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In this plan you will be getting:

- Step by Step construction instruction.
- A complete bill of materials.
- Exploded view and elevation drawings.
- How-to photos with instructive captions.
- Tips to help you complete the project and become a better woodworker.



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Bat House Bungalow



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Bat House Bungalow

Unless you enjoy sharing the great outdoors with mosquitoes, horse flies and other pesky insects, we'd all do well building a few bat houses for more bug-free living.

This simple project will keep bats living outside instead of in your attic, and it's a great way to improve their habitat. You can build one in just a few hours.



A single brown bat can eat as many as 1,200 bugs every night.

Attracting bats seems a little counter-intuitive, doesn't it? But no other winged creatures can beat a colony of bats for ridding your yard of mosquitoes and other insect pests. In fact, a single brown bat can eat as many as 1,200 bugs every night. (Talk about a midsummer night's dream!) Building a suitable home for bats also keeps these helpful critters out of your attic and chimney—not to mention your living spaces—by improving their habitat.

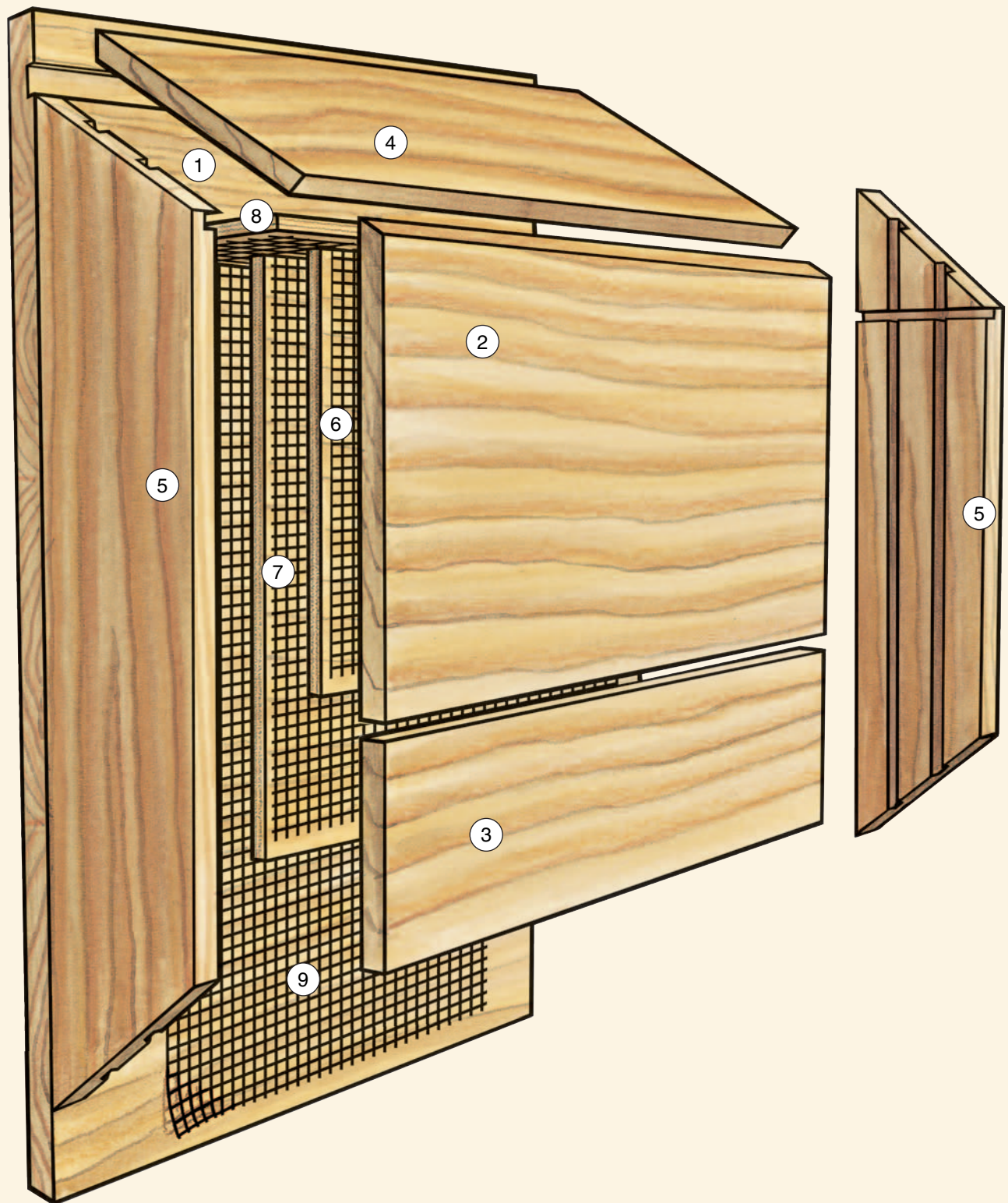
This three-chambered house (which can house up to 300 bats!) is modeled after a design developed and tested by the Organization for Bat Conservation (OBC). It's a simple project that can be tackled easily in an afternoon, and you probably have all the wood you need in your scrap bin already. Use cedar for the exterior parts—it naturally resists decay and contains no chemicals that could harm the bats. BC plywood works well for the interior components.

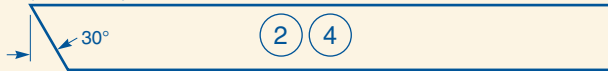
You'll also need a length of plastic mesh with a 1/8" grid pattern to line the inside surfaces of the house for landing and roosting.

Form pairs of dados on the sides before you cut them to final length. Use a power miter box saw to chop their 30° ends, as shown at right (inset photo).



Bat House Exploded View



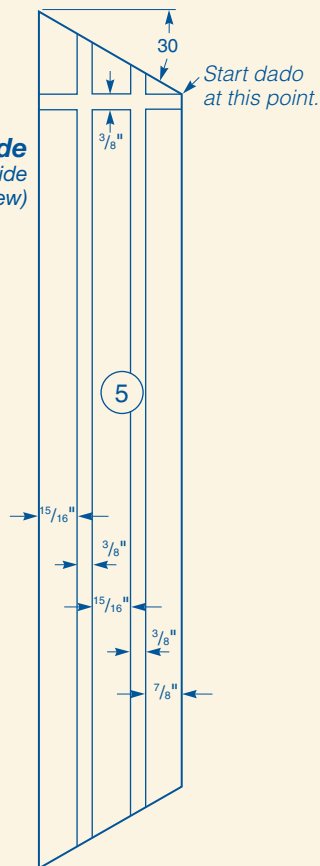


Bevel back edge of roof and top edge of top front panel at 30°.

**Roof Dado
Location**
(Side View)



Side
(Inside
View)



MATERIAL LIST – Bat House

T x W x L		
1	Back Panel (1)	3/4" x 14" x 25 1/2"
2	Top Front Panel (1)	3/4" x 11" x 14"
3	Bottom Front Panel (1)	3/4" x 5 1/2" x 14"
4	Roof (1)	3/4" x 6 3/4" x 16"
5	Sides (2)	3/4" x 3 1/2" x 21"
6	Short Partition (1)	3/8" x 12 7/8" x 10"
7	Long Partition (1)	3/8" x 12 7/8" x 14"
8	Ceiling (1)	3/8" x 3 1/2" x 12 7/8"
9	Plastic Mesh	11" x 82 1/2"

Holy Kick-off, Batman

Start this project by gluing up the cedar panels for the back (piece 1) and top front (piece 2). Any water-resistant adhesive should do the trick for these glue-ups, but polyurethane glue is a great choice. Cut the bottom front panel (piece 3) and roof (piece 4) from more cedar. Rip lumber to width for two sides (pieces 5), and before you cut them to length, plow 3/8" dadoes as shown in the *Elevation Drawings* at left. These dadoes form tracks for the plywood partitions and ceiling. Put your combination blade back in your table saw and tilt it 30° to bevel the back edge of the roof and the top edge of the top front panel. Next, miter-cut the top and bottom ends of the sides at 30° (as shown in the *photo* on page 117). These bevels and miters create the roof pitch.

Plow a wide dado across the face of the back panel, as shown in the *Elevation Drawings*. This groove provides a recess for housing the beveled edge of the roof and helps form a watertight joint. Cut the partitions and ceiling to size (pieces 6, 7 and 8).

Assembling the Bat House

With all the parts milled, it's time for assembly. Fasten the sides to the back with glue and 1 $\frac{5}{8}$ " galvanized deck screws. Cut and staple a piece of mesh to the back panel so it fits between the sides and stops at the ceiling dadoes. Use 1/4" or 5/16" galvanized staples, and staple liberally.

Cover both faces of the partitions with mesh as well as the inside face of the ceiling. Make sure the mesh does not interfere with the edges and ends that must fit into the dados.

Once the mesh is securely stapled in place, slip the ceiling into its dados so the mesh is inside the bat chamber.



We used Franklin's hot-melt polyurethane for assembly, but any water-resistant glue should work fine. Titebond II or III would work also.

Spread a thin coating of glue along the partition dadoes, and slide the partitions into place. A couple of brad nails will help secure them, too. Wipe off any excess glue that squeezes out.

The roof and front panels go on next. Cover the back face of the top front panel with mesh, staple it on and attach the panel to the sides with glue and finish nails. Align the beveled edge with the top angled ends of the sides before driving the nails (see the *photos* on this page). After stapling the mesh to the bottom front panel, position it on the sides, leaving a 1/4" ventilation gap between it and the top panel. Secure it to the sides with more glue and finish nails.

To install the roof, first apply a bead of silicone caulk along the shallow roof dado on the back panel, and spread glue onto the rest of the contact surfaces. Adjust for an even overhang all around and nail the roof to the sides.

Finishing and Hanging Details

The assembly process is complete, but the bat house exterior should now be finished with stain or water-based primer and paint. The goal of the finish is to absorb as much sunlight as possible to warm the house. Choose a black finish if the average temperature in your area is less than 85°F in July, a medium color like brown or gray for temperatures closer to 100°, and white paint or stain for houses in southern regions where temperatures exceed 100° regularly.



The mesh-covered partitions create an ideal bat roosting habitat. Glue and nail the partitions in place.



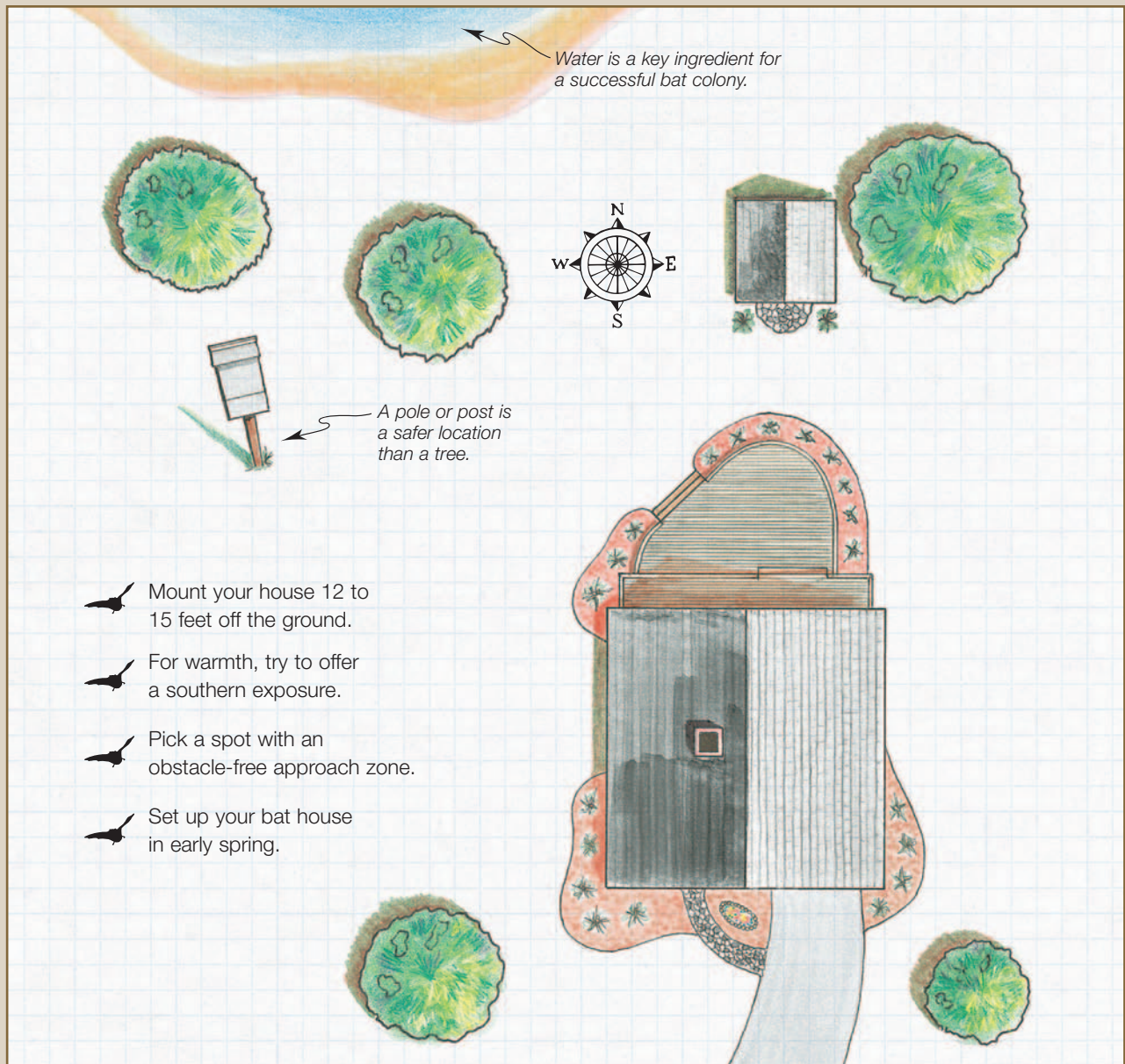
Finish nails secure the front of the bat house. All the internal surfaces have mesh stapled firmly in place.

QuickTip

Upside-down Planing for Small Parts

Need to plane a small part? Then clamp your jack plane upside down in the end vise of your workbench. This way, the wood can be moved across the plane in full view, rather than trying to work on a part that is obscured by the body of the plane. If the part is so small that your fingers may contact the blade, attach a handle to the workpiece. This handle can be a scrap of wood that is clamped on or even temporarily attached with hot-melt glue. Moving the wood rather than the plane has one other advantage: you can see when the mouth of the plane gets clogged as soon as it happens.

LOCATING A BAT HOUSE



Good bat house design is only part of the formula for attracting bats. Location, location, location is crucial, too. The Organization for Bat Conservation recommends attaching the house to a building or mounting it on a pole. Trees will work, but a leaf canopy may make the house harder for bats to find. Choose an open location free of obstructions like branches or power lines.

Erect the house so it's at least 12 to 15 feet off the ground and, when possible, face it so it receives at least six hours of direct sunlight. Typically, southern or south-eastern exposures are best. Bat houses hung in the early spring have the best chances of being occupied in the first season. If your house remains vacant the first year, experts say to wait at least two more years before relocating it.