

Enhanced Gilbertson Bluebird Nest Box



Materials

Note: #1 do not use **TREATED LUMBER**

#2 white exteriors will reduce nest box internal temperatures by 5-10 degrees Fahrenheit

- 4" diameter thin wall PVC pipe
- 4" diameter pipe test cap
- 1 X 6 (3/4" thick) board
- 1 X 8 (3/4" thick) board
- 2 X 4 stud
- 8 1/4" wide primed Hardie Cedar Mill cement fiber siding
- #6 5/8" pan head screws
- #7 2 1/2" coated wood screws
- 1 5/8" square head trim screws
- 1 1/4" galvanized joist hanger nails (for door latch)
- exterior wood filler
- weatherproof wood glue
- heavy duty PVC glue

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- polyurethane exterior grade construction adhesive
- exterior grade paint or oil-based wood preservative (see Note #2 above)
- exterior grade spray primer paint
- exterior grade spray paint – color to complement the exterior finish to be used

Parts Preparation

Note: Wear proper safety equipment at all times when engaged in parts preparation and assembly. When cutting cement fiber materials, be sure to wear an approved respirator and follow the manufacturers instructions for working with this material.

1. Cut an 8” length of 4” diameter thin wall PVC pipe. This piece of pipe will form the nesting cavity.
2. Glue a 4” diameter pipe test cap in one end of the nesting chamber. Stand the nesting chamber on end with the glued pipe cap at the bottom, place a heavy weight such as a patio block on top to ensure a good seal is made. Let the glue set per manufacturer’s instructions.
3. Drill a 3/8” centered drain hole in the glued pipe cap end of the nesting chamber.
4. Measure 1 3/4” down from the open end of the nesting chamber and make an index mark. Drill a 1 1/2” diameter entrance hole in the side of the nesting chamber using the index mark as the top edge of the hole. Clean the hole of all loose plastic strands.
5. Cut five evenly spaced shallow parallel grooves under the entrance hole to provide traction for the adult bluebirds when feeding the nestlings. Clean the grooves of all loose plastic strands.



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- Cut two 5/8" wide X 2 1/2" long vents in the rear of the nesting chamber. The vents will be located 3" horizontally from either side of the entrance hole and 1 1/4" vertically from the open end of the nesting chamber. A 5/8" drill saw bit can be used to make the vents. A rough flat file can be used to smooth any rough edges left by the saw bit. Clean the vents of all loose plastic strands.



- Cut the inner wood roof from a 1 X 8 board. The length of the inner wood roof is 10 inches.
- Cut the back from a 2 X 4 stud. The length of the back is equal to the width of the top.

Note: a 15/16" diameter X 1 1/4" deep hole can be drilled in the bottom of the back to facilitate mounting the completed nest box when using 3/4" diameter EMT conduit as the mounting pole.



- Cut the nesting chamber guide from a 1 X 6 board. The length of the guide is 7 inches.

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10. Mark the center of the nesting chamber guide (point of intersection of the diagonals) and cut a 4-inch diameter hole in the center of the guide. A 4" diameter bi-metal hole saw does a good job of cutting the holes. **Using a jig to secure the nesting chamber guide during the hole-cutting step is a good idea since a lot of torque is required to drive the hole saw. A simple 3-sided jig can be made from 1 X 6 boards to secure the guide.**

Note: Save the 4" diameter round hole piece as a plug for painting purposes later in the assembly process.



11. Cut the nesting chamber guide rails from 1 X 6 lumber. Each rail consist of two pieces. The bottom components are 7" long X $\frac{3}{4}$ " wide X approximately $\frac{9}{16}$ " thick. The additional $\frac{1}{16}$ " provides the vertical clearance needed for the nesting chamber guide to slip in and out of the rails like a drawer. The top components of the rails are 7" long X $\frac{3}{4}$ " thick X 1" wide. The extra width provides the "lips" needed to retain the nesting chamber guide when it is inserted.



12. Cut a 12" length of Harding siding for the outer roof. Be sure to follow the manufacturer's instructions regarding working with this material.

Assembly Instructions

1. Secure the 1 X 8 wood inner roof to the 2 X 4 back using a good quality weatherproof wood glue and three # 7 2 ½” coated screws.



2. Assemble the guide rails. Center the nesting chamber guide on the underside of the wood outer roof. Place the lower guide rail components on either side of the nesting chamber guide. Allow a little clearance between the lower guide rail component and the guide and ensure the 9/16” end is up to provide the vertical clearance needed. Secure the lower guide rail components to the underside of the outer roof with a good quality weatherproof glue and 1 5/8” square head trim screws. Be sure to drill 3/32” pilot holes for the screws.

Secure the upper guide rail components to the lower guide rail components using a good quality weatherproof glue and 1 5/8” square head trim screws. Ensure the 1” wide lip extends to the inside to form the guide rail.

Be sure to remove the nest chamber guide from the rails and clean any glue from it. Clean up any excess glue around the rails.

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3. Slip the nest chamber guide over the top of the round nesting chamber so that fits flush with the top. Align the nesting chamber entrance hole with the center of the guide and make an index mark across the top of the nesting chamber and guide for alignment purposes. Drill four 1/8" holes at (0 degrees, 90 degrees, 180 degrees, and 270 degrees) through the sides of the nesting chamber into the nesting chamber guide. #6 X 5/8" pan screws will be used to secure the nesting chamber to the nesting chamber guide later in the assembly process.



4. Spray paint the interior of the round plastic nesting chamber dark brown to simulate the interior of a nesting cavity and also blocks light that would otherwise come through the normally opaque plastic.
5. Spray paint the exterior of the round plastic nesting chamber a light color to suit your requirements. After the paint dries thoroughly, spray paint a clear coat over it to extend the useful life of the nesting chamber.
6. Center the outer wood roof on the underside of the Hardie siding cement fiber outer roof allowing approximately 1/2" siding overhang at the rear. Mark around the perimeter of the outer roof and remove the wood outer roof component. Use the rectangle created on the Hardie siding as guide when applying polyurethane construction adhesive. Apply thin beads of construction adhesive within the marked rectangle

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and clamp the wood outer roof securely to the underside of the Harding siding cement fiber outer roof until the adhesive sets per manufacturer's instructions.

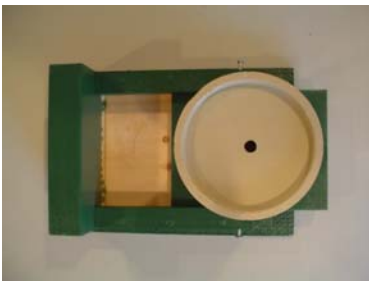
7. Use a good quality exterior wood filler to fill all screws holes.
8. Place the nesting chamber guide in the guide rails and insert the round wood plug from the hole-cutting step in the guide chamber hole. Spray paint the nest box a light color to suit your requirements.

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9. Remove the painted nesting chamber guide and attach it to the round plastic nesting chamber using four #6 X 5/8 pan head screws through the previously drilled holes.



10. Insert the nesting chamber in the guide rails and turn the nest box upright so the drain hole is down. Drill a 5/6" hole through the right guide rail into the nesting chamber guide to form a locking pin hole. Insert a galvanized 1 1/4" joist hanger nail in the hole as a locking pin.



Assembly complete.