



Bevel-Up Jack Rabbet Plane

U.S. Pat. Nos. 7,603,783 & 7,117,602

The Veritas® Bevel-Up Jack Rabbet Plane is predominantly used for large-scale rabbets, as well as raised panel work – anywhere you need to make a long, wide cut that would require major effort with a smaller rabbet or shoulder plane. The bevel-up configuration makes it easy to modify the cutting characteristics of the plane by simply adjusting the blade bevel angle.

The blade is bedded at 15°, which results in an effective cutting angle of 40° with the supplied 25° lapped blade. Blades are available in A2 tool steel hardened to Rc60-62, O1 tool steel hardened to Rc58-60, as well as in PM-V11®, our proprietary high-performance powdered metal alloy. Hardened to Rc60-63, our PM-V11 blades offer superior edge retention, even at bevel angles below 25°, while still being sharpenable with conventional abrasives.

The plane features an adjustable mouth that can be closed to a narrow slit for fine shavings with minimum tear-out or opened for heavier cuts. All of this can be done quickly and accurately with the toe locking knob and the unique mouth adjustment screw.

Made of fully stress-relieved, ductile cast iron, the plane is accurately machined and ground so that the sole is flat and the sides are square to the sole.

The large wooden front knob and rear handle provide a comfortable grip. The rear tote can be tilted and locked to either side for knuckle clearance when planing deep rabbets.

With its combined feed and lateral adjustment knob, the Norris-style adjustment mechanism makes blade setting easy and accurate. The blade is held in alignment using four set screws, allowing the blade edge to be precisely aligned with the side of the plane.

Mounted on two steel fence rods with brass collet screws, the 7³/₈" long removable fence can be set up to 5¹/₄" from the shoulder and is through-drilled to accept a user-made wooden sub-fence extension. The fence can be mounted on either side of the plane body to effectively make right- or left-handed corner cuts cleanly and accurately.

Two independent scoring blades sit ahead of the blade. These are used to reduce tear-out on cross-grain work, but can be withdrawn for work with the grain.

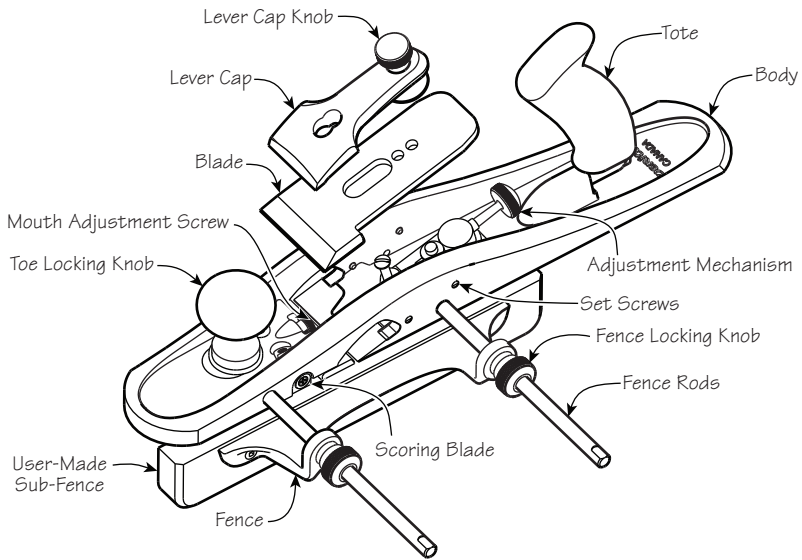


Figure 1: Veritas® Bevel-Up Jack Rabbet Plane.

Installing the Blade

⚠ Caution: Be aware that the blade is sharp; careless handling can result in serious injury.

At first glance, the blade seems impossible to install. The key is to fully open the toe so that the blade can be installed through the mouth opening.

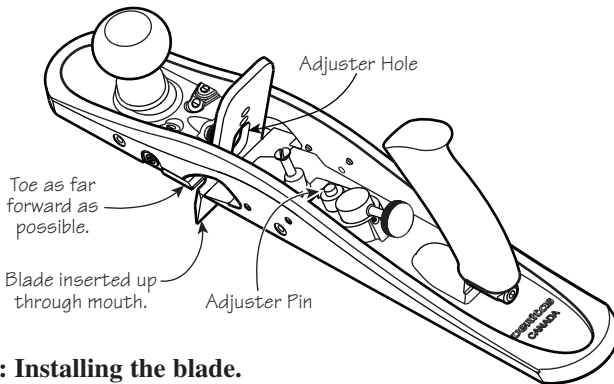


Figure 2: Installing the blade.

Position the blade on the blade bed such that the adjuster pin is in the first adjuster hole.

Install the lever cap and lightly tighten the lever cap knob.

Setting the Blade for Planing *without* the Fence

To initially set the blade, open the mouth fully, and place the plane on a flat wood surface (e.g., a scrap of stock). Lightly clamp the blade with the lever cap knob and advance the blade until it just touches the wood.

Flip the plane to a sole-up position, then sight along the sole to ensure the blade edge is parallel to the sole and advance or retract it as required. Clamp fully (a quarter turn should be ample – **do not overclamp**) and take a test cut. If all is well, advance the set screws on either side of the body until they just touch the blade, not to clamp it but to create a guide so that you do not have to be concerned about the blade shifting. You will quickly get accustomed to setting blade depth only by sighting along the sole, but for setting very fine shavings, you will still need to take test cuts.

Setting the Blade for Planing *with* the Fence

When cutting rabbets, the position of the blade relative to the plane body is critical for optimum performance. The cutting edge must be set to the correct projection to achieve the desired depth of cut and must be parallel to the sole of the plane. In addition, to ensure that it cuts right into the corner of a rabbet, it is critical that the inside edge of the blade extend just beyond the side of the plane.

Note: The slight gap between the blade and the outer edge of the bed is due to design and manufacturing requirements; it does not affect the plane's performance.

The proper blade position relative to the side of the plane is established using the four blade set screws. First, back off the lever cap knob just enough to free up the blade. Then, while holding the blade against the two outer set screws with your finger, adjust the two set screws until the correct blade position is attained. Remember to keep the cutting edge parallel with the sole. When all is well, adjust the outer set screws until they just contact the blade; again, not to clamp it, but to create a guide. Once set, the set screws will allow the blade to be adjusted for depth of cut, as well as allow it to be removed from the plane and then returned to its previously established position.

The blade adjustment mechanism is retained in the body by a small set screw in the back of the housing. If you need to remove the mechanism, back this set screw off until the mechanism can be removed. (It is not necessary to completely remove the set screw.) When reinstalling the mechanism, tighten the set screw only such that the mechanism cannot be removed.

Two Cautionary Notes

1. The lever cap clamping knob has tremendous mechanical advantage. For normal use, it needs to be tightened only a quarter turn after full engagement with the blade. **Never torque it down as hard as you can or you may damage the plane.**
2. Before advancing the blade at any time, check the mouth opening to be sure you don't run the blade against the adjustable toe piece. It is a simple matter to close the mouth to the desired opening **after** you have reached the right blade projection.

Backlash and How to Avoid It

To eliminate the possibility of the blade shifting backward unpredictably as the backlash is taken up, the final setting should always be made with the blade being advanced by the clockwise movement of the thumbscrew. If you need to retract the blade slightly, retract it more than required, and finish by **advancing** it to its desired position. This takes up all the play in the forward direction, resisting the backward forces experienced by the blade.

Auxiliary Fence

A jack rabbet plane is primarily used for large rabbets, so it is advisable to add a larger auxiliary fence to better register the plane to the workpiece. Simply make a wooden fence, as plain or fancy as you wish, and attach it using wood screws through the holes in the existing fence. Be sure to use screws that are not so long that they break through the working face of the wooden fence.

Setting the Fence

The width of the rabbet is determined by the fence setting. Loosen the fence locking knob and slide the fence until the distance from the face of the fence to the outside edge of the blade is equal to the required rabbet width. Retighten the fence knob. Maximum width of $2\frac{1}{4}$ " when using the entire blade.

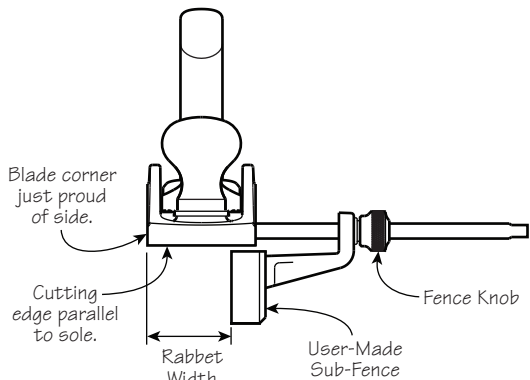


Figure 3: Setting the blade and fence.

Setting the Scoring Blades

The scoring blades (or nickers) are used when working across the grain, scoring the wood ahead of the cut. The circular blade is attached off-center to the axle, allowing the cutting depth to be adjusted by rotating the blade and axle. (It can also be shifted to a neutral position when it is not required.) Generally, only one scoring blade would be used at a time, depending on which side of the plane the rabbet was being cut.

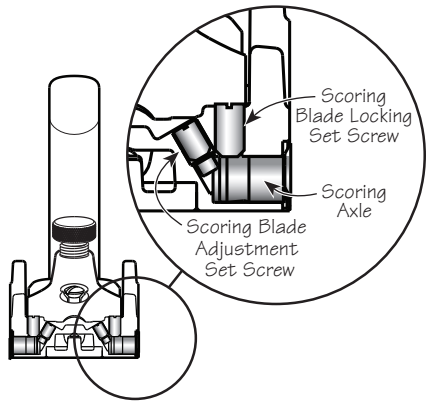


Figure 4: Setting the scoring blade.

Before using the scoring blades, they must first be set to the proper projection. The outside (or cutting) edge of the scoring blade must extend just beyond the side of the plane and be aligned with the corner of the blade. To adjust the scoring blade relative to the side of the plane, loosen the scoring blade locking set screw. Adjust the cutter position with the scoring blade adjustment set screw. While pressing the scoring blade and axle in against the adjustment set screw, turn the adjustment set screw clockwise or counterclockwise as required, until the scoring blade is positioned just proud of the side of the plane. Once the position of the scoring blade is established, retighten the locking set screw.

To deploy the scoring blade, you must first release the locking set screw that holds it in position, and then rotate the cutter into the desired position. Once in position (approx. $1/64''$ projection below the sole) retighten the locking set screw.

Mouth Adjustment

The movable toe piece enables you to set the gap between the blade and the toe piece (this opening is called the mouth) to suit the task. Generally, you will want a mouth as small as will allow the shaving to escape. The reason for this is that a tight mouth supports the wood ahead of the blade, preventing break-out, a shaving propagating below the surface of the workpiece.

The mouth adjustment screw allows you to accurately set this opening and, once set, ensures that you cannot inadvertently slide the toe backwards so that it contacts, and possibly damages, the blade. Loosen the toe locking knob and, holding the plane vertically, nose up, adjust the position of the toe by turning the mouth adjustment screw in or out as required. When the desired mouth opening is achieved, tighten the toe locking knob firmly, but avoid overtightening.

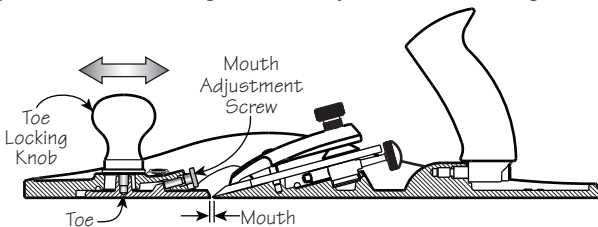


Figure 5: Mouth adjustment.

Tote Adjustment

The bevel-up jack rabbet plane has a tilting rear tote to provide clearance when cutting deep rabbets or working against a batten. To adjust the handle, loosen the handle locking screw until the handle is free to rotate on the mounting boss. Tilt the handle to the desired side so it engages in the required slot in the boss. Tighten the handle locking screw.

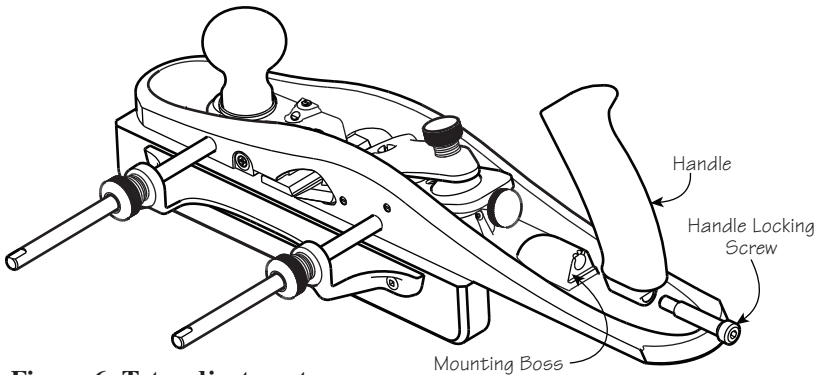


Figure 6: Tote adjustment.

Blade Sharpening

The 25° bevel blade will be a good starting bevel for softwood and some hardwoods. Ring-porous hardwoods such as oak may require a 30° bevel to prevent blade edge failure. Simply hone the micro-bevel to the required angle.

It is difficult to be definitive about bevel angles. If you are always working clear pine, you can get away with lower bevel angles. Only you know which wood you will be working and how you will be working it. Experience will tell you what you can and cannot do.

Care and Maintenance

The body of the bevel-up jack rabbet plane is ductile cast iron and comes treated with rust preventative. Remove this using a rag dampened with mineral spirits. Clean all machined surfaces, including the area under the nose and the toe itself.

We recommend that you initially, then periodically, apply a light coat of silicone-free paste wax to seal out moisture and prevent rusting; this also has the added bonus of acting as a lubricant for smoother planing. Wipe off any wood dust from the surfaces that you will be waxing, apply a light wax coating, let dry, then buff with a clean soft cloth. At the same time, the solvents in the wax will remove any harmful oils left from your fingers that can lead to corrosion.

If storage conditions are damp or humid, the plane should, in addition to the treatment outlined above, be wrapped in a cloth or stored in a plane sack. This precaution will also guard against dings and scratches.

Accessories

05P53.02 A2 Blade

05P53.52 O1 Blade

05P53.72 PM-V11[®] Blade