

How to Build a Wooden Heart Bench

This lovely wooden heart bench will make any entry warm and welcome, as well as provide a convenient place for you and your guests to remove their footwear.

It is a quality and unique piece of furniture that will add beauty and grace to any room where you decide to display it. Build it as a surprise for your wife and she will be swept off her feet when you present it as a token of your love for her. It also will make a cherished heirloom that any member of your family would be proud to own.

2	E	Arm Rests	3/4" x 10 1/8" x 14 3/4"	Cherry
1	F	Side Bottoms	3/4" x 17" x 15 1/4"	Cherry
1	G	Front	3/4" x 4 1/4" x 45 3/4"	Cherry
1	H	Back	3/4" x 4 1/4" x 45 3/4"	Cherry
2	I	Side Braces	3/4" x 4 1/4" x 15 1/2"	Cherry
1	J	Stretcher	3/4" x 2 3/4" x 47 1/4"	Cherry
1	K	Front Seat Brace	3/4" x 3/4" x 43 7/16"	Cherry
1	L	Rear Seat Brace	3/4" x 3/4" x 43 7/16"	Cherry
2	M	Side Seat Braces	3/4" x 3/4" x 15 1/2"	Cherry
8	N	Dowel Pins	3/8" x 2"	Birch
	O	Flathead Screws	#10 x 1 3/4"	Brass
	P	Flathead Screws	#10 x 1 1/2"	Brass
	Q	Finish Nails	1 1/2"	Steel
WOOD SPECIES				

	
Black Cherry	Birch

B. Patterns:

1. Scale Back Top A to the drawing dimension size. This can be accomplished by measuring the print out of the project and dividing that size into the dimension size shown on the drawing, or listed in the Bill of Materials. This will give a “Multi-Factor” that can be used to figure the enlargement size for the pattern.
2. Take the drawing printout and the multi-factor to a printing company. Most printing companies that do duplicating can make the enlargement required for the pattern.
3. The same multi-factor can be used to determine the enlargements for the other shapes E, F, G & J.
4. Trace the pattern enlargements onto poster board or Mylar and cut out the patterns with a pair of scissors.
5. Use these patterns to trace the shapes onto the wood stock.

C. Cutting Procedures:

1. Use a planer to mill lumber to 3/4' thickness.
2. Use a table & radial arm saw to cut lumber to proper widths and lengths.
3. Use a jointer to remove saw marks on all lumber ripped on the table saw.
4. Trace pattern of top back (A) onto lumber and cut out shape using a band saw.
5. Ends of top back (A) should be cut to 7 degree angles.

6. Use a table saw to rip bottom edge of the bottom back (B) to a 10 degree angle.
7. Trace two heart shapes onto top back (A), spaced $11 \frac{5}{8}$ " apart from center to center.
8. Drill a $\frac{1}{2}$ " hole through each heart shape. Place top back (A) on scroll saw table and insert scroll saw blade through each hole to cut out heart shapes.
9. Cut back verticals (C) to proper widths and lengths. Each end should be cut to a 10% angle.
10. Use two $1" \times 9 \frac{1}{2} \times 51"$ pieces of lumber for the seat (D). Use a jointer to joint the edges. Place the edges together and using a combination square and pencil, mark for dowel pin placements 3" & 12" from each end respectively. Using a dowel jig align the $\frac{3}{8}$ " hole with the marks on the lumber, and using a hand drill and a $\frac{3}{8}$ " bit, drill holes $1 \frac{1}{8}$ " deep. Place wood glue on one half of each dowel and pound them into the holes using a wooden mallet. Place glue on edges and exposed dowel pins and clamp boards together using four bar clamps. Clean up excess glue and allow to dry 24 hours. Remove clamps and using a planer, plane to $\frac{3}{4}$ " thickness. Use a table saw to rip seat to $18 \frac{1}{2}$ " and a radial arm saw to cut seat 50 long. Mark each corner $\frac{1}{2}$ " radius and cut out with a band saw. Use a belt sander to finish the corners.
11. Trace pattern of arm rests (E) onto lumber. Rip bottom edges to 7 degrees using a table saw. With a radial arm saw cut back ends to 10 degree angles to match back top (A) angle. Cut out shapes using a band saw and finish with a spindle sander.
12. Use two $1" \times 9" \times 16"$ pieces of lumber for the side bottoms (F). Use a jointer to joint edges, and then follow procedure in step #10 for doweling procedure. Use two dowels; one 2" from the top and one 5" from the bottom. After glue has dried, plane lumber to $\frac{3}{4}$ " thickness. Use a table saw and a radial arm saw to cut side bottoms to proper sizes. The top and bottom edges should be cut

at 7 degree angles. Trace pattern of side bottoms (F) onto lumber. Use a band saw to cut out the shapes. Finish shapes with a spindle sander.

13. Cut front (G), back (H), and side braces (I) to proper widths and lengths.
14. Cut front seat brace (K), rear seat brace (L), and side seat braces (M) to proper widths and lengths.
15. Cut stretcher (J) to proper width and length. Trace stretcher pattern on lumber and cut out with a band saw. Finish shapes with a spindle sander. Cut ends to 7 degree angles.
16. Use a router and a 3/4" rounding-over bit to round the edges of the back top (A), seat (B), and the arm rests (E). Do not round the bottom edges of parts (A) and (E).

D. Sanding Procedure:

1. Rough sand all parts using an orbital hand sander with 80 grit sand paper.
2. Intermediate sand using an orbital hand sander with 120 grit sand paper.
3. Finish sand using an orbital hand sander with 220 grit sand paper.

(Complete this step during the finish procedure).

4. Hand sand all edges to desired finish.

E. Assembly Procedure:

1. Mark placement of back (H) 1 1/2" from the rear edge of seat (D) and centered with the length of the seat.
2. Temporarily clamp back (H) in place with hand screw clamps, and from the bottom side of seat (D) drill four screw holes using a drill and a 1 1/2" x #10 screw-mate counter bore.

3. Place glue on the edge of back (H) and screw onto seat (D) using flat head-screws (O).
4. Mark placement of arm rests (E) on seat (D), flush with rear of back (H).
5. Temporarily clamp arm rests (E) to seat (D) and drill three 1 1/2" x #10 screw holes from the bottom side of the seat.
6. Place wood glue on the bottom edge of arm rests (E) and screw onto the seat (D) using flathead screws (O).
7. Temporarily place one back vertical (C) on each end of the back (H) to serve as spacers. Next place the top back (A) in position after applying glue on each end. Nail into arm rests (E) to secure top back (A) and back (H).
8. Place glue on ends of back verticals (C) and position them between the top back (A) and the back (H). Center the first back vertical and then position the others 3 5/16" apart, measuring from edge to edge. Use four bar clamps to hold the back verticals into position for 24 hours.
9. Clamp side seat braces (I) onto the inside of the side bottoms (F). They should be flush with the top of the side bottoms and 3/4" from each edge. Use a drill and a 1 1/4" x #10 screw-mate counter bore to drill six screw holes into the side seat braces. Screw the side seat braces onto the side bottoms with flathead screws (P).
10. Place glue on the ends of the side braces (I), front (G), and back (H). Place front and back into position and nail into side braces. Also nail side bottoms (F) to front and back.
11. Attach front seat brace (K), rear seat brace (L), and side seat braces (M) to the inside of the front (G), back (H), and side braces (I) respectively. They should be secured flush at the top using glue and flathead screws (P).
12. Using flathead screws (P) attach the bottom assembly to the top assembly. Place flathead screws (P) into the bottom of braces (K), (L), and (M) so that the seat (D) is securely attached.

Notes:

1. Use a professional-strength wood glue.
2. Remove all excess glue immediately.
3. All finish nails should be placed below the surfaces using a nail set.
4. It is preferable to use a nail gun if available.
5. **Important!** Custom cut lumber pieces to fit perfectly just prior to each assembly.

F. Finish Procedure:

1. Use plastic wood dough to fill all nail holes, cracks and imperfections.
2. Use an orbital hand sander and 220 grit sandpaper to finish sand the entire project.
3. Hand sand all edges with 220 grit sandpaper.
4. If stain is desired, apply with a brush and allow to dry penetrate for 5-10 minutes, and then remove with a clean rag.
5. Allow stain to dry 6 hours and then repeat with a second coat.
6. Apply a clear finish coat such as Varathane, Polyurethane, etc. using a pure-bristle brush. Allow to dry 12 hours.
7. Lightly hand sand with 220 grit sandpaper.
8. Apply second coat of clear finish.
9. Allow to dry 24 hours before using bench.

Notes:

1. Be sure to match the color of the wood dough to the stain color.
2. Use a tack rag after each sanding procedure to remove the dust.
3. Bench design and finish changes can be made to fit your personal needs and preferences.

***Congratulations, your wooden heart bench is finished and ready to use!**

