

Leopold Bench Kit



Adult Version

Assembly Guide

Version 20140710

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Introduction

Thank you for purchasing our Leopold Bench kit. We are sure it will give you years of enjoyment.

Why Pine?

You will have noticed that our Leopold Benches are made of Pine, instead of pressure treated lumber. This was a conscious choice, based on the beliefs of Aldo Leopold. Leopold believed that we should live within nature, not against it. Left on its own, the bench will gradually become one with the earth again.

Technical Support

If you have any questions during assembly, please give us a call at 512-693-9890 or send an e-mail with your question to support@kontore.net.

Special Symbols

	Repeat	The preceding step, or series of steps, will need to be repeated.
	Important	An important note, which should be read before performing a step, or series of steps. Used to avoid potential assembly problems.
	Goal	More information on what you are trying to accomplish during a given step.
	Note	An informational note, used to further explain the reasoning behind a step.

Assembly Overview

1. Fasten the Legs together, resulting in two Leg Assemblies.
2. Attach the Seat to the Leg Assemblies.
3. Attach the Backrest.
4. Sand and Stain the completed bench.

Required Tools

<input type="checkbox"/>		<p>Electric or hand drill. A cordless power drill is preferred, but any kind will work.</p>
<input type="checkbox"/>		<p>1/8" drill bit, for wood.</p>
<input type="checkbox"/>		<p>Power screw driver with Phillips bit or Phillips screw driver. A power driver will make assembly much easier.</p>
<input type="checkbox"/>		<p>Painting equipment (paintbrush, tray, rags, et cetera)</p>

Required Materials

<input type="checkbox"/>		<p>Exterior grade wood glue, such as TiteBond II. Construction Adhesive (PowerGrab, Liquid Nails) can also be used, but apply sparingly.</p>
<input type="checkbox"/>		<p>A quart of exterior “deck” sealant or exterior grade paint.</p> <p>For our assembled version we use “Olympic Maximum Waterproofing Sealant”, which is available in quart or 1 gallon sizes. The “Penetrating Oil Toner” product provides color (the grain still shows) and excellent water protection (3 years).</p> <p>You can choose any color. Our finished products use the “Canyon Brown”, which gives a nice dark color, or “Redwood”, for a lighter look.</p>

Included Materials

	Description	Quantity	Photo
☐	45" 2x8 Pine. Straight 90° cuts. Backrest.	1	
☐	42" 2x10 Pine. Straight 90° cuts. Seat.	1	
☐	36" 2x8 Pine. Angled 22° cut. Front Legs.	2	
☐	17 1/4" 2x8 Pine. Angled 22° cuts. Rear Legs.	2	
☐	2 1/2" Exterior Grade Screws (gray)	18	

Leg Assemblies		
<input type="checkbox"/>	(2) 36" 2x8 Pine Angled 22° cuts Front Legs	
<input type="checkbox"/>	(2) 17 ¼" 2x8 Pine Angled 22° cuts Rear Legs	
<input type="checkbox"/>	(6) 2 ½" Screws	
<input type="checkbox"/>	Exterior Wood Glue	
A complete leg is an assembly consisting of a Front Leg (24" angled) and Rear leg (11 ½" angled).		
<input type="checkbox"/>	<p>You will need a straight edge to help align the legs. An easy way to do this is to stack the lumber which makes the Seat and Back on top of each other, then clamp them to a work bench.</p> <p>Another option, if you are working on the floor, would be butt them against a wall. You can also tip the Back on its edge and use it (shown in this photo).</p>	
<input type="checkbox"/>	<p>Next, lay the two Front Legs on the large flat work surface; with the bottoms against the straight edge. They should be making a big triangle-like shape, with the bottoms of the legs flat against the guide/wall/straightedge.</p> <p> Important: Make sure to do this on a big smooth surface, like a large work bench.</p> <p>► Note: You are building the legs on their sides, to make them easier to assemble.</p>	
<input type="checkbox"/>	<p>Put the (2) 17 ¼" Rear Leg pieces on top of the Front Legs.</p> <p>► Note: Alignment of the Rear Legs will be easier if you slip a piece of scrap 2-by material under the ends of the Rear Legs, as shown in the photo.</p>	

<input type="checkbox"/>	<p>See where the Rear Legs and the Front Legs overlap? It's a triangle-like shape.</p> <p>Goal: You want to put a little wood glue or construction adhesive where they overlap.</p>	
<input type="checkbox"/>	<p>To get the glue in the right place, first align the parts, and then draw two lines on each leg assembly. REPEAT for both leg assemblies.</p>	
<input type="checkbox"/>	<p>Remove the Rear Legs and spread glue in the triangle area.</p> <p>Important: Don't overdo the glue or the pieces won't come together nicely. Make a small "triangle" of glue.</p> <p>Important: Construction adhesive does not stain, and can be difficult to sand off. Try to avoid getting any on the face (exposed surfaces) of the wood. Clean up excess right away.</p>	
<input type="checkbox"/>	<p>With the Rear and Front legs aligned and glued, it is now time to drill (3) holes per leg.</p> <p>Goal: The holes will be drilled in the triangle area where the glue was applied.</p>	

<input type="checkbox"/>	<p>Using a 1/8" drill bit, drill (3) holes on each leg assembly. ↻ REPEAT for both leg assemblies.</p> <p>👉 Important: Only drill a hole about 2" deep – you don't want to drill all the way through the Front Leg.</p>	
<input type="checkbox"/>	<p>Three (3) 2 1/2" deck screws hold the Rear Leg to the Front Leg. You'll need (6) screws in total to make the two leg assemblies.</p> <p>Using your screwdriver, fasten the Rear Leg to the Front Leg with (3) screws. ↻ REPEAT for both leg assemblies.</p> <p>👉 Important: Make sure the angles look right, that the "feet" of the legs are flat against your straight edge, and that both finished leg assemblies are mirrors of each other.</p>	
<input type="checkbox"/>	<p>Once the legs are screwed together, you can test them by standing them up. They may tip a bit, but the bottom ("feet") of the leg assemblies should be flat against the floor, and the Rear Legs should be mounted at the same height as each other.</p>	

Attaching The Seat		
<input type="checkbox"/>	(2) Leg Assemblies (Assembled previously)	
<input type="checkbox"/>	(1) 42" 2x10 Pine Straight 90° cuts Seat	
<input type="checkbox"/>	(8) 2 ½" Screws	
<input type="checkbox"/>	Exterior Wood Glue	
<p>Now that the Leg units are assembled, the seat will be installed. It is important that the seat be carefully fastened so that the legs are perpendicular to the floor (standing plumb – straight upright).</p> <p>A helper can assist in holding the piece tightly while you are drilling and screwing it together, and a level can help make sure everything is plumb and level.</p>		
<input type="checkbox"/>	<p>Stand the Leg Assemblies up. They should be spaced 42" apart.</p> <p>► Note: A helper is useful here.</p>	
<input type="checkbox"/>	<p>While the legs are standing up, spread a little glue on the tops of the Rear Legs. ↻ REPEAT for both leg assemblies.</p> <p>👉 Important: Construction adhesive does not stain, and can be difficult to sand off. Try to avoid getting any on the face (exposed surfaces) of the wood. Clean up excess right away.</p>	
<input type="checkbox"/>	<p>Lay the seat in place, on top of the glue.</p> <p>👉 Important: Before putting the seat in place, check to see which side is most attractive. Have the nicer side facing up. This is a good way to "hide" knots in the wood. Don't worry about lumber grade marks—those can be sanded off.</p>	

<input type="checkbox"/>	<p>The seat will be about ½” to 1” forward. You want it brought toward the front of the bench, so it overhangs a bit.</p> <p>►Note: The sharp corner should be sanded down when you are done with assembly.</p>	
<input type="checkbox"/>	<p>Drill two holes at the edge of the seat of the seat, about ½” from the ends, and 1 ½” from the front and rear edges, making sure that the seat remains in its aligned position.</p> <p>↻ REPEAT at the other end of the seat.</p> <p>►Note: It will be a little difficult getting a large power drill in close. A smaller drill will make the job easier.</p>	
<input type="checkbox"/>	<p>Fasten the Seat to the Leg Assembly using (4) screws. You are fastening into the top of the Rear Leg, two screws on each end.</p> <p>👉 Important: Make sure that the seat is TIGHTLY screwed and FLUSH with the upright leg assembly. The board should be right up against the Front Leg, and sitting completely on the Rear Leg.</p>	
<input type="checkbox"/>	<p>For additional strength, drill two holes on the outside of the legs. These holes should go through the face of the leg and into the edge of the seat. You may need to measure the distance from the floor to determine where to drill. (It will be approximately 17” from the floor.) ↻ REPEAT at the opposite side of the bench.</p>	
<input type="checkbox"/>	<p>From the outside of the leg, use (4) more screws to further pull the seat to the legs. In total, there will be (8) screws holding the seat to the legs – four on the top of the seat, and four from the ends.</p>	

Attaching The Backrest			
<input type="checkbox"/>	(1) 45" 2x8 Pine Straight 90° cuts Backrest		
<input type="checkbox"/>	(4) 2 1/2" Screws		
<input type="checkbox"/>	Exterior Wood Glue		
<p>You will notice that the bench is a little flexible at this point. Installation of the Back will solve this.</p>			
<input type="checkbox"/>	<p>Lay the bench on the ground or worktable.</p> <p>Align the Back on the rear of the bench. The Back will be flush to the top of the leg assemblies.</p>		
<input type="checkbox"/>	<p>Make a pencil mark on both sides of the legs.</p>		
<input type="checkbox"/>	<p>Remove the Back and apply thin layer of glue, going no further than the line you just made.</p> <p> Important: Construction adhesive does not stain, and can be difficult to sand off. Try to avoid getting any on the face (exposed surfaces) of the wood. Clean up excess right away.</p>		
<input type="checkbox"/>	<p>Realign the Back on top of the glue.</p> <p> Important: Before putting the back in place, check to see which side is most attractive. Have the nicer side facing down. This is a good way to "hide" knots in the wood. Don't worry about lumber grade marks—those can be sanded off.</p>		

<input type="checkbox"/>	<p>Using a 1/8" drill bit, drill (2) holes through the back and into the Leg Assembly. The holes should be about 1 1/2" from the top and bottom edges of the Back.</p> <p>↻ REPEAT for both sides of the back. Four holes total.</p>	
<input type="checkbox"/>	<p>Starting with one end, fasten the Back to the Leg Assembly using a screw. Make sure that the edges of the Back are aligned with the Leg. The edges should be flush.</p> <p>Move to the opposite side of the back, and fasten the back with another screw. You will probably have to hold the wood so that everything is aligned.</p> <p>Once the two screws are fastened, finish the attachment of the back using the two remaining screws.</p> <p>► Note: It's okay if the Back overlaps a bit, but if it does, you should sand it down for an improved look.</p>	
<input type="checkbox"/>	<p>The Back is now attached to the bench with four screws.</p>	
<input type="checkbox"/>	<p>The bench can now be placed upright and tested.</p> <p>► Note: A little bit of "wobble" is normal. When placed on your lawn the wobble will not be noticeable.</p>	

Sanding And Staining

- (1) Completed Bench
- Staining and Painting Supplies (Stain, Brushes, Paint Trays, Sand Paper)



The Leopold Bench is now completely assembled! Congratulations! Why not take a moment to relax and enjoy the fruits of your labor.

Once assembled, it is recommended that a power sander (or sandpaper and a block) be used to soften all exposed edges. Focus on the edges of the Seat, Back, and front edges of the Front Legs. Anywhere you are likely to touch. The rounded edges also make for a more polished appearance.

The sander should also be used to “erase” any lumber grade marks or other blemishes.



This kit uses Pine, which requires staining and sealing before it is placed outside. Use a good quality all-in-one waterproofing sealer. The stain/sealer used for decks and fences is perfect, and available in a number of colors. Dark colors work well with the Pine.

When staining, pay careful attention to making sure the top surfaces (where water can pool) were well stained. Also make sure that the “feet” were well coated. (The top and bottom of the legs are end grain, so they really suck up the stain. This is good—let the stain really soak into those parts, to better protect from rot.

Another option would be to paint the Pine. Use any exterior grade paint, ensuring that the feet and Seat, in particular, are well covered. Painting the bench in bright colors will surely attract children to your new bench.

If you opt to make more versions of this kit on your own, you may wish to try redwood, cedar, or treated lumber. If using redwood or cedar, you can leave the material natural and watch it age. Though, it is recommended that Linseed Oil based product be used, to add UV and water protection. Do not try painting cedar – latex will peel over time.