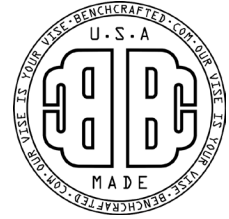


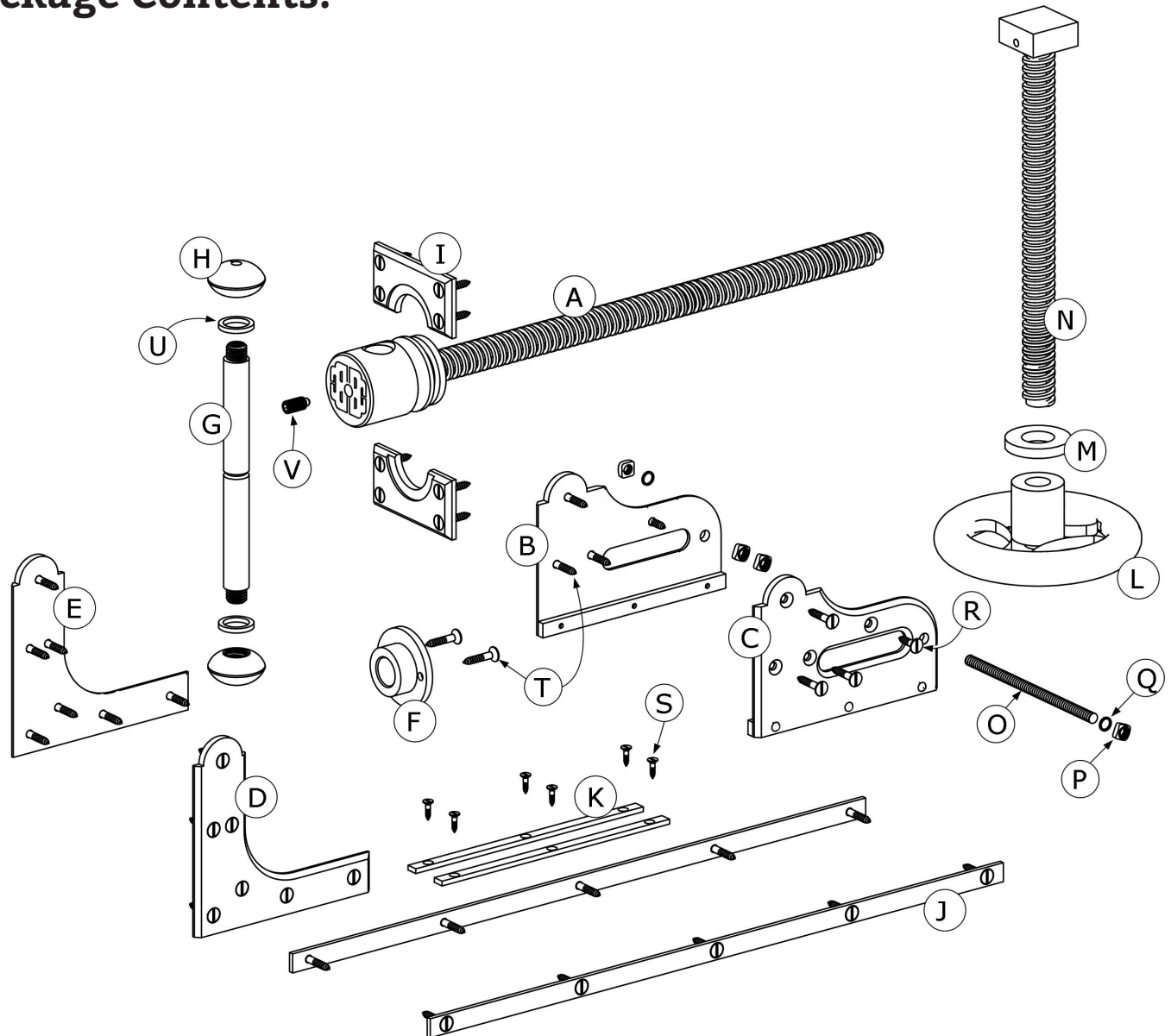
BENCHCRAFTED - CARVER'S VISE



Assembly and Installation Instructions - Version March 2023

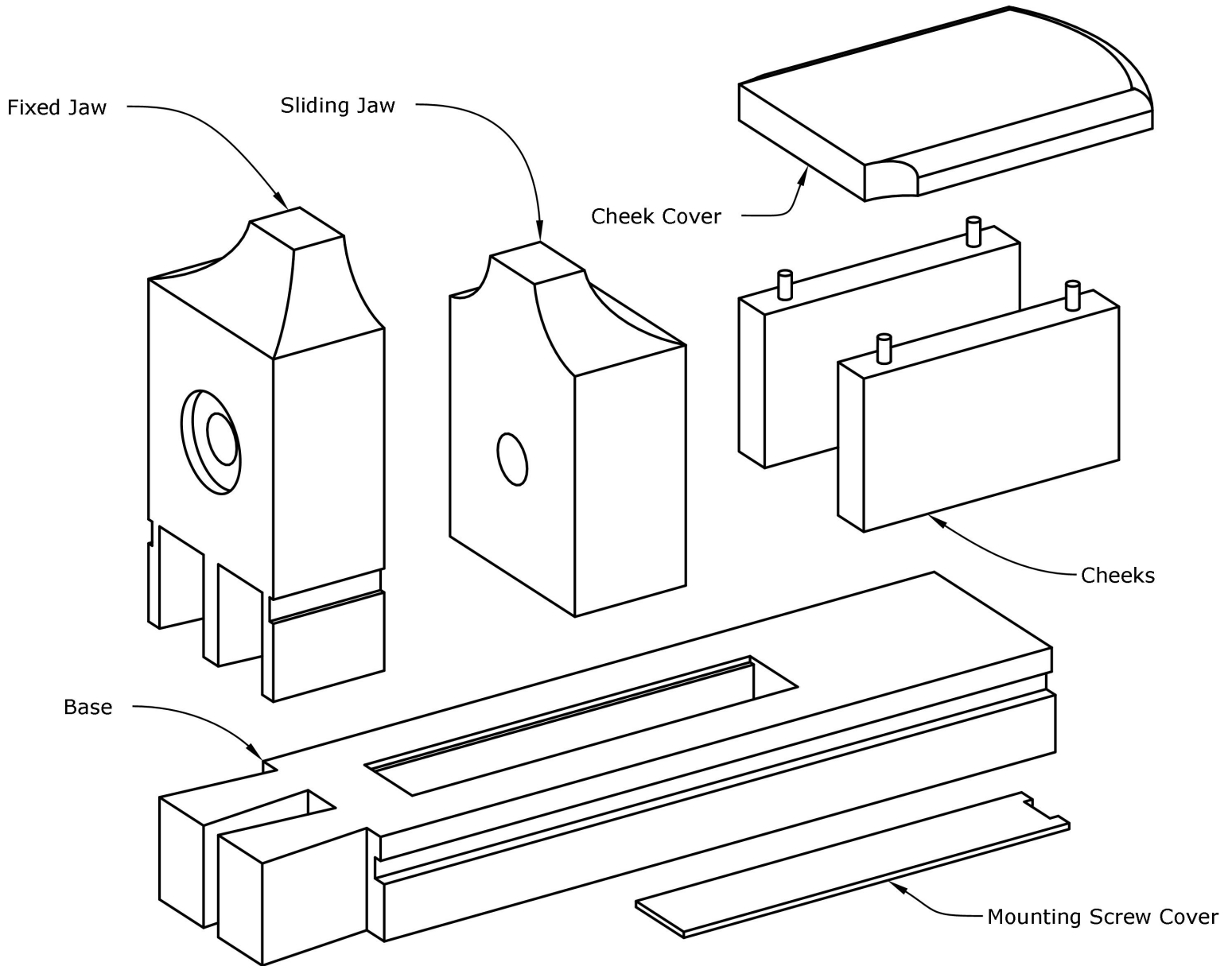
Package Contents:

- A** Main Screw Assembly (1)
- B** Sliding Bracket Left (1)
- C** Sliding Bracket Right (1)
- D** Fixed Bracket Right (1)
- E** Fixed Bracket Left (1)
- F** Nut (1)
- G** Handle (1)
- H** Mushroom Nut (2)
- I** Garter (2)
- J** Slide Rail (2)
- K** Wear Plate (2)
- L** Handwheel (1)
- M** Thick Washer (1)
- N** Mounting Screw (1)
- O** Threaded rod (1)
- P** Square nut, 1/4" (4)
- Q** Fiber Washer (2)
- R** #8 x 3/4" Wood screw (3, one extra included) use in rear countersunk hole in B and C
- S** #4 x 1/2" Wood screw (8, two extra included) use in K
- T** #8 x 1" Wood screw (42, two extra included) use in all other locations
- U** Leather washer (2)
- V** Spring Plunger
Crubber (not illustrated)

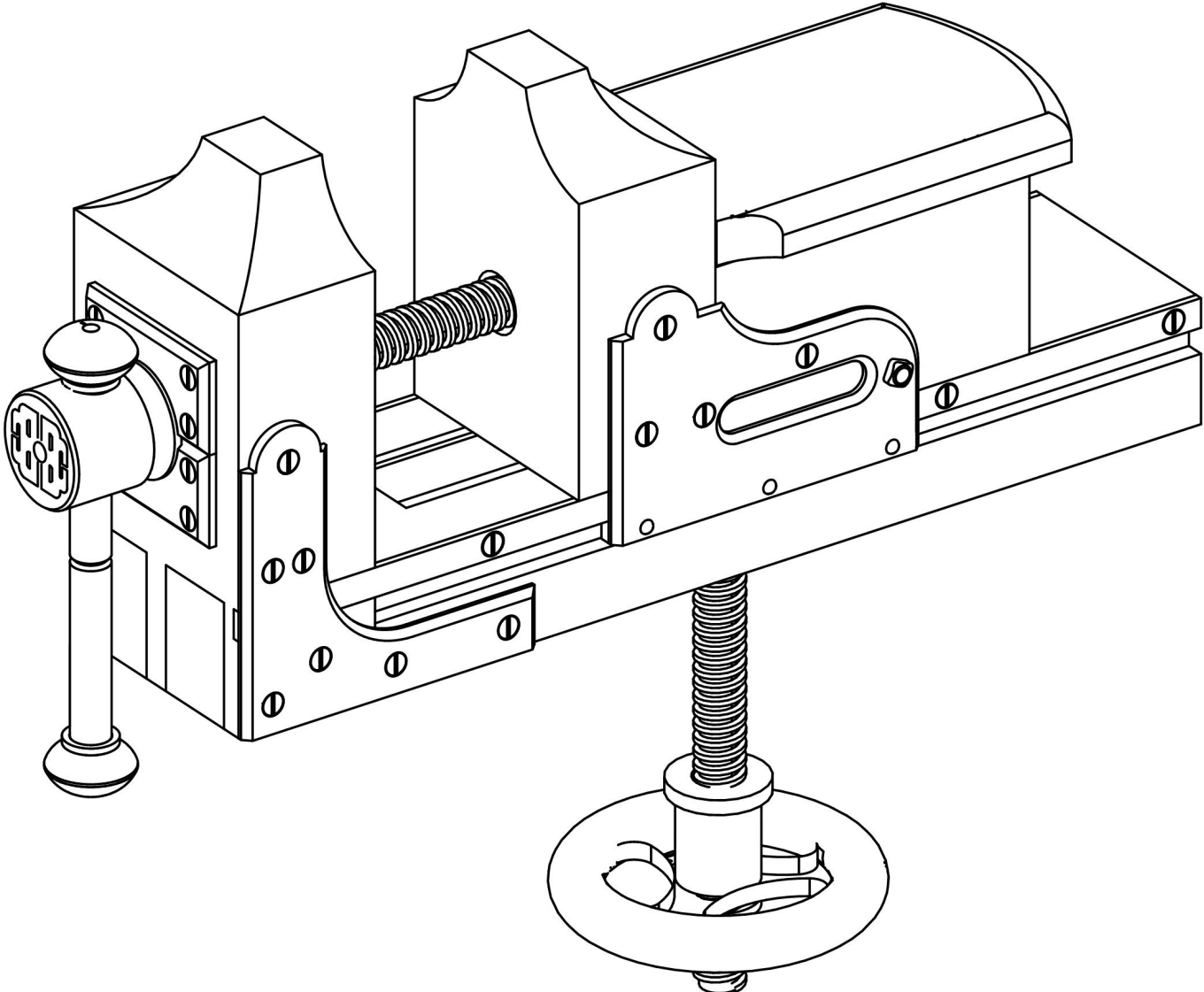


Wood Component Identification

(wood not included)



Completed Vise



UNPACKING THE PARTS

Most of the components are finished with a black oxide process which leaves the parts with a film of oil. We leave this film on the parts to help protect against corrosion during storage and shipping. You'll want to remove the oil before beginning your build. Wet a rag with mineral spirits and wipe down the parts until they are clean. If you want the parts to have a more vintage look, you can lightly rub these parts with very fine steel wool and then wipe down the parts with a light oil like jojoba or camellia, the same treatment you would give to your metal hand planes.

Also be aware that although we take care to ease the edges of our parts, sometimes you can encounter a burr or sharp edge. Handle the parts carefully while unpacking. We allow 48 hours after receiving your vise to claim any missing parts. Please review your package contents against the parts explosion at the beginning of these instructions. If you are missing parts, write to us at info@benchcrafted.com

BUILDING THE VISE

IMPORTANT !

READ COMPLETEY THROUGH THE INSTRUCTIONS BEFORE STARTING YOUR BUILD.

The Benchcrafted Carver's Vise is a fun build that takes about a day to complete. Most of the components are rather thick, and we recommend you source 12/4 stock to build the vise. But you can also laminate thinner stock. Use material from the same board and carefully arrange your laminations so your glue lines become less noticable.

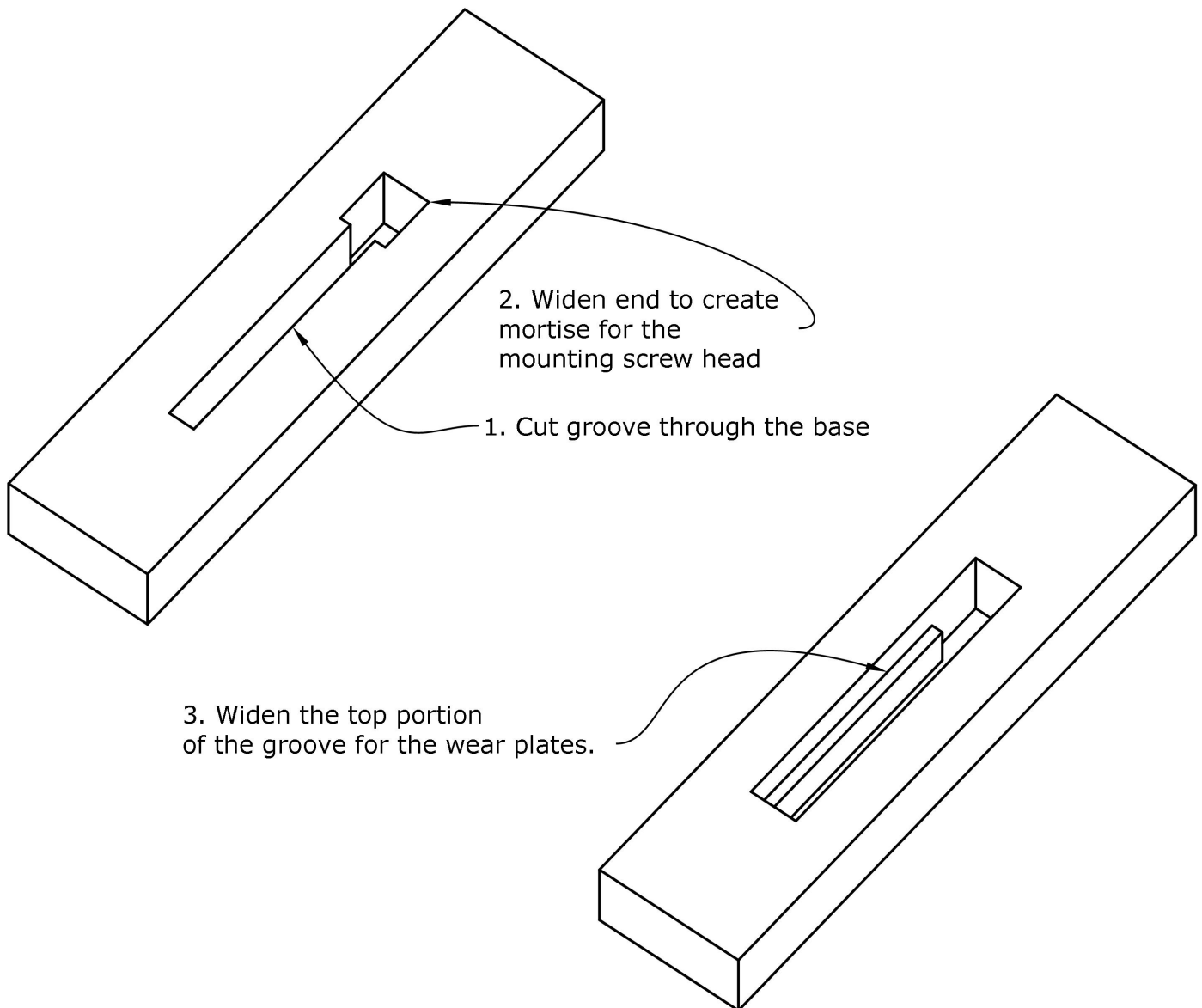
Dense hardwoods are the best choice. Hard maple or beech are good choices. But any hardwood works. Don't use a softwood to build the vise.

The vise is straightforward to build. The only challenging part is the massive dovetail joining the Base to the Fixed Jaw. Being a through dovetail makes the process a bit easier. We wrote an article about cutting "Condor Tails" which you can download from our website. Click on the Instructions tab, you'll find the article in the Tail Vise section.

Because our customers have a variety of tools and techniques at their disposal, we don't always explain how to do each step with a particular tool or technique. Different approaches can accomplish the same thing. If you need specific advice on how to do a particular step, write to us at technical@benchcrafted.com and we'll be glad help.

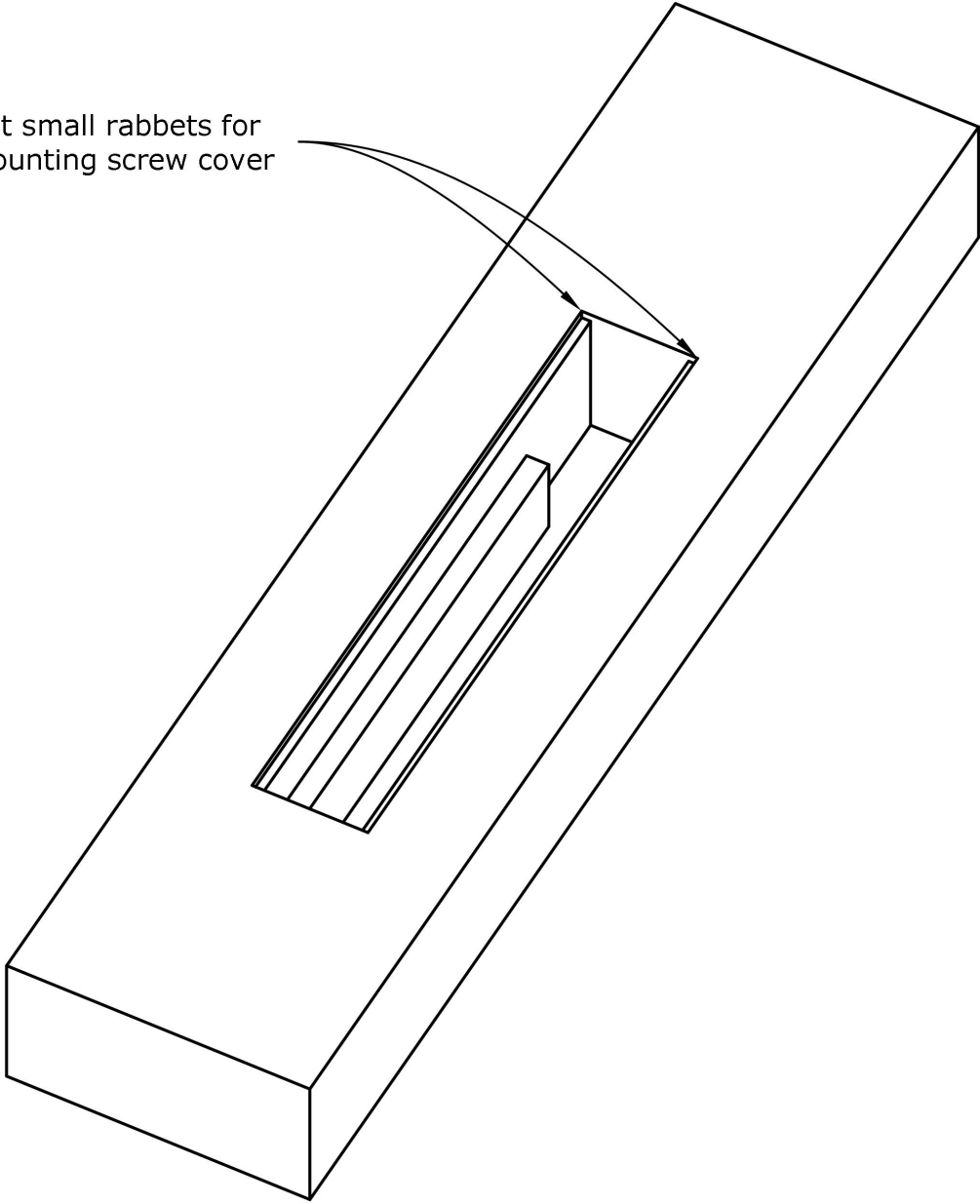
Begin by milling all the parts to final dimensions. Start work on the base first by creating the sliding groove for the mounting screw. Widen the end so the mortise is large enough for the square head of the mounting screw to easily pass through.

Now cut the two rabbets along the groove's two edges to create the mounting surfaces for the Wear Plates. These plates prevent the Mounting Screw head from crushing the groove's walls as you tighten down the Hand-wheel.

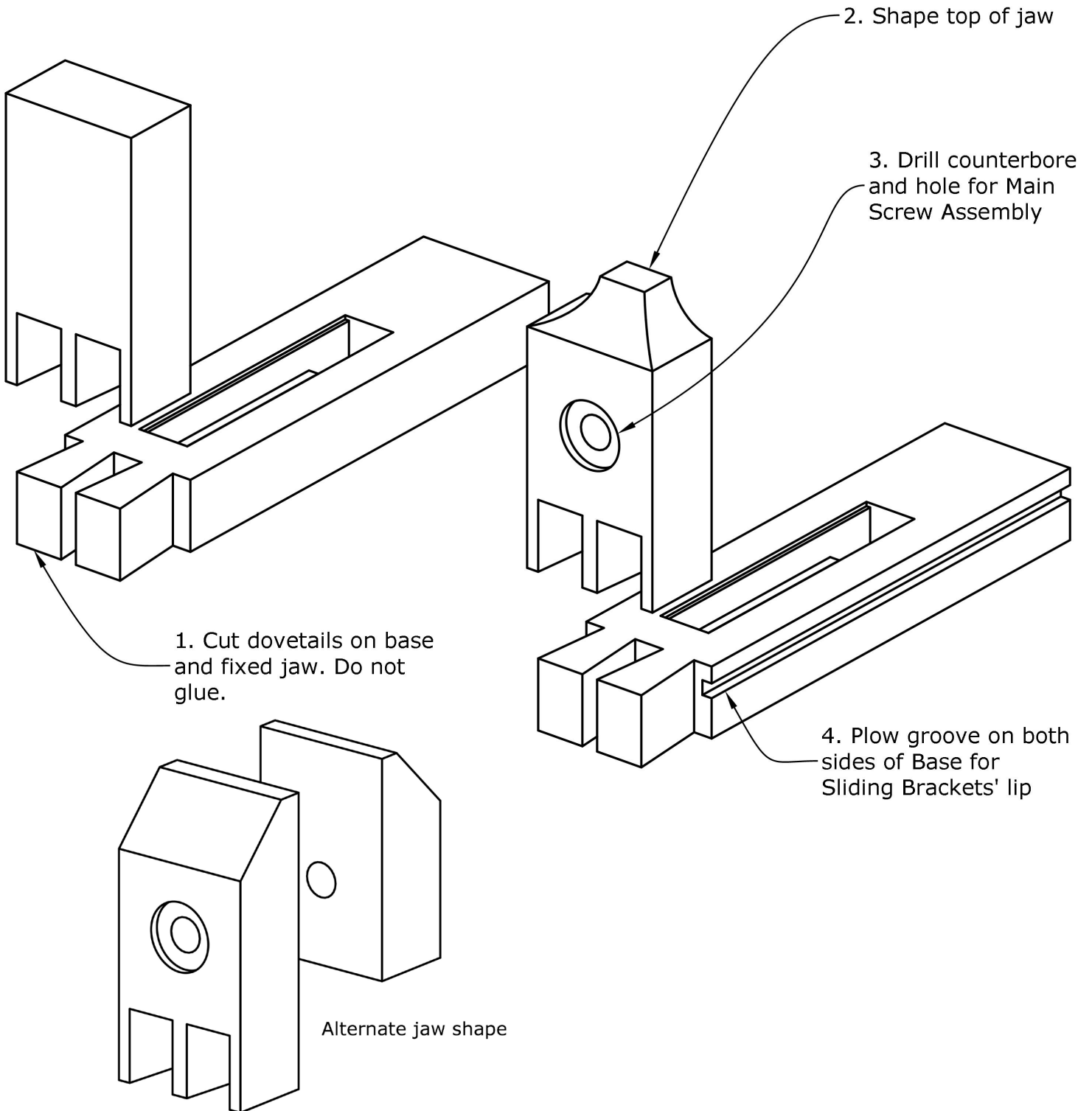


Cut the small rabbets along each edge of the groove. This creates a shallow step for the Mounting Screw Cover. The cover is there to keep debris and dust out of the slot.

Cut small rabbets for mounting screw cover



With the groove completed, layout and cut the dovetails that join the Base to the Fixed Jaw. Once fit, don't glue the two parts together yet. Drill the counterbore and through hole for the Main Screw Assembly in the Fixed Jaw. Makes sure you make the counterbore deep enough so the hub doesn't bottom out in the counterbore--you want an air gap at the bottom. Now shape the top of the Fixed Jaw. The shape in the measured drawings is a traditional shape for carving, as the reliefs on three side and narrow section at the top allow more freedom for carving tools to access the work. If you'll



use the vise for more general work, you could simply chamfer the two outside faces.

Next, plow the two grooves in the sides of the Base that allow space for the lip of the Sliding Brackets.

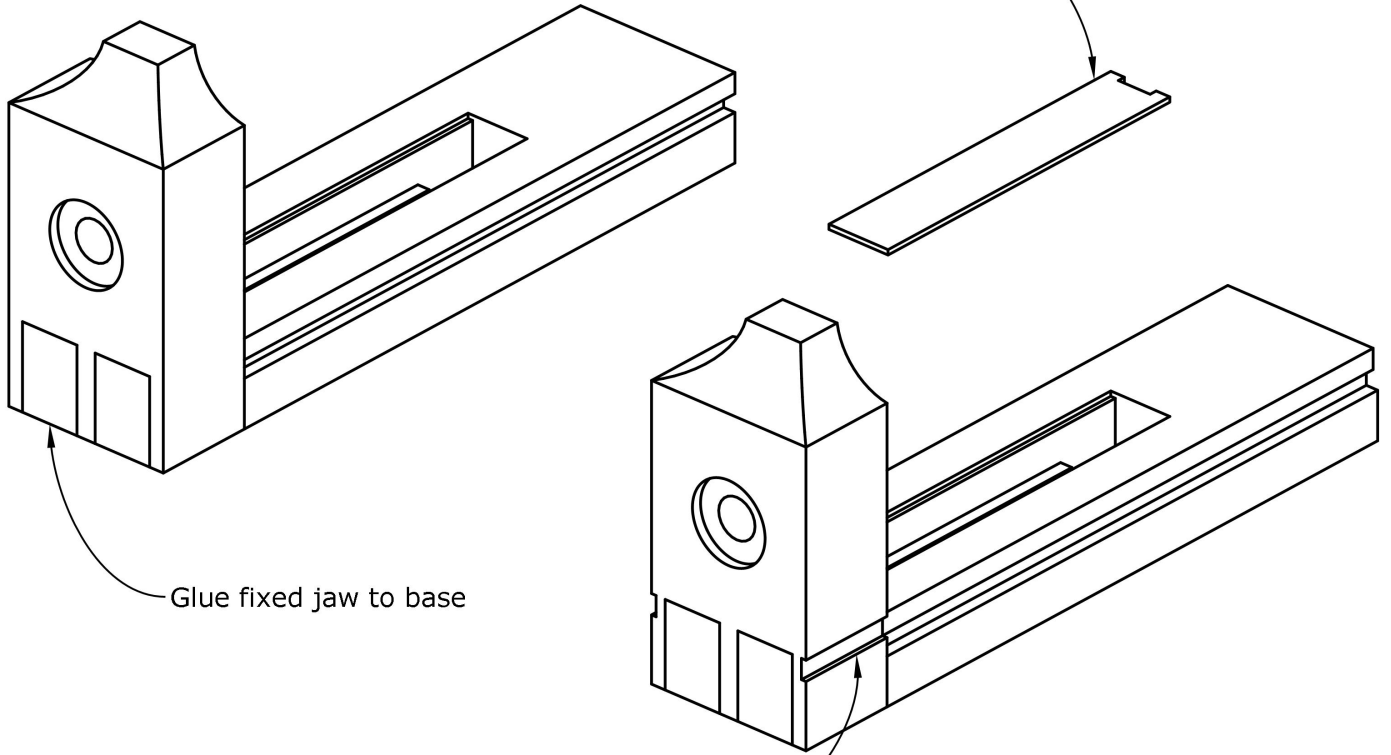
Before gluing the Fixed Jaw to the Base, decide about cutting the grooves for the Slide Rails. The grooves extend across the sides of the Fixed Jaw and are directly in line with the top of the Base and the upper edge of the groove for the lip. You won't actually be creating a groove in the base portion, but rather just removing 1/8" of material from the upper edges of the base, in effect reducing the width of the "tongue" created when you plowed the groove for the lip. If you'll use a router or table saw to cut this groove, you can easily make this cut in the Fixed Jaw and Base after assembly in one pass by riding the base against the machine's fence. But if you're using hand tools to remove the material, we recommend first planing down the "tongue" where the Slide Rail mounts, gluing the Fixed Jaw to the Base, then finishing the groove across the sides of the Fixed Jaw.

With the Base complete, make the Sliding Jaw and Cheeks. The Sliding Jaw should be milled slightly wider than the base for final fitting. If the Sliding Jaw is too narrow, the Sliding Brackets once screwed into place will clamp down on the Slide Rails rendering the vise inoperable at worst, or very stiff at best. Attach the Sliding Brackets to the Sliding Jaw with three screws on each side, then slide the assembly onto the base from the rear to test fit. Plane the sides of the Sliding Jaw for a good fit. Keep in mind if you build the vise in winter, you'll want to shoot for a looser fit so the vise operates freely in more humid seasons.

The Cheeks can be joined to the back of the Sliding Jaw with tenons, dowels, dominoes, or tongue and groove. The connection here doesn't affect the holding power of the vise, as the cheeks are mostly there to support the Sliding Brackets and Cheek Cover. Glue two dowels in the top edge of each Cheek and corresponding holes in the Cover to keep it in place.

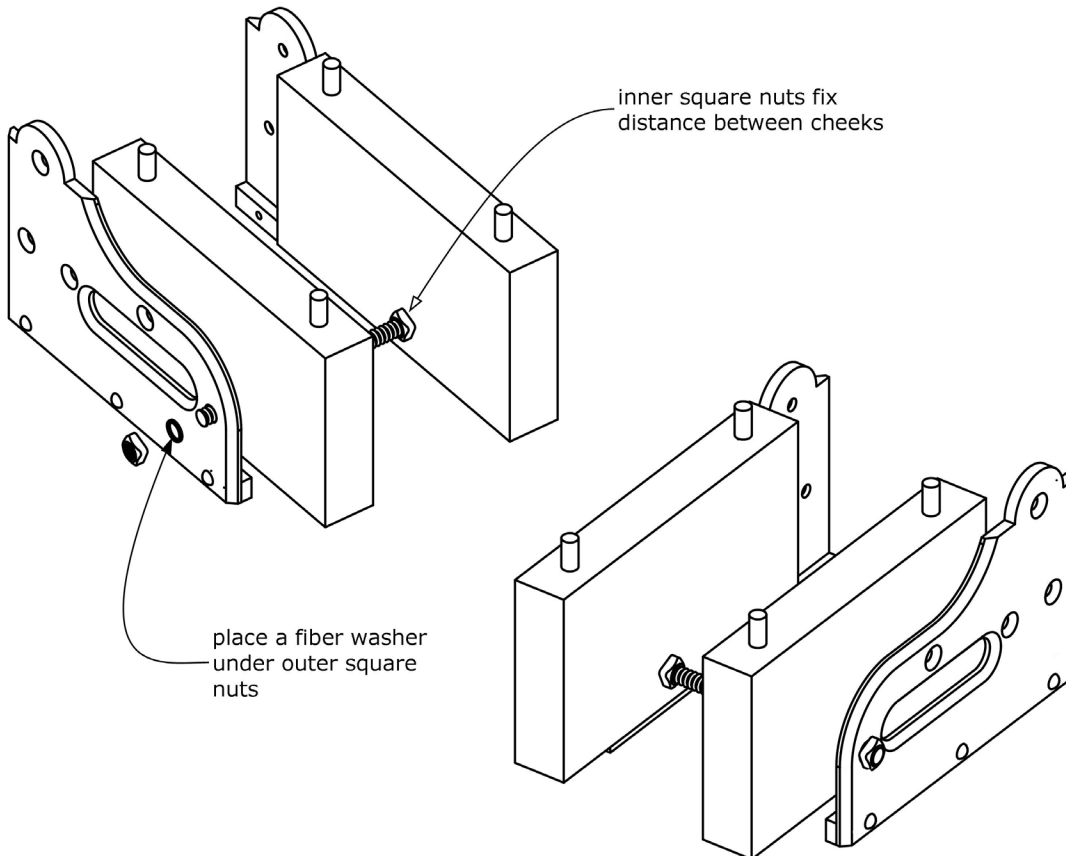
When drilling the holes for the flat head wood screws use a Vix-style bit registered in each hole. Drill one hole, then install a screw to hold the part in

Make and fit Mounting Screw cover



Glue fixed jaw to base

Plow groove for Slide Rail in base and fixed jaw



inner square nuts fix distance between cheeks

place a fiber washer under outer square nuts

position while drilling the remaining screws. This helps get all the screws in the exact location.

The rear upper hole in each Sliding Bracket uses the 3/4" long wood screw (R). If you use the longer screw here by mistake it could poke through to the inside of the Cheek.

To mount the Main Screw Assembly make sure you center the hub in the counterbore so the hub isn't rubbing on any wood after installation. A light wipe of grease or oil in the hub's groove where it rides on the Garter plates help the vise run smoothly.

Install the handle in the hub, slipping the leather washers onto the handle before screwing on the Mushroom Nuts. Screw the Spring Plunger (V) into the end of the hub until the plunger engages with the V groove in the handle. You can set it for a light engagement or heavy, depending on your preference. Or if you want the handle to slide free at all times, back the plunger off. The plunger puts friction on the handle and the V groove allows you to quickly center the handle in the hub, balancing the handle and allowing the vise to spin quickly and smoothly.

Install the nut in the back of the Sliding Jaw. The narrow diameter of the nut goes into the Jaw so the nut's flange ends up flush with the back face of the Jaw.

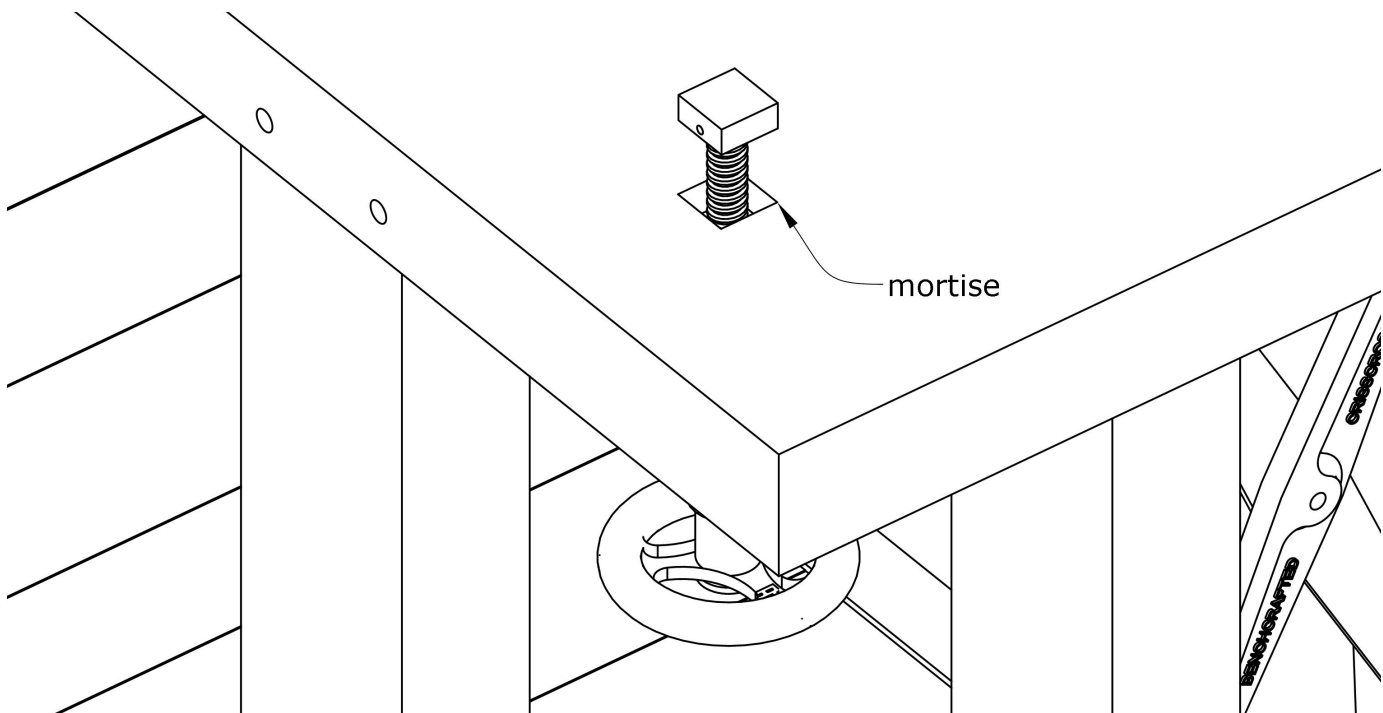
The threaded rod (O) passes through both Sliding Brackets and Cheeks and is held in place with four square nuts. You can fine tune the width of the Cheek/Jaw assembly by adjusting the nuts so the rear portion of the vise moves sweetly along the base. Tighten the nuts once you've found the sweet spot. Two fiber washers (Q) are provided for use under the outer nuts to prevent the nuts from scratching the Sliding Brackets.

Once you're satisfied with the action of the assembled vise, dismantle it for finishing. You can use any finish you like. We like to use two coats of an oil-varnish mix. Finally, glue the Crubber to each inside face of the jaws. Contact cement is what we use, but any glue will work.

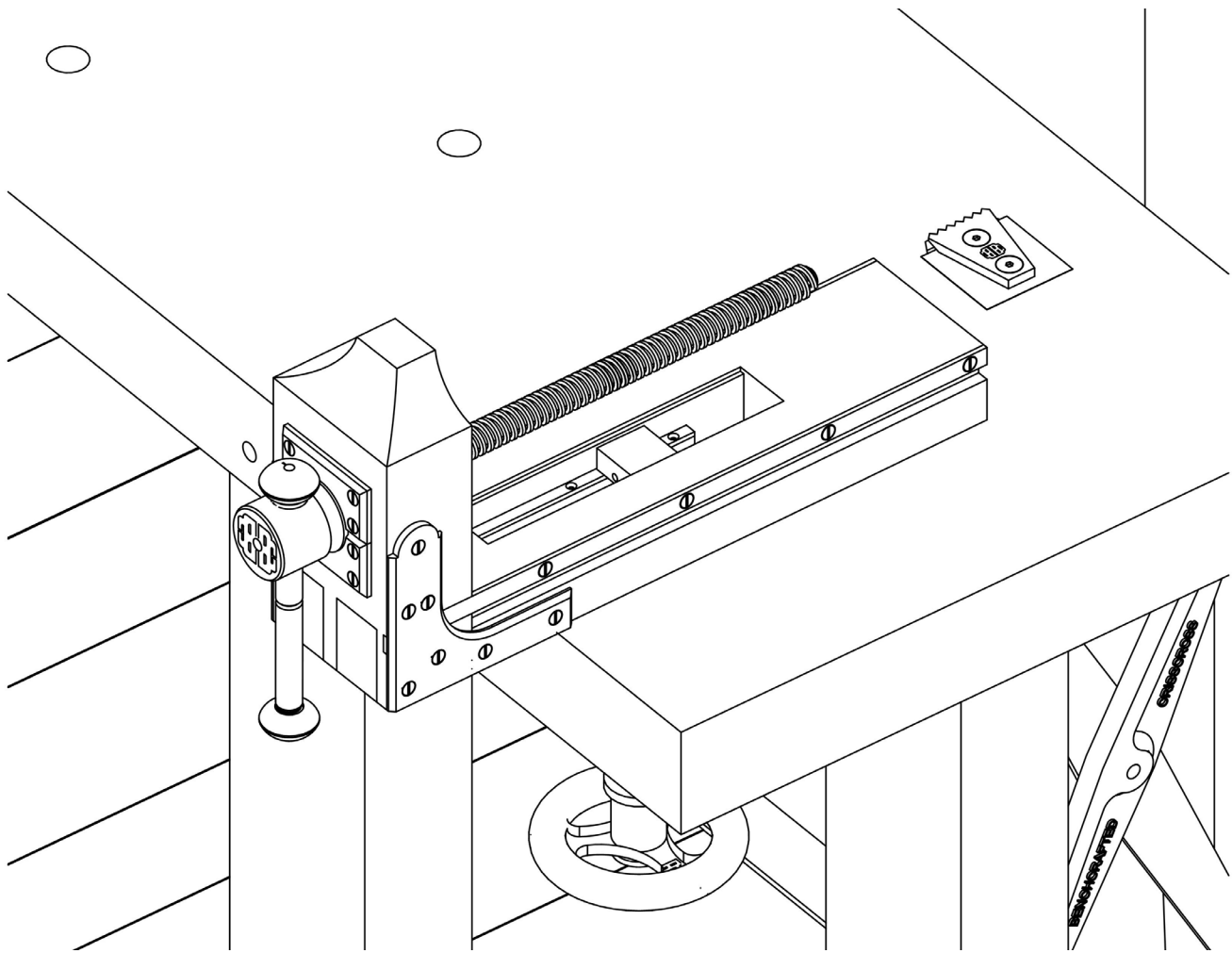
Lubricate the screw and nut with drying-type bicycle chain lubricant. Just a few drops does the trick.

MOUNTING THE VISE TO A WORKBENCH

To prepare your workbench for mounting the vise, drill a 3/4" hole through the top where you plan to use the vise. We like to mount the vise directly across from the face vise. You can of course use any 3/4" hole in your bench to mount the vise. If you'd like to keep the mounting screw in the bench when storing the vise, you'll need to chop a square mortise at the top of the hole to receive the head of the Mounting Screw. Make the depth 11/16" so the 5/8" thick head is slightly below the top of the bench. That way, when the vise is stored, the head of the Mounting Screw will be out of the way, with the screw and handwheel below the benchtop.



To mount the vise, first remove the Mounting Screw Cover from the Base, then insert the Mounting Screw into the benchtop, then slip the Thick Washer (M) onto the screw and spin on the Handwheel a few turns. Push up on the assembly from below, allowing the Mounting Screw head to pass through the wider portion of the slot in the Base, then slide the vise so the head rests on the Wear Plates. You can rotate and slide the vise to find the position you want. Tighten the vise to your workbench by turning the

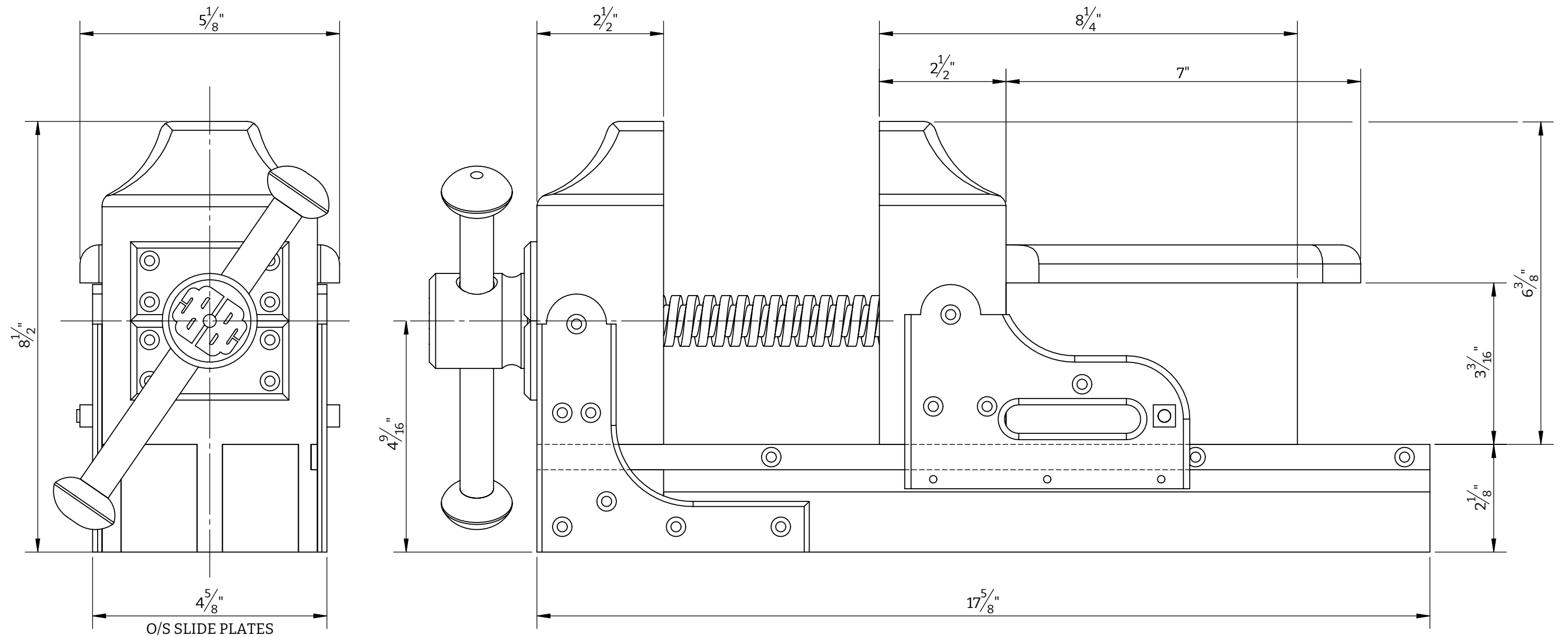


handwheel underneath the bench top. You'll want to position the vise so the handle is past the edge of your workbench, so it can rotate freely. The illustration above doesn't show the Sliding Jaw assembly for clarity--you don't have to remove it to mount the vise. Replace the Mounting Screw Cover in the Base and you're ready to work.

Enjoy your Benchcrafted Carver's Vise! If you have any questions about the build or its use, write to us at technical@benchcrafted.com

Copyright 2022 Benchcrafted

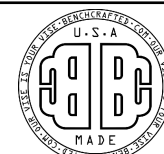
Thanks to our friend Louis Bois for providing the original vise for reproduction and for drafting the measured drawings.



- THE DIMENSIONS ON THESE PLANS WERE TAKEN DIRECTLY FROM A VISE THAT WAS BUILT AT THE "FORGE ROYALE DE PARIS" DATING BACK TO THE LATE 1800'S TO EARLY 1900'S.
 - THERE ARE A FEW DEVIATIONS FROM THE ORIGINAL VISE TO SUIT CUSTOM HARDWARE DESIGNED BY BENCHCRAFTED.



PUNCHINELLO
ENTERPRISES



**BENCHCRAFTED CARVER'S VISE
OVERALL ARRANGEMENT**

SCALE

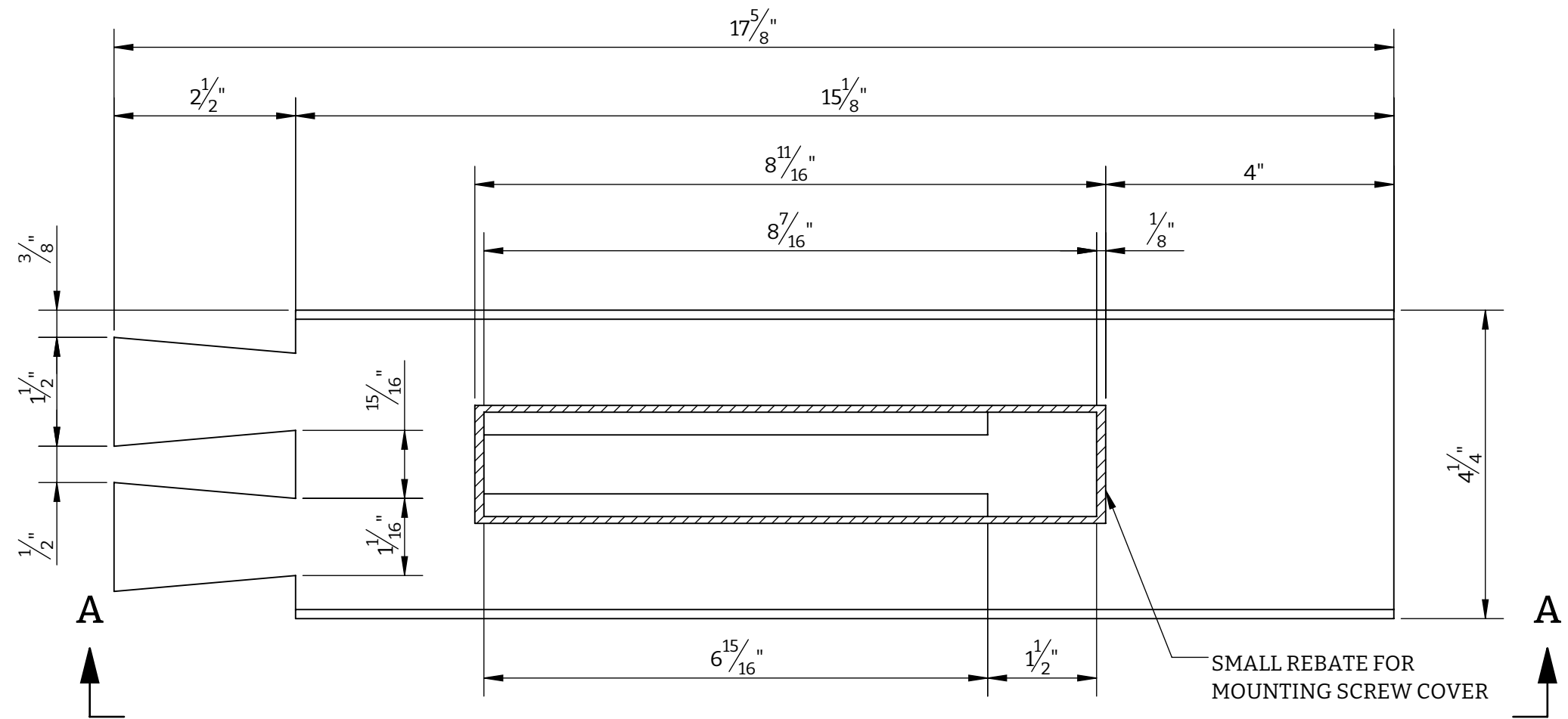
1:2

SHEET NO.

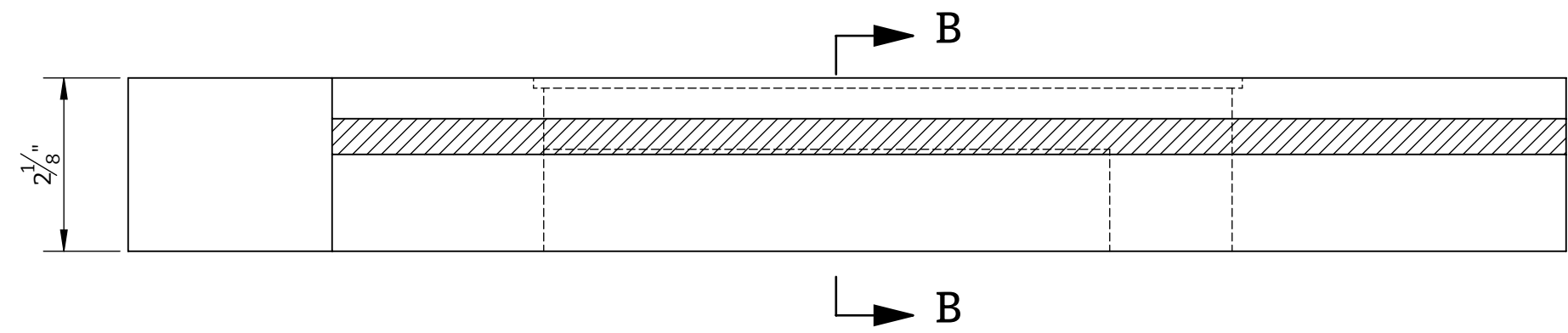
SHEET 1 of 4

REV.

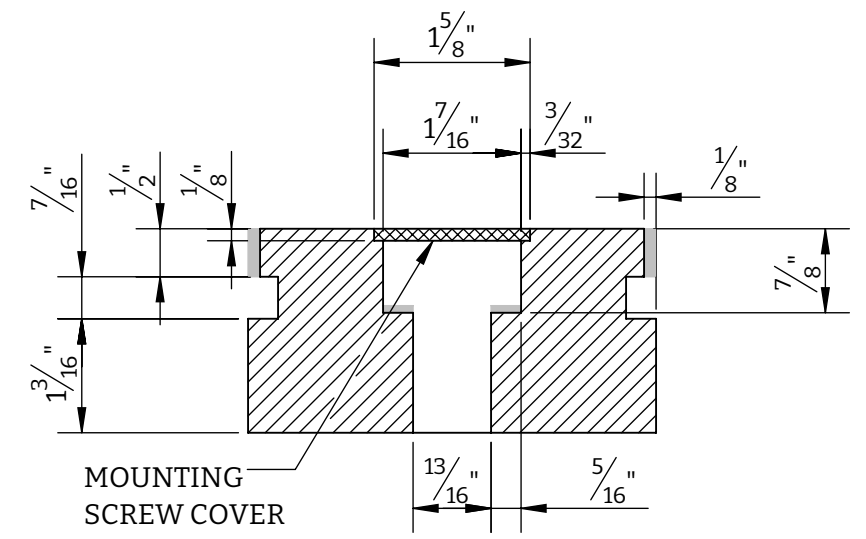
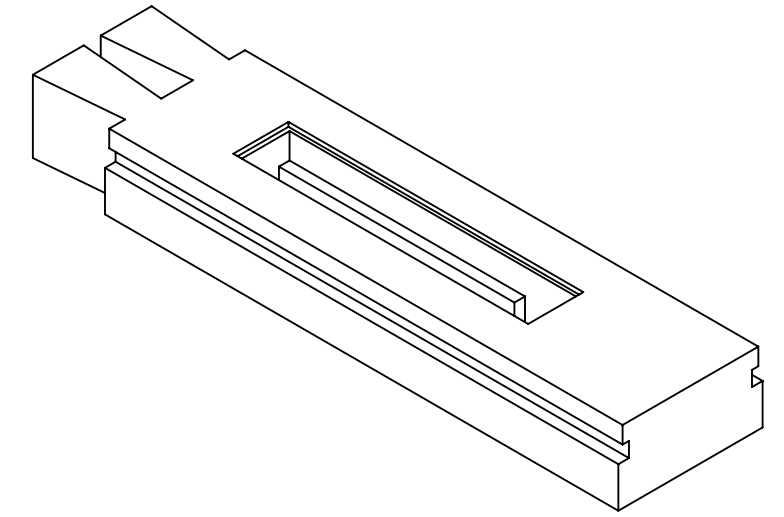
A



TOP VIEW





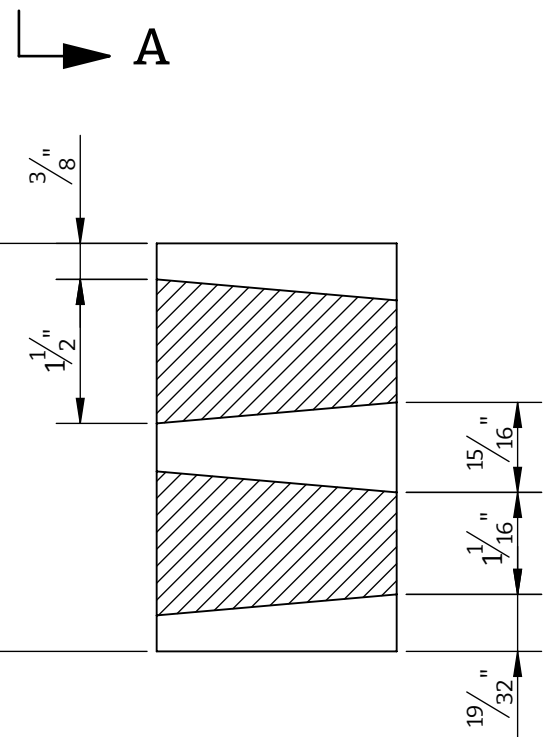
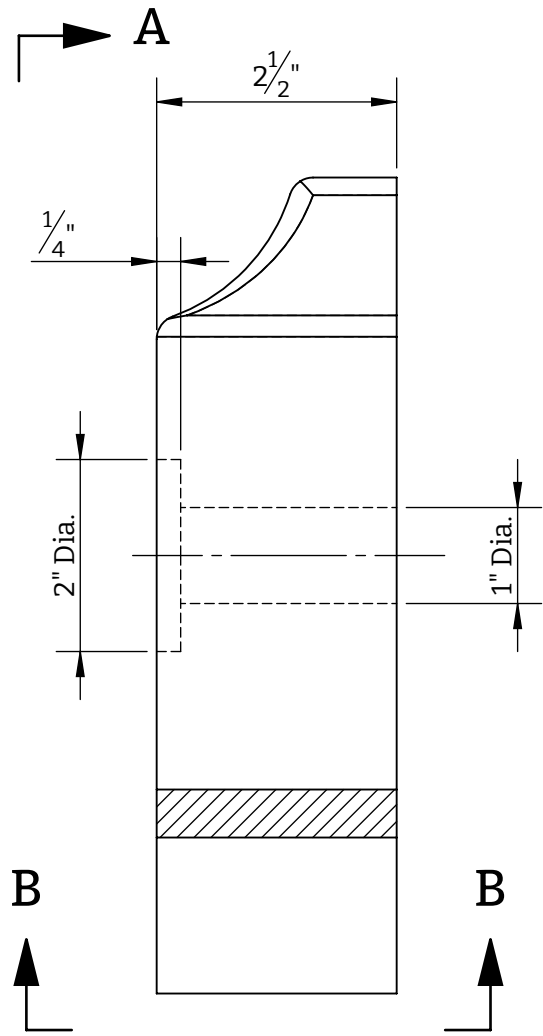
VIEW A-A



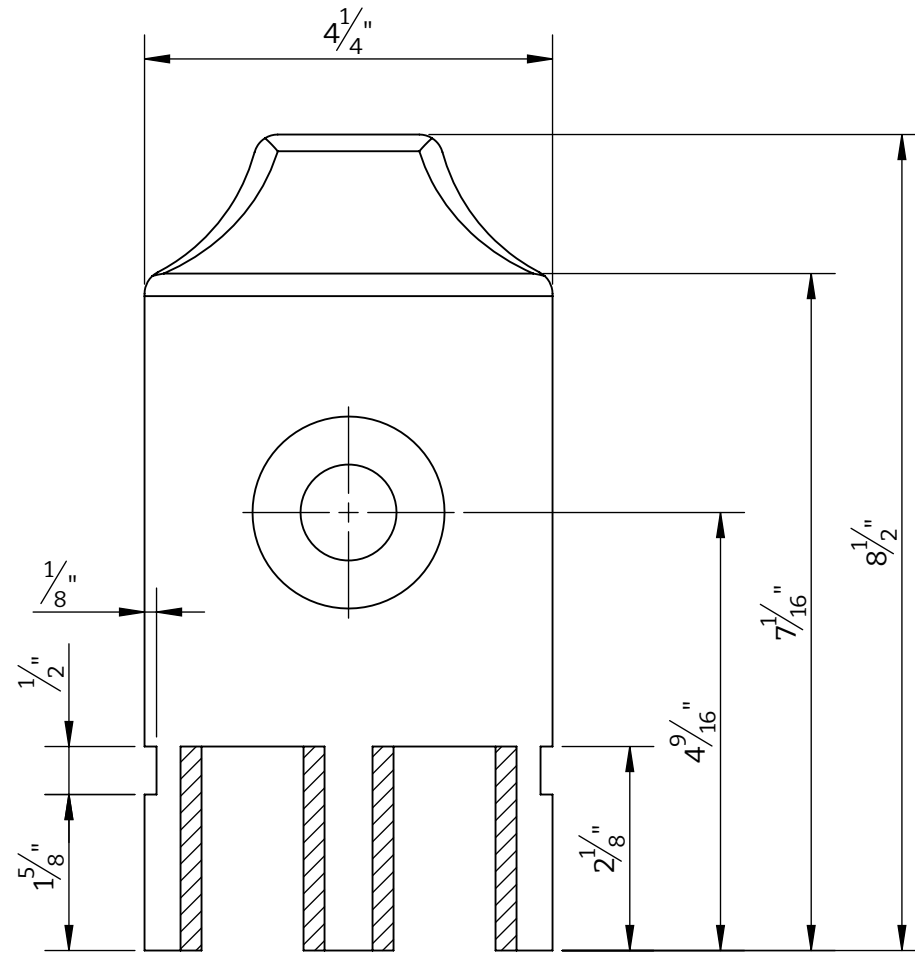
SHADED AREAS REPRESENT LOCATION OF WEAR PLATES AND SLIDE RAILS

SECTION B-B

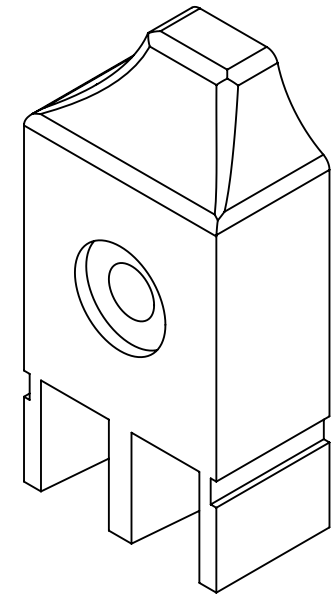
 PUNCHINELLO ENTERPRISES & 	BENCHCRAFTED CARVER'S VISE BASE DETAILS		
	SCALE 1:2	SHEET NO. SHEET 2 of 4	REV. A



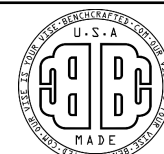
VIEW B-B



VIEW A-A



PUNCHINELLO
ENTERPRISES



BENCHCRAFTED CARVER'S VISE
FIXED JAW DETAILS

SCALE

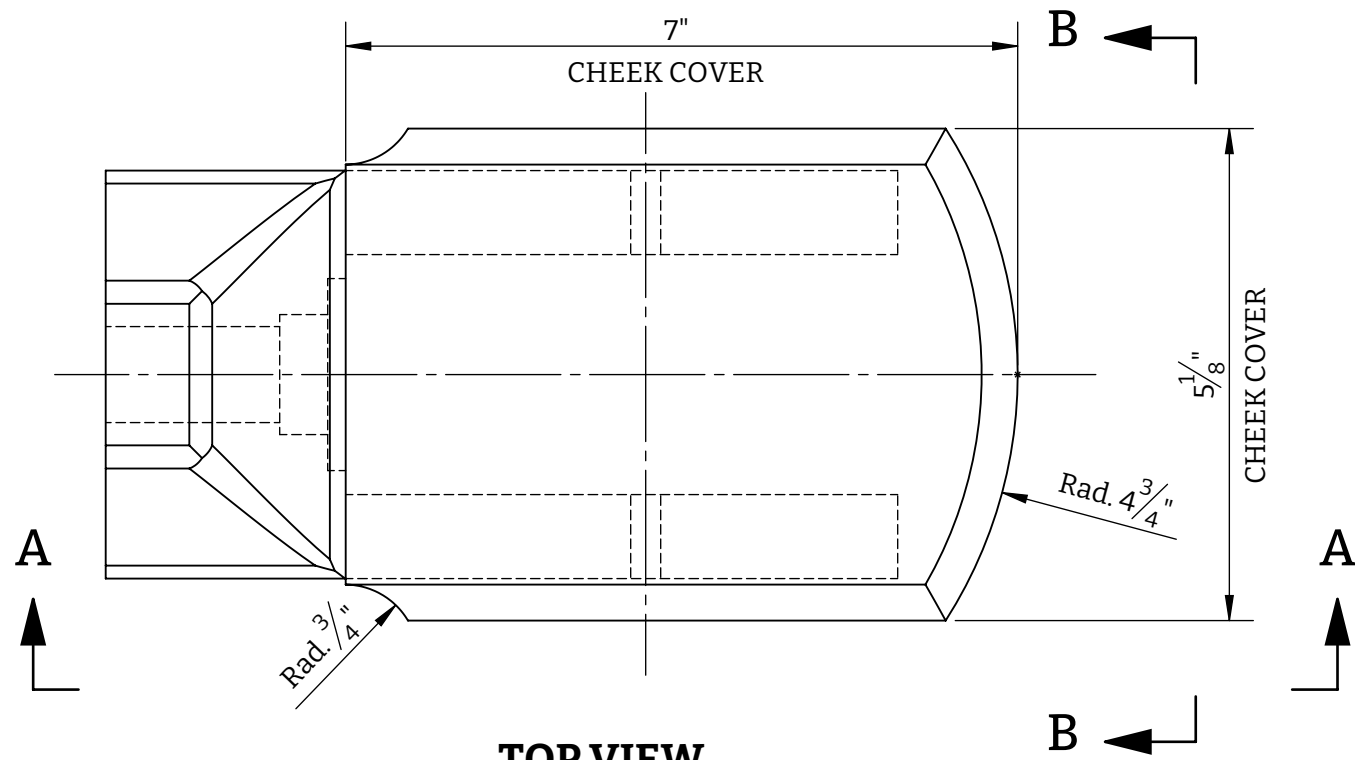
1:2

SHEET NO.

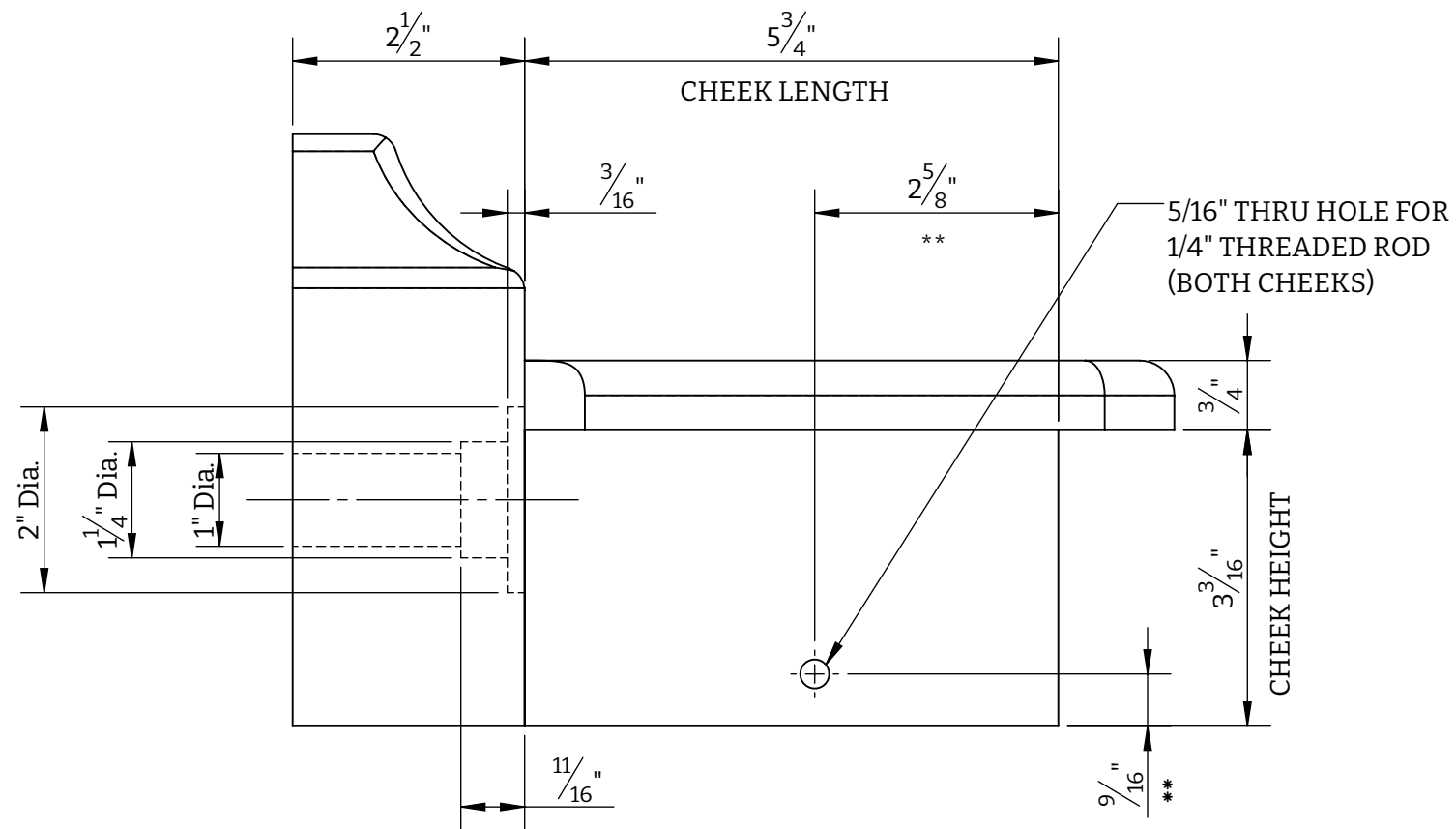
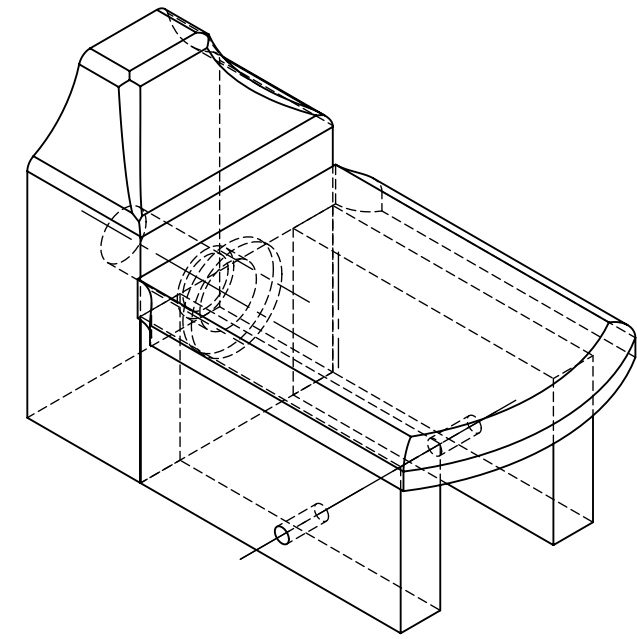
SHEET 3 of 4

REV.

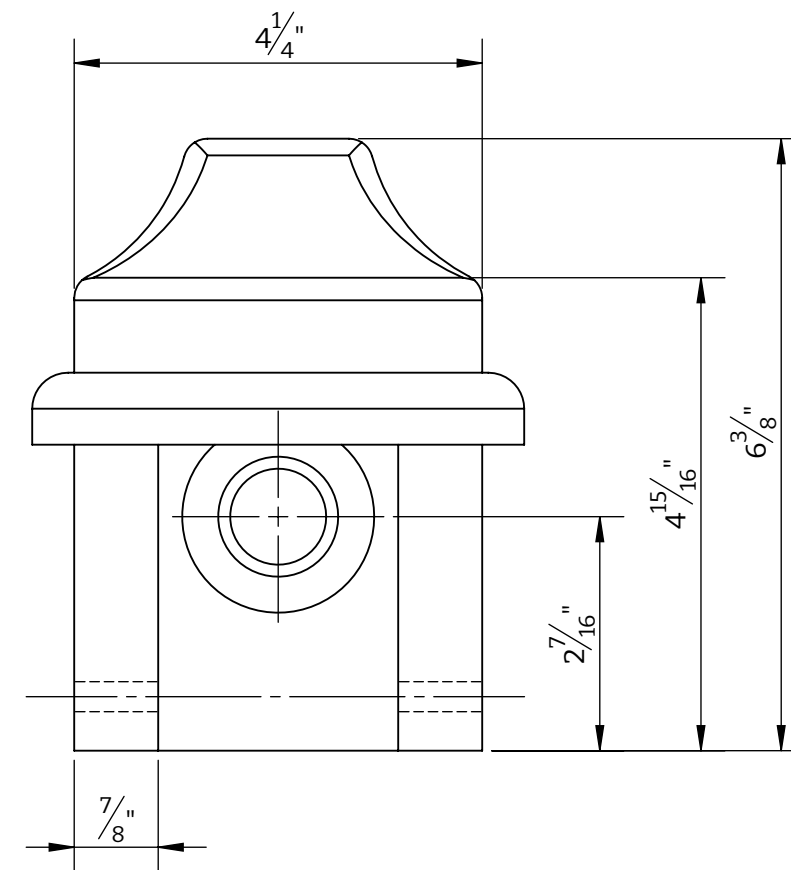
A



TOP VIEW



VIEW A-A



VIEW B-B

** THESE DIMENSIONS ARE APPROXIMATE AND SHOULD BE FINE TUNED WITH SLIDING JAW SIDE PLATES TEMPORARILY INSTALLED



PUNCHINELLO ENTERPRISES



**BENCHCRAFTED CARVER'S VISE
SLIDING JAW ASSEMBLY**

SCALE

1:2

SHEET NO.

SHEET 4 of 4

REV.

A