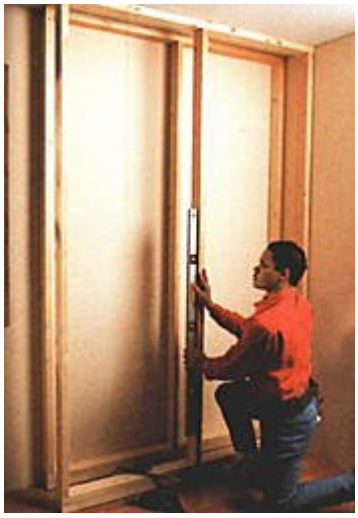
How to Build Floor to Ceiling Shelves

1. Mark the location for two parallel 2 × 4 top plates on the ceiling, using a framing square as a guide. The front edge of the outer top plate should be 13" from back wall, and the other top plate should be flush against the wall. Mark location of ceiling joists; if necessary, install blocking between joists to provide a surface for anchoring the top plates.

2. Measure and cut 2 × 4 top plates. Position each plate, check to make sure it is level, and shim if necessary. Attach plates to ceiling with 3" screws driven into the joists or blocking.

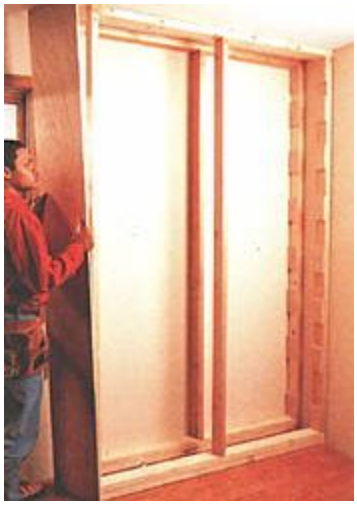
3. Cut 2 × 4 sole plates and screw them together to form two doubled sole plates. Use a plumb bob suspended from the outside corners of the top plates to align the sole plates, then shim to level, if needed; anchor the plates by driving 3" screws toenail-style into the floor.

4. Install 2 × 4 support studs between the ends of the top plates and sole plates. Attach support studs with 3" screws driven toenail-style into the top plates and sole plates.

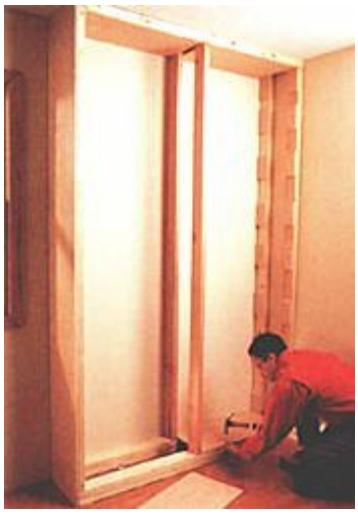


5. Install center support studs midway between the end support studs. Attach to bottom plate first, using 3" screws driven toenail-style. Use a level to make sure that stud is plumb, then attach the studs to the top plate with 3" screws.

6. Where the shelves fit into a corner, use 2" screws to attach 1/2" plywood spacers on the inside faces of the support studs, spaced every 4". Make sure spacers do not extend past the front face of the studs.



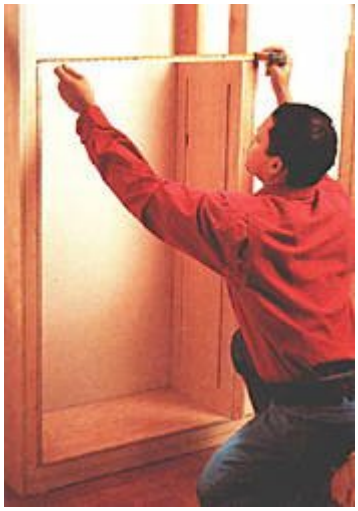
7. Where the end of the project is exposed, measure and cut a 1/2" plywood end panel to floor-to-ceiling height. Attach the panel to the support studs so the front edges are flush, using 1 3/4" screws driven through the support studs and into the end panel.



8. Measure and cut 1/2" plywood top and bottom panels to fit between the support studs. Attach to the top and sole plates using 1 1/2" finish nails.

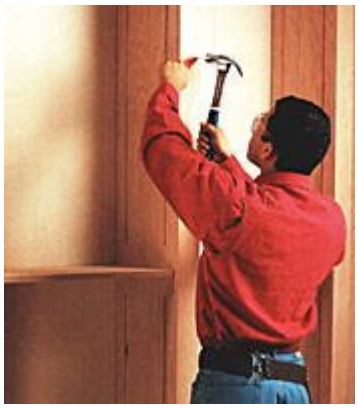
9. Measure and cut lower risers from 1/2" plywood, then cut dadoes for metal shelf standards.

10. Install lower risers on each side of the 2 × 4 support studs so the front edges are flush with the edges of the studs. Attach risers with 1 1/2" finish nails driven into the support stud. For riser that adjoins wall, drive nails at spacer locations.



11. Measure and cut permanent shelves from 3/4" plywood to fit between the support studs, just above the lower risers. Set shelves on risers and attach them with 1 1/2" finish nails driven down into the risers.

12. Measure and cut upper risers to fit between permanent shelves and the top panels. Cut dadoes for metal shelf standards, then attach the risers to the support studs with 1 1/2" finish nails.

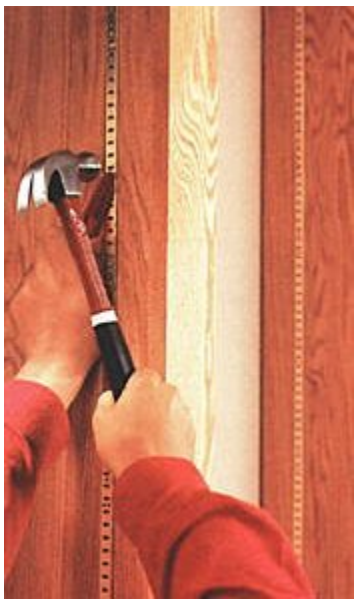


13. Measure and cut 1 × 3 stiles to reach from floor to ceiling along the front edges of the exposed support studs. Drill pilot holes and attach the stiles to the support studs so they are flush with the risers, using glue and 1 1/2" finish nails driven at 8" intervals into the studs and risers.

14. Measure and cut 1 × 3 top rails to fit between stiles. Drill pilot holes and attach the rails to the top plate and top panels, using glue and 1 1/2" finish nails.

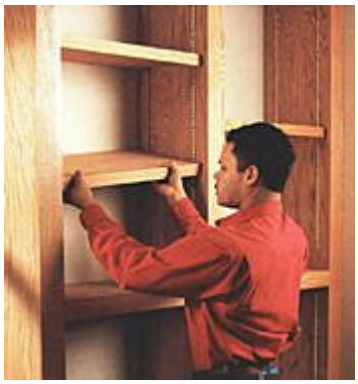
15. Measure and cut 1 × 4 bottom rails to fit between the stiles. Drill pilot holes, and attach the rails to the sole plates and bottom panels, using glue and 1 1/2" finish nails. The top edge of the rails should be flush with the top surface of the plywood panels.

16. Fill nail holes, then sand and finish the wood surfaces.



17. Measure, cut, and install metal shelf standards into the dadoes using nails or screws provided by the manufacturer.

18. Measure and cut adjustable 1/8" shorter than the distance between metal standards. Cut shelf edging, and attach with glue and 1 1/2" finish nails. Sand and finish the shelves.



19. Insert shelf clips into metal shelf standards and install the adjustable shelves at desired heights.

20. Cover gaps between the project and walls and floor with molding that has been finished to match the shelf unit.