

LUMBERJACK TOOLS

HEADBOARD & FOOTBOARD



1. DRILL



2. CUT





3. ASSEMBLE



www.lumberjacktools.com

WARNINGS AND SAFETY

Before beginning any project, carefully read and follow ALL safety and operational instructions for all tools or devices you will be using. Failure to do so may cause serious injury to yourself or those around you. If you feel uncomfortable using our tenon cutters or any other tool, STOP immediately. Lumberjack Tools assumes no responsibility for injury caused to the operator, bystander, or equipment caused by the use or misuse of our tools.

	NEVER OPERATE POWER TOOLS UNDER THE INFLUENCE OF DRUGS, ALCOHOL, OR ANY MEDICATIONS. FAILURE TO AVOID THESE RISKS CAN CAUSE SERIOUS INJURY OR DEATH.
	ALWAYS WEAR APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT INCLUDING, BUT NOT LIMITED TO: SAFETY GLASSES, DUST MASK, AND HEARING PROTECTION. FAILURE TO DO SO CAN CAUSE SERIOUS INJURY.
	DO NOT WEAR JEWELRY OR LOOSE CLOTHING WHILE WORKING. SECURE LONG HAIR AWAY FROM WORK AREA. LOOSE CLOTHING AND HAIR CAN BE CAUGHT IN MOVING PARTS AND CAN CAUSE SERIOUS INJURY.
	DISCONNECT POWER FROM THE DRILL AND ALLOW DRILL TO COMPLETELY STOP BEFORE INSTALLING/REMOVING TOOLS. FAILURE TO DO SO CAN CAUSE SERIOUS INJURY.
	ALWAYS SECURE WORK-PIECE (LOG OR BOARD) IN A VISE OR CLAMP BEFORE DRILLING/CUTTING. FAILURE TO DO SO CAN CAUSE SERIOUS INJURY.
	BLADES ARE VERY SHARP! USE EXTREME CAUTION WHEN HANDLING THE BLADES. FAILURE TO DO SO CAN CAUSE SERIOUS INJURY.
	DO NOT USE DULL TOOLS/BLADES. REPLACE OR SHARPEN THE TOOLS/BLADES IF THEY BECOME DULL. FAILURE TO DO SO CAN CAUSE SERIOUS INJURY.
	TENON CUTTER MUST BE DRIVEN BY A 1/2" HAND DRILL. NEVER USE TENON CUTTER IN A DRILL PRESS, LATHE, MILL, OR ANY OTHER DEVICE AS THIS CAN CAUSE SERIOUS INJURY OR DAMAGE.
	PARTS, ASSEMBLIES, AND TOOLS/EQUIPMENT MAY BE VERY HEAVY. USE APPROPRIATE EQUIPMENT TO LIFT AND MOVE HEAVY COMPONENTS. FAILURE TO DO SO CAN CAUSE SERIOUS INJURY.
	NEVER ALLOW PERSONS UNDER ANY PART OF THE DESIGNS. DESIGN MAY COLLAPSE, CAUSING SERIOUS INJURY OR DEATH.

GETTING STARTED - SUPPLIES/SYMBOLS

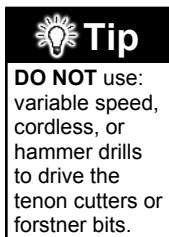
Getting Started

The plans included in this guide are a simple way to get started making rustic furniture. These plans assume you have some previous woodworking experience along with the basic shop tools. The unique thing about making your own rustic furniture, is that you can add your own touch of character and customize it to any size or shape you like. Keep in mind that rustic furniture is not meant to be perfect in shape and form. This unique variation gives each project a feel and character of its own.

Required Supplies

Tools

- $\text{Ø}\frac{1}{2}$ " , Single-Speed Drill
- Cordless Drill
- Tenon Cutter(s)
- Forstner Bit(s) or Spade Bit
- Chop Saw or Hand Saw
- Vise or other clamp
- Tape Measure
- Pencil
- Sand Paper
- Shop Towels
- Orbital Sander*
- Draw Knife*



Building Materials

- Peeled Logs
- Flat Boards*
- Wood Glue
- Finish of choice* (oil, varnish, or lacquer)

Protective Equipment

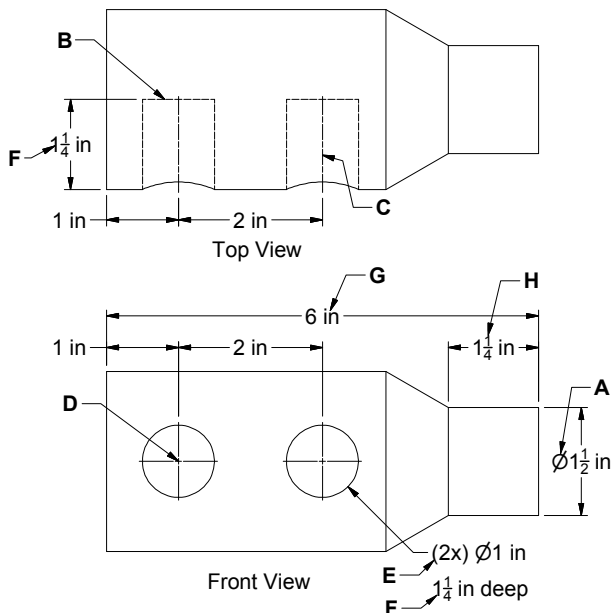
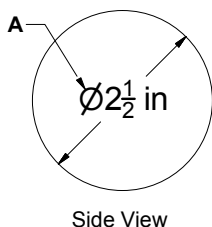
- Safety Glasses
- Gloves
- Dust Mask
- Hearing Protection
- Closed-toed Shoes

*These items are optional

Drawing Symbols

Note: All dimensions in this booklet are in inches

- A. Diameter Symbol
- B. Hidden Line (shows features hidden behind solid material)
- C. Center Line (center of feature)
- D. Center Mark (center of hole)
- E. Quantity Note (how many of feature)
- F. Depth (of hole)
- G. Dimension (in inches)
- H. Tenon Length




GETTING STARTED - TENON CUTTING

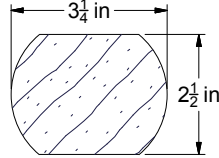
Log Prep

1. Acquire Logs

Logs can be acquired from a variety of sources, including: local land owners, tree service companies, home improvement/hardware stores, DNR or Forestry Department, and K&A Log Furniture.

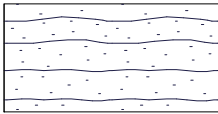

Tip
 While no logs are perfectly straight, we recommend finding logs that are as straight-as-possible to make fit-up and assembly easier.

Note: Some designs call for a landscape timber. The correct size is shown to the right.



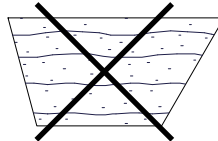
2. Cut Logs/Wood to Length

Use a saw to cut the logs to the lengths shown in the desired design. Take care to cut the end of the logs square/perpendicular to the log body.



CORRECT

Ends of log square




WRONG

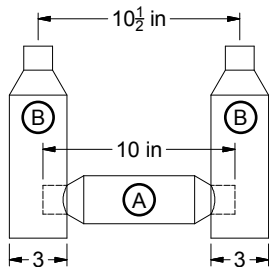
Ends of log not square

Note: The log lengths in this manual are sized for **one diameter** of log. If you choose a different diameter log than the one listed in the Parts List, you must account for the change by: cutting cross-member logs (logs with tenons on **both ends**) shorter, or longer (see three examples below).

Parts List

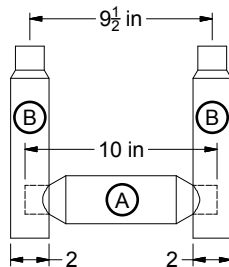
Item	Qty	Part Name	Size
A	1	Log-A	Ø2-½" X 10" Long
B	2	Log-B	Ø3" X 10" Long


Tip
 It is easier to trim a log shorter than to add to a log. When in doubt, cut cross-member logs (logs with tenons on **both ends**) a little longer than the plan calls for (+1 inch). You can trim the excess off later after dry fit-up.



Ø3" Log-B

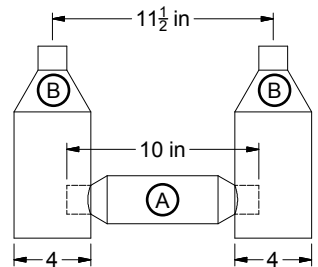
Spacing is correct at 10-½"



Ø2" Log-B

Spacing is incorrect at 9-½"

Remedy: Log-A must be re-cut at 11" long



Ø4" Log-B

Spacing is incorrect at 11-½"

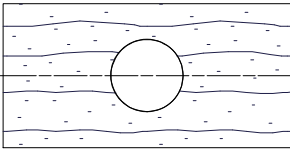
Remedy: Log-A must be shortened to 9" long

GETTING STARTED - TENON CUTTING

Log Prep (cont.)

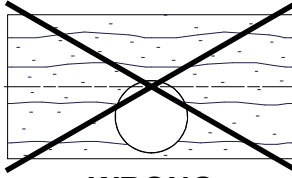
3. Drill Holes (mortise)

Drill holes in the locations shown for the desired design. Always drill the holes in the center of log unless otherwise stated.



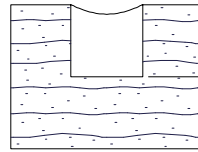
CORRECT

Hole in center of log



WRONG

Hole not in center of log



Hole Depth

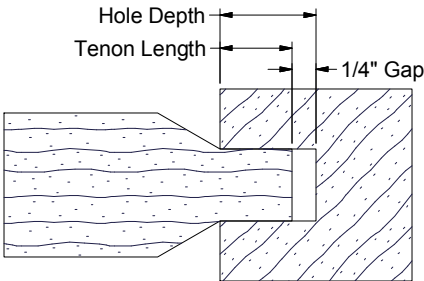
$\frac{1}{2} \times \text{Log Diameter}$

Note: Hole depth should be about $\frac{1}{2} \times \text{Log Diameter}$.

e.g. Hole depth for a $\varnothing 3''$ diameter log should be $\frac{1}{2} \times \varnothing 3'' = 1\text{-}\frac{1}{2}''$ hole depth

4. Cut Tenons

Use a $\frac{1}{2}''$, Single-speed Drill and a Tenon Cutter to cut tenons in the locations shown for the desired design.



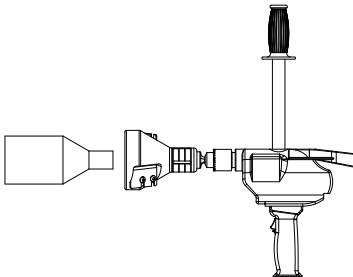
Tip

If the log is larger than the Tenon Cutter will accept, taper down the end of the log with a Draw Knife.

Note: Tenon length should be (Hole Depth) - $\frac{1}{4}''$.

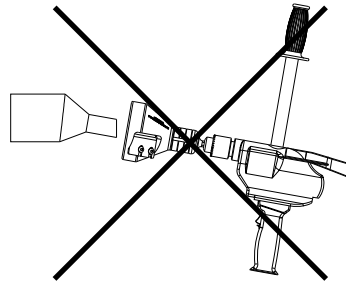
e.g. Tenon length for a $1\text{-}\frac{1}{2}''$ deep hole should be $(1\text{-}\frac{1}{2}'') - \frac{1}{4}'' = 1\text{-}\frac{1}{4}''$ tenon length

IMPORTANT: Cutting a straight tenon is critical to reduce assembly problems.



CORRECT

Drill in-line with log



WRONG

Drill not in-line with log (crooked)

GETTING STARTED - ASSEMBLY TIPS

Assembly Tips

After all the individual pieces are completed (cut, drilled, created tenons), the next step is assembly of the design. Please follow the steps below to minimize problems during assembly.

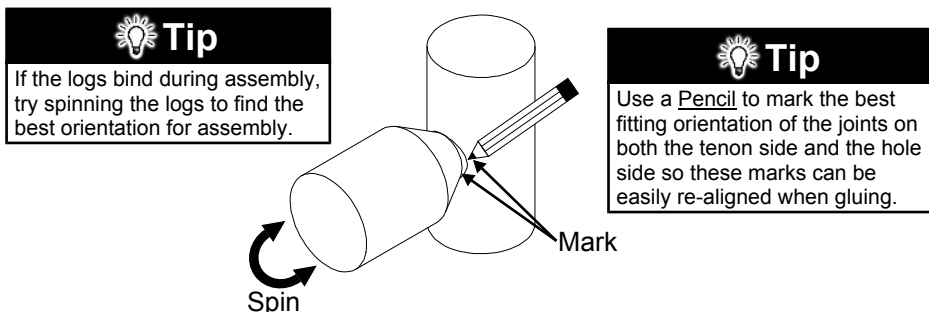
1. Sand Components (optional)

Use Sandpaper or an Orbital Sander to remove splinters and to smooth surfaces of the wood.

IMPORTANT: DO NOT sand the tenons! Sanding the tenons will loosen the fit between the tenon and hole, which can cause the joint to be weak/unstable.

2. Test-Fit Components (IMPORTANT!)

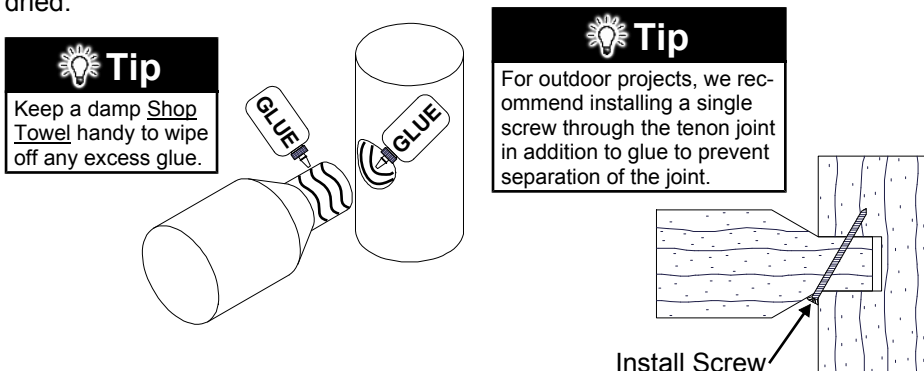
Assemble the design **without** glue to verify all joints fit properly.



3. Assemble Components

Apply Wood Glue to both the tenon and the hole. Assemble each joint as outlined in the design.

IMPORTANT: Adjust joints as-needed to achieve a level, square assembly **before** the glue dries. The joints will be impossible to adjust after the glue has dried.



4. Apply Finish (optional)

Apply the finish of your choice to the assembly per the manufacturer's instructions. Be sure to wear appropriate Personal Protective Equipment and to apply finish in a well ventilated area.

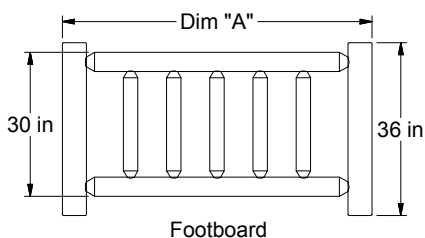
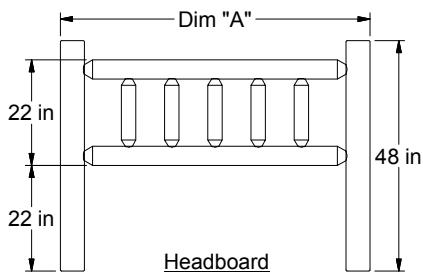
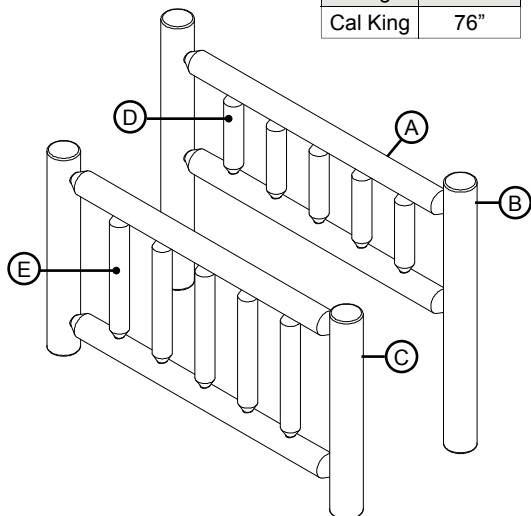
HEAD & FOOT BOARD EZ PLAN

Difficulty

Beginner



Bed	Dim "A"
Twin	42"
Full	57"
Queen	64"
King	80"
Cal King	76"

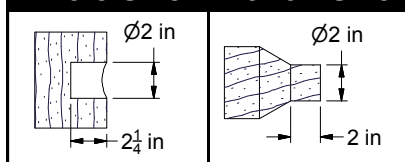


Parts List

Item	Qty	Part Name	Size
A	4	Log-A	See table below
B	2	Log-B	Ø5" X 48" Long
C	2	Log-C	Ø5" X 36" Long
D	See Table	Log-D	Ø3" X 18" Long
E	See Table	Log-E	Ø3" X 26" Long

Bed	Log-A	Log-D/Log-E Qty
Twin	Ø4" X 36"	4
Full	Ø4" X 51"	4
Queen	Ø4" X 58"	5
King	Ø4" X 74"	6
Cal King	Ø4" X 70"	6

Hole Size Tenon Size



*Unless otherwise specified

Special Tools Required

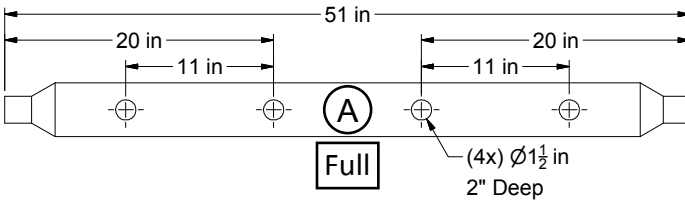
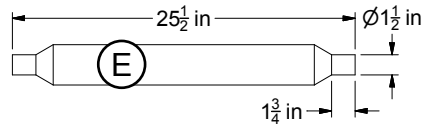
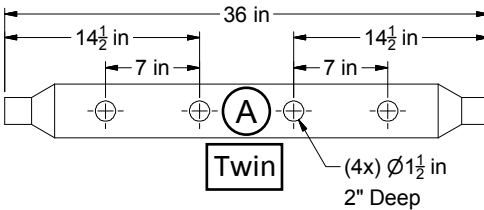
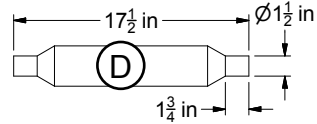
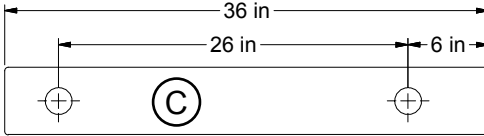
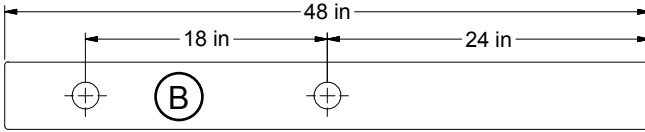
- Ø2" Tenon Cutter
- Ø2" Forstner Bit
- Ø1-½" Tenon Cutter
- Ø1-½" Forstner Bit

Assembly Instructions

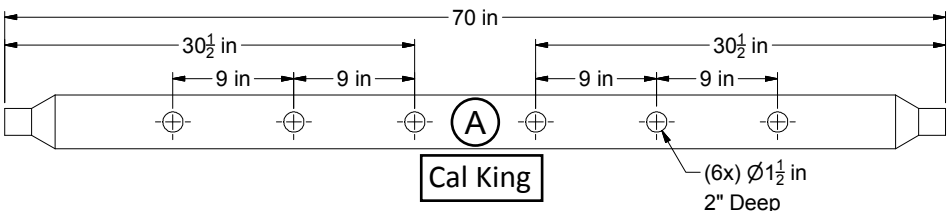
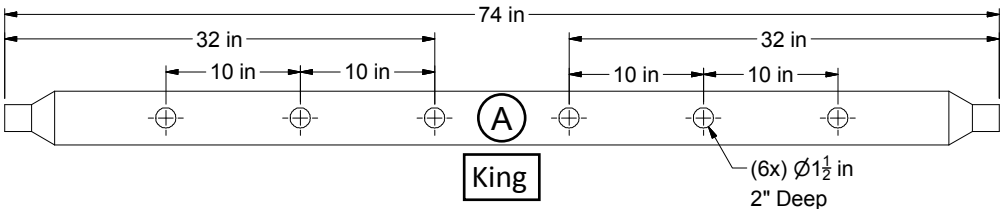
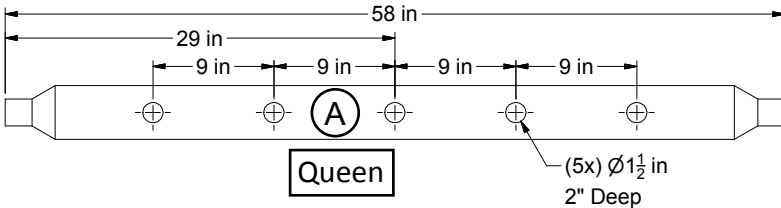
Step 1

- Gather all required tools and wood listed above
- Use a ½" Single Speed Drill with Ø2" and Ø1-½" Forstner Bits to drill all holes in locations shown (see next page)
- Use a ½" Single Speed Drill with Ø2" and Ø1-½" Tenon Cutters to cut all tenons in locations shown (see next page)

HEAD & FOOT BOARD EZ PLAN



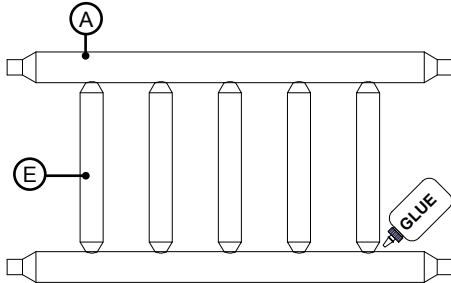
 **Tip**
Log-A has five possible options. Make four logs of the same length for your desired bed size.



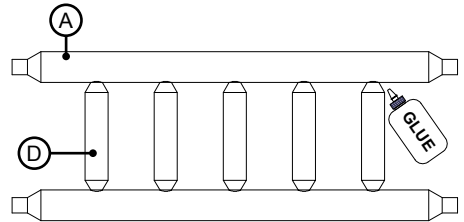
HEAD & FOOT BOARD EZ PLAN

Step 2

- A. Apply glue to the tenons and to the mating holes shown below.
- B. Use Log-A and Log-E to assemble the FootBoard Railing.
- C. Use Log-A and Log-D to assemble the HeadBoard Railing.



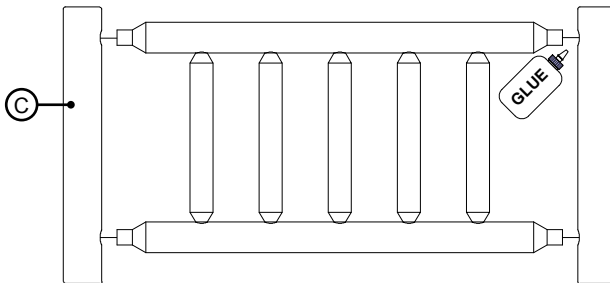
FootBoard Railing



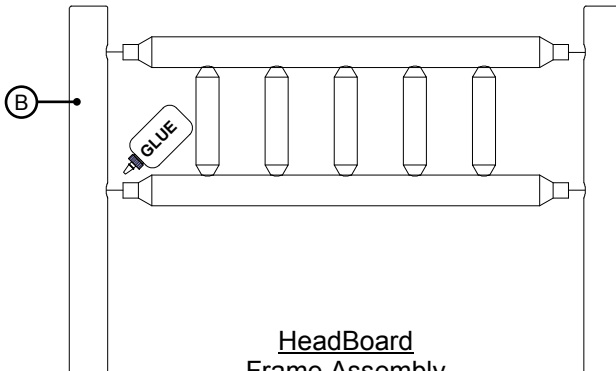
HeadBoard Railing

Step 3

- A. Apply glue to the tenons and to the mating holes shown below.
- B. Assemble two Log-C to the Footboard Railing from step 2.
- C. Assemble two Log-B to the Headboard Railing from step 2.



FootBoard
Frame Assembly

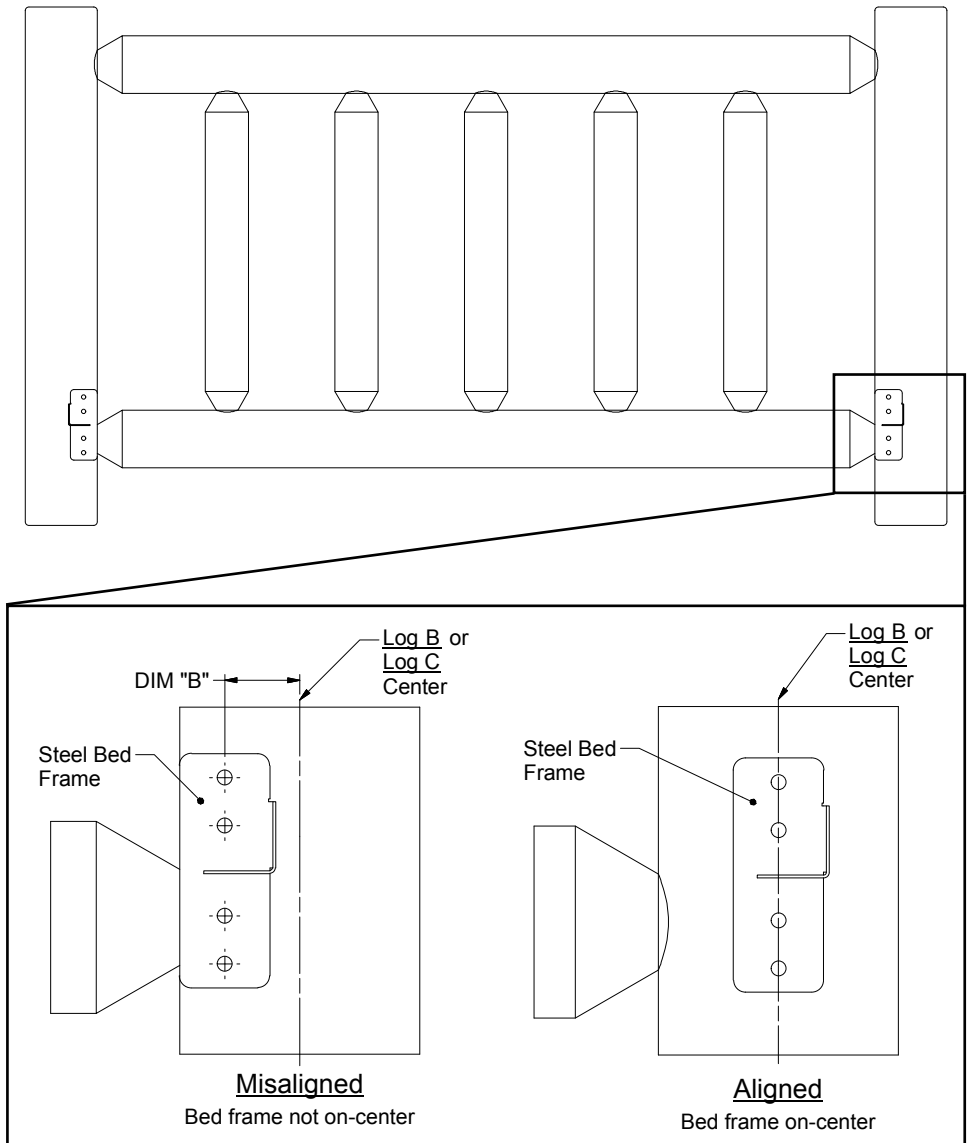


HeadBoard
Frame Assembly

HEAD & FOOT BOARD EZ PLAN

Step 4

A. For the steel bed-frame to attach, the width (Dim "A") may need to be shortened based on the diameter of the leg logs (Log-B and Log-C). To do this, dry-assemble the headboard and footboard, then test-fit the steel bed-frame with the headboard and footboard. Cut cross-logs (Log-A) shorter to allow steel bed-frame to attach on center of leg logs (Log-B and Log-C).



TROUBLESHOOTING

Problem	Cause	Solution
-Furniture does not fit together	-Logs are too crooked	-Use straighter logs
	-Tenon crooked	-Cut tenon straight on the logs
	-Tenon too large	-Adjust the tenon cutter blades to cut the tenon smaller
	-Log not oriented correctly	-Try twisting the various logs to find the natural "resting" orientation of each log
	-Design assembled incorrectly	-Double-check pieces and assembly with the design in the manual. Fix any inconsistencies.
-Furniture does not sit flat (wobbly)	-Logs are too crooked	-Use straighter logs
	-Legs are uneven	-Cut or sand bottom of legs to make even
	-Floor is uneven	-Use shims under legs to make even
-Furniture does not stay together	-Glue is inadequate	-Use a high-quality wood glue to assemble
	-Glue is not dry	-Allow glue to dry completely before using
	-Wood swell	-Use a <u>wood screw</u> to hold the tenon to the mortise for any furniture used outside, or in a high-humidity environment
-Logs too short/too long	-Tenon cut too long/short	-Cut the tenon to correct length, or cut some material off the end of the tenon
	-Different diameter logs used than plan layout	-Adjust the length of logs if different diameter logs are used
-Top does not sit flat	-Frame not square	-Adjust frame to create a square base
	-Top mounting logs not flat	-Use a <u>table saw</u> to cut a flat surface on the mounting logs for the top -Use <u>landscape timbers</u> for the mounting logs
-Wood splitting when installing screws	-Pilot hole not drilled	-Drill a pilot hole for the screws
	-Pilot hole too small	-Drill a larger pilot hole
	-Screws too close to edge	-Move screw holes further from edge of wood
-Tenon cutter "skips" or bounces on end of log	-Log is too large	-Taper down end of log with a <u>draw knife</u>
	-Not enough pressure applied to cutter	-Lean into drill with body weight before turning on drill
-Tenon cutter not cutting log	-Blades are not adjusted properly	-Position blades per the tenon cutter manual (about 1/4" from the front of the blade pocket)
	-Blades are dull	-Sharpen or replace blades
-Drill stops while cutting	-Incorrect drill used (variable speed)	-Use a high-torque, <u>single speed</u> drill to turn the tenon cutter at 450 rpm or less

*Log furniture is not perfectly square and symmetric like store-bought furniture. This inherent variation is typical of all log furniture and gives each product a unique character.