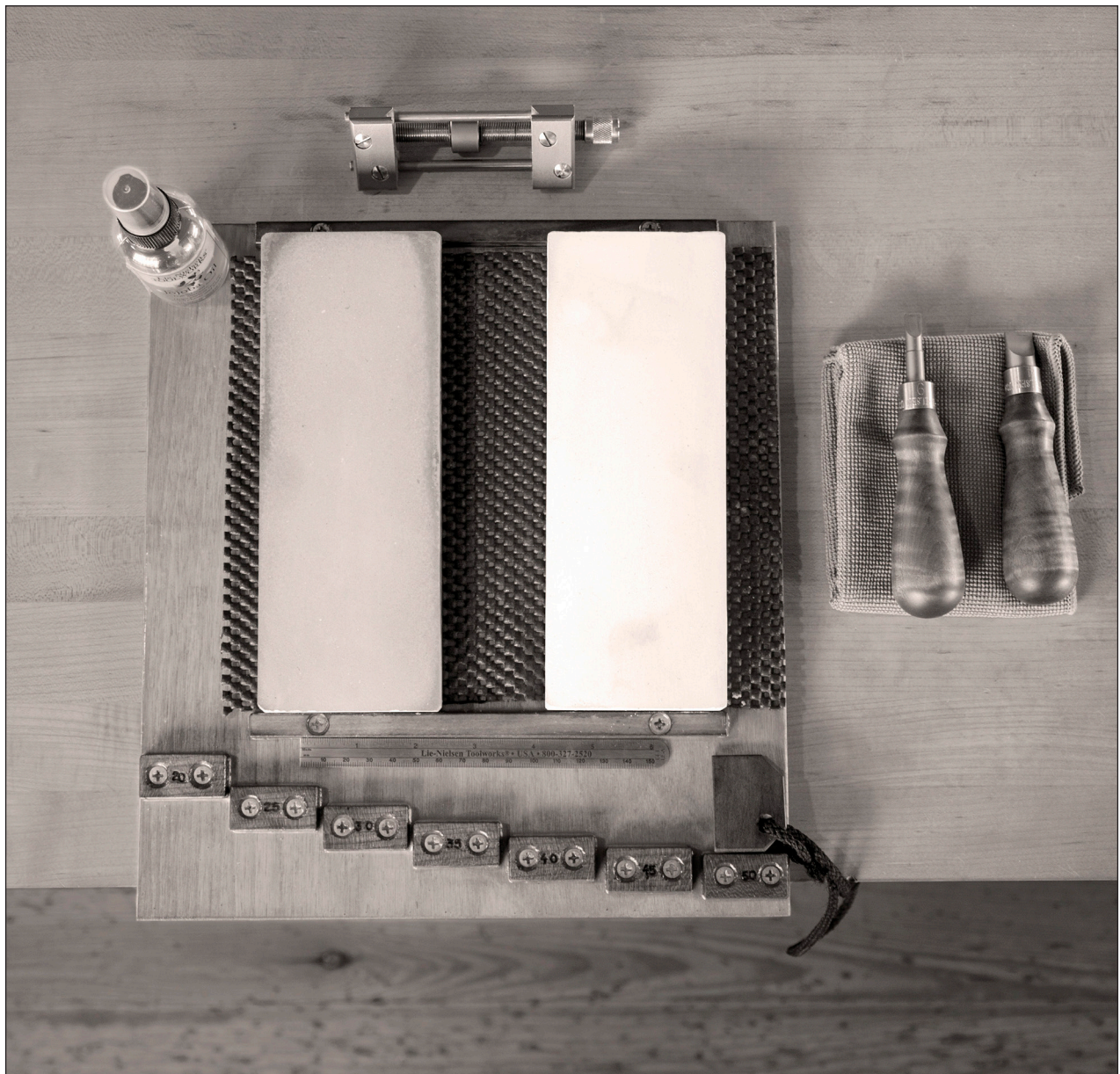


Lie-Nielsen  
TOOLWORKS®  
INC.

*Heirloom Quality Tools®*

## ANGLE SETTING JIG & ACCESSORIES

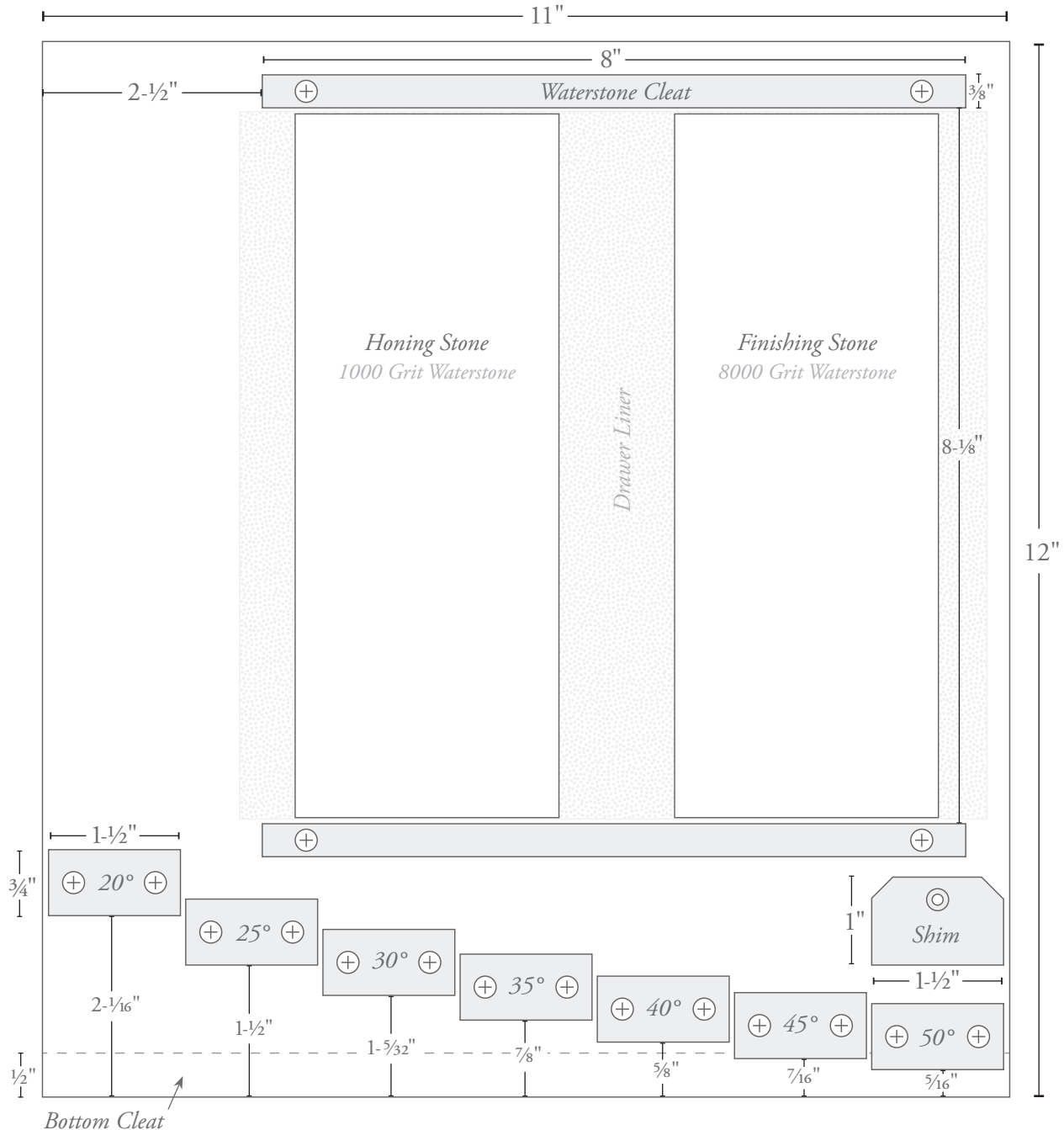
*Build a reference jig to make sharpening easy and consistent.*



(Revised 4/18/2019)

# BUILD THE ANGLE SETTING JIG

## TOP VIEW



## MATERIALS NEEDED:

1/2" Plywood: 11" x 12"

Twenty 3/4" Brass Screws

Hardwood Stops: 3/8" thick, 3/4" wide, 1-1/2" long

Hardwood Waterstone Cleats: 3/8" thick, 3/8" wide, 8" long

Hardwood Shim: 1/8" thick, 1" wide, 1-1/2" long

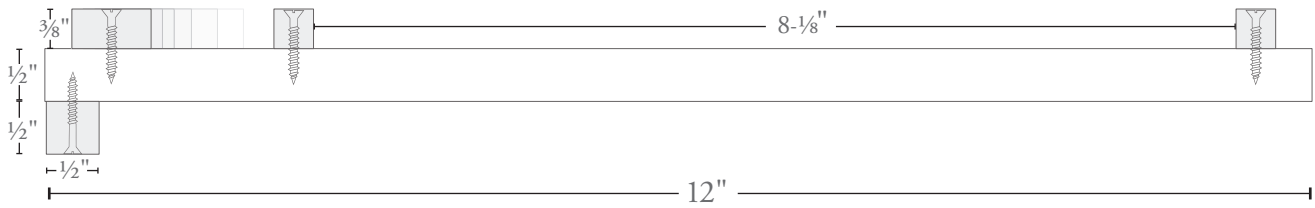
String for Shim: 12" long

Drawer Liner (non-skid material, pictured on first page)

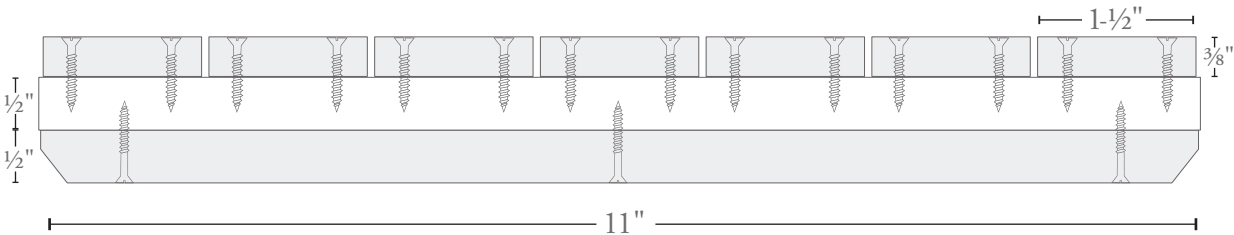
Hardwood Bottom Cleat: 1/2" thick, 1/2" thick, 11" wide

# BUILD THE ANGLE SETTING JIG

## SIDE VIEW



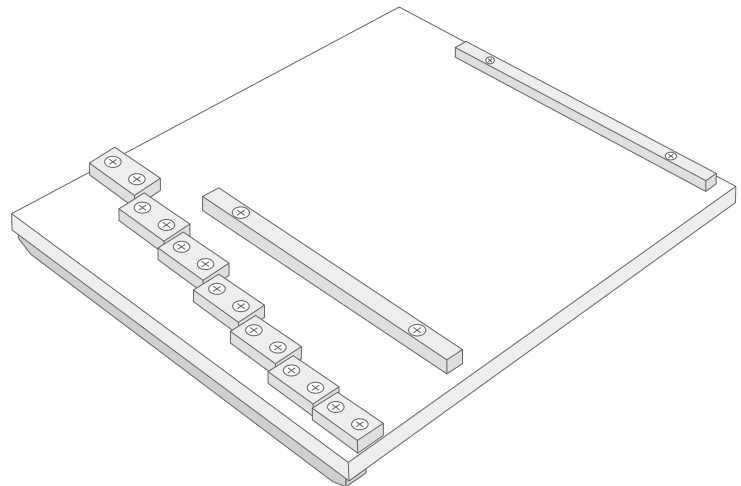
## FRONT VIEW



## STOP BLOCK DISTANCES

For Common Sharpening Angles\*

Angle	—	Approx. Distance
20°		2-1/16" (52.38 mm)
25°		1-1/2" (38.10 mm)
30°		1-5/32" (29.36 mm)
35°		7/8" (22.22 mm)
40°		5/8" (15.87 mm)
45°		7/16" (11.11 mm)
50°		5/16" (7.93 mm)



\*Note: All measurements will achieve approximate angles using our Honing Guide. In order to achieve the most accurate results when constructing your own jig, use a protractor to record exact measurements for each angle.

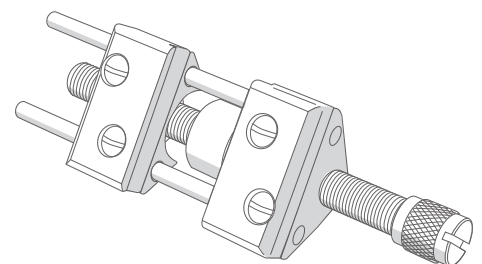
\*When using the Mortise Chisel Jaw Pair, add 5° to each stop.

Note: The No. 164 Low Angle Smooth Plane uses a Yoke Plate to adjust blade depth. The Yoke Plate needs to be set 2-1/2" from the blade's edge. Position the Waterstone Cleats 2-1/2" from the left edge of the jig to create a stop to help reset the Yoke Plate after sharpening. Make a stop at 3-3/4" to reset the Yoke Plate for the No. 9 Miter Plane.

## RECOMMENDED TOOLS FOR SHARPENING:

These tools will help you get the most out of your Angle Setting Jig:

- Waterstones (1000 grit for Honing and 8000 grit for Finishing)
- Honing Guide
- Measuring Tools (Protractor and a thin 6" Ruler)
- Screwdrivers (No. 4 Screwdriver, No. 9 Screwdriver for removable Jaws)
- Jjoba Oil (for keeping rust at bay after sharpening)
- Microfiber Cloths (one for water, one for oil)
- DMT Dia-Flat Lapping Plate (or Sandpaper for flattening Waterstones)



The Lie-Nielsen Honing Guide



## FINDING THE PROJECTION DISTANCE

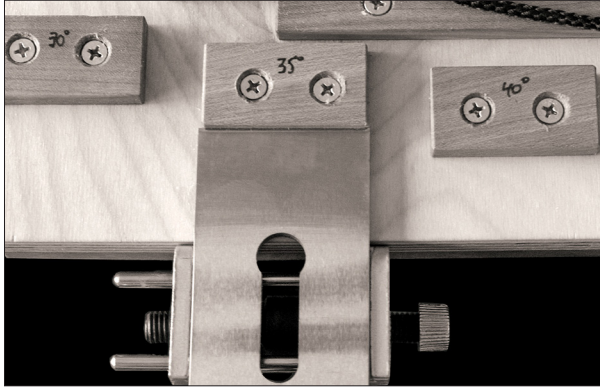


If you have a different honing guide, or just want to try different angles in our Honing Guide, use a protractor to determine the projection distance. Hook the protractor under the edge of your jig and set it to the desired angle. Then place your blade (while in the Honing Guide) underneath the straight edge of the protractor.



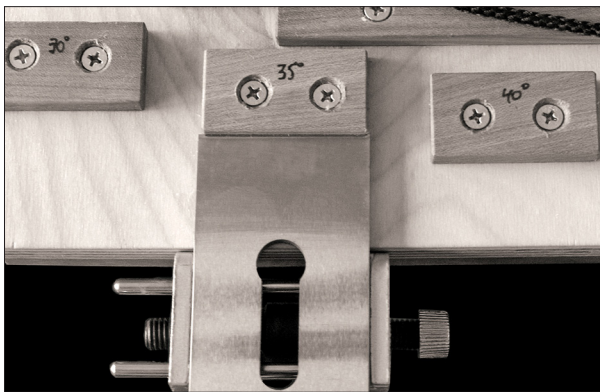
Adjust the position of the blade to match the angle of the protractor arm. The resulting projection distance provides the position for the stop at the corresponding angle.

## USING THE STOPS TO SET THE ANGLE



Place the blade bevel down in the honing guide and loosely tighten the thumbscrew. Present the honing guide to the stop corresponding to the desired sharpening angle. Register the body of the honing guide on the front edge of your Angle Setting Jig and extend the blade until the bevel meets the stop. Tighten the thumbscrew to secure the blade, and you are ready to sharpen.

## HONING A SECONDARY BEVEL



A secondary bevel for the honed edge means less effort, less time, and less wear on your polishing waterstone. You can sharpen using a secondary bevel by honing the edge at an angle higher than the primary bevel of the blade—we recommend 35° for general woodworking. The primary bevel on our blades is typically 25°, and 30° on our Chisels. See our Sharpening Instructions PDF for more information about or recommended sharpening technique. For more information on advanced sharpening we recommend David Charlesworth's video *Plane Sharpening*, available in both DVD and streaming formats.

## USING THE SHIM TO HONE A SECONDARY BEVEL



Use the 1/8" shim to increase the angle at any stop by approximately 2°. In the photo, using the shim with the 35° stop increases the angle to approximately 37°. It is worth noting that the stop block distances shorten as the sharpening angles increase, and using the shim with angles above 35° will increase the bevel beyond 2°. For best results, use the shim with the stops 35° and below.