

Lie-Nielsen Toolworks Product - Use and Care Instructions

Small Scraping Plane

The Lie-Nielsen Small Scraping Plane is based on the Stanley #212, which was discontinued in 1934. The original has become increasingly hard to find and expensive, but it is the perfect tool to use for many small scraping jobs. We are pleased to be making it available for woodworkers once again.

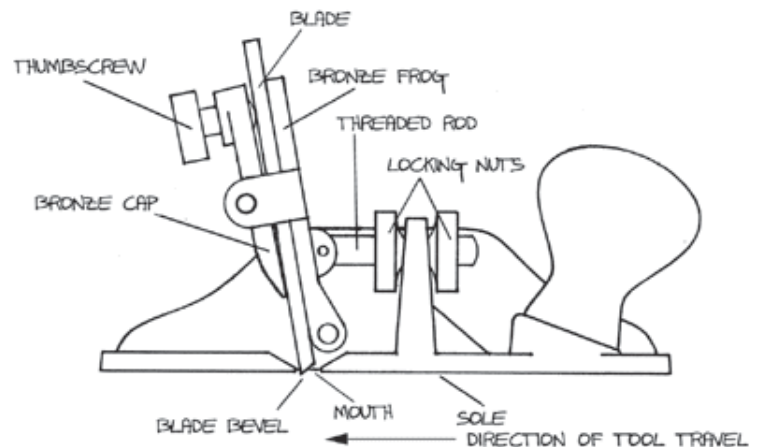
Blade Sharpening: Our Scraping Plane comes with a much thicker blade than the original. This allows the blade to be prepared somewhat differently than other scrapers. We recommend that you hone the blade to a sharp edge like a plane blade and do not use a burr (at least until you get used to using the tool). We have found that our thick scraper blades sharpen easily and produce a better surface with a 45° bevel on the blade. Slightly round the corners of the blade with a stone to prevent them from marking the work.

Burnishing: If you wish to create a burr, hone the blade, and then clamp it upright in a vise. Using a burnisher, begin by holding the burnisher at about 45° to the blade, working up to 90°. Work the edge until you can feel a distinct 'hook' all the way across. Be very careful not to cut yourself on the upright blade. Use of a burr will give more aggressive cutting action, and depending on how consistent you are, turning the burr will require adjustment of the blade angle after sharpening to work best.

Setting the Blade: The blade is inserted with the bevel facing the knob. To set the depth of cut, lay the sole of the tool on a flat surface and loosen the thumbscrew. Press lightly on the top of the blade with your thumb and re-tighten the thumbscrew. Do not over tighten. Usually, this will be enough exposure for a fine shaving. If not, repeat with a slip of paper under the front of the tool. Minor depth adjustments may also be made quickly by lightly tapping the top of the blade with a burnisher or light hammer while the tool is resting on a flat board.

Adjusting Blade Angle: The blade angle should be set about 15° forward of vertical. Try adjusting the angle to find optimum performance in various woods. One way to get it close is to take some test passes holding the blade by hand, varying the angle until it cuts best, then hold the blade at that angle against the side of the plane and adjust the frog to match. The beveled faces of the nuts fit into the countersink on the hole in the post to provide a solid lock.

Use: Normally, one pushes the Scraping Plane from the rear with the knob in the palm. The blade is inserted with a bevel facing the knob. It is best to use a light touch, rather than trying to remove too much material at once, or using too much downward pressure. Too aggressive a cut, including too much downward pressure, will result in chatter. You should be taking light strokes. Often it is helpful to scrape at an angle to the grain, then again from the opposite angle.



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David Charlesworth has a good discussion on the use of scrapers in his book *Furniture Making Techniques*, Vol. II.

Toothed Blades: We offer replacement blades, as well as toothed blades, of 18 and 25 teeth per inch. Toothed blades are useful, when working extremely difficult woods, to score fibers in a criss-cross pattern before using the regular blade. They are also used to prepare surfaces for gluing, as in veneering, by lightly roughening the surface. **Materials:** Iron tools are cast from Ductile Iron, a very strong alloy that will take a lot of abuse. We use Manganese Bronze for the Bronze bodies. These castings are fully stress relieved, a process that removes inherent stresses and ensures that the tool will remain flat and true.

The blade is double tempered A-2 Tool Steel, hardened to Rockwell 50-55. Our heat treating technique ensures that the blade will take and hold a very fine edge for a long time. After heat treating, the blade is fully surface ground on the top, back, and cutting edge, giving a smooth, flat surface that will take a mirror finish very quickly. The 1/8" thickness provides solid chatter-free cutting.

Maintenance: The soles of Iron bodies are surface ground flat and square; the Bronze are hand lapped, to a tolerance of .0015". Depending how much use your tool gets, an occasional light sanding with 320 or finer wet/dry paper on a flat surface will keep the sole in as-new condition. Tools with Iron bodies should be kept lightly oiled or waxed to prevent rust. A light oiling on the threaded rod and Brass adjuster will keep them moving freely. Many people like the patina that Bronze gets with age and use, but if you wish to keep the finish bright, a little brass polish is in order. The Cherry knob has been finished with wiping varnish and should require no maintenance. The blade should be kept lightly oiled to prevent rust, especially when the tool is not in use. We recommend Camellia Oil, a vegetable oil based product. It is non-toxic, odor-free and easy to use. In our shop, we use a fine abrasive handblock to remove light surface oxide from tool bodies and blades. Camellia Oil and abrasive hand blocks are available from us.

Guarantee: Materials and workmanship are guaranteed for the life of your tool.

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