

# Cindy Drozda

"The Fine Art of Woodturning"

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## Square Ended Negative-Rake Scraper

The Square Ended Negative-Rake Scraper is a finishing tool for inside recesses, tenons, and shoulders. This tool can allow very fast and accurate fitting of tenons, recesses, and jam-fit chucks. It is not intended to be a bulk material remover, however, so it's recommended that the bulk of the wood be removed with another tool first.

The cutting edge on the end is ground perpendicular to the side of the tool, and the cutting edge on the side is ground parallel to the other side. This allows the right side of the tool to be a guide in cutting parallel sided recesses and 90° corners. Sight along the lathe bed and align the side of the tool parallel to it to cut a parallel sided recess with the cutting edge on the side of the tool. Moving the tool back and forth along the axis of the lathe to make the cut allows lighter cuts and greater accuracy. The end of the tool will cut a flat bottom to the recess. Be careful when cutting endgrain with a scraper! Light side-to-side cuts are more accurate and less likely to grab than wide plunging cuts. Any time cuts can be made into side grain wood, the tool will perform better and stay sharp longer.

This Scraper is intended to cut on center, flat on the tool rest, and with the handle held level.

In order to properly support the cutting edge, making the tool less grabby, the tool needs to be supported on the tool rest behind where the cutting bevel starts.

### Sharpening the Square Ended Negative-Rake Scraper:

Your Square Ended Negative-Rake Scraper is shipped to you with a "factory grind". The edge profile is properly shaped, but the cutting edge will need to be sharpened before use.

The best way to sharpen this Scraper is to set a grinder platform up to the same angle as the bottom bevel (60°).

To properly support the side cutting edge, I have ground a relief notch into the grinding platform, fitting the platform around the grinding wheel.



It is important that the end cutting edge remains perpendicular to the side of the tool and the side cutting edge remains parallel to the other side. I have made some reference marks on the grinder platform to help my eye line the edges up.

In order for the marks to be an accurate reference, the edge of the wheel has to be dressed parallel to the edge of the platform. Don Geiger's diamond dressing jig does a good job of this.

A fine (100 - 120 grit) grinding wheel will make the tool last longer.

Sharpening can also be done free-hand by contacting the heel of the bevel to the wheel and moving the handle until the sparks come over the cutting edge.

The top bevels are not intended to ever be sharpened or honed. It is important that the top bevels meet exactly in the corner of the tool, or one edge will not cut flat and the tool will not cut cleanly right into the corner of a 90° recess. Equal amounts of metal removed from both the side and end each time the tool is sharpened will keep the top bevels meeting exactly in the corner. As the tool is sharpened, the cutting area becomes shorter and narrower. At some point, you will decide that the tool is no longer effective. To renew the tool, the entire cutting area is ground back, a new 5° top bevel is ground on the end, and new 60° bottom bevels are ground at the cutting edges. As the tool comes to you, the side top bevel is much longer than the cutting edge. This is to allow for renewing the tool as just described, without having to re-grind that side top bevel. If a longer side cutting edge is preferred, that extra side top bevel can accommodate. Just grind the bottom bevel longer, and be prepared for more tool rest overhang.