



# ***PALMER'S DOLLHOUSE***

## **CONSTRUCTION PLANS AND BASIC ASSEMBLY INSTRUCTIONS**



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### **Dollhouse Technical Drawing and Instructions by Matt Palmer**

Questions regarding the interpretation of these directions or general construction of this dollhouse may be directed to Captain Matt Palmer at: [mpalmer351@me.com](mailto:mpalmer351@me.com) or on  Twitter [@MattP351](https://twitter.com/MattP351). All other questions regarding the presentation and use of this dollhouse for training purposes should be directed to Deputy Chief P.J. Norwood or Lieutenant Sean Gray at: [stopbelievingstartknowing@gmail.com](mailto:stopbelievingstartknowing@gmail.com) or on  Facebook at: <https://www.facebook.com/StopBelievingStartKnowing/info>

# ***FIRE TRAINING DOLLHOUSE***

## **CONSTRUCTION PLANS AND BASIC ASSEMBLY INSTRUCTIONS**

### **Materials Needed:**

- 2 sheets of 4' x 8' 7/16" oriented strand board (OSB)
- 1" staples for use with a pneumatic staple gun
- Caulk or construction adhesive (to seal any gaps)

### **Time Required to Cut and Assemble:**

- Depending on your skill level and patience, you should allow 3 to 4 hours to complete this project.
- Although you will ultimately burn this doll house, the skill and accuracy used to assemble this house will ensure a tighter fit and seal between rooms and allow for greater results during the training exercise.

### **Tools Needed:**

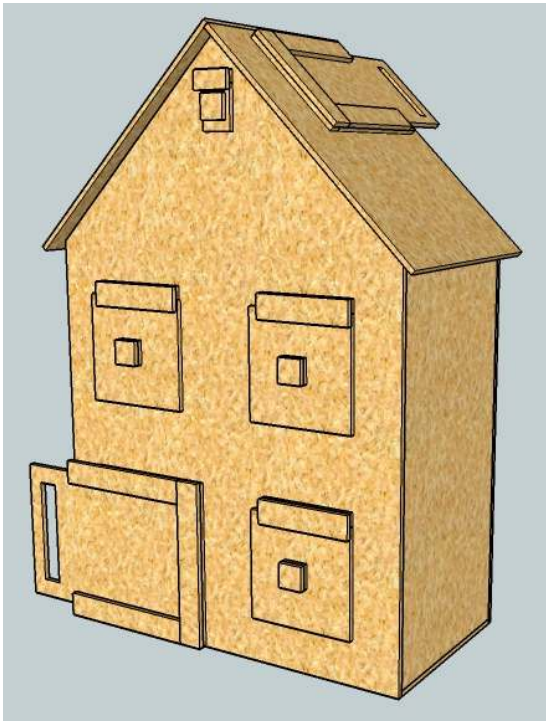
- Table saw or worm drive saw (to cut and rip OSB)
- Miter saw
- Jig saw or oscillating multi-tool style saw
- Pneumatic stapler with compressor
- Cordless drill with spade style wood drill bit
- Files or sand paper

### **WARNING**

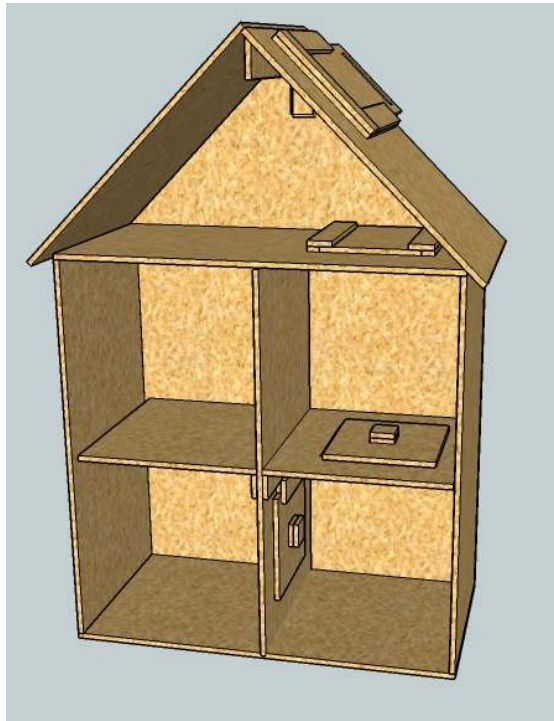
This drawing is for reference and construction purposes only and NOT designed to serve as a guide on how to conduct training sessions involving any live fire scenario. Any and all training associated with the use of the plans contained herein are done at the user's own risk.

# ***FIRE TRAINING DOLLHOUSE***

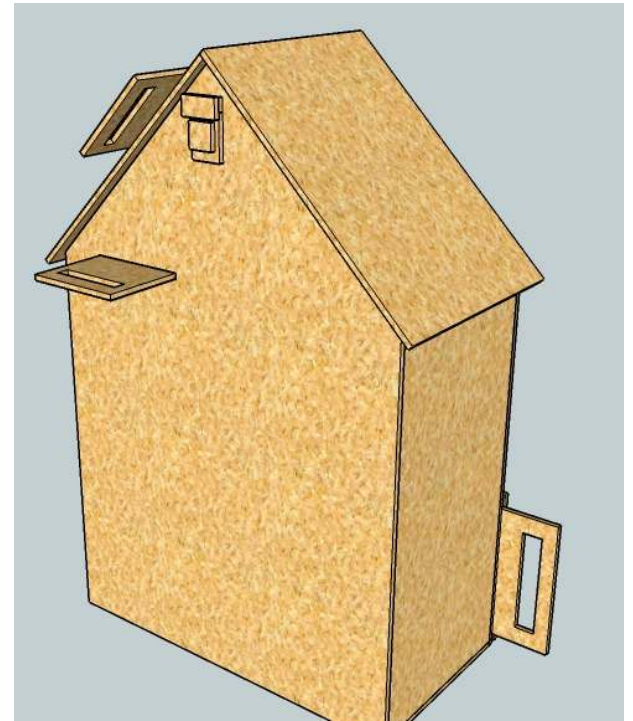
## **CONSTRUCTION PLANS AND BASIC ASSEMBLY INSTRUCTIONS**



Front View



Interior View



Rear View

## CUTTING DIAGRAM – SHEETS OF 7/16" OSB

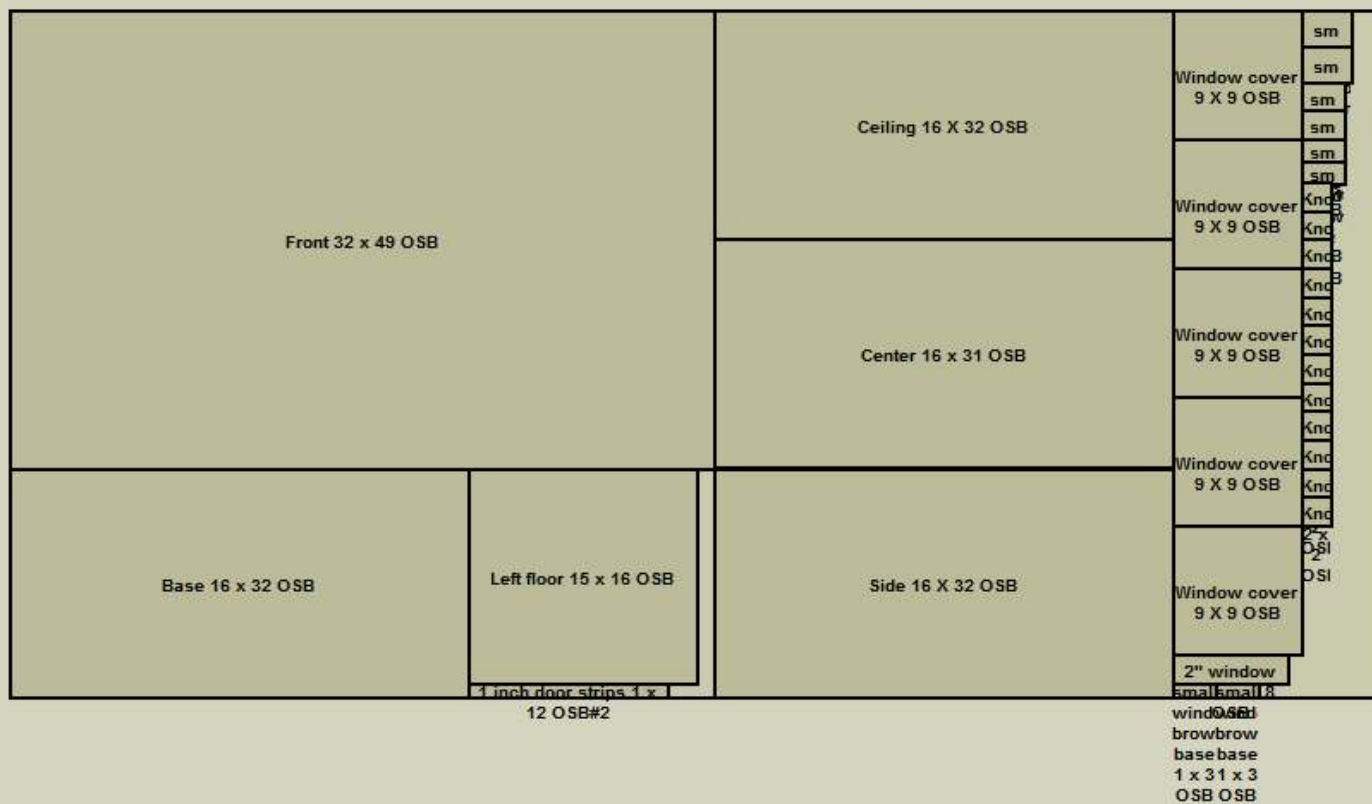
**Project: Doll house**

### Cutting Diagram - Sheets

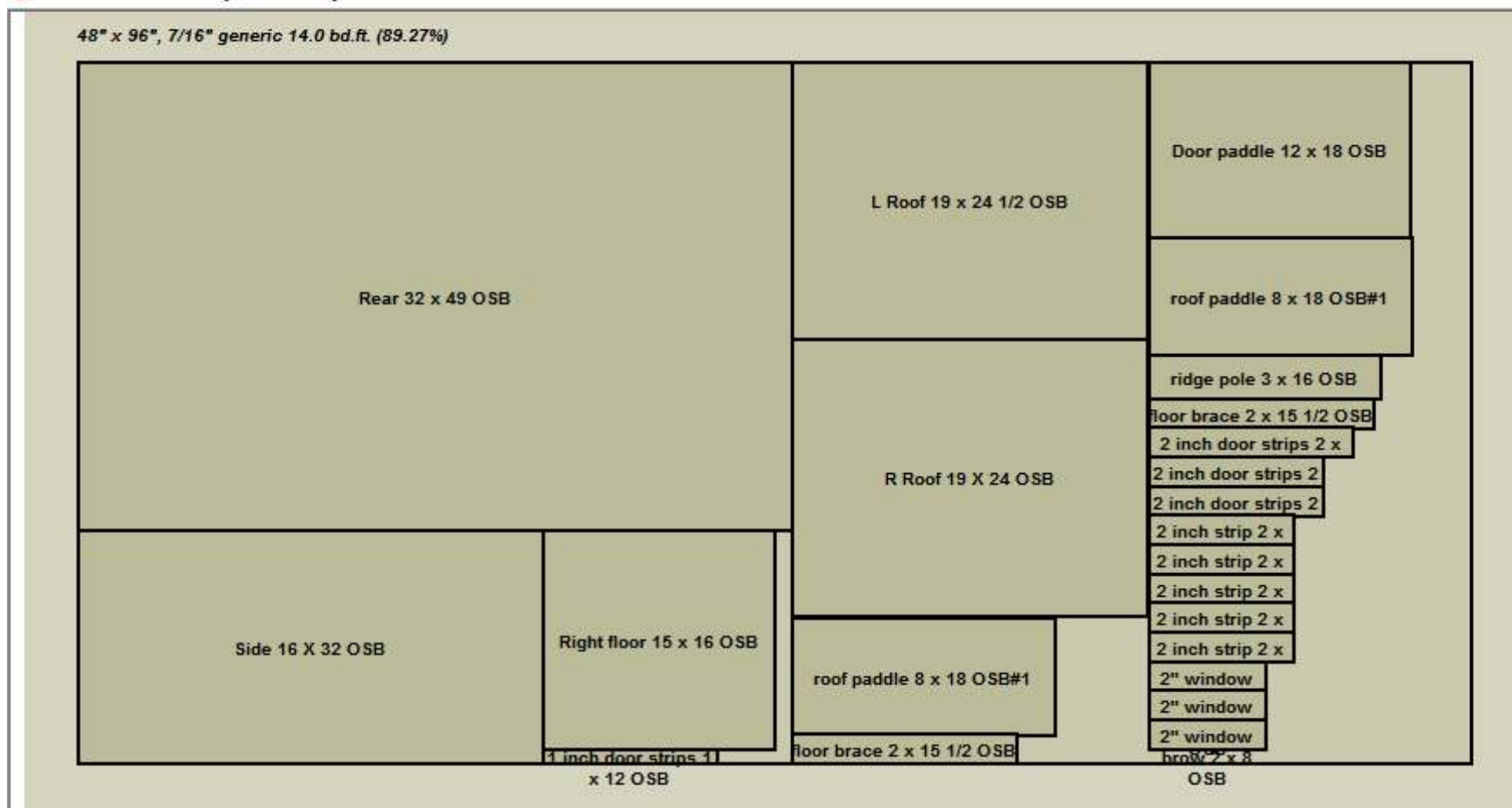
Efficiency = 62.2%

Total used for layout: 42.0 bd.ft.

48" x 96", 7/16" generic 14.0 bd.ft. (95.29%)

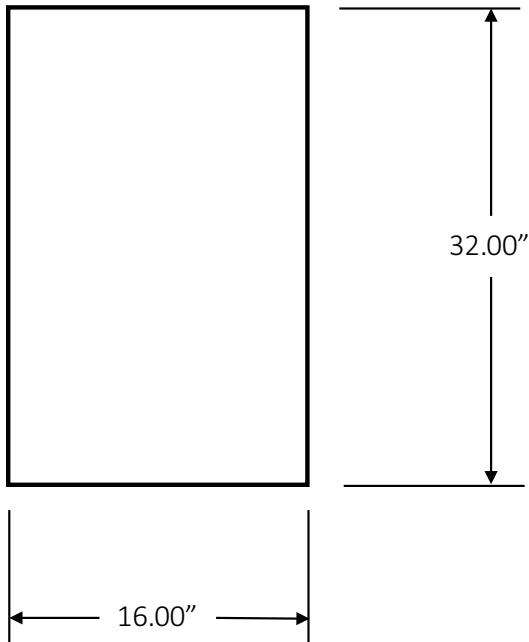


## CUTTING DIAGRAM – SHEETS OF 7/16” OSB

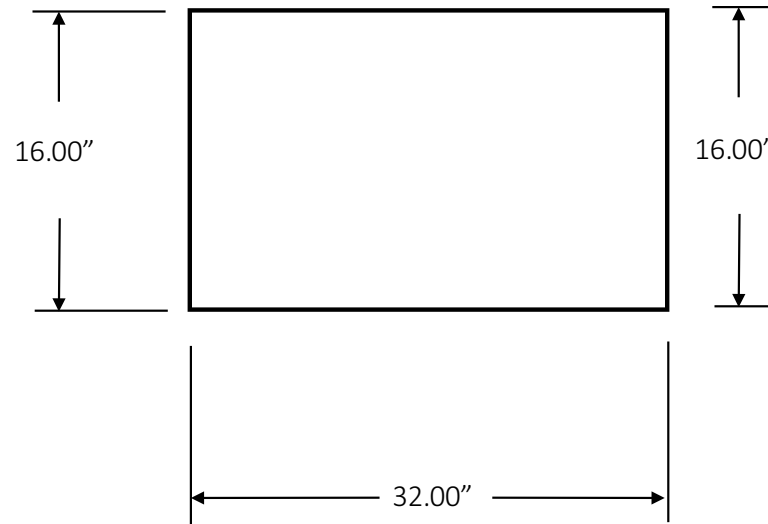


## STEP 1 – CUTTING PANELS TO SIZE

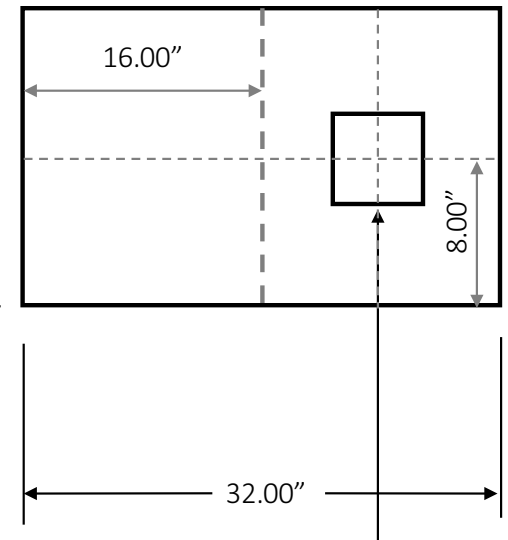
### SIDE PANEL (NEED 2)



### BASE PANEL



### CEILING PANEL

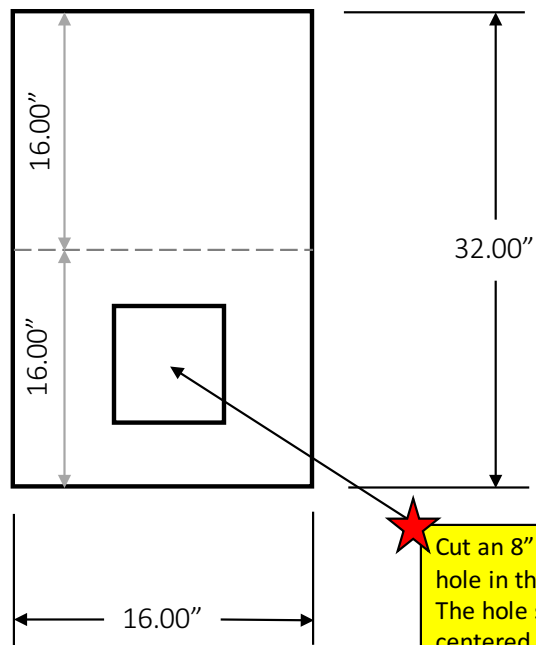


Cut a 6" x 6" square vent hole in the ceiling panel only. The hole should be centered on the right side of the mid-line as shown.

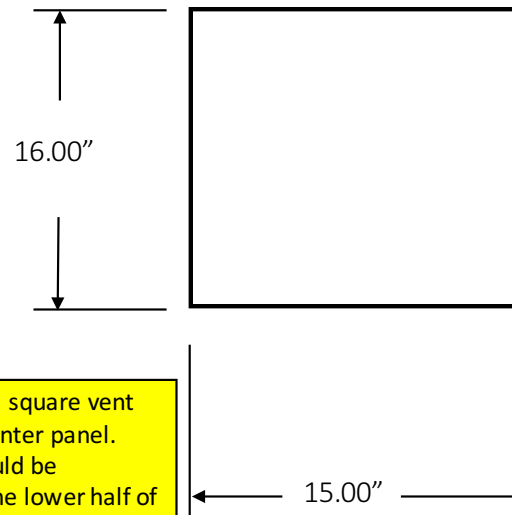
**NOTE: NOT TO SCALE**

## STEP 1 – CUTTING PANELS TO SIZE

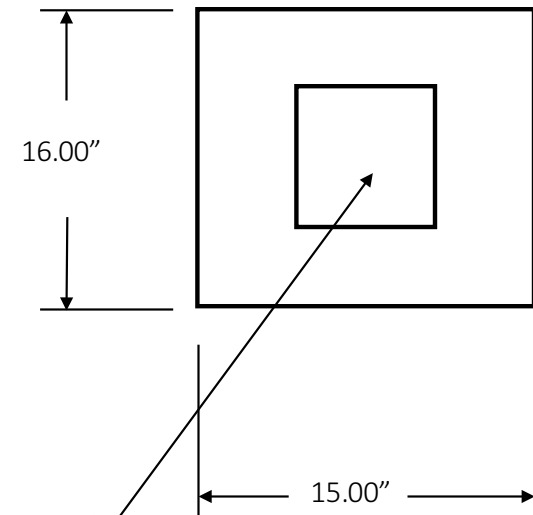
### CENTER PANEL



### LEFT FLOOR PANEL



### RIGHT FLOOR PANEL



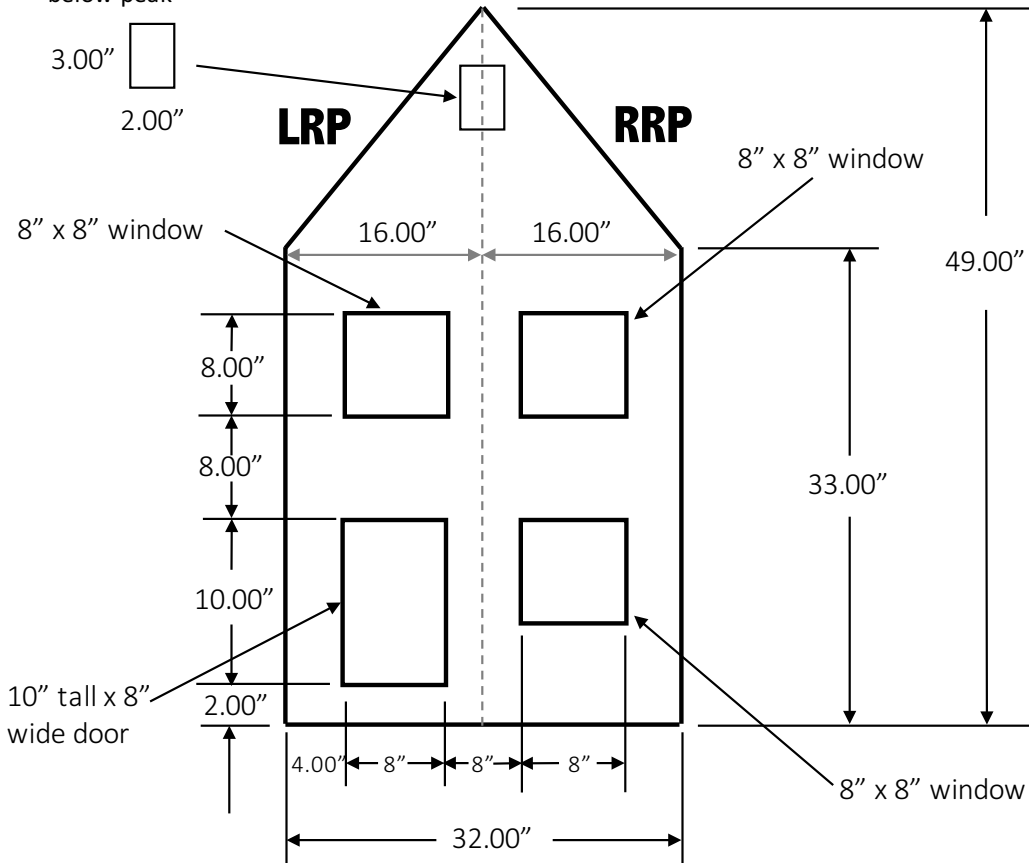
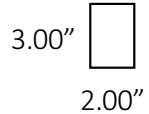
★ Cut an 8" x 8" square vent hole in the center panel. The hole should be centered in the lower half of the center panel. *THIS IS A CRITICAL STEP. DO NOT FORGET TO CUT THE 8"x 8" SQUARE OUT.*

★ Cut an 8" x 8" square vent hole in the right floor panel. The hole should be centered in the floor panel. *THIS IS A CRITICAL STEP. DO NOT FORGET TO CUT THE 8"x 8" SQUARE OUT.*

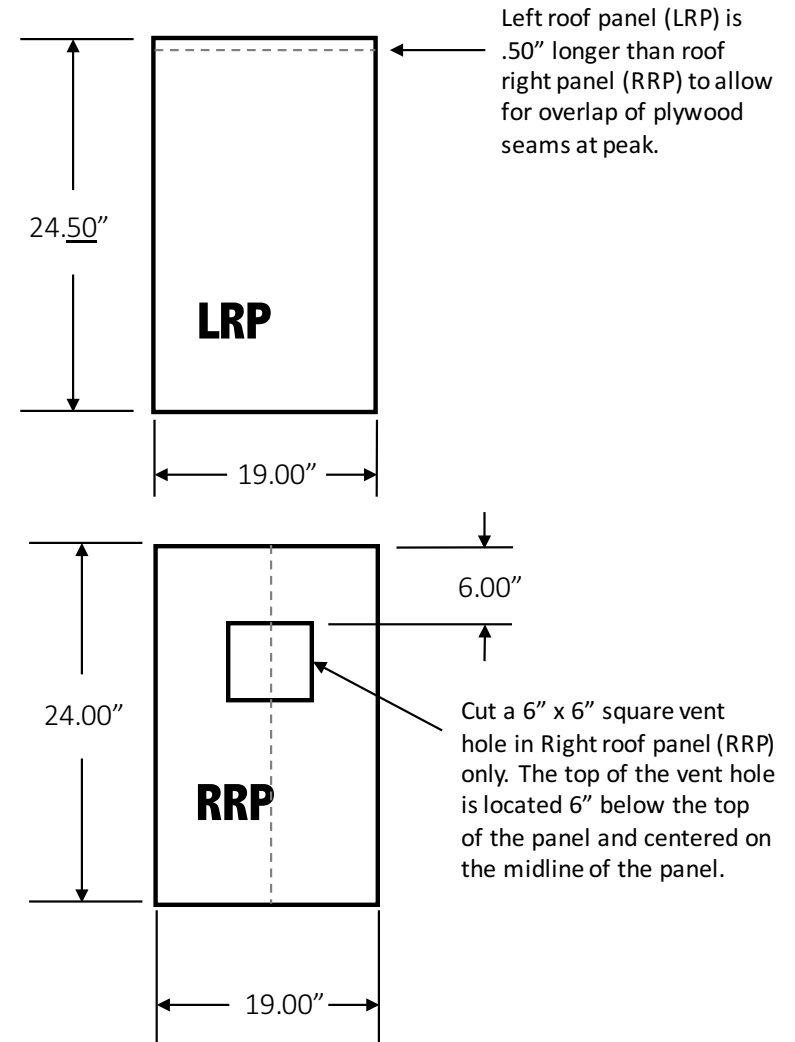
**NOTE: NOT TO SCALE**

## FRONT PANEL

Cut 3" tall x 2" wide rectangle for gable roof vent. Located midline and just below peak

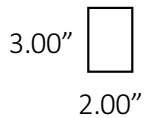


**NOTE: NOT TO SCALE**

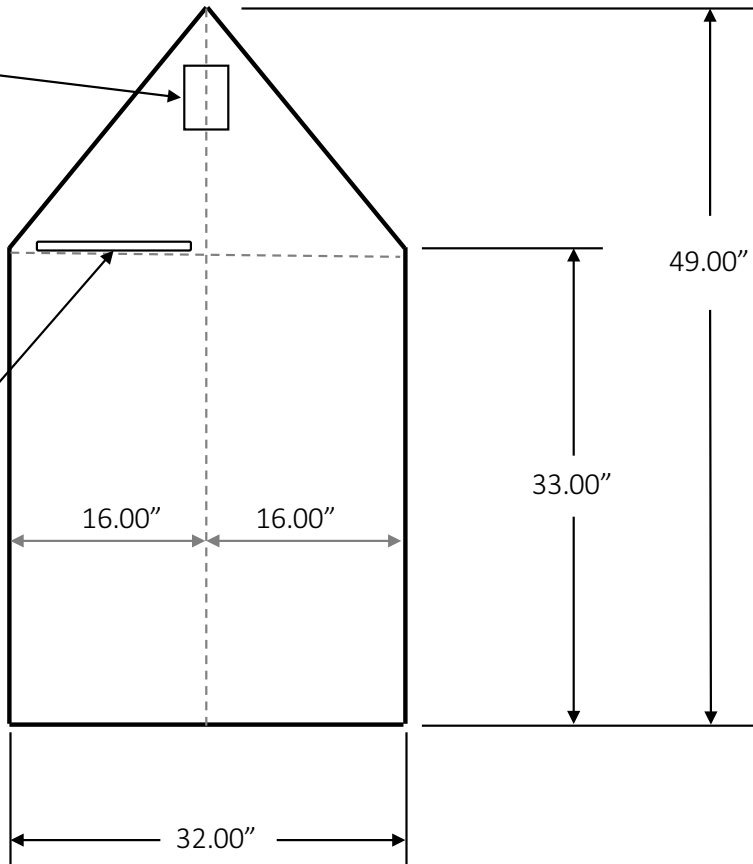




Cut 3" tall x 2" wide rectangle for gable roof vent. Located midline and just below peak



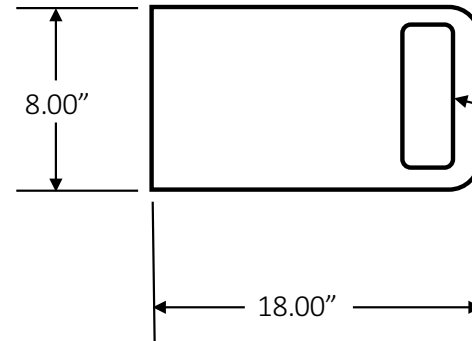
## REAR PANEL



A cutaway that is 8" wide by .50" tall will be needed here in order so that the sliding roof cover can be installed. This is easiest to scribe and cut by aligning the rear panel to the 4 room box and before the rear panel is stapled into place. A multi-master style saw or jig saw is best to cut this opening.

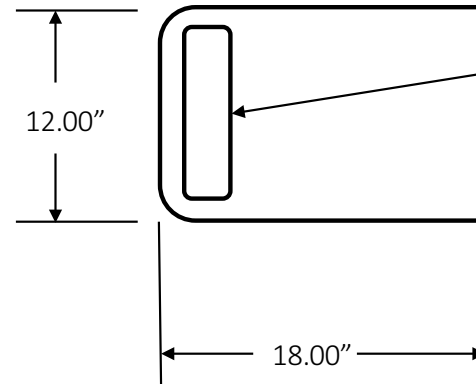
**NOTE: NOT TO SCALE**

## SLIDING ROOF COVER (NEED 2)



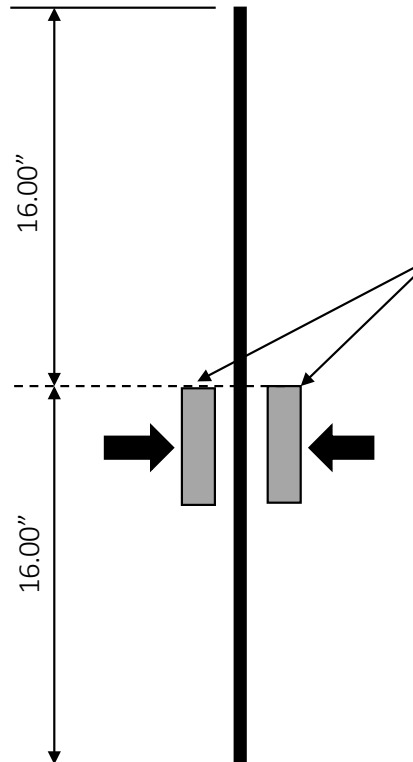
Cut a 5" tall x 2" wide rectangular hole to serve as a hand-grab in the sliding roof panel as shown.

## SLIDING FRONT DOOR COVER (NEED 1)



Cut an 8" tall x 2" wide rectangular hole to serve as a hand-grab in the sliding front door cover as shown.

## CENTER PANEL

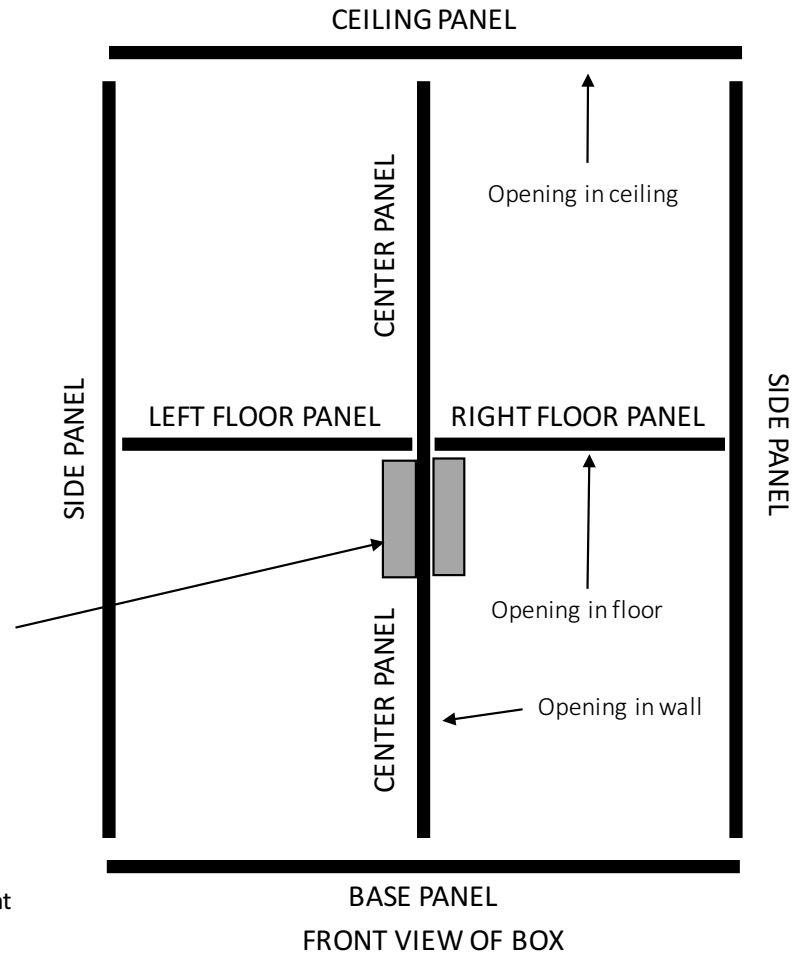


Cut two 2" x 16" strips of OSB using the 7/16" OSB and staple them to each side of the center panel. The upper edge of the strips of OSB should be level along the mid-line (16") of the center panel. The strips will be used to support the left and right side floor panels.

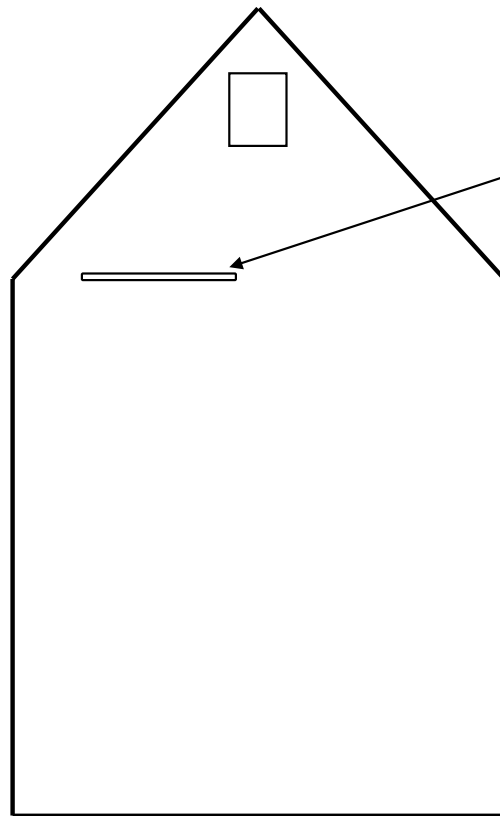
Using the center panel as your guide: Start by stapling the left and right floor panels to the OSB cleats. Next staple the left and right side panels so that the floor panels are level. This should be at the midpoint of the side panels (16"). Once the side panels are secure, staple the base panel and the ceiling panels into place. Be sure that the vent hole in the right panel floor panel and the vent hole on the ceiling panel are inline.

**\*\* Caulk or construction adhesive may be necessary to seal seams around wall and ceiling seams of the four rooms. If required, this should be done now and before front and rear walls are installed.**

## ASSEMBLE THE 4 ROOM BOX



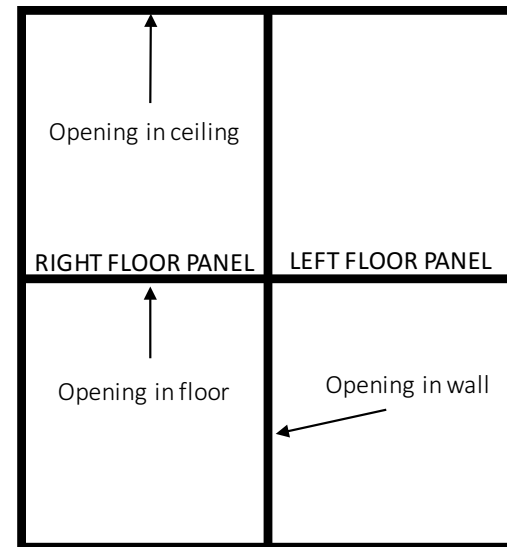
## INSTALL THE REAR PANEL



**REAR PANEL**



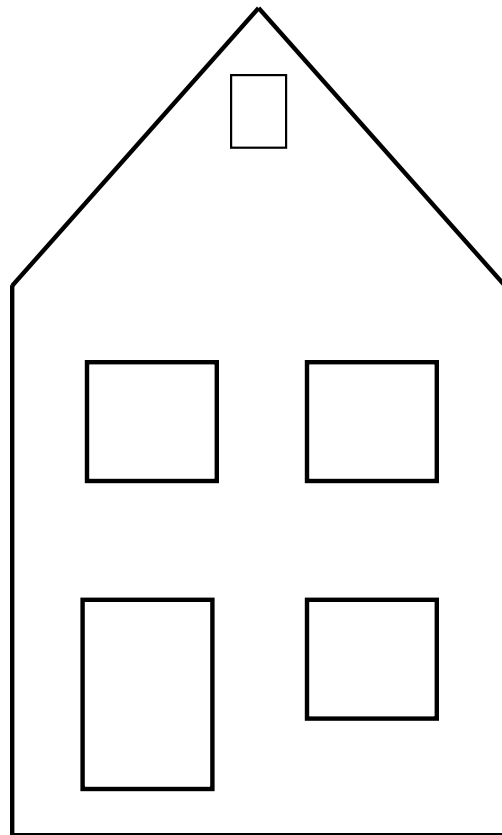
RIGHT SIDE WALL



REAR VIEW OF BOX

**ASSEMBLED 4 ROOM BOX**

## INSTALL THE FRONT PANEL

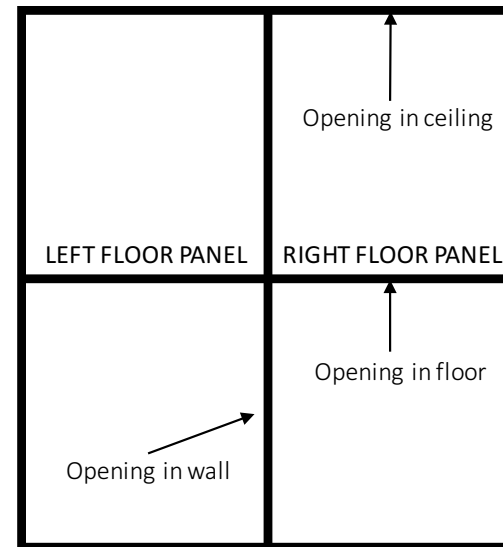


**FRONT PANEL**

Staple the front wall of the house to the front side of the box. Be sure that the ventilation openings are on the right side of the 4 room box.



## ASSEMBLED 4 ROOM BOX

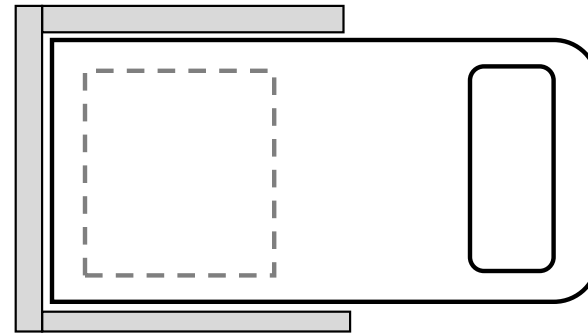


FRONT SIDE OF BOX

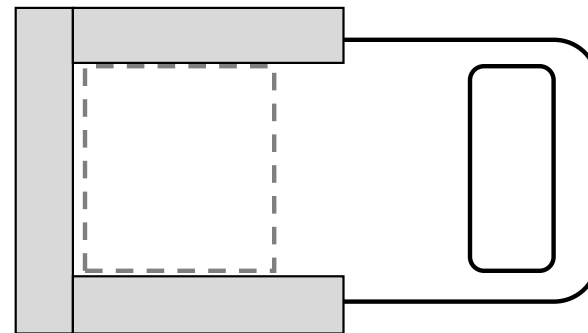


At this point, your assembled doll house should look similar to the photo on the left. Before you go any further, you will need to install plywood cleats and create a guide for the sliding ceiling cover. This is best accomplished by cutting strips of 1" and 2" OSB. Be sure to cut extra strips of 1" and 2" OSB as you will be repeating this process for the roof vent slide and the front door vent slides. The ridge pole shown in the picture is optional and not necessary for roof panel installation.

Cut and staple 1" plywood strips around perimeter.



2" plywood strips serve as a cap. Be sure to staple as close to the outer edge as possible and not to staple into the slide!

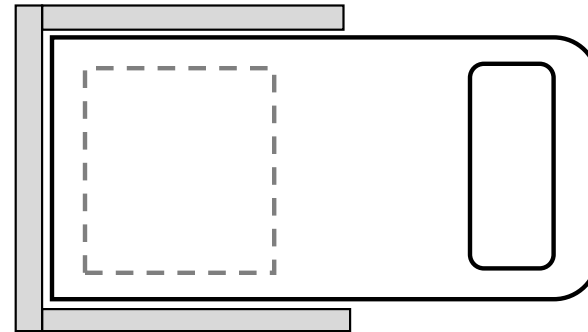




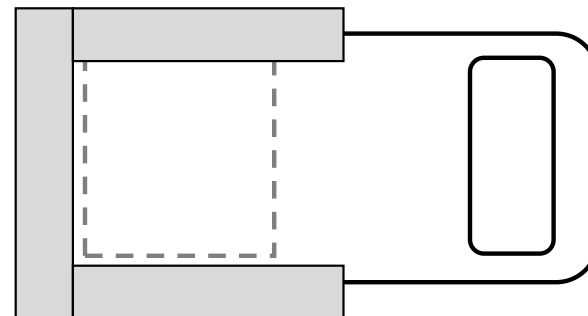
## INSTALL THE ROOF PANELS

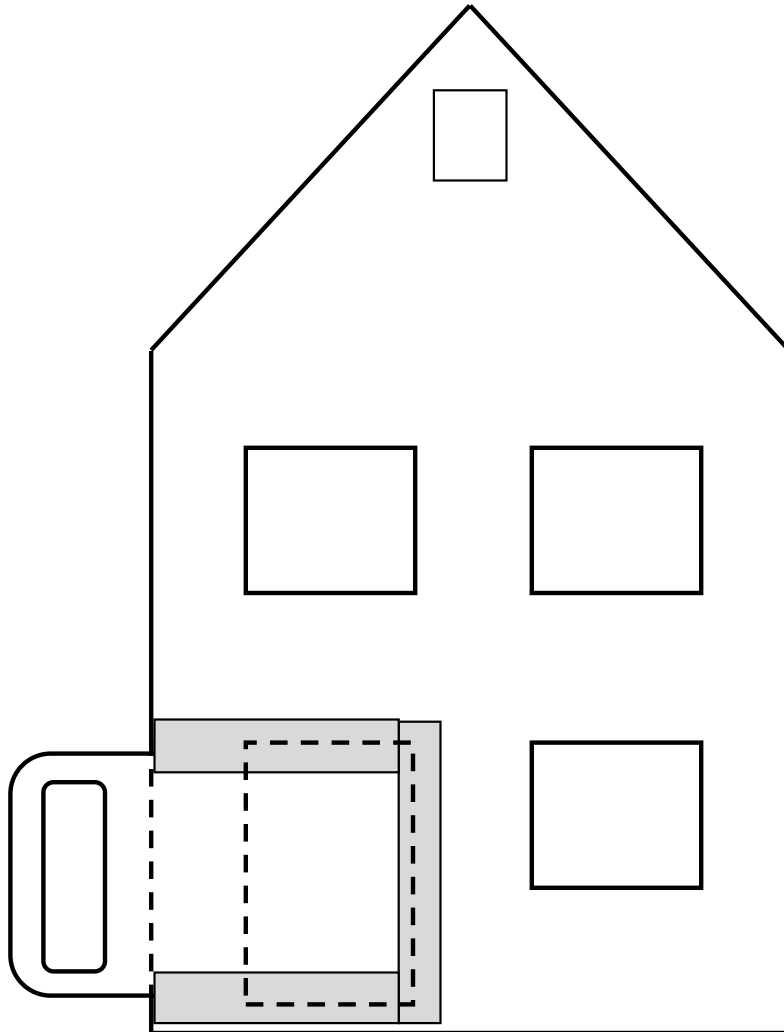
Once you have the ceiling slide cover operating properly, you are now ready to install the left and right roof panels. Center the roof panels front to back as to allow an equal distance of roof overhang (approx. 1" in front and back). Be sure that the roof vent hole is on the right side of the dollhouse and inline with the ceiling opening below. When the panels are secured and stapled to the gable ends, follow the same steps to create a track for the sliding roof vent cover.

Cut and staple  
1" plywood  
strips around  
perimeter.



2" plywood  
strips serve as a  
cap. Be sure to  
staple as close  
to the outer  
edge as possible  
and not to  
staple into the  
slide!





## **INSTALL THE FRONT DOOR SLIDING COVER**

Using additional 1" and 2" OSB strips, follow the same steps for the sliding roof covers to create tracks for the front door sliding cover.



## LAST STEP – CREATE WINDOW, WALL, AND FLOOR OPENING COVERS

At this point, you should have plenty of scrap 7/16" plywood around. Before you start throwing it in the scrap pile, you will need to create five (5) covers in order to control smoke and fire gases through interior and exterior openings. Covers are needed for the following openings: windows (3), interior floor/ceiling (1), interior wall openings (1).

**\*\*Note:** The portion of this cover that fits into the window or wall opening must be cut and fit as precise as possible or it will not stay seated inside the window opening.

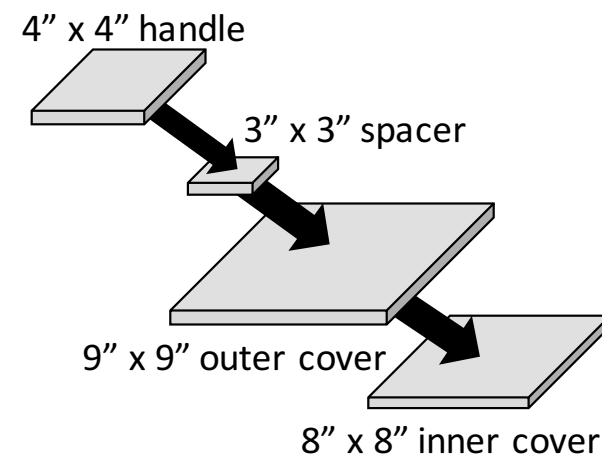
The covers may be made by creating a plywood sandwich using plywood squares, which is stapled together in the manner shown below:

### Cover locations (5 Total):

- 3 windows openings in the front.
- Wall opening on first floor between left and right side rooms.
- Floor opening between first and second floors on the right side.



**THIS IS A CRITICAL STEP. DO NOT FORGET TO BUILD A TOTAL OF FIVE (5) COVERS. YOU WILL NEED ALL 5 COVERS IN ORDER TO CONTROL THE SPREAD OF SMOKE, GASES, AND FIRE.**







## **CONGRATULATIONS!**

### **THIS COMPLETES YOUR NEW DOLLHOUSE**

Some other challenges that you may face:

- If you do not cut the window or door opening covers precisely, they will want to fall forward and not work as designed. If this happens, you can add an OSB guard as shown in the photo to the left to keep the covers from falling out. The guard may be fabricated at your discretion and design.
- Several people have asked about using other types or a wider thickness OSB or conventional types of plywood. The 7/16" OSB that is recommended and will provide ample burn time in order to facilitate the training exercise and has been found to be the best option for this type of training exercise.
- The gable end vents do not need a cover in order to conduct the burn and demonstrate smoke and gas movement. However, if you would like a cover for the gable end, a 2" x 3" plug fabricated in the same fashion as the other covers will work.
- This completes the instructions for the dollhouse. Good luck with your training. Questions or problems with the interpretation of these plans may be directed to Matt Palmer at [mpalmer351@me.com](mailto:mpalmer351@me.com) . Thank you.

Matt Palmer

Captain, Stamford (CT) Fire Department  
Director of Training , Cheshire (CT) Fire Department

**17 - END**