

# Stow-and-Go Sharpening Box

Simple project works as a sharpening station and storage box

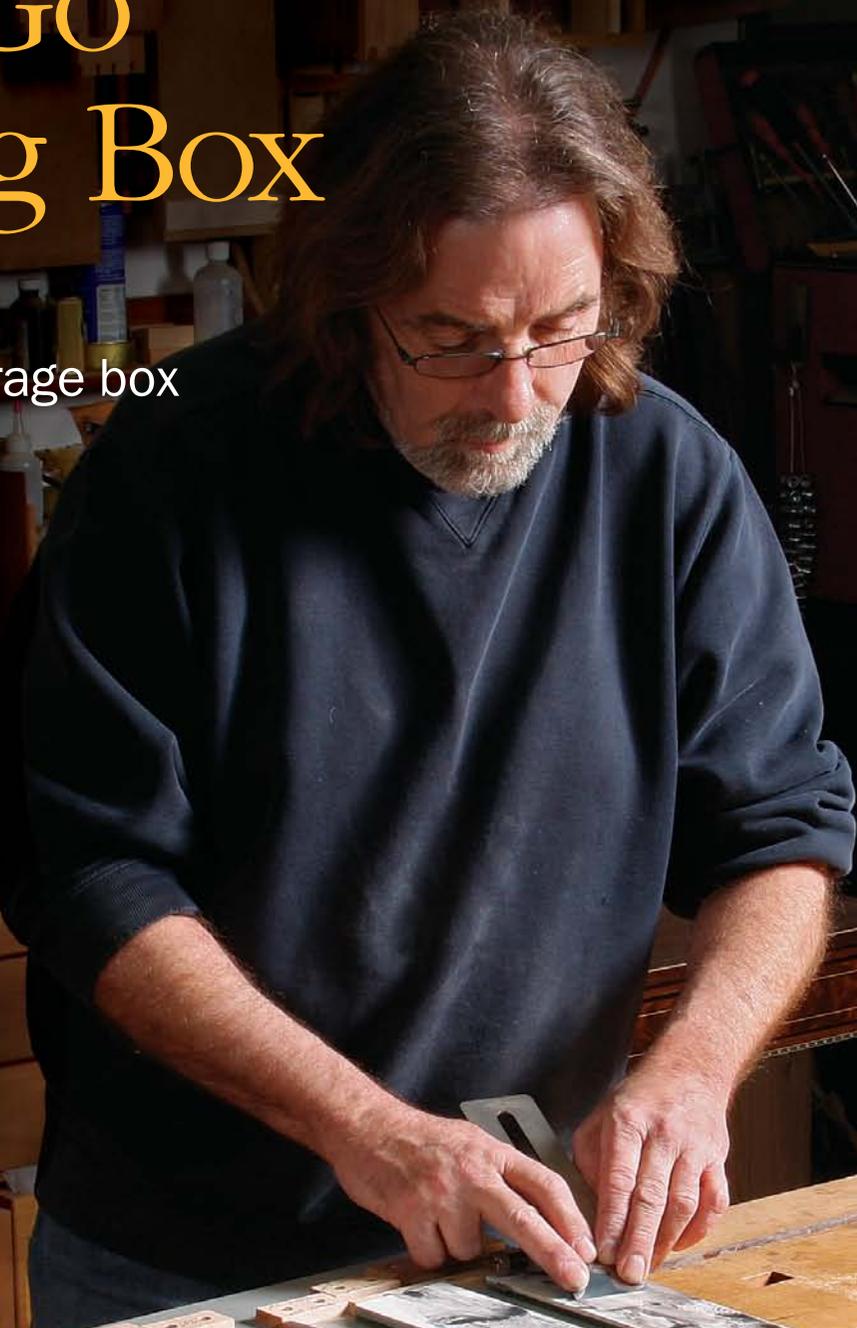
BY BOB VAN DYKE

A few years ago while giving a sharpening demonstration, I realized how disorganized my sharpening equipment was: stones, honing guides and their projection jigs, and water sprayer in different corners of the shop. Getting it all in one place took forever.

My solution was to build this box to keep it all together and give me a solid surface for sharpening. The simple splined and mitered case has a laminated top with cleats for stones and a projection jig for setting honing guides. Inside, a removable divider system keeps tools organized while remaining adaptable should your kit change.

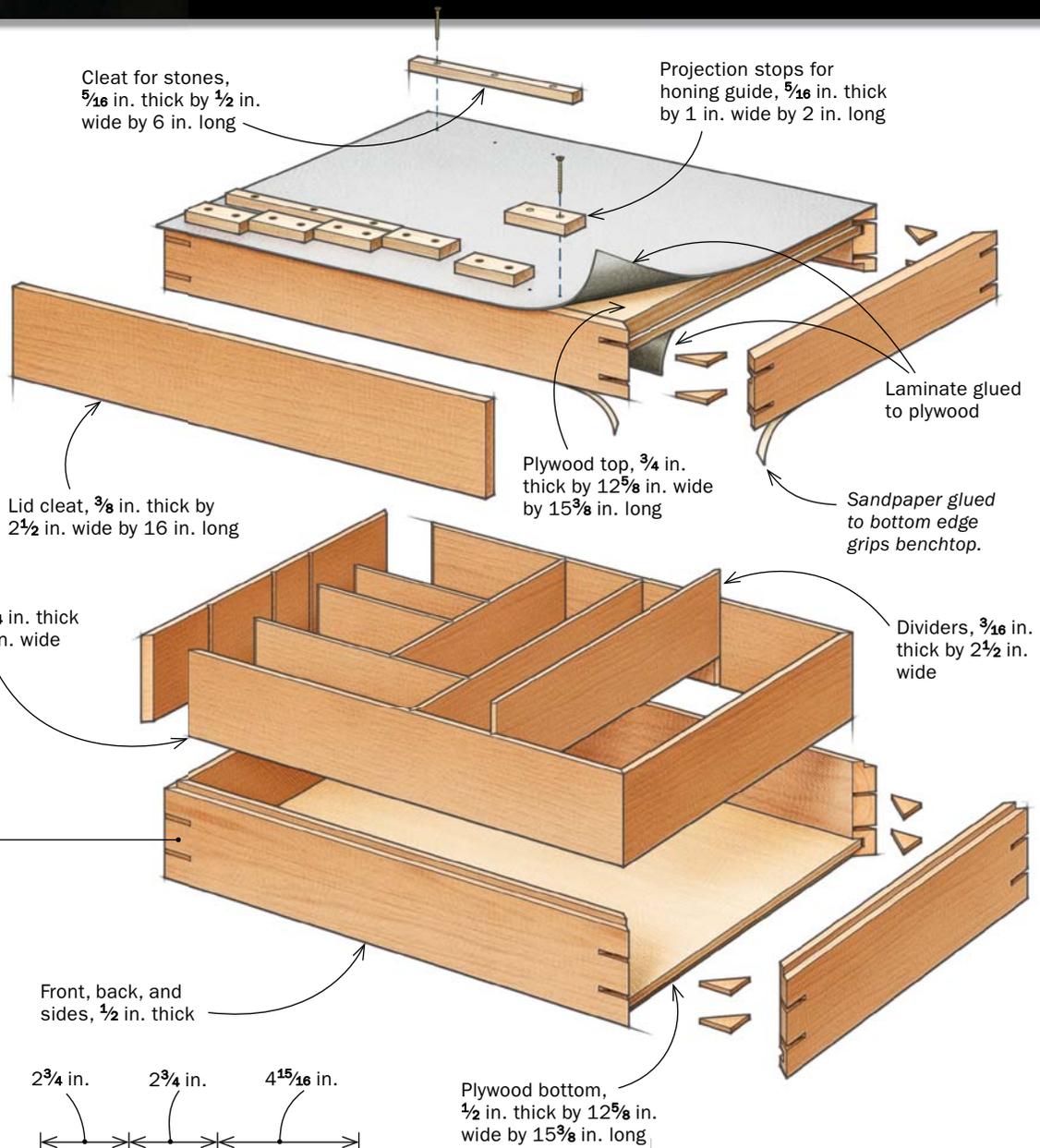
## Make the box

The unique feature of this case is how I cut grooves into the inside and outside faces of the sides to form a lip for the top to register on. It is easier and more precise to cut these grooves, as well as the ones for the top and bottom panels, and surface the stock before cutting any miters. I use a box-joint blade for the grooves because it leaves a perfectly flat bottom, but a good-quality dado blade would work as well. Start by ripping the offset



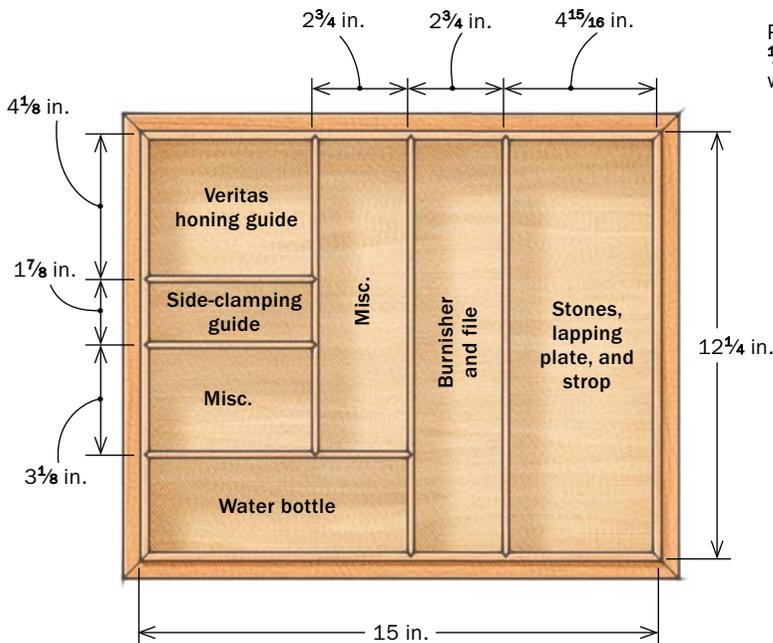
## A BASIC BOX

This mitered box has friction-fit dividers for storing all your sharpening gear in dedicated pockets. The laminate-covered lid is used to set up honing guides and has a cleat to hold sharpening stones. A cleat on the lid keeps it against the benchtop while sharpening.



### SIZING THE BOX

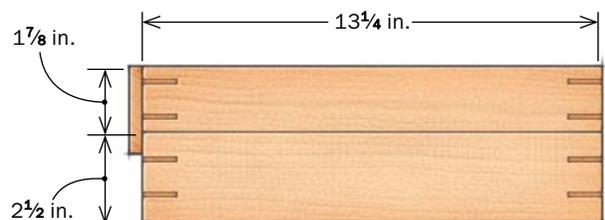
The layout and size of the box are determined by the sharpening tools stored inside and the amount of space the stones and projection stops take up on the lid. (For Van Dyke's basic kit, see pp. 50-51.) A different set of tools requires a different layout.



TOP VIEW



FRONT VIEW

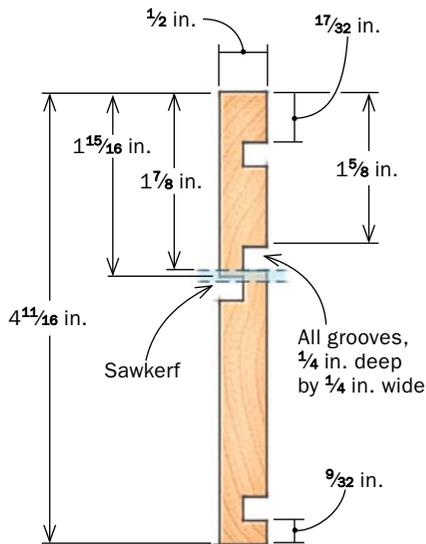


SIDE VIEW

## MAKE THE CASE

### GROOVES BEFORE MITERS

The box will be sawn apart after assembly to create a lip for the lid to fit over. Cut all the grooves first, then miter and assemble the box.



**Cut all the grooves before cutting parts to length.** The grooves for the top and bottom, as well as the grooves that will form the lid joint, are cut into long sections of the case sides with a box-joint blade at the table saw.



**Miter to length.** Cut the miters at the table saw. Van Dyke uses a sled and flip-up stop blocks to ensure the opposing sides are the same length.



**Tape makes clamping easy.** Assemble the case pieces facedown against a straightedge, then stretch tape over each joint.



**Glue the joints and roll it up.** Apply glue to the miter joints first, then the grooves. The miters will suck up most of the glue into the end grain, so apply another coat after the grooves are coated. After seating the top and bottom into their grooves, roll the case sides around the panels. Stretch the tape over the last joint and let the glue dry.



## ADD SPLINES AND SAW OFF THE LID



**Trim the sides flush.** Use a bearing-guided, flush-trimming bit in the router table to bring the slightly proud edges of the case sides flush with the top and bottom panels.



**Splines strengthen the corners.** Van Dyke cuts the spline grooves using a jig at the tablesaw and a flat-top rip blade, which leaves a perfectly flat bottom kerf. Once all the slots are cut, glue the splines and flush them with a handplane.



**Saw off the top.** Align the cut carefully, being sure to take more from the inside lip than the outside. Rotate the box as you cut each side, starting with a long side and stopping before the last cut. A  $\frac{1}{8}$ -in. scrap placed in the cut and squeezing pressure on the top of the case will let the box “pop” open after the last cut is made. This will keep the blade from marring the loose top.

grooves into the inside and outside faces. Mark the location of the inside groove on the outside face for reference. Once it's glued up, those marks will help locate the cut to split the box.

Next cut the grooves for the top and bottom panels. Locate each groove so that the edges of the case sides will be slightly proud (they will be trimmed flush later). Surface both sides of the stock. To cut the miters, set the blade at  $45^\circ$  and test your setup on scrap until the miters close tightly. Cut the sides to length at the tablesaw and save a few offcuts—you will need them later.

Dry-fit the box using blue tape or packing tape as a clamp, and measure the inside dimensions. Cut the top and bottom to that size, adding  $\frac{3}{8}$  in. to the length and width to allow for the grooves. Now cut the rabbets with a dado blade. Check the fit with the

panels in, but don't put the top and bottom in at the same time or you might not get it apart. When you're happy with the fit, prepare to glue up.

### Glue up the box

Spread some paper on the bench and clamp a straightedge to the bench. Register the box sides against the straightedge and tape them together. The tape should stretch tightly and cover the whole joint. Fold over the ends to make it easier to remove later. Turn over the assembly and spread glue in the miters, grooves, and rabbets. Put the top and bottom in place, fold the sides around it, and tape the last joint. I use liquid hide glue for its longer open time. When the glue is dry, remove the tape and any squeeze-out.

## MAKE THE SHARPENING SURFACE



**Lay down laminate.** Use contact cement and two dowels under the laminate sheet to prevent premature adhesion while you center the sheet. Once it's centered and overhanging all four edges, press the center down to lock it in and then pull the dowels out.



**Roll it out to make it stick.** Use a rubber J-roller to firmly seat the laminate.

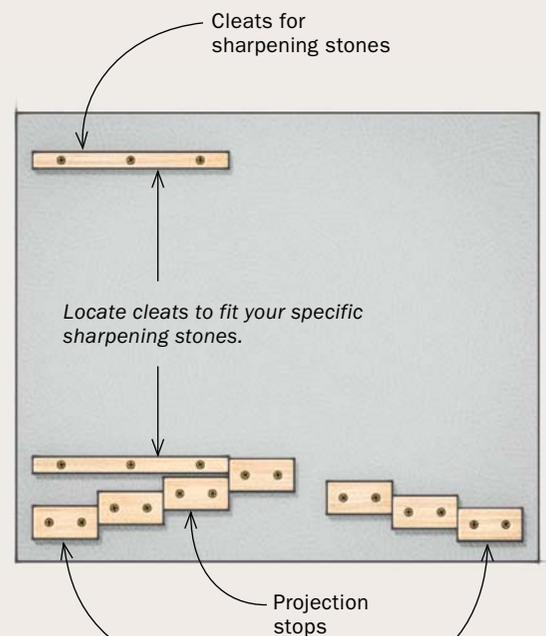


**Trim the laminate.** Rout the overhanging laminate with a bearing-guided, flush-trimming bit in a laminate trimmer.



### Add the stops and cleats

**Screw down the projection stops.** Used to set a honing guide at various sharpening angles, the stops are pre-drilled, and screwed in place. To keep them from shifting while being clamped and screwed, Van Dyke applies a dab of hot glue to the underside of each piece first.



Van Dyke uses two different honing guides and mounts a set of projection stops for each.

## DIVIDE THE INTERIOR



**Start with a mitered liner.** The liner goes in first and is held in place with a friction fit. This way, any changes in tooling later on can be made without hassle.

Set up a bearing-guided, flush-cutting bit on the router table and trim the edges of the sides flush to the plywood top and bottom. Cut spline grooves into the corners at the tablesaw with a flat-top rip blade, avoiding the area where the top will be cut off. Glue in the splines and flush them with a bench plane.

### Free the lid and lay out the work surface

To separate the lid, raise the blade a little over  $\frac{1}{2}$  in. and locate the fence so that you will cut a little more off the bottom groove than the top to ensure that the top closes completely. Check the setting of the tablesaw fence using one of the scrap cutoffs you saved when mitering the sides. The lip on the bottom half will probably need adjusting with a shoulder plane to make the top fit well.

The lid of this box is a complete work surface for sharpening. Glue a cleat to its front edge to act as a bench hook. Self-adhesive sandpaper on the underside of the lid helps keep it from sliding around. Plastic laminate glued on both faces with contact cement protects it from moisture and keeps it flat. You can buy small pieces from home centers but try to get "horizontal grade," which is thicker and easier to work with.

Screw the stone cleats and the projection stops for the honing guides to the lid, leaving space for a diamond lapping plate and/or a leather strop.

### Now finish the interior

The liner is a simple mitered frame, pressure-fitted into the box. After fitting the outer frame, mill the divider stock to size. The dividers can be fitted with a simple dado, but I prefer a bird's-mouth joint cut at the tablesaw with a box-joint blade tilted to  $45^\circ$ . I cut the pointed ends of the dividers with a  $45^\circ$  chamfer bit buried in the router-table fence. It helps to make enough extra divider stock so you can dial in the exact size you need. After the grid is made, surface the parts and chamfer the top edges.

Building this box was a simple project and using the box for the past few years has made my sharpening easier and faster.

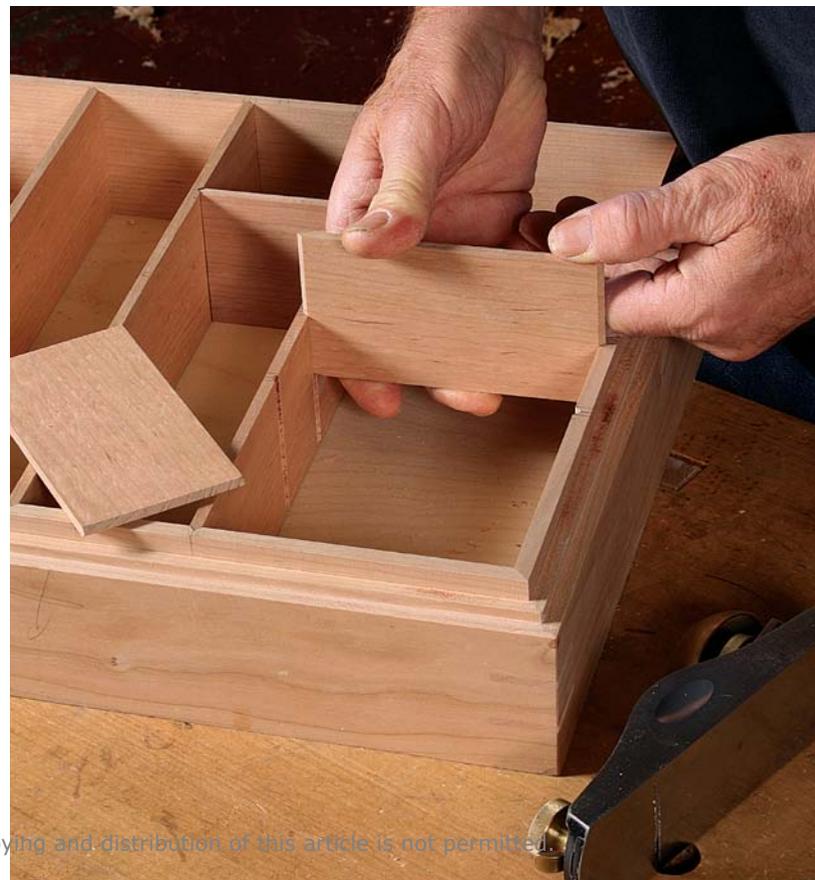
*Bob Van Dyke is director of the Connecticut Valley School of Woodworking.*



**Cut V-grooves at the divider locations.** After you mark the liner pieces for the locations of the inner dividers, cut the V-grooves in each piece at the tablesaw. A box-joint blade tilted to  $45^\circ$  makes exceptional V-grooves, but a V-groove bit in the router table is a good alternative.



**Points at the ends.** To fit the inner dividers into the liner's V-grooves, rout the tip of each to a matching  $45^\circ$  angle. With a V-groove bit buried in the fence, dial in the fit by adjusting the height of the bit until it matches the V-grooves.





## The gear that goes in the box

Here is the basic sharpening kit that Van Dyke recommends to his students. The box is designed to hold all of these items. Obviously, if you have a different set of sharpening tools, you should design the inside accordingly.

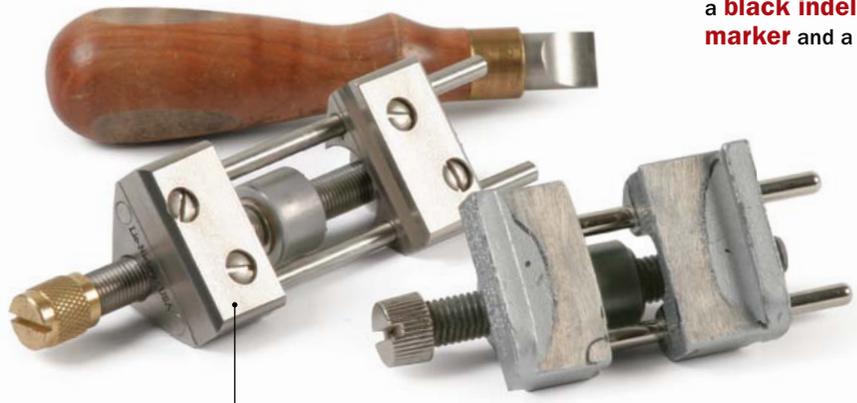


**Before you hone.** Use a small square to check that the blade edge is square. If it's not, mark the edge with a felt-tipped marker and scribe and regrind the bevel to that line.



A **small square** and a **wooden straightedge** are used to check if a blade's edge is straight. The wood is safer than steel for checking freshly honed edges.

To mark a chisel or blade for resetting a primary bevel, use a **black indelible marker** and a **scribe**.



Van Dyke uses a **side-clamping honing guide** for plane irons and most chisels. You only need one, but two options are the Eclipse-style honing guide and the Lie-Nielsen honing guide.



**Different guides for different tools.** Van Dyke uses the Eclipse-style gauge for plane irons and the Veritas Side-Clamping guide for chisels that the Eclipse style can't hold.

He uses the **Veritas Mk.II Narrow-Blade honing guide** for narrow and odd-sized chisels that the other gauge can't handle.



Van Dyke says **Shapton ceramic stones** cut quickly, give a superb edge, require less flattening, and—unlike Japanese waterstones—do not need to be saturated with water. Just a flushing with the **water sprayer** is enough.



Van Dyke uses a **DMT lapping plate** to flatten sharpening stones quickly.

For the final polish on an edge or back, use a **leather strop** charged with **honing compound**.



Be sure to reserve space for a **file and burnisher** so you can sharpen scrapers.



**Two stones to start.** Van Dyke uses two grits of Shapton ceramic stones, 1,000 and 8,000, to set the secondary bevel.



**Flatten them out.** The diamond plate excels at keeping stones and tools flat.



**Strop finishes the job.** After running through both stones, a strop charged with honing compound provides the final polish.



**Don't forget card scrapers.** A burnisher and file take care of card-scraper sharpening, a must for difficult grain and efficient cleanup.