



# LOG TENON CUTTER TOOLS



**MADE IN THE U.S.A.**

[www.rusticwoodworking.com](http://www.rusticwoodworking.com)

*Thank you for your interest in  
E-Z Log Tools.*

To ensure correct and safe usage with a full understanding of these products performance, please be sure to read through this manual completely and store it in a safe location.



## **IMPORTANT SAFETY INFORMATION**

- Use all common sense safety precautions.
- Wear safety glasses and gloves.
- Always be sure to tighten the set screws on both the E-Z Log Tenon Cutter and the E-Z Sink BEFORE each use, and check tightness again after a few cuts to be sure they have remained tight. Failure to do so may result in the cutting arms sliding off the shaft or guide bar during use. Loose screws may also affect the performance of the cutter, and may also cause cracking or bending of the shaft, adjustment bar, or cutting arms.
- The cutting blades are extremely sharp. Please use caution when handling the cutter, adjusting tenon size, or removing and installing the blades.
- Be sure that the cutting blades are screwed tight to the end of the cutting arms. If they become loose during a cut they may break and fly off.
- Be sure the shaft is inserted and tightened properly into your drill.
- Clamp your log or branch securely before drilling or cutting. The log should not be allowed to turn, twist, or move in any way while you are drilling the pilot hole, cutting the tenon, or drilling and/or countersinking the mortise. A loose log or branch can harm you or others, and also ruin your tools and equipment.
- We recommend using a drill that has a side handle for extra wrist support.
- Always start slowly when cutting tenons, and increase your drill speed gradually.

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# E-Z LOG PRODUCTS

## E-Z 45° LOG TENON CUTTER

The original E-Z 45° Log Tenon Cutter cuts a 45° tapered shoulder at the ends of logs and branches. The cutter arms are made from aluminum. The shaft, guide bar and adjustment bar are made from steel.



The E-Z 45° Log Tenon Cutter uses one, double-sided blade to cut a log tenon. A spare blade is also included and stored on one of the cutting arms. When one side of the blade gets a little dull, simply use the included hex key to flip it over to the sharp side. It is like having four blades included with your order. Replacement blades are available at our website, [www.rusticwoodworking.com](http://www.rusticwoodworking.com). [Click here for more information about the blades.](#)



The E-Z 45° Log Tenon Cutter will fit into any 1/2" drill, but we do recommend using a drill with a side handle for extra wrist support.

A 3/8" pilot hole must be drilled into the end of the log prior to cutting a tenon. a 3/8" drill bit is included with your order. The pilot hole guides the cutter to produce a perfect tenon.



To set up your tenon diameter, you simply loosen the screws on the adjustment bar. You then slide the cutter arms so that the edge of the cutting blade is the same size as whatever bit you will be using to drill your mortise. It is just that simple.

Please see the [Specifications](#) section of this manual for more technical details, and be sure to check out the [Tips and Tricks](#) section to speed up your project.

## E-Z 90° LOG TENON CUTTER

The E-Z 90° Log Tenon Cutter cuts flat, 90° tenon shoulder, and uses two, double-sided cutting blades, one mounted on each cutting arm. The blades are double-sided, so when one side gets dull, simply use the included hex key to flip them over to use the sharp side.



Replacement blades are available at our website,  
[www.rusticwoodworking.com](http://www.rusticwoodworking.com).

**E-Z** 90°  
FLAT  
**LOG TENON CUTTER**

[Click here for more information about the blades.](#)

Flat, 90-degree tenons can be used on applications where you need to connect a log to a flat surface such as a wall, stair, table, chairs, or any flat wood like 4 x 4's, square posts, etc. The 90-degree flat tenon will provide a larger gluing area, as not only can you glue the tenon, but glue can also be applied to the tenon shoulders.

To make an angled tenon you simply need to drill the pilot hole at your desired angle. The cutter will follow the pilot hole. The versatility of a 90° cutter can be adapted easily to fit your particular angle or application.



The E-Z Log Sink is used to countersink your mortise at a 45 degree angle to match the 45 degree log tenon shoulder.

This provides greater contact between the mortise and tenon, may create a stronger joint, and creates a “beefier” look.

The E-Z Sink comes with two of the most popular bushing sizes; 1-1/2” and 2”. Both bushings are secured to the shaft with set screws. They are milled a few thousand’s of an inch smaller than typical mortise bit sizes so that they do not bind up when inserted into the mortise. The bushing which is not being used can be stored on the top of the shaft.



**E-Z Sink**  
45° COUNTERSINK

The bushing to be used should be fastened securely to the end of the countersink by tightening the set screw to the flat portion of the shank. You then simply insert the bushing into your mortise and slowly start your drill to countersink the edges of the mortise to match the 45-degree log tenon. This may require longer tenons, as they will fit deeper into the mortise.

The E-Z Sink is NOT a drill bit. It is a countersink bit. You must first drill the mortise using either a 1.5” or 2” flat spade drill bit, or a forstner bit. The E-Z Sink is then inserted into the mortise. Slowly start your drill so that the blades start shaving off the edges of the mortise. The depth of the countersink will be determined by how deep you drilled your mortise. Because the tenon fits deeper into the mortise after it has been countersunk, you may need to drill a deeper mortise, or trim the tenon.





## E-Z Log Kit

Everything protected and stored  
in a hard plastic padded case.  
Substantial savings over buying each tool separately.  
Please see our [website](#) for current pricing.

### KIT INCLUDES:

- (1) Shaft with Adjustment Bar
- (1) Set 45° Log Tenon Cutter Arms (includes two blades - one mounted and one spare)
- (1) Set 90° Log Tenon Cutter Arms (includes two mounted blades).
- (1) E-Z Log Sink (45° Countersink) with 2 bushings (1.5" dia. and 2" dia.)
- (1) Allen Wrench for changing cutting arms and adjusting tenon size
- (1) Allen Wrench for removing and replacing cutting blades.
- (1) 3/8" Pilot Hole drill bit
- (1) Padded Hard Plastic Carry Case
- (2) Woodworking Plans (Strap Clamp and Center Finder)
- Printed copy of this product manual

## E-Z LOG CLAMP



## E-Z Log Clamp

The E-Z Log Clamp is a portable steel ratchet strap clamp used for securing round objects like logs and branches.

It is very important that your log or branch be held securely so that it does not roll, turn, or twist while drilling the pilot hole, cutting the tenon, or drilling the mortise.

This clamp also works great for stripping off the bark on your logs and branches.

This clamp can be screwed down to your workbench or sawhorse, or take it with you in the woods on the job where you can nail it down to a log or stump.

Simply open the ratchet and pull out some strap. Place the log into the loop of the strap and ratchet down. To release the strap simply pull on the center release lever. It is a typical ratchet strap that is welded to a steel bracket. Once tightened, the log is drawn up against the bracket, and it's not going anywhere until you release it. Typical



wood clamps are meant to clamp square wood. The E-Z Log Clamp can clamp any shaped log securely, no matter how many knots the log has.



## REPLACEMENT BLADES



The blades for both the 45° and 90° Log Tenon Cutters are made from steel. The steel is then hardened to provide a strong and durable blade. These blades retain their sharp edge for a long time, no matter what kind of wood you are cutting. We don't get many orders for replacement blades because they last so long, but we do have them in stock in case you need them.

**The 45° and 90° blades are not interchangeable**, so please be sure to order the correct size if you do need a replacement blade. Also, keep in mind that the 90° cutter uses two blades, while the 45° only uses one. Order appropriately.

## SPARE PARTS

It's not always easy to find a dropped screw or Allen wrench in a pile of sawdust or wood chips. Perhaps you drop your drill, or a log rolls and bends the cutter shaft, or something else.

Don't worry, we have spare parts available if you need them. You won't need to buy a whole new cutter. Just let us know what you need. We have spare parts in stock.

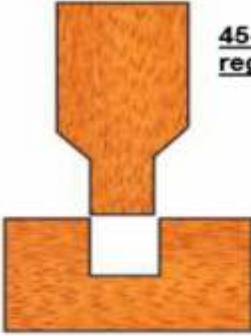
Use the [Contact Form](#) to let us know what you need.





# MORTISE & TENON EXAMPLES

## TENON AND MORTISE EXAMPLES

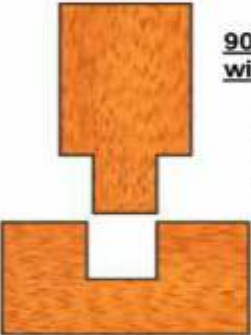


### 45-degree log tenon with regular mortise.

This is a typical 45-degree log style joint. The shoulders of the tenon will show to give the full rustic effect.



45° Tenon & Mortise

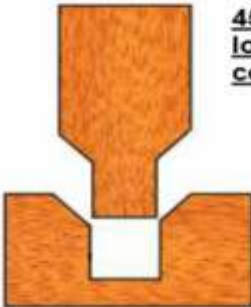


### 90-degree log tenon with regular mortise.

The tenon shoulder fits flat onto whatever it is being joined to. Especially useful for joining a log to flat wood such as walls, stairs, table bottoms, square posts, etc.



90° Tenon



### 45-degree log tenon and countersunk mortise.

Use the 45-Degree E-Z Log Sink to countersink your mortise. The tenon will fit deeper into the mortise, and most of the tenon shoulders will be hidden. May provide a stronger joint, and beefs up the look of the joint.



45° Tenon & Countersunk Mortise

# SPECIFICATIONS

- Both of the cutters, 45° and 90°, can easily be adjusted to cut approximately 1" diameter up to about 3" diameter tenons at the ends of logs and branches.
- Both the 45° and 90° cutters fit onto the same shaft. The shaft has a flat side on the drill-end to prevent slippage during use.
- The maximum log diameter that the cutters will accept is about 4-1/2". If you have a slightly larger diameter log, you can shave it down at the edges by using a draw knife, shave, manual or electric hand planer, or a saw so that it will fit into the cutter.
- The maximum tenon length is about 2", which is usually more than adequate. Take a look at the Tips & Tricks section to learn how to measure and cut log lengths for curves.
- The E-Z 45° Log Tenon Cutter uses one blade to cut a tenon, which is mounted on the cutting arm and ready to use. There is also a spare blade which is stored on the non-cutting arm. The E-Z 45° cuts a 45° shoulder on the sides of the tenon.
- The 90° E-Z Log Tenon Cutter uses two blades to cut a tenon, one on each arm. The 90° E-Z Log Tenon Cutter will produce a flat 90° shoulder on the sides of the tenon.
- The cutting blades are made from hardened steel, and have a cutting edge on both sides. Each blade is like having two blades. When one side gets dull, use the included Allen wrench to remove it and flip it over to use the other side.
- The blades for the 45° and 90° cutters are not interchangeable. The blades for the 45° cutter are slightly longer than the blades for the E-Z 90° Log Tenon Cutter. If you need to order replacement blades please be sure to

order the correct size, and remember that the 90° uses two blades to cut a tenon, while the 45° only uses one blade.

- A pilot hole must be drilled into the end of the log prior to cutting a tenon. A 3/8" Drill Bit is included to drill the pilot holes.
- The E-Z Log Tenon Cutters will fit into any 1/2" drill. We recommend using the highest powered drill you have with a side handle extra support.
- The drill guide inserts into the pilot hole to guide the cutter. This will help hold your drill steady to create a perfect tenon.
- One 3/32" Hex Key is included to adjust tenon diameter, switch cutting arms, and to switch bushings on the E-Z Log Sink (Countersink) bit.
- One 3/16" Hex Key is included to install or replace cutting blades.
- Two of the most popular sized bushings are included with the E-Z Log Sink. One is used to countersink a 1.5" mortise, and the other to countersink a 2" mortise. Both bushings can be attached to the Sink during use by tightening the set screws. The E-Z Log Sink is not a drill bit. You must first drill the mortise.
- A 3/8" drill bit is included to drill the pilot holes at the ends of logs and branches.
- A printed copy of this Product Manual is included with your order. Save your printer ink!
- Two free woodworking plans are also included with your order. One is to build your own strap clamp from scraps of wood. The other is to build a Center Finder so that you can easily find the center of the log when drilling pilot holes.

## GETTING STARTED

We suggest that you use some scrap logs at first until you are sure that you have the tenon diameter set correctly. It may take a few tries. Use one scrap log to cut a tenon, and another to drill a mortise.



**TIP** After you have adjusted the tenon diameter so that it fits properly into the mortise you have drilled, save time the next time you need to cut the same sized tenon by making a set-up block now. See the Tips and Tricks section of this manual to find out how.

Keep in mind that new, green wood may shrink or split while drying. You can avoid this by working with dry or semi-dry logs. For small diameter “green” tenons, you may be able to minimize shrinkage by gluing a 3/8” wooden dowel into the pilot hole.

We have left a space below for you to write your own notes:

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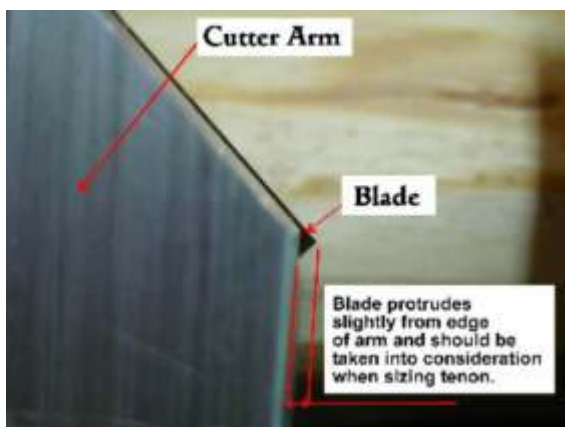
## ADJUSTING TENON SIZE

For both the E-Z 45° and 90° Cutters, you can adjust the tenon diameter from about 1" up to about 3" diameter. Although it is possible to cut a tenon under an inch in diameter, the tenon will not be as strong because of the pilot hole. If you are concerned about the strength of a smaller diameter tenon, you can glue a 3/8" wood dowel into the pilot hole.

The easiest way to set up the correct size tenon is to center the mortise bit directly on the cutter.

The tip of the cutting blades protrude slightly out from the cutting arms and must be taken into consideration to obtain the correct tenon size. Loosen and adjust the cutting arms so that the tip of the blade is just touching the mortise bit or set-up block.

If you measure the cutting arm instead of the blade tip, your tenon will turn out too small.



Tighten up the arms using the 3/16" Allen Wrench and make a practice cut. Place the tenon into the mortise to check diameter, and adjust if necessary. It is better to cut a tenon that is too large rather than too small so that you can readjust the cutter to shave off a little more wood until you get the correct diameter for a tight joint.



Always be sure to tighten the screws on the arms before cutting tenons. Then recheck the tightness after using the cutter for a while just to make sure the screws have remained tight. Also check to be sure that the blades are as tight as possible.

## CUTTING TENONS

For best results, use the highest powered 1/2" variable speed drill you have. We also recommend using a drill that has a side handle mounted to it for extra wrist support.

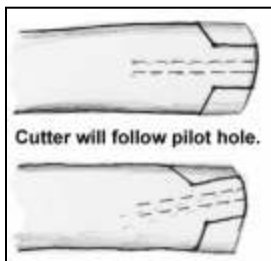


Drill a mortise in a scrap log first so that you can test the tenon diameter and make any necessary adjustments before cutting more tenons.

The E-Z Log Tenon Cutters will accept logs up to about 4.5" in diameter. If your logs are slightly over 4.5" in diameter, you can use a draw knife, shave, a hand or electric planer, or any saw to shape the end of the log to fit the E-Z Log Tenon Cutter.

Be absolutely sure that your log is clamped down so that it does not move, roll or twist. Unsecured logs can be dangerous to you and to your equipment. You can purchase our E-Z Log Strap Clamp, or build your own clamp using the Free Woodworking Plan that is included with your order. A strap clamp works well for holding down round stock. Typical bench-type clamps can mark or damage the log, and sometimes fail to hold a curved or knotted log securely.

You must first drill a pilot hole into the end of the log. Line up your drill so that the pilot hole to be drilled is at the center of the log, and as level as possible, unless you desire an angled tenon.



Keep in mind that the cutter will follow the pilot hole exactly. If the pilot hole is drilled at an angle, that is how the tenon will turn out. If the pilot hole is drilled off-center, the tenon shoulders will not be equal. Most of the time this won't

matter, and in some circumstances you may need to do this for angled joints. It is easy to get off track when using the eye-ball method. Level out the log, and then use a level on your drill if necessary until the pilot hole is started.



Adjust the tenon size by sliding the cutter arms on the adjustment bar. Use the 3/16" Hex key to tighten the cutter arms. Double check to be sure that the blades are tight also.

Insert the tenon cutter into your drill, tighten, and insert the guide bar into the pilot hole. Start drilling slowly until the edges of the log are cut, and gradually increase speed and pressure to finish the cut.





## CUTTING MORTISES

You can use either a forstner or spade (flat) bit to drill mortises. I personally like using forstner bits because there is less tear-out and a flat bottom. If you are planning on countersinking the mortises later using the E-Z Log Sink, you will need either a 1.5" or 2" bit.



Be sure that your bits are sharp. Using a sharp bit makes the job a lot easier. Bit sharpening kits are available at most woodworking stores and will save money over the long run instead of buying a new bit when it gets dull. Resources are available at the end of this manual.

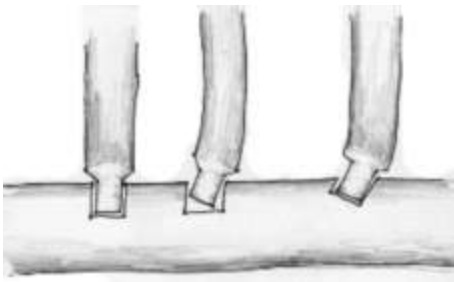
It is important to hold your drill steady when drilling a mortise. If your drill wobbles during the cut, it may enlarge the mortise and make a loose joint.



If you have not already done so, cut a test mortise and tenon out of a scrap log to check the fit before drilling lots of mortises and tenons.

After your tenons are cut, lay out your project and mark where you need to drill the mortises.

Pay attention to the shape of the log and the tenon. If the rail is curved, or if your tenon was cut at an angle, you may need to drill the mortise at an angle as well. If so, put a pencil mark on the front of the log to help you remember what angle to hold your drill when drilling the mortise. You will also need to place either a center mark or outline the tenon onto the log so you know where to place your mortise bit.



You want as much contact between the tenon and mortise as possible for gluing purposes and strength.

To cut a mortise at an angle, place the bit straight onto the log at first, and then gradually tilt your drill to the angle you need. Here is where you will depend on the pencil mark you made for the angle. Be sure to look front-to-back, and side-to-side to keep your drill at the correct angle, trying not to wobble too much or the mortise might get enlarged.

Some woodworkers purposely use curved and odd shaped logs to make interesting and unique works of art. There are plenty of high production log furniture companies that run their logs through a lath so that they are all the same size and shape. Your projects will be much more interesting, and can demand a higher selling price if you plan on selling your work.

The example below shows both a countersunk and regular mortise. Also shown are cross-cut sections of both mortises, which were drilled with a forstner bit..



## TIPS & TRICKS

### **SET-UP BLOCKS**

If your project includes more than one sized tenon, you can save time by making set-up blocks.

Just cut off a portion of a tenon that has been cut to the correct size to fit your mortise bit.

Mark what size it is and put it in a safe place where it won't get thrown away by mistake.

When you need to set your cutter up for that specific sized tenon again, simply slide that set-up block onto the guide bar of the cutter. Slide the cutter arms in until the blade(s) just touch the block and tighten the arms.



### **STRENGTHEN SMALL DIAMETER TENONS**



If you are concerned about the strength of small diameter tenons, or if the end of the tenon is visible, you may want to plug the pilot hole with a 3/8" wooden dowel.

Simply cut off a piece of 3/8" wood dowel, add a little wood glue, and insert into the pilot hole. Wipe off

any glue and let dry. This will also help when working with green wood, as the glue and wood dowel may minimize any potential shrinking or cracking of a green tenon while drying, and will make small diameter tenons stronger.

## **WOOD PREPARATION & STORAGE**

Peel the bark off of the logs to speed up drying time. Leaving the bark on attracts beetles, ants, and other bugs. Do not store logs directly on the ground. Store in an open shed or canopy. If you must use a tarp, leave the sides open so to allow for adequate airflow.

## **NUMBERING**

To keep rails in the proper order for assembly, number the bottoms of each, from left to right. That way you'll always know what rail goes where, and what end is top and bottom.



## **RUST PREVENTION**

The shaft and blades are made from steel and will eventually rust if not protected. The arms are aluminum.



To keep the steel parts of the E-Z Log Tenon Cutters and E-Z Log Sink from rusting, remove any tree sap and wood particles from your cutter using Pine Sol or any good cleaner and allow to dry. Apply a light coat of oil, WD-40, or any type of rust preventative to all of the steel parts, including the blade. For long term storage, you might even want to remove the set screws and put a dab of oil on those as well.

## **ASSEMBLY HELP:**

If you do not have someone to help hold the logs together during assembly, consider using bungee cords. We purchased a roll of cording on eBay and cut it to specific lengths for our projects.



When using bungee cords to help hold your project together, you can insert, remove, twist and reposition rails and posts without the entire project falling apart. The cords will expand enough to make adjustments to your logs, but will still hold most of the other logs together.

## **TENON LENGTH ADJUSTMENT**

Use the length of the log to correct for curved rails, instead of using the tenon to compensate for the difference. For example, if you are making a headboard that has a curve on the top, all of your rails will not be the same length. The rails toward the center of the headboard will be longer.

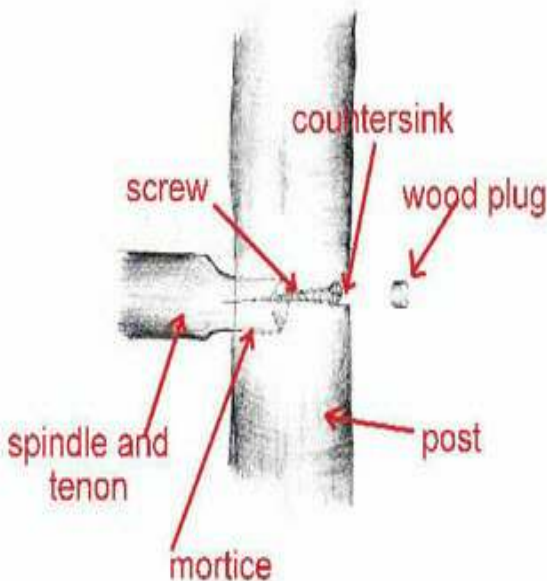
Remember that the longest tenon that can be cut with the E-Z Log Tenon Cutter is about 2" long.



## HOW TO FIX A LOSE TENON

If your tenons loosen over time, or if you just cut the tenon too small, you can either add glue and clamp like regular chair tenon repair, or you can use a screw to spread the tenon to fit tighter into the mortise.

To do this, simply drill a small hole into the post (from inside the center of the mortise), and counter-sink the outside as shown in the photo. Apply glue to the tenon and insert it into the mortise as shown. This will expand the tenon and pull it into the mortise. Glue a wood plug into to the hole you countersunk on the outside of the post to hide the screw and hole. Clamp together until glue dries. Sand down wood plug if necessary.



## RESOURCES

### ROCKLER WOODWORKING

Rockler has a large selection of woodworking tools, bits, glues, and other exclusive products you cannot find anywhere else.



- Mortise Bits
- Draw Knives
- Bit Sharpeners
- End Sealers
- Finishes

[www.rockler.com](http://www.rockler.com)



### NORTHERN TOOL & EQUIPMENT

Northern Tool offers logging tools and equipment, plus mortise bits, drawknives, chain saws, drills, sawmills and material handling equipment. Many products available to make handling logs easier.



[www.northerntool.com](http://www.northerntool.com)



### PRESERVATION-SOLUTIONS



Preservation-Solutions has the “solution” for preserving green or dry wood, and for sealing the ends of logs so they do not split while drying. We use their products exclusively to minimize cracking and checking in our wood products.



[www.preservation-solutions.com](http://www.preservation-solutions.com)

[www.rusticwoodworking.com](http://www.rusticwoodworking.com)



## **YOU-TUBE VIDEOS CURRENTLY AVAILABLE**

[How To Make A Log Headboard Using  
the E-Z Tenon Cutter and E-Z Sink](#)

[How to Use The E-Z Log Tenon Cutter](#)

[How To Fill a Crack in a Log Slice For 3-Legged Stool  
\(made with the E-Z-90 Log Tenon Cutter\)](#)

If you are reading this from a printed version of the product manual and want to see the YouTube videos, just go on-line to YouTube's website ([www.youtube.com](http://www.youtube.com)), and search for "E-Z Log Tenon"



**Rustic Woodworking.com**

### **CONTACT INFORMATION:**

**Website:** [www.rusticwoodworking.com](http://www.rusticwoodworking.com)

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**Office Phone:**

218-384-9425

[Click here for office hours](#)

**Mobile Phone & Text:**

218-341-4766

**Mailing Address:**

P. O. Box 532

Carlton, MN 55718

Mobile viewers will automatically be redirected to a mobile version of the website (I hope).

[www.rusticwoodworking.com](http://www.rusticwoodworking.com)

## Money Back Guarantee

If you are not completely satisfied with any of the E-Z Log Tools, simply return the product, in good condition, at your expense, within 5 days of using the product.

There are no restocking fees or hassle.

If you don't like it, return it in good condition.

Misuse, abuse, or excessive wear may void this guarantee.

You **MUST** call or send an email prior to any returns.

In order for us to properly issue a refund, please email or call.

Our email address, phone numbers and office hours are available on our website:

[www.rusticwoodworking.com](http://www.rusticwoodworking.com)

## MADE IN THE U.S.A.



### Rustic Woodworking.com

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