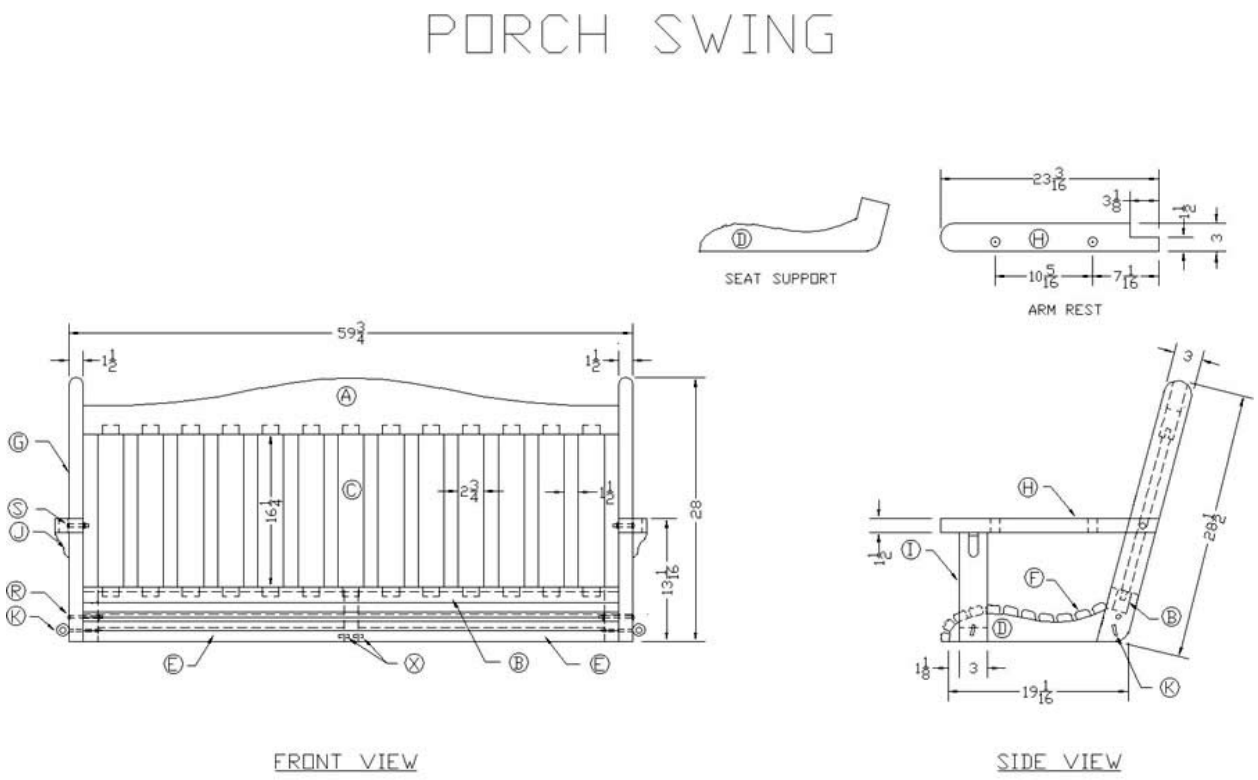
How to Build a Wooden Porch Swing

This striking porch swing offers style and comfort when you want to relax after a hard days work. Also it is the perfect place to share a starry night with that special person in your life.

Friends and familly can also enjoy carefree afternoons and warm evenings as they gather together. This finely crafted cypress swing will resist decay and the varnish finish will help give it permanence lasting beauty.



Technical Information for Building a Building a Wooden Porch Swing

A. Materials List:

QUANTITY	LETTER	NAME	SIZE	MATERIAL
1	A	Top Back Rail	1 1/2" x 6" x 56 3/4"	Cypress
1	B	Bottom Back Rail	1 1/2" x 3" x 56 3/4"	Cypress
13	C	Back Slats	3/4" x 2 3/4" x 18 1/4"	Cypress
3	D	Seat Supports	1 1/2" x 5 3/4" x 20 3/16"	Cypress
2	E	Front Seat Braces	1 1/2" x 3" x 26 1/8"	Cypress
11	F	Seat Slats	7/8" x 1 5/8" x 56 3/4"	Cypress
2	G	Rear Vertical Supports	1 1/2" x 3" x 28"	Cypress
2	H	Arm Rests	1 1/2" 3" x 23 3/16"	Cypress
2	I	Arm Rest Supports	1 1/2" x 3" x 11 9/16"	Cypress
2	J	Arm Rest Brackets	1 x 1 1/2" x 2 5/8"	Cypress
4	K	Screw Eyes	5/16" x 6"	Zink Plated

1	L	Coil Chain, Straight Link	2/0 x 20 Feet	Zink Plated
6	M	S-Hooks	2"	Zink Plated
2	N	S-Hooks	2 1/4"	Zink Plated
2	O	Eye Bolts	1/2" x 8"	Zink Plated
2	P	Flat Washers	9/16"	Zink Plated
2	Q	Hex Nuts	1/2" -13	Zink Plated
4	R	Carriage Bolts	5.16" x 3 1/2"	Zink Plated
2	S	Carriage Bolts	5/16" x 2"	Zink Plated
6	T	Flat Washers	5/16"	Zink Plated
6	U	Hex Nuts	5/16" - 18	Zink Plated
14	V	Flathead Screws	#12 x 3"	Zink Plated

33	W	Flathead Screws	#8 x 2"	Brass
4	X	Dowel pins	3/8" x 1"	Birch

WOOD SPECIES

 Cypress	 Birch

B. Patterns:

1. Scale top back rail (A) to the drawing dimension size. This can easily be accomplished by measuring the print out and dividing that size into the dimension size from the drawing. This will give a multi-factor that can be used to figure the enlargement size for the pattern. Most companies that do duplicating can make the enlargement required for the pattern.
2. Repeat step #1 for seat supports (D), rear vertical supports (G), arm rests (H), and arm rest brackets (J).
3. Transfer the pattern enlargements onto poster board, and use a pair of scissors to cut out the patterns.

C. Cutting Procedures:

1. Trace patterns (A), (D), (G), & (H) onto 1 1/2" thick boards and cut them out using a band saw.
2. Use a spindle sander to sand parts (A), (D), (G), & (H), to their actual sizes and shapes.
3. Trace pattern (J) onto a 1" board and cut out with a band saw. Finish the arm rest brackets (J) with a spindle sander. **This step**

should be completed during the assembly procedure in order to assure a perfect fit.

4. Use a mortise machine and a 1/2" mortise bit to cut thirteen 1/2" x 1 3/4" x 1" deep mortises in the bottom edge of top back rail (A) and the top edge of bottom back rail (B). These mortises should be spaced 2" in from each end of the top and bottom back rails, and the remainder should be spaced 1 1/2" apart.
5. Plane a 1" thick board to 7/8". Use a radial arm saw to cut the back slats (C) 18 1/4" long, and a table saw to rip them 2 3/4" wide. Use a jointer to remove the saw marks from the edges.
6. Measure 1" from both ends of each back slat (C), and using a pencil and a try square, draw lines around all four surfaces. Attach dado blades to the radial arm saw and cut tenon joints 3/16" deep on the front and back surfaces of the slats. Repeat the procedure for the edges, except set the dado blades to cut 1/2" deep. When this procedure is completed, the tenons for both ends of each slat should be 1/2" x 1 3/4".
7. Tilt the radial arm saw blade to 15 degrees to cut the notch and the rear end of arm rests (H). The notches should be cut 3" from the ends. To finish cutting out the notches, use a band saw and a hand saw.
8. Use a drill press and a 1" diameter Foerstner Bit to drill two holes in the top of the arm rests (H). These holes should be centered 7 1/16" from the rear and 10 5/16" apart. The centers of the holes should also be 1" in from the outside edge of each arm rest.
9. Use a band saw to cut a 1 1/2" wide x 2 1/4" deep open mortise joint into the center of the top/rear portion of the seat supports (D). This will allow the bottom back rail (B) to fit flush into theses joints for support.
10. Use a radial arm saw to cut 1" thick boards 56 3/4" long. Plane the boards to 7/8" and then use a table saw to rip thirteen seat slats (F) to1 5/8" wide. Use a router and a 1/4" round-over bit to round the top corners of each seat slat.

11. Using 1 1/2" thick lumber cut the two front seat braces (E) and the two arm rest supports (I) to proper sizes as specified in the materials list.

D. Wooden Porch Swing Sanding Procedures

1. Rough sand all parts with an orbital sander and 80 grit sandpaper.
2. Intermediate sand all parts with an orbital sander and 120 grit sandpaper.
3. Rough and intermediate, sanding should be completed prior to assembly procedure.
4. Finish sand all parts with an orbital sander and 220 grit sandpaper **after the assembly procedure.**
5. Hand sand all edges, details, with 220 grit sandpaper just **prior to the finish procedure.**
6. Lightly hand sand with 220 grit sand paper between finish coats.

E. Assembly Procedures

1. Place wood glue in the mortise holes of the bottom back rail (B) and us a wooden mallet to tap in the back slats (C). Place the top back rail (A) upside down in a bench vise and place glue in the mortise holes and tap the back slats into it. Use bar clamps to secure the top and bottom back rails to the back slats. Use a framing square to make sure the assembly is perfectly square. Allow to dry over night.
2. Align the two front seat braces (E) with the center seat support (D) and mark them for the placement of the dowel pins (X). Using a horizontal boring machine and a 3/8" drill bit, drill two holes 9/16" deep into the inner ends of the two front seat braces and on each side of the middle seat brace.
3. Place glue into the dowel pin holes of the inner end of each front seat support (D) and tap in the 1" dowel pins (X). Place glue in the

holes of the front seat braces (E) and tap them together with the center seat support (D).

4. Place glue on the ends of the top back rail (A) and the bottom back rail (B), and align them with the two rear vertical supports (G). Temporarily clamp them in place with bar clamps. Place glue on the arm rest supports (I) and align them with the outer seat supports (D). Temporarily clamp them together. Use a portable drill and a #12 x 3" screw-mate counter bore to drill two pilot holes near the top and bottom of each outer seat support (D). Use #12 x 3" flathead screws (V) to secure the assembly. Sink the screws 1/4" below the surface. Repeat the same procedure near the bottom of each arm rest support (I) to secure them to the two outer seat supports (D). The arm rest supports should be 1 1/8" in from the front edges of the seat supports.
5. Clamp the arm rests (H) in place and drill a 5/16" diameter hole through the rear end of each arm rest. These holes should also penetrate through the rear vertical supports (G). Remove the clamps and place glue in the notch of each arm rest and also on the top end of each arm rest support (I). Re-position the arm rests and secure them to the rear vertical supports with the 2" carriage bolts (S). Secure the arm rests to the arm rest supports with a #12 x 3" flat head screws (V) on each side. Sink the screws 1/4" below the surfaces.
6. Place glue on the inner surfaces of the arm rest brackets (J) and secure them into position with a nail gun and 1 1/2" nails.
7. Place the first seat slat (F) into position on the seat supports (D) and counter sink three holes in the seat slat and seat supports. The counter sinks should be 1/16" below the surface. These holes should be 3/4" from each end and the center hole should be 28 3/8" from the end. Remove the seat slat and put a spot of glue on the top edge of the seat supports and then secure the seat slat to the seat supports with #8 x 2" brass flathead screws (W). Repeat

the process for the other remaining seat slats. The seat slats should be positioned 3/8" apart.

8. Pre-drill two 5/16" holes through the two arm rest supports (I) and outer seat supports (D) 2 9/16" up from the bottom. Tap a carriage bolt (R) into each hole and secure with flat washers (T) and hex nuts (U). Repeat this process to secure the rear vertical supports (G) to the outer seat supports (D), 2 9/16" from the bottom.
9. Pre-drill two 3/16" x 3" holes for the screw eyes (K) on each side of the porch swing. These holes should be centered in the arm rest supports (I) and the rear vertical supports (G), 1 1/8" up from the bottom. Twist the four screw eyes in place.
10. Use a bolt cutter to cut the chain (L) into four 36" links. Place the 2" S-hooks (M) onto the screw eyes (K) and attach one end of each chain onto an S-hook. On each side connect the other end of the two chains together with another 2" S- hook.
11. In order to attach the swing to a beam, drill two 1/2" vertical holes through the beam 61" apart O.C. Place an eye bolt (O) through each hole and secure with flat washers (P) and hex nuts (Q). Cut the remaining chain to the desired lengths and attach one end of each chain to an S-hook (M) already in place. Connect the other end of the chains to an S-hook (N). Connect those S-hooks to the eye bolts in the beam.
12. Use a 5/16" plug cutter to cut plugs for the #8 screws, & a 3/8" plug cutter for the #12 screws. Cut plugs from cypress wood, put glue on the plugs, align the wood grain and tap into the holes. Sand the plugs flush with the surface.

E. Finish Procedures

1. Use plastic wood dough to fill all holes, cracks and imperfections.
2. Sand all edges and surfaces with 220 grit sandpaper.
3. Apply a satin coat of spar varnish with a brush or spray gun.

4. Allow to dry over night or until completely dry.
5. Lightly hand sand spar varnish with 220 grit sandpaper.
6. Apply second coat of spar varnish.
7. If additional coats of finish are desired, repeat steps 3-5 for each coat.
8. Allow final coat to dry 48 hours before using the porch swing.

NOTE: Be sure to use a tack rag to remove all dust after each sanding procedure.

Congratulations, your wooden porch swing is finished and ready to use!