

The Veritas® Jointer Blade Sharpener will jig planer and jointer knives and hand plane blades up to 8" in width with bevel angles from 25° to 45°. Sharpening and adding a micro-bevel to wide blades is easy, repeatable and accurate when using the jointer blade sharpener.

A half sheet of 9 μ, pressure sensitive adhesive (PSA) backed aluminum oxide micro-abrasive is included with your jointer blade sharpener. Applied to a flat surface, it will quickly sharpen jointer blades. However, other abrasive sheets may be used, such as chromium oxide or diamond. Sharpening may even be done on a traditional bench stone.

### **Prepare the Lapping Surface**

The PSA-backed micro-abrasive sheet must be applied to a flat lapping surface. The infeed or outfeed table of your jointer, or a piece of 1/4" (or thicker) plate glass, is recommended. For greater safety, we offer a 1/4" thick, 8 1/2" × 14" tempered glass plate (05M20.12).

Thoroughly clean the glass (or other true surface) before applying the abrasive sheet. If you are applying the sheet to glass, create a thin film of water on the glass. This allows you to adjust the position of the sheet before sticking it down. Position the sheet at one end of the glass plate so that it covers the full width. To prevent air or water bubbles from becoming entrapped, either roll a dowel or draw the edge of a piece of wood across the sheet (working from the center) to bond it in place.

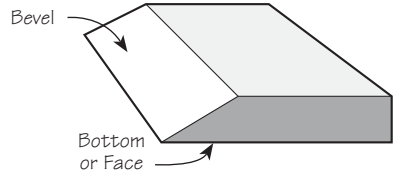
Do not use water to apply the micro-abrasive sheet to steel, cast iron, or any other rust-prone surface. Instead, to prevent air bubbles from becoming entrapped, make initial contact with one edge of the sheet. Progressively lay the sheet down, using a straightedge as a squeegee.

## Lap the Face of the Blade

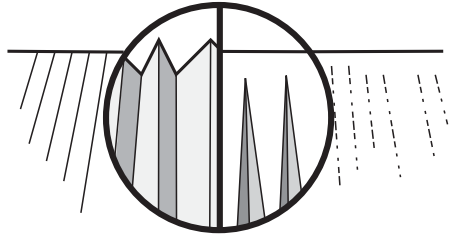
Since a sharp edge is the intersection of two smooth surfaces, the face or bottom of the blade must be perfectly smooth in the area near the cutting edge before you attempt to hone the bevel.

Most manufacturers ship blades with grinding marks on the face or bottom that, if not removed, would leave a series of fine saw teeth on the tool edge. To avoid these saw teeth, the face of the blade must be lapped flat.

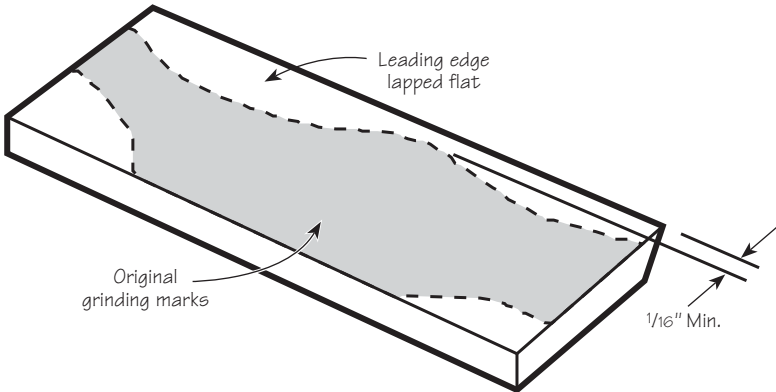
The easiest way to lap a new blade is on the 9  $\mu$  sheet until the entire width of the leading edge has a consistent lapping pattern with the manufacturer's grinding marks removed at least 1/16" back from the leading edge of the blade.



**Figure 1: Parts of a blade.**



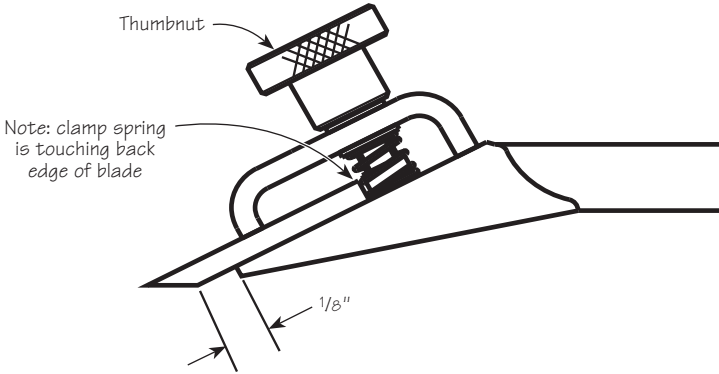
**Figure 2: Grinding marks on new blades.**



**Figure 3: Properly lapped face.**

## Clamping Jointer and Planer Blades

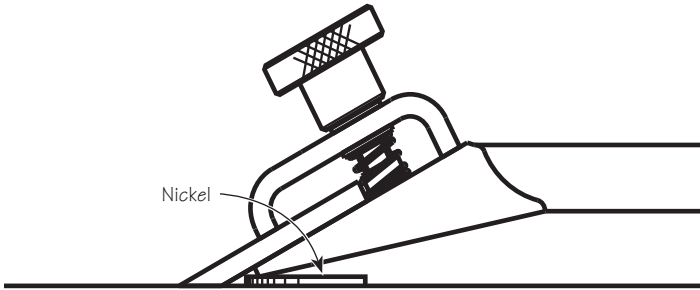
Loosen the thumbnuts securing the three clamps on the jointer blade sharpener. Position the blade with the bevel facing down under the short legs of the clamps and lightly tighten the thumbnuts. Turn the unit over and adjust the blade until it overhangs the edge of the jointer blade sharpener body by about 1/8" and is approximately parallel as shown in **Figure 4**.



**Figure 4: Clamping jointer/planer blades.**

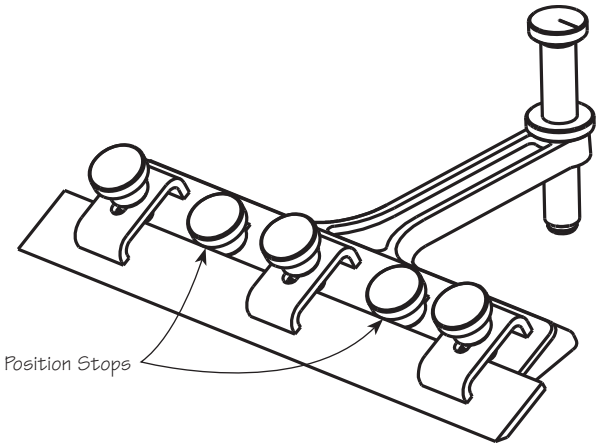
Before you fully tighten the thumbnuts, slide them forward until the clamp springs touch the rear of the blade. This increases the clamping force, reducing the possibility of the blade shifting during sharpening (see **Figure 4**).

**Tip:** The blade can also be positioned by putting two nickels (one at each end) under the front of the jointer blade sharpener as it rests on a flat surface. Let the bevel of the blade slide down to rest on the surface, then tighten the thumbnuts.



**Figure 5: Positioning blade using nickel method.**

Your jointer blade sharpener includes two additional thumbnuts. These serve as position stops to make repeated clamping (such as when sharpening several blades from the same machine) quick and easy. Once the first blade is clamped, slide the two stops against the back of the blade and tighten. When you change blades, loosen only the clamps and slide the next blade to be sharpened against the stops.



**Figure 6: Using the position stops.**

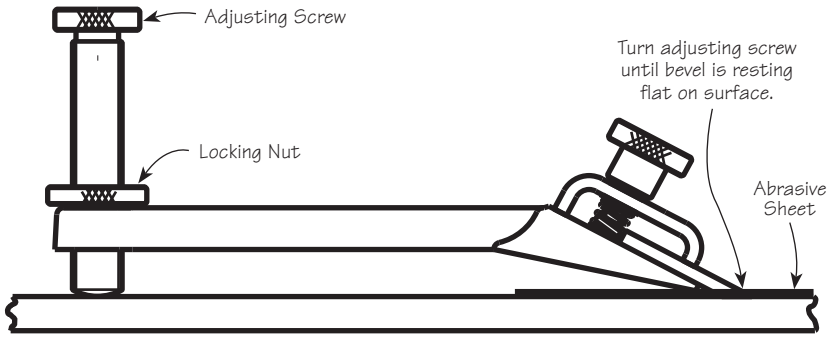
### **Clamping Hand Plane Blades**

Loosen the thumbnuts securing the clamps on the jointer blade sharpener. Turn two clamps sideways so that the short legs point toward each other. Position the plane blade with the bevel down, under the short leg of each clamp, and lightly tighten the thumbnuts. It may be necessary to move one or more of the clamps to any of the five slots in order to accommodate various blade widths.

Set the blade by eye (as described above) or use the nickel method. Once properly positioned, tighten the thumbnuts.

### **Adjust the Bevel Angle**

With the blade firmly clamped in place and the jointer blade sharpener resting on a flat surface, note the contact angle of the blade bevel from the side view. Loosen the locking nut and turn the adjusting screw until the bevel is parallel to the surface. You can check your bevel-angle setting by giving the jointer blade sharpener a few strokes on the abrasive sheet and note if material is being removed from the heel or the toe of the blade. Make slight adjustments accordingly. Note that the tip of the adjusting screw is meant to rub on the flat surface, not the abrasive sheet.



**Figure 7: Adjusting the bevel angle.**

Once you have the adjusting screw set to the proper angle, tighten the locking nut against the jointer blade sharpener handle. Continue to reciprocate the jointer blade sharpener on the abrasive sheet. **Hint:** *Apply pressure on the push stroke only. This will prevent a thin wire edge from forming along the leading edge of the blade.* Continue this action until a satisfactory finish has formed on the bevel.

### **Hone a Micro-Bevel**

After basic sharpening, switch to a finer abrasive. Loosen the locking nut, turn the adjusting screw clockwise a half turn or more and tighten the locking nut. **Note:** *For every turn of the adjusting screw, the jointer blade sharpener angle changes by approximately  $1/2^\circ$ .* Reciprocate the jointer blade sharpener (leaning on the push stroke and letting up on the pull stroke) until a polished line (representing the micro-bevel) appears over the full length of the blade. Because this micro-bevel is only at the leading edge, you will remove less material but arrive at a sharp edge quickly on the finer abrasive. A wide micro-bevel achieves nothing and will substantially increase the amount of time spent when you next sharpen the blade.

## **Uneven Bevel or Micro-Bevel Width**

Normally this isn't a problem as long as the cutting edge of the blade is true. It is usually indicative of uneven hand pressure applied over the width of the sharpener. Use two hands with your fingers evenly spread across the width of the sharpener to avoid this problem.

## **Uneven Blade Edge**

This can result in jointed or planed boards having concave or convex surfaces. The most common cause is an untrue lapping surface. Inspect the surface with a straightedge held across the width of the surface and check for gaps.

Another cause may be foreign material lodged between the blade and the face of the sharpener, forcing the blade to bow when clamped in place. Ensure both surfaces are clean and free of debris.

## **Tearing the Abrasive Sheet or Premature Wear**

More likely to occur on the finer abrasives. Applying too much pressure on the push stroke may tear the sheet, or shave the particles off, causing premature wear.

## **Obtaining the Finest Possible Edge**

If you want the finest possible edge for knives and blades, use progressively finer micro-abrasive sheets to bring both surfaces to a keen edge (see *Accessories*). Applying a finer abrasive sheet to the unused face of the glass plate makes it a doubly useful lapping plate.

## **Sharpening a Set of Knives**

For planer and jointer blade sets, the position stops make it quick and easy to duplicate bevel and micro-bevel angles when sharpening several blades in succession. Begin by flattening the face of each blade. Clamp the first blade in the jointer blade sharpener and set the position stops as well as the adjusting screw (loosen only the clamps and slide the next blade to be sharpened against the stops). Sharpen the main bevel of all the blades without adjusting the stops or the adjusting screw. Set your micro-bevel angle with the adjusting screw, switch to a finer abrasive and hone the micro-bevel for each of the blades.

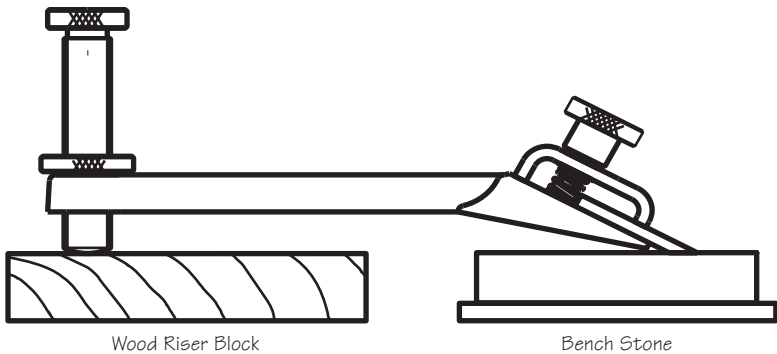
## Repairing Damaged Blades

It is easiest to remove a large nick or chip using a powered grinder or belt sander. Grind the original bevel angle to an uninterrupted surface, then follow the sharpening instructions. Alternatively, you may use the jointer blade sharpener, beginning with coarser abrasives, progressing to the finer and finishing grits.

When grinding a chip or nick from a set of planer or jointer blades, the set must be balanced when mounted in the cutter head. If not, this may cause excessive vibration, resulting in damage to your unit or personal injury. Once the nicks are ground from the damaged blade(s) measure the width of each. Grind them all to match the narrowest.

## Using a Bench Stone

A bench stone may be used in lieu of abrasive sheets. Just let the bottom end of the adjusting screw rest on a wood riser block, the same height as the bench stone. While not as convenient as using the abrasive sheets on a continuous flat surface, this method allows you to make use of your existing stones.



**Figure 8: Using a bench stone.**

## Accessories

**54K96.56** 9  $\mu$  (1200x) Aluminum Oxide Sheet, 8 $\frac{1}{2}$ "  $\times$  11"

**54K94.02** 5  $\mu$  (2500x) Silicon Carbide Sheet, 8 $\frac{1}{2}$ "  $\times$  11"

*Note: The tip of the adjusting screw is meant to rub on the flat surface, not the abrasive sheet. The distance between the blade and the screw is approximately 6", so a half sheet of abrasive works efficiently. Unless you can apply a full sheet to a flat surface large enough to allow you to use the jointer blade sharpener from both ends, cut replacement sheets in half to 5 $\frac{1}{2}$ "  $\times$  8 $\frac{1}{2}$ ".*