



Dial in Details with a Block Plane

From simple chamfers to elegant edge profiles, this tool can help bring a design to life

BY MICHAEL PEKOVICH

The block plane is probably the one hand tool that inspires the least amount of fear, but maybe the least amount of excitement as well. Even if we're not at the level of taking gossamer-thin shavings with a smoothing plane, there's a good chance we're knocking the corners off the edges of a board with a block plane without a second thought. However, if that's all the consideration you give to your block plane, you're probably missing out on the capabilities that make it one of the most important design tools in your kit.

While larger, longer planes excel at flattening and smoothing, the block plane excels at shaping. That chamfer we cut on the edge or end of a board changes the geometry of the board. And therein lies this little plane's power as a design tool. It's the details of a design that bring a piece to life, and those details are often best handled with the block plane. While it's great for a simple task like breaking an edge, it can also create roundovers and bullnose profiles. It can refine the appearance of parts by making them look thicker or thinner. It can exaggerate a curved arch, or even give a straight edge the appearance of a curve. You can straighten up shadow lines

Chamfers

SANDING VERSUS PLANING



Sanding yields soft corners. It's easy enough to knock off a sharp corner with sandpaper. Not only does it leave a corner more friendly to the touch, but it also creates a softer look overall.



A block plane leaves a hard facet. A light chamfer from a block plane also takes off the edge, but the resulting facet reflects the light and leaves a crisper look.



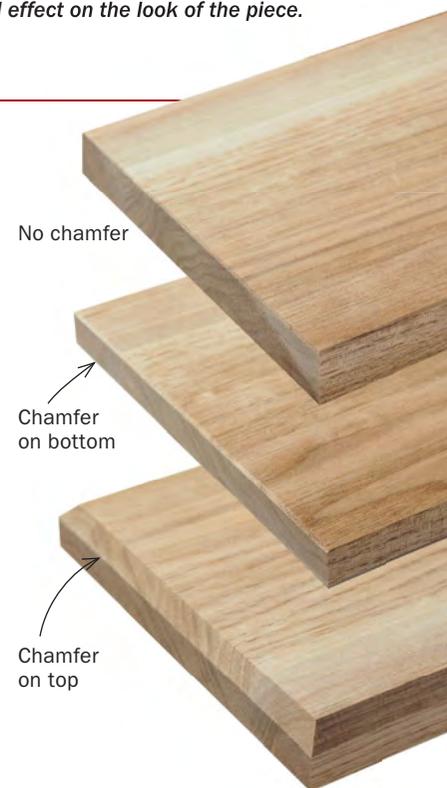
Details add up. The difference between a sanded and planed corner is subtle, but when repeated over all of the elements in a project, it can have a substantial effect on the look of the piece.

CHANGE THE LOOK WITH A CHAMFER

Pencil lines guide the way. When planing wide chamfers, draw a line on each face to ensure that the chamfer stays even along its length, and at a consistent angle.



A wide chamfer can have a big effect on the appearance of a part. Adding a chamfer to the bottom corner of a tabletop can make it look thinner (center), while the same chamfer on the top corner can actually make the tabletop look thicker (bottom), because the combination of the chamfer and edge is greater than the unchamfered edge alone.



Chamfers

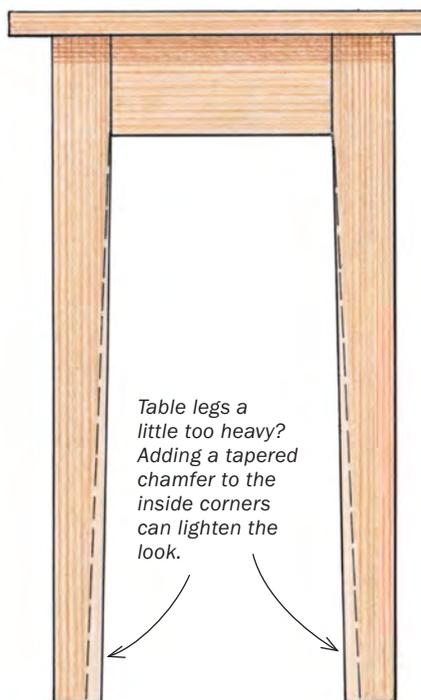
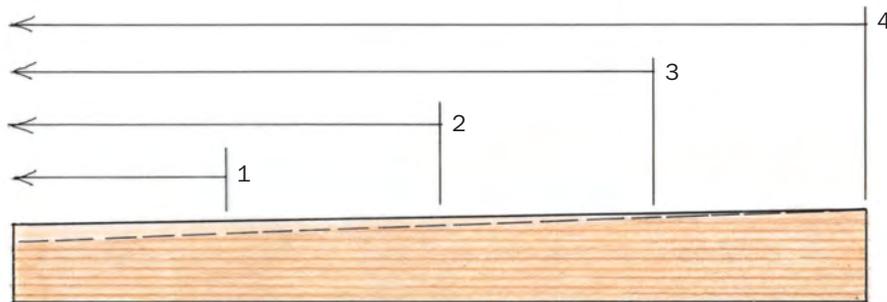
Tapered chamfers

A tapered chamfer is a great tool for fine-tuning parts and evening up shadow lines. The key to a consistently tapered chamfer is to keep track of your strokes.



How to create a tapered chamfer.

Start short, and then take longer passes, lengthening the passes in even increments until you take a full-length pass. To increase the depth, repeat the process.

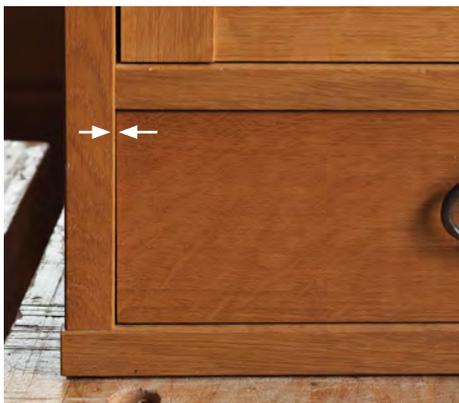


around doors and drawers, and create corners that are friendly to the touch with just a couple of passes. These subtle changes can have a big impact on the refinement of your work, and offer you a greater level of control over the final product.

Versatile chamfers

Even if all you want to do is break a sharp corner, a block plane will make a difference. While sandpaper can handle the task quickly, it will yield a rounded corner, whereas a block plane will create a flat chamfer. The difference between the two is revealed in how light reflects off the corner. A rounded profile will have a softer look because the

STRAIGHTEN SHADOW LINES



Unhappy gap. It's not uncommon to end up with uneven gaps between a drawer side and the case, but it's an easy fix with a tapered chamfer.

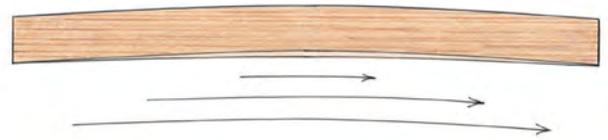


Fix it with a taper. Planing the entire drawer side would fix the problem, but you could end up with a fit that's too loose. A tapered chamfer offers the same look without affecting the fit.



An even reveal. As long as the shadow line on the face is consistent, the gap looks even as well.

Double tapers



Start with a short pass at the center of the board and follow with longer passes to create the double taper.



Enhance an arch with a double taper. The technique can help you fine-tune curves in a design or even add a curve to a straight edge. A double taper on the bottom edge of this stretcher lightens the look in the center, giving it a little lift.

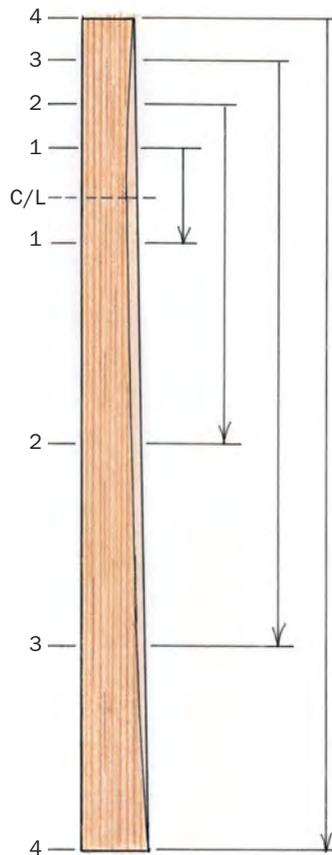
light is dispersed as it reflects off the rounded surface. On the other hand, the light will reflect evenly off the flat surface of a planed chamfer, creating a crisp highlight or shadow line. While the difference may be subtle, when you multiply the effect by every edge of a project, clean chamfers will add a crisper look overall.

There is nothing wrong with a rounded corner if that is the effect you are after, but having the ability to create a crisp corner offers you a second choice, and therefore more control over your design.

The wider you make a chamfer, the greater the impact it will have on the look of a piece. And the location of the chamfer will determine the effect you create. A tabletop is a good example. Adding a chamfer to the edge can make the top appear thinner or thicker. Since you view a tabletop from above, adding a heavy chamfer to the bottom corner of the edge will make the top look thinner. But a heavy chamfer along the top increases the visual width of the edge and makes it appear thicker. This is because the eye takes into account the width of the chamfer as well as the thickness of the edge, and the total is greater than the width of a square edge with no chamfer.

Tapered chamfers offer even more design opportunities

While I mostly use chamfers that are even in width along their length, sometimes an intentionally uneven chamfer is a good thing. It can be used to make pieces appear more angled, or make angled pieces appear straight. In both cases, the aim is to adjust or



PLANING AN ASYMMETRIC DOUBLE TAPERED CHAMFER

Locate the widest point of the chamfer (C/L), and divide the area above and below it into an equal number of sections. Start by planing from 1 to 1, then 2 to 2, etc.



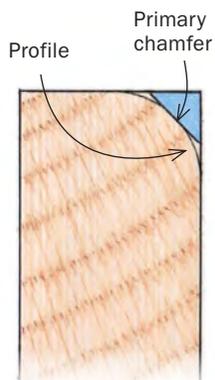
Count your strokes. A series of lengthening cuts creates an asymmetric double tapered chamfer. Used here on the outer corner of each leg, they give straight-tapered legs a curved look.



Edge profiles

A simple roundover

The key to consistent curves is starting with accurate chamfers. Begin by laying out the profile, then lay out and plane a chamfer tangent to the curve.



The angle of the primary chamfer for a quarter-round profile is 45°.

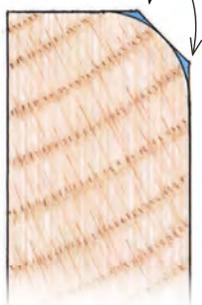


Lay out the profile and primary chamfer. Draw the profile on the end of the stock, and then mark a diagonal line tangent to the curve. Then extend layout lines along the face and edge of the board.



Start with the primary chamfer. Use the lines as a guide for chamfering. Try to maintain a consistent angle when planing. The aim is a chamfer that hits each line and is a consistent width along its length.

Plane along the corners of the primary chamfer to create secondary chamfers.



Create the secondary chamfers. Plane off the points of the primary chamfer to create secondary chamfers that further define the profile.



Smooth the facets. Set your block plane for a lighter cut and work your way across the profile with lengthwise passes, removing the flats and creating the final profile.

fine-tune a design during construction.

If a tapered leg that narrows toward the bottom looks a little heavy, a chamfer on the inside corner that widens at the bottom can lighten the look. Alternately, on a straight leg, cutting a tapered chamfer that is wider at the top can lighten the leg's top while maintaining the visual mass at the bottom for a more grounded effect. Another instance where a tapered cham-

fer is useful is when the side of a drawer front isn't parallel to its opening. If planing the entire drawer side square to the opening would make the fit too loose, you can plane a tapered chamfer along the front corner to give the appearance of parallel sides while keeping the fit snug.

The key to creating a tapered chamfer is in controlling the length of the passes with the block plane. The aim is to start

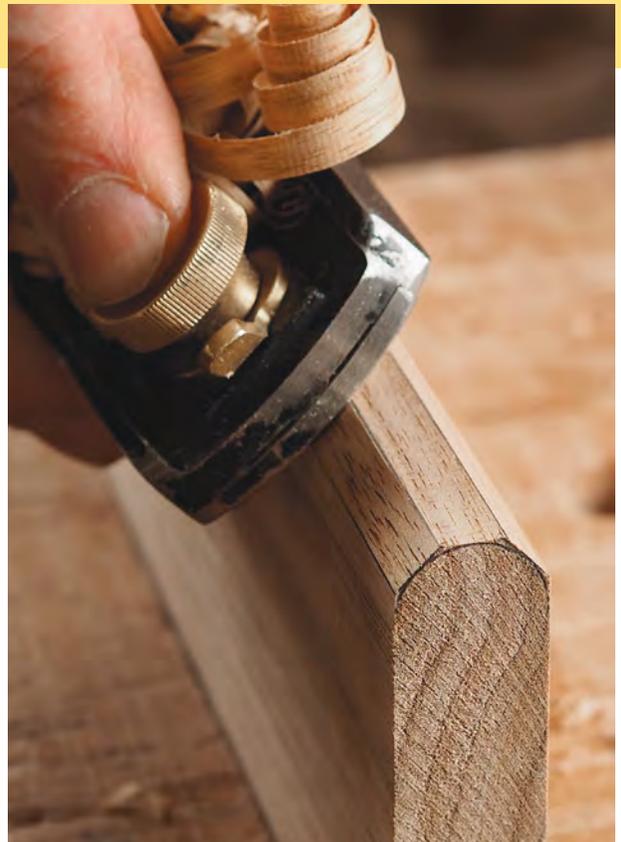
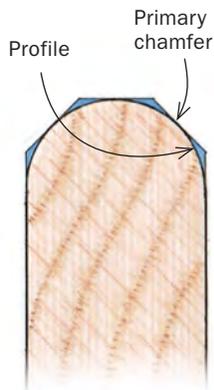
with a short stroke at the wider end of the chamfer and make progressively longer strokes until you are making a full-length pass. This will create a straight taper along the length of the workpiece. If the chamfer isn't wide enough, just repeat the steps.

Refine parts with double tapers

Creating a double-tapered chamfer is just as easy as a straight taper. This is a really

A refined bullnose

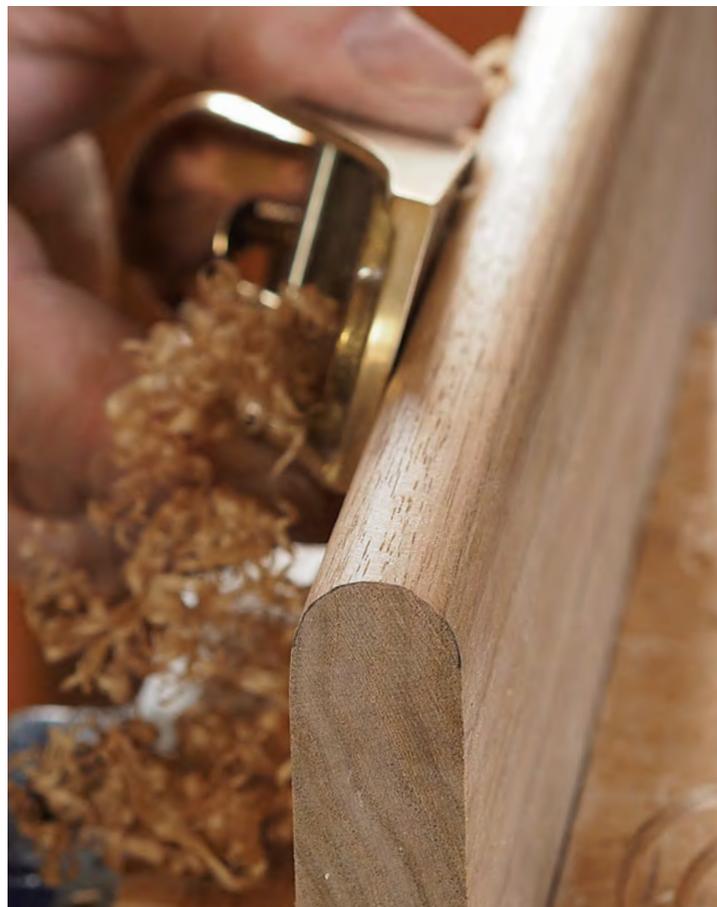
Double up the roundover to create a bullnose profile. Use a circle template or compass to lay out the profile on the end of the stock. Start with a pair of primary chamfers and then continue establishing the profile.



useful technique for fine-tuning curves in a design. If the curve of an arched apron is too shallow, for example, adding a chamfer that is wider in the middle than on the ends will exaggerate the appearance of the curve.

To create a double taper, start with a short stroke in the center of the arch. Then follow with progressively longer passes that are also centered on the arch. By skewing the block plane, you can plane to the inside edge of most shallow curves. For tighter curves, you can use a spoke-shave in the same manner.

There are times when an asymmetric double taper is useful as well. When making a cabinet-on-stand with legs that flared toward the bottom, I wanted to create the look of a narrower waist toward the top of the legs. To achieve the look, I created a double tapered chamfer with its center near the top of the leg. In that case, rather than taking even-length passes on each side of the center point, I divided the length above the center point in four sections, and then divided the length below the center into four equal sections as well. The sections above the center were much



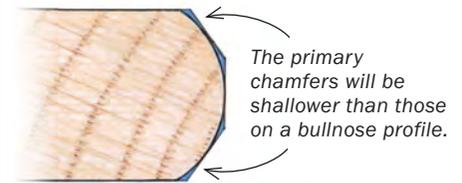
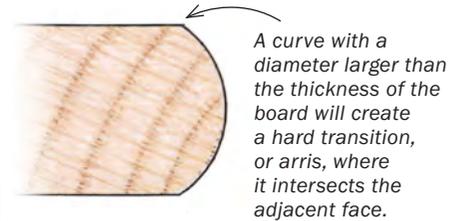
Shape the final profile. After planing the secondary bevels, set your block plane for a light shaving and work across the profile to create a smooth curve.

Edge profiles A curve with corners



A common detail on Shaker furniture. The arris curve offers crisp shadow lines that can enliven otherwise simple designs.

A rounded edge is a nice detail, but a smooth transition can yield a soft look to the edge. A solution is to create a curved edge profile that intersects the surface with a hard corner. This arris curve creates crisp shadow lines that help define the profile.



Start with shallow chamfers. Draw the profile and add the main chamfers. These shallow chamfers create the hard transition between the curved edge and flat faces.



Smooth the curve. Plane the profile as you would a normal roundover, but be sure to leave a crisp edge between the profile and the face of the board.

Soft or hard. A true bullnose profile (top) creates a soft transition between the face and edge of a board. An arris curve (bottom) creates a hard shadow line between the two that adds definition and interest to the profile.



shorter than those below, and created the appearance of a tighter curve at the top of the leg and a longer, shallower curve below.

Rounded edge profiles

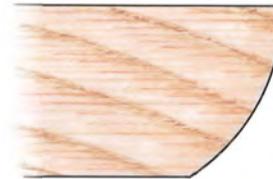
While a router bit may be the first thing that comes to mind for rounded profiles, I find that a block plane is usually a faster and always a more versatile option. It can easily handle any shape from a quarter-round to a bullnose, or something in between.

With the block plane, every curved profile begins with a primary chamfer. The width and angle of this chamfer will determine the shape and size of the curve. For a simple roundover, it's easiest to draw the curve onto the end of the stock, then draw a 45° line tangent to the curve. This will be the primary chamfer. Draw lines down the face and edge of the board where the diagonal line intersects them. Plane to the lines to create the chamfer. The

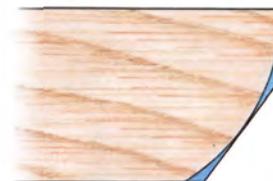


Bevel with a curve

Adding a shallow curve to a beveled edge is a nice way to add some interest to a design. It can be found on both the table edge as well as the outer faces of the legs on this table.



A curved bevel, or asymmetric arris curve



Define the profile with one shallow primary chamfer.

next step is to plane away the points of the primary chamfer, creating secondary chamfers. Technically these are 22.5° chamfers, but I just tilt the plane until it's angled halfway between the primary chamfer and the edge or face of the board and call it close enough. Next, lighten up the depth of cut and continue to plane off the points of the facets until you're left with a rounded edge. On long-grain edges of a board I usually leave the last tiny facets; the corner appears round, but you can feel the facets as you run your fingers down the edge. On end grain, I'll often need to follow with fine sandpaper to get rid of the fuzzy texture. To create a bullnose profile, repeat the quarter round on the adjacent edge.

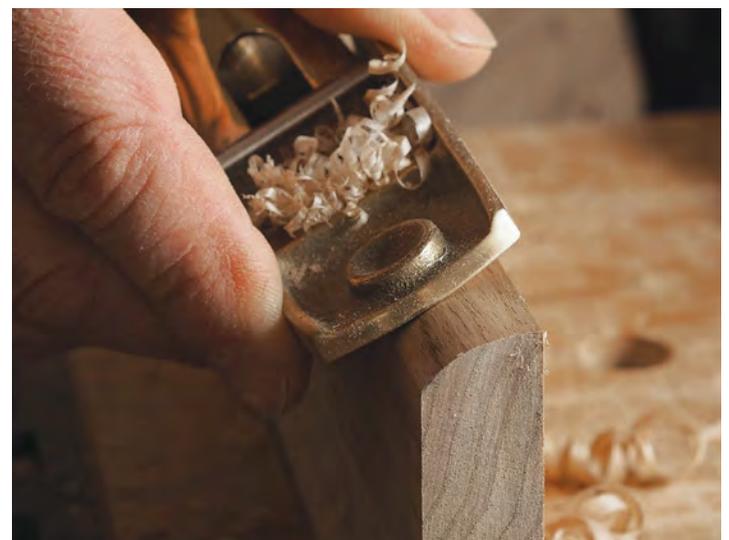
On both the quarter-round and bullnose profiles, there's a smooth transition between the edge and face of the board which can look soft or mushy. For a crisper look, I use an arris curve, leaving a sharp edge, or arris, where the curved edge and flat face intersect. This creates a distinct shadow line where the surfaces meet that adds more visual interest than a regular bullnose profile.

To cut an arris curve, draw the profile on the end of the board. Then lay out the primary chamfers. In this case, they will be shallower than 45°, because we are creating a curve with a diameter larger than the thickness of the stock. Create secondary facets, and then smooth the profile with lighter cuts, making sure to leave a hard transition between the edge and the face.

One of my favorite edge treatments for tabletops is an asymmetric arris curve—like an under bevel, but with a curve that brings it to life. Again, start by drawing the curve and then the tangent diagonal to establish the primary bevel. When shaping this profile, it's important to plane the entire edge to avoid leaving a flat above the curve. You can make this profile fairly blunt for a heavier look, or more undercut to create a thinner edge. □



Chamfer first. Tackle the profile as you would any other. Begin with establishing the primary chamfer and then work your way around the curve. Be sure to leave crisp corners at the edges.



Michael Pekovich is a furniture maker, woodworking teacher, and Fine Woodworking's creative director.