



Best Barns USA Assembly Book

Revised March 15, 2024



the Denver

12' x 16'

Manufactured by RBS Holdings, LLC

205 Arlington Drive

Greenville, PA 16125

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IMPORTANT INFORMATION ABOUT YOUR KIT

Thank you for purchasing our kit. Please read the following information before beginning construction. Always check with your local HOA or building code office for any requirements or restrictions.

Floor: Wood flooring is sold optionally. You may choose to build your own or pour a cement pad.

Always wear safety glasses when cutting or nailing!

Tools Required:	Hand or Circular Saw	Level	Safety Glasses
	Cordless Drill	Measuring Tape	Dust Mask
	Hammer	6'-8' Ladder(s)	Phillips Screwdriver
	Pencil		Framing Square

Additional Materials - **Not included in kit:**

Windows are purchased separately

Required: Shingles or metal roofing, Drip Edge, Roofing Nails or Screws, Paint

Optional: Caulk, Ridge Vent

Terminology:

Square - Confirm corners are at 90 degrees

Plumb - Confirm walls and trusses are straight vertically

Wall Plate - Top and bottom 2x4s used to frame walls

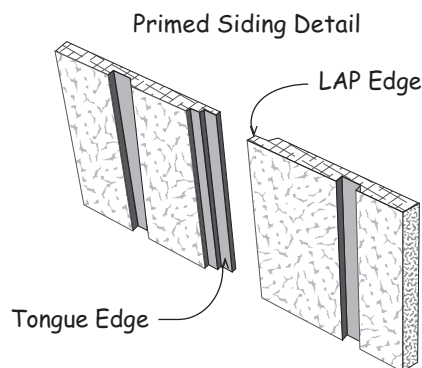
Tie Plate - 2x4s connecting wall sections together

Header - Spans top of door opening

OSB - Oriented Strand Board

LAP - Edge of siding that overlaps Tongue

Tongue - Edge of siding that is overlapped



Organize:

Unpack all items & organize according to size and type. This will make items easier to find when instructed.

Review the parts list on the back page. Should there be missing items or sub-par material contact Best Barns Customer Service.

DO NOT discard any material including the pallet until your project is complete.

Assembly:

Review all instructions before you begin. Please follow steps carefully and in sequence for successful results.

If you have any questions we are happy to assist you. Please contact us at:

800-245-1577 - Mon - Fri 8AM - 5PM EST

724-866-4357 - After hours and weekends

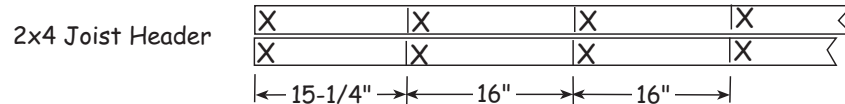
Email - questions@barnkits.com

Constructing Details for Deluxe Floor System

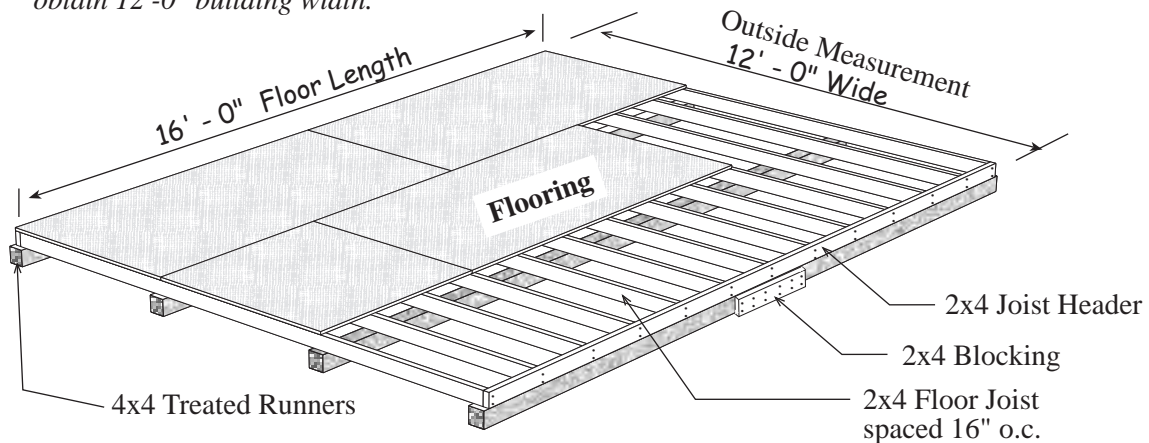
Floor System is optionally purchased

Foundation size is 12'-0" x 16'-0". 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 16' - 0". Layout for 16" on center joist spacing. 'X' marks where floor joist will be placed.



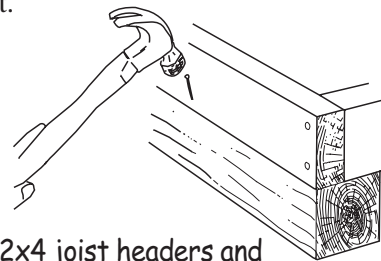
3. Cut 2x4-12' floor joist to 11'-9". *Treated lumber may be thicker than 1-1/2". Take this into account when cutting the length of floor joists. Shorten joist measurements if necessary to obtain 12'-0" building width.*



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.

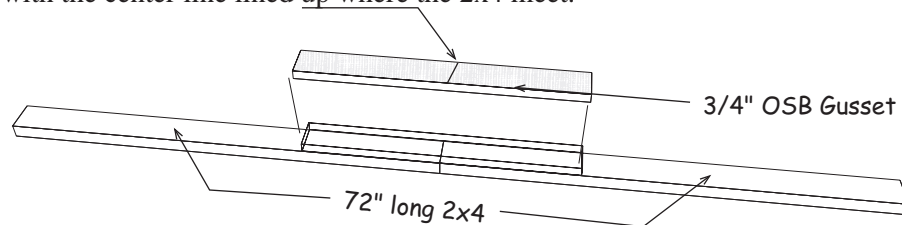
Material Description	Qty. & Size
2x4 Treated Blocking	2 pcs. 8'
2x4 Treated Floor Joists	13 pcs. 12'
2x4 Treated Joist Headers	2 pcs. 16'
4x4 Treated Runners	8 pcs. 8'
Flooring: 5/8" or 3/4"	6 pcs. 4x8
Galv. Spiral Floor Nails	3 lbs. 8d
Galvanized Deck Nails	3 lbs. 16d



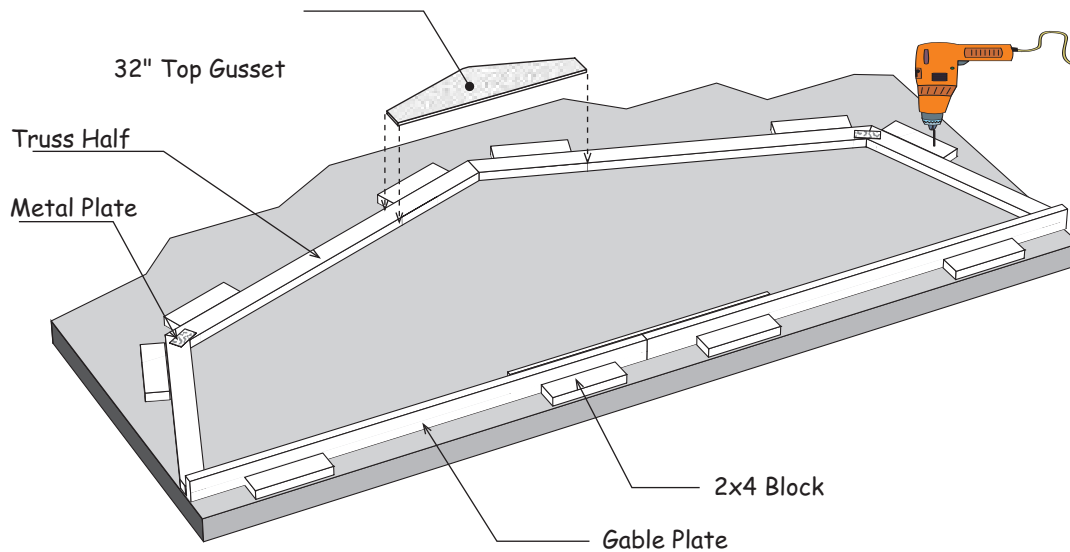
Nail 2x4 joist headers and floor joist to 4x4 runners.

Step 1 Assemble Trusses

1. Butt (2) two 72" long 2x4s together and secure them by nailing a 3-1/2" x 42-3/4" long OSB gusset across the top where they butt together. Use 6d common nails. Install the gusset with the center line lined up where the 2x4 meet.



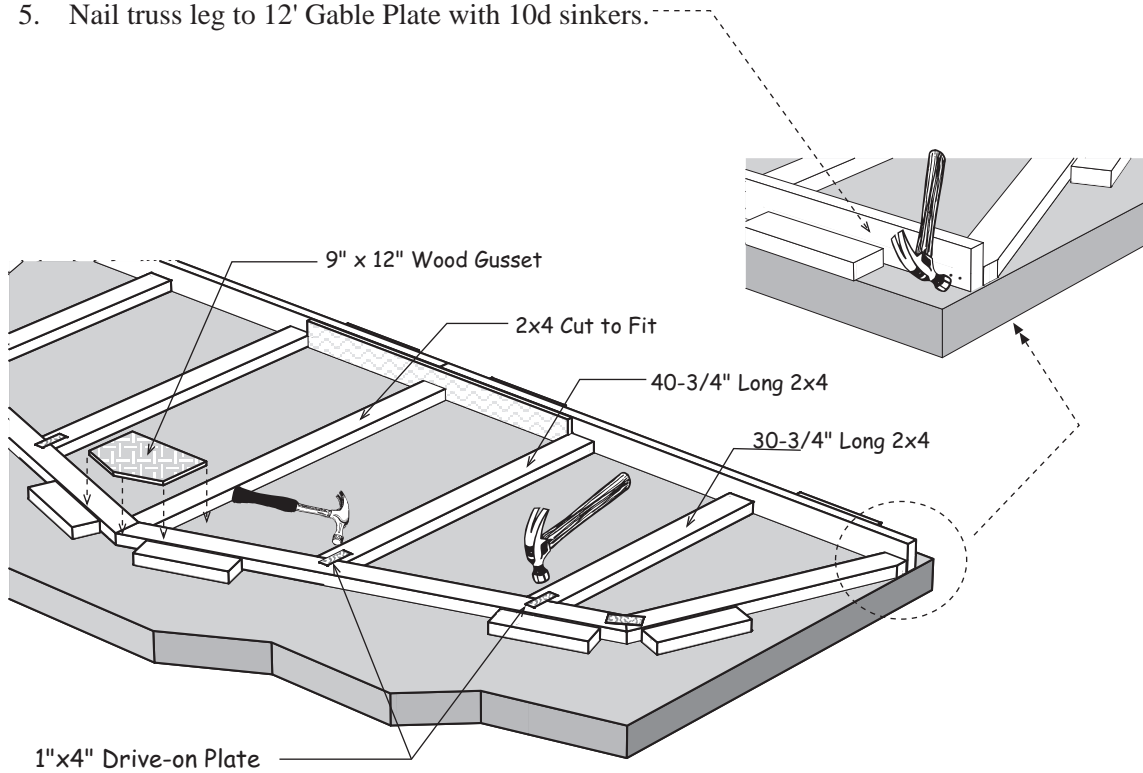
2. Repeat to assemble another Gable Plate.
3. Position a Gable Plate on the floor. Use 2x4 blocks to hold the 2x4 plate straight.
4. Position (2) two truss halves (*2x4s connected with a metal plate*) with the short legs against the 2x4 Gable Plate. **DO NOT** attach the Gable Plate Assembly to the truss. It is temporarily used to help hold the 2x4 truss parts in place and will be used in a later step.
5. There are short 2x4s, that may have an angle on one or both ends. Use these as a jig to hold the truss halves and gable plate together by temporarily screwing or tack-nail blocks to floor. This will ensure that the trusses and gable ends are identical.



6. Secure the 2x4s at the peak with a 12" x 32" wood gusset. Take the gusset and truss and nail with (25) twenty-five 6d common nails.
7. Turn the truss over and install a gusset to the other side of the truss.
8. Repeat steps 4-7 to assemble (6) six more trusses.


Step 2 Assemble Roof Gables

1. Place (2) two truss halves together on the 2x4 gable plate.
2. Cut a 50" long 2x4 to fit and install in the center of the gable. Nail through gable plate and OSB gusset with (2) two 10d sinkers. Secure the top with a 9" x 12" wood gusset.
3. Butt (2) two 40-3/4" long 2x4s against the wood gusset. Secure the bottoms to the 2x4 gable plate by nailing through plate with (2) two 10d sinkers. Secure the tops with a barbed plate.
4. Install (2) two 30-3/4" long 2x4s with barbed plates and nails.
5. Nail truss leg to 12' Gable Plate with 10d sinkers.

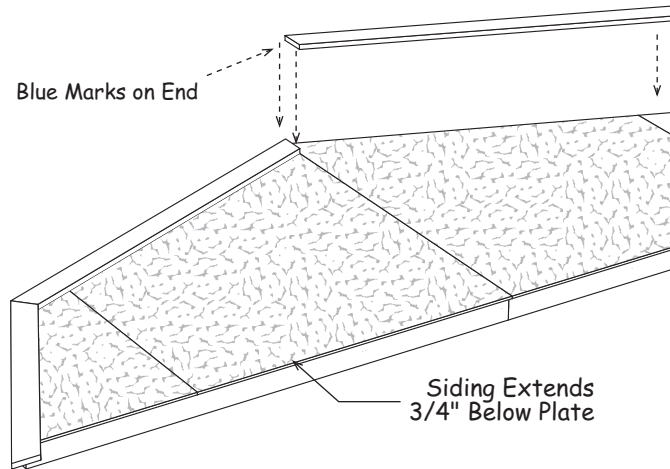


6. Repeat steps to assemble the front roof gable.

Step 3 Apply Siding and Trim to Roof Gables

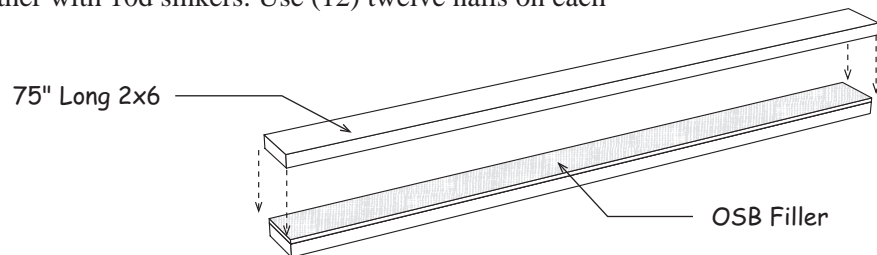
 **Note:** Gable siding will be applied from left to right on rear gable and right to left on front gable. 'LAP edge will overlap 'Tongue' edge.

1. Remove 2x4 blocks and turn the gable frame over.
2. Install pre-cut siding on rear gable. Bottom of siding extends 3/4" below the gable plate. Use 6d galv. nails spaced 8" apart.
3. Install (2) two 61" long 1x4 gable trim flush with the top edge of the gable. Install the ends with blue marks together. Install trim with 6d galv. nails.
4. Install (2) two 42-1/2" long 1x4 gable trim flush with the side edge of the gable.
5. Install siding and trim on the front gable.

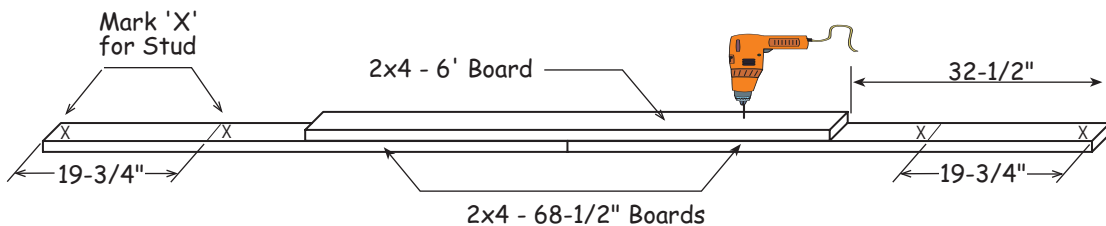


Step 4 Assemble Door Header & Bottom Wall Plate

Assemble door header using (2) two 75" long 2x6 boards and a 75" OSB filler panel. Nail header together with 10d sinkers. Use (12) twelve nails on each side.



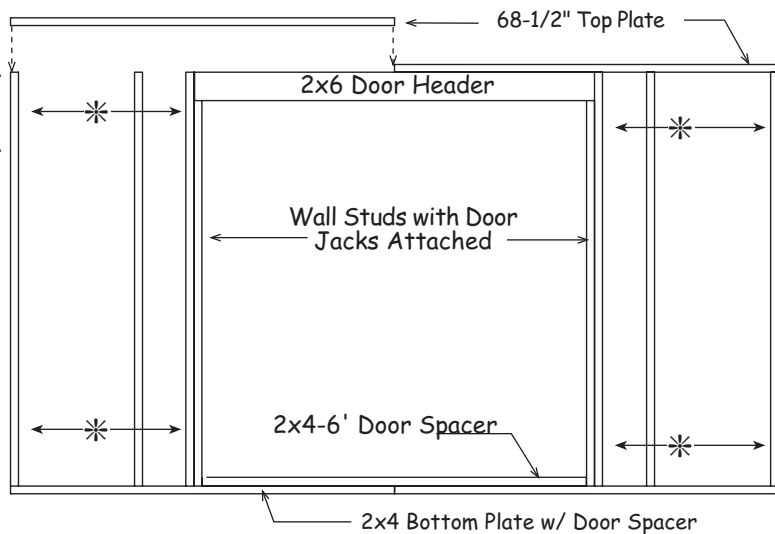
Butt (2) two 68-1/2" boards together. Center a 2x4-6' board (used as door spacer) on top and temporarily screw the boards together using (4) four 2-1/2" wood screws. Mark stud spacing as shown below.



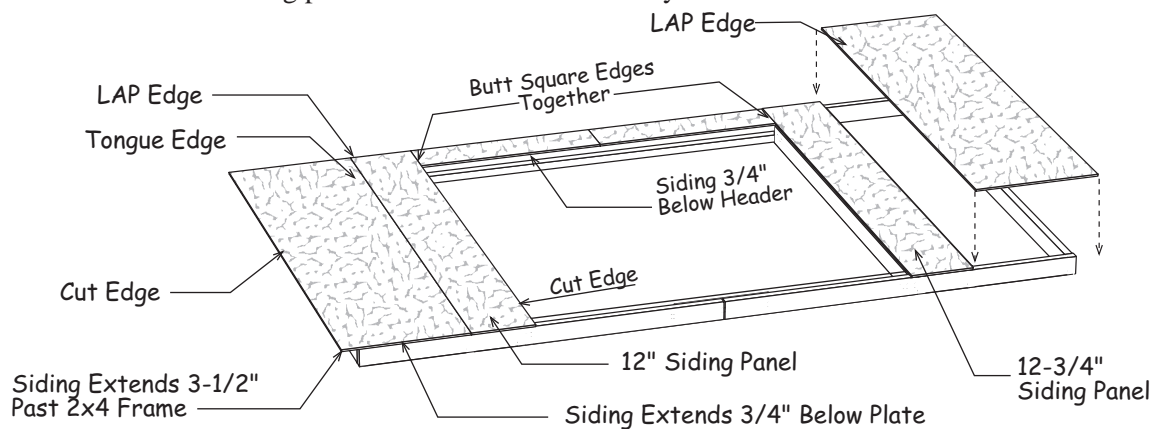
Step 5 Assemble Front Wall

1. Gather the material listed below to assemble the door wall.
2. Install (4) four 80-1/4" wall studs over the 'X' marks. Use (2) two 10d sinkers on each end.
3. Install pre-built studs with the door jacks attached to either side of the door spacer.
4. Install door header on the door jacks. Use 10d sinkers.

Material List	
2	68-1/2" Wall Plates
4	80-1/4' Wall Studs
2	80-1/4' Wall Studs w/ door jacks attached
1	Door Header from Step 4
1	Bottom Plate from Step 4

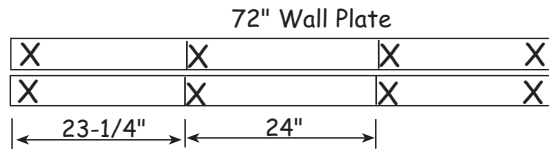


5. Square wall frame. *Measure diagonally (corner to corner). The measurements will be the same when the wall is square.*
6. Locate a 12" siding panel that has a 'LAP' edge. Position the 'cut' edge flush with the left side of the door opening. **Do not** nail the 'LAP' edge until the other siding is applied. Siding should extend 3/4" below the bottom plate. Use 6d galv. nails spaced 8" apart.
7. Select the 24" wide siding panel, *with the 'tongue edge'*, and install this siding panel at the left end of the wall frame as shown below. Siding should extend 3-1/2" past frame.
8. Install (2) two 7-3/4" pre-cut siding panels over the door opening, flush with the top plate.
9. Install a 12-3/4" siding panel with the 'cut' edge flush with the side of the door opening.
10. Install the last siding panel. It will extend 3-1/2" beyond the 2x4 wall frame.

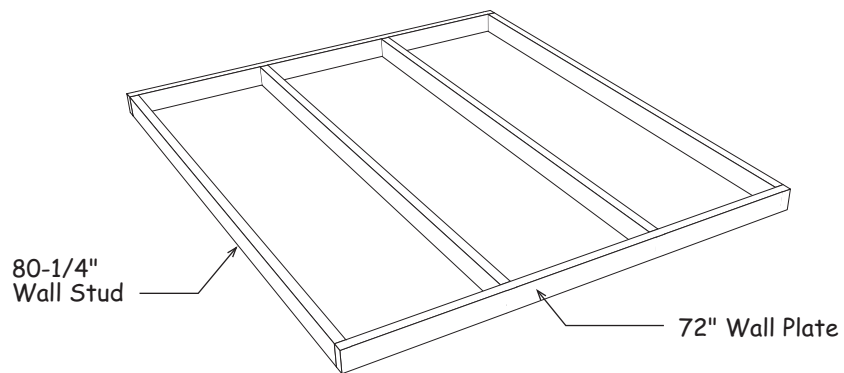


Step 6A Assemble Side Walls

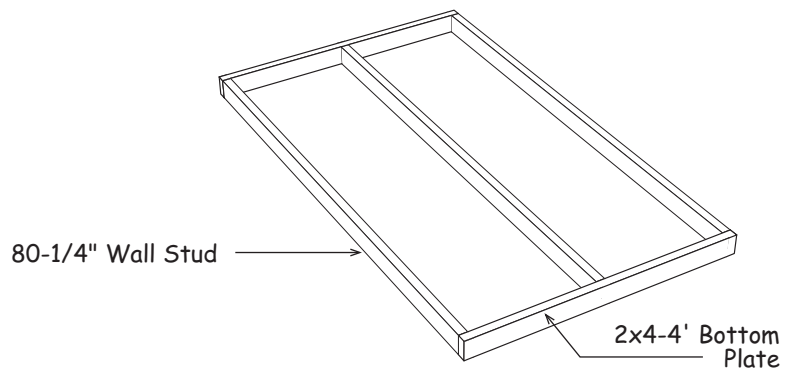
1. Position (2) two 2x4-72" boards together and indicate with 'X' marks, where the wall studs will be located.



2. Install (4) four 80-1/4" long wall studs between the wall plates. User (2) two 10d sinkers at each end of stud.



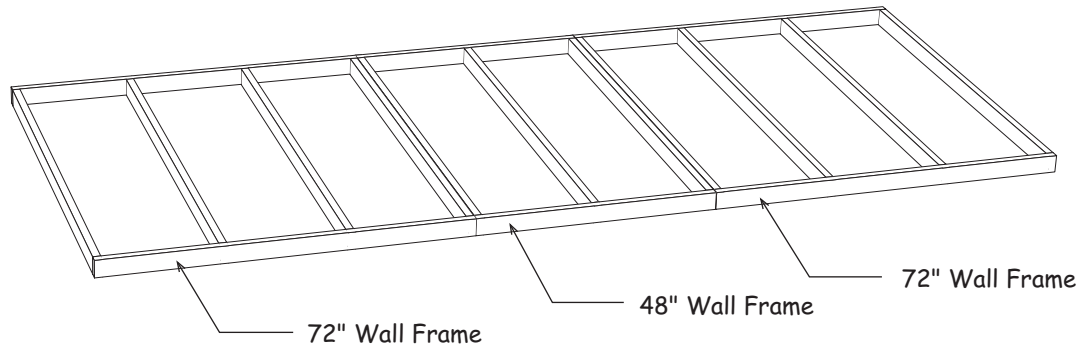
3. Repeat process to assemble (3) three more 72" wall frames.
4. Install (3) three 2x4-80-1/4" wall studs between (2) two 48" long 2x4s boards. Install the stud in the center of the wall frame.



5. Repeat to assemble another 4' wall section.

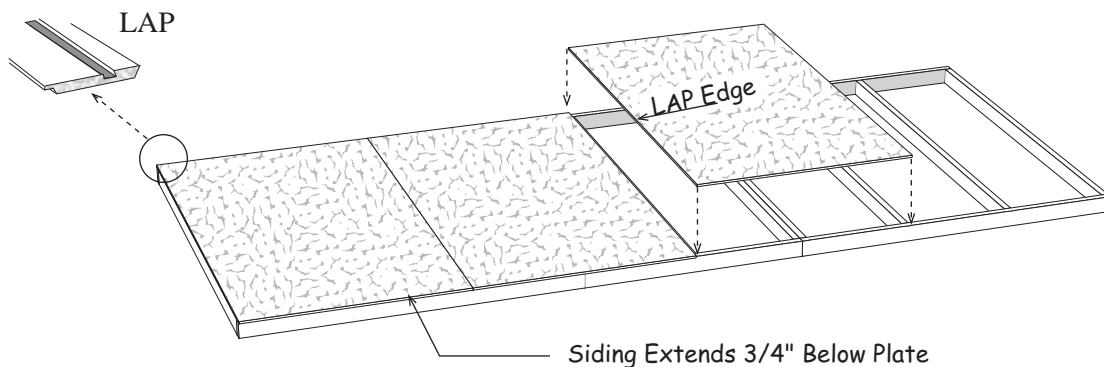
Step 6B Assemble Side Walls Continued

6. Position a 48" wide wall frame between (2) two 72" wall frames as shown below. Nail frames together with (4) four 10d sinkers staggered on each side.
7. Square wall frame. *Measure diagonally (corner to corner). The measurements will be the same when the wall is square.*



 *Cut the siding flush with the bottom plate if installing on a cement slab.*

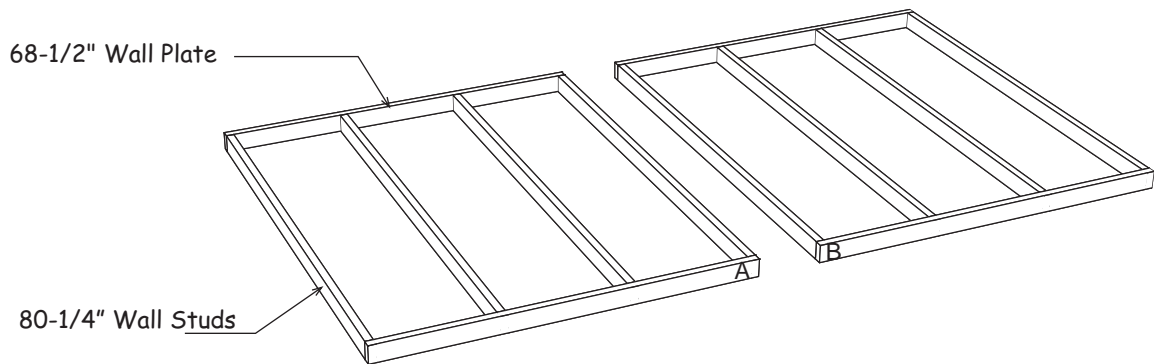
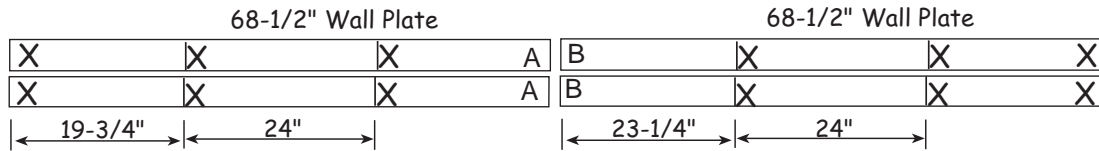
8. Install the first siding panel with the 'LAP edge' flush the end of the wall and extending 3/4" below the bottom plate. Use 6d galv. nails spaced 8" apart.
9. Install (2) two more siding panels. You can install the last siding panel now or after the walls are erected so the panel will be easier to handle.



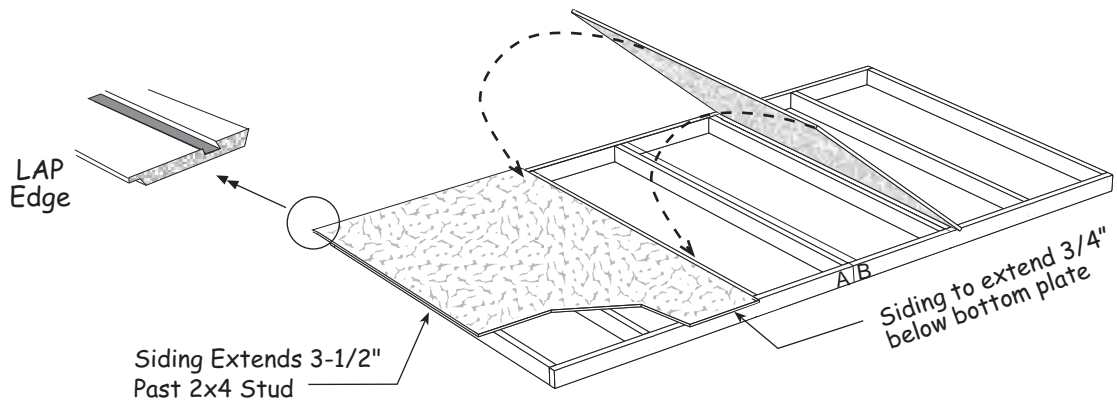
10. Repeat to assemble the another side wall.

Step 7 Assemble Back Wall

1. Position (4) four 2x4x68-1/2" 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'.
2. Install (8) eight 80-1/4" long wall studs, between the wall plates, over the 'X' marks and where the plates meet. Use (2) two 10d sinkers at each end of stud. Nail wall sections together using (4) four 10d sinkers on each side of studs.

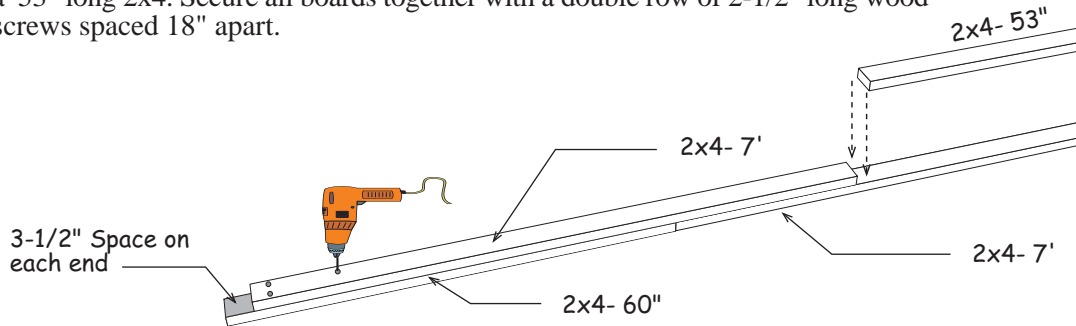


3. Square wall frame. *Measure diagonally (corner to corner). The measurements will be the same when the wall is square.*
4. Install the 1st siding panel with the 'LAP' edge extending 3-1/2" past the wall frame. The bottom will extend 3/4" below the bottom plate. Tip: Use 3/4" trim board as a gauge.
5. Install the other siding panels. Cut the last panel to extend 3-1/2" beyond the wall frame.

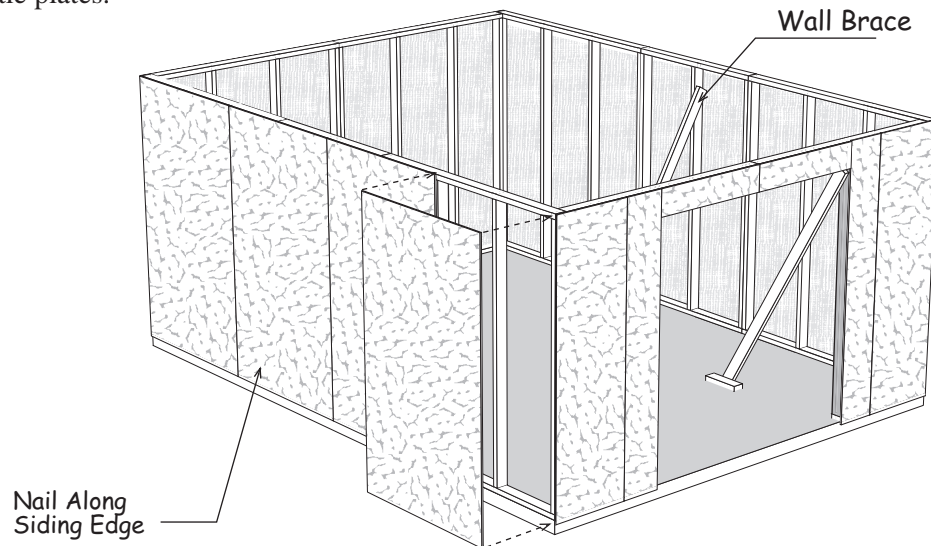


Step 8A Build Center Wall Brace & Set Walls

1. Butt together a 7' long and a 60" long 2x4 on a flat level surface.
2. Lay a 7' long 2x4 on top of the 60" long board 3-1/2" from end. Next to this butt a 53" long 2x4. Secure all boards together with a double row of 2-1/2" long wood screws spaced 18" apart.



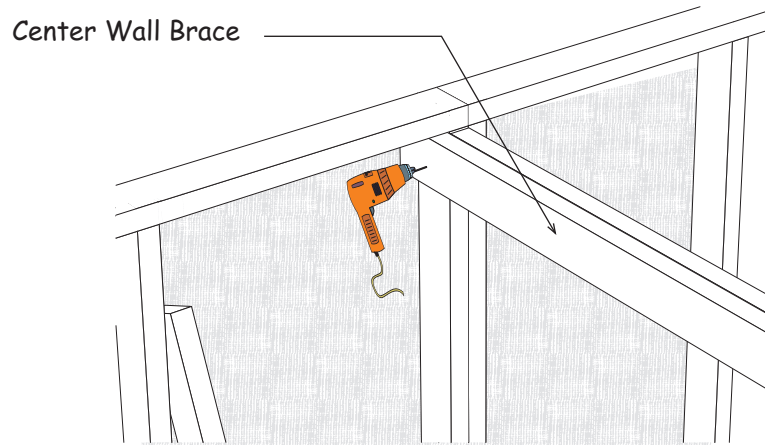
3. Set the back wall panel between the side walls. Secure wall panels together at the corners. Use (4) four 10d coated nails per corner.
4. Install the front wall frame between the side walls.
5. Install the last siding panel on the side walls. Nail along the siding edge where the side wall siding panels overlap.
6. Temporarily install (2) two 2x4-72" boards to hold side walls straight. These boards will be used later for tie plates.



7. Remove the 2x4 door spacer and install it in the door opening to brace the front wall.
8. Cut and remove the bottom 2x4s in the door opening. These will be used later. Secure walls to floor using 10d sinkers or concrete anchor bolts (not supplied).

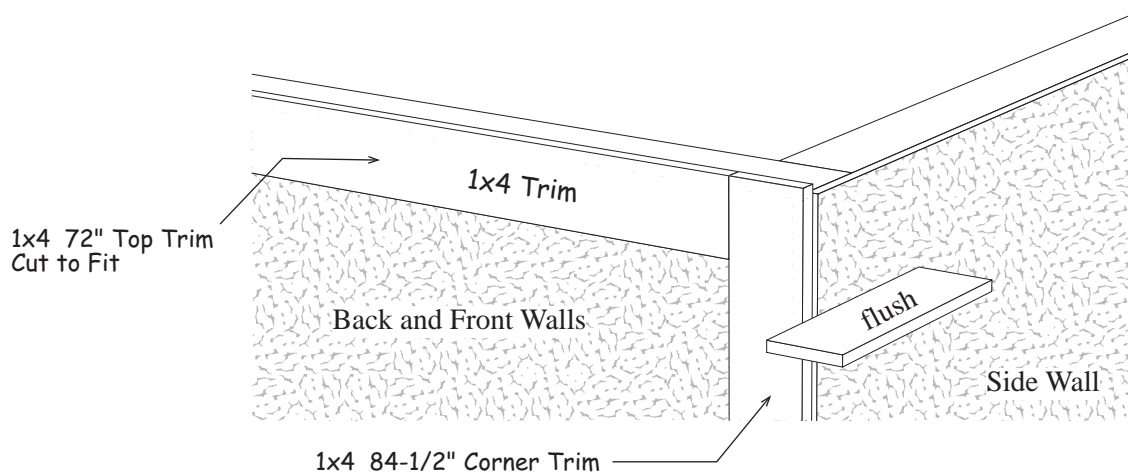
Step 8B Build Center Wall Brace & Set Walls

11. Install the center Wall Brace in the center of the building between the side walls. Make sure the side walls are plumb. The shorter 2x4s will butt against a wall stud. Secure the longer 2x4 to the side of the stud with (2) two 3" long wood screws.



Step 9 Install 1x4 Trim

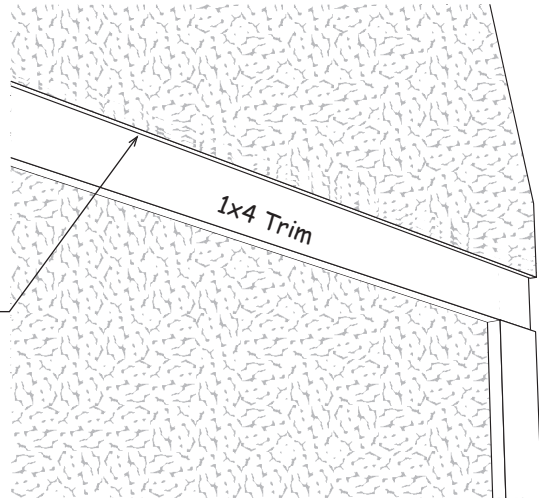
1. Install (2) two 84-1/2" long 1x4 corner trim on the back wall, flush with the siding on the side wall and the top 2x4 wall plate. Use 6d galv. nails spaced 12" apart.
2. Install (2) two 1x4-72" trim boards across the top of the back wall. Cut to fit. Install the 1x4 boards flush with the top of the 2x4 top plate. *See diagram below.*
3. Repeat steps for front wall trim.



Step 10 Install Roof Gables

1. Install the rear gable on the rear wall. The siding on the gable must extend over the 1x4 trim board. *See detail.* Nail the gable to the 2x4 wall plate with 10d sinkers.
2. Install gable on front wall.

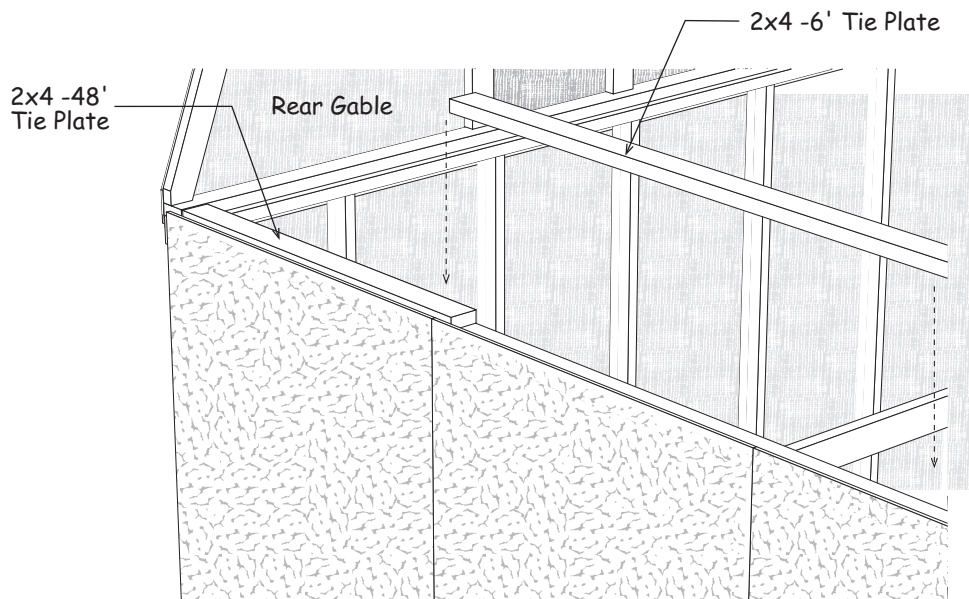
Bottom Edge of
Gable Siding



WARNING: The roof gables are heavy and awkward. You'll need helpers to lift and set gables in place.

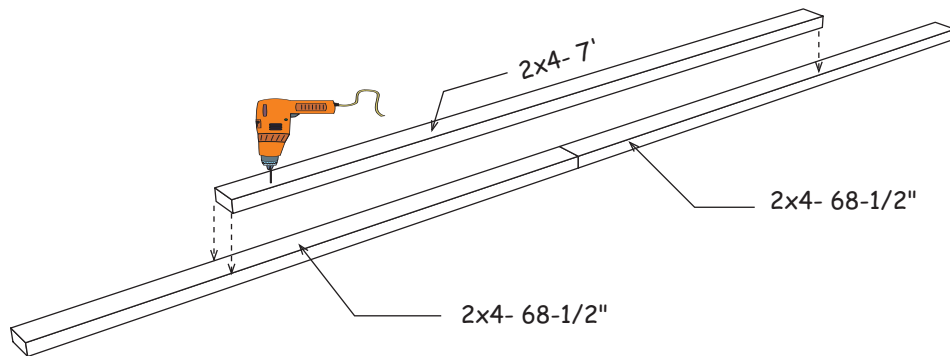
Step 11 Install 2x4 Tie Plates on Side Walls

1. Install a 48" long 2x4 on against the rear gable as a tie plate over the side wall. Nail a double row of 10d sinkers spaced 16" apart.
2. Install a 6' long 2x4 next. Remove a 2x4 used for bracing side wall. Cut this board to finish.
3. Repeat to install tie plates on the opposite side wall.

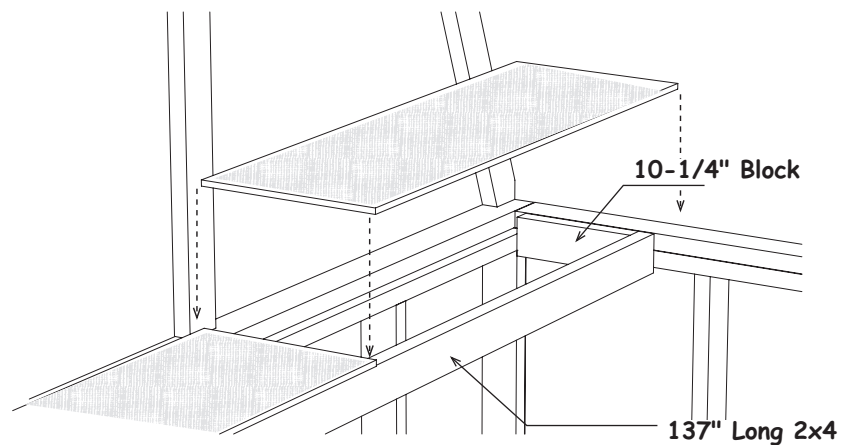


Step 12 Install Gable Support Shelf

1. Remove the 7' long wall braces.
2. Butt (2) two 68-1/2" long 2x4s together. Center one 2x4-7' over the 2x4s and secure them with 2-1/2" wood screws spaced 18" apart.
3. Repeat to assemble another gable shelf board.



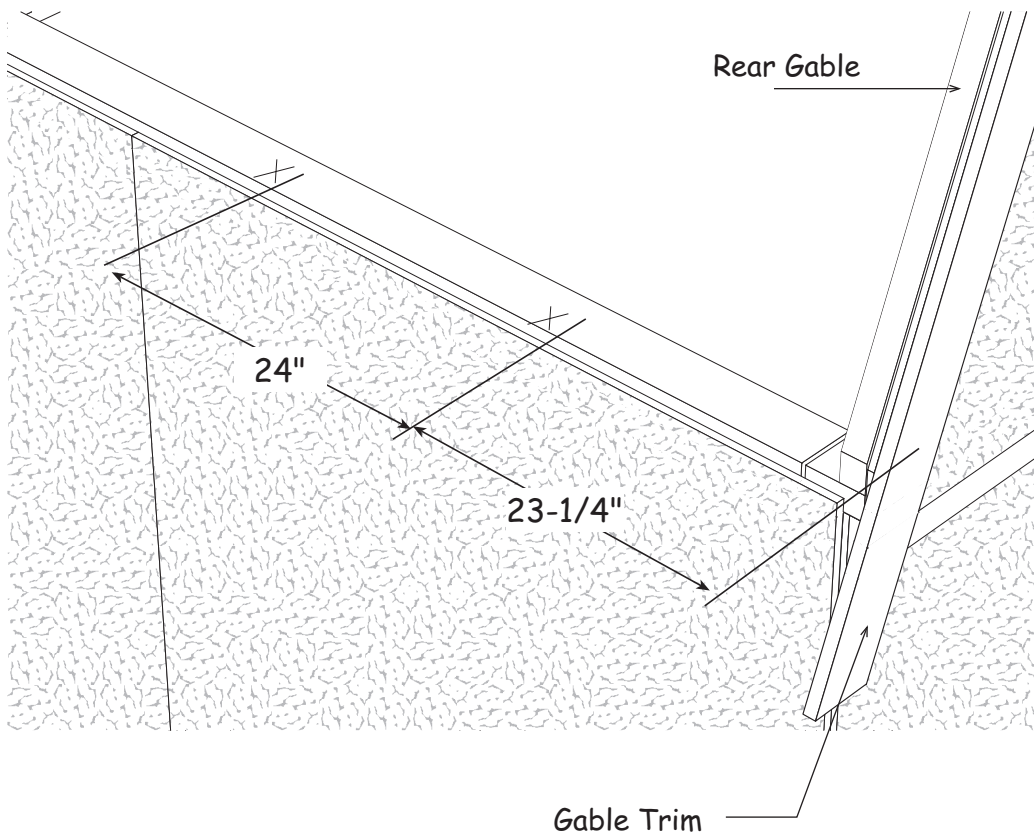
4. From 2x4s removed from door opening cut (2) two 2x4s to a length of 10-1/4".
5. Nail the 2x4 blocks to the rear corners, flush with the top of the 2x4 tie plate and against rear wall. Use (4) four 10d sinkers.
6. Nail one of the boards you assembled in previous step to blocks. Use 10d sinkers.
7. **Make sure the walls are square to each other.** Nail (2) two 15" x 72" OSB panels across the 2x4 gable plate (notch around OSB gusset) and the 2x4s. Use 6d common nails.
8. Repeat steps 4-7 to install support shelf at the front wall.




Step 13 Layout Roof Trusses

Starting at the back of the building, layout the truss spacing. Measure from the face of the gable trim to mark the location of the first truss. The last truss space will be more than 24".

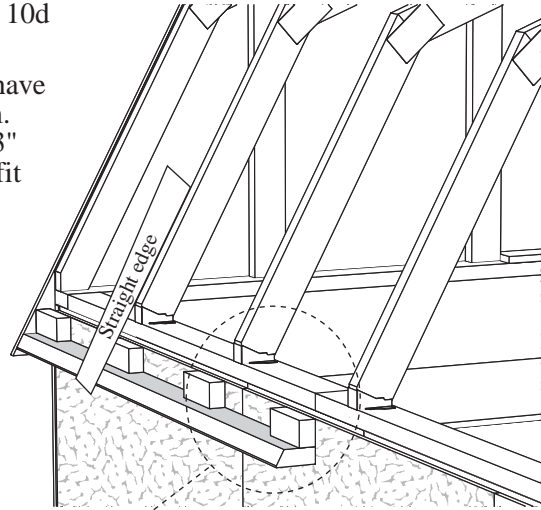
Important: When marking the opposite wall, place the 'X' mark on the same side of the line so your trusses are parallel when they are installed.



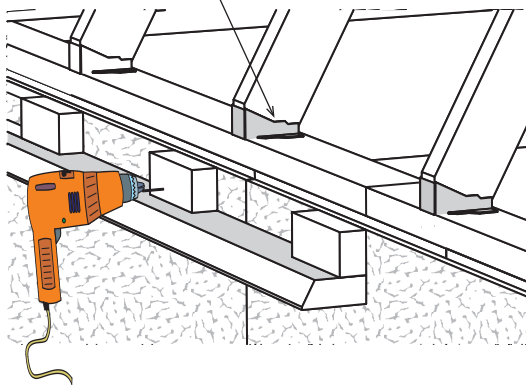
Step 14 Install Trusses & Soffit Boards

 Before installing the soffit boards to the side wall, use a straight edge to make sure the trusses align with the bevel cut on the soffit board. Adjust soffit board up or down if necessary.

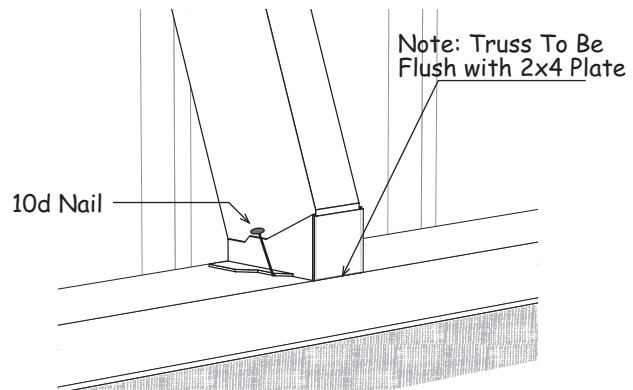
1. Place trusses over the 'X' marks and secure trusses to 2x4 truss plate using 2x4 hangers secured with 10d coated sinker nails. See Detail 'E'.
2. Locate (3) three 65-1/4" long soffit boards that have a beveled edge. Butt against the rear gable trim. Secure soffit boards to the top wall plate with 3" long screws in each 2x3 block. Cut the last soffit board to fit behind 1x4 trim on the front gable.
3. Repeat to install soffit boards on opposite side wall.



Metal Truss Hanger




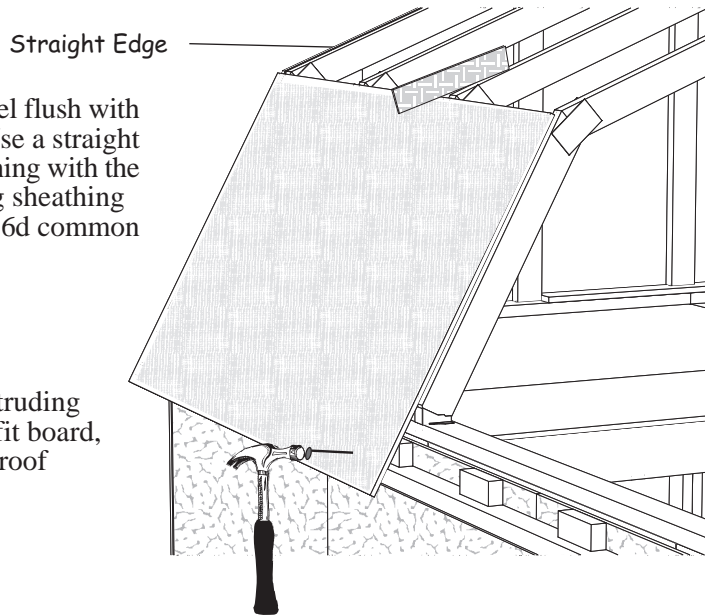
DETAIL 'E'



Step 15 Install Roof Sheathing

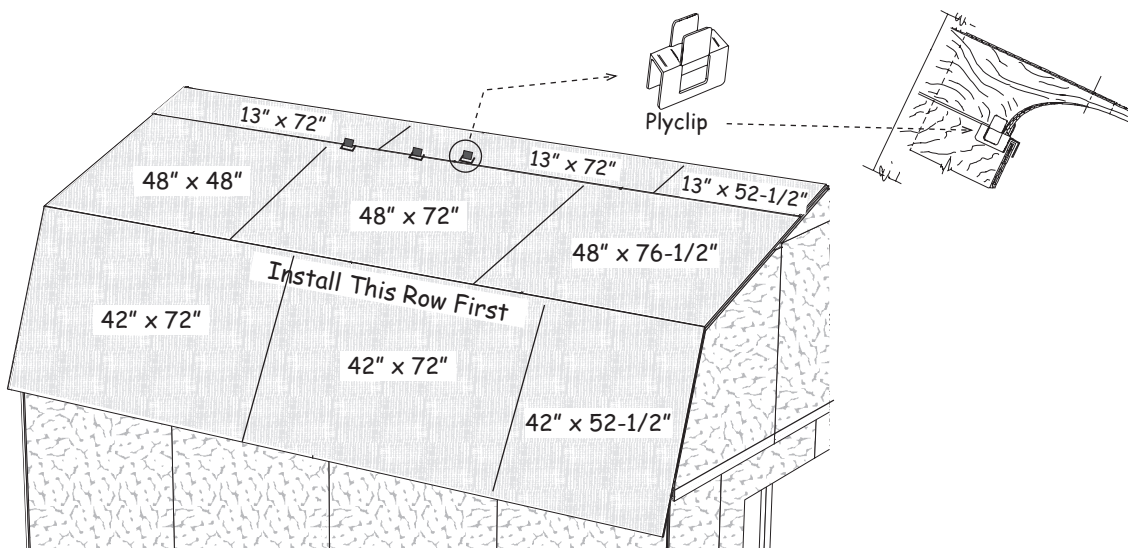
1. Install a 42" x 72" OSB roof panel flush with the face of the rear gable trim. Use a straight edge to align the top of the sheathing with the top of the truss. Continue adding sheathing following the layout below. Use 6d common nails, spaced 8" apart.
2. Repeat step for opposite side.

 To prevent the nails from protruding through the bottom of the soffit board, nail at an angle when nailing roof sheathing to the soffit boards.



3. Apply roof sheathing across the top of the roof. There will be an air space at the peak of the trusses to allow for ventilation.

 Insert (2) two plyclips into the roof sheathing between each truss at the top row.

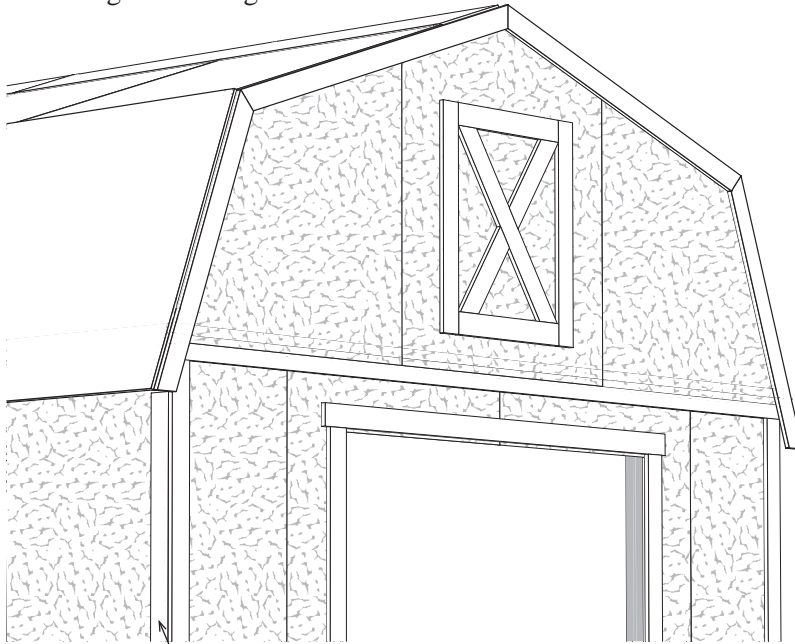


Step 16 Install Front Trim



It is recommended to apply caulk to the top of all trim surfaces between siding and trim to protect against moisture behind trim.

1. Install loft door trim panel on the front gable by screwing from the interior of the gable through the siding with 1" screws.

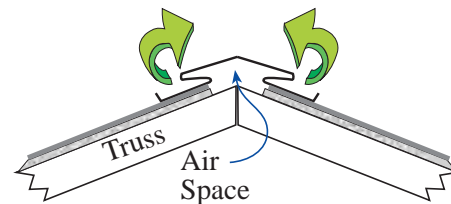


2. Install 80" long 1x4 trim boards on the corners of the side walls.
3. Install 1x4x76-3/4" trim boards along each side of the door opening. Tack these boards with a couple nails; you may want to move the trim later when you install the doors.
4. Install a 1x4x81-3/4" board, *that has angle cuts on both ends*, over the door opening.

Step 17 Install Roofing — Not Supplied in Kit

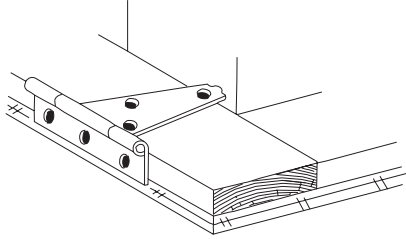
Install shingles according to the instructions on the wrapper. Additional information and tutorials can be found on various online sources.

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.

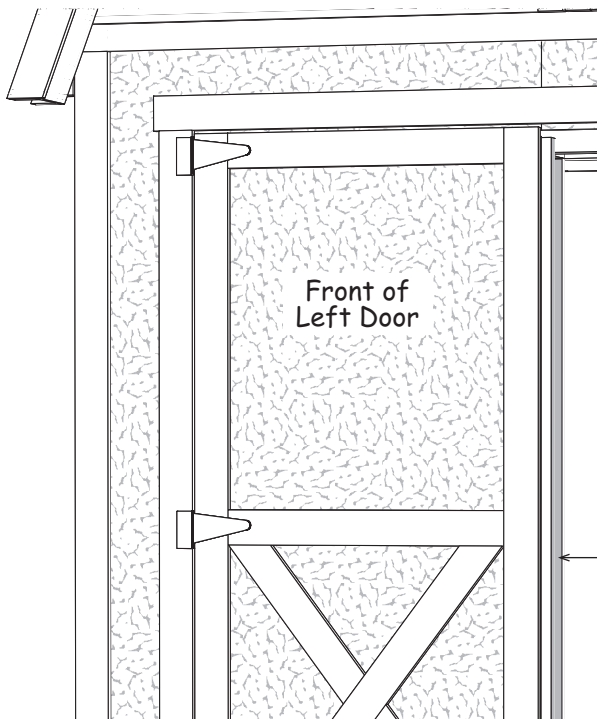


Optional ridge vent provides ideal ventilation.

Step 18 Install Doors



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 2" black screws.
3. Install hinges to the right side of the other door.

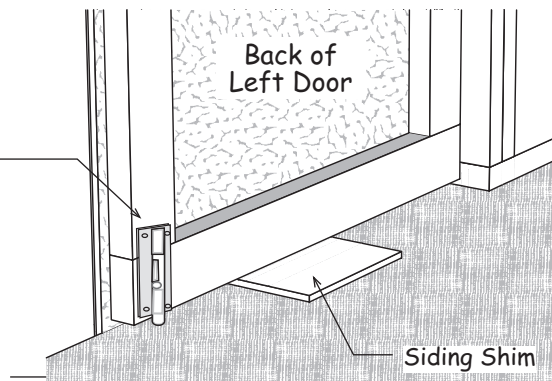


Before you fasten the hinges to the door trim, temporarily prop the doors in the opening. *Tip; set the door stop on a piece of siding to help hold the door in place.* Leave a space between the doors and the side trim to allow room for the doors to expand when they absorb moisture.

If your door opening is out of square, the space around the doors will not be even. You can 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.

Secure hinges to trim with 2" black screws.

4. Install a barrel bolt, on the lower back of the door to secure this door in place when closed. Drill a hole for the round shaft to drop into.
5. Install another bolt at the top of the door.
6. Install door latch.



Qty.	Description	Size
2x4 Framing		
4	Tie Plates	84 "
36	Wall Studs (2 with Door Jacks)	80 1/4"
16	Wall & Tie Plates	72 "
12	Wall Plates	68 1/2"
1	Wall Bracing	60 "
1	Wall Bracing	53 "
2	Gable Studs	50 "
6	Wall & Tie Plates	48 "
4	Gable Studs	40 3/4"
4	Gable Studs	30 3/4"
Miscellaneous Lumber		
2	2x6 Door Header Boards	75 "
10	2x4 Blocks for Truss Jig	10" to 12"
1	OSB Door Header Filler	5-1/4" x 75"
14	Wood Gussets for Trusses	12" x 32"
2	Wood Gussets for Gables	9" x 12"
Lower Wall Siding		Gable Siding
11	48" x 84"	4 48" x 55-1/4"
2	12" x 84"	4 24" x 37"
2	24" x 84"	
2	7-3/4" x 36" - over door opening	
Pre-built Components		
18	Pre-built Truss Halves	
2	36" x 76" Pre-built Barn Doors	
1	36" x 31" Pre-built Loft Door Frame	
6	3-1/2" x 65-1/4" Pre-built Soffit Boards	

Qty.	Description	Size
Trim		
4	1x4 Gable Trim	61 "
4	1x4 Gable Trim	42 1/2"
4	1x4 Lower Wall Trim	72 "
4	1x4 Corner Trim	84 1/2"
4	1x4 Corner Trim	80 "
1	1x4 Door Trim	81 3/4"
2	1x4 Door Trim	76 5/8"
Hardware		
5	lb. 10d Sinkers	32 7/16" Plyclips
5	lb. 6d Galv.	
5	lb. 6d Common	1 Door Hasp
6	5" Door Hinges	2 Barrel Bolts
12	1x4 Drive-on Plate	50 2-1/2" Screws
2	2" Screw Bit	50 3" Screws
14	Truss Hangers	50 Black Screws
		12 1" Screws
7/16" OSB Sheathing		
2	48" x 76-1/2"	Roof Sheathing
2	48" x 72"	Roof Sheathing
2	48" x 48"	Roof Sheathing
4	42" x 72"	Roof Sheathing
2	42" x 52-1/2"	Roof Sheathing
4	13" x 72"	Roof Sheathing
2	13" x 52-1/2"	Roof Sheathing
4	15" x 72"	Gable Shelf

Shingles by Owner

12 Bundles Shingles

8 pcs. Roof 'drip' Edge