

# ***Addendum to Build a Barn Owl Box***

***Modeled after an Original Design by  
Steve Simmons***



*Natalia Daraselia, age 14, free-hand drawing from a published image.*

***Lee Pauser***

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## Foreword

This document is an addendum to the document titled *Build a Barn Owl Box* which is modeled after an original design by Steve Simmons and dated February 27, 2012.

In this addendum I provide details on several modification and additions to the original nest box that in my experience with Barn Owls can increase the owl's nesting success.

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## Build a Larger Nest Box by Reducing Material Waste

The below usurps the section titled **Cutlist** on pages 11 and 12 in the original document.

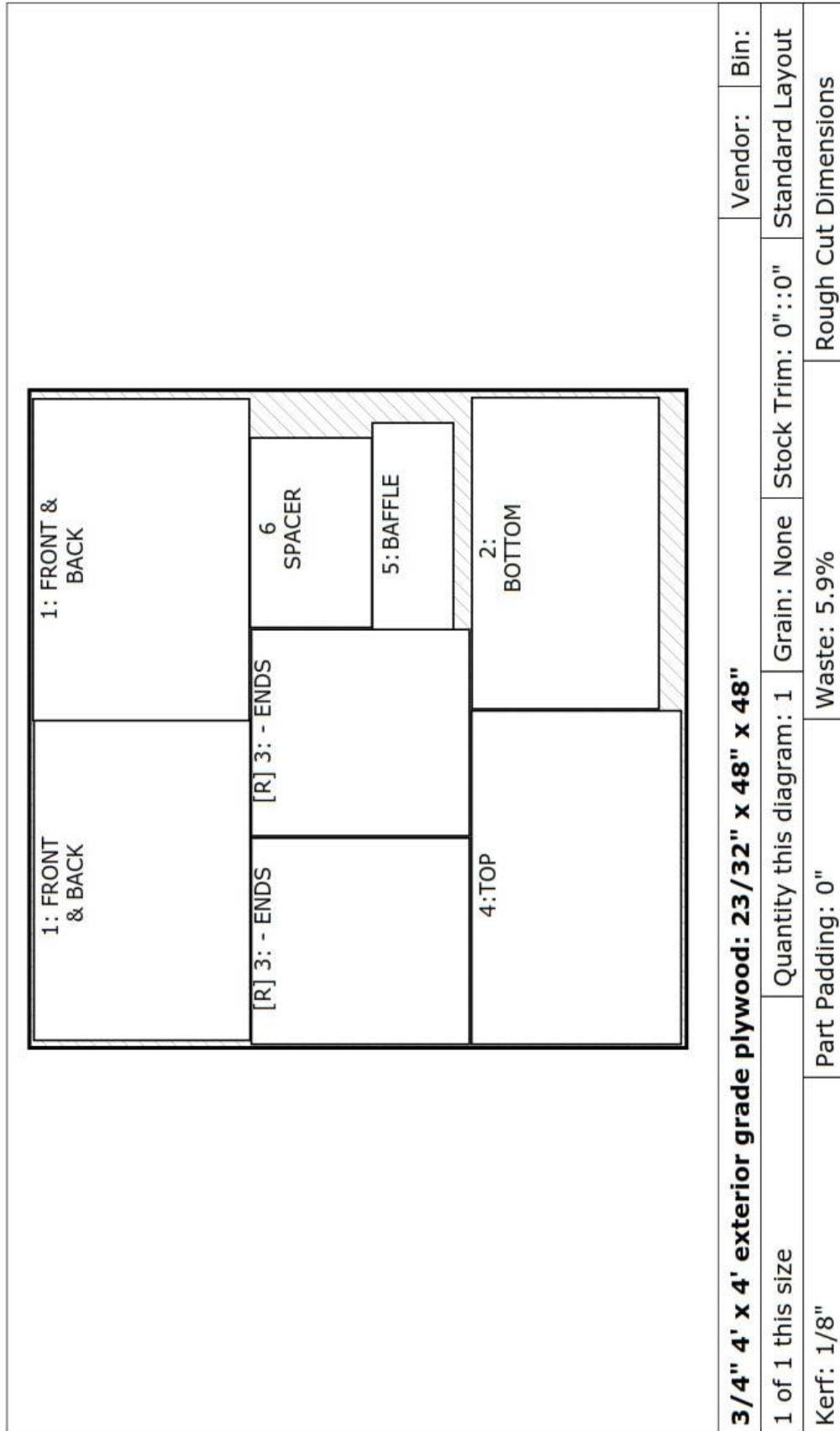
The cutlist on the next page shows a layout for cutting the parts for one box from a 4' x 4' sheet of plywood. A larger box results having reduced material waste to a minimum.

Note that the TOP and the RIGHT END are cut sufficiently long that they can each be sawn into two separate parts—the TOP and TOP DOOR, and UPPER RIGHT SIDE and CLEAN OUT DOOR. Once cut, keep the parts paired to insure a snug fitting assembly with minimal water entry.



The below parts list provides additional details.

<b>Part #</b>	<b>Description</b>	<b>Copies</b>	<b>Width</b>	<b>Length</b>	<b>Note</b>
1	FRONT & BACK	2	16"	23-3/4"	
2	BOTTOM	1	13-13/16"	23"	
3	ENDS	2	16-1/8"	15-1/4"	Use good part for right end and cut at 9 degrees to 10" upper and 6" lower. Use poorer part for left end and trim to 16" x 13-13/16"
4	TOP	1	15-1/2"	24 5/8"	Cut into 7-11/16" left and 16-13/16" right parts.
5	DIVIDER	1	6"	15 1/4"	
6	SPACER	1	9"	14"	



## **Limiting the Internal Temperature of an Exposed Nest Box**

Both Steve Simmons and I have experienced some owlets jumping from nest boxes when we have a period of 90+ degrees hot weather lasting for several days. The owlets must simply get too hot in the boxes. Below are several additions that may help to limit the box's internal temperature to near the ambient temperature.

### ***Paint the Box White***

This is mentioned in the original plan, but experience and noting the effects of climate change make this action more imperative.

A recent study titled [Reducing the Internal Temperature of Exposed Nest Boxes](#) compares the internal temperatures inside three different bluebird nest boxes. In looking at the study's results one can quickly see the benefit of a nest box that has been painted white. If white is an objectionable color, use a light earth-tone color.



### **Add Sunshield(s)**

As stated above painting nest boxes white was most effective, but this may not be practical for several reasons including white as being an objectionable color. The effectiveness of other earth-tone colors hasn't been determined.

Enter installing a sun shield. The shield is basically a second and larger roof attached to the top of the box that provides shade. Spacers can be installed between the two roofs to provide an air gap which allows air to flow between the roofs, or a layer of foam insulation can be sandwiched between the two roofs.

In Figure 1 below I had used a piece of 3/8" exterior grade plywood for the shield, and painted it on both sides to minimize warping. The spacers are 3/4" exterior plywood first positioned, and then glued to the shield. Mounting is done by drilling holes through the shield and spacers for deck screws. The screws are long enough to pass through the shield and spacers, and penetrate the box's top without entering the interior of the box. You may decide to use more than 4 spacers, but 4 seems adequate. Yes, if your box has a top door, you must remove the shield to open the door.



**Figure 1: Bottom of Sun Shield with attached spacers**



**Figure 2: Installed Sun Shield**

A sun shield added to the west-facing side of a box helps limit the internal temperature during hot afternoons.

### ***Flow-through Ventilation***

Adding air vents above the clean out door for flow-thru ventilation can help to keep the interior cooler. Obviously the vents work best if there is a breeze. That same breeze could be a cold breeze in the early months or a hot breeze later in the year.

Pictured to the right is an image of the vents I use.



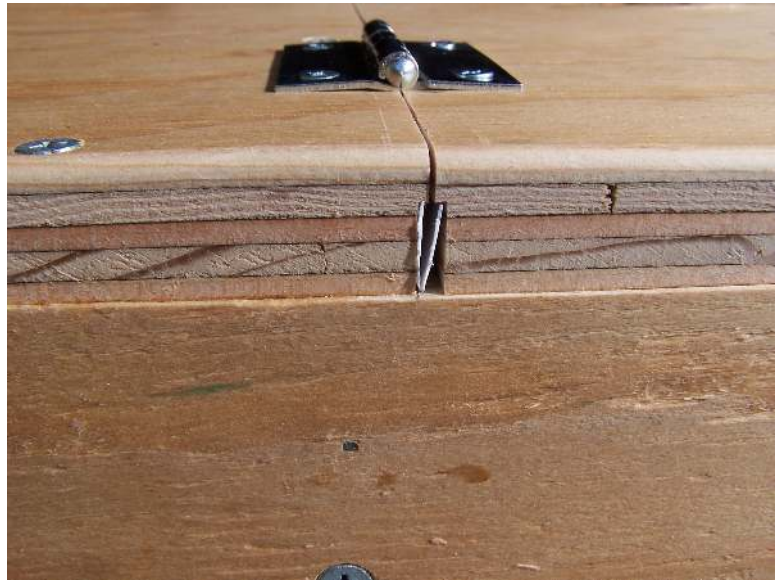
**Figure 3: Air Vent Mini Louver 3"**

Two 3" holes are cut in the right end with a hole saw using the pictured dimensions. The vents are then seated in the holes such that the louvers slope downward on the exterior side. Place a flat board over the vent and tap the board lightly with a hammer to evenly seat the vent.



## Weatherproofing the Box's Top Door

You can better seal the top door's hinged joint to keep water from entering the gap by adding some weather seal. Basically a 1/8" wide and 1/2" high notch is cut into the lower portion of the 2 top pieces, and a V shaped piece of weather stripping is affixed to the foyer's top piece. The weather stripping acts as a gutter to route water to the outsides of the box.



The weather stripping used is V-Flex Weather Strip which can seal gaps up to 3/8". One side of the stripping has an adhesive to hold it in place.



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Additionally you can add weather stripping around the edges of the top door as shown in the attached photos. In my experience top doors sometimes warp depending upon the quality of the plywood. The warping creates a gap that permits rain to enter the box especially when it is wind driven. Should this happen the bedding and owlets could get wet causing the owlets to die of hypothermia.

Basically 1/8" of the bottom edge of the top is trimmed off on the 3 non-hinged edges to a depth of 1/2" to accommodate the weather stripping.



The weather stripping used is a self-adhesive rubber foam seal\*. One side of the stripping has an adhesive to hold it in place.

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\* Door Seal Weather Strip, Window Anti-Collision Self Adhesive Rubber Foam Seal Strip Soundproofing Weather Stripping Waterproof Seal, 7/20-Inch x 6/25-Inch x 9.8 Feet, White(2 Seals)