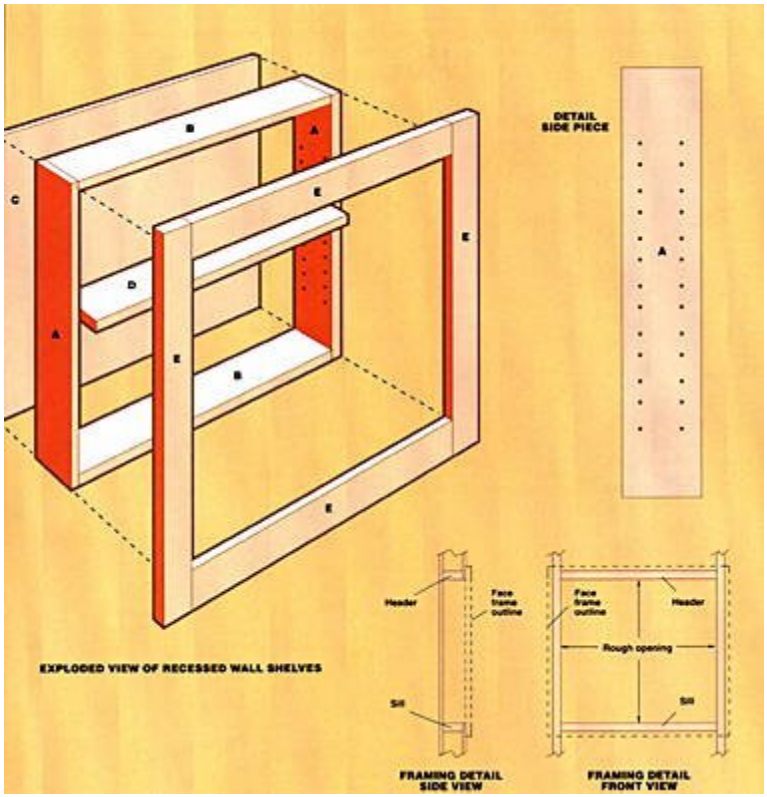
Building Recessed Wall Shelves

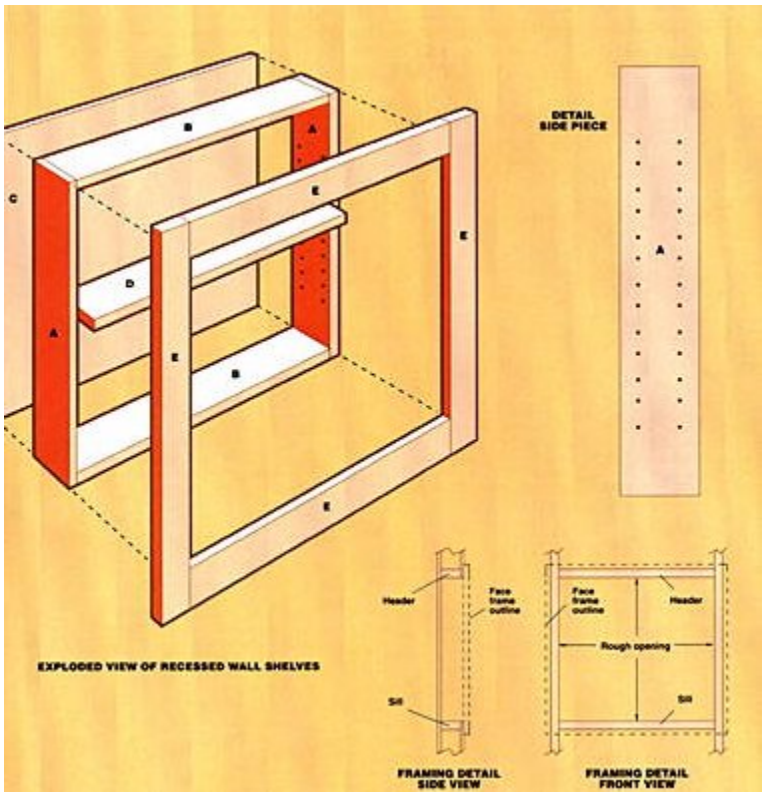
Installing recessed shelving is one of the easiest built-in projects. This project consists of a shallow wooden box that is inserted in a wall cutout and framed with hardwood. Recessed shelves can be installed in almost any interior wall, except in areas where electrical wires or plumbing pipes are located.

The project as shown is 30" wide — the width of two stud cavities in a standard wall built with studs spaced 16" on-center. To duplicate these shelves, you will need to cut away one wall stud and install a sill and header. Never cut away more than one stud when building recessed shelving. You may, however, build a narrower cabinet by building the shelves into a single stud cavity between adjacent studs.

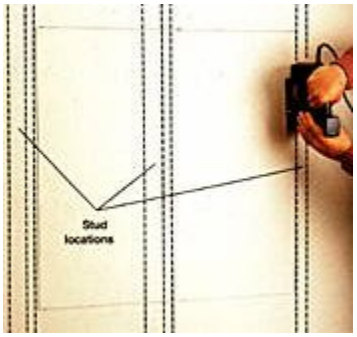
Everything You Need:
Tools: pencil level jig saw reciprocating saw power screwdriver drill right-angle drill guide pegboard scraps pipe clamps hammer

tape measure utility knife
Materials: wood glue 1 1/2" finish nails wood screws (1 1/2", 2 1/2") 1" wire nails pin-style shelf supports wood shims

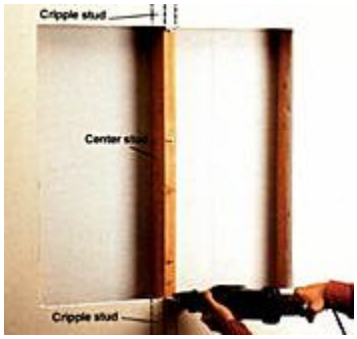




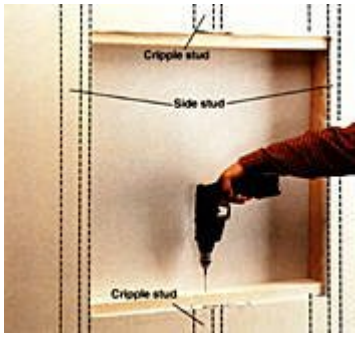
Project as Shown				
Key	**Piece**	**Material**	**Pieces**	**Size**
A	Sides	1 × 4 oak	2	30'
B	Top & bottom	1 × 4 oak	2	28 3/4'
C	Back panel	1/4' oak plywood	1	30 × 29 1/2'
D	Shelves	1 × 4 oak	3	28 5/8'
E	Face frame	1 × 4 oak	11 linear ft.	
F	Header and still plates	2 × 4	2	30 1/2'



1. Locate wall studs in area where shelves will be installed. Mark the cutout on the wall, using a level as a guide. Sides of cutout should follow edges of wall studs, and height of cutout should allow for the thickness of a header and sill plate. Make the cutout with a jigsaw. **CAUTION:** Check for plumbing and electrical cables before cutting into any wall.

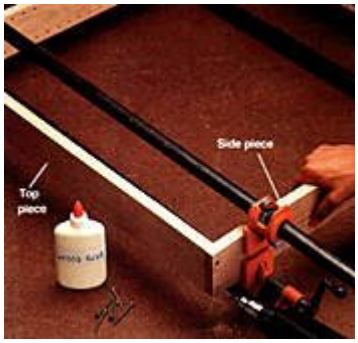


2. Cut away the center stud at the top and bottom edge of the opening, using a reciprocating saw. Use a flat pry bar to remove the cut portion of stud. (You may need to patch the opposite wall surface if it is screwed or nailed to the stud you remove.)



3. Measure between side studs at top and bottom edges of opening, and cut header and sill plates to fit. Attach header and sill to cripple studs and side studs with 3" screws. Remeasure the height of the opening between the installed header and sill plates. Cut side pieces 1 3/4" shorter than the measured height of the opening. Cut 1 × 4 top and bottom pieces 1/4" shorter than the measured width to allow for small adjustments during installation.

4. Drill two rows of holes on the inside face of each side piece to hold pin-style shelf supports. Use a right-angle drill guide, and use a scrap piece of pegboard as a template to ensure that the holes on facing pieces will be lined up properly.

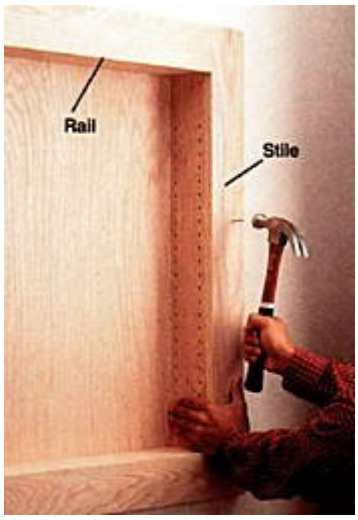


5. Glue and clamp the side pieces around the top and bottom pieces to form butt joints. Drill counterbored pilot holes into the joints, and reinforce them with 1 1/2" wood screws.

6. Measure and cut 1/4" plywood back panel to fit flush with the outside edges of the frame. Attach with 1" wire nails driven every 4" or 5". To allow for natural expansion and contraction, do not glue the back panel.

7. Position box in opening and shim until it is level and plumb and front edges are flush with wall surface. Drill pilot holes, and anchor cabinet to side studs, header and sill, using 1/2" finish nails driven every 4" to 5" and through shim locations. Trim shims with a utility knife.

8. Measure the inside height and width of cabinet box, then cut 1 × 3 horizontal face frame rails equal to width, and 1 × 3 vertical stiles 5" longer than height. Glue and clamp rails between stiles to form butt joints, and reinforce joints by drilling pilot holes and driving 3" finish nails through stiles and into rails.



9. Position face frame, drill pilot holes, and attach with 1 1/2" finish nails driven into the top, bottom, and side panels, and into the framing members. Countersink nails, fill nail holes, sand, and finish the project. Build and install adjustable shelves 1/8" shorter than distance between side panels.