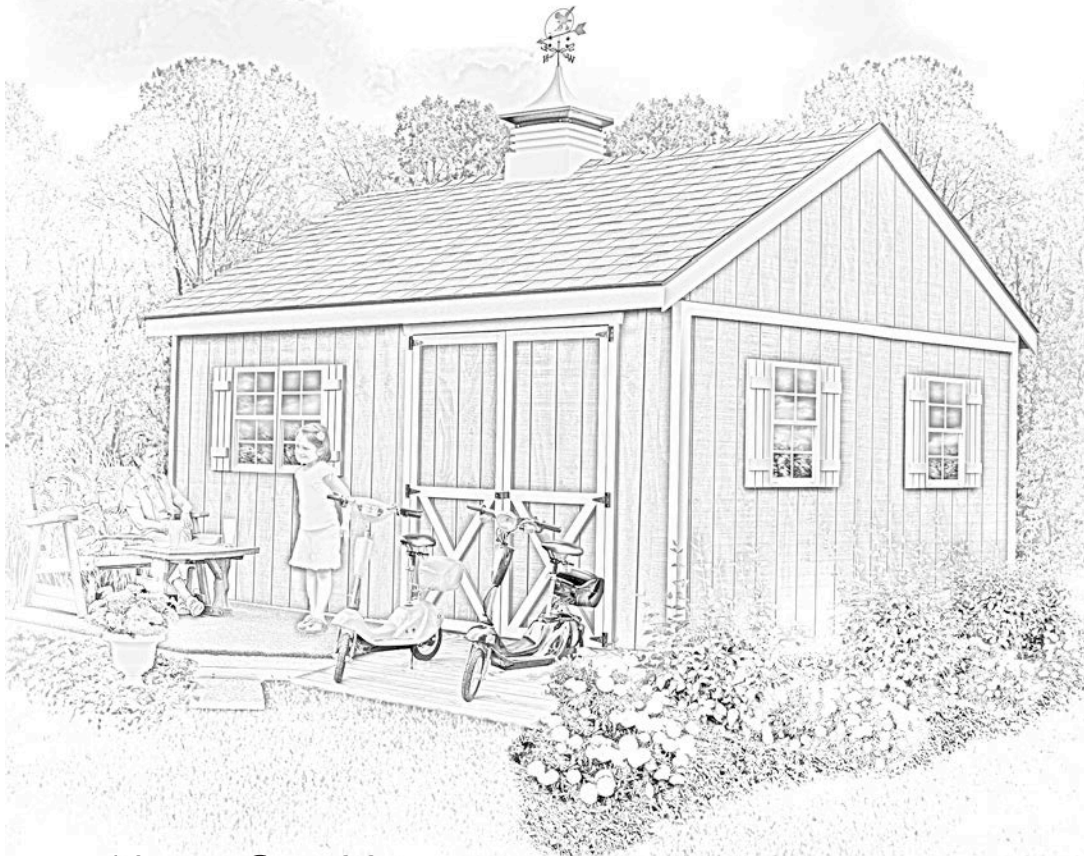




# Best Barns USA Assembly Book

*Revised March 24, 2021*



***New Castle***

**Building Size 12'x16'**

**Manufactured by Reynolds Building Systems, Inc.**

**205 Arlington Drive**

**Greenville, PA 16125**

**800-245-1577**

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## IMPORTANT INFORMATION ABOUT YOUR SHED KIT

Thank you for purchasing our shed kit. Read the instructions before starting the assembly of the building. If you have any questions about assembling the kit, call 800-245-1577. Business hours (8:00-5:00 ET) Monday thru Friday. After business hours call 724-866-HELP (4357).

The foundation size should measure 12'-0" wide by 15'-9" long. **Do Not** make the foundation larger than the building size. The siding should project beyond the foundation for water to expel properly from the sidewalls.

The material that is included in our kit is listed on the back page. The optional floor package, if purchased, will be supplied by a local lumber supplier. Our kit does not include the shingles, the quantity needed is listed on the back page. The siding is primed. You will need to apply a finish coat using latex acrylic paint.

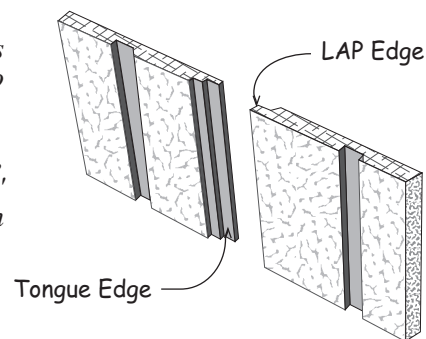
Most buildings are installed on a wood floor and the siding was designed to extend over the wood flooring. If the foundation is a concrete floor cut the siding flush with the bottom of the wall plate to prevent the concrete from contacting the siding.

Stacking the boards, according to size, will make them easier to find when needed. Some boards may have colored ends. **Do Not** discard any material until your building is complete.

Before you begin construction, be sure to study this assembly manual. Also, obtain a building permit and check all pertinent building code regulations.

*The siding is made in 4x8 sheets with grooves cut into the face, the long edge is beveled so that the siding overlays where they butt.*

*To identify which edge we want you to use, we will refer to the edge as either the 'LAP' Edge or the Tongue Edge. Nail siding with 8d galvanized box nails spaced 8" apart.*



### Tool List

- |  |  |
|--|--|
| <input type="checkbox"/> Hammer & Phillips Screwdriver | <input type="checkbox"/> Power Drill/Screwdriver |
| <input type="checkbox"/> Framing Square & Level        | <input type="checkbox"/> Measuring Tape          |
| <input type="checkbox"/> Hand or Circular Saw          | <input type="checkbox"/> 2 - 8' Step Ladders     |

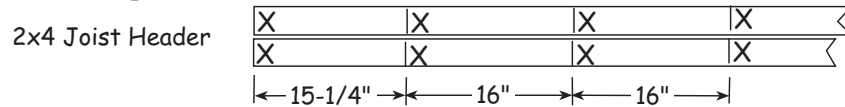
**Always wear safety glasses when cutting or nailing!**

## Constructing Details for Deluxe Floor System

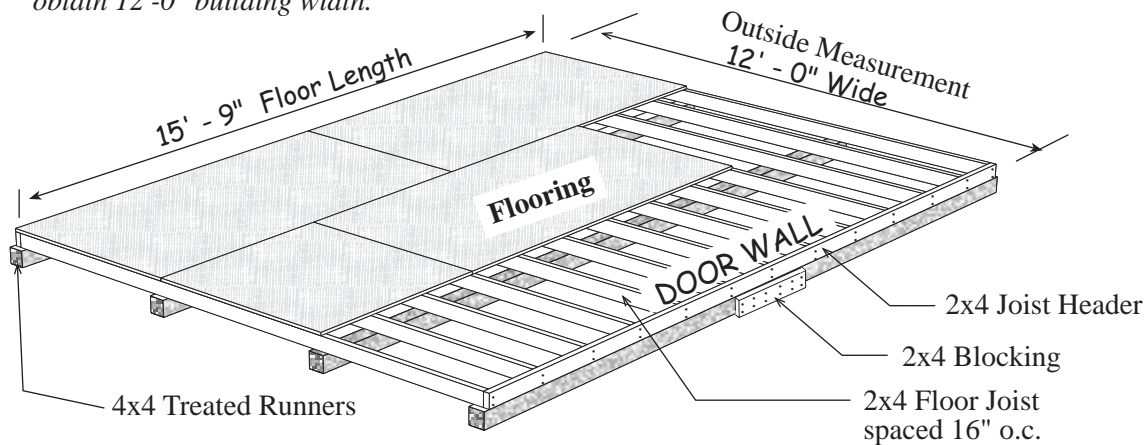
*Deluxe floors include 4x4 runners, standard floors do not*

Foundation size is 12'-0" x 15'-9". Check local building codes in your area, the construction may have to change. For a concrete slab, install sill sealer as a moisture barrier between the concrete and the wall plates. Foam sill sealer can be purchased at home centers in rolls 3-1/2" or wider.

1. Cut (2) two 2x4-8' boards into 2' long blocks. Butt the 4x4-8' timbers together to make 16' runners. Secure the 4x4s together with the 2' long 2x4 blocks and 16d galvanized nails.
2. Cut (2) two 2x4 joist headers to 15' - 9". Layout for 16" on center joist spacing. 'X' marks where floor joist will be placed.



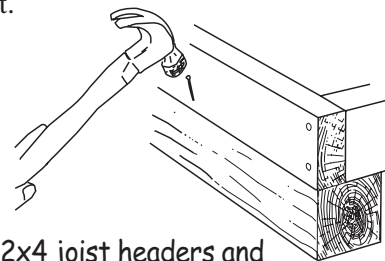
3. Cut 2x4-12' floor joist to 11'-9". *Treated lumber may be thicker than 1-1/2". Take this into account when cutting the length of floor joists. Shorten joist measurements if necessary to obtain 12'-0" building width.*



It is important that the floor be level and square. Square the floor as follows: before nailing the flooring, measure the floor diagonally (corner to corner). Then measure the opposite corners; these measurements will be the same when the floor is square. Toenail frame to the 4x4 runners.

Install the flooring with 8d galvanized nails spaced 8" apart.

Material Description	Qty. & Size
2x4 Treated Blocking	2 pcs. 8'
2x4 Treated Floor Joists	13 pcs. 12'
2x4 Treated Joist Headers	2 pcs. 16'
4x4 Treated Runners	8 pcs. 8'
Flooring: 5/8" or 3/4"	6 pcs. 4x8
Galv. Spiral Floor Nails	3 lbs. 8d
Galvanized Deck Nails	3 lbs. 16d

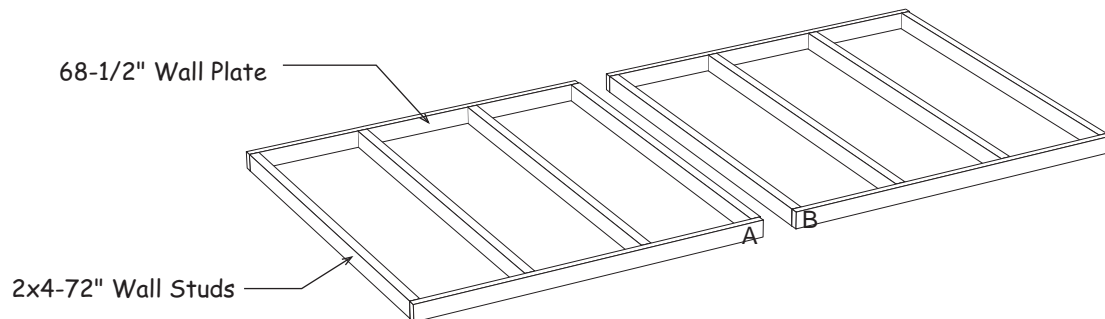
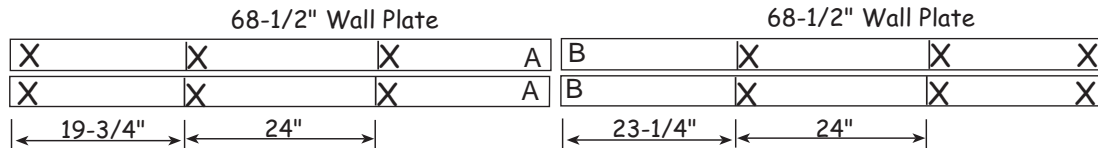


Nail 2x4 joist headers and floor joist to 4x4 runners.

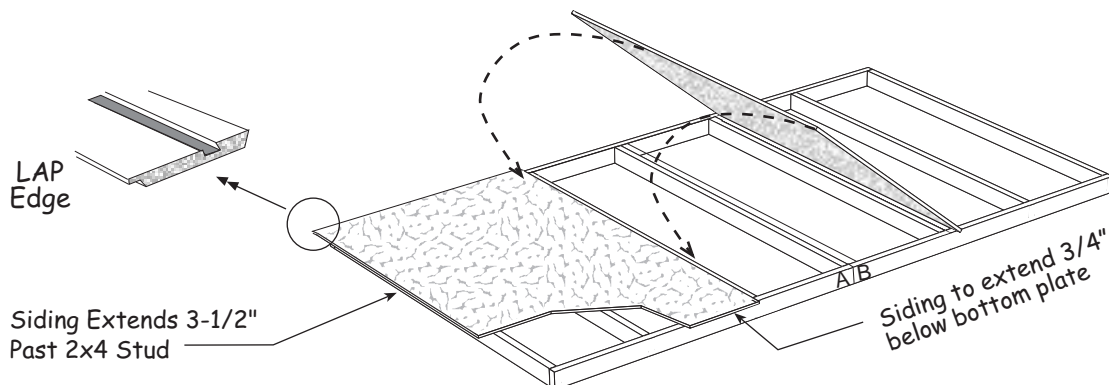
 Do not discard any material until construction is complete. Including short blocks of 2x4s.

## Step 1 Assemble 12' Side Walls

1. Gather (4) four 2x4-68-1/2" boards an position together then indicate with 'X' marks, where the wall studs will be located. Mark the ends that will butt together with the letters 'A' and 'B'.



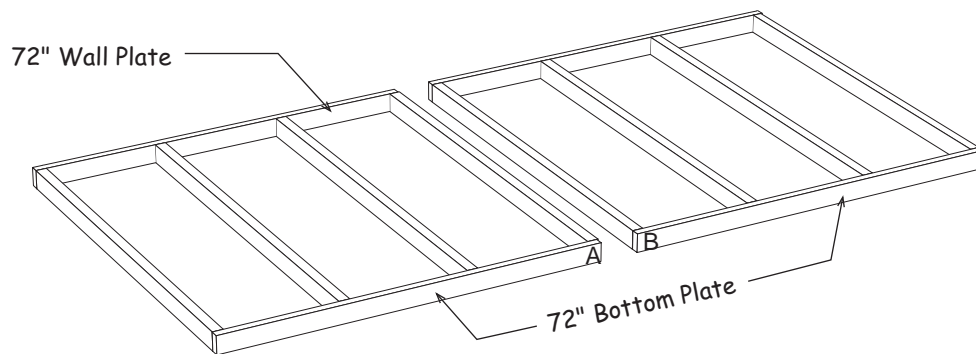
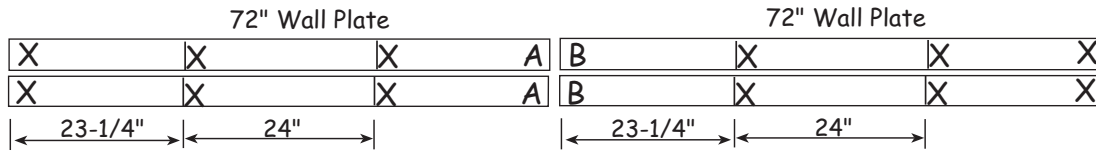
2. Install (8) eight 72" wall studs between the top and bottom plates. Assemble wall frames with 10d sinkers, (2) two nails at each stud end. Nail both wall frames together with 10d sinkers.
3. Square wall frame. *Measure diagonally (corner to corner). The measurements will be the same when the wall is square.*
4. Install the 1st siding panel with the 'LAP' edge extending 3-1/2" past the wall frame. The bottom will extend 3/4" below the bottom plate. Tip; use a 1x4 trim board as a gauge. Use 8d galv. nails spaced 8" apart.
5. Install (2) two more siding panels. Cut the last panel to extend 3-1/2" beyond the wall frame.



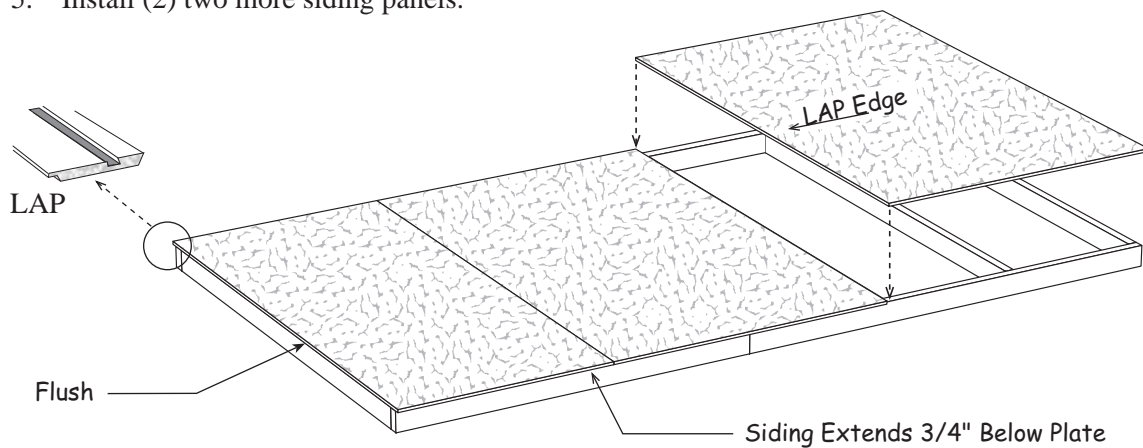
6. Repeat to assemble another sidewall.

## Step 2 Assemble Back Wall

1. Gather (4) four 2x4-72" boards and position together then indicate with 'X' marks, where the wall studs will be located. Mark the ends that will butt together with the letters 'A' and 'B'.

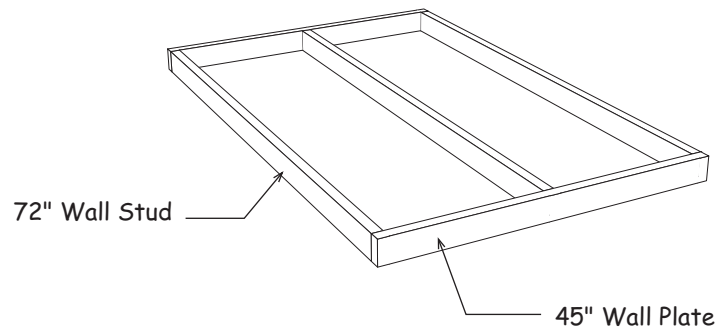


2. Install (8) eight 72" wall studs between the top and bottom plates. Nail both wall frames together.
3. Square wall frame.
4. Install the first siding panel with the 'LAP edge' flush the end of the wall and extending 3/4" below the bottom plate.
5. Install (2) two more siding panels.

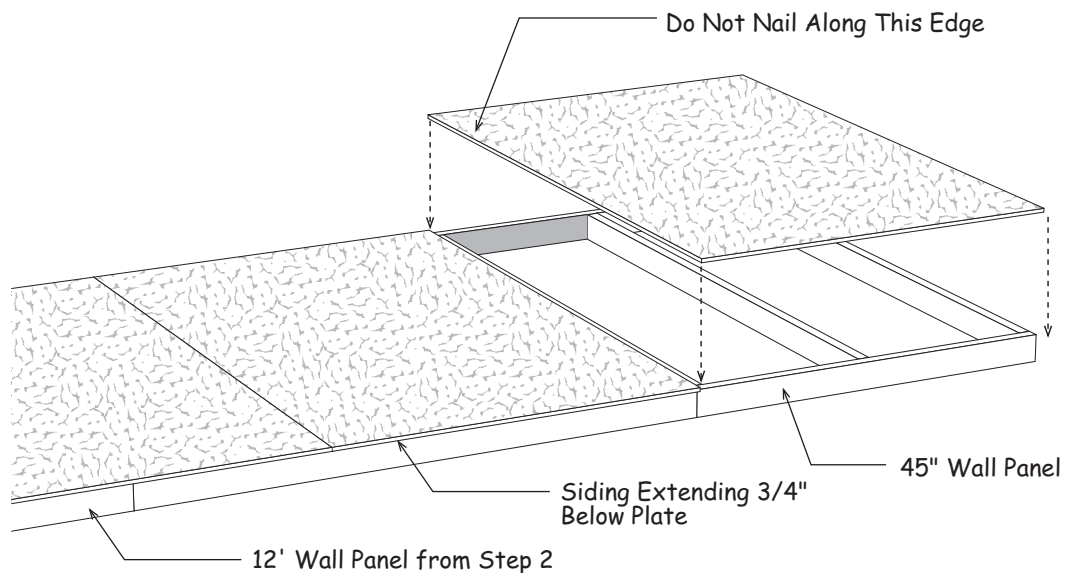


### Step 3 Assemble Back Wall Continued

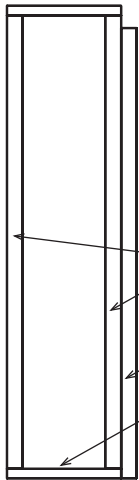
1. Locate (2) two 45" long 2x4s and (3) three 2x4-72" wall studs.
2. Install (2) two 2x4-72" wall studs between wall plates at each end. Install (1) one stud in the center of the wall frame.



3. Select the 12' back wall assembled in **Step 2**. Butt the 45" wall frame against the wall with siding. **DO NOT** nail these frames together so they can be separated later.
4. Install a siding panel on the 45" frame. Cut panel flush with the end of the wall frame. **DO NOT** nail along the long edge of siding that overlaps the 12' wall frame. You can nail this edge after the wall panels are installed. Two separate walls are easier to handle when erecting kit.



## Step 4 Assemble Front Wall Frames



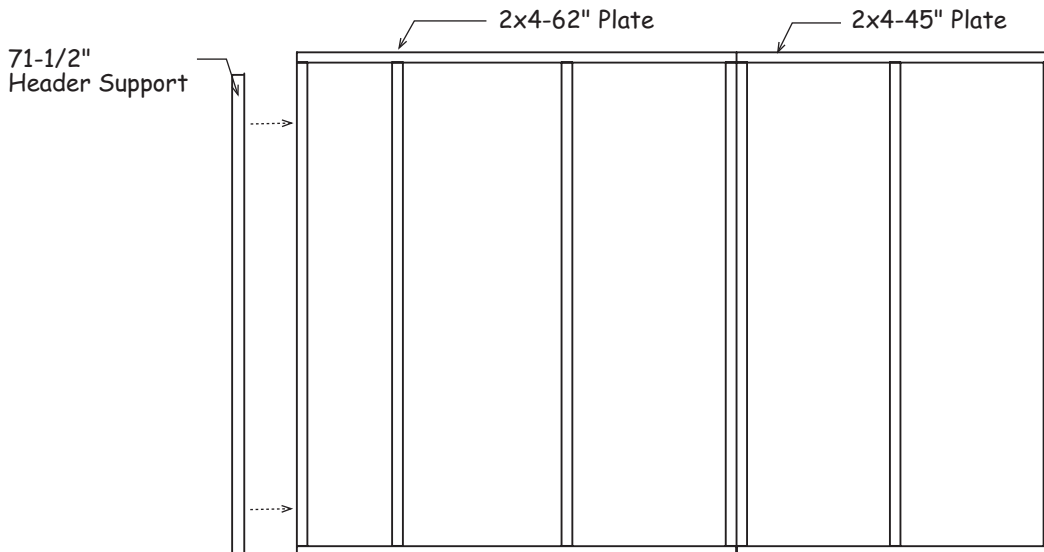
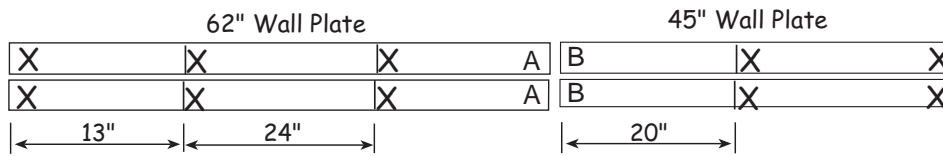
1. Locate (2) two 2x4-72" boards. Cut (1) one 14-1/2" plate from each board. Save the 57-1/2" long cutoffs, they will be used in a later step.
2. Assemble a wall frame using (2) two 2x4-72" boards and the (2) two 14-1/2" wall plates cut above.
3. Locate (1) one 2x4-72" board. Cut board to a length of 71-1/2". Install as a header support on the wall frame flush with bottom plate. Use 10d sinkers.

72" Studs

2x4-71-1/2" Header Support

2x4-14-1/2" Wall Plate

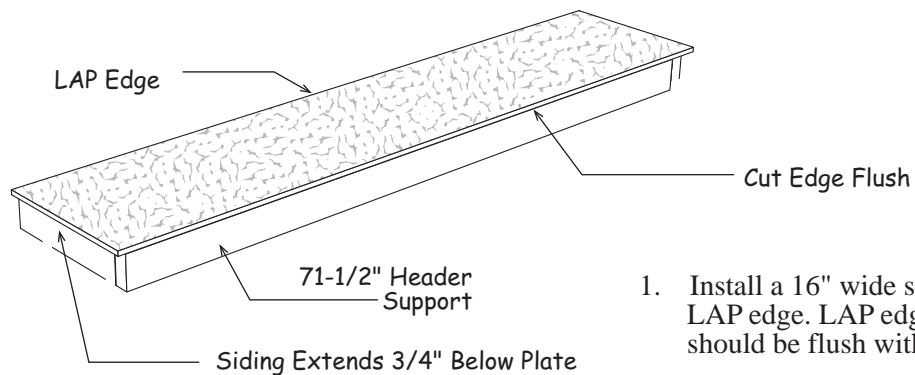
4. Gather (2) two 2x4-45" and (10) ten 2x4-72" boards. Cut (2) two 2x4-72" to a length of 62".
5. Position the 62" and 45" boards together and indicate with 'X' marks where the wall studs will be located. Mark the ends that will butt together with the letters 'A' and 'B'.




6. Cut a 72" long 2x4 to a length of 71-1/2" and install on the wall frame flush with bottom plate.

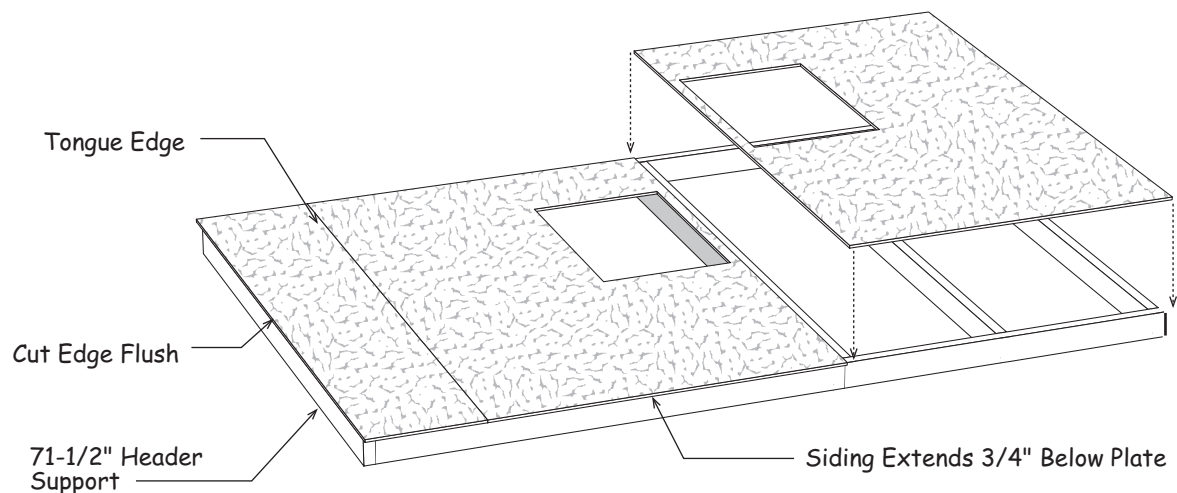
## Step 5 Install Siding on Front Wall Frames

 *If you want the door opening on the right, flip the walls and apply siding to the opposite side of the wall frames.*



2. Install a 16" wide siding panel with a tongue edge. The 'cut' edge should be flush with the side of the door opening.
3. Install (2) two more siding panels. Cut the last siding panel flush with the end of the wall frame.

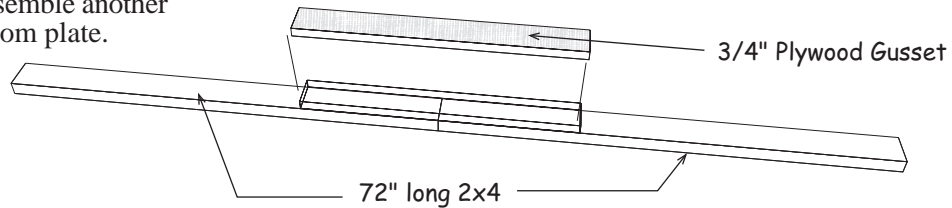
 If installing the optional window you can cut the opening in the siding. Instructions are packed in window box.



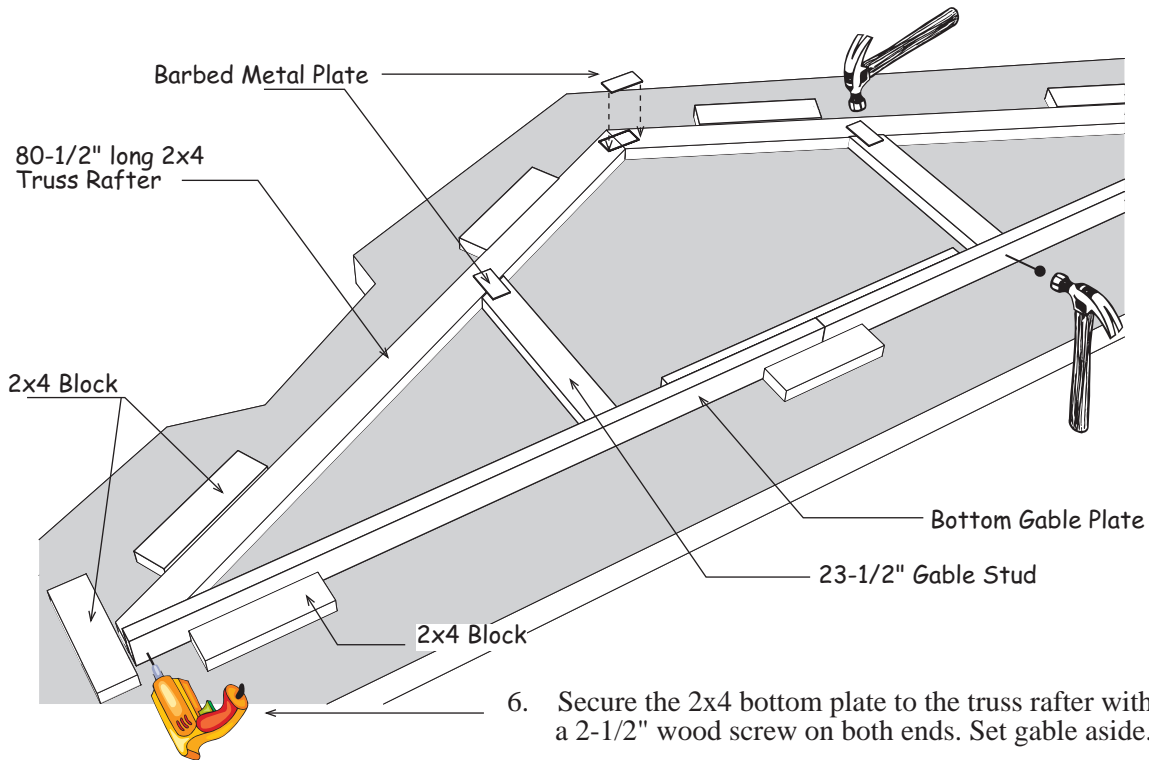


## Step 6 Assemble Roof Gables

1. Butt (2) two 72" long 2x4s together and secure them with a 3-1/2" x 31-3/4" long plywood gusset across the top where they butt together. Use glue and (12) twelve 6d common nails. This will be used as the bottom plate on the roof gables.
2. Repeat to assemble another 12' long bottom plate.



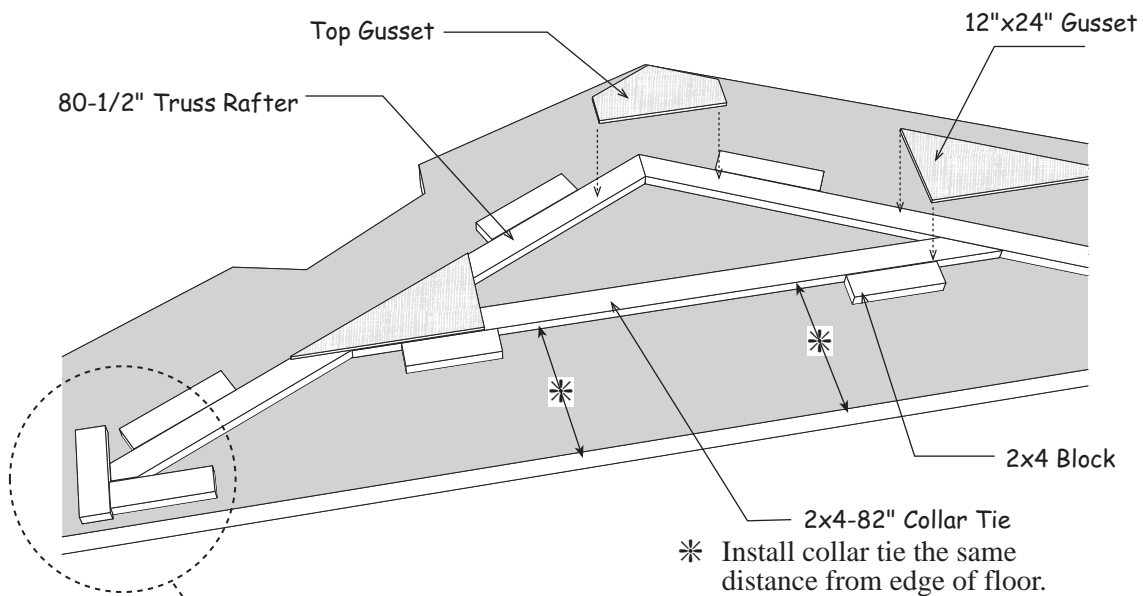
3. Place the bottom gable plate on the floor along with (2) two 80-1/2" long 2x4 truss rafters as shown below. Bottom plate will be on edge. There are short 2x4s, that may have an angle on one end, supplied in the kit. Use these to hold the truss rafter and bottom gable plate together by temporarily screwing the blocks to the floor using 2-1/2" screws. This will ensure that the gable frames and the trusses, assembled next, are identical.
4. Secure the top of the truss rafters together with a 1"x4" barbed metal drive-on plate.
5. Install (2) two 23-1/2" gable studs with angle cut at one end. Nail through the bottom plate with 10d sinkers and secure the top with barbed metal drive-on plates.



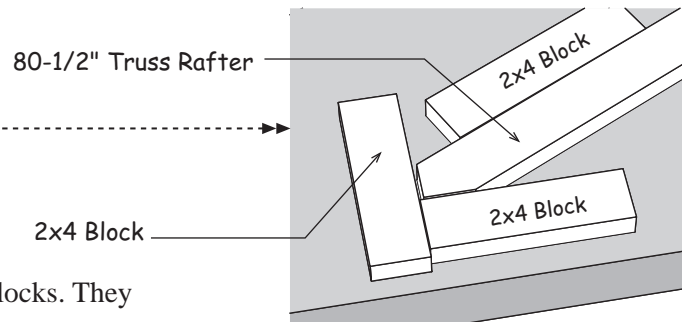
6. Secure the 2x4 bottom plate to the truss rafter with a 2-1/2" wood screw on both ends. Set gable aside.
7. Repeat steps 3-6 to assemble another gable.

## Step 7 Assemble Roof Trusses

1. Place (2) two 80-1/2" long 2x4 truss rafters and a 82" long collar tie together as shown below. The collar tie has an angle cut on both ends. Reposition the lower 2x4 blocks to hold the truss rafter and collar tie in place. See **'Detail B'**.
2. Secure the 2x4 truss rafters at the top with a 8" x 20" wood gusset. Apply wood glue between the 2x4s and the gusset. Nail the gusset to the 2x4s with (14) fourteen 6d common nails,
3. Install (2) two 12"x24" gussets at ends of the collar tie. Glue and nail using 14 nails per gusset.
4. Turn this truss over and apply wood gussets to the opposite side.
5. Repeat to assemble (6) six more trusses.



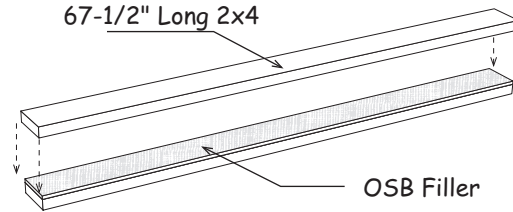
### Detail 'B'



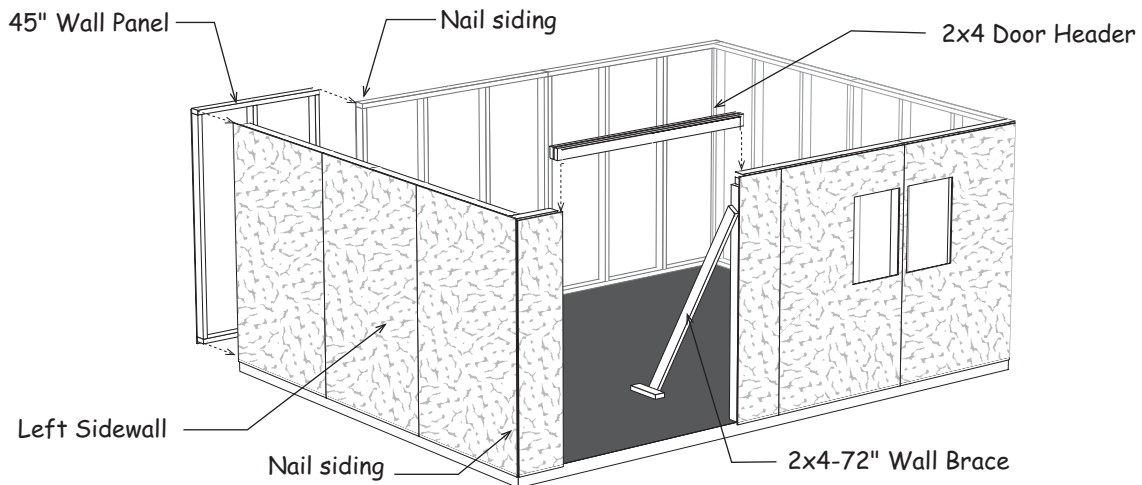
6. Remove and save the short 2x4 blocks. They will be used in a later step.

## Step 8 Set Walls & Install Door Header

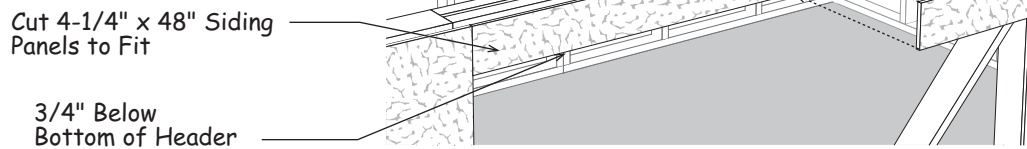
1. Gather (2) two 67-1/2" long 2x4 boards and a 3-1/4" x 67-1/4" OSB filler panel. Glue both sides of OSB. Nail header together from both sides with 10d sinkers staggered 6" apart.



2. Erect wall panels. **IMPORTANT make sure walls are plumb and square.** Secure together at the corners using (4) four 10d sinkers per corner
3. Nail siding on 45" wall panel to 12' wall panel. Nail along siding edge where it overlaps front and back walls at corners.
4. Install the 2x4 door header between the front wall panels. Nail through the wall studs into the ends of the header. Toenail into the top wall plates.
5. Remove the center (2) two 2x4-84" boards from pallet and temporarily install at both sides of the door opening to hold the wall straight. Alternatively you can use 2x4-72" boards that will be used later for tie plates.
6. Nail wall panels to the floor through the bottom plate. Space 10d sinkers 24" apart.



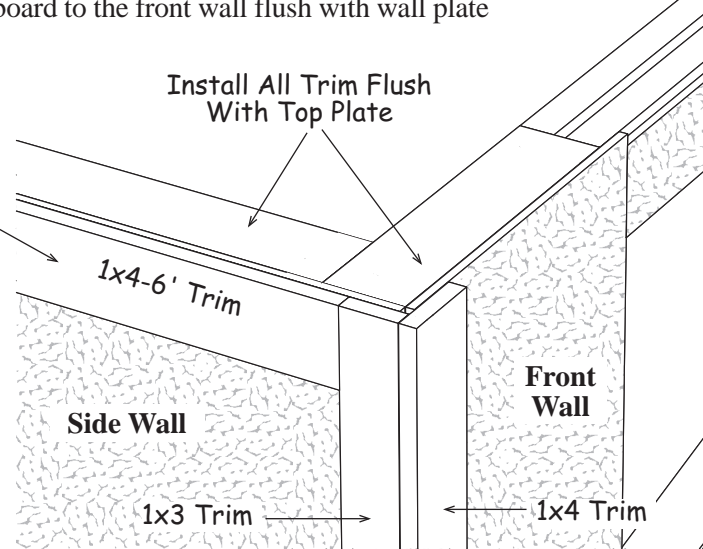
7. Install (2) two 4-1/4" siding panels over the door header. The siding should extend 3/4" below the door header. Cut length to fit. Wall trim, installed later, will hide where the siding butts the front wall panels.



## Step 9 Install White Pine Trim

 *Tip; Paint the siding and trim boards before installing the trim.*

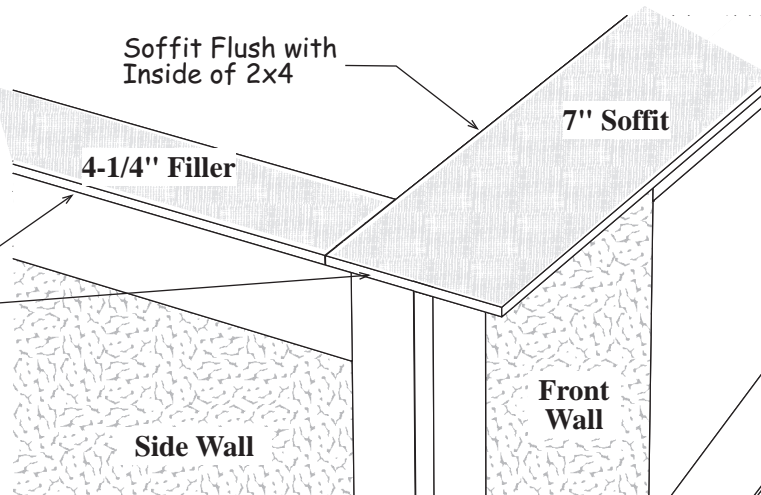
1. Install (2) two 75-3/4" long 1x3 corner trim boards to the side wall flush with the top 2x4 wall plate and flush with siding on the front and back walls. Use 8d galv. nails, spaced 12" apart.
2. Install a 75-3/4" long 1x4 trim board to the front wall flush with wall plate and with 1x3 trim.
3. Butt a 1x4-6' board against 1x3 corner trim and flush with top plate. Nail along top with 8d galv. nails.
4. Cut a second 1x4-6' trim board to finish at opposite corner.
5. Install trim on the opposite side wall and corner trim on front and back walls.



## Step 10 Install Primed Soffit and Filler

1. Install a 7" wide x 48-3/4" long primed siding panel, *as soffit*, over the front wall with the primed side facing down. Install soffit flush with the inside of the top 2x4 wall plate and flush with the trim on the side wall. Tack the soffit with a couple 6d common nails. Installing 2x4 tie plates in a later step will provide more nailing.
2. Install (3) three more soffit panels cutting the last panel flush with the side wall trim.
3. Repeat to install 7" soffit boards on the back wall.
4. Install (3) three 4-1/4" wide x 48-3/4" filler panels over the side walls. Install the filler flush with the 1x4 trim. Cut last filler to fit.

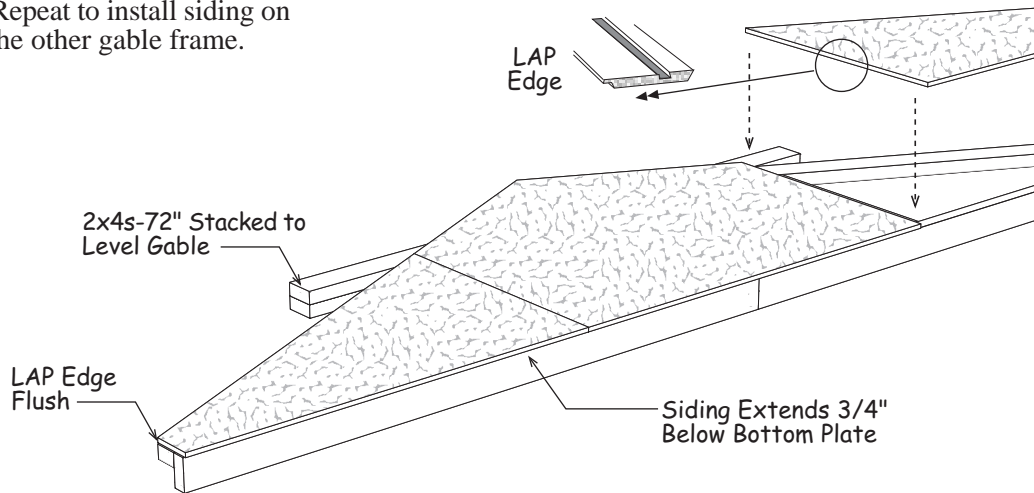
Soffit and Filler Flush with Side Wall Trim



5. Repeat to install filler on the opposite wall.

## Step 11 Install Siding on Gables

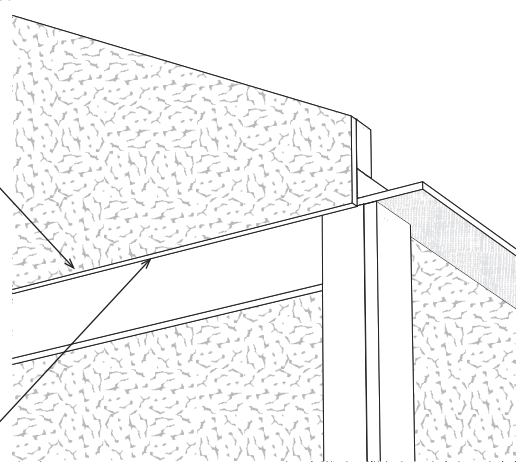
1. Select one of the gable frames. Turn the gable over so bottom plate is on edge on floor. Support gable studs and rafters with (2) two 2x4-72" boards stacked. This will give you a solid surface when nailing siding.
2. Install left gable siding panel with the 'LAP' edge flush with the end of of bottom plate. Use 6d galv. nails across the top of the 2x4 frame and gable studs. Use 8d galv. nails across the bottom plate. The siding will extend 3/4" below the bottom 2x4.
3. Install center and right panels. Cut last panel flush with end of bottom plate.
4. Repeat to install siding on the other gable frame.



## Step 12 Install Gables

1. Install a gable on the left sidewall. The gable siding will extend over the 1x4 trim on the lower wall. Secure gable to wall by nailing through the gable plate with 10d sinkers. Nail siding along the 1x4 trim board with 8d galv. nails.
2. Install gable on the opposite sidewall.

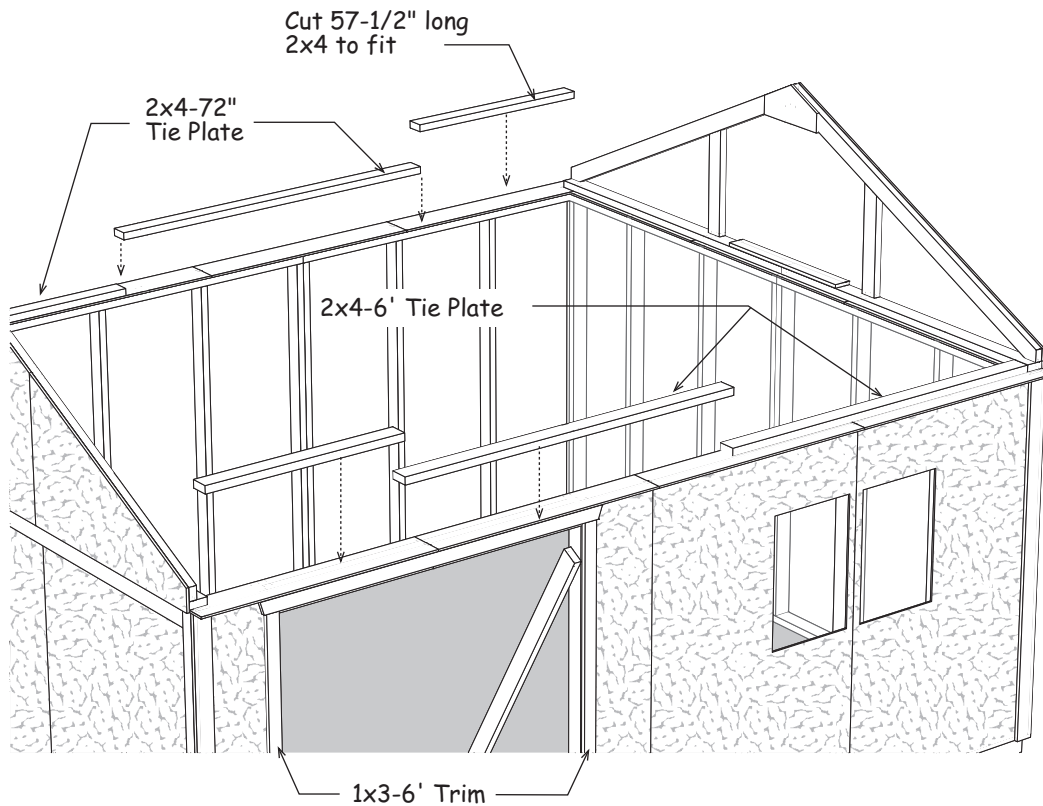
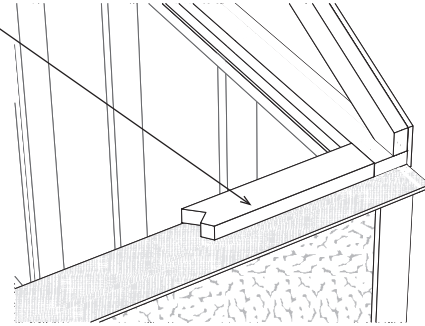
**Important: Bottom edge of siding extends over 1x4 trim. Paint this edge.**



## Step 13 Install 2x4 Tie Plates & Door Trim

Install 2x4 tie plates over the front and back walls. Install tie plates over the soffit panels and flush with the inside of 2x4 top plates.

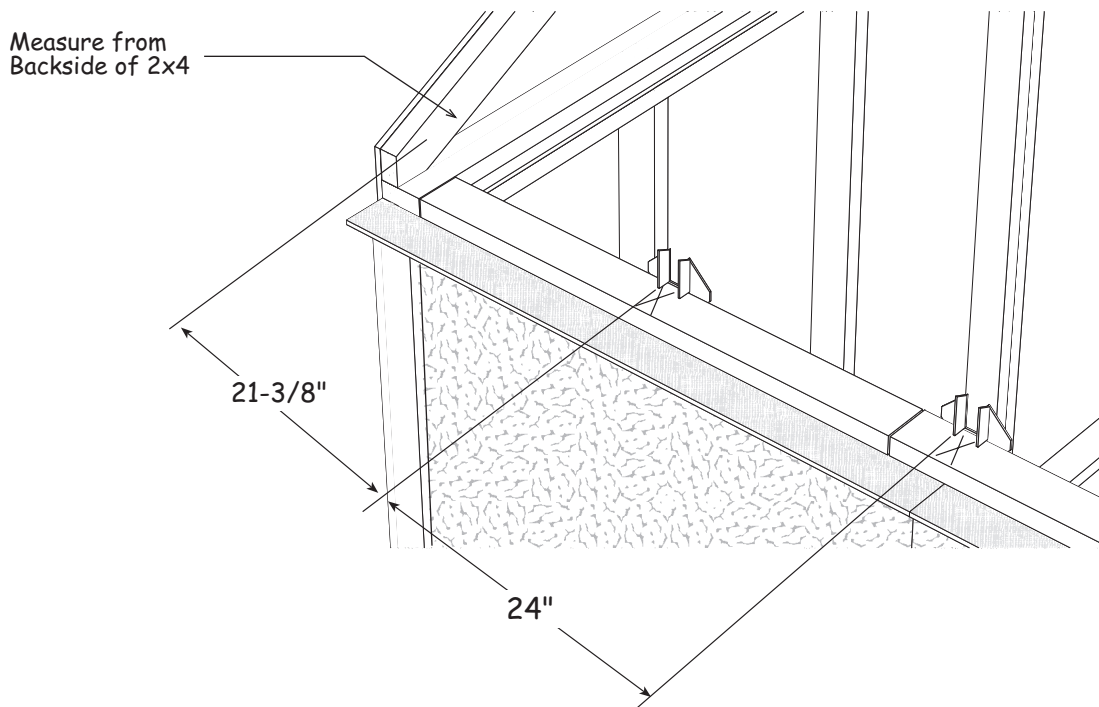
1. Install (2) two 2x4-72" boards on the front wall starting at the front right corner. Use 10d sinkers spaced 16" apart.
2. Cut to fit a 57-1/2" long 2x4 (from **Step 4**) to finish.
3. Install (2) two 2x4-72" boards starting at the back left corner.
4. Cut to fit a 57-1/2" long 2x4 (from **Step 4**) to finish.



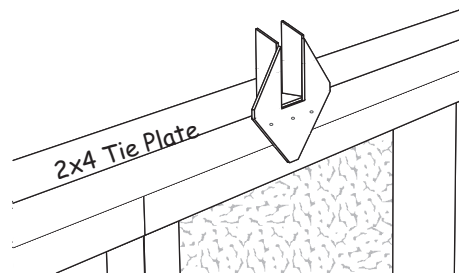
5. Install 1x3-72" boards along each side of the door opening, flush with the bottom edge of the siding. Tack these boards with a couple nails; you may want to move the trim later when you install the doors. Use 8d galv. nails.
6. Install a 1x3-72" board centered across the top of the side trim.

## Step 14 Layout Roof Trusses

1. Layout the truss spacing from the left sidewall of the building. Measure from the backside of the 2x4 gable frame when marking the location of the first truss. Continue 24" spacing to other gable. **Important:** When marking the opposite wall, place the 'X' mark on the same side of the line so your trusses are parallel when they are installed.
2. Install metal hangers to the tie plate with 6d common nails . The opening should line up with the 'X' mark, the bottom of the opening, flush with the 2x4 tie plate. **Detail 'D'**.



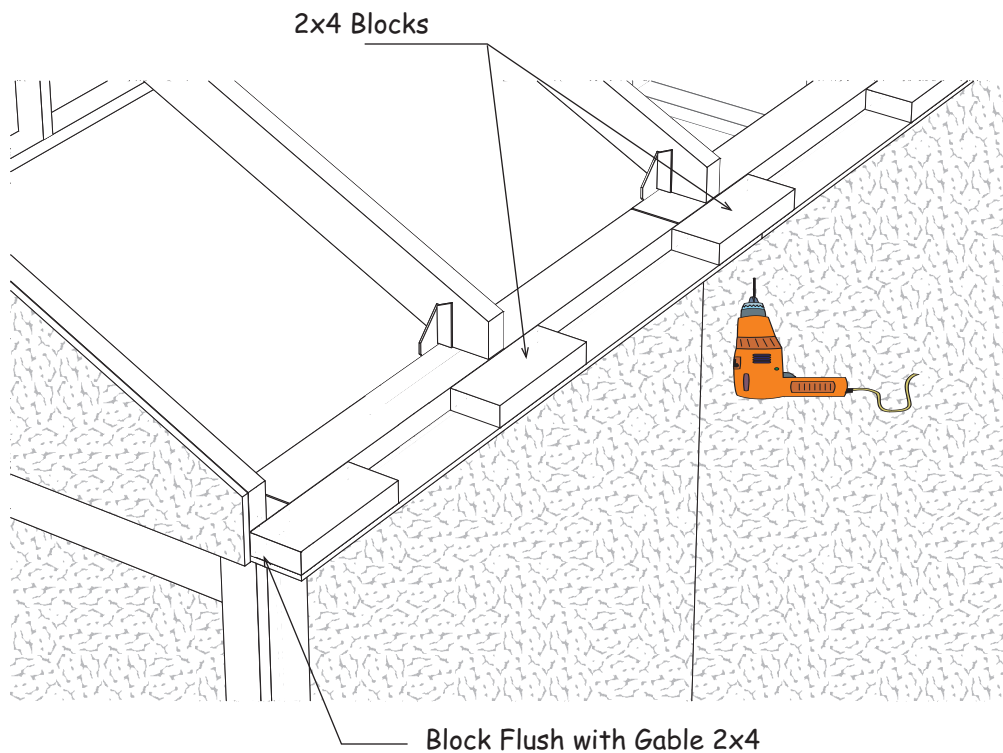
### Detail 'D'



Inside of Building

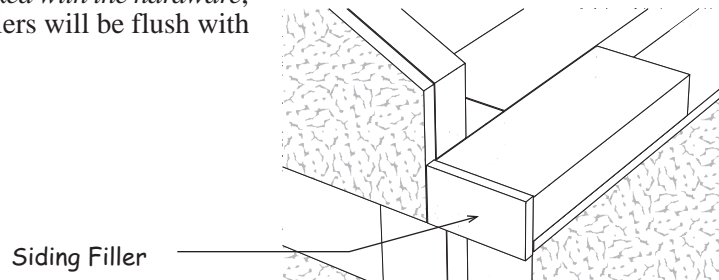
## Step 15 Set Roof Trusses and Soffit Blocks

1. Set roof trusses. Secure trusses to metal hangers with 6d common nails.
2. Install short 2x4 blocks at both ends of each truss. Secure 2x4 blocks to the soffit panel using (2) two 1-1/2" long exterior screws.
3. Install a 2x4 block at each end of the soffit, flush with the 2x4 gable frame. Not siding.



## Step 16 Install Siding Filler

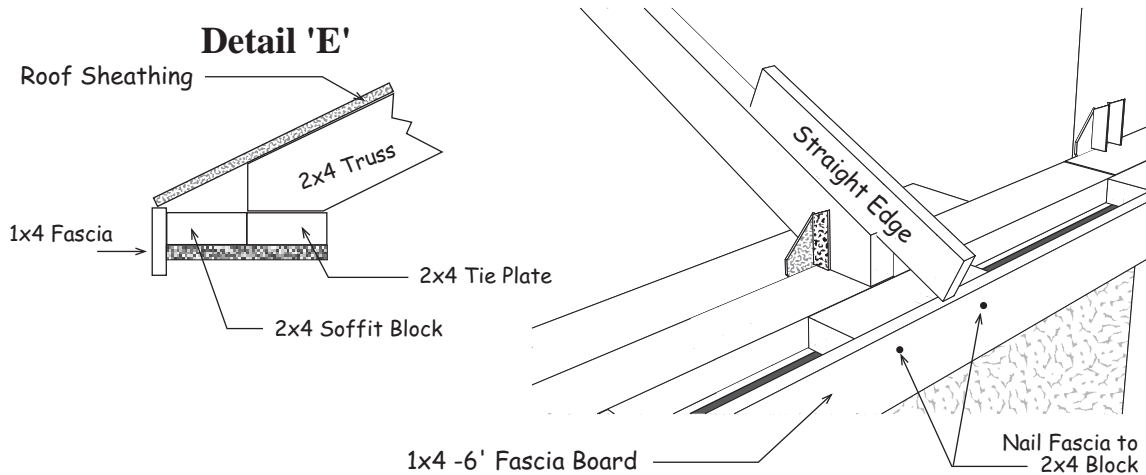
Install small primed siding fillers, *packed with the hardware*, over the 2x4 soffit blocks. Siding fillers will be flush with the gable siding. Use 6d galv. nails.



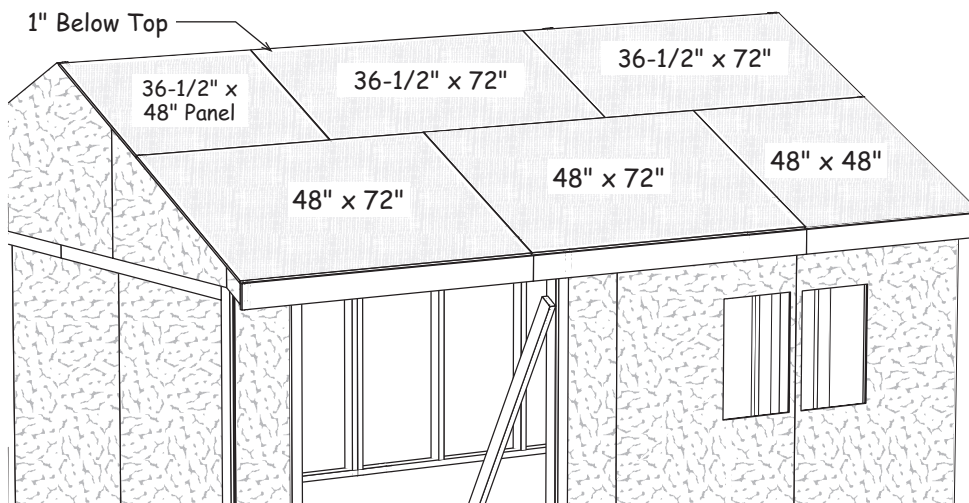


## Step 17 Install 1x4 Fascia & Roof Sheathing

- Starting at the front left of the building, install a 1x4-6' white pine fascia board flush with the face of the siding on the left gable. **See Detail 'E'**. Install the fascia so the bottom edge of the roof sheathing will rest on the edge of the 1x4. Use a straight edge to align the 1x4 boards with the top of the trusses. Install fascia with 8d galv. nails.

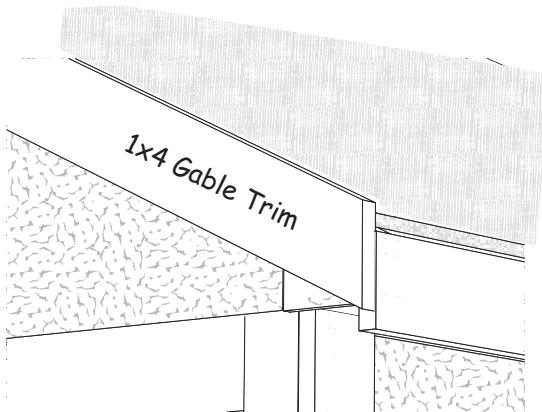
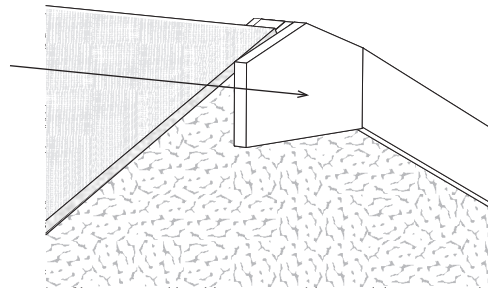


- Install 1x4-6' fascia in the center of the building.
- Cut to fit and install a 1x4-4' fascia at the right end of the building.
- Install roof sheathing per layout below. Sheathing should be flush with gable siding. Make sure the trusses are plumb and the roof sheathing meet at the center of the truss. Use 7d sinkers spaced 12" apart. The top row of roof sheathing will be about 1" below the ridge to allow for optional ventilation.
- Repeat on back of building to install fascia and roof sheathing.



## Step 18 Install Gable Trim

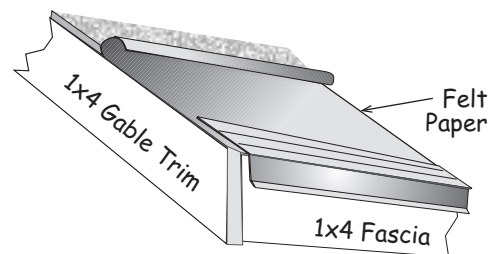
1. Install a 8-1/2" long trim board, called a *keystone*, at the top of the gable flush with the top of the roof sheathing. Use 8d galv. nails.



2. Install (2) two 81" long 1x4 trim boards flush with the top of the roof sheathing. Use 8d galv. nails.
3. Repeat to install trim on other gable end.

## Step 19 Install Roofing — Not Supplied in Kit

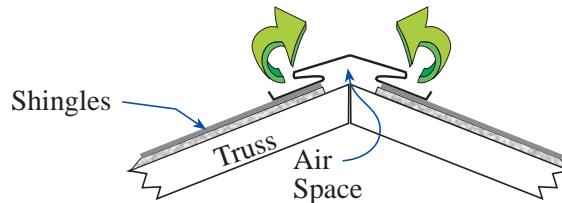
1. Install metal roof edging on the perimeter of the roof area. If you are not installing shingles at this time, you can purchase felt paper to protect the roof sheathing. Install the felt paper before you install the metal roof edge.



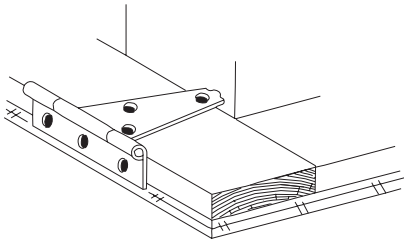
2. Install shingles according to the instructions on the wrapper. If you need more detailed instructions on installing shingles, there are good publications online.

**Building Tip:** Install ridge vent in lieu of shingles caps. Ridge vent provides ideal ventilation, preventing heat and moisture from damaging your building or its contents.

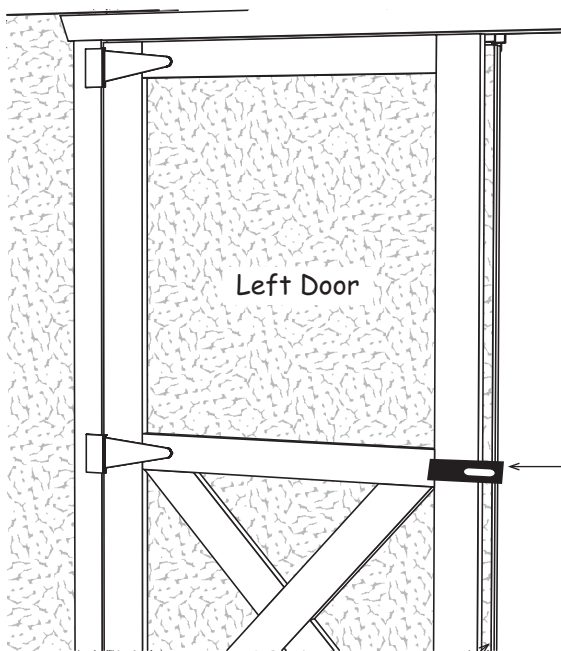
*Optional ridge vent provides ideal ventilation.*



## Step 20 Install Doors & Hardware



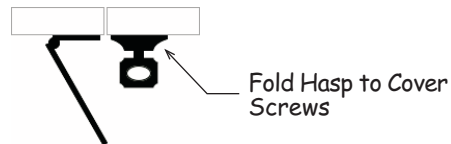
1. Lay the left door with the trim facing up. The siding on the left door extends past the door trim. See detail below.
2. Install 5" hinges to the left side of the door frame. To position the hinge properly, hold the rectangular plate against the frame. Use 1-1/4" black screws.
3. Install hinges to the right side of the other door.



4. Before you fasten the hinges to the door trim, temporarily prop the doors in the opening. Leave a space at the top of the doors and between the doors and the side trim to allow room for the doors to expand when they absorb moisture.

If your door opening is out of square, the space around the doors will not be even. You can remove and reposition the side trim to make allowances for this. The side trim does not have to be flush with the frame of the door opening. You can move the trim in or out to make the door spacing equal.

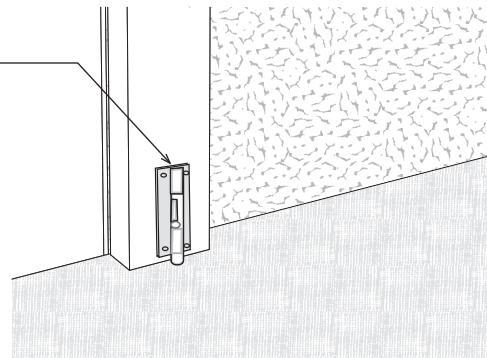
5. Install hinges to trim with 2" screws.
6. Install door hasp on double doors and closing side of single door. When properly installed the hasp will fold in half to receive locking latch and the screw heads will be covered.



Siding Extends Past Trim

Barrel Bolt on the back of left door

6. Install a barrel bolt on the lower back of the door to secure this door in place when closed. You will need to drill a hole for the round shaft to drop into.
7. Install another barrel bolt at the top of the door.



### **Material List**

7	2x4 for Collar Ties	82"
18	2x4 for Truss Rafters	80-1/2"
54	2x4 for Wall Studs & Plates	72"
8	2x4 for Wall Plates	68-1/2"
2	2x4 for Door Header	67-1/2"
4	2x4 for Wall Plates	45"
4	2x4 for Gable Studs	23-1/2"
18	2x4 for Soffit Blocks	6" to 8"
14	Truss Gussets	7/16" 10" x 24"
28	Truss Gussets	7/16" 12" x 24"
2	Plywood Gusset	3/4" 3-1/2" x 32"
14	2"x4" Metal Truss Hangers	
2	ea Pre-built Doors	32" x 71-3/4"
<b><i>LP Primed Exterior Siding</i></b>		
12	ea Siding Panels	48" x 75-3/4"
2	ea Siding Panels	16" x 75-3/4"
2	ea Gable Siding	48" x 40" <i>angle cut</i>
4	ea Gable Siding	48" x 28" <i>angle cut</i>
8	ea Soffit Panels	48" x 7"
6	ea Filler Panels	48" x 4-1/4"
2	ea Siding Panels	48" x 4-1/4"
<b><i>Packed in hardware bag</i></b>		
4	ea Siding Fillers	3-1/2" x 2-1/2"

Roof Covering - not supplied in kit			
9	bdl.	Roof Shingles	
8	pcs.	Roof 'drip' Edge	10'

3	1 lb. box	10d	Sinkers
3	1 lb. box	8d	Galv.
2	1 lb. box	7d	Sinkers
1	1 lb. box	6d	Galv.
1	5 lb. box	6d	Common
6	ea.	5"	Door Hinges
1	ea.	4"	Door Latch
2	ea.	6"	Barrel Bolts
25	ea.	2"	Hinge Screws
25	ea.	1-1/4"	Hinge Screws
40	ea.	1-1/2"	Exterior Screws
25	ea.	2-1/2"	Deck Screws
6	ea.	1"x4"	Metal Plates
2	ea.		Bottle Glue
4	ea.	1x4 Gable Trim	81"
4	ea.	1x4 Fascia Trim	72"
2	ea.	1x4 Fascia Trim	48"
4	ea.	1x4 Corner Trim	75-3/4"
4	ea.	1x3 Corner Trim	75-3/4"
4	ea.	1x4 Wall Trim	72"
3	ea.	1x3 Door Trim	72"
2	ea.	1x6 Keystone	8-1/2"
<b><i>Roof Sheathing</i></b>			
4	ea.	Sheathing 7/16"	48" x 72"
2	ea.	Sheathing 7/16"	48" x 48"
4	ea.	Sheathing 7/16"	36-1/2" x 72"
2	ea.	Sheathing 7/16"	36-1/2" x 48"
1	ea.	Dr Filler 7/16"	3-1/4" x 67"