

LAP-SHARP™ INDUSTRIAL

Planer & Jointer Jig

Instruction Manual



Wood Artistry

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Revision

Rev. 1.0	April, 2005	Release 1.0
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A Word to the New User

Introduction

Congratulations on your purchase of the Lap-Sharp™ INDUSTRIAL Planer and Jointer jig by Wood Artistry, LLC. With proper care and use, this product will provide you with years of excellent performance.

This jig is designed to attach to the Lap-Sharp™ and may be used to sharpen or hone planer and jointer knives up to 25 inches in length with a flat surface (rather than hollow grind), using slow rotational speed to improve operator control and reduce heat generated from friction.

Benefits of the Lap-Sharp™ Planer and Jointer Jig

This jig will allow the user to sharpen a knife to an extremely fine edge. The degree of finish on the edge is determined by the user and the selection of abrasives, but easily provides a finer finish than commercial sharpening services offer. The process generates little friction heat, as compared to higher speed grinders. Heat can damage a knife's temper.

You save time, as the sharpening may be performed in house rather than sending knives out to a commercial sharpening service. This enables in-house sharpening whenever the knives need refinement to the edge, rather than waiting until they have significant wear to the cutting edge.

Construction

The Lap-Sharp™ and the Planer & Jointer Knife Jig have been constructed of quality materials to give the user the highest quality performance over the life of the product.

Abuse of the machine or jig or inappropriate use in applications for which the machine or jig has not been designed will void the warranty.

Safety

For your safety, please take time to read the entire manual to learn the proper, efficient, and safe use of this jig.

The user should be experienced with the use of machine tools and must observe all common safety practices, including the use of eye protection, when operating the Lap-Sharp™ and attachments.

Always wear eye protection while operating the Lap-Sharp™.
Never place fingers under turntable, top plate, or near the knife edge.
Keep hands and clothing away from rotating disc.
Always maintain control of tools as the disc rotates.
Always disconnect power before servicing or adjusting.

Two Year Limited Warranty

The Wood Artistry, LLC Planer / Jointer Jig Assembly (with the exception of the Delrin® rail track) is warranted to be free from defects in material and workmanship under normal use for a period of two years from the date of purchase.

During the warranty period, any Lap-Sharp™ component exhibiting a defect in material and/or workmanship will be repaired or replaced, at our option, without charge for either parts or labor, at our factory. The warranty does not apply to any component that has been misused, abused, or altered in any way.

Any defective component may be returned to the factory for evaluation and determination of warranty repair status. The factory will pay for return shipping charges if the component is found to be defective.

The Delrin® rail track is factory-replaceable; check with the factory for pricing.

To obtain a Return Authorization form call, write, or email your request to the factory:

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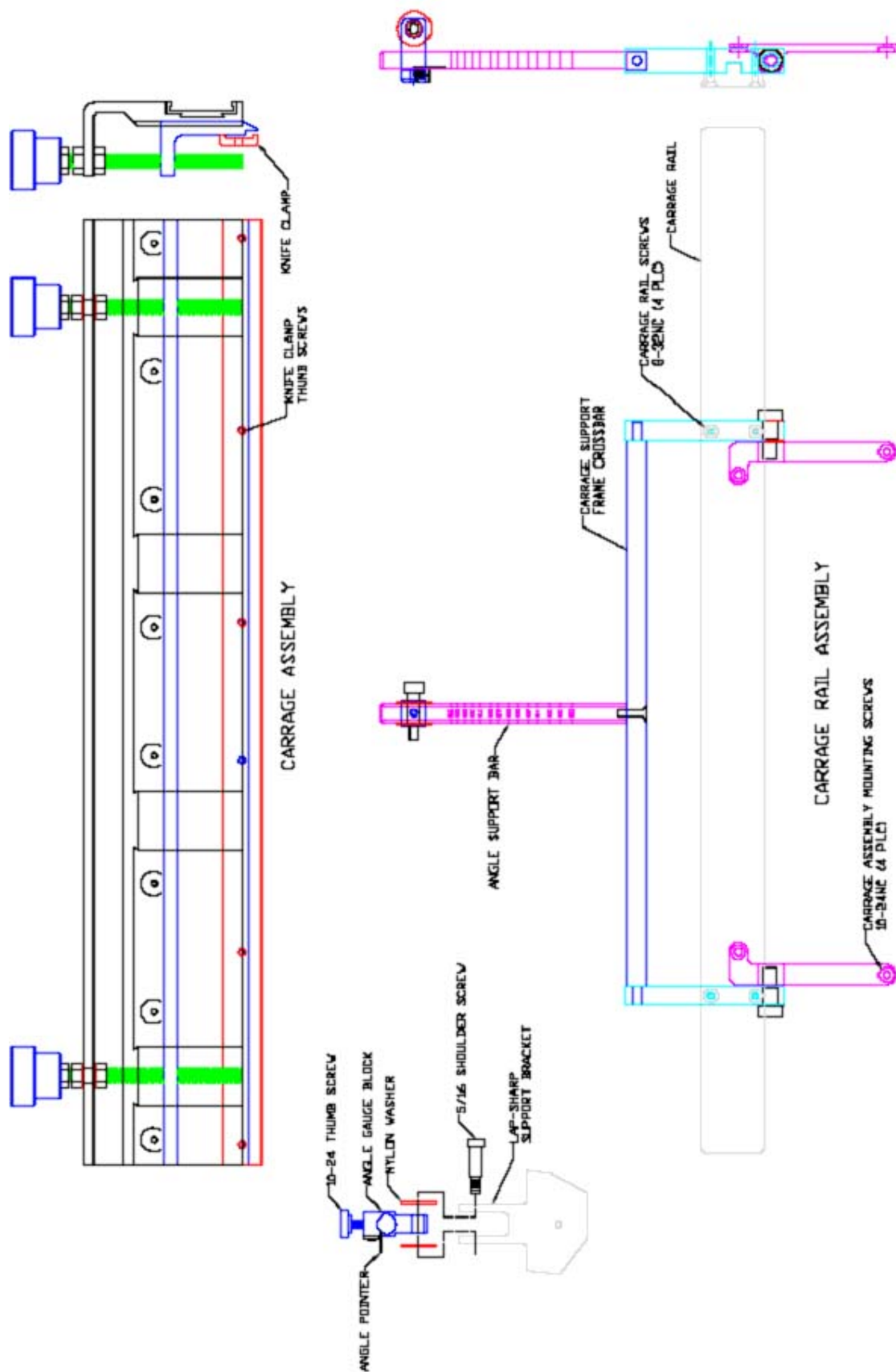
There is no other express warranty on this product. Neither this warranty nor any other warranty, expressed or implied, including any implied warranties of merchantability or fitness, shall extend beyond the warranty period. No responsibility is assumed for any incidental or consequential damages.

This warranty is applicable in the United States and Canada only.

Outside of the U.S. and Canada, please contact your local authorized Wood Artistry, LLC distributor, for warranty and service information.

Installation

1. Tools needed are five (5) provided hex wrenches (5/64, 3/32, 1/8, 5/32, 3/16) a bevel gauge and a protractor.
2. The partially assembled Planer and Jointer jig is installed with four (4) provided 10-24 x 1/2" stainless steel button head socket screws. If the holes do not align properly when mounting the jig to the surface of the Lap-Sharp™, loosen the four carriage rail screws, mount the jig, and retighten the four carriage rail screws.
3. Install the angle support bar into the hole in the gauge block. Tighten the block onto the support bar with the thumb screw.
4. Position the angle support bar and block assembly with a nylon washer on either side of the block into the support bracket that is part of the casting on the rear of the Lap-Sharp™.
5. Insert a 5/16 x 3/4" cap head shoulder screw through the cast support bracket, nylon washer, gauge block, nylon washer, and screw it into the threaded side of the support bracket (left side when viewing from the front of the Lap-Sharp™).
6. Attach the angle support bar to the carriage support frame cross bar with a 10-24 x 3/4" flat head socket screw.
7. Calibrate the angle pointer using a bevel gauge (not provided). Set the bevel gauge to 40°. Rest it on the abrasive disc surface and with the angle support bar locking screw loose, adjust the angle support bar position up or down until the bevel gauge arm rests flat against the carriage rail. Secure the locking screw. Now loosen the 6-32 angle pointer screw and adjust the angle pointer to indicate 40° on the angle support bar. Tighten the angle pointer screw.
8. Tighten the one left and the one right side hex head shoulder screws that attach the carriage mounting brackets to the carriage rail support brackets.
9. Install the carriage assembly onto the carriage support rail. It should track on the rail smoothly. The small fore and aft play of the carriage is designed to provide ease in tracking and engaging the carriage onto the rail. During the sharpening process, a slight forward tipping of the carriage assembly is used, so when the carriage is removed from the rail for knife edge inspection, the carriage may easily be reinstalled onto the rail without causing the knife to tear the edge of the abrasive.
10. Check to verify the six thumb screws installed in the red colored knife clamp are not loose, so they do not fall out of the clamp.



Planer / Jointer Jig Assembly

Planer / Jointer Jig Operation

1. The Planer and Jointer jig is prepared by securing a knife or knives into the carriage rail with the bevel edge side down and the back of the knife pushed flush against the back of the knife track. Firmly hand tighten the knife clamp thumb screws that are positioned over the knife. It is best to center the knife to have the maximum number of clamp screws securing the knife.
2. Install the carriage jig onto the carriage rail making sure the knife edge is above the abrasive disc surface. If it interferes with the abrasive, simultaneously turn the two red colored carriage adjustment knobs at the top of the carriage clockwise several turns, until the knife clears the abrasive surface. Keep the numbers on the red adjustment knobs equal in position to retain a parallel position of the knife edge across the surface of the abrasive disc surface.
3. Inspect the edge of the knife prior to sharpening to determine if there any nicks or badly worn areas on the knife edge. The straightness of the edge may be inspected using a precision straight edge. The rotation of the Lap-Sharp™ is slow, so it will not create excessive heat during the sharpening process. The slow rotation also means if there is significant metal to be removed to reestablish the bevel meeting the back edge, a coarse abrasive must be used to shorten the sharpening time. If the edge is merely being refined, a finer abrasive may be initially used to start the sharpening process. Experience will enable the user to identify an appropriate starting point with the abrasive selection. The sharpening process is accomplished quickly with the correct abrasives.
4. The chart below lists the recommended available abrasives for sharpening planer and jointer knives. Most of these abrasives are designed for **DRY** operation. The chart below indicates how these abrasives may be used. A lubricant of water and a few drops of dish detergent may be used for wet applications. Use each progressively finer grit disc to refine the bevel surface from the initial abrasive selected, until you have the edge finish desired. Finer abrasives normally used for sharpening plane irons and chisels may be used if a very fine edge is desired. Commercial sharpening services frequently use 80 mesh grit abrasives as a final grit. The 60 micron abrasive is equal to 220 mesh. This abrasive provides a fine edge when sharpening knives.

Abrasive Chart

Coarse	36 Grit	Dry
Medium Coarse	50 Grit	Dry
Medium	80 Grit	Dry
Fine	120 Micron	Wet/Dry
Very Fine	80 Micron	Wet/Dry
Ultra Fine	60 Micron	Wet/Dry
Near Polished Edge	A35 Trizact	Wet only

Note: - Abrasives may be ordered through CGI via www.processingwood.com

Sharpening Planer & Jointer Knives



Planer & Jointer Knife Jig mounted on the Lap-Sharp

Sharpen planer and jointer knives with the optional jig used to hold these knives at the desired bevel angle. A very high level of sharpness can be achieved by using finer grits of abrasive than is commonly provided by commercial sharpening services.

Sharpening is achieved by sliding the carriage with the knife held in the clamp, back and forth along the jig track. Periodic adjustment of the feed knobs, provide additional pressure of the knife upon the surface of the rotating abrasive disc.



Planer & Jointer Jig Carriage Assembly

The 24 inch Jig Carriage holds the knife to be sharpened (up to 25" in length) in a red colored clamp. There are six clamp screws used to firmly secure the knife in the carriage.

The two round red adjusting knobs on the top of the carriage control the feed of the knife toward the abrasive surface when the carriage is mounted on the jig frame. Numbers etched in the knobs enable the user to evenly feed the knife and to repeat the setting (use the 12:00 position as a reference point) on additional knives of the set, so an even amount of steel is removed from each knife.



Carriage Index Numbers

Adjust the feed knobs simultaneously, to maintain a parallel feed of the knife.

Refer to the etched carriage index numbers on the inside of the carriage, as a primary indication of feed position and to verify the feed knobs are not out of synchronization by 360 degrees.



Carriage with knife in clamp

Insert the knife with the bevel side down until the rear of the knife fully rests against the rear of the carriage clamp opening. The knife clamp screws should then be tightened to secure the knife in the carriage.

Sharpening Planer & Jointer Knives (continued)



Angle Adjustment

Set the angle of the bevel by adjusting the angle rod at the rear of the machine. Angles of 25 to 90 degrees can be established with this adjustment, allowing the user to achieve a flat bevel at the same angle as previously established or to modify the angle. Typically most planer and jointer knives are ground to an angle between 40 to 45 degrees. Allow one and one half (1.5) degrees (by setting the angle pointer lower than the desired setting) for the carriage to tip forward when sharpening.



Feed Knob

Caution: Do not over tighten the feed adjustment knobs, as this will increase the slider resistance and may also alter the angle of the bevel. The slider should move freely back and forth on the jig track, while the abrasive surface is touching the knife edge being sharpened.

Adjusting the knobs in a **counter clockwise** direction provides **more pressure**. Advance this adjustment by 5 or 6 increments when shifting from 80 grit to 120μ abrasives, due to the differences in abrasive thickness.



Removal and Inspection

Periodically remove the carriage and inspect the knife edge. Check for straightness, to assure the abrading of the knife is even. The carriage is designed to be tilted slightly forward on the rail when performing a sharpening operation. This tilt makes it easier to reload the carriage onto the carriage rail without having the knife tip cut the edge of the abrasive disc.



Knife bevel edge shown

Note: When sharpening individual knives from a set, note the final setting achieved. Each matching knife in the set should be sharpened to exactly the same setting thereby providing equal abrasion and balance of the knives. For example, a final setting may be "22-4." The "22" is the line number indicated on the carriage and the "4" is from the red colored feed knob number. A small sharpening stone will quickly remove the burr created on the knife back during the sharpening process.