



MAN CRATES
PROJECTS

RAISING THE BARK

DIY KNIFE MAKING GUIDE



MAN CRATES

BARKING UP THE RIGHT TREE

A knife handle is much more than “the part you grab onto.” It’s an extension of a hunter’s hand and an expression of artistry. That’s why the Scandinavians carry on a longstanding tradition of stacking birchbark to fashion their knife handles. The soft, close-grained bark gives the handle a velvety feel which makes it a pleasure to carry. You may even try to keep it in your tight grasp as he falls asleep at night.

The Stacked Birchbark Knife Making Kit comes with a complete set of unassembled knife bits, including a stainless steel hunter blade, birchbark washers, screw rivets, walnut guard, and threaded pommel. But unlike Ikea furniture, putting it all together will actually be a delightful challenge. Though you might work up an appetite for oddly inexpensive Swedish meatballs.





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The Blade

The hidden tang blade is made from high-quality 8A steel. This stainless steel is forged with carbon, chromium, and the ever-popular vanadium, which contribute to its hardness, durability, edge retention, and dashing good looks. The blade clocks in at 58-59 HRC (Rockwell hardness scale), and will make for an excellent new companion.

The Handle

This is the most intimate and personal part of your knife that you will be feeling every day. The hidden tang handle is composed of a traditional, lightweight material. You'll go nuts with the threaded walnut pommel and slotted walnut guard as you compress dozens of layers of hand-cut birchbark. Once assembled, this handle will be stacked, compact, and ready to grasp.

The Sheath

Your knife wouldn't be complete without the means to carry it. You'll get to make the sheath yourself, using pre-cut, vegetable-tanned leather, glue, and screw rivets. You're welcome.

*** TOOLS YOU'LL NEED:** You will need a vise, a rasp and file set, a drill with standar drill bits, a screwdriver, and sandpaper to finish this kit.

Step 1: **ASSEMBLY**

Alright, MacGyver, time to get going.

Before diving in, let's take some safety precautions. Since you'll be handling the knife extensively during the process use toilet paper or a paper towel and painter's tape to cover the blade of the knife. Wrap with 4-5 squares of toilet paper, and then use the painter's tape to securely wrap the entire length of the blade.

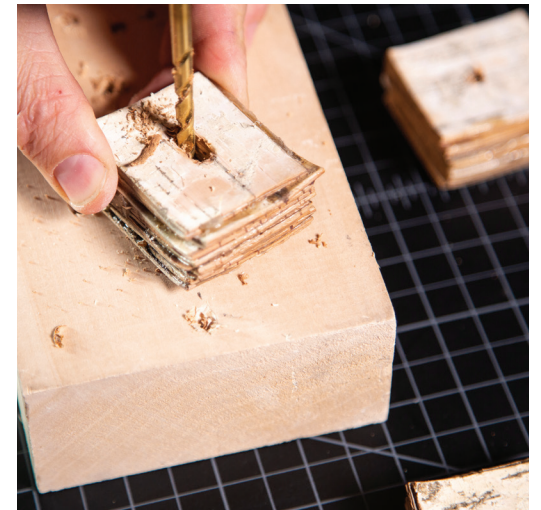


Prior to assembling all the pieces, you'll want to laminate the birch bark. You may have noticed a couple of things about the bark pieces. They aren't flat and they don't have holes in them. That's about to change. Get out a clamp or vise and your wood glue.

Take about an inch of stacked bark at a time, apply wood glue liberally between the layers of bark. Once you have the bark stacked with glue between all the layers, use two pieces of scrap wood and a clamp to sandwich the pieces together. Tighten the clamp or vise until the bark has flattened completely. Practice your patience as it dries for 3 hours. Then, repeat process with the remaining bark.

Depending on the thickness of your pieces, you may have more bark than you need. Feel free to whittle it into little bears. Before laminating the last section, do a dry run by lining up the walnut guard next to the blade, ensuring about 1/4 of the threaded tang will still be exposed. That way, you'll be able to attach the threaded walnut pommel.

Now, to address the second issue, you'll need a drill. Drill a hole at least 1/4" thick through center of each section of bark. For the sections near the top, you'll need to drill multiple holes that connect to allow the tang to pass through. Don't worry if the holes are too big. You'll fill those gaps with glue when assembling.



You're almost ready for final assembly. Almost. First, you need to check to make sure everything fits together the way it should. Slide the guard onto the tang. Then add each layer of laminated birchbark. Lastly, screw on the pommel. The pommel should lightly compress the bark.



Now it's time for the real thing. Practice makes perfect—so perfection, here we come. Start by disassembling the handle, then apply glue between the guard and birchbark, and again between all the subsequent layers. Also fill in the gaps inside of the bark where there is extra space in the holes you drilled out for the tang. Finally, apply glue and screw the pommel down, finishing the handle. Hand tighten only.

Step 2: SHAPING



PRO-TIP: It helps to approach a single dimension at a time. Draw your desired profile shape on the sides of the handle, then shape the profile of the handle. Repeat the process for the perpendicular angle. Then begin rounding out the shape to fit your grip.

There are several methods you can use to shape the handle. Hand tools, like a rasp and file set work well for shaping both the birchbark and walnut.

If you have a belt sander or a rotary tool and enjoy a good shortcut, you can make short work of this step. Alternatively, the birchbark is quite soft, and can even be shaped with a utility blade or knife.



Before moving on to sanding, it's a good idea to don some breathing protection to prevent dust inhalation. You'll also avoid the infamously uncomfortable "birchbark lung."

Start with a coarse sandpaper—around 80 grit—and sand until the material has reached a consistent level of smoothness. All of the scratches made from filing should be worked out before moving on to a finer paper.

In the same way, work your way up to a fine sandpaper, usually 220 grit. Once you've again sanded it smooth, wipe clean with a damp paper towel. Then,



keep it tidy and throw the paper towel away.

If you have deep scratches in the guard from shaping it, sand with 220 and move up from there. A final sanding up to 320 grit should provide suitable finish.

PRO-TIP: Use a vise to hold the knife in place while you work. If your vise has metal jaws, be sure that the blade is wrapped or the jaws are padded with wood before clamping to prevent scratching the blade.



Step 3: **FINISHING**



There are a couple of options for finishing your knife. Totally your call. The more traditional finish is oil-based. Linseed oil is commonly used, but any oil-based finish you find at a hardware store will soak into the porous birchbark well. Apply 3-4 generous coats, allowing each coat to soak in and dry. Wipe off excess and polish with a rag or buffing wheel, then call it a day.

For a higher-gloss finish, a wood varnish will also work. Mask off the blade where it meets the guard and use a vise or clamp to keep the handle from touching any surface, then apply finish according to the manufacturer's instructions.

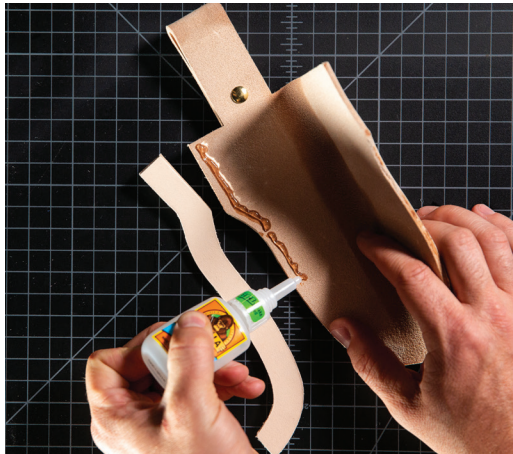
PRO-TIP: Because the birchbark is so porous, it needs to have a good waterproof finish. Traditionally, these handles are simply soaked in linseed oil for 24 hours.

Step 4: **SHEATH**

The sheath kit includes two leather pieces: the panel and a welt. The welt is sandwiched between panels when it's folded and provides structure. It prevents the blade of the knife from either cutting stitches, hitting rivets, or slicing cold cuts.

First, fold the belt loop so that the two punched holes line up and fix them with a screw rivet. The rough side of the leather should be facing out on the belt loop.

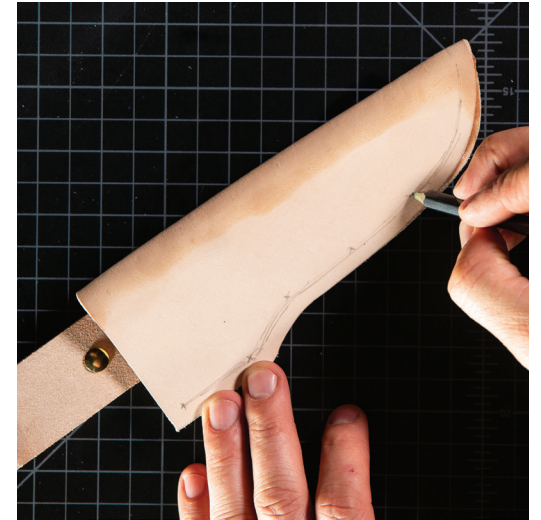
Now, use the gel super glue to assemble the pieces of the sheath. Apply a layer of glue onto the welt, then press it onto the back panel of the sheath. The rough side of the leather should be this inside of the sheath. Take care to line up the outer edges of the sheath as flush as possible. The glue doesn't require clamping, but use your hands to press the two pieces together for 30 seconds to 1 minute to allow the glue to set.



Repeat this same process to glue the front part of the panel to the welt.

Evenly space out and mark where you will drill holes to place rivets. This is about to get very riveting. You will need 7 rivets spaced roughly every inch. The holes should be centered $\frac{3}{8}$ " from the edge of the sheath. Use a $\frac{1}{4}$ " drill bit and carefully drill holes through all three layers of leather. Use a razor to clean up the edges of the holes and then install all of the rivets with a flathead screwdriver.

To mold the sheath to the shape of your knife, wet it with water until it's pliable. Insert your knife and press until it conforms to the shape of the knife. Then, let it dry. So easy.



Step 5:

SHEATH FINISHING

You're a step away from the finish line. To clean up the edges of the sheath, get your sandpaper out again. Sand the edges with coarse sandpaper to get them even and to clean up any excess glue. Move to a fine sandpaper and sand until the edge is smooth.

Use water to wet the edges of the sheath. Take a hard surface and burnish the edge of the knife. You can use a piece of wood, metal pipe, the bottom of a spoon, or even a bowling pin to burnish the edge. Rub the object against the edge to create friction that will slowly compress and polish the leather. The finished edge should have a smooth and glossy finish.

Congratulations, you've finished your knife! Put that sheath on your belt and where it with pride, as long as you're in a place where you can legally carry it.



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