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Cedar Roof Basic

This tiny structure is named for its attractive roof made from rough cedar siding. It's also one of the few designs with a gable roof and a door under the roof eave rather than on the gable end. This gives it a distinctive look and makes it easier to access the interior space.

The roofing material is beveled siding, also called lap siding or clapboard. It is tapered so the bottom edge is thicker than the top edge. Each piece overlaps the piece below to create a stepped shingle effect. Traditional cedar siding has a smooth side and a rough side. The rough side usually faces out and looks best when finished with a stain or even a clear coat (see Painting & Staining on page 39) to retain the natural grain and coloring. If you prefer to paint the roof, you might install the boards with the smooth side up for a cleaner look.

Another option for this project is to use salvaged siding or lumber for the roofing or any of the trim details. Since the main structure is a basic and easy-to-build plywood box, it's up to the roofing and trim to provide extra character. Don't be afraid to get creative!

INSTRUCTIONS

Cut the Plywood Parts

Cut the side panels, front panel, back panel, base, and roof deck pieces to size using a circular saw or jigsaw. All pieces are rectangular except for the side panels, which have triangular top ends. The roof deck pieces get a bevel along one long edge after the pieces are cut to size.

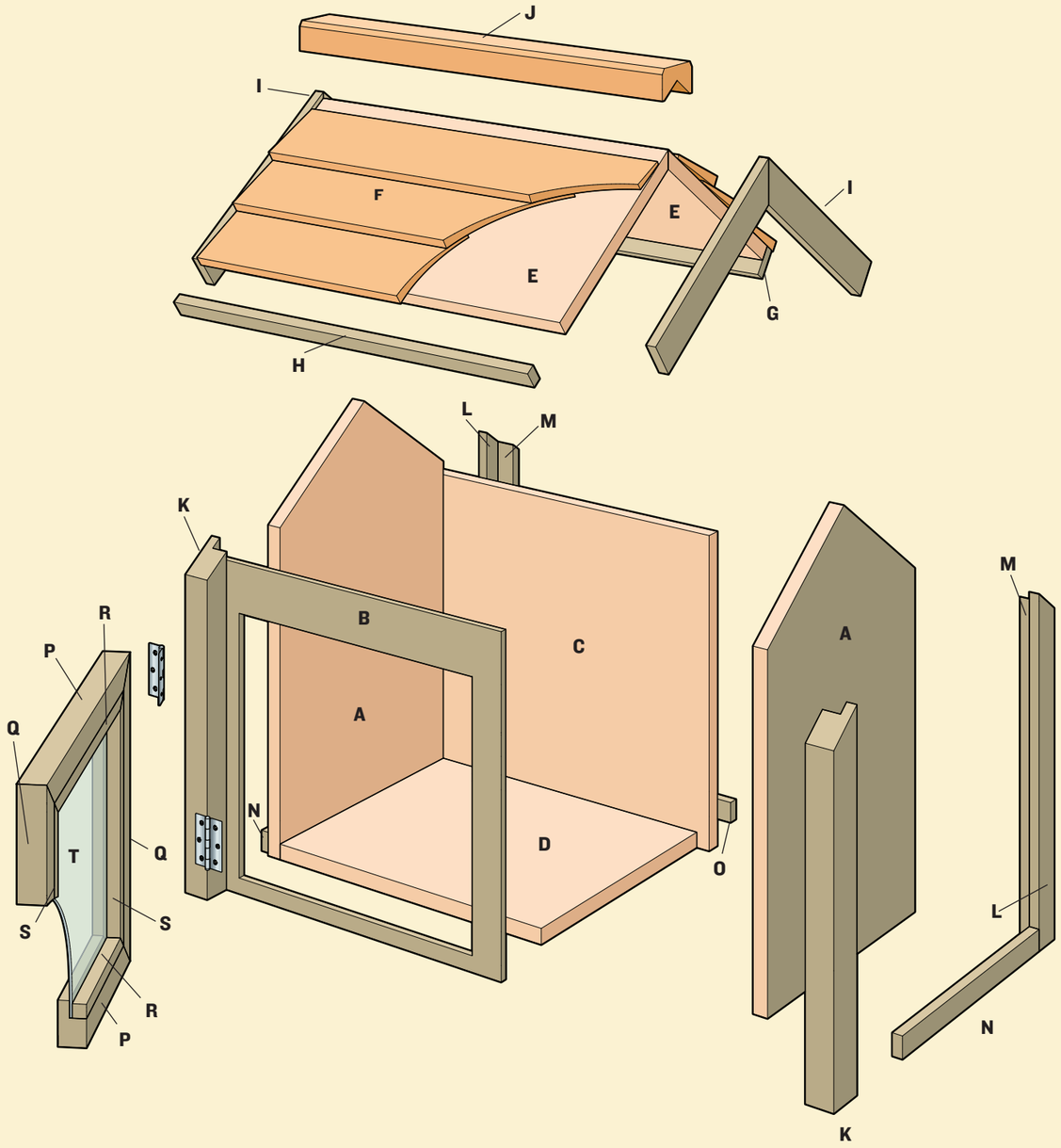
To lay out the triangular cuts on each side panel, mark the center of one of the short sides, then make a mark 4⅝ inches down each side edge. Draw a line from each side mark to the center mark. Cut along the lines.

To make the bevel cuts on the roof deck pieces, set up a straightedge guide (see Making Straight Cuts on page 31) to cut 5⁄16 inch from one of the long edges. Set a circular saw or jigsaw to cut a 36-degree bevel, and make the cut (photo 1). A tablesaw is even better, if you have one.

Cut the Door Opening

The front panel gets a rectangular cutout for the door opening that is 13⅞ inches wide × 12⅝ inches tall. Mark this rectangle on the front panel so it is centered side to side and the bottom of the rectangle is 1⅛ inches from the

1. The bevel on the roof deck will span about half the thickness of the plywood. 2. Drill a starter hole at each corner, then make the door cutout with a jigsaw. Be sure to cut the narrow sides first. 3. The front and back panels fit over the sides, and all vertical pieces fit over the base.



TOOLS & MATERIALS

Circular saw
Jigsaw
Router and ¾" rabbeting bit (optional)
Clamps
Straightedge
Drill-driver
Drill bits (1/16", ⅜")
Pilot-countersink bit
Screwdriver bits
Miter saw or miter box
Hammer
Nail set
Caulking gun
Sanding block
4 × 8' sheet of ¾" plywood
2 × 2' piece of ¼" plywood
⅝ × 5⅛ × 96" beveled cedar siding
1 ⅝ × 5⅛ × 48" beveled cedar siding
½ × 1½ × 96" pine
½ × 1¾ × 48" pine
(2) 2 × 3 (nominal) × 6' pine
½ × 1 × 96" pine
⅝ × ⅝ × 48" pine
(23) 1¾" wood screws
(12) 1" wood screws
(10) 2½" finish nails
(51) 1¼" finish nails
(36) 1" siding nails
⅛ × 12 × 16" acrylic glazing
(2) exterior door hinges with screws
Waterproof wood glue
Construction adhesive
100-grit sandpaper
Eye and ear protection
Work gloves

CUTTING LIST

KEY	PART	DIMENSIONS	PCS.	MATERIAL
A	Side panel	¾ × 13 × 20¾"	2	¾" plywood
B	Front panel	¼ × 17⅛ × 15 11/16"	1	¼" plywood
C	Back panel	¾ × 17⅛ × 15 7/16"	1	¾" plywood
D	Base	¾ × 15 11/16 × 13"	1	¾" plywood
E	Roof deck	¾ × 21 × 10¾"	2	¾" plywood
F	Roofing	⅝ × 5⅛ × 21"	6	Cedar siding
G	Roof eave trim—rear	½ × 1½ × 21"	1	Pine
H	Roof eave trim—front	½ × ⅞ × 21"	1	Pine
I	Roof-gable trim	½ × 1¾ × 11¾"	4	Pine
J	Roof cap	1½ × 2½ × 22"	1	Pine
K	Front-corner trim	1⅜ × 1⅞ × 16 5/16"	2	Pine
L	Rear-corner trim—side	½ × 1½ × 16¼"	2	Pine
M	Rear-corner trim—rear	½ × 1 × 15⅝"	2	Pine
N	Base trim—side	½ × 1 × 12½"	2	Pine
O	Base trim—rear	½ × 1 × 15 1/16"	1	Pine
P	Doorframe—top/bottom	1¼ × 2 × 15"	2	Pine
Q	Doorframe—side	1¼ × 2 × 14"	2	Pine
R	Glazing stop—top/bottom	⅝ × ⅝ × 12¼"	2	Pine
S	Glazing stop—side	⅝ × ⅝ × 11 3/16"	2	Pine
T	Door glazing	⅛ × 12 × 16"	1	Acrylic glazing

4. The ½"-wide rabbet is cut ⅞" deep into 1⅞" face of the trim material. 5. The rear-corner side pieces fit over the edges of the rear-corner rear pieces. 6. The roof deck panels meet at the roof peak and overhang the box sides equally. 7. Fasten the roofing boards so the lower nails go through the roofing board below.

bottom edge of the panel. Drill a ⅜-inch starter hole (see Making Curves and Interior Cutouts on page 32) on the inside of each corner of the rectangle, then make the cutout with a jigsaw (photo 2).

Assemble the Box

Apply wood glue to both side edges and the rear edge of the plywood base and to the rear-side edge of each side panel. Assemble the base, sides, and back so the base fits inside the assembly and the back panel fits over the edges of the side panels. Clamp the parts together. Fasten the pieces with three 1¾-inch screws along each joint.

Glue the front edges of the base and side panels. Fit the front panel over the sides and base so all pieces are flush on the outside and the bottom. Fasten through the front panel and into the sides and base with three 1-inch screws along each edge (photo 3).

Prepare the Front-Corner Trim

The two front-corner trim pieces are first rip-cut from 2 × 3 lumber. Then they each get a ½ × ⅞-inch rabbet cut along one long edge, creating a lip that overlaps the corner of the plywood box (see Making Doors with [or without] Rabbets on page 34 for help with cutting rabbets). They are also mitered on their top ends at 36 degrees. It's easiest to make the long rip cuts and rabbet on a single piece of 2 × 3, then cut the trim to final size with a miter saw or miter box.

Cut a 6-foot 2 × 3 roughly in half and set one of the halves aside; you will use it later for the roof cap. Use a straightedge guide to rip-cut the 2 × 3 to 1⅞ inches wide × 1⅜ inches thick. Then, cut a ½-inch-wide × ⅞-inch-deep rabbet using a router and ½-inch rabbeting bit or a circular saw and straightedge guide (photo 4). Cut each trim piece to length, mitering the top end at 36 degrees.

Install the Front-Corner Trim

Apply glue to both sides of the rabbet on each piece of front-corner trim. Position the trim at the front corner of the box assembly so the top (mitered) end of the trim is flush with the angled top edge of the side panel and the lip is up against the side panel. Drill 1⁄16-inch pilot holes, and fasten each trim piece with three 2½-inch finish nails driven through the front of the trim and into the edges of the side panels. Set the nails with a nail set.

Install the Remaining Box Trim

Cut the rear-corner trim side and rear pieces to length, mitering their top ends at 36 degrees. The side pieces are mitered across their 1½-inch faces. The rear pieces are mitered across their ½-inch edges. Apply glue to the longer 1-inch-wide face of each rear piece and position it over the back panel, flush with the outside edge and bottom of the panel. Fasten each trim piece with three 1¼-inch finish nails.

Apply glue to the inside face of each side trim piece and position it over a rear trim piece so their mitered ends are flush. Fasten the side trim to the box with three 1¼-inch finish nails (photo 5).

Cut the base trim side and rear pieces to length. Apply glue to one face of the rear trim and fit it against the back, between the rear-corner trims and flush with the bottom of the base. Fasten the rear trim with three 1¼-inch finish nails. Do the same with the two base trim side pieces, fitting them between the front- and rear-corner trims.

Prepare the Roof Deck

Cut the two roof eave trim pieces to length. Glue the front (⅞-inch-wide) trim to the bottom (square) edge of one of the roof panels so it is flush with the top face and side edges of the panel; it will overhang the bottom face of the panel by about ⅛ inch. Fasten the trim with three 1¼-inch finish nails.

Glue and nail the rear (1½-inch-wide) eave trim to the other roof deck panel so the trim is flush with the top face and side edges of the panel, overhanging the bottom face.

Apply glue to the top edges of the side panels. Fit the roof deck panels onto the side panels so they meet at

8. The gable trim covers the ends of the eave trim, the roof deck, and the overlapping portions of the roofing boards. 9. Make opposing 1½"-deep bevel cuts to create the V-groove in the roof cap. 10. Drill pilot holes at a 45° angle for joining the mitered doorframe pieces with screws.

11. Add the door glazing and reinstall the door after finishing the structure.

the roof peak and overhang the side panels equally on both sides (photo 6). Fasten each roof deck panel to the side panels with four 1¾-inch screws.

Install the Roofing

Cut the six roofing boards to length. Rip-cut two of the boards to width at 4⅜ inches, ripping about ¾ inch from the top (narrow) edge of the beveled siding board. The ripped boards will go at the top of the roof.

Apply a wavy bead of construction adhesive to the back side (smooth face) of one of the full-width boards. Position it at the bottom of one of the roof deck pieces so the roofing overhangs the bottom face of the eave trim by about ⅛ inch. Nail the roofing board to the roof deck with three pairs of 1-inch siding nails, with one pair about 1 inch from each end and one pair in the center. If the nails cause the wood to split, drill pilot holes for the nails.

Apply a straight bead of construction adhesive near the top and bottom edges of a second roofing board. Place the board on the roof deck so it overlaps the first board by about 1¾ inches (leaving about 3⅜ inches of the lower board exposed). Nail the second board with three pairs of nails, as with the first board, but make sure the lower nail in each pair goes through the first board.

Apply adhesive near the top and bottom edges of one of the ripped boards, position it so it is flush with the top edge of the roof deck, and nail it as with the second board (photo 7). Repeat the same process to install the roofing boards on the other side of the roof.

Add the Roof Gable Trim

Cut the four pieces of roof gable trim to length, mitering the top ends at 36 degrees. Apply glue to the side edges of the roof deck panels and outside ends of the roof eave trim. Also glue the mitered edges of the gable trim.

Position the gable trim in pairs at each end of the roof, joining the miters together at the peak. The gable trim at the rear eave of the roof should be flush with the bottom edge and front face of the 1½-inch-wide eave trim. At the front eave of the roof, the gable trim will overhang the top and bottom edge of the ⅞-inch-wide eave trim (photo 8).

Fasten each piece of gable trim to the roof deck (not the roofing boards) with three 1¼-inch finish nails.

Cut and Install the Roof Cap

The roof cap is cut from the remaining piece of 2 × 3 board (leftover from the front corner trim). It has a V-shaped groove cut into its bottom face that runs along the entire length of the board. You can cut the groove with a small circular saw and a straightedge guide (or use a tablesaw, if you have one). This is a tricky cut and is not recommended for beginners to try with a full-size circular saw. As an alternative, you can make 36-degree bevel cuts on two ¾-inch-thick boards and use waterproof wood glue to join them to create the V shape.

Set the circular saw blade to make a 36-degree bevel cut, 1½ inches deep. Position the 2 × 3 on one of its 1½-inch-wide edges, and set up a straightedge guide with a scrap board to support the saw (see Making Straight Cuts on page 31). Make the first cut from the corner of the 2 × 3 to its center. Rotate the board end-for-end and make the second cut to meet the first cut at the center of the board's thickness (photo 9).

Cut the roof cap to length. Sand the four corners of the board to create a slight chamfer (beveled edge) for a finished look using sandpaper and a sanding block. (You can also use a tablesaw to cut the corner chamfers.) Apply a bead of construction adhesive to both sides of the V-groove. Position the cap at the roof peak so it is flush with the outside faces of the roof gable trim at both ends. Drill 1⁄16-inch pilot holes and nail the cap to the roof with four 2½-inch finish nails, angling the nails so they don't poke through the interior side of the roof deck.

Build and Hang the Door

Rip-cut a 6-foot 2 × 3 board to size at 1¼ inches thick × 2 inches wide using a circular saw and a straightedge guide (or use a tablesaw). Cut a ¾ × ¾-inch rabbet along one edge of the ripped board using a circular saw or a router and ¾-inch rabbeting bit. Using the prepared board, cut the doorframe sides and top and bottom to length, mitering their ends at 45 degrees.

Dry-assemble (no glue) the doorframe and clamp it both directions. Drill two countersunk pilot holes at each corner of the frame, angling the holes through the top/bottom piece and into each side piece (photo 10). Make sure the holes do not interfere with the rabbet on either piece.

Note: If you don't want to rabbet the doorframe pieces, you can cut the glazing a little larger and mount it to the back side of the assembled frame (see Making Doors with [or without] Rabbets on page 34).

Unclamp the frame pieces, apply glue to the ends of each piece, and assemble the frame with two 1¾-inch wood screws at each joint.

Cut the glazing stops from ⅝ × ⅝-inch stock, mitering both ends at 45 degrees. Measure the width and height of the doorframe opening, measuring from rabbet to rabbet. Subtract ⅛ inch from each dimension, then cut the door glazing to this size (see Cutting and Drilling Plastic Glazing on page 35). You will install the glazing after finishing the project.

Mount the door hinges to the doorframe using the provided screws. You can hang the door from either side of the structure, depending on which way you want the door to swing. Mount the door to either of the front corner trim pieces, aligning the bottom of the doorframe with the bottom ends of the front corner trim.

Complete the Project

Remove the door and hinges. Finish the project as desired (see Painting & Staining on pages 39–42 for finishing tips). When the finish is completely dry, fit the glazing into the rabbets of the doorframe and secure it with the glazing stops, nailed at each end and in the center with a 1¼-inch finish nail. Rehang the door as before (photo 11).