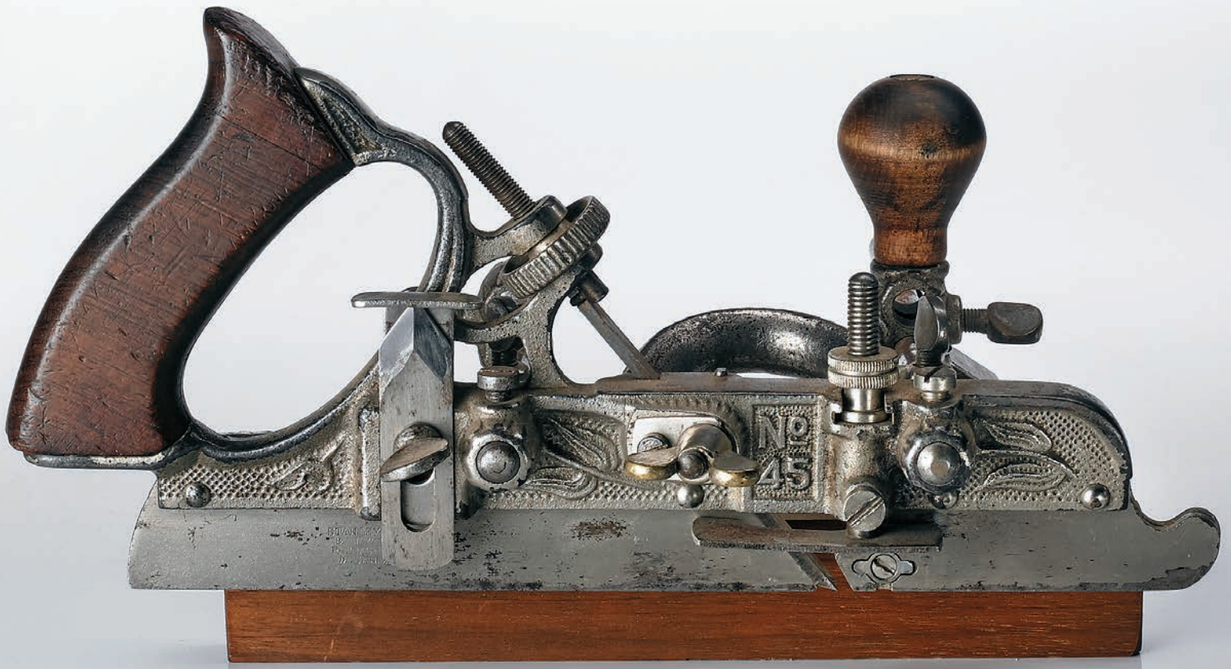
Combination Plane

veritas
Innovation in tools®

History

Originally created to replace stacks of wooden-bodied molding and joinery planes, combination planes are defined by their flexibility. Stanley boasted that their #45 was seven planes in one. And, although the Stanley #45 remains a beautiful example of ornate Victorian metalwork, it is nevertheless not the easiest plane to set up or use.

Despite its historical shortcomings, a combination plane is favored by those who prefer a quieter workshop experience. Invaluable for restoration work, it is also an ideal choice for times when you need to make a short run of custom molding. It is for those reasons that Veritas resolved to refine the Stanley #45 into a combination plane that is precisely machined, easy to adjust and holds settings securely – all features that, together with the improved blade technology, also make it fully reliable in use.



Stanley #45 Combination Plane

Materials, Manufacturing & Design

The Veritas Combination Plane is the result of four years of research and development. Our redesign of the combination plane incorporates ductile cast iron plane bodies that are produced using the shell mold casting process. As compared to sand casting, this process yields better detail and dimensional accuracy, superior surface finish and improved machining qualities.

Shell molding is an expendable mold casting process that uses resin-bonded silica sand to form the mold. First, a metal pattern is created in the shape of the desired part. Then the resin sand is placed onto the heated pattern, forming shell-like mold halves. The two shell halves are joined together and securely clamped to form the complete shell mold. The shell mold is then placed into a flask and supported by a backing material. Molten ductile iron is poured from a ladle into the gating system and fills the mold cavity. The resultant castings are cleaned, heat treated for stress relief, then painted black.

The Veritas Combination Plane is as sound as it is sleek. It represents our continuing commitment to designing and manufacturing exquisite woodworking hand tools that do not limit the expression of the person that is wielding it. Like all Veritas products, our combination plane is designed with the discerning woodworker in mind; it is built to the highest standards, comfortable to handle, and made in Canada.

Veritas Combination Plane

Assembly

The Veritas Combination Plane consists of 56 parts (17 of which are brass knobs), with another 46 when you factor in all the individual blades.

Roughly 1500 casting, machining, grinding and assembly operations go into making each Veritas Combination Plane.

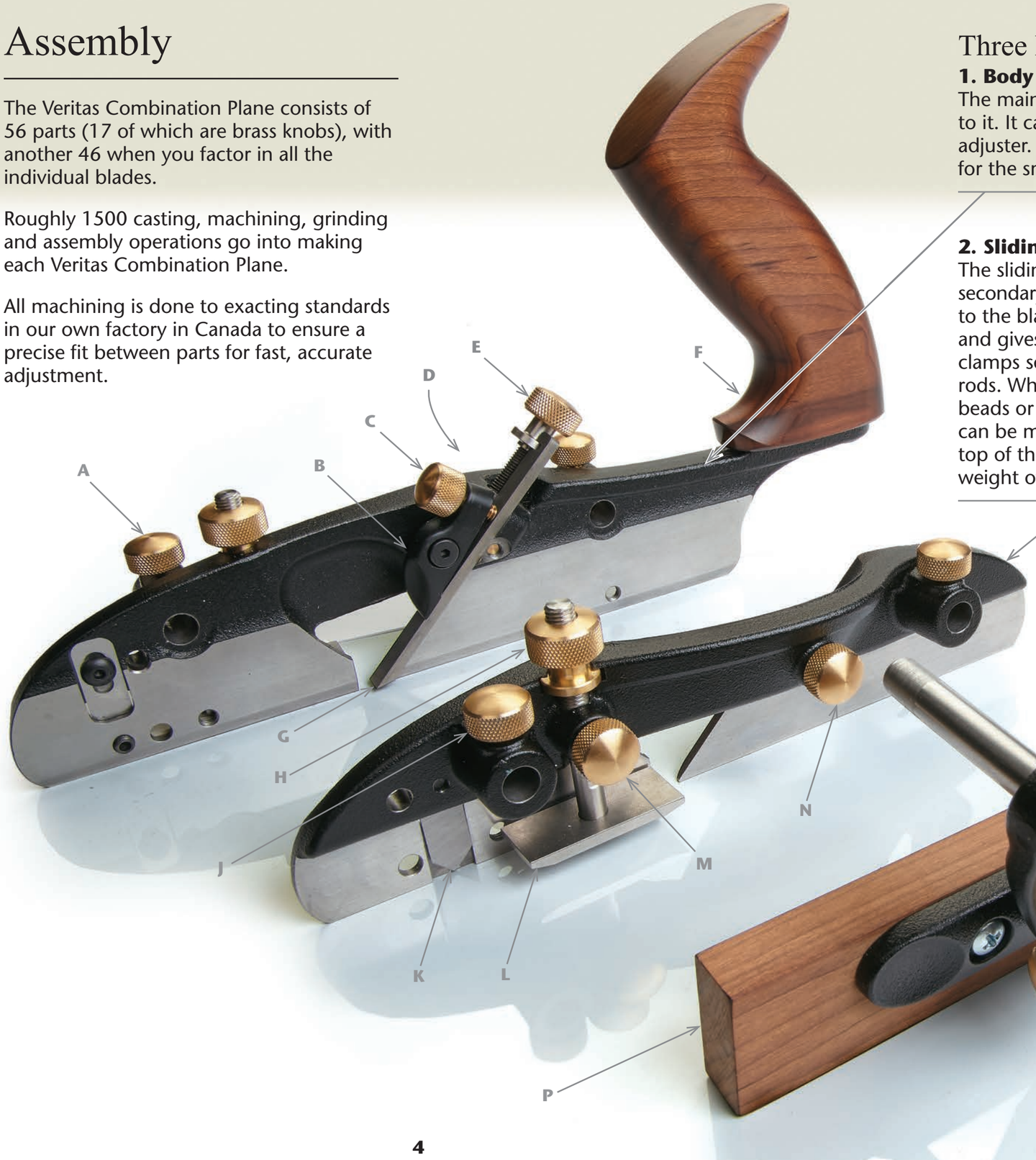
All machining is done to exacting standards in our own factory in Canada to ensure a precise fit between parts for fast, accurate adjustment.

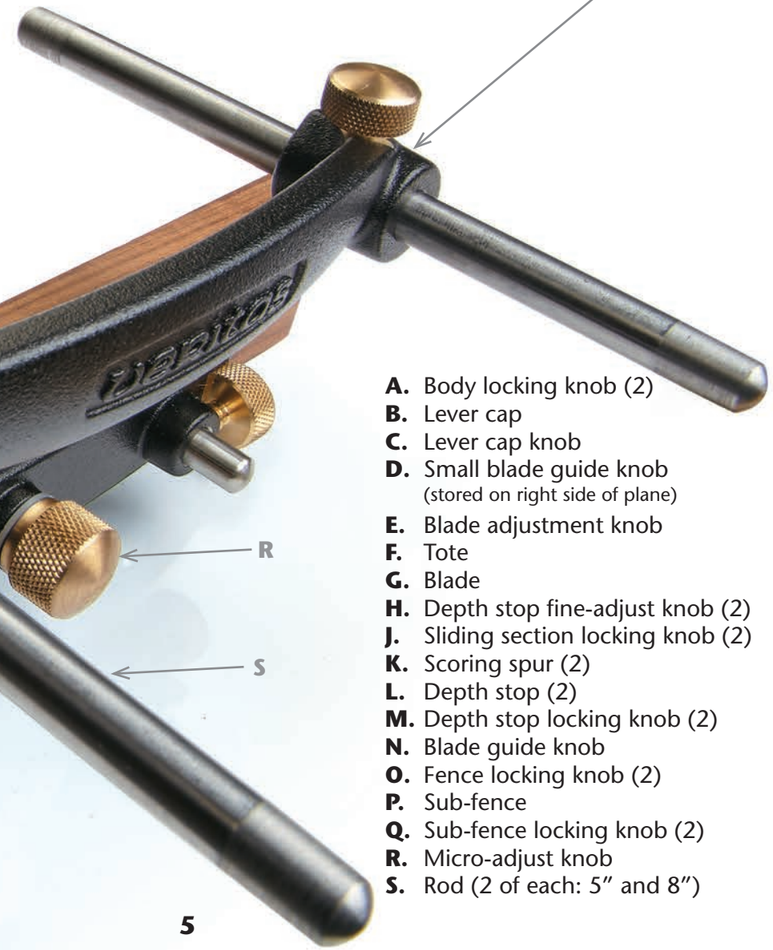
Three Major Components

1. Body
The main body has the maple tote attached to it. It carries the blade and the blade adjuster. It also includes a storage area for the small blade guide knob.

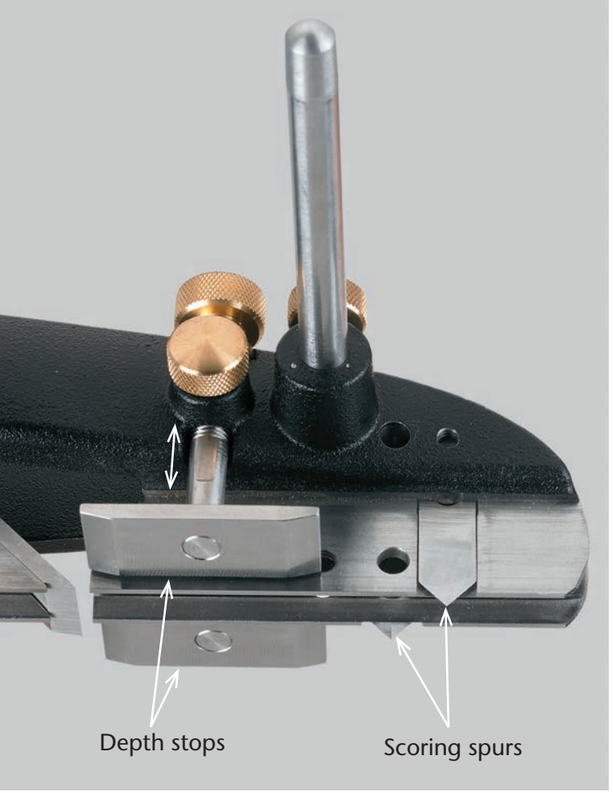
2. Sliding Section
The sliding section is comparable to a secondary blade bed. It is adjusted in relation to the blade you are using. It adds stability and gives support for a wider blade and clamps securely in place on stainless-steel rods. When using narrow blades to cut small beads or small grooves, the sliding section can be moved off to the side and over the top of the fence, or removed to reduce the weight of the plane.

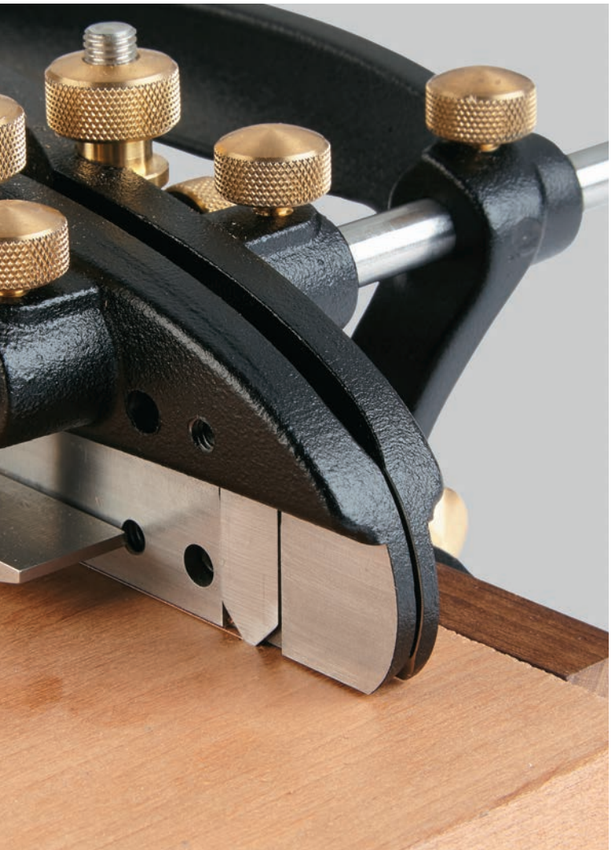
3. Fence
The position of the cut is determined by the fence setting. The fence slides along the rods and is adjustable for both gross adjustment and fine adjustment. After locking the fence in place, you can fine-tune the position of the torrefied maple face with the micro-adjust knob. The fence provides additional support so you can keep the plane upright and square.





A. Body locking knob (2)
B. Lever cap
C. Lever cap knob
D. Small blade guide knob (stored on right side of plane)
E. Blade adjustment knob
F. Tote
G. Blade
H. Depth stop fine-adjust knob (2)
J. Sliding section locking knob (2)
K. Scoring spur (2)
L. Depth stop (2)
M. Depth stop locking knob (2)
N. Blade guide knob
O. Fence locking knob (2)
P. Sub-fence
Q. Sub-fence locking knob (2)
R. Micro-adjust knob
S. Rod (2 of each: 5″ and 8″)



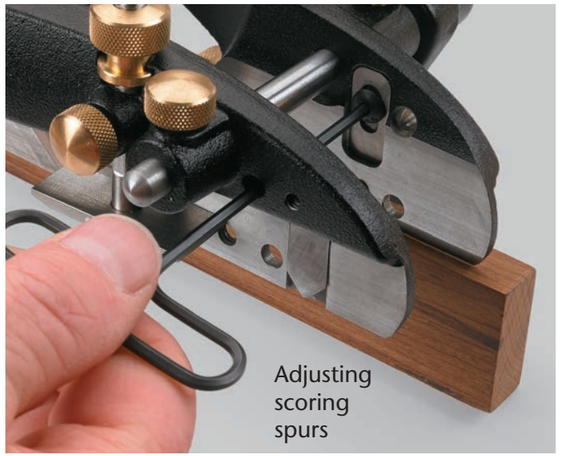


Depth Stops

There are two depth stops: one on the body and one on the sliding section. These are mirror images of each other. Each has a locking knob and a threaded fine-adjust knob so you can dial in the depth of cut with precision without worrying about displacing the setting. The depth stops determine the depth of your feature; you plane until the foot contacts the workpiece. Depending on the work at hand, you can use the depth stops independently or together.

Scoring Spurs

To prevent tear-out in cross-grain work, such as dadoes, adjustable scoring spurs on both the body and the sliding section define the edges of the cut ahead of the blade. These are typically withdrawn out of the way for most cuts. However, for when you do want to make cross-grain cuts, you would loosen the spur retention screw at the top so you could move the scoring spur up and down to set the depth that you want, and turn the small spur adjustment set screw below it to set the lateral position so it is aligned with the side of the blade. All scoring spur adjustments can be made through holes in the skates while the plane is fully assembled.


Adjusting scoring spurs

Fence & Rods

The fence consists of a main fence and a sub-fence that also includes a wooden fence. This design offers a significant advantage in use. You can set the main fence to its approximate position, lock it in position, release the sub-fence and use the micro-adjust knob to draw the wooden fence exactly where you want it. This is especially practical for when you want a bead just tangent with the edge of the workpiece.

Two pairs of stainless-steel rods are included, 5” long and 8” long, letting you make cuts reaching up to 5” from the edge of the workpiece.

The fence and rods can be positioned on either side of the plane, allowing you to configure the plane for left- or right-hand use to suit your dominant hand or accommodate grain direction.

Tote

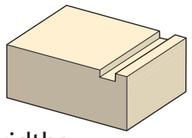
The large tote is tilted forward and contoured to fit the hand nicely. It is made of hard maple that has been torrefied, a heating process that changes the structure of the wood at the cellular level. This imparts a rich, dark color to the wood, while helping to seal it against humidity changes, making it resistant to swelling and shrinkage.

Blades

The Veritas Combination Plane is supplied with a 1/4" wide, A2 tool steel grooving blade, and a selection of blade profiles is available separately. It will accept the right-hand (and unhanded) blades available with the Veritas Small Plow Plane, as well as the blades used with the Stanley #45 and most of those used with the Stanley #55.

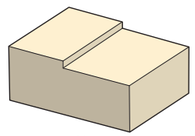
When using narrow blades, the sliding section is removed, essentially converting the combination plane into a small plow plane. In this use, the small blade guide knob is installed in the threaded hole in the machined bed side. The small blade guide knob will not only support a narrow blade, but also ensure that it is properly aligned with the skate.

Standard Grooving Blades



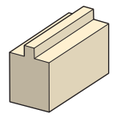
The standard grooving blades are made of A2 tool steel hardened to Rc60-62, which provides a durable edge. They are available in 11 Imperial and nine metric widths. For cutting small grooves (1/8" or 3/16"), remove the sliding section (and use the small blade guide knob to support the blade). For blades larger than 3/16", use the sliding section to ensure the outside edge of the blade is supported. For cutting dadoes, the fence is not required; however, a shop-made batten secured to the workpiece with double-sided tape or a tool guide will be required to guide the plane.

Rabbeting Blade



The 11/16" rabbeting blade is made of PM-V11® tool steel (Rc61-63), which takes a keen edge and holds it at least twice as long in use as an A2 blade before needing sharpening. To support that blade and keep the cut parallel, use the sliding section when cutting rabbets.

Tongue-Cutting Blades

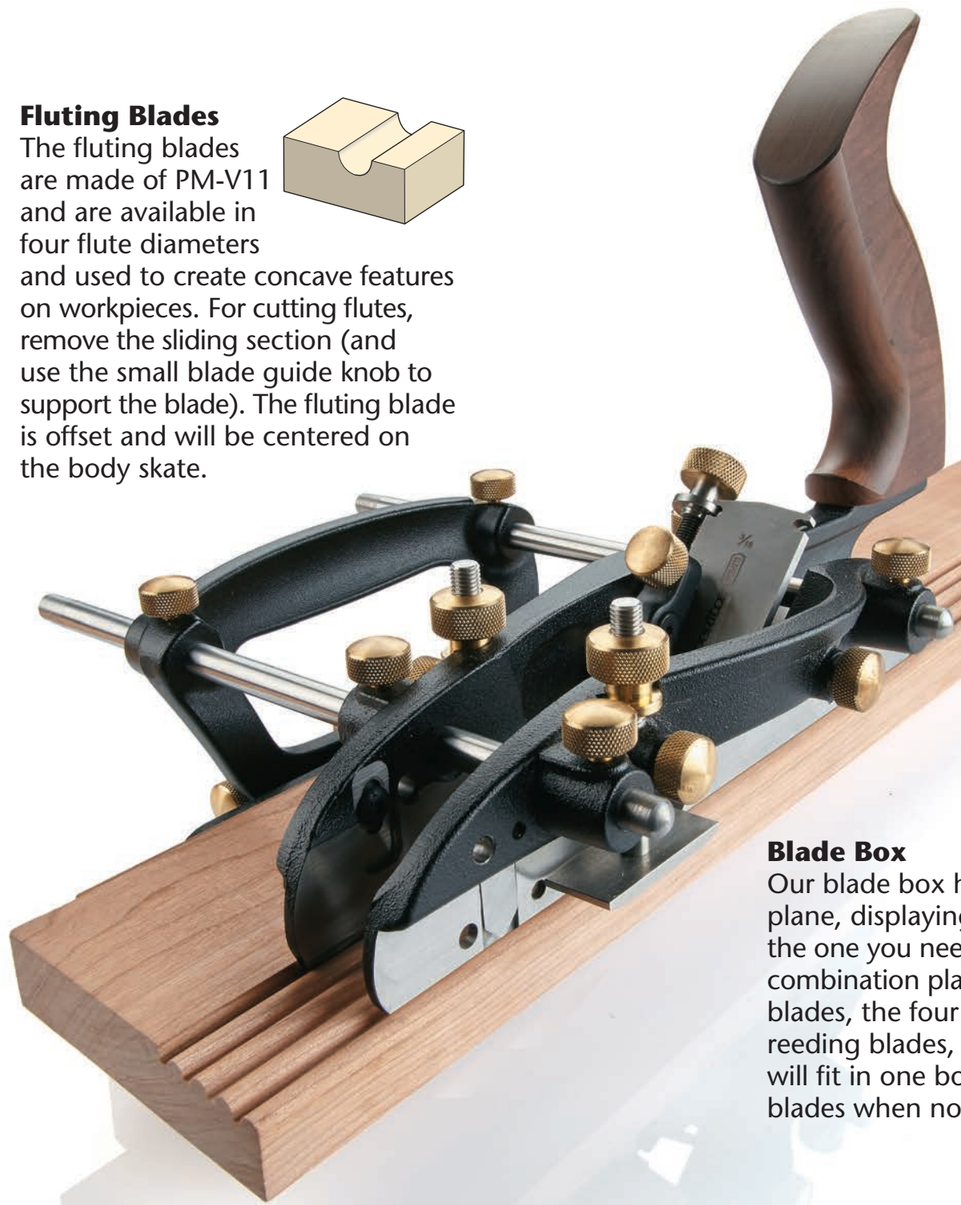


The tongue-cutting blades are the same as those we offer for our small plow plane. The blades enable you to cut six different tongue widths* to support stock of varying thicknesses. Each A2 tool steel blade has an integral depth stop for adjusting the tongue height. For this application, use the sliding section to support the outer edge of the blade and retract the depth stops on the plane and sliding section.

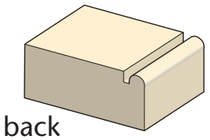
**Our 1/8" tongue-cutting blade makes the smallest tongue cut of any plane.*

Fluting Blades

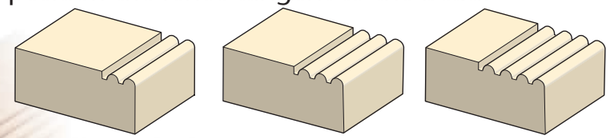
The fluting blades are made of PM-V11 and are available in four flute diameters and used to create concave features on workpieces. For cutting flutes, remove the sliding section (and use the small blade guide knob to support the blade). The fluting blade is offset and will be centered on the body skate.



Beading Blades



Adding a bead to a tongue-and-groove joint minimizes the visual effect of expansion and contraction. This is particularly useful for the back of china hutches and cabinets. Beading blades are available in seven diameters and are made of PM-V11. For cutting small beads (1/8" to 1/4"), remove the sliding section (and use the small blade guide knob to support the blade). For larger beads (5/16" to 1/2"), use the sliding section to ensure the outside edge of the blade is supported. A 1/16" quirk is cut on either side of each bead; however, for an edge bead where you do not want the quirk, position the fence tangent to the bead.



Reeding Blades

The reeding blades are made of PM-V11 and are available in two-, three- and four-reed versions, in a choice of three reed diameters. For cutting reeds, the sliding section is required to limit the depth of cut and prevent the outer edge of the blade from diving into the workpiece. A 1/16" quirk is cut on either side of each reed; however, for reeds that start on the edge of the workpiece (where you do not want the quirk), position the fence tangent to the outer reed.

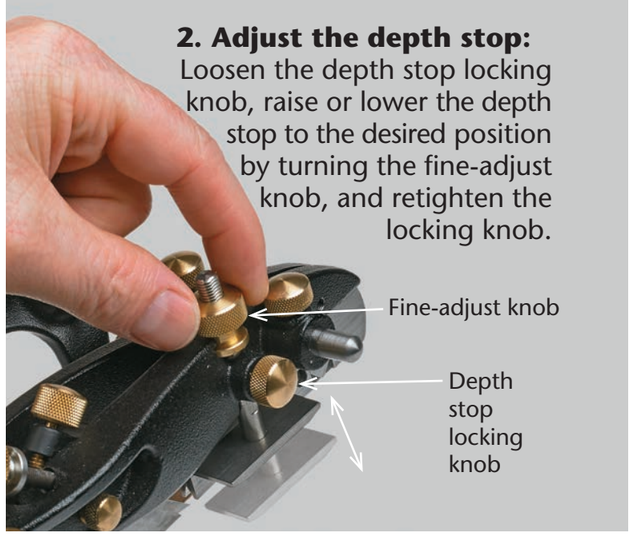
Blade Box

Our blade box holds the blades for the combination plane, displaying them edge up so you can easily pick the one you need. All the new blades for the combination plane (the four large beading blades, the four fluting blades, the eight reeding blades, and the rabbeting blade) will fit in one box. A cover protects the blades when not in use.

Set-Up

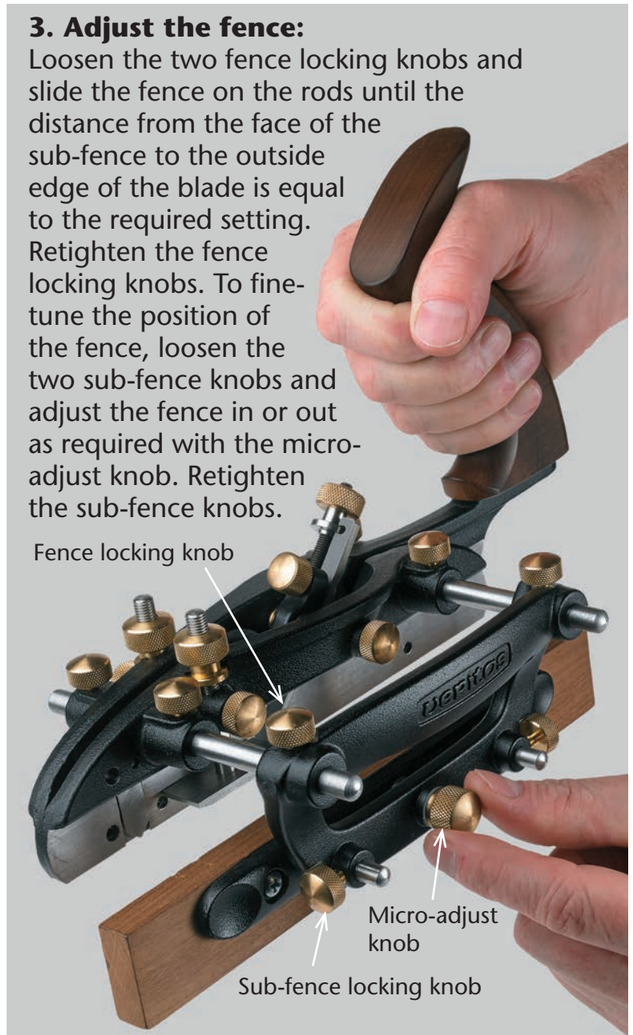
The combination plane looks complicated but, in reality, it is one of the easiest planes to use. For most cuts, you need only adjust the blade, adjust the depth stop and adjust the fence. After that, the cuts are made in a progressive manner to reduce the chance of the blade wandering.

1. Adjust the blade:
Install the blade bevel down, making sure that the slot at the top of the blade engages on the disc on the blade adjustment knob. Lower the blade to the desired depth of cut, and then tighten the lever cap knob.



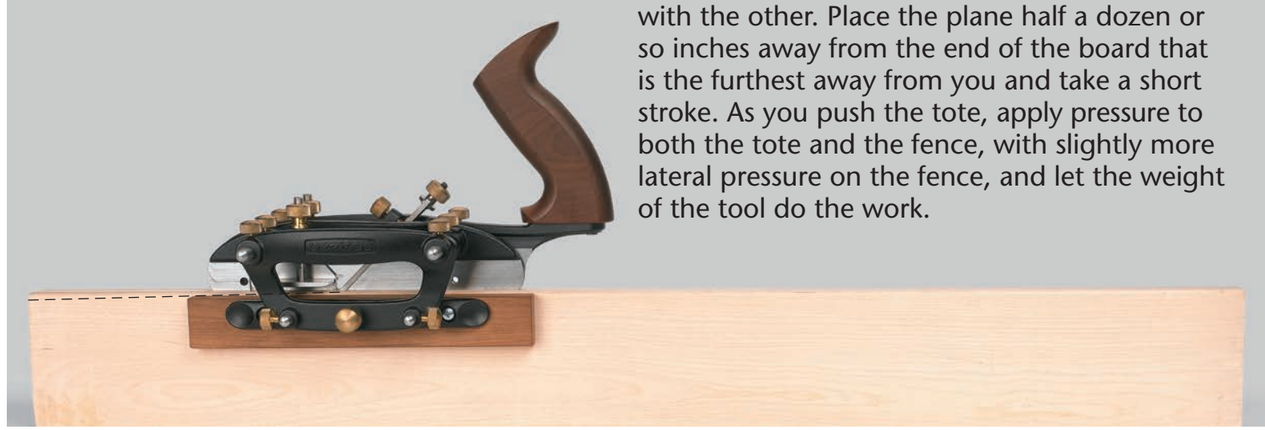
2. Adjust the depth stop:
Loosen the depth stop locking knob, raise or lower the depth stop to the desired position by turning the fine-adjust knob, and retighten the locking knob.

3. Adjust the fence:
Loosen the two fence locking knobs and slide the fence on the rods until the distance from the face of the sub-fence to the outside edge of the blade is equal to the required setting. Retighten the fence locking knobs. To fine-tune the position of the fence, loosen the two sub-fence knobs and adjust the fence in or out as required with the micro-adjust knob. Retighten the sub-fence knobs.

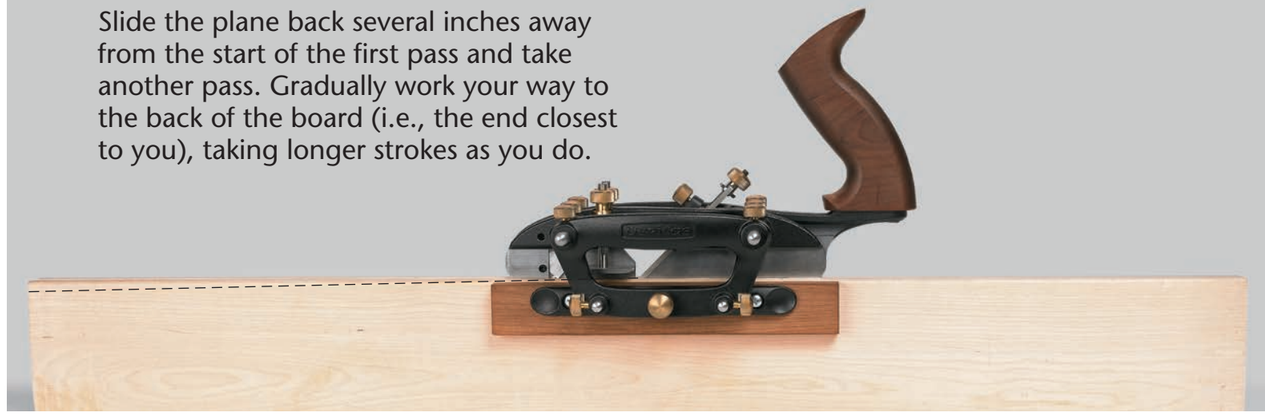


Technique

Typical method for cutting grooves:
Hold the tote with one hand and the fence with the other. Place the plane half a dozen or so inches away from the end of the board that is the furthest away from you and take a short stroke. As you push the tote, apply pressure to both the tote and the fence, with slightly more lateral pressure on the fence, and let the weight of the tool do the work.



Slide the plane back several inches away from the start of the first pass and take another pass. Gradually work your way to the back of the board (i.e., the end closest to you), taking longer strokes as you do.

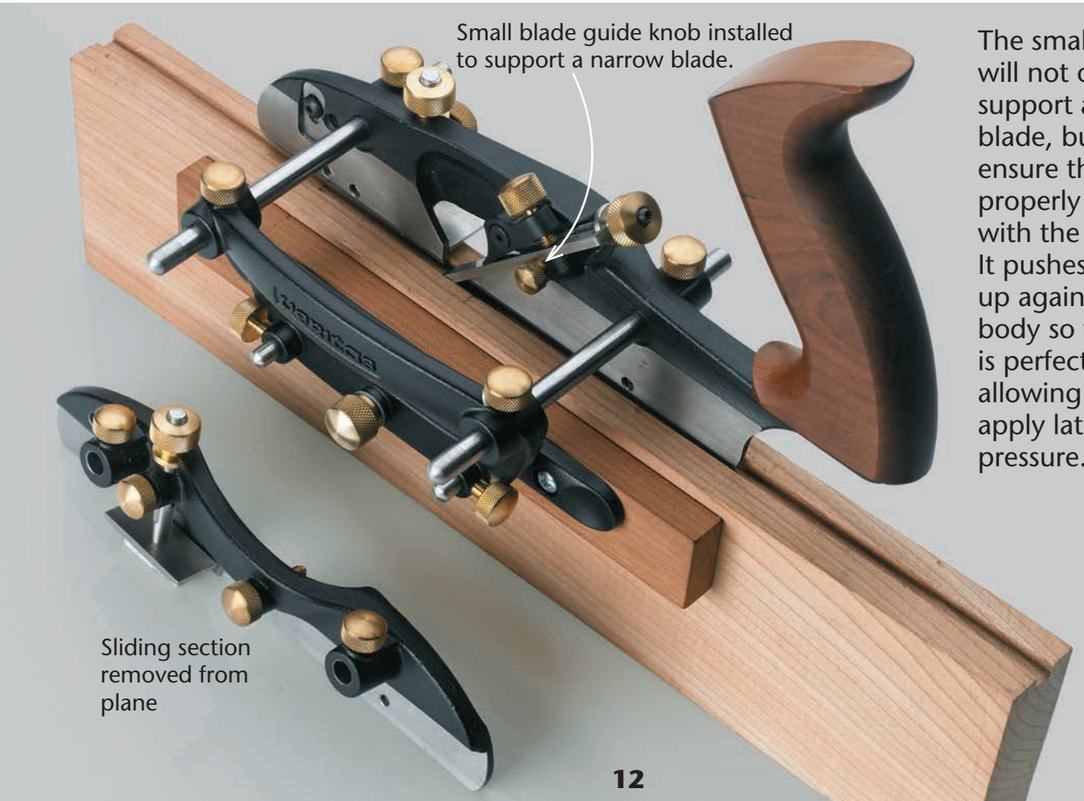


Once this initial tongue or groove covers the length of the board, use full passes until the depth stop contacts the workpiece and the plane stops cutting wood.

Plow Plane Set-Up

To convert the combination plane into a small plow plane, such as when using a narrow blade for grooving, beading or fluting, the sliding section can either be moved off to the side and over the top of the fence, or removed to reduce the weight of the plane.

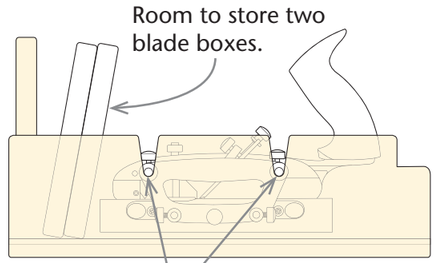
When using the combination plane in this configuration, remove the small blade guide knob that is stowed on the outer side of the body and install it in the threaded hole in the machined bed side.



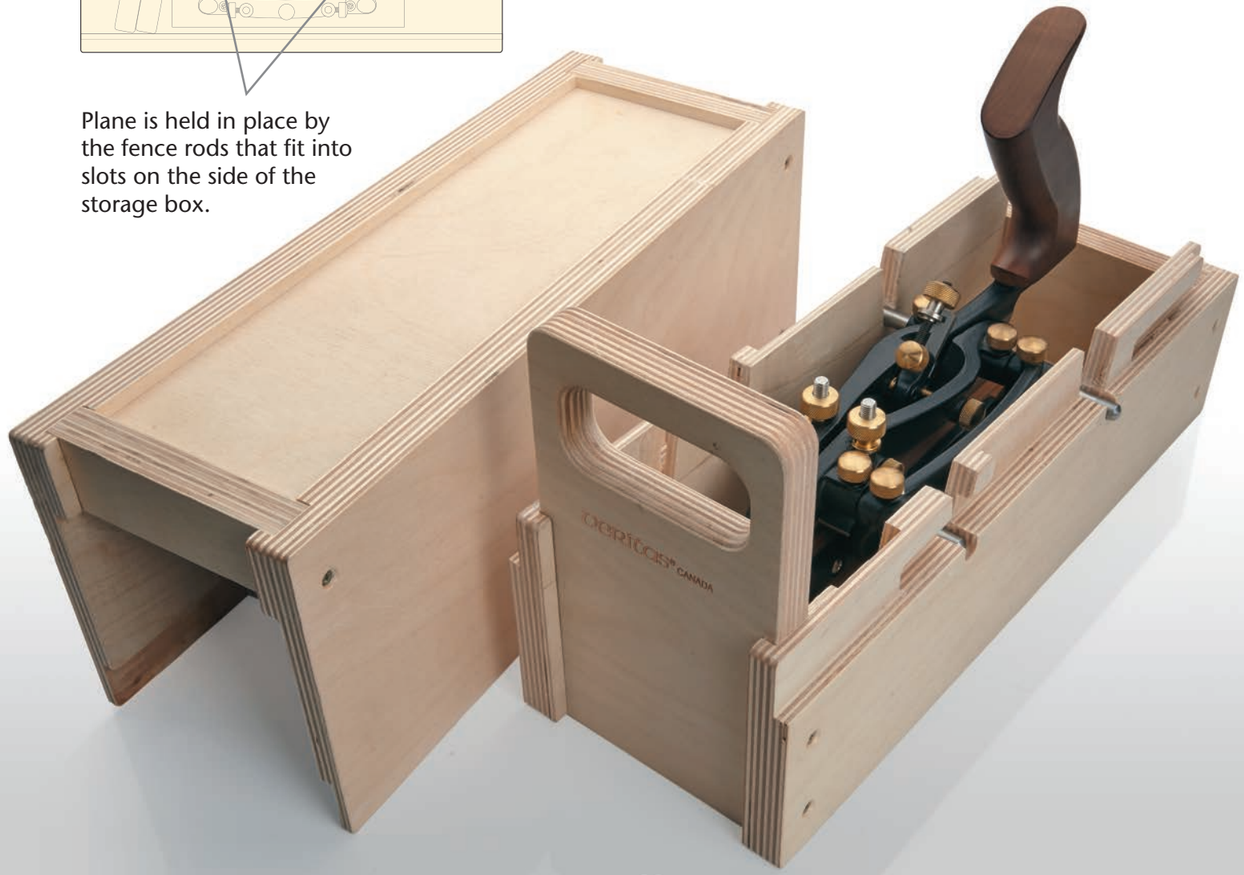
The small knob will not only support a narrow blade, but also ensure that it is properly aligned with the skate. It pushes right up against the body so the blade is perfectly set, allowing you to apply lateral pressure.

Storage Box

Our storage box provides a place to keep the assembled plane, the second pair of fence rods and up to two of our blade boxes. Slots in the sides of the box base act as rests for the fence rods, holding the plane upright. The top of the box fits into channels in the box base, locking the plane in position as well as securing other contents. Made in Canada from Baltic birch plywood, the box is about 14 1/2″×5″×9″ and has hand-holds on either end.



Plane is held in place by the fence rods that fit into slots on the side of the storage box.



Box for combination plane

Combination plane

Blade box
(blades not included with box)

Parts & Accessories

05P59.01 Combination Plane & 1/4" blade
05P59.02 Scoring Spur Repl. Blades, pkg. of 2
05P59.04 Box for Combination Plane
05P59.03 Blade Box

Standard Grooving Blades, RH, Imperial, A2
05P51.02 1/8" Std. Blade*
05P51.03 3/16" Std. Blade*
05P51.04 1/4" Std. Repl. Blade
05P51.05 5/16" Std. Blade*
05P51.06 3/8" Std. Blade*
05P51.10 Set of 4 Imperial Blades*

Standard Wide Grooving Blades, RH, Imperial, A2
05P51.77 7/16" Wide Blade
05P51.78 1/2" Wide Blade
05P51.79 9/16" Wide Blade
05P51.80 5/8" Wide Blade
05P51.81 11/16" Wide Blade
05P51.82 3/4" Wide Blade
05P51.90 Set of 6 Imperial Blades

Standard Grooving Blades, RH, Metric, A2
05P51.34 4mm Std. Blade
05P51.35 5mm Std. Blade
05P51.36 6mm Std. Blade
05P51.37 7mm Std. Blade
05P51.38 8mm Std. Blade
05P51.40 10mm Std. Blade
05P51.50 Set of 6 Metric Blades

Standard Wide Grooving Blades, RH, Metric, A2
05P51.42 12mm Wide Blade
05P51.46 16mm Wide Blade
05P51.48 18mm Wide Blade
05P51.70 Set of 3 Metric Blades

05P51.87 11/16" Rabbet Blade, PM-V11®

Tongue-Cutting Blades, Imperial, A2
05P51.62 1/8" Tongue-Cutting Blade
05P51.63 3/16" Tongue-Cutting Blade
05P51.64 1/4" Tongue-Cutting Blade
05P51.95 Set of 3 Imperial Blades

Tongue-Cutting Blades, Metric, A2
05P51.65 4mm Tongue-Cutting Blade
05P51.66 5mm Tongue-Cutting Blade
05P51.67 6mm Tongue-Cutting Blade
05P51.96 Set of 3 Metric Blades

Fluting Blades, Imperial, PM-V11®
05P59.13 3/16" Fluting Blade
05P59.14 1/4" Fluting Blade
05P59.16 3/8" Fluting Blade
05P59.18 1/2" Fluting Blade
05P59.25 Set of 4 Fluting Blades

Beading Blades. Imperial, PM-V11®
05P52.72 1/8" Sm. Beading Blade
05P52.73 3/16" Sm. Beading Blade
05P52.74 1/4" Sm. Beading Blade
05P52.75 Set of 3 Sm. Beading Blades

05P52.80 5/16" Lg. Beading Blade
05P52.81 3/8" Lg. Beading Blade
05P52.82 7/16" Lg. Beading Blade
05P52.83 1/2" Lg. Beading Blade
05P52.87 Set of 4 Lg. Beading Blades

Reeding Blades, Imperial, PM-V11®
05P52.90 1/8" Two-Reed Blade
05P52.91 1/8" Three-Reed Blade
05P52.92 1/8" Four-Reed Blade
05P52.93 3/16" Two-Reed Blade
05P52.94 3/16" Three-Reed Blade
05P52.95 3/16" Four-Reed Blade
05P52.96 1/4" Two-Reed Blade
05P52.97 1/4" Three-Reed Blade

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