

My Favorite Martin House

A timeless design for purple martins

BY MIKE BERGER



Bring the past alive with this nostalgic yet functional purple martin house.

Attracting birds to your backyard rewards you with splashes of color and delightful songs and can even help eliminate bugs. Establishing a purple martin colony is perhaps the pinnacle of this endeavor, and the only way to do that is to build the birds a residence.

This design is based on a 100-year-old martin house I rescued from an abandoned farmstead. Though the house had never failed to entice these endearing birds, it had flaws. The entrance holes were too big, the porches too narrow and the house itself too hard to clean. (It was nailed to the top of a 20-ft. pole.) But by incorporating a few design changes inspired by modern ornithological research and adding an effective mounting system, I was able to bring this timeless design into the 21st century.

PHOTOS BY MARK MACEMON
ILLUSTRATIONS BY TECH ART & DESIGN

Building sequence

When building a martin house — or any birdhouse — choose wood that's both rot-resistant and insulating, such as Western red cedar. (Cypress would be another good choice.) Don't use pressure-treated lumber; you don't want to expose the eggs or nestlings to the chemicals involved in the treating process. Because the structure will be exposed to the elements year-round, use an exterior-rated adhesive and only stainless steel fasteners.

To start construction, cut the fronts, backs and sides of the nesting levels to size, and bore the 2-in. entrance holes. Then assemble the two nesting levels — I used polyurethane glue and stainless steel wood screws.

Cut the slots for the lap joints in the nesting dividers with a jigsaw, slip the divider walls together and insert the assemblies into the nesting levels, attaching them to the perimeter walls. Then cut and attach the floor panels.

To make the mounting supports, start with two 32-in. lengths of cedar 2x6s. Form a saddle joint by first making successive cuts with a circular saw (with the blade set to a depth of 3/4 in.) and then removing the waste with a sharp chisel. Glue the two lengths together. After the glue cures, bore a 2-1/2-in. hole through the center and two 1/2-in. holes as indicated in the drawing (p. 48). One of these 1/2-in. holes will serve as a guide for



Use either a hole saw or a Forstner bit to drill the 2-in. entrance holes. Be sure to clamp the workpiece to the bench and drill at a slow speed.



When cutting the lap joints in the nesting dividers, clamp the workpiece securely to the bench. If you're using cedar, a light tap with a hammer will knock away the waste.



Glue and clamp the perimeter walls together and insert the nesting dividers. Check for square, and then drive in stainless steel screws for added strength.

the lifting cable, and you'll attach a 1/2 x 3-in. stainless steel eye bolt that holds the lifting cable through the other for mounting the house. Secure the completed mounting support to the bottom of the first level.

Construct the roof assembly by first cutting its floor, roof panels and walls to size. Bore a 2-in. hole in each of the walls, and cover the holes from the inside with fine-mesh screen. Then attach the walls to the floor and the roof panels to the walls.

Cladding the roof

To create the copper roof cladding, first construct a simple sheet-metal break from a length of lumber that has been cut to produce a sharp edge. (You can use anything with a sharp, defined edge as a break, as long as it provides a continuous bending surface.) And though there are a variety of suppliers, we found our copper at Meisel Hardware Specialties (see SOURCES and Shopping List). Cut the copper to size with sheet-metal snips, lay the sheet on the break (allowing a 9/16-in. overhang) and clamp on a second length of wood to secure the copper sheet. Then use a mallet to tap down the overhang.

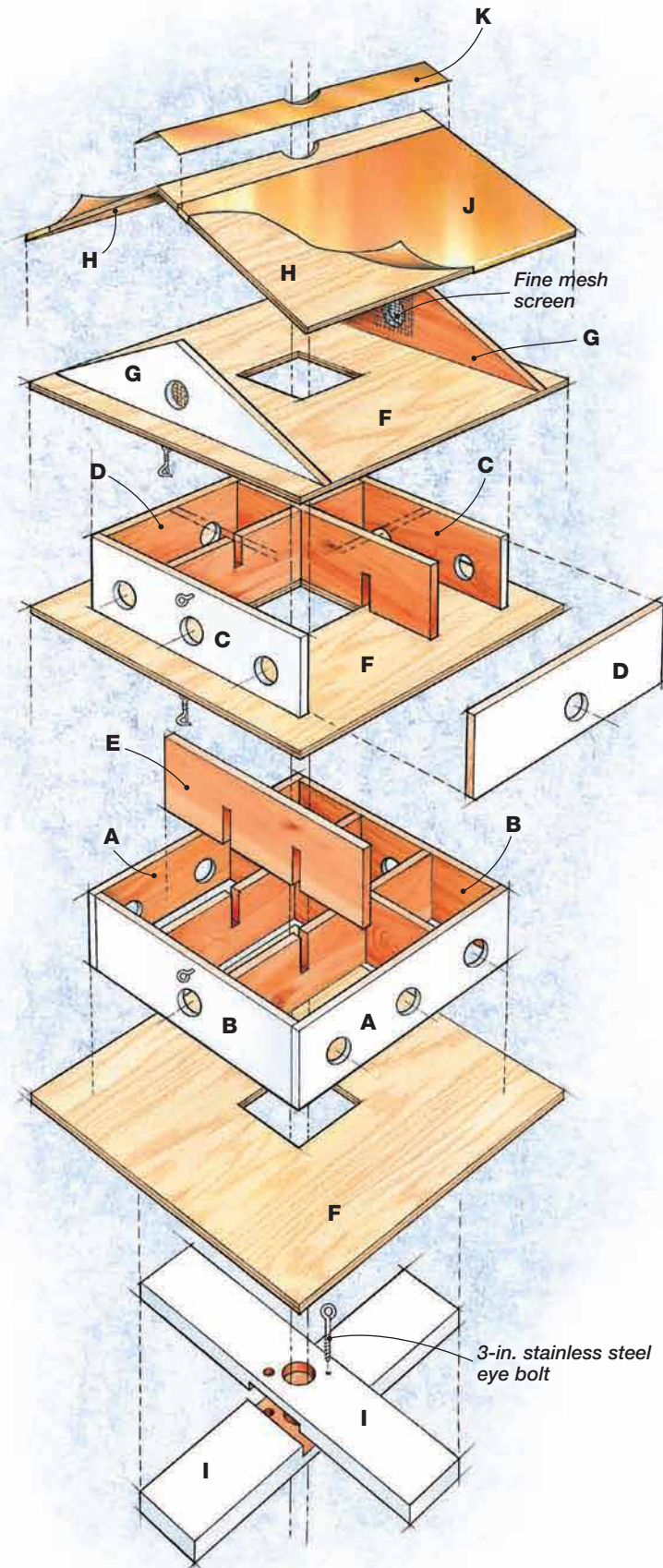
Attach the two main copper roof sheets to the plywood with outdoor-rated construction adhesive, and then glue down the copper ridges. Once the adhesive has set, paint the house white and attach four sets of positive-locking hooks and eyes (two sets per floor), with the eyes screwed into the floors of the second level and the roof assembly, and the hooks screwed into the walls of the first and second levels. These fasteners help to secure the levels to each other once the house is lifted into the air.

Mounting the house

You might be surprised by the weight of a completed martin house — it's too heavy to haul up and down a ladder. For safety (and because of the need for constant nest maintenance), I use a winch system (see drawing, p. 50) to raise and lower my martin house. A

cont'd. on p. 50

MARTIN HOUSE COMPONENTS



MATERIALS AND CUTTING LIST

KEY NO.	DESCRIPTION	SIZE
A	21st floor front/back	7/8 x 7 x 24-1/2 in.
B	21st floor sides	7/8 x 7 x 22-3/4 in.
C	22nd floor front/back	7/8 x 7 x 24-1/2 in.
D	22nd floor sides	7/8 x 7 x 22-3/4 in.
E	8Nesting dividers	7/8 x 7 x 22-3/4 in.
F	3Floor panels	1/2 x 32 x 32 in.
G	2Roof gables	7/8 x 7 x 32 in.
H	2Roof panels	1/2 x 18 x 32 in.
I	2Base supports	1-1/2 x 5-1/2 x 32 in.
J	2Copper roof cladding	6 x 33-1/8 in. x 32-gauge
K	1Copper roof ridge	8 x 33-1/8 in. x 32-gauge

SHOPPING LIST

- 8-ft. 1x8 cedar boards (5)
- 8-ft. 2x6 cedar board (1)
- 3-in.-sq. sections of fine-mesh screen (2)
- 4x8 1/2-in. exterior plywood sheets (2)
- No. 8 x 1-5/8-in. positive-locking screw eye (4)
- 3-in. stainless steel eye bolt (1)
- 2-in. stainless steel screws
- No. 9863 copper coil from Meisel Hardware
- Polyurethane glue
- Outdoor-rated construction adhesive

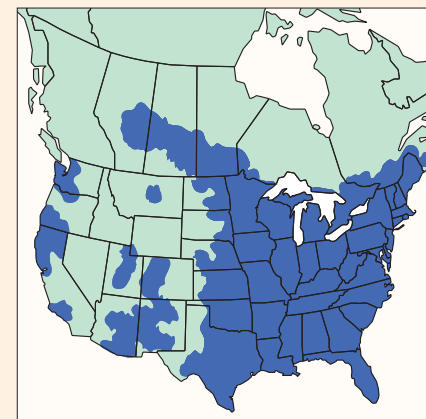
A PURPLE MARTIN PRIMER

Purple martins are the largest members of the swallow family in North America. The adults average 7 to 8 in. long and have a wingspan of about 12 in. The adult male is entirely purple-black, while the females and young males are dark on the back with gray undersides.

Martins spend winters in South America and migrate north each year to nest (see range map, below). The male typically selects the nesting cavity and then sets about attracting a mate. Both male and female birds begin the nest, but the female usually puts the final touches on it.

Once the female has laid her eggs, she does most of the incubating; however, the male will occasionally relieve her for short spells. About 16 days after brooding begins, the young hatch. Both parents feed the young, with the average time from hatching to fledging being about 28 to 30 days.

As summer winds down, both adults and fledglings form large premigratory roosts, preparing to make the trip south.



Normal summer range of the purple martin.



PHOTO BY STEVE AND DAVE MASLOWSKI

Then suddenly something goes off and so do they, beginning the migration back south.

Purple martins eat flying insects (such as moths and butterflies, grasshoppers and dragonflies), taking them on the wing. But don't be fooled into thinking that a martin colony will drastically reduce the number of mosquitoes in your yard. On average, a martin's diet consists of no more than 3 percent mosquitoes. — MB

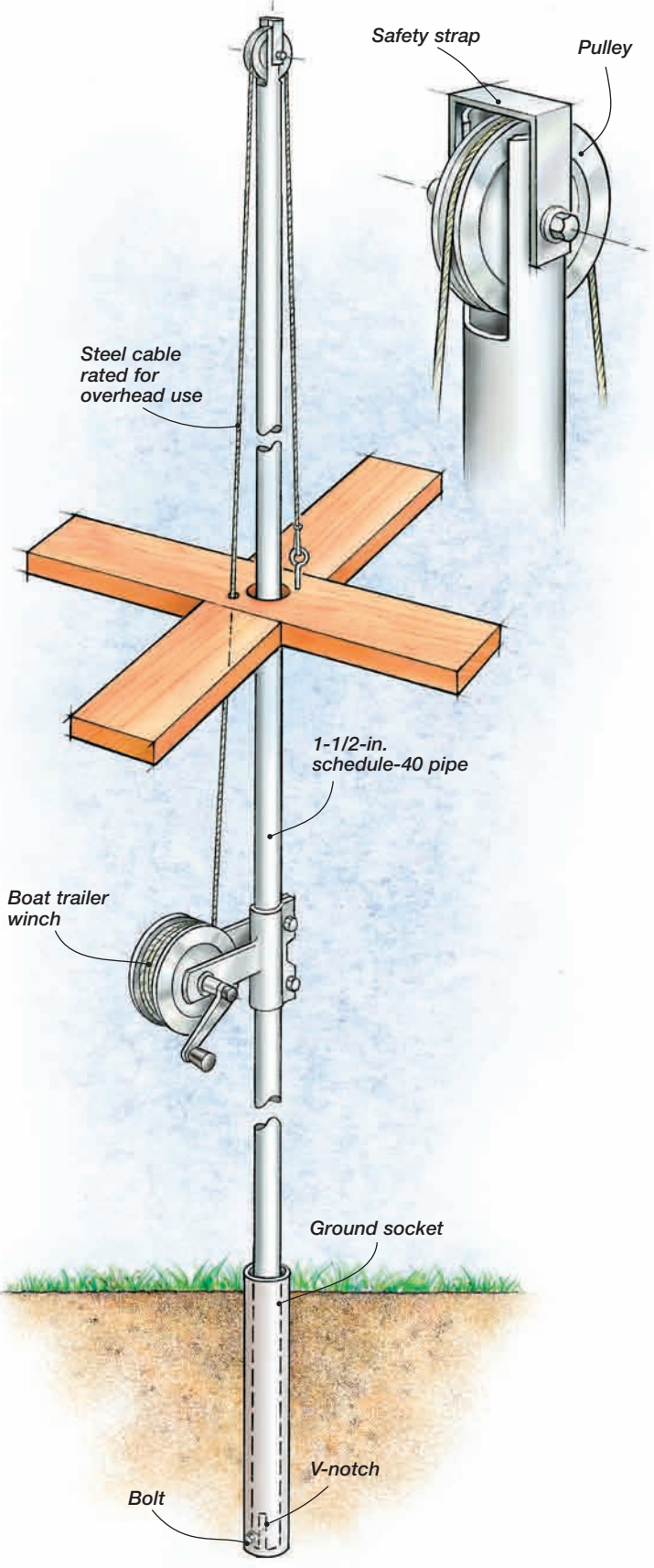


When drilling the 2-1/2-in. center hole, clamp the mounting support firmly to the work surface to prevent the torque from the hole saw from spinning the assembly.

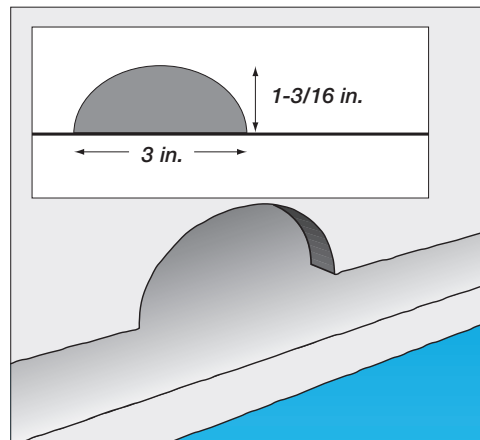


Cover the inside of the gable holes with fine-mesh screen; then assemble the roof components.

LIFTING SYSTEM



When forming the copper, gently and repeatedly work down the length of the bend, gradually creating the 9/16-in. edge for the overhang.



Because of the devastating effect European starlings have had on martin populations, you may want to incorporate this starling-resistant entrance hole into your design if you live where starlings are prevalent. This 1-3/16-in.-high crescent-shaped entrance keeps out most starlings while allowing martins easy access.

boat trailer winch from a marine supply store, a pulley and safety strap, a length of steel cable rated for overhead lifting (never use rope) and a long steel pole are all you'll need to create a safe lifting system.

cont'd. on p. 52



Use an outdoor-rated construction adhesive to attach the formed copper panels to the roof. Glue the large panels down first, then the ridges.

For the mounting pole, use 1-1/2-in. schedule-40 welded steel pipe (1.900-in. o.d., 1.610-in. i.d.). Don't mount the pole itself in concrete; rather, install a ground socket, which is nothing more than a 30-in.-long section of 2-in. schedule-40 welded steel pipe (2.375-in. o.d., 2.067-in. i.d.). The mounting pole slips easily into the ground socket and makes any pole-repair tasks simpler.

To keep the mounting pole from spinning in the ground socket, drill a 7/16-in.-dia. hole 3 in. from the

bottom of the ground socket. Insert a 3/8-in. x 2-1/2-in. bolt through the hole and attach a nut. Then cut a corresponding V-notch in the base of the mounting pole. (The notch will sit astride the bolt and prevent spinning.)

To mount the pulley, use a hacksaw to cut a slot in the top of the mounting pole as shown in the illustration and drill a hole for the pulley's bolt. Make a safety strap from flat stock, and attach both the safety strap and the pulley with a 5/16-in. x 2-1/2-in. stainless steel bolt.



The spring-loaded catch on the positive-locking hook-and-eye fasteners keeps them from coming undone once the house is raised into the air, and the hooks aid in keeping all the floors aligned.

Drill holes through the base of the mounting pole to suit the needs of the boat trailer winch, but do not install the winch yet. Set the house over the ground socket, feed about 40 ft. of steel cable through the top pulley of the mounting pole (so that the cable is evenly distributed) and insert the mounting pole into the ground socket. Have a helper lift the martin house above the mounting point for the winch; then bolt the winch to the pole. (You can then temporarily rest the martin house on the winch.)

Feed one end of the steel cable down through the house and out the bottom guide hole and attach it to the winch. Pass the other end of the cable down through the house and attach it with a cable fastener (again, rated for overhead lifting) to the eye bolt that's secured to the mounting support. Latch all of the eye hooks; then slowly turn the winch until you've raised the martin house to the appropriate height.

SOURCES

- American Birding Association**
(719) 578-9703, www.americanbirding.org
- Cornell Lab of Ornithology**
800-843-2473, <http://birds.cornell.edu/>
- Meisel Hardware Specialties** (copper)
800-441-9870, www.mesielwoodhobby.com
- National Audubon Society**
(212) 979-3000, www.audubon.org
- Purple Martin Conservation Association**
(814) 734-4420, www.purplemartin.org
- The Purple Martin Forum**
<http://forum.purplemartin.org/forum/>
- The Purple Martin Society, NA**
(630) 850-8529, www.purplemartins.com

PROPER HOUSE PLACEMENT

The main reason people fail to attract martins is that the martin house is not placed correctly. Martins do not like trees, so don't pick a heavily wooded site. Locate the house as far away from any nearby obstruction as the obstruction is tall. For instance, if you have a 60-ft. tree in your yard, place your martin house at least 60 ft. from that tree. Also, make sure to place your martin house at least 30 ft. from your home.

A source of good clean, fresh water (such as a small freshwater pond or a nearby stream) is another major advantage in attracting martins. However, martins have been known to fly as far as 2 miles for water.

Attracting martins is only half the battle. To keep them coming back, you'll need to be an effective landlord. Your No. 1 responsibility will be driving away nuisance birds such as starlings and sparrows — both love to invade martin houses. Once either species takes hold, it's almost impossible to get rid of them.

Actively checking the nests is crucial to the survival of a martin colony. Contrary to popular belief, martins will not abandon their nests or young if you handle them. In fact, martins have come to almost expect it. Don't be afraid to lower the house regularly to do egg counts, check on the health of nestlings and dust for parasites such as mites or blowflies. (Check with the organizations listed in SOURCES for information on appropriate pesticides.) By acting as a responsible caretaker, you'll enjoy years of watching the comings and goings of generations of purple martins — and the satisfaction of having done your part to preserve this important species. — MB