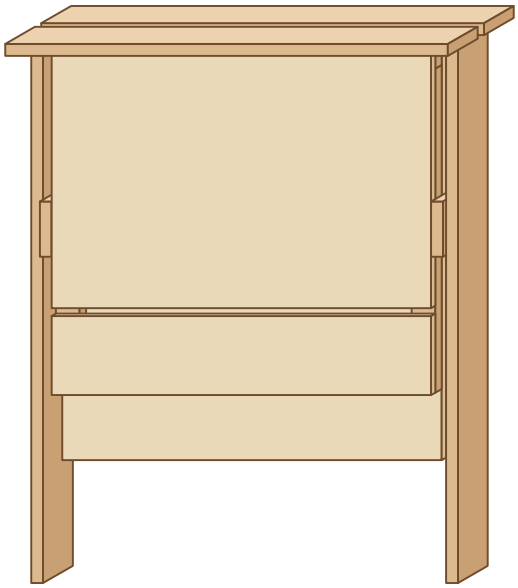
Bat House Plans

A back-to-back pair on posts · Design: Two houses back to back, on poles

Each house in the pair: **24 × 26.5 in**
Roost chamber: **21 × 20.5 in, 0.75 in deep**
Landing area: **4.5 in**
Chambers in each pair: **3**



This is one size of a free plan from FigureYard. For your own size, open https://figureyard.com/plans/bat-house-plans/ and enter your measurements; the shopping list, cuts and drawings change with them. Check local building codes before you build.

Shopping list

Item	Qty
1×2 furring strip, pine, 8 ft long	2 boards
1×4 board, pine or cedar, 12 ft long	1 board
1/2 in exterior plywood (AC, BC or T1-11), 4 ft × 8 ft sheet	2 sheets
Exterior-grade screws, 1 in (84 needed plus 9 spares)	93 screws
Exterior screws, 3 in, for the poles	8 screws
Paintable latex caulk	2 tubes
Dark water-based stain, exterior grade, for the inside	2 pints
Water-based exterior primer	2 pints
Flat water-based exterior paint or stain, in the color for your climate	2 quarts
Galvanized sheet metal for the roof, about 33 × 11 in (covers both houses, with eaves all round)	1 piece
Two wood posts or metal poles per pair, long enough to hold it 12 ft or more off the ground once set	2 posts

Tools

- Tape measure, pencil and a straightedge
- Circular saw or table saw, and a handsaw for the grooves
- Jigsaw for the slots
- Drill/driver and a pilot bit
- Caulking gun and paintbrushes
- Safety glasses and hearing protection

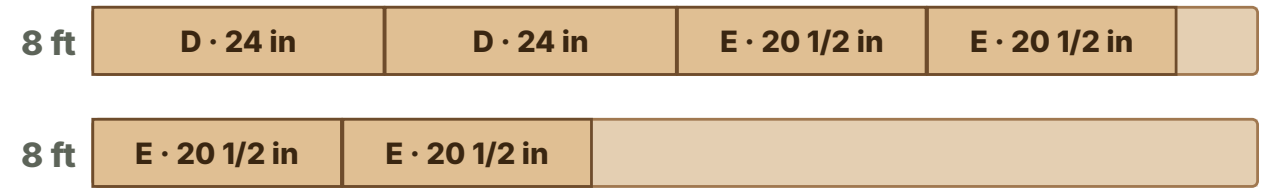
Cut list

Part	What it is	Lumber	Size	Cut
A	Back (the bottom 4 1/2 in below the front is the landing area)	1/2 in exterior plywood (AC, BC or T1-11)	26 1/2 × 24 in	2
B	Front, upper	1/2 in exterior plywood (AC, BC or T1-11)	16 1/2 × 24 in	2
C	Front, lower	1/2 in exterior plywood (AC, BC or T1-11)	5 × 24 in	2
D	Top spacer	1×2 furring strip, pine	24 in	2
E	Side spacers	1×2 furring strip, pine	20 1/2 in	4
F	Roof	1×4 board, pine or cedar	28 in	2
G	Joiners (join the two houses at the sides)	1×4 board, pine or cedar	4 1/4 in	2
H	Side boards (cover the gap between the houses and fasten to the poles)	1×4 board, pine or cedar	34 in	2

Where to cut each board

Each bar is one board you buy, drawn to scale. Measure from the left end, cut, then measure the next piece from the fresh cut; the saw blade takes about 3/32 in each time. Hatched ends are offcuts.

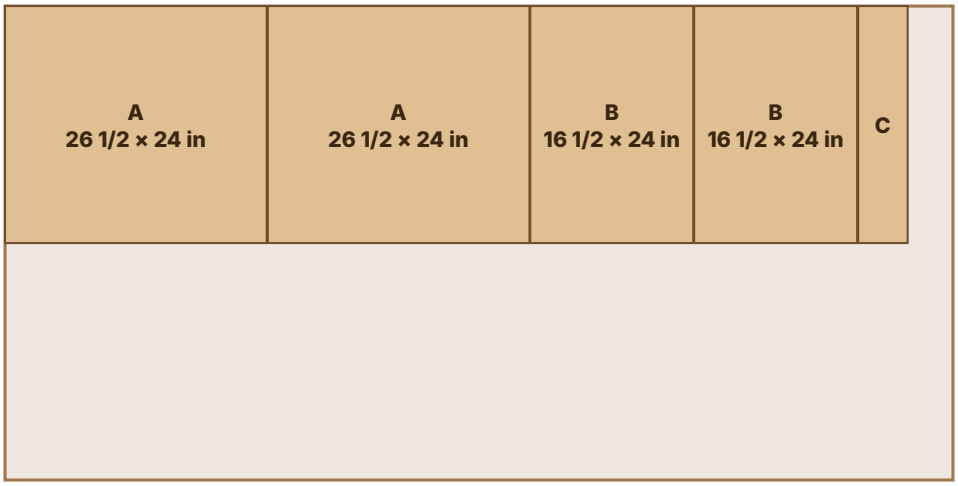
1×2 furring strip, pine



1×4 board, pine or cedar



1/2 in exterior plywood (AC, BC or T1-11), sheet 1 of 2



1/2 in exterior plywood (AC, BC or T1-11), sheet 2 of 2



Step by step

1. Cut the pieces

Cut the back (A), the upper front (B) and the lower front (C) from the plywood, all 24 in wide, following the sheet diagram. Keep the good face of the plywood for the outside.

Cut the furring strip into the top spacer (D), 24 in long, and two side spacers (E), 20 1/2 in long. Cut the roof (F) from the 1×4, 28 in long, and the joiners (G) and side boards (H) from the rest of it.

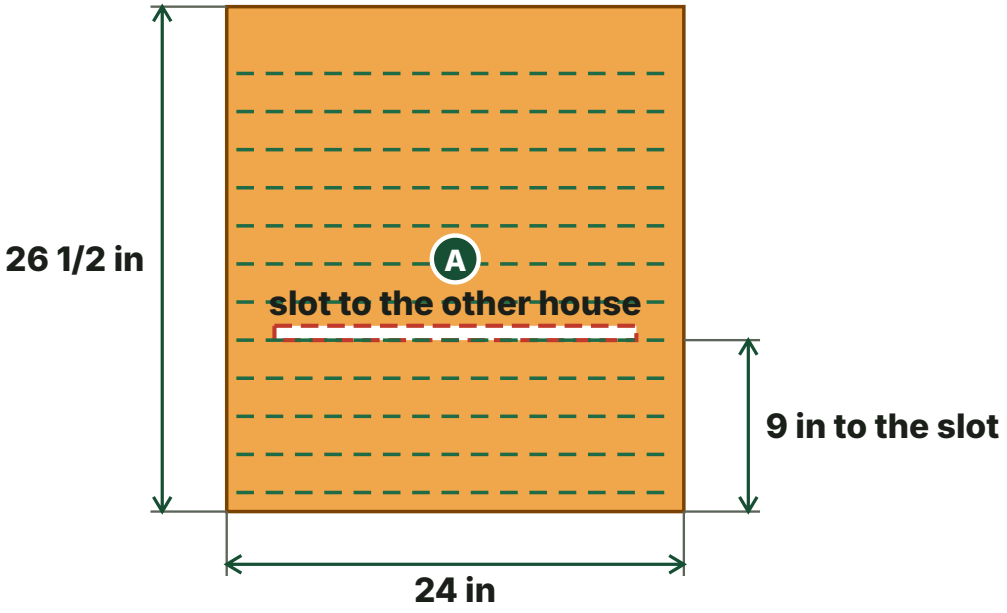
2. Roughen the inside

Bats cling to the wood, so the inside of the back and the landing area need grip. Saw shallow grooves across the back (A), 1/4 in to 1/2 in apart and 1/32 in to 1/16 in deep, all the way down to the bottom edge. Cut no deeper, or the plywood weakens.

For a pair, cut a 3/4 in slot across each back, 9 in up from the bottom edge, so the bats can move between the houses: drill a hole at each end and saw between them.

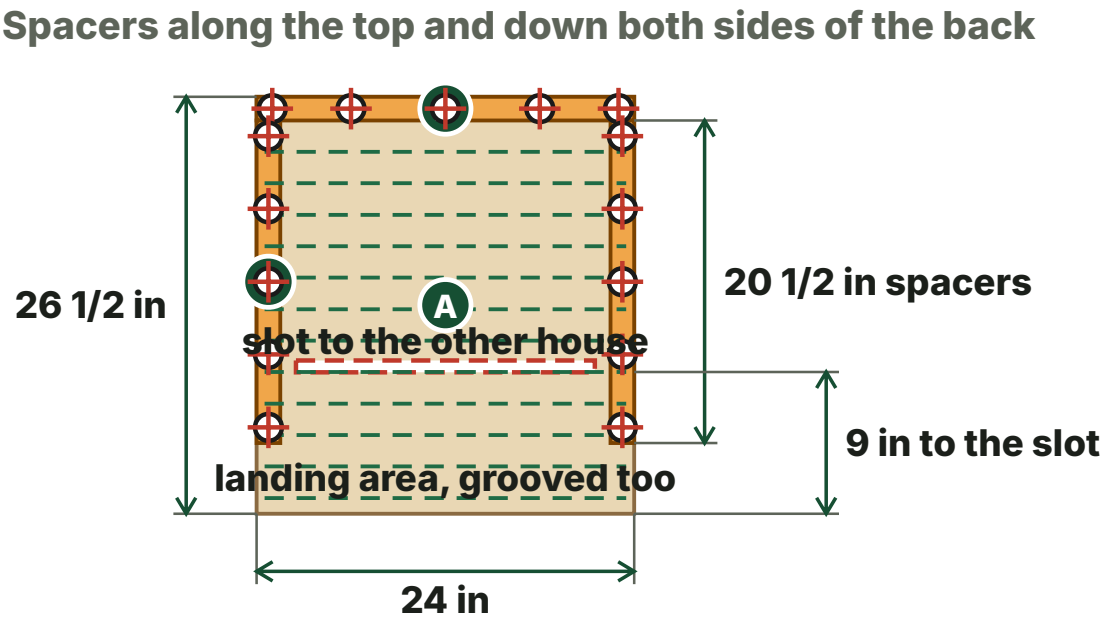
Brush 2 coats of dark water-based stain on the inside faces of the back and the front pieces and let them dry. Do not use paint inside: it fills the grooves.

Inside of the back: shallow grooves across it, landing area included



3. Screw the spacers to the back

Run a bead of caulk where each spacer goes, then screw the top spacer (D) along the top of the back and the side spacers (E) down each edge, below it. The spacers leave the bottom open: that is the entrance.



Screw: caulk the joint first, drill a pilot hole, then drive the screw

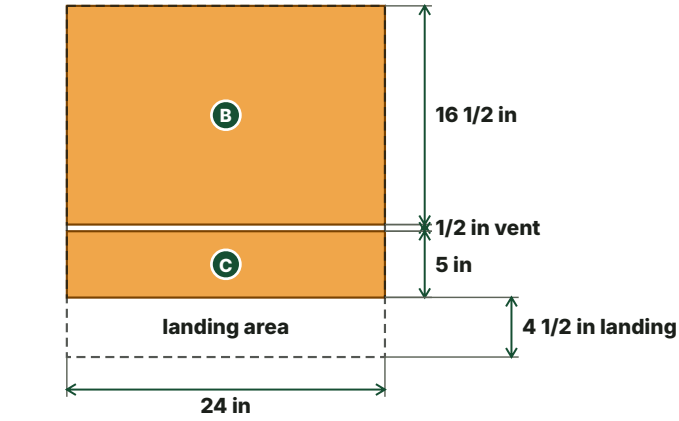
4. Put the front on

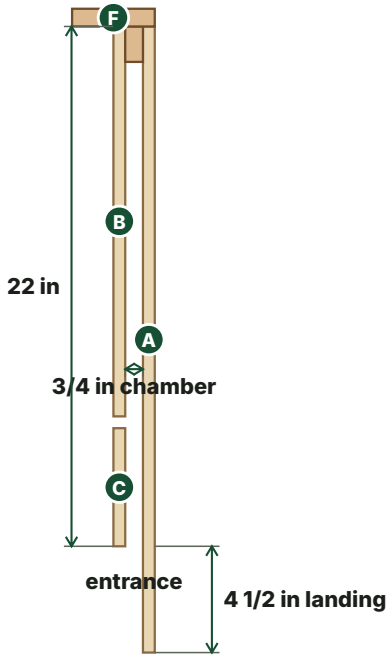
Caulk the spacers, then screw the upper front (B) on, flush with the top. Leave a 1/2 in gap below it and screw on the lower front (C): the gap is the vent that keeps the house from overheating.

Caulk every outside joint so the chamber is dry and free of drafts.

Cut through the middle, from the side: bats enter at the bottom and climb into the cham

Front, seen from outside: the vent gap between the two pieces

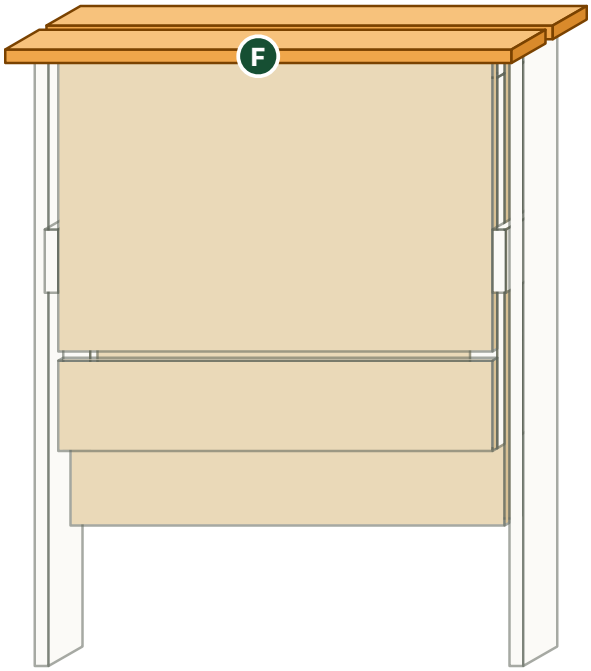




5. Roof and paint

Screw the roof (F) on top, flush with the back, so it overhangs the front and 2 in past each side. Caulk the joint along the top.

Paint or stain the outside 3 times, primer first, in the color for your climate (see below). Cover the roof with shingles or galvanized metal for a longer life, if you like.



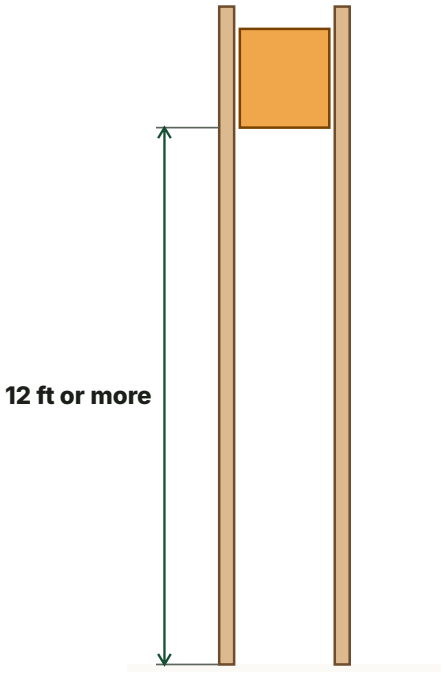
6. Join the pair and put it up

Set the two houses back to back with a 3/4 in gap between the backs: the gap is a third chamber. Screw a joiner (G) across each side to hold them together.

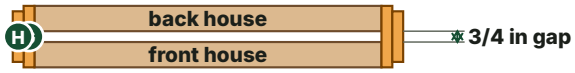
Screw a side board (H) over each joiner, flush with the top: it shades the middle chamber but leaves room for bats and air to get in.

Bend the sheet metal over both roofs with eaves of about 3 in in the South and 1 1/2 in in the North, and screw it down. Screw the side boards to two posts so the houses sit 12 ft or more off the ground, 15 ft to 20 ft is better.

Between two posts, the side boards screwed to them



The pair from above, roof off: the gap between the backs is a third chamber



Good to know

- Use exterior plywood and untreated wood: pressure-treated wood may be toxic to bats. Screws hold better than nails.
- Check it each winter, when the bats are gone: re-caulk and repaint as needed, and look under the metal roof.
- In very cold places, BCI leaves out the vent and makes the front one piece; elsewhere the vent keeps the bats from overheating.