

E-Z LOG TOOLS



Thank you for your interest in our 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.
- The cutting blades are extremely sharp. Please use caution when handling the cutter, adjusting tenon size, or removing and installing new blades.
- Keep people and pets away from your immediate work area. A bit, blade, log, branch, wood chip, or other flying object may fly and could cause harm.
- 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 a mortise. Lose logs can harm you and ruin your tools and equipment.
- 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. Lose screws may also affect the performance of the cutter, and may also cause cracking or bending of the shaft.
- We recommend using a drill that has a side handle for extra support.



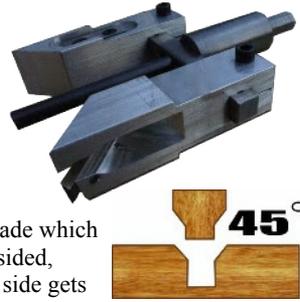
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E-Z^{45°}_{BEVEL} **LOG TENON CUTTER**

The original E-Z 45° Log Tenon Cutter cuts a 45° tapered shoulder at the ends of logs and branches. The E-Z 45° uses one, double-sided cutting blade which is mounted on one of the arms ready to use, plus a spare blade which is stored on the non-cutting arm. The blades are double-sided, thereby actually providing 4 cutting surfaces. When one side gets dull, simply remove it, flip it over, and secure it down.



E-Z^{90°}_{FLAT} **LOG TENON CUTTER**

The E-Z 90° Log Tenon Cutter cuts flat, 90° tenon shoulder, and uses **two**, double-sided cutting blades.

Flat tenon shoulders 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, etc. The tenon can be cut at an angle to use for corners, stair railings, and more. The versatility of a 90° cut can be adapted easily, and the shoulders can be sanded or shaved down to your particular angle or application.



E-Z Log Kit

COMPLETE KIT



KIT INCLUDES:

- (1) Shaft
- (1) Set 45°Log Tenon Cutter Arms
- (1) Set 90°Log Tenon Cutter Arms
- (1) E-Z Log Sink (45°Countersink)
- (2) Hex Keys
- (1) Drill Bit
- (1) Padded Hard Plastic Carry Case

E-Z Sink

45° COUNTERSINK

The E-Z Sink is to be used with the E-Z 45° Log Tenon Cutter, and will countersink the 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 gives a more professional look to your project.

The E-Z Sink comes with two of the most popular bushing sizes. Both a 2" and 1.5" bushing is secured to the shaft with set screws. They are milled a few thousand's of an inch smaller than typical drill 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. Just be sure to tighten the set screws to the flat parts on the shaft to avoid slipping.

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.



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.

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. This clamp can be screwed down to your workbench, sawhorse, or take it with you in the woods on the job. Perfect for drilling pilot holes, log tenons, mortises, and for stripping bark from logs. Simply open the ratchet and pull out some strap. Place log in loop and ratchet down.



Replacement Blades

The cutting 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, and long retention of the sharp edge. Please note that these blades are NOT interchangeable, as the blade for the 90° cutter is slightly shorter than the 45° blade. Replacement blades are available at www.rusticwoodworking.com.

SPECIFICATIONS

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- Both the 45° and 90° E-Z Log Cutters can easily be adjusted to cut approximately 1" diameter up to about 2-1/2" diameter tenons at the ends of logs and branches.
- The maximum tenon length that both cutters can cut is approximately 3-1/2" long.
- The maximum log diameter that both cutters can accept is about 4-1/2". If you have a log which is slightly larger than 4-1/2" in diameter, you can use a draw knife, shave, electric hand planer, or a saw to shave the ends so that it will fit into the cutter.
- The 45° E-Z Log Tenon Cutter uses one blade, which is mounted and ready to use. A second, spare blade is also included, and is stored on the non-cutting arm. The 45° E-Z Log Tenon Cutter will produce a 45° chamfer on the sides of the tenon.
- The 90° E-Z Log Tenon Cutter uses two blades to cut a tenon. 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. When one side gets dull, use the included hex wrench to remove it and flip it over to use the other side. The 45° and 90° cutters use different sized cutting blades. 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.
- 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 drill guide inserts into the pilot hole to guide the cutter. This will help hold your drill steady to create a perfect tenon. Unlike the pencil-sharpener type tenon cutters, which produce gouges in the tenon if your drill is not held at the perfect angle throughout the entire cut, the E-Z Log Tenon Cutter will produce a straight tenon for a better joint.
- Both the 45° and 90° cutters will fit onto the same shaft. The shaft has a flat side on the drill-end to prevent slippage during use.
- The E-Z 45°, E-Z 90° and E-Z Sink all can be used with any 1/2" drill. We do recommend that your drill have a side arm mounted to it for additional support. When starting to make a tenon or mortise, start out slowly and gradually increase pressure and speed.
- One 3/32" hex key is included to adjust tenon diameter.
- One 3/16" hex key is included to install or replace cutting blades.
- The 3/8" drill bit for drilling pilot holes is included.
- Printed Product Manual is included.
- Free woodworking plans are also included if you wish to build your own strap clamp or center-finder.

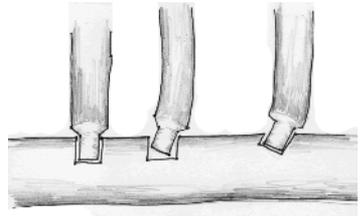


We suggest that you practice on some scrap logs first. It may take a few tries to adjust the E-Z Tenon Cutter to the exact diameter you need for a tight fit into the mortise.

DRILL THE MORTISE FIRST so that you can test the size of your tenon when you get done cutting it.

To cut a nice and clean mortise, use a sharp forstner or spade (flat) bit. It is important that the tenon fits tightly into the mortise if the joint is to endure normal wear and tear, especially for log furniture like beds and chairs. That is why it's best to cut your mortise first, and then fit the tenon to the mortise. It is also important to hold your drill steady while drilling the mortise, otherwise it might be larger than the bit, because of wobbling, and more difficult to fit the tenon. Cutting the mortise properly is very important.

Most likely there will be several mortise and tenon joints in your project. The best way to determine how you will drill and cut your tenons and mortises is to cut your logs or branches, lay them out on the floor or ground, and use a pencil to mark where you will be drilling the mortises. Pay attention to the shape of the rail and at what angle your mortise should be drilled. You may also need to trim off a portion of a rail to allow for curves in the post.



If your logs are fairly straight, you can use a drill press to drill the mortises. Always use a clamp to hold the logs while drilling.

Since most logs and branches are not perfectly straight, some mortises might have to be cut at an angle to properly accept the tenon. The wood will not bend to fit the mortise.

Some woodworkers purposely use curved and odd shaped branches to make interesting and unique works of art, or after they find a particular shaped branch to finish their project they need to make it fit. There are plenty of production log furniture builders out there who use a lath to make sure all of their logs are the same size, which make sense for high volume production.. But your project is unique!

Here's an example of a large pine log slice used as a center of a headboard and the logs going out from that wood slice to the top rails and posts. Almost all of the mortises in this project were drilled at an angle.



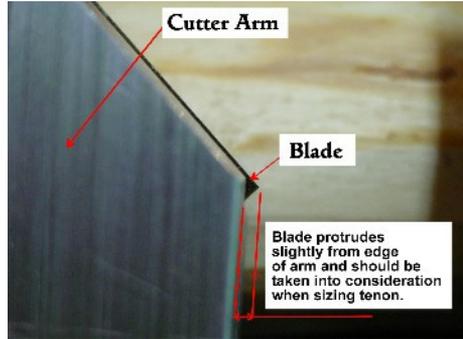
To cut an angled mortise, mark the angle you need to cut onto your log. Place your drill straight onto the log and slowly start drilling the mortise. Gradually pivot your drill until you are at the marked angle, and then increase speed and pressure to complete the mortise. If you use the eye-ball method like I do, be sure to look front-to-back, and side-to-side often to check the angle. It is really easy to get off track. Try your best to hold your drill steady, as wobbling may enlarge the mortise and your tenon will not fit snugly.

ADJUSTING TENON SIZE

For both the E-Z 45° Log Tenon Cutter and the E-Z 90° Log Tenon Cutter, you can adjust the tenon diameter from about 1" in diameter up to about 2-1/2" in diameter. Since there is a 3/8" pilot hole, you don't want to go much under 1". For small diameter tenons, you can later plug the pilot hole with a 3/8" wooden dowel.

The easiest way to set up the correct tenon size is to place the drill bit you used to drill the mortise directly onto the E-Z Log Cutter. Gradually slide the Cutter arms in toward the bit.

Take special note that the blades on both of the E-Z 45° Log Tenon Cutter and the E-Z 90° Log Tenon Cutter slightly protrudes from the edge of the cutting arm. If this is not taken into consideration, your tenon will turn out too small. **Measure from the tip of the blade** instead of from the edge of the arm.



While holding the arms securely, use the 3/16" hex wrench to tighten the set screws as tight as possible. Use caution, as the blades are extremely sharp.

TIP → *To quickly re-calibrate the tenon sizes, it is simple to make and use set-up-blocks. Check the Tips page to see how to make set-up blocks.*



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.

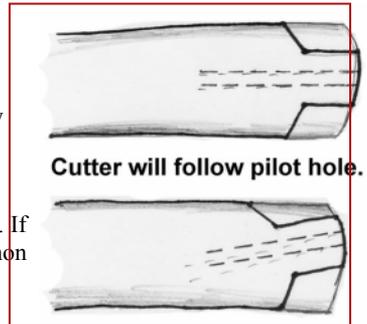
CUTTING TENONS

For best results use the highest power 1/2" variable speed drill you have. Always start slowly. It is best to have a side handle on your drill to share support on both hands.

The E-Z Tenon Cutters will accept up to about a 4-1/2" diameter log. If your log is slightly larger than that, you can use a draw knife, spoke shave or a hand or electric planer to whittle off the edges of the log so that it will fit into the cutter.

Be absolutely sure that you secure the log so that it does not twist or roll. Unsecured logs can be dangerous to you and to your equipment. You can secure our E-Z Log Clamp to your workbench or saw horse, or take it with you on the job to hold down your logs. Or, you can download the [Free Strap Clamp Plan](#) and build one yourself! You could also use a bench clamp or any other clamp what will hold your log securely. Strap clamps work well in holding down round stock like logs and branches.

Insert the 3/8" drill bit into your drill. The depth of your pilot hole will determine the length of your tenon. If you want to have consistent length tenons, put a stop collar on your drill bit at your desired depth. The maximum tenon length is about 3-1/2" long. Another way to create consistent length tenons is to put a piece of tape or wire directly onto the cutter shaft later when actually cutting the tenons.



The E-Z Tenon Cutter will follow the 3/8" pilot hole. If the pilot hole is drilled at an angle, that's how the tenon will turn out, and the shoulders of the tenon will be angled as well. This can be good or bad, depending upon what you are trying to build. Most of the time it won't matter, and you may actually desire this effect for certain curved branches. For example, if you need to make an angled mortise and tenon joint, you may need to drill your pilot hole slightly off center so that one shoulder is smaller on one side to provide for extra clearance. When using the E-Z 90° Log Tenon Cutter, you might want to drill your pilot hole at a drastic angle to join a log to a wall (for stair rails), or other specific needs. You do not need to always cut straight tenons. Don't forget that you can also drill your mortise at an angle to accept a curved branch with a straight tenon.



After you have drilled the pilot hole, put the E-Z Tenon Cutter into your drill, secure, and insert the guide bar into the pilot hole. Start drilling slowly until the edges of the log are cut. Gradually add more pressure to finish cutting the tenon

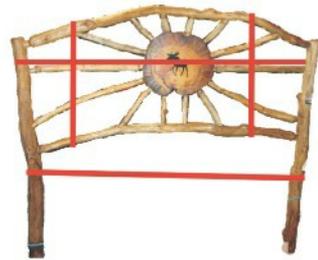
The E-Z 90 Log Tenon Cutter was used to create the angled tenon to the right. The possibilities are almost endless, and only your own imagination can create more ideas and uses for this gadget.

TIPS

TIP You can create all the same length tenons by placing a stop collar onto your bit when drilling the pilot holes. This will cause the EZ Tenon Cutter to stop cutting once the guide bar has reached the bottom of the pilot hole. Another way to cut many tenons of the same length is to wrap a piece of tape or wire around the guide bar and simply stop drilling when your mark has reached the wood.



TIP To make set-up blocks to quickly set up tenon diameter, just make one extra long tenon and cut a little chunk off the end. 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 piece of tenon onto the guide bar of the cutter and slide the cutter arms in until the blades touch the block and tighten the arms.



TIP Using bungee cords to help hold railings and headboards together while adding more rails to your project will help hold it together, but will allow expansion without it completely falling apart when adding or adjusting a rail.. This helps if you're working by yourself and don't have an extra set of hands to help hold it all together while laying out the project. I bought a roll of bungee cord on eBay and made my own.

TIP For small diameter tenons, or if the end of the tenon goes all the way through the log and is visible, you may want to plug the 3/8" pilot hole with a 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 if working with green wood, as the glue and wood dowel will help to prevent shrinkage while drying. It will make small diameter tenons stronger.



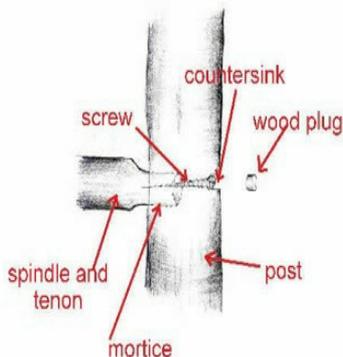
TIP Before storing any of the E-Z Log tools, remove any tree sap and wood particles from your cutter using Pine Sol or any good cleaner, allow to dry, and apply a light coat of oil, WD-40, or some other type of rust preventative to the shafts and blades to prevent rust. The shaft and blades are made from steel and will rust eventually if not protected. The arms are aluminum. For long term storage, you might even want to remove the set screws and put a dab of oil on those as well.

TIP 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 the bottom..



TIP It is best to work with dry wood. If you must work with green wood, be aware that the tenons may shrink or crack when they dry, which may eventually cause the joint to loosen. For small diameter tenons, it is a good idea to glue in a piece of 3/8" wood dowel into the pilot hole for added strength.

TIP If your tenons do loosen over time, 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 hole and countersink as shown in the photo, screw the screw in to the tenon, and put a wood plug into the hole to conceal. The best way to drill the hole is to do it from inside of the mortise, drilling out, and then work from the outside of the log to countersink and drill in the screw. Trust me, when you have to do this, nobody but you will notice it.



TIP When laying out your rails, whether you're making a headboard or railing, cut the posts and rails, and stack them up to see how everything is going to fit. You may need to adjust the length of a few rails, depending upon the curve of the top and bottom logs. Take into consideration the length of the tenon you will be cutting, and trim to fit.



TIP After you have cut the tenons, mark the rails where you will be drilling the mortises. At this point also pay attention to the lengths of the rails, as some may need to be trimmed. If your rail is curved, you might also want to pencil an angle line to remember what angle the mortise is to be drilled.



TIP After your tenons are cut, lay all parts out to mark where to drill your tenons. In addition to marking where the mortise is to be drilled, You might also want to make pencil marks on the side to indicate the drill angle to refer to when drilling the mortise.



YOU-TUBE VIDEOS CURRENTLY AVAILABLE

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

[Using 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 and want to see the YouTube videos, just go on line to YouTube's website and search for Rustic Woodworking to see what's up there.



Money Back Guarantee

If you are not completely satisfied with any of the E-Z Log Tools, simply return them, at your expense, within 5 days of using the product. **You must [email](#)** or call Rustic Woodworking (218-384-9425) and let us know that you wish to make a return so I can match up your order and issue a refund. There is no restocking fee or hassle. Excessive use or abuse may void this warranty.

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Sending an email is the best way to contact me.

There is a [contact form on my website](#).

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