) Master Jaws maybe be reversed for larger opening	Standard: 63.5 (0-2.5) Jaws Reversed: 142.8 (5.62)
Clamping Slot Opening	.38 (9.5)
Maximum Allowed Torque – Nm (ft/lbs)	**40.7 (30)**
Clamping Force @ Maximum Torque – N (lbs)	**17792 (4000)**
Centering Tolerance – mm (in)	+/-.013 (.0005)

UNPACKING:

When unpacking, be sure not to damage or lose any of the components.

Each vise will include the following:

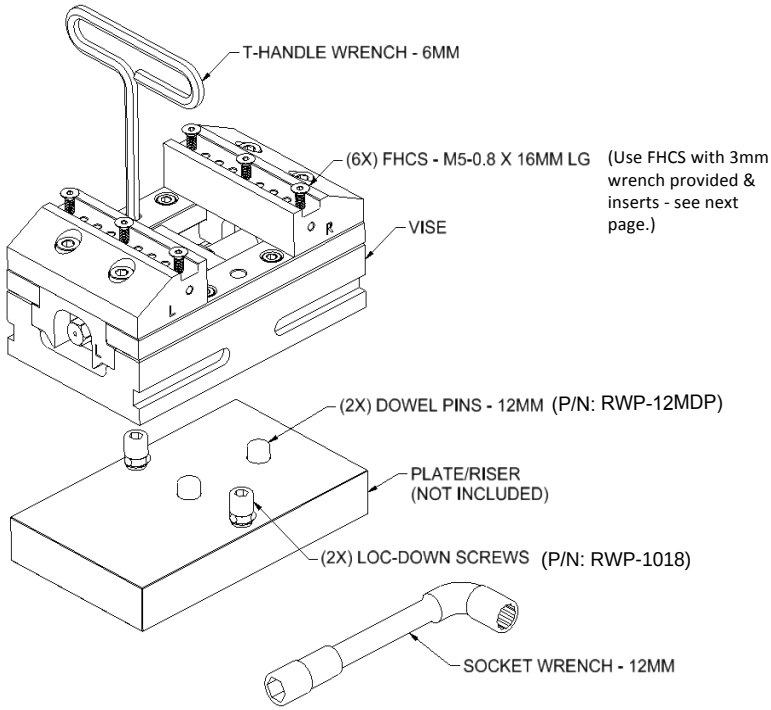
3 Wrenches:

- 12mm socket wrench
- 6mm T-handle wrench
- 3mm ball-end hex key wrench

Components:

- (2) Dowel Pins 12mm: 1 for locating & 1 for centering
- (2) Mitee-Bite Loc-Down screws: for securing
- (6) M5 flat head cap screws for use with inserts

Registration, & Warranty information.



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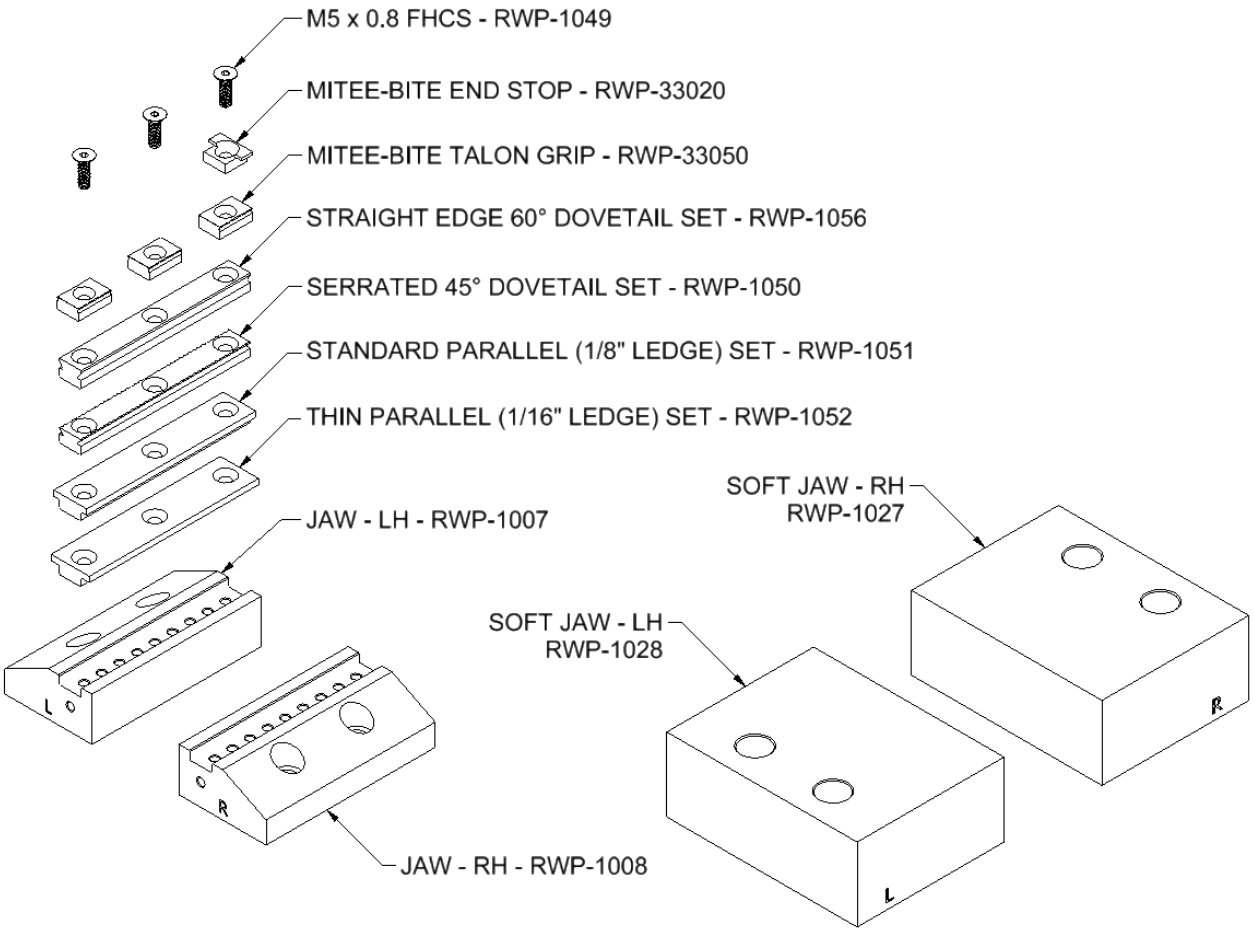
JAW INSERTS:

There are a variety of jaw inserts available to hold workpieces in place as illustrated below. Additional product information is available on our website: raptorworkholding.com.



ACCESSORIES & REPLACEMENT PARTS:

Accessories & replacement parts are available, please visit our website for additional information: raptorworkholding.com. For product inquiries send email to: info@raptorworkholding.com.

TECHNICAL SUPPORT:

For technical information contact our Customer Service Dept. at 800-824-8333 or send requests to info@raptorworkholding.com.

This vise design has two options for securing the product for use:

1) Using two Loc-Down Screws for mounting to an adapter/riser, which Raptor has available in it's product line.

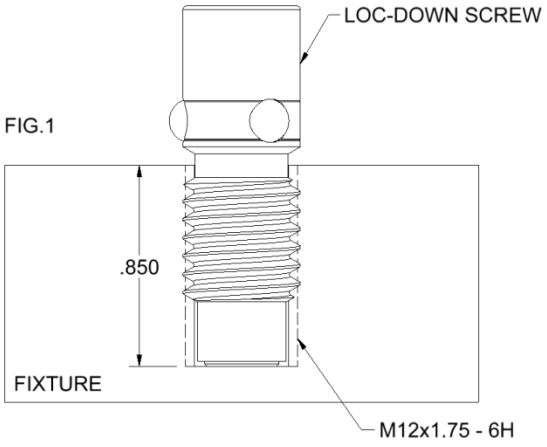
2) Utilizing the side clamping slots for use with clamps, strap clamps recommended.

Either method allows for quick change capability.

SET-UP FOR QUICK CHANGE USING LOC-DOWN SYSTEM:

The underside of the vise has been prepped with (2) shoulder bolt receiving holes, (2) dowel pin receiving holes and (2) Loc-Down screw receiving holes.

FIG.1



To prepare your fixture plate/riser for Loc-Down Screws, see Fig 1. When drilling and tapping (2) M12-- 1.75 holes, be sure that the holes are flat bottom to specified depth.

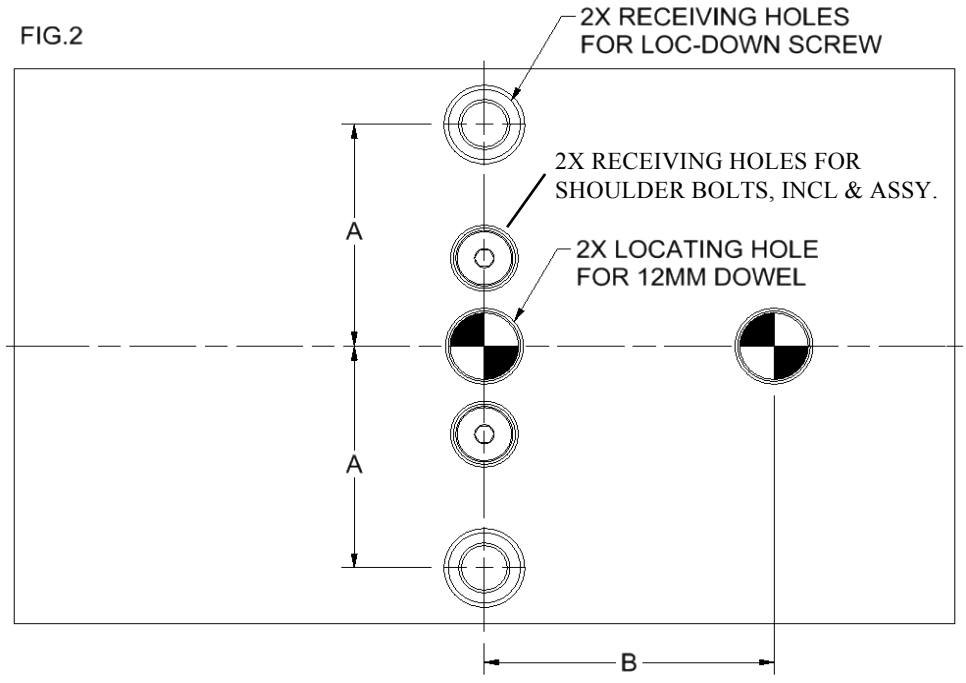
Note:

Fully thread to minimum 3.8mm (0.150") from bottom of hole.

The grid and Fig 2. below, illustrate the bottom of the 100 mm vise with the appropriate tapped and reamed hole placement:

Identifier	Holes
A – mm (in)	40 (1.575in)
B – mm (in)	50.80 (2.00in)

FIG.2



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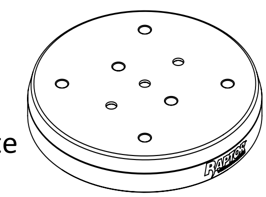
RELATED ADAPTERS / RISER PLATES TO BE USED WITH LOC-DOWN SCREWS

The following adapters and riser plates were designed specifically with the RWP-502 100 mm mounting interface when utilizing Loc-Down Screws and Dowel Pins. There are multiple options to chose from and will mount to most rotary tables / pallets.

ADAPTERS

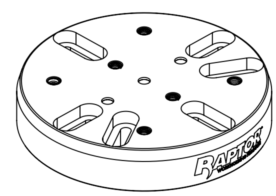
RWP-209-V100 EMERGENCY ADAPTER: Dia. 9.90" / 1.50" Height

The emergency adapter l·ﬀ2ws you to drill the specific mounting hole configurations necessary to connect to your machine's rotary table/ pallet. Once completed then connect adapter to table/pallet and mount the vise. When mounted together the overall height is 4.471". If additional height is needed, then mount the RWP-242-V100 Riser Plate in between vise and adapter for total Z: 6.221".



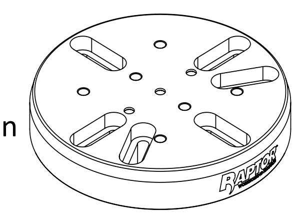
RWP-222-V100 UNIVERSAL ADAPTER: Dia. 9.875" / 2.0"Height

Mount directly to your machine pallet or rotary table using T-slots.
When mounted together the overall height is 4.971". If additional height is needed, then mount the RWP-242-V100 Riser Plate in between vise and adapter for total Z: 6.721".



RWP-223-V100 UNIVERSAL ADAPTER: Dia.11.95" / 2.0" Height

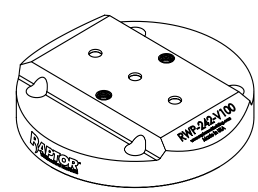
Mount directly to your machine pallet or rotary table using T-slots.
When mounted together the overall height is 4.471". If additional height is needed, then mount the RWP-242-V100 Riser Plate in between vise and adapter for total Z:: 6.721".



RISER PLATES

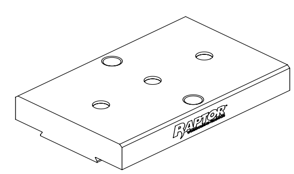
RWP-242-V100 - RISER PLATEᛉ 5ʎl·. yɸпрђ к мɸтрђ I ŜʎƎKű

Mount directly to your machine pallet or rotary table.
Either mount direct or stack to RWP-209-V100, RWP-222-V100 or RWP-223-V100.



RWP-244-V100 - DOVETAIL RISER PLATE: 6.5"L x 4.125" W x 1.0" H

Mount directly to Raptor 2.25" dovetail fixtures: RWP-006 or RWP-006SS.
When mounting vise, RWP-244-V100 with RWP-006(SS) the total "Z" is 6.471".
The RWP-006(SS) connect to Raptors' standard adapters with 3.80" BC dia. interface:
RWP-209 (total Z: 7.971"), RWP-222 (total Z :8.471"), RWP-223 (total Z:8.471").



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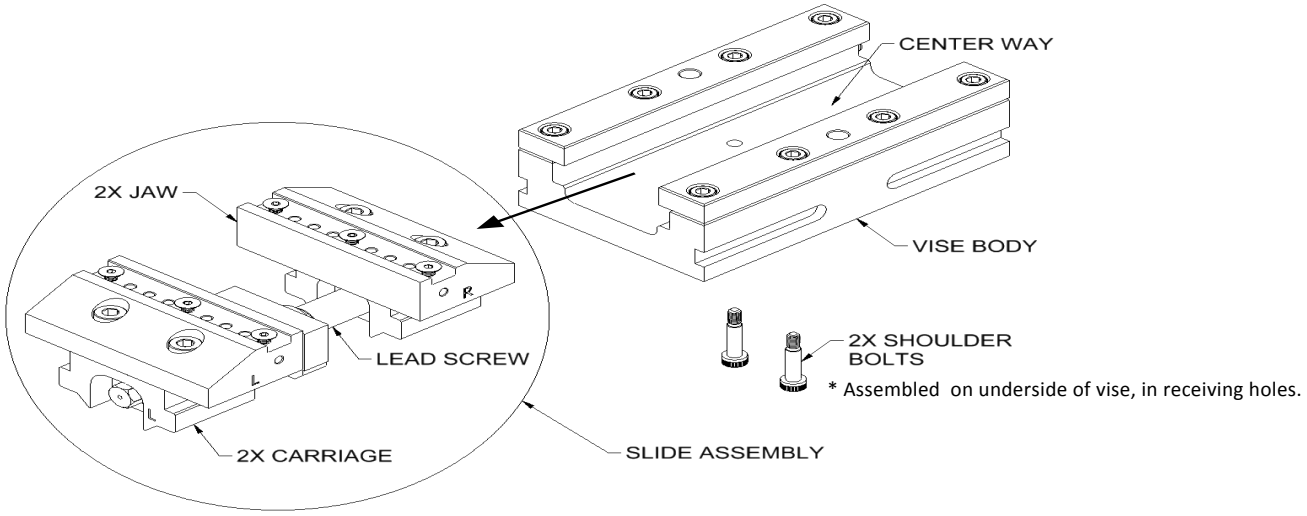
CLEANING & MAINTENANCE

Like any piece of quality equipment, the Raptor vise will need periodic cleaning and maintenance. A routine maintenance schedule is recommended to ensure maximum efficiency and prevent lockup. Cleaning materials needed: aluminum oxide pad (ie: like Scotch Brite), WD-40 and a clean lint free cloth. The cleaning process is simple:

1. Coat a scotch brite type aluminum oxide pad with WD-40 Oil.
2. Lightly rub the residue build-up/rust with the soaked pad.
3. With a clean lint free cloth, wipe throughly to remove residue build up/rust.
4. Apply a new coat of WD-40 to prevent any future rust.

To clean the entire vise, the vise needs to be disassembled. The *Slide Assembly* segment is easily removed & re-installed.
* Illustration below shows the vise disassembled with Slide Assembly removed from vise body.



1. By removing the two shoulder bolts from the underside of the vise body, this allows the *Slide Assembly* segment to be moved.
2. Carefully slide the *Slide Assembly* segment out, making sure the carriages/jaws do not rotate on the shaft.
   *If the carriage rotates even one revolution on the screw, then the centering between the jaws will be off.
3. Set the *Slide Assembly* on a flat surface.
4. Clear chips from holes and vise surface area.
5. Following the cleaning process detail above, completely clean all vise surfaces/holes, particularly the *Center Way*.
6. Remember to coat the lead screw threads with oil.
7. Reassemble the vise.