Carver's Bench: Owner's Manual

05A04.01

The Veritas® Carver's Bench has been designed to allow you to quickly and easily position any workpiece in the orientation that best suits the work you are doing. The 24″ square work surface can be tilted up to 90º, and rotated through a full 360º. The mechanism is spring loaded to counteract the weight of the work surface and support structure, allowing the workpiece to be moved effortlessly.

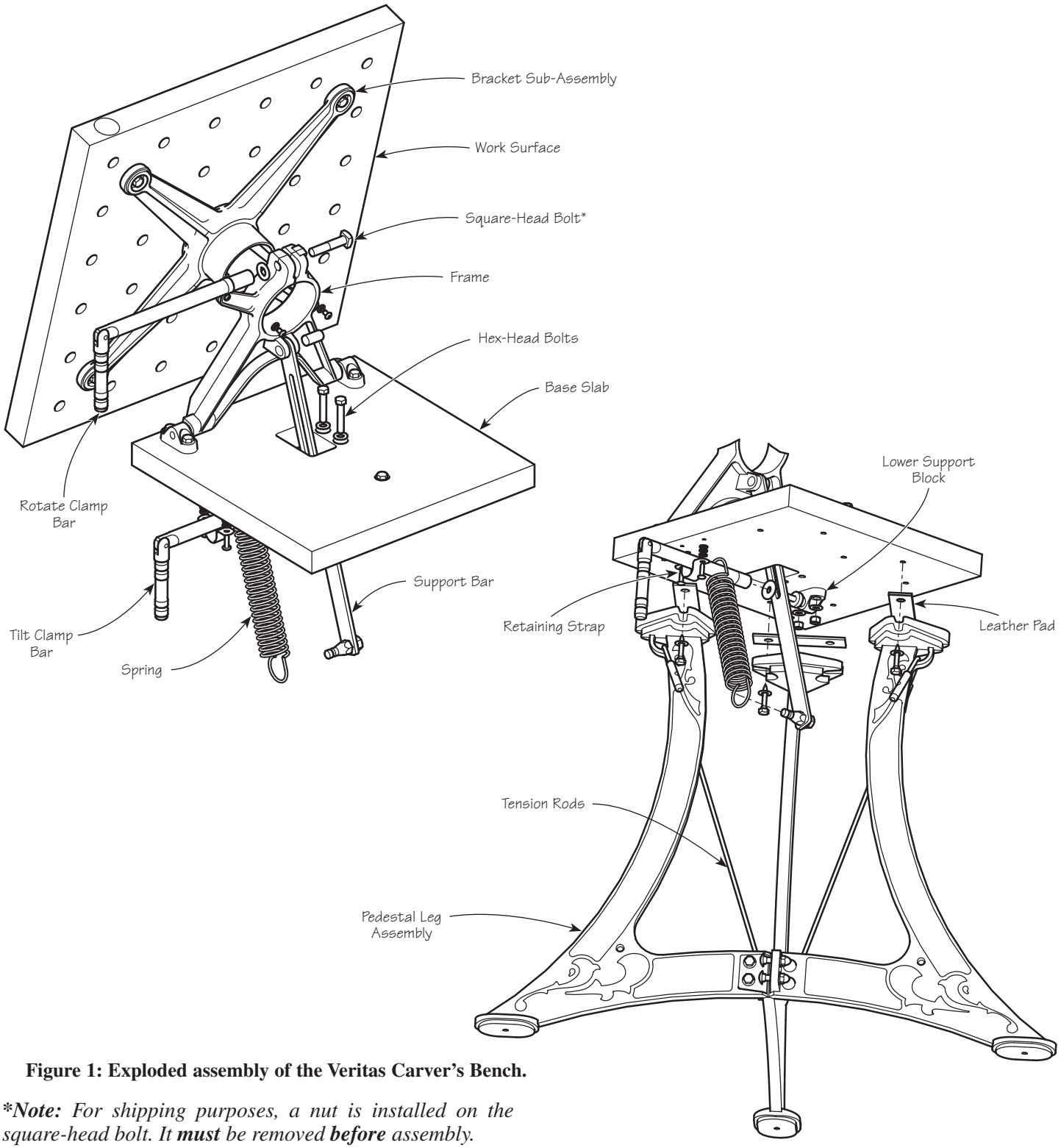

Figure 1: Exploded assembly of the Veritas Carver's Bench.

***Note:** For shipping purposes, a nut is installed on the square-head bolt. It **must** be removed **before** assembly.*

Assembly

The work surface is packaged separately from the bracket sub-assembly for easier handling of the components. Some assembly will be required before the product can be used.

Unpacking

Place the work surface face down using the included packaging to protect the top of the work surface. Lift the base slab to get access to the bottom of the frame. Secure the bracket sub-assembly to the work surface using the four included 3/8″ × 1 3/4″ lag screws and 3/8″ washers (see **Figure 2**).

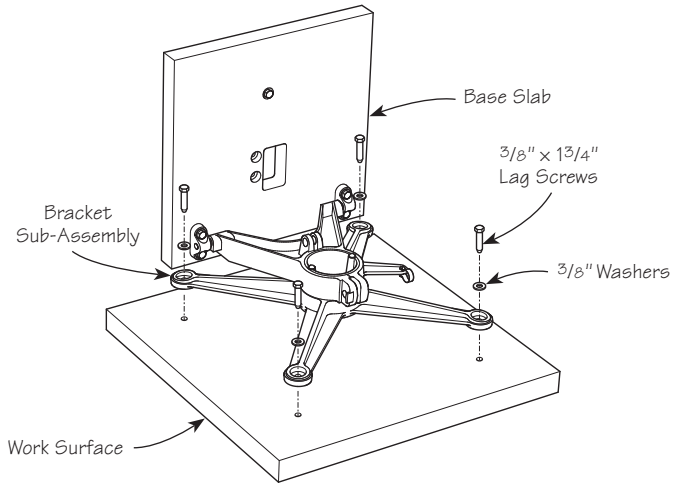

Figure 2: Securing the work surface to the bracket sub-assembly. *Base slab lifted to show carver's bench frame.*

Installing the Rotate Clamp Bar

Install the rotate clamp bar onto the frame as shown in **Figure 3**. (The rotate clamp bar is the **longer** of the two clamp bars supplied.)

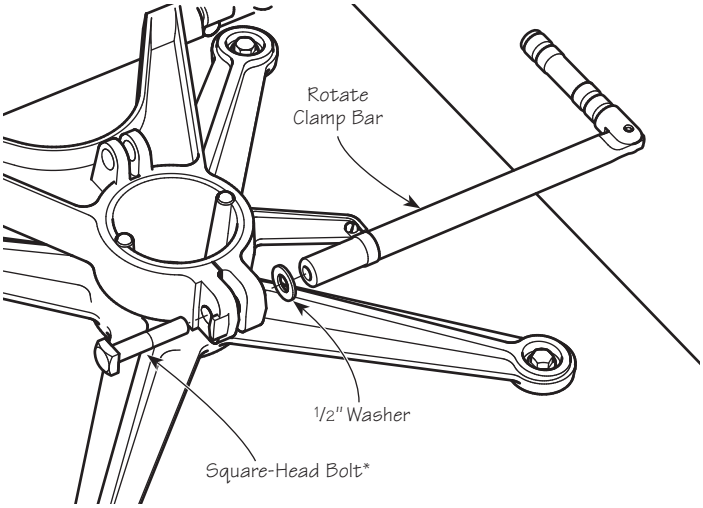

Figure 3: Installing the rotate clamp bar.

***Note:** For shipping purposes, a nut is installed on the square-head bolt. It **must** be removed **before** assembly.*

Attaching the Support Bar

Slide the rounded end of the support bar through the hole in the base slab, **orienting it so that the support bar spring mount on the opposite end of the bar is on the same side as the rotate clamp bar** (see **Figure 4**). Position the hole in the bar between the lugs in the frame, as shown in **Figure 5**. Use a C-clamp to force the pin through the bar and adjacent lug. Alternatively, the dowel pin can be driven gently into place by lightly tapping it with a mallet. The assembly should now look like **Figure 4**.

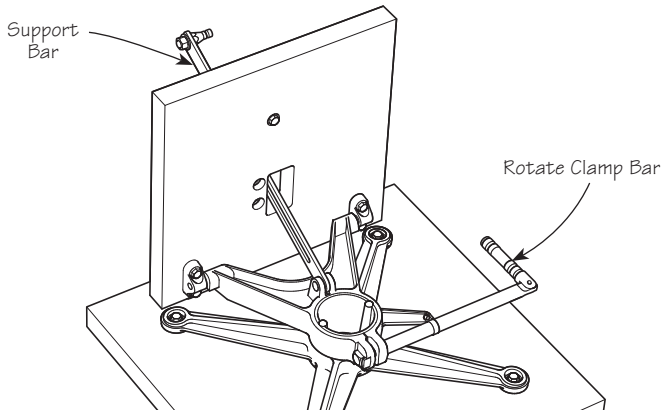

Figure 4: Carver's bench with support bar installed. *Note orientation of support bar and rotate clamp bar.*

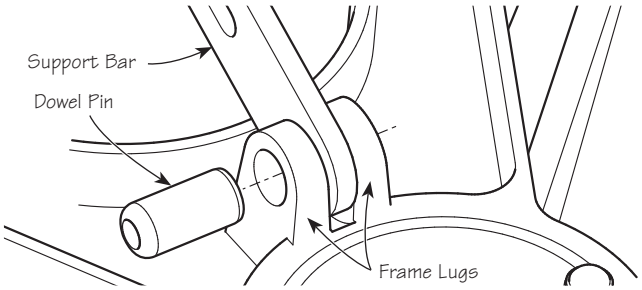

Figure 5: Attaching the support bar.

Securing the Lower Support Block

Place the lower support block on the underside of the base slab, letting the threaded fitting pass through the slot in the support bar. Attach the lower support block with the two included 3/8-16 × 2″ hex-head bolts, nuts and washers as shown in **Figure 6**.

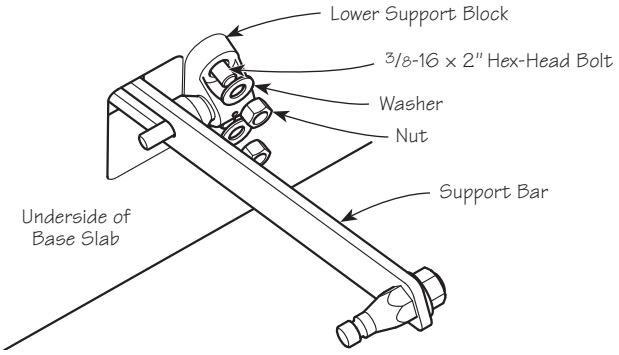

Figure 6: Lower support block assembly.

Tighten the rotate clamp bar and close the assembly so it looks the way it is shown in **Figure 7**.

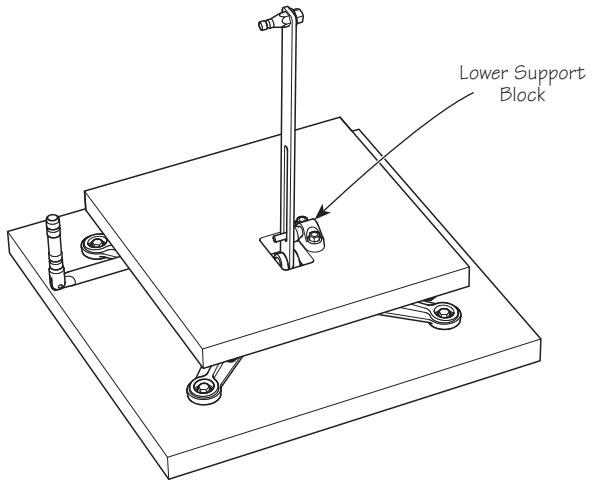

Figure 7: Closed carver's bench top with lower support block installed.

Attaching the Tilt Clamp Bar

Slide the 3/8″ dia. washer and the tilt clamp bar onto the threaded fitting of the lower support block and tighten (see **Figure 8**).

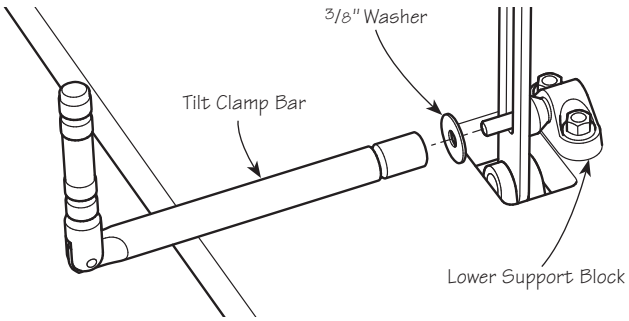

Figure 8: Attaching the tilt clamp bar.

Installing the Spring

Slip one end of the spring over the groove in the tilt clamp bar (see **Figure 9**). Do not hook the opposite end of the spring over the support bar spring mount at this point.

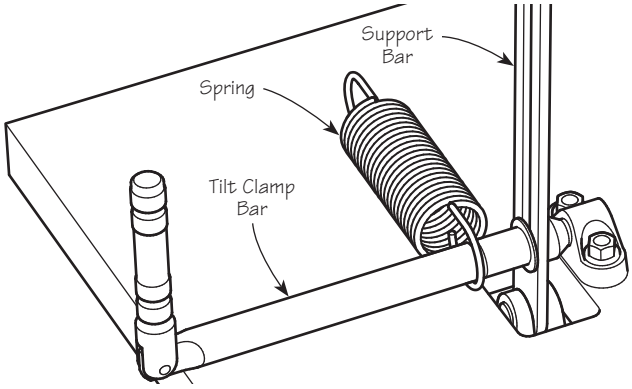

Figure 9: Installing the spring. *Leave the opposite end of the spring free.*

Securing the Tilt Clamp Bar

Secure the U-shaped retaining strap into the pre-drilled holes in the base slab with six of the included 1/4″ washers and the two #14 × 1″ pan-head screws (see **Figure 10**).

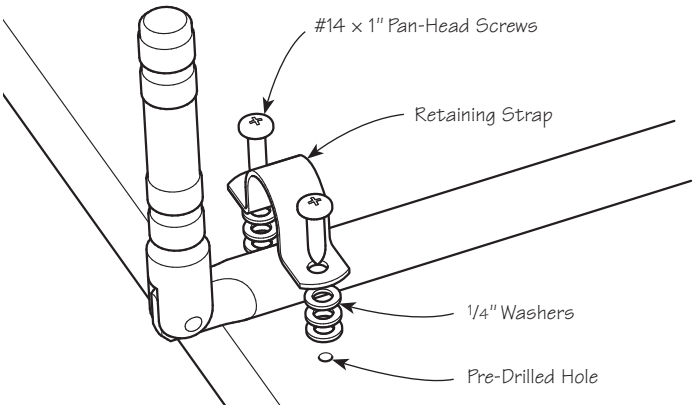

Figure 10: Securing the tilt clamp bar retaining strap.

Preparing the Supporting Base

If you have purchased the Veritas® Cast-Iron Pedestal Legs, assemble them now, following the instructions there contained.

If you have not purchased these legs for the carver's bench top, you will need to build your own base. The base should be 28″ to 29″ high and should have a footprint of approximately 27″ square. The base slab is 17″ square. You will want to be sure that your base design is rigid and does not interfere with the mechanism frame. Also, you may want to incorporate a lower shelf for the addition of stabilizing weights. See *Making Your Own Base* for one option.

Attaching the Pedestal Legs to the Carver's Bench Top

Fasten the assembled legs to the bottom of the base slab, using the eight included 3/8″ × 13/4″ lag screws and 3/8″ washers as shown in **Figure 11**. (See the instructions included with the legs for further details.)

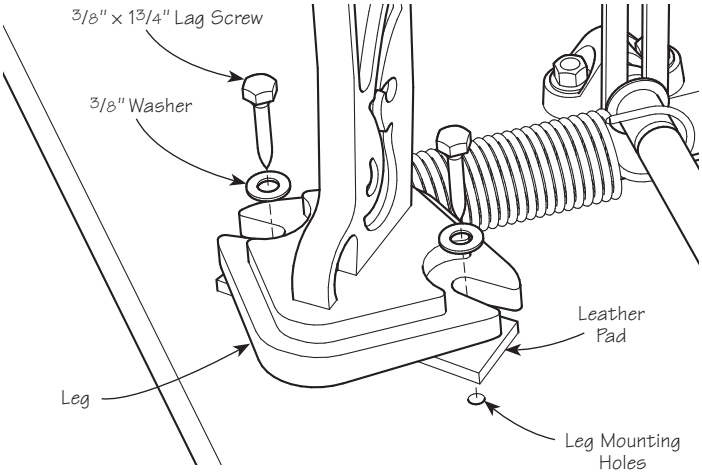

Figure 11: Attaching pedestal legs to carver's bench top.

Optional Tension Rods

If you will be doing heavy carving with mallet blows near the periphery of the work surface, you may find that the base flexes or resonates. Included are tension rods and coupling nuts, which you may install to eliminate this. Assemble the leg-stiffening tension rods and coupling nuts as shown in **Figures 12** and **13**. With a screwdriver or other slim tool placed in the cross-drilled hole, tighten the coupling nuts gradually and progressively in order to ensure equal load on all members.

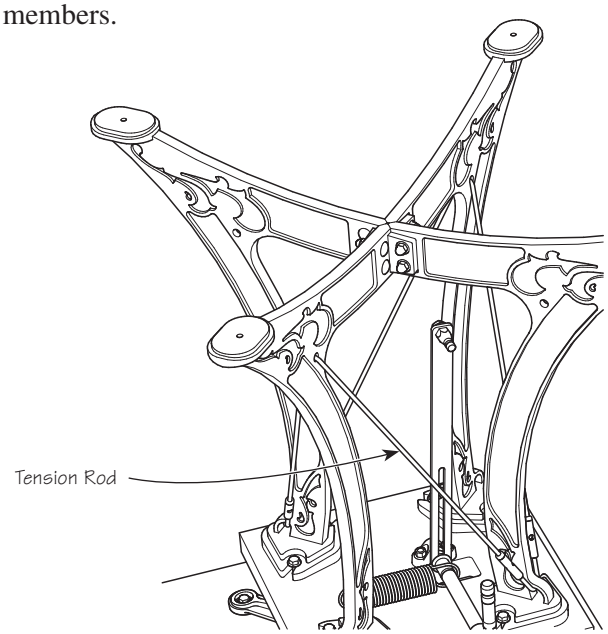

Figure 12: Tension rod assembly.

Starting the coupling nuts can be somewhat difficult due to the rigidity of tension rods. The easiest method we have found is to thread one of the coupling nuts onto a long rod end, advancing it until the mating short rod end just clears the nuts. Align the short rod end to engage with the nut, turning it such that the left-hand thread on the short rod just engages one to two turns (counterclockwise as shown in **Figure 13**). Repeat the process to start the other three coupling nuts. Getting pairs of coupling nuts to engage may require tightening them simultaneously. You may also have to apply a little force to align and engage the coupling nuts with the tension rods.

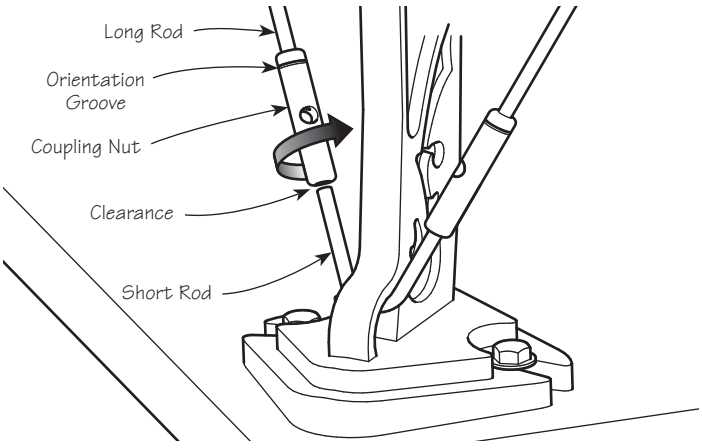

Figure 13: Note orientation of coupling nuts.

Note: *It does not matter which set of legs the tension rods are attached to, the effect will be the same.*

Note: *The coupling nuts work like turnbuckles; they have left- and right-hand threads. Ensure that each nut is oriented with the groove as shown in* ***Figure 13*** *to have the proper threads engaging.*

Turning the Assembled Bench Upright

Make sure all the fasteners and clamp bars are tight before setting the bench up on its feet.

Note: *The assembled bench weighs approximately 150 lb; you may want to get some help with this step.*

Securing the Spring onto the Support Bar

Raise the work surface to its vertical position and stretch the spring to fit on the support bar spring mount (see **Figure 14**). You may find it easier to grip the spring around its body as opposed to pulling on the hook.

⚠ ***Caution:*** *This is a very powerful spring. It has been sized to counteract the weight of the entire moving mechanism. If, for any reason, you ever have to remove the work surface, make sure the mechanism frame is securely clamped in place. If not, the spring will turn it into a catapult.*

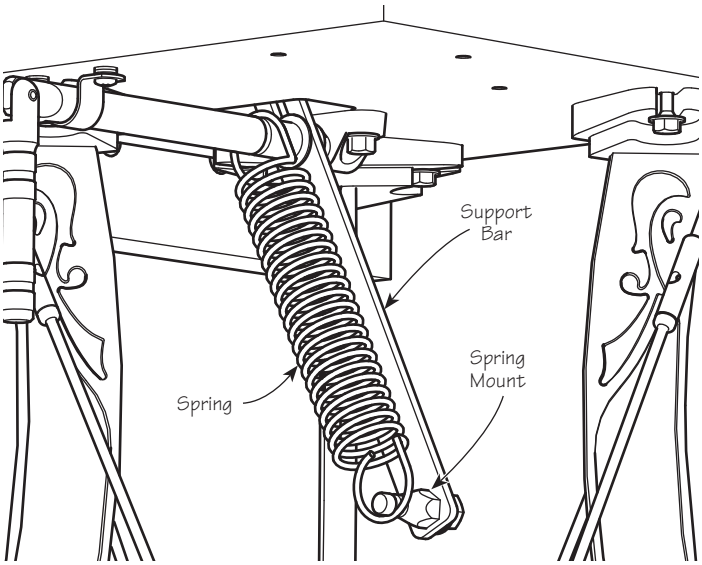

Figure 14: Hook the spring over the support bar spring mount. ***Note:*** *One leg has been removed for clarity.*

Anchoring the Assembled Bench

If you are going to be working on fairly large pieces, you may want to add weight to the base in the form of sandbags. They can rest on the bolted assembly area of the four legs, or bags can be suspended from each hole at the top of the legs (the same hole that the tension rods use).

Alternatively, you could attach wooden pads (see *Pedestal Legs Instructions*), or drill through the feet and fasten the table directly to the floor. You will want to be sure the bench location allows for the full range of motion before drilling holes in your floor.

Using Your Carver's Table

Loosening the rotate clamp bar allows the work surface to rotate 360º. Loosening the tilt clamp bar will allow the work surface to be tilted from horizontal to vertical.

Two Veritas® Bench Pups® and one Wonder Pup® clamps are included with the carver's bench. These can be used to mount your workpiece to the work surface (see **Figure 15**). You can also secure the workpiece with screws through the dog holes in the work surface. If you are going to do this, be sure that the screw heads do not interfere with the rotation movement.

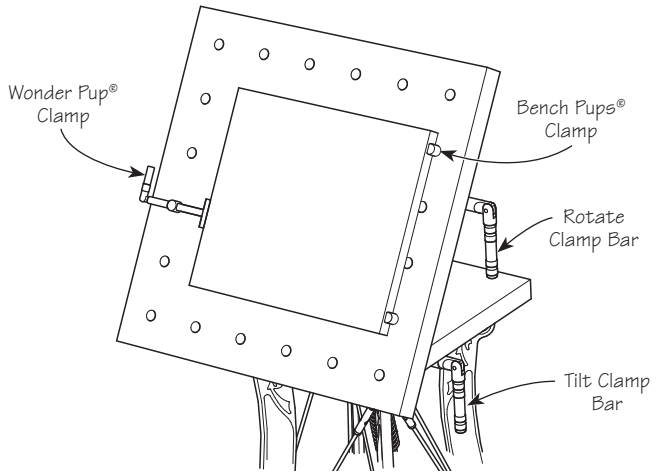

Figure 15: Workpiece held in place with included Wonder Pup® and Bench Pups® clamps.

The included 2′ × 2′ piece of masonite may be used to protect the work surface. The matrix of 3/4″ dog holes may be drilled through the masonite, using the work surface as a drilling template.

Caution: *When tilting past about 60°, stability may become an issue when dealing with a very heavy workpiece and/or one that is fairly high off the work surface. Depending on the weight and overhang of your workpiece, you may have to add weight to the base in the form of sandbags. If you have secured your bench to the floor, your only limitation will be the strength of the fasteners used.*

Maintenance

The Veritas Carver's Bench is assembled from several cast-iron parts. Cast iron was chosen for its high frictional coefficient and its excellent damping characteristics. Unfortunately, exposed surfaces also have a tendency to rust. For this reason, and for smooth operation of the mechanism, it is important that the joints be regularly lubricated. Pay particular attention to the rotation pivot, which has large machined mating surfaces (see **Figure 16**).

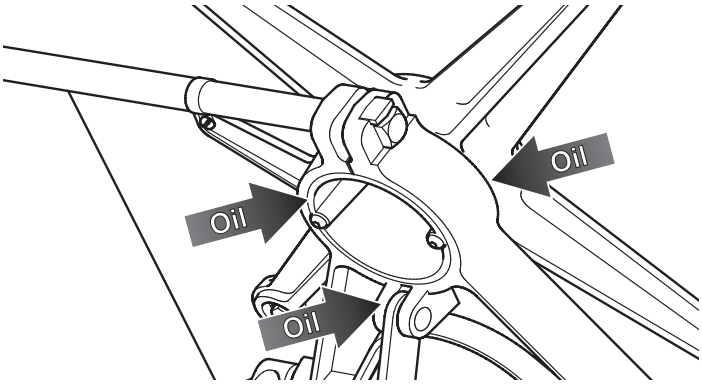

Figure 16: Apply oil at these locations while rotating the work surface.

Regular use will keep these surfaces free of rust; however, a good coating of oil or grease is your best protection. This will also allow smoother motion when the clamp is released. A regular shot of oil down the separation line between the hinge blocks and the pivoting frame will also keep the tilt movement running smoothly (see **Figure 17**).

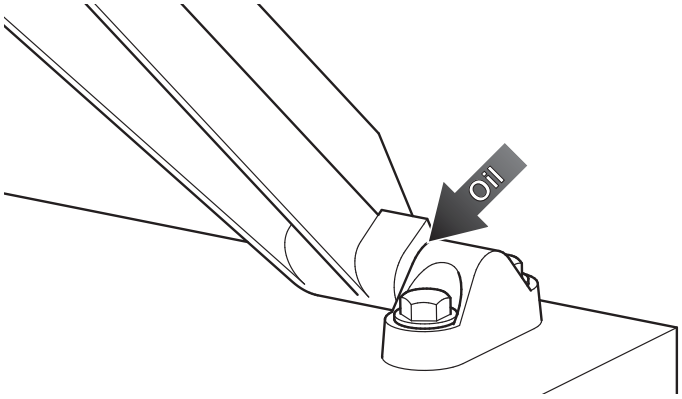

Figure 17: Oil this location (both sides) while working the tilt joint.

Making Your Own Base

The base shown in **Figure 18** is modelled on the construction of the Veritas® Workbench. The entire assembly is held together with lag screws and tension rods. This provides a stiff base; however, the geometry required to keep the mechanism clear results in a fairly small front-to-back footprint. This design will require either secure attachment to the floor, or substantial weight on the feet to ensure stability at high angles.

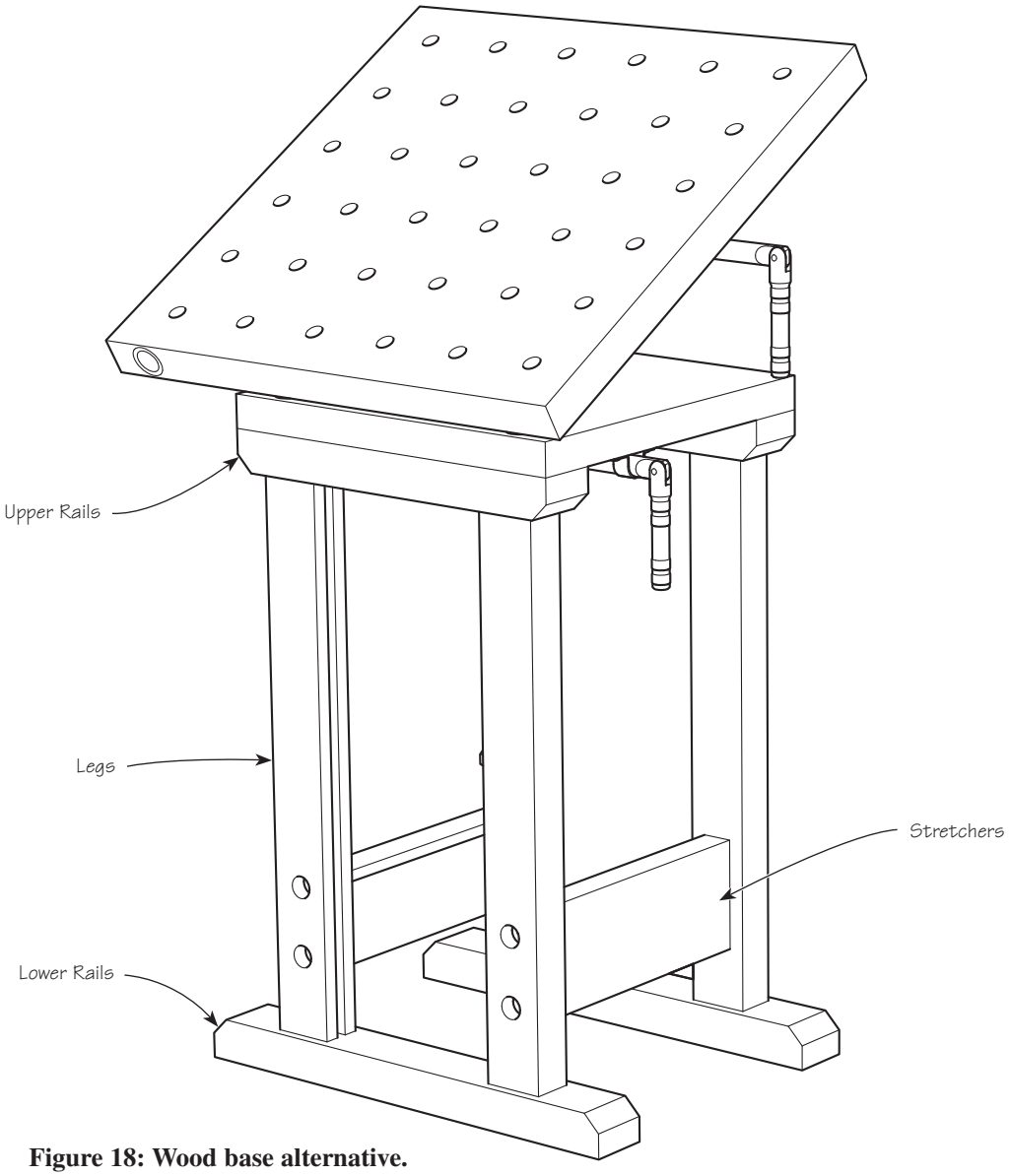

Figure 18: Wood base alternative.