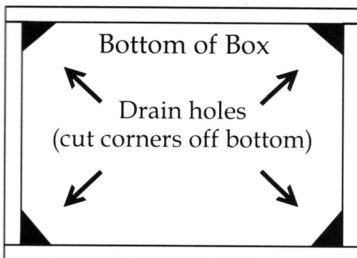


Construction and Installation Tips

1. Tilt roof: The flat roof boxes in this booklet are used because they are easy to construct. However, water collects on these roofs and shortens the life of the box. By cutting a few angles (see Plan 4), flat tops can be angled. Another alternative is to use metal flashing to cover all flat tops. Paint the flashing to blend with the environment. (Refer also to tip 18)

2. Provide a hinged side or roof so the house can be easily checked and cleaned each year. Hinges should be rustproof. Duck and owl box roofs fastened with a hook and eye can be opened by Raccoons. It is much better to use several paired roofing nails with large heads. One nail from each pair goes on the side of the roof, the other on the upper edge of the side. Wire these paired nails together.

3. Cut corners off bottom, or drill at least four 1/4" diameter drain holes in the bottom of every house.



4. Don't put perches on any bird house. Only House Sparrows and European Starlings prefer perches. If you have a house with a perch, remove the perch. A slab of wood with the bark attached may be placed horizontally under the entrance hole of a Wood Duck or Common Merganser box to make it easier for landing at the entrance.

5. Porch overhang: The top front edge of a bird house roof should overhang from two to four inches to help protect the entrance hole from wind driven rain and to keep cats from reaching in from above.

6. Ventilation: At least two 1/4" holes should be drilled near the top of the right and left sides of all bird houses (except duck boxes and winter roost boxes) to provide ventilation. Ventilation is especially important for small boxes.

7. Screws and nails: Use galvanized nails to build houses, but remember that they may loosen up as wood expands and contracts in Pennsylvania's extreme weather conditions. *It's best to use galvanized, all weather (exterior) decking or drywall screws.* They won't come loose, nor will they split wood as readily as nails.

8. Recessed floor: The sides of a bird house should enclose the floorboard; don't nail them to the top of the floorboard. (The Purple Martin box is the exception) Floors that are recessed about 1/4" are less prone to deterioration caused by moisture.

9. Temperature extremes: Do not use tin cans, milk cartons or metal as nest box materials. These will not insulate the young from temperature extremes. Plastic, fiberglass or metal Wood Duck boxes should be placed where they get some afternoon shade.

10. Wood is good: Wood is the best material for houses. Three-quarter-inch boards are the easiest to work with. Softwood such as pine is fine for smaller boxes, but cedar should be considered for larger ones. Pine or exterior plywood can be used for duck boxes. A well constructed house should last 10 to 15 years.

11. Non warping roof: Exterior plywood (T 1-11) weathers well and does not warp. For this reason, it is recommended for the roof, even when other materials are used for the rest of the box.

12. Best construction: Remember to allow for the width of the saw blade when marking a board.

13. Lumber purchased at lumber yards is smaller than its standard description. For examples: a 1" x 6" board is actually 3/4" x 5 1/2". A 2" x 4" is actually 1 1/2" x 3 1/2". The plans in this book use the actual dimensions of boards, to make the most efficient use of wood.

14. Unfinished boxes made of pine, spruce or exterior plywood will turn gray and last for years.

15. Finishes: Do NOT use creosote, pentachlorophenol (penta) or wood treated with green preservative (except for posts). The green, cooper-based preservative, when exposed to water, can produce poisonous vapors. Exterior finishes should blend with the environment. This will reduce vandalism. Boxes in sunny and "safe" locations can be stained or painted with a light color to reflect heat. If you want a colored structure, semi-transparent oil-based stains or water-based exterior latex is good. A single application will last three to five years. Put several coatings on the back and top. *Leave box insides unfinished.* Air the box for a week or two after painting, then it's ready to be placed for birds.

16. Inside ladder: The inside front of all large boxes should be roughed or grooved with a file, saw or wood chisel to help young birds leave the nest in a timely manner. There should be an