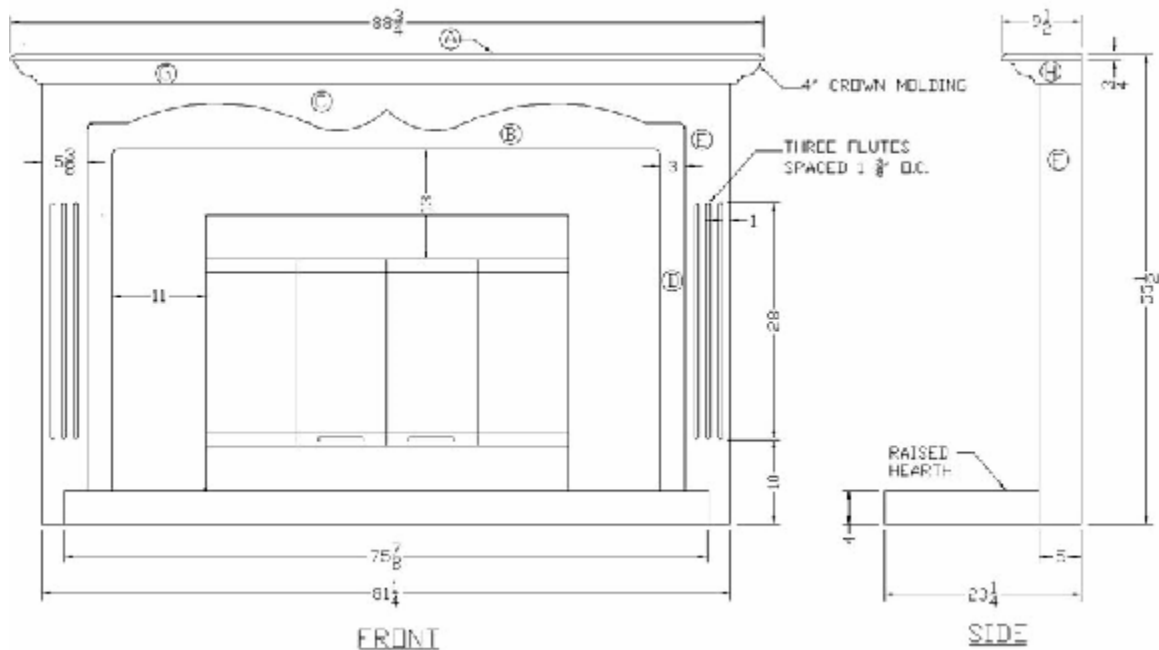


Wood Projects - How to Build a Fireplace Mantel Surround

A full fireplace mantel surround is a great way to adorn your fireplace. Not only does it provide a focal point of beauty in your home, but it also provides an area to display family portraits, plants, Christmas stockings, and other decorations.

This type of mantel makes a stylish statement. It is a wonderful addition to any home and will add to the warmth and charm of your fireplace. There is nothing like gathering around a cozy, romantic fire when it is raining or snowing outside. In addition, your friends and family will be impressed with the beautiful custom made look your fireplace mantel surround will add to the quality and value of your home.



A . Materials List:

QUANTITY	LETTER	NAME	SIZE	MATERIAL
1	A	Top	3/4" x 9 1/2" x 88 3/4"	Oak
1	B	Inner Horiz. Face	3/4" x 10" x 65"	Oak
1	C	Outer Horiz. Face	3/4" x 8" x 71"	Oak
2	D	Inner Vert. Sides	3/4" x 7 5/8" x 51 1/2"	Oak
2	E	Outer Vert. Sides	3/4" x 5 3/8" x 55 1/2"	Oak
2	F	Sides	3/4" x 4 1/4" x 55 1/2"	Oak
1	G	Front Crown Molding	4" x 86 3/4"	Oak
2	H	Side Crown Molding	4" x 8 1/2"	Oak
2	I	Side Wood Ornaments	10 1/2"	Oak
1	J	Front Wood Ornament	9"	Oak

1	K	Wall Ledger	1" x 2"x 81"	Fir
8	L	Dowel Pins	3/8" x 2"	Birch

B. Patterns:

1. Using graph paper or a computer to design the shape of the outer horizontal face (C).
2. Use poster board for the final full scale pattern. Only one half the pattern is needed since it can be reversed for the opposite side.

C. Cutting Procedure:

1. Use planer to mill lumber to $\frac{3}{4}$ " thickness.
2. Use jointer to joint edges of all lumber.
3. Use table & radial arm saws to cut lumber to proper widths & lengths.
4. Trace the pattern on the outer horizontal face (C).
5. Use a band saw to cut out the shape of the outer horizontal face (C).
6. Use a spindle sander to sand the shape of the outer horizontal face (C).
7. Use a router and a $\frac{1}{2}$ " Half-Round Bit to route three flutes in each outer vertical side (E). The flutes should be $\frac{1}{8}$ " apart O.C. and 28" long, starting from the bottom of each side.
8. Place the outer vertical sides (E) on each end of the outer horizontal face (C) and using a combination square & pencil mark for dowel pin placements, $1\frac{1}{2}$ " from the edges. Use the same procedure to position the dowel pin placements for the inner vertical sides (D) and the inner horizontal face (B).
9. Align the $\frac{3}{8}$ " hole of the dowel jig with marks on parts (B), (C), (D), & (E), and use a hand drill and a $\frac{3}{8}$ " bit drill holes to a $1\frac{1}{8}$ " depth.
10. Use a router and a $\frac{1}{16}$ " Roman-Ogee Bit to route the front & side edges of the top (A).
11. Use the same Roman-Ogee Bit to route the inner edges of the parts (B), (C), (D), & (E) **after they have been glued and doweled together in the assembly procedure.**

D. Sanding Procedure:

1. Rough sand all parts using an orbital sander and 80 grit sand paper.
2. Intermediate sand using 120 grit sand paper.
3. Finish sand using 220 grit sand paper (**during finish procedure**) .
4. Hand-sand all edges to desired finish.

E. Wood Fireplace Mantel Assembly Procedure:

1. Place wood glue on one half of each dowel pin (L) and using a wooden mallet, pound the dowel pins into the holes drilled into the inner and outer vertical sides (D) & (E). **Make sure the dowel pins are bottomed out.**
2. Place glue on the exposed dowel pins and a bead of glue on each end of the inner horizontal face (B) and using bar clamps, clamp the inner vertical sides (D) to the face (B). Immediately clean up excess glue.
3. Repeat same procedure above for the outer horizontal face (C) and the outer vertical sides (E). Allow glue to dry for 24 hours.
4. Using a router and a $\frac{1}{16}$ " Roman-Ogee Bit, route the inner edges of assemblies (B/D & C/E).
5. Glue and nail sides (F) flush with the outside edges of the outer vertical sides (E).

6. Align and glue inner and outer assemblies (B/D) and (C/E) together and secure with a nail gun or 1 1/4" finish nails.
7. Place the assembly in position, centered over the fire box opening and mark the wall above for the desired height of the wall ledger (K). Attach ledger to the wall using 2 1/2" drywall screws. Make sure the ledger is level and that screws go into wall studs. Use a stud finder to locate studs.
8. With the assembly still in position, place the top (A) on top of the assembly and the ledger and nail into position. Be sure top is nailed onto the face assembly as well as the ledger.
9. Use a power miter saw to cut both ends of the front crown molding (G) to proper length at 45 degree angles. Glue and nail the molding to the outer horizontal face (B), and to the under side of top (A).
10. Use a power miter saw to cut one end of each side crown molding (H) to 45 degrees. Cut the other end of the side moldings square so they fit flush with the wall and that the sides align properly with the face molding (A). Glue and nail the side crown moldings in the same manner that the front molding was secured. Be sure to glue and nail the crown molding pieces together in order to secure the corners.
11. Place a film of glue on the back side of the wood ornaments (I & J) and using 3/8" brads nail them into desired positions on the outer horizontal face (B) and on each outer vertical side (E).

Notes:

1. Use a professional wood glue
2. Set all nails below the wood surface with a nail set.
3. It is preferable to use a nail gun if available.

F. Finish Procedure:

1. Use plastic to fill all nail holes, cracks and imperfections.
2. Use an orbital hand sander and 220 grit sandpaper to finish sand the entire mantel.
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 your wood fireplace mantel.

Additional 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. Mantel design and finish changes can be made to fit your personal needs and preferences.
4. Mantel dimension changes may be required to fit the size of your fireplace and fire box opening.
5. Mantel should be at least 12" above and at least 6" away on each side of the fire pit opening. To be sure you are complying with the code; it is wise to check with the Building & Safety Department in your area.