

Build a Wooden Coffee Table

If you like the country or rustic look, this wooden coffee table will fit well with your other country décor. This durable table is unique due to its design features.



It provides style as well as functionality with its parquet top and door fronts, turned posts on the corners, and center storage cabinet. Due to its solid materials and rugged construction, this wood coffee table will stand the test of time, and can be enjoyed for generations to come.



1	B	Top Base	3/4" x 18" x 49 1/2"	Fir Plywood
2	C	Front & Rear Top Borders	1" x 2 1/2" x 54 1/2"	Oak
2	D	Side Top Borders	1" x 2 1/2" x 23"	Oak
1	E	Bottom	3/4" x 21 1/2" x 53"	Oak Plywood
2	F	Front/Rear Bottom Borders	3/4" x 2" x 54 1/2"	Oak
2	G	Side Bottom Borders	3/4" x 2" x 23"	Oak
1	H	Bottom Brace	3/4" x 1 1/4" x 21 1/2"	Oak
2	I	Sides	3/4" x 18" x 13"	Oak
1	J	Back	1/4" x 22 3/8" x 13"	Oak Plywood
2	K	Door Backs	1/2" x 11 1/2" x 12 7/8"	Oak
18	L	Door Parquet Squares	1/4" x 3 3/4" x 3 3/4"	Oak
4	M	Top & Bottom Door Frames	7/8" x 1 5/8" x 11 1/2"	Oak
4	N	Side Door Frames	7/8" x 1 5/8" x	Oak

			12 7/8"	
4	O	Corner Posts	2 1/2" x 2 1/2" x 13	Oak
4		Dowel Pins	3/8" x 2"	Birch
28		Flathead Screws	1 1/2" x #8	Steel
4		1 1/2" Butt Hinges		Brass
2		Magnetic Door Catches		Brass
2		Door Pulls		Brass

WOOD SPECIES

		
Red Oak	Douglas Fir	

B. Patterns:

1. Scale Legs O 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. Trace the pattern enlargements onto poster board or Mylar and cut out the patterns with a pair of scissors.
4. Use these patterns to trace the shapes onto the wood stock.

C. Cutting Procedure:

1. To make the top parquet squares (A) start with an oak board $3/4"$ x $10\ 1/2"$ x $60"$.
2. Joint one side edge of the board.
3. Set up a ripping fence on the band saw $11/32"$ from the blade and re-saw the board with the jointed edge on the band saw table. When you finish, you should have two boards approximately $11/32"$ x $10\ 1/2"$ x $60"$.
4. Set the table saw fence $1\ 1/2"$ from the blade and rip the two boards into twelve strips.
5. Glue and clamp three strips together using bar clamps. Make sure the smooth sides are facing down. Repeat this process three times so that you have four set of glued strips.
6. When the glue is dry, use a planer to plane the glued strips to $1/4"$ thickness.
7. Use a radial arm saw to trim one end of the glued strips.
8. Clamp a stop-block $4\ 1/2"$ from radial arm saw blade, and then cross cut the strips into blocks until you have 44 of them. They should be $4\ 1/2"$ square.
9. Use a table saw and a radial arm saw to cut top base (B) to size.
10. On the top base (B) measure and draw lines $1\ 1/4"$ in from each side. At the intersection of the lines, at each corner, drill a $3/8"$ hole through the top base. These holes will determine the placement of the corner posts (O) during the assembly procedure.

11. Joint one edge of a board $3/4"$ x $9\ 1/2"$ x $55"$ to make sides (I). Next use a radial arm saw to cut four boards to $13\ 1/2"$. Place the jointed edges of two of the boards together and using a framing square and pencil draw lines across the boards $2"$ from each end. Using a dowel jig align the $3/8"$ hole with the marks on the lumber, and using a hand drill and $3/8"$ bit, drill two holes $1\ 1/8"$ deep in each board. Place glue on one half of each dowel pin and use a wooden mallet pound the dowel pins into the holes of one board. Place glue on the edges of both boards and the exposed dowel pins, and use two bar clamps to clamp them together. Repeat the process for the other two boards.
12. When the glue is dry use a radial arm saw to trim the ends to $13"$. Use a table saw to rip the boards to $18"$, and then use the planer to trim both sides smooth.
13. Use a table saw cut a $1/4"$ x $3/8"$ rabbet joint on the inside/back of each side (I).
14. Measure and mark the placement for the butt hinges on the sides (I). They should be $2"$ from the top and bottom of each front edge. Use a band saw to cut approximately $1/16"$ deep at each mark, and then use a chisel and wood rasp or file to remove the wood for the hinge gains.
15. Cut the back (J) from $1/4"$ plywood exactly $22\ 3/8"$ x $13"$.
16. To make the top borders (C) and (D) use $1"$ thick stock and joint one edge. Rip the border stock to slightly wider than $2\ 1/2"$ and then joint to exactly $2\ 1/2"$ in width.
17. Use a router and a $1"$ Roman-Ogee Bit to route one edge of the top border stock.
18. Use a radial arm saw or a power miter saw to cut the corners to 45 degrees.
19. Use table and radial arm saws to cut the bottom (E) to proper size.
20. On bottom (E) measure and draw lines $3"$ in from each side. At the intersection of the lines, at each corner, drill a $3/8"$ hole

through the bottom. These holes will determine the placement of the corner posts (O) during the assembly procedure.

21. Use a table saw to rip the bottom borders (F) and (G) to 2" width.
22. Joint both edges of the bottom border stock.
23. Use a router and a 1" Roman-Ogee Bit to route one edge of the bottom border stock.
24. Use a power miter saw to cut the ends of the bottom borders to 45 degrees. The borders should be cut with the 2" dimension in the vertical direction.
25. Cut door backs (K) from a 3/4" x 12" x 26" oak board. First joint one edge and then rip the board to slightly wider than 11 1/2", and then joint the other edge until the board is exactly 11 1/2" wide. Plane the board to 1/2", and then use a radial arm saw to cut the two backs to 12 7/8" in length.
26. Cut door parquet squares (L) from a 3/4" x 4 1/2" x 36" oak board. First joint one edge and then re-saw the board on the band saw as instructed in step #3.
27. Set up the table saw to rip the boards into 6 strips 1 1/4" wide.
28. Glue and clamp three strips together with the smooth sides down. Repeat the process for the other three strips. At this point you should have two sets of glued strips.
29. When the glue is dry, plane the strips to 1/4", and then trim one end of each strip with a radial arm saw. Next clamp a stop-block 3 3/4" from the blade and continue cross cutting the strips into blocks until there are 18 of them. The blocks should be 3 3/4" square.
30. Cut door frames (M) and (N) from 1" stock. Joint the frame stock on one edge and then rip the stock to slightly larger than 1 5/8", and then joint the rough edge until the stock is exactly 1 5/8" wide.
31. Plane the door frame stock to 7/8" thick.

32. Use a router and a 3/4" Roman-Ogee Bit to route one edge of the door frame stock.
33. Attach a dado blade to the table saw and cut a rabbet joint 15/16" x 1/4" on one side of the door frame stock.
34. Use a power miter saw to cut the corner angles of the frames to 45 degrees. Continue trimming the frames until they fit without any gaps. The routed edges should be on the inside. The rabbet joints should overlap the parquet squares and the outer edges of the frames should be flush with the outer edges of the door backs.
35. To make the corner posts (O) glue three boards, each 1" x 3" x 53", together face to face. Spread a liberal amount of glue over all surfaces to be glued. Tighten securely with clamps.
36. Use a table saw to rip the post stock to 2 1/2" square.
37. Use a power miter saw to cut the corner posts to 13 1/8" in length.
38. Draw diagonal lines in each end of the corner posts to find the centers. Use a band saw to cut 1/8" deep diagonal grooves in one end of each corner post. Drill a 1/16" hole approximately 1/8" deep in the center of the opposite end of each corner post.
39. Use a wooden mallet to pound the spur center into the end with the diagonal cuts.
40. Place the spur center into the headstock spindle of the wood lathe. Place the corner post stock between the spur center and the spindle and slide tailstock to the left until the spindle comes in contact with the corner post stock. Make sure the point of the tailstock is aligned with the hole drilled into the wood, and then lock the tail stock. Place a couple of drops of oil on the spindle end and then turn the handwheel until the wood is secure between the spur center and the tailstock spindle.
41. Adjust the tool rest approximately 1/8" from the stock and approximately 1/8" above center.
42. Turn the stock by hand to ensure it clears the tool rest.

43. Turn on the lathe to low speed.
44. Use a gouge to rough cut the stock to a 2 3/8" diameter cylinder. Use an outside caliper to determine diameters. The first 1 1/2" of both ends of the corner post should remain square. With the lathe turning, measure and mark the cylinder with a pencil to determine position of the grooves, beads and tapered areas. Use a parting tool to cut the grooves; a gouge to rough cut the tapered areas; and a skew to cut the beads and to smooth cut the tapered areas. Be sure to check the diameters often to correspond with the pattern. When the shaping is completed, remove the tool rest and rough sand the corner post (O) with 80 grit sandpaper. Also use 120 grit and 220 grit sandpaper respectively until you get the desired smoothness. Repeat the above process for other corner posts so that they look identical.
45. Use a power miter saw to trim the ends of the corner posts (O) until they are exactly 13" long.
46. Use a straight edge and pencil to draw diagonal lines from corner to corner at each end of the corner posts (O). Place a corner post vertically in a vice and clamp it onto the bed of the drill press. Use a square to make sure the corner post is perfectly vertical. Drill a 3/8" hole 1 1/2" deep in each end of the post at the intersection of the diagonal lines. Repeat the above process for the other three posts.
47. Put wood glue in the holes and pound the dowel pins in the post ends with a wooden mallet. The dowel pins should be exposed approximately 1/2"

Note:

Allow glue to dry for 24 hours before removing clamps.

D. Sanding Procedure:

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. Finish sand all parts with an orbital sander and 220 grit sandpaper. **After the assembly.**
4. Rough and intermediate, sanding should be completed before assembling the parts.

Notes: This cutting board plan is designed as a pull-out board for a kitchen cabinet.

E. Assembly Procedure:

1. Glue and nail the back (J) into the rabbet joints of the sides (I).
2. Cut a spacer-board to 21 5/8" long and temporarily clamp it between the sides (I) in the front area so that the sides are square.
3. On the top-front edge of each side (I) mark the center with a pencil.
4. Measure in from each end of the top base (B) 13 9/16" and place a pencil mark for each measurement in the front edge. Align a framing square with each mark and draw a line across the top surface of the top base (B).
5. Place the top base (B) on top of the side/back assembly (I/J). Align the top base pencil marks with the marks on the center of each side (I). Make sure that the rear edge of the top base is flush with the back (J). Also make sure that the line on the top surface of the top base (B) is in line with the center of each side (I) in the rear. Carefully, without moving the alignments, use a hand drill to drill three 1 1/2" x #8 screw holes with a screw-mate counter bore on the line. One hole should be in the center and the other two should be 2" in from each end. It is important that the drill is in a perfectly vertical angle. Repeat the same drilling process for the other side. Remove the top base (B) and place a bead of wood

glue on the top edges of each side (I), and then replace the top and secure it to the sides with flat-head screws. Be sure that the screw heads are slightly below the surface.

6. Place glue on the exposed dowel pin and one end of each corner post (O) and insert the dowel pins into the holes provided for them at the bottom surface of the top base (B). Rotate the corner posts so they are in proper alignment with the top base. Next use a hand drill and a 1 1/2" x #8 screw-mate counter bore to drill two screw holes through the top base and into the end of each corner post. Screw the top base securely to the corner posts. Be sure that the screw heads are slightly below the surface.
7. Turn the assembly up side down and place glue on the exposed dowel pins, corner posts (O), and sides (J). Align the marks on the sides and on the bottom and drill three 1 1/2" x #8 screw holes with a screw-mate counter bore. One hole should be drilled in the center and the other two should be 2" in from each end. Repeat the same drilling procedure for the other side. Screw the bottom securely to the sides. Remove the clamp and temporary wood-spacer from the sides. Also drill two holes into the ends of all four corner posts and screw the bottom securely to them.
8. Turn the assembly right side up. Start at one end of the top base (B) and glue the 44 blocks to the top base, alternating the grain direction of each block, so they form the pattern of the top parquet squares (A).
9. Glue and clamp the top borders (C) and (D) to the top assembly using bar clamps. Use hand screw clamps at each corner to keep the ends aligned if necessary. Be sure the borders are level with the top parquet squares (A).
10. When the glue is dry, turn the assembly up side down again. Glue and clamp the bottom borders (F) and (G) onto the bottom (E). Also use a nail gun and 1 1/2" nails to nail the borders securely in place.

11. Cut the bottom brace (H) to fit, in the center, beneath the bottom (E). Glue in place and secure with two nails in each end.
12. Glue nine blocks onto each door back (K), alternating the wood grain direction of each block to form the pattern of the door parquet squares (L).
13. Glue and clamp the door frames (M) and (N) onto the door backs (K). Be sure that the frames overlap the parquet squares.
14. Install the four hinges to the sides (I) and door backs (K).
15. Install the magnetic door latches beneath the top base (B) and onto the rear side of the door backs (K).
16. Install the door pulls approximately 5" from the top of the doors.

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 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 table.

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.

***Congratulations, your custom oak coffee table is finished and ready to use!**