



Best Barns USA

Assembly Book

Revised November 29, 2021



the Springfield

Building Size
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

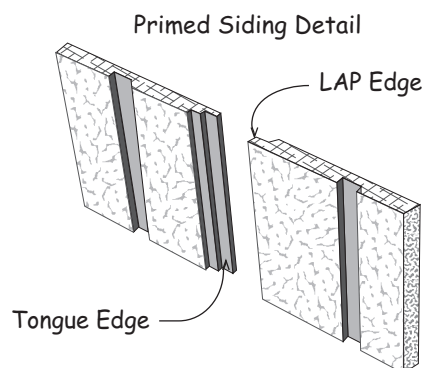
Additional Materials - **Not included in kit:**

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

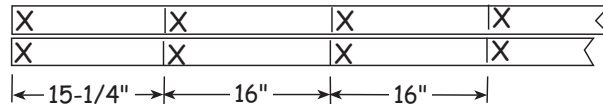
Email - questions@barnkits.com

Constructing Details for Deluxe Floor System

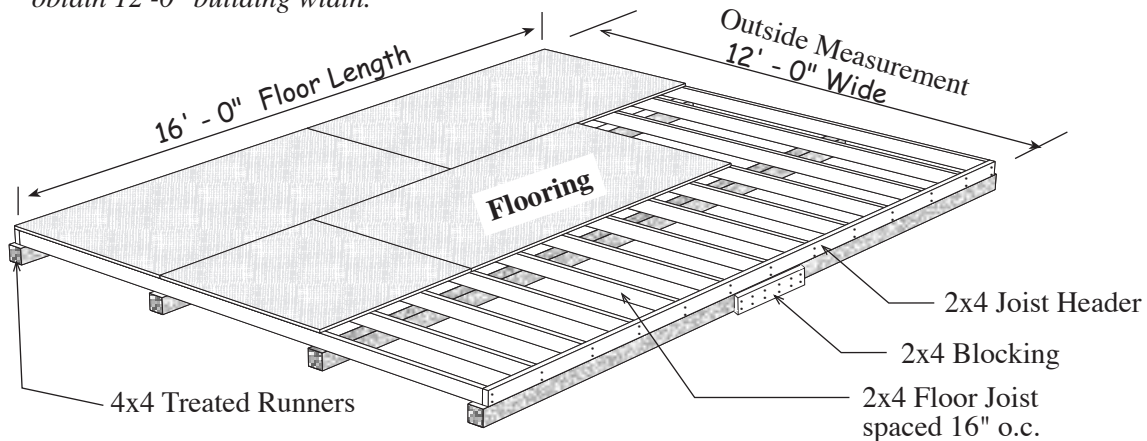
Foundation size is 12'-0" x 16'-0". Check local building codes in your area, the construction may have to change. For a concrete slab, install sill sealer as a moisture barrier between the concrete and the wall plates. Foam sill sealer can be purchased at home centers in rolls 3-1/2" or wider.

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.

2x4 Joist Header



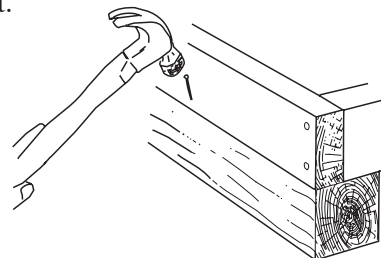
3. Cut 2x4-12' floor joist to 11'-9". *Treated lumber may be thicker than 1-1/2". Take this into account when cutting the length of floor joists. Shorten joist measurements if necessary to obtain 12'-0" building width.*



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.

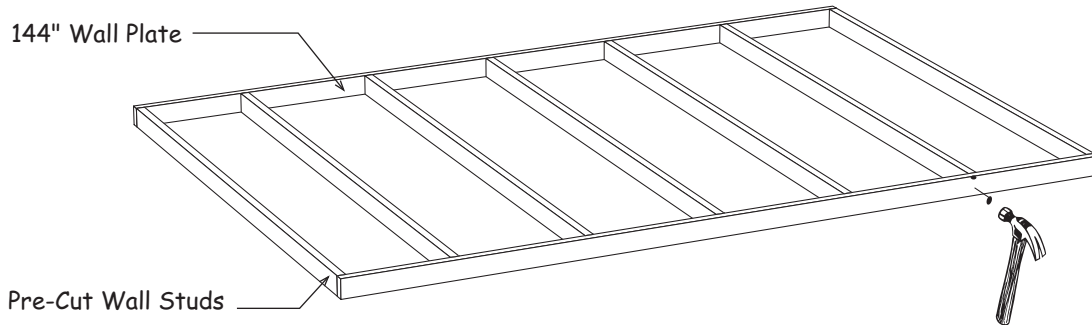
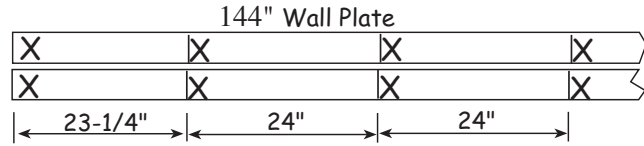
Material Description	Qty. & Size
2x4 Treated Blocking	2 pcs. 8'
2x4 Treated Floor Joists	13 pcs. 12'
2x4 Treated Joist Headers	2 pcs. 16'
4x4 Treated Runners	8 pcs. 8'
Flooring: 5/8" or 3/4"	6 pcs. 4x8
Galv. Spiral Floor Nails	3 lbs. 8d
Galvanized Deck Nails	3 lbs. 16d



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

Step 1 Assemble 12' Back Wall

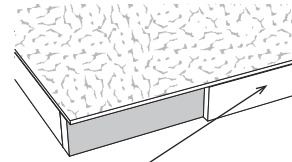
1. Cut (2) two 2x4-12' to a length of 144". Position the boards together and indicate with 'X' marks where the wall studs will be located.



Depending on your location pre-cut wall studs vary in length from 92-1/4" to 93". This doesn't affect construction.

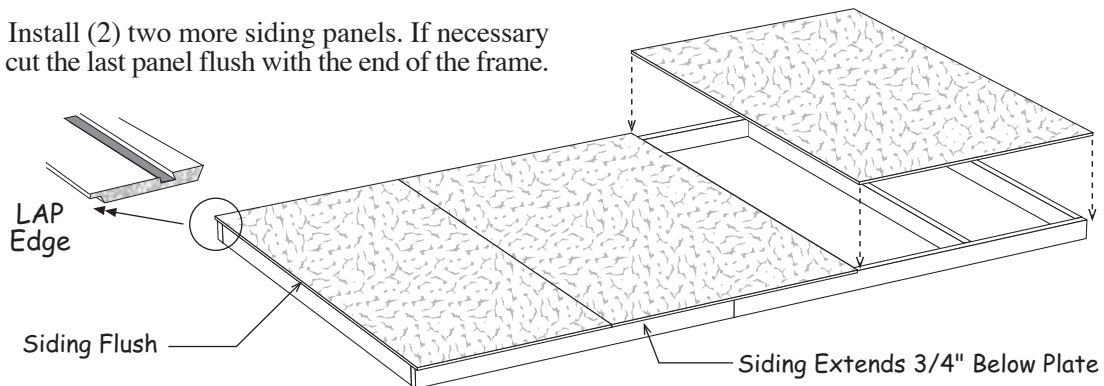
2. Install (7) seven pre-cut wall studs between the top & bottom plates. Nail studs to wall plates with 10d sinkers, (2) two nails on each end.
3. Square wall frame. Measure the wall diagonally (corner to corner). Then measure the opposite corners. These measurements will be the same if the wall is square.

4. Install the first siding panel with the 'LAP' edge flush with the end of the wall. Siding will extend 3/4" below the bottom plate. Nail siding with 6d galv. nails, spaced 8" apart.



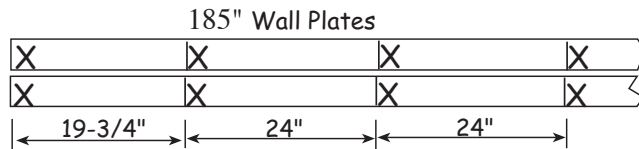
Tip: use a 1x4 trim board as a gauge.

5. Install (2) two more siding panels. If necessary cut the last panel flush with the end of the frame.

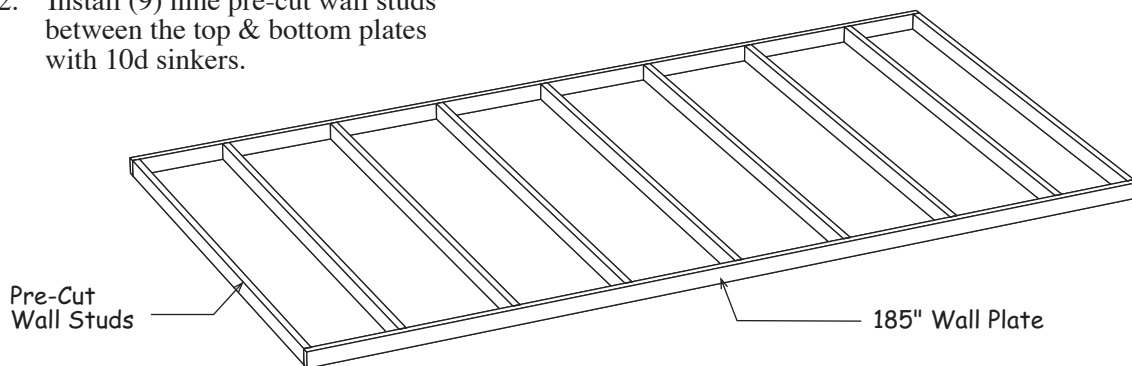


Step 2 Assemble Side Walls

1. Cut (2) two 2x4-16' to a length of 185". Position the boards together and indicate with 'X' marks where the wall studs will be located.



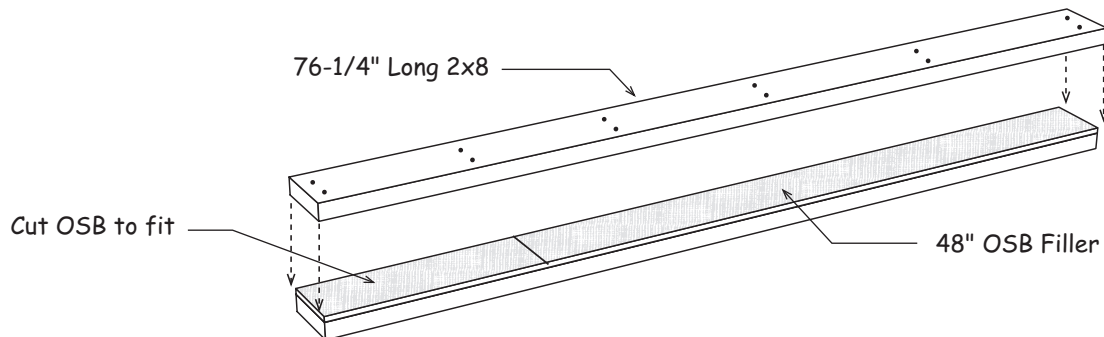
2. Install (9) nine pre-cut wall studs between the top & bottom plates with 10d sinkers.



3. Repeat to assemble another 185" long wall frame.

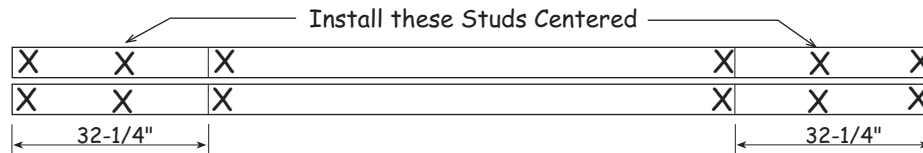
Step 3 Assemble Door Header

1. Locate (2) two 2x8-8' boards. Cut these boards to a length of 76-1/4".
2. Assemble the door header using 2x8 boards and (2) two 7-1/4" x 48" OSB filler included in our kit. Apply wood glue to both sides of OSB and install (1) one filler to one end. Cut to fit second OSB filler. Nail together with (12) twelve 10d sinkers spaced evenly on each side.



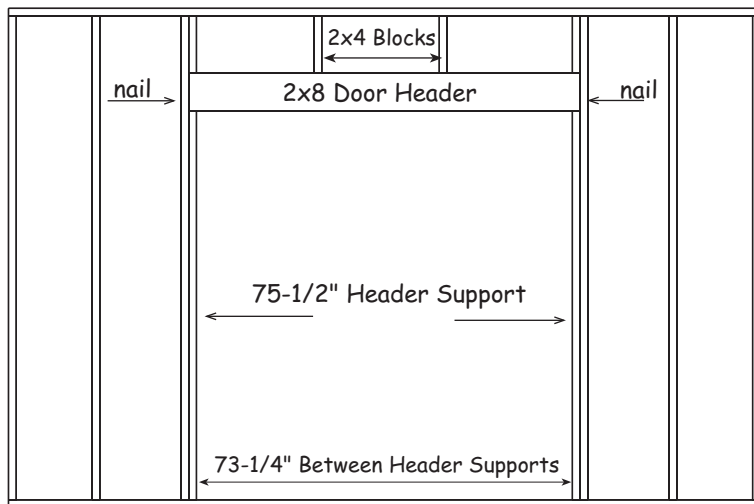
Step 4 Assemble Front Wall Frame

1. Cut (2) two 2x4-12' boards to a length of 144" for wall plates. Position the boards together and indicate with 'X' Marks where the wall studs will be located.

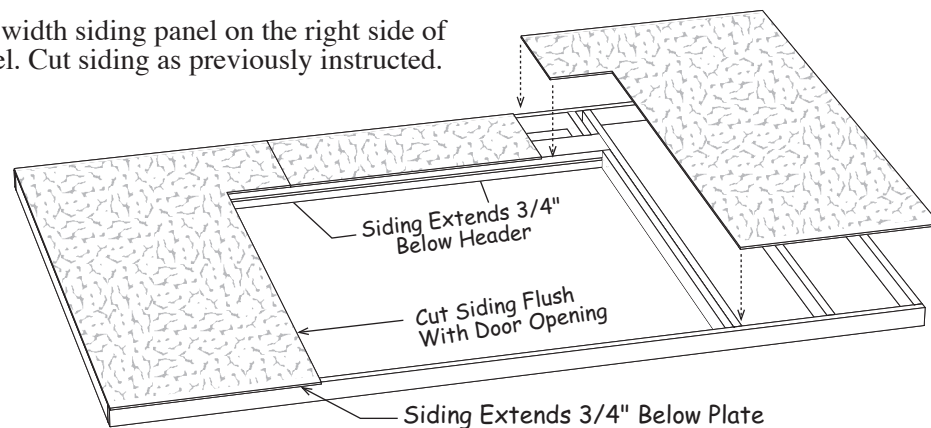


2. Install (6) six pre-cut wall studs between the wall plates where shown.

3. Cut (2) two pre-cut studs to a length of 75-1/2" and install as header supports. Nail to studs with 10d sinkers.
4. Install the door header on the 2x4 header supports. Nail to the stud with 10d sinkers.
5. Measure space between header and top plate. Cut from a pre-cut stud (4) four pieces to this length. Evenly space pieces and nail through top plate and toenail to header. Use 10d sinkers.

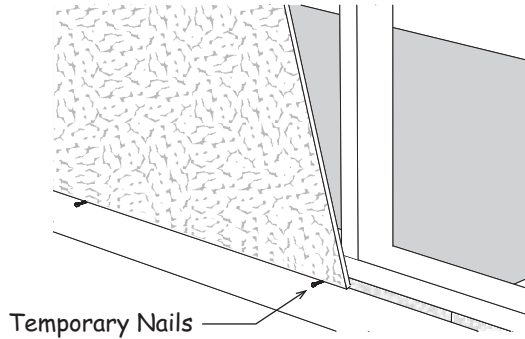


6. Place a full width siding panel with the 'LAP' edge flush with left side of wall frame. Siding should extend 3/4" below bottom plate. Before nailing siding, cut the siding flush with the side of the door opening and 3/4" below the door header.
7. Install a 20"x48" siding panel above the door opening. This siding must extend 3/4" below the door header. Top of siding might not be even with left or right siding.
8. Install a full width siding panel on the right side of the wall panel. Cut siding as previously instructed.



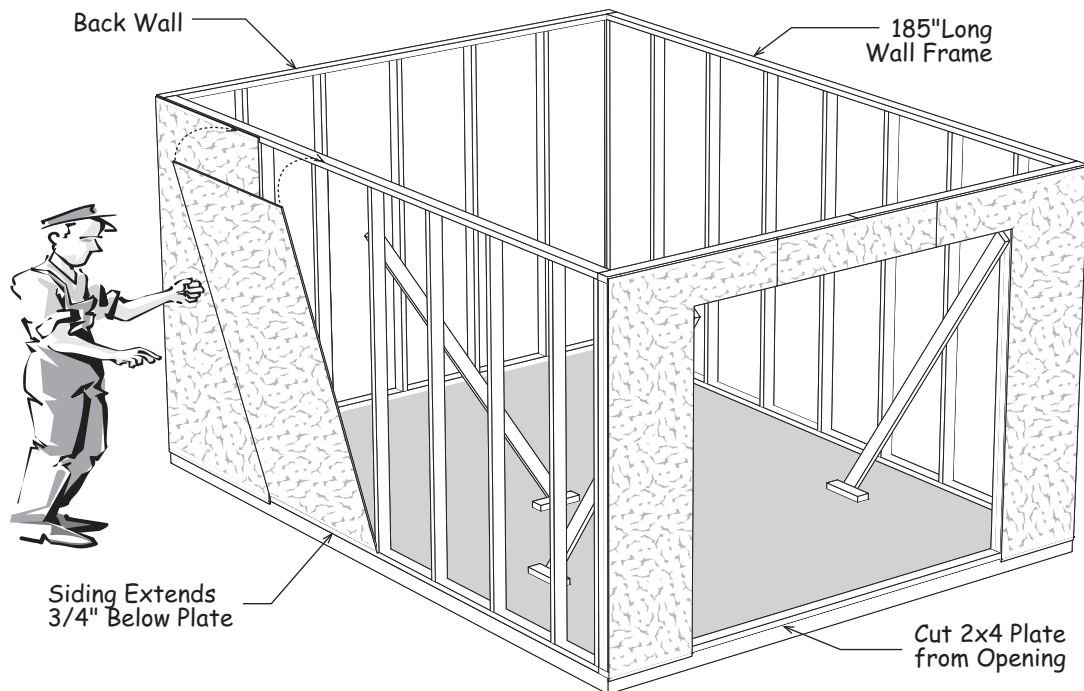
Step 5 Set Walls

1. Erect back wall and side walls. Secure walls together at the corners. Use (4) four 10d sinkers per corner. Brace side walls with pre-cut wall studs to hold walls secure and plumb.
2. Starting at back corner install a full width siding panel with the 'LAP' edge flush with the siding on back wall. Siding should extend $\frac{3}{4}$ " below bottom plate. Nail siding to back wall and all 2x4s using 6d galv. nails spaced 8" apart.



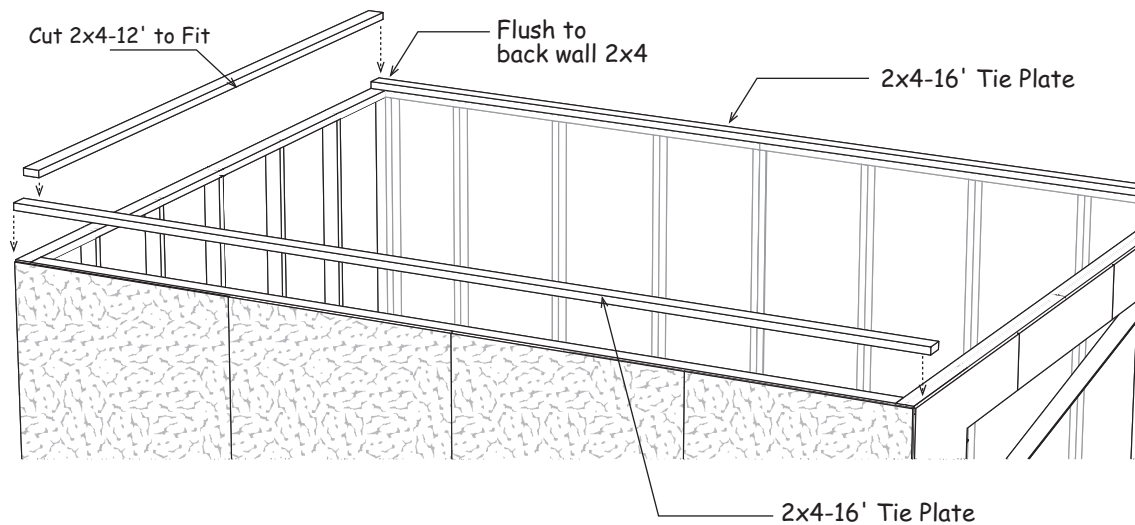
Tip: If you are erecting building on a wood floor insert nails between the $\frac{3}{4}$ " floor sheathing and the 2x4 floor frame. Rest the siding on the nails while nailing to frame.

3. Install (3) three more siding panels. Last panel will extend approximately $3\frac{1}{2}$ " past wall frame to receive front wall panel.
4. Start at back wall apply siding to opposite wall.
5. Erect front wall panel and secure corners with 10d sinkers and nail side wall siding to 2x4s. Brace with pre-cut wall studs.
6. Cut and remove bottom 2x4 from door opening
7. Nail walls to floor through bottom plate. Space 10d sinkers 24" apart.

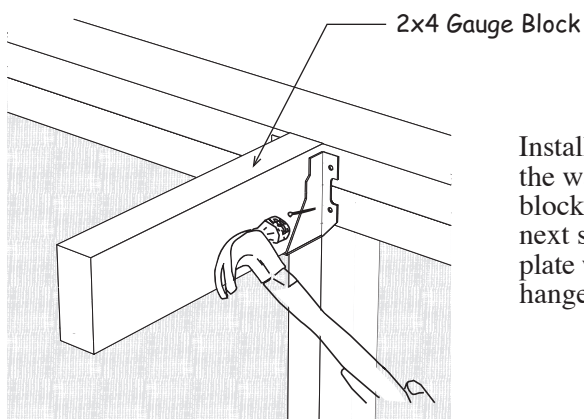


Step 6 Install 2x4 Tie Plates

1. Install a 2x4-16' board on a side wall, flush with the 2x4s on the front and back walls. Cut length to fit. Use 10d sinkers to secure this tie plate to front and back walls and along length.
2. Repeat to install 2x4 on the opposite side wall.
3. Cut (2) two 12' long 2x4s to fit between side wall tie plates and install on front and back walls.



Step 7 Install Metal 2x4 Joist Hangers

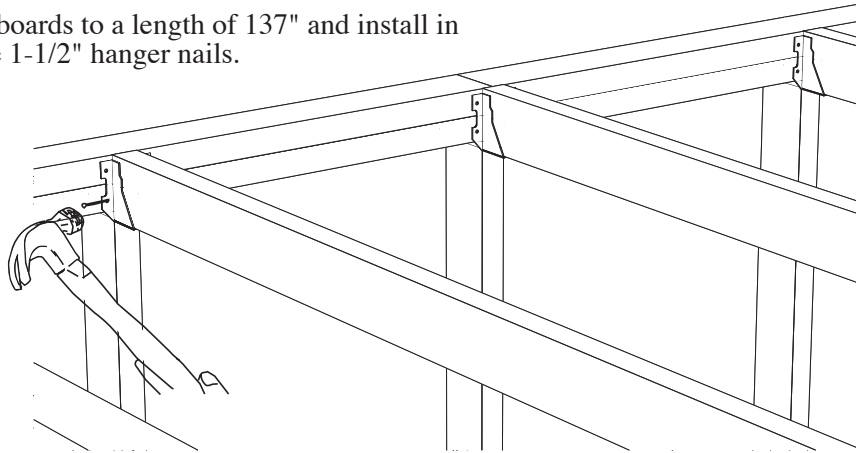


Install (14) fourteen 2x4 joist hangers aligned with the wall studs on both side walls. Use a short 2x4 block as a gauge to ensure the 2x4s, installed in next step, will be flush with the top of the 2x4 tie plate when installed. Secure the hanger with 1-1/2" hanger nails.

Step 8 Install Loft Floor

Important: Before securing the 2x4 floor joists make sure the side walls are plumb. The building width should be 12'-0" measuring from the outside of the 2x4 tie plates.

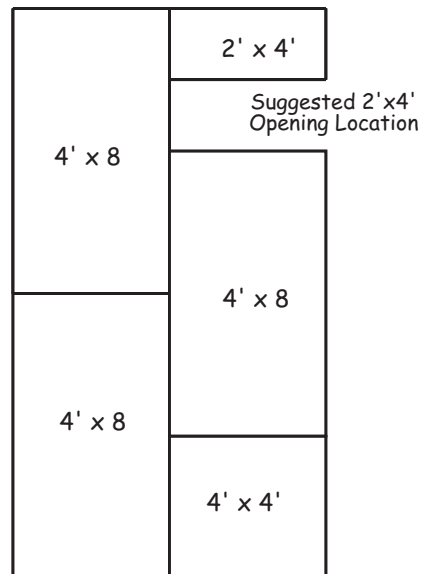
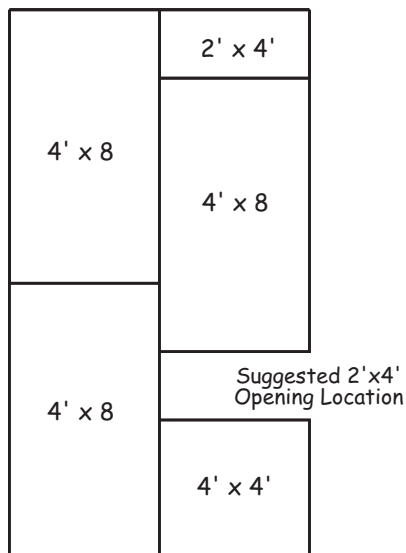
Cut (7) seven 2x4-12' boards to a length of 137" and install in the metal hangers. Use 1-1/2" hanger nails.



Step 9A Install Loft Floor Sheathing

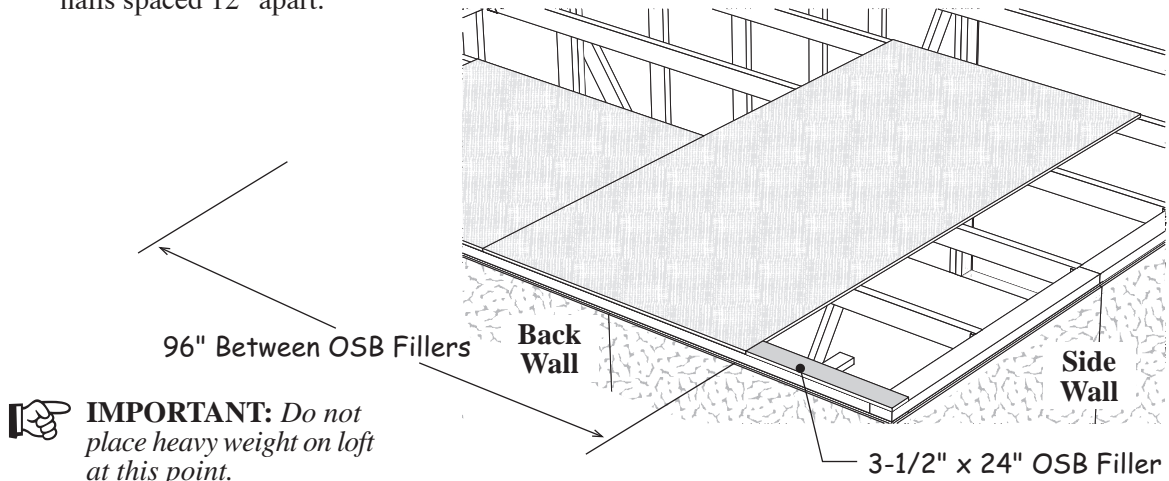


Before installing floor sheathing consider where to locate the 2' x 4' access opening. The detail below shows two possibilities. Regardless of desired layout it is important to install sheathing staggered.



Step 9B Install Loft Floor Sheathing continued

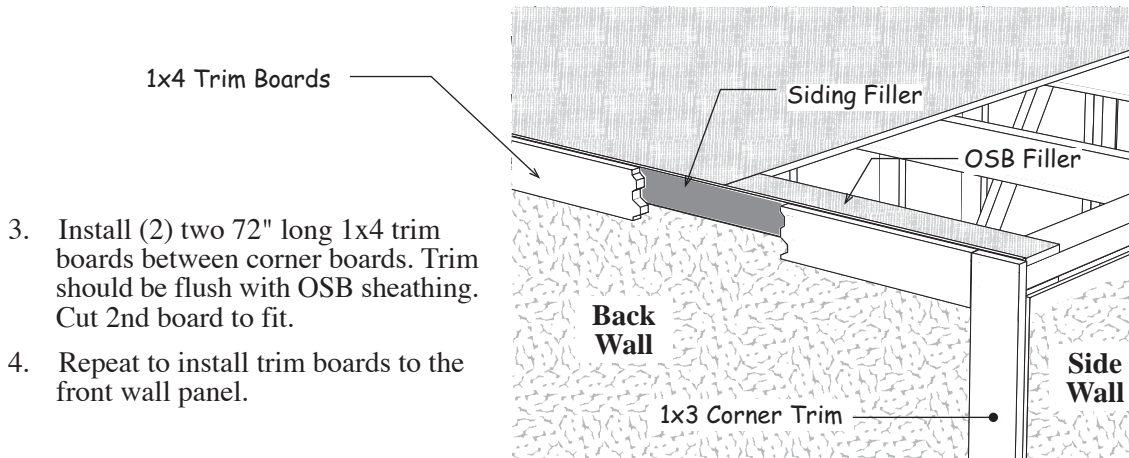
1. Locate (4) four 3-1/2" x 24" OSB fillers. Install at front and back corners on top of 2x4 tie plates. Use (4) four 6d common nails each. Insure the space between fillers is 96".
2. Install loft flooring between OSB fillers. Edge of sheathing should be flush with front and back wall tie plates. Refer to the suggested layout on previous page. Install flooring using 6d common nails spaced 12" apart.



Step 10 Install Corner Trim

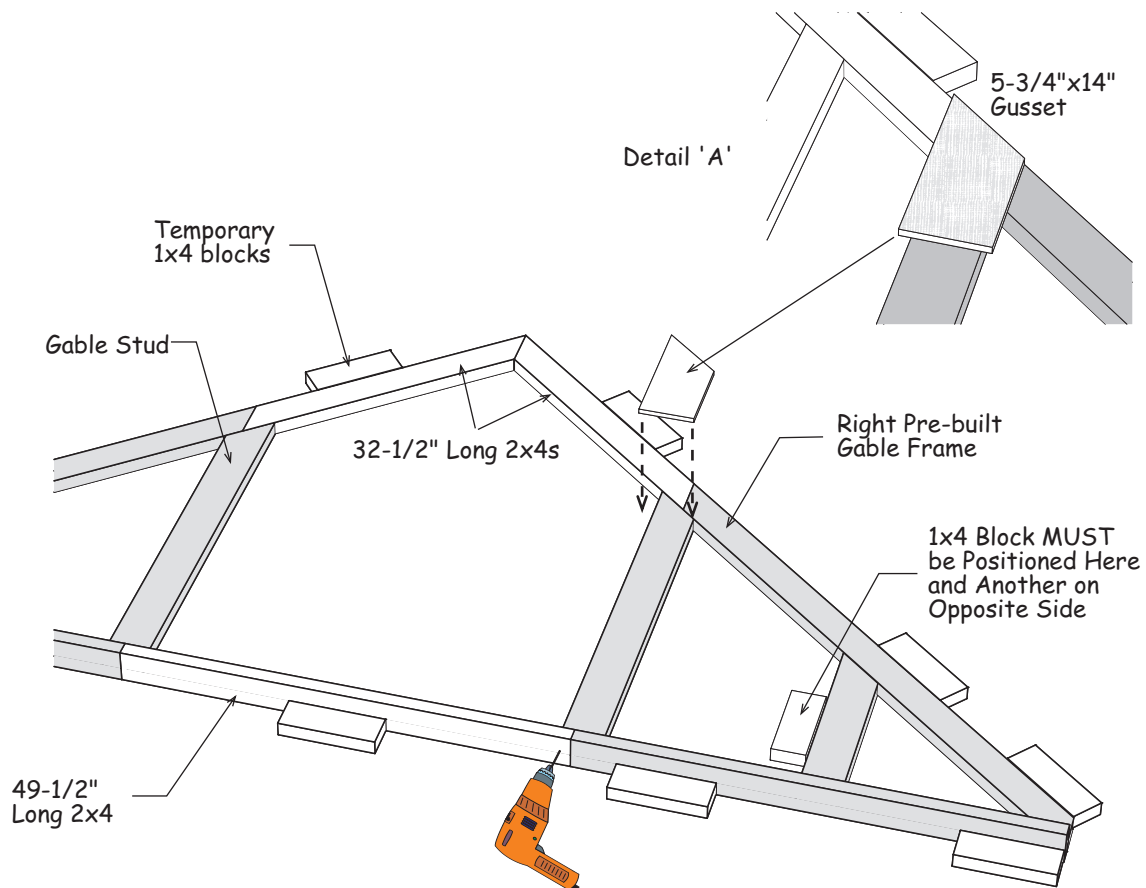
IMPORTANT: Trim Must Be Installed Before Installing Roof Gables!

1. Locate (3) three 2" x 48-3/4" Siding filler strips. Nail these on top of the siding on the back wall. Use a few 6d galv. nails. More nails will be used on trim.
2. Install (2) two 99" long 1x3 trim boards as corner trim to the back wall. Cut length so trim is flush with top of OSB filler and bottom of siding. Install trim flush with the siding on the side walls. Use 6d galv. nails spaced 12" apart to install all trim.



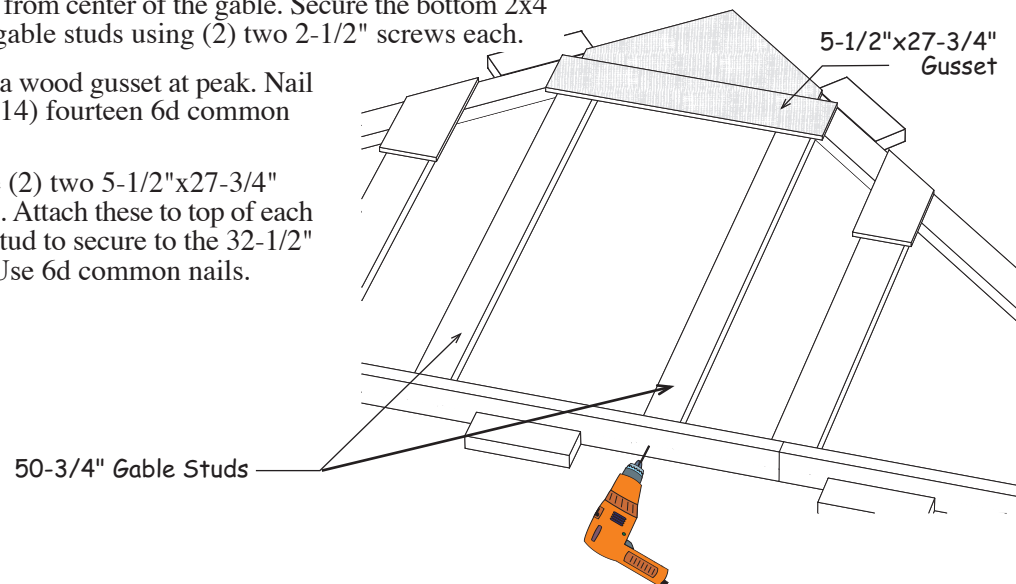
Step 11A Assemble Gables

1. Gather pre-built gable end frames, (1) one left and (1) right, (1) one 49-1/2" long 2x4 and (2) two 32-1/2" long 2x4s with angled ends.
2. Position these components together as shown below. When aligned correctly the bottom 2x4s will be straight and measure 12'-0" from end to end. *Pre-built gable ends highlighted in gray.*
3. Temporarily tack 1x4 blocks to loft flooring around the frame members. These blocks will be 8"-12" long and may have angled ends. Make sure (2) two of these blocks are positioned inside each pre-built gable end frame as shown. Position the rest of the blocks appropriately spaced to hold 2x4s in place. These will insure that all trusses and gables are built exactly the same. **DO NOT** nail blocks to gable.
4. Secure the bottom 2x4 to the gable stud using (2) two 2-1/2" screws.
5. Locate (2) two 5-3/4"x14" OSB gussets. Attach these to top of each gable stud to secure frame to 32-1/2" 2x4s. Use 6d common nails. See Detail 'A'.



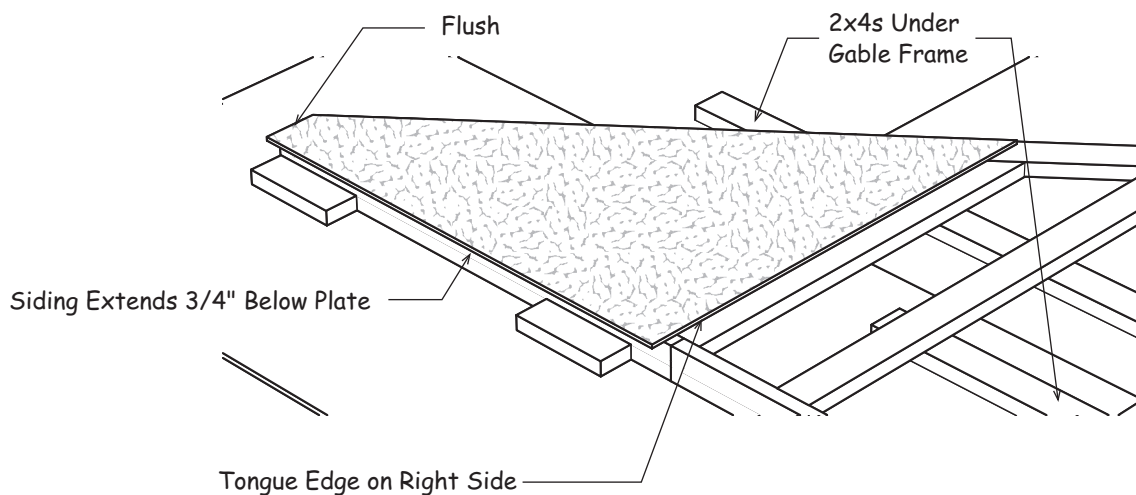
Step 11B Assemble Gables Continued

5. Locate (2) two 50-3/4" long 2x4s. Install these equally spaced from center of the gable. Secure the bottom 2x4 to the gable studs using (2) two 2-1/2" screws each.
6. Install a wood gusset at peak. Nail using (14) fourteen 6d common nails.
7. Locate (2) two 5-1/2"x27-3/4" gussets. Attach these to top of each gable stud to secure to the 32-1/2" 2x4s. Use 6d common nails.



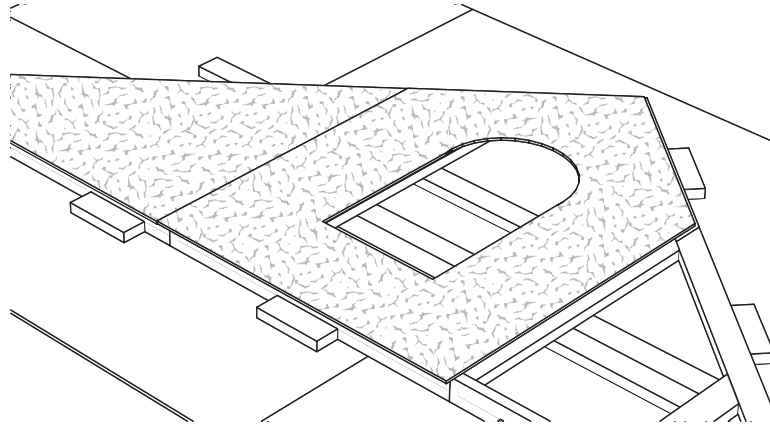
Step 12A Install Front Gable Siding

1. Carefully turn the gable frame over. Temporarily place 2x4s under the gable frame to keep the frame level while installing the gable siding.
2. Locate pre-cut gable siding. Working left to right install a siding panel with a 'tongue' edge along right side. Install flush with end of frame and extending 3/4" below the bottom 2x4 plate. Use 6d galv. nails spaced 8" apart.



Step 12B Install Gable Siding continued

3. Install center siding. If you purchased a sunburst window you may cut the opening in the siding at this time. Instructions are packed in the window box. It is advisable to install the window after the gable is set

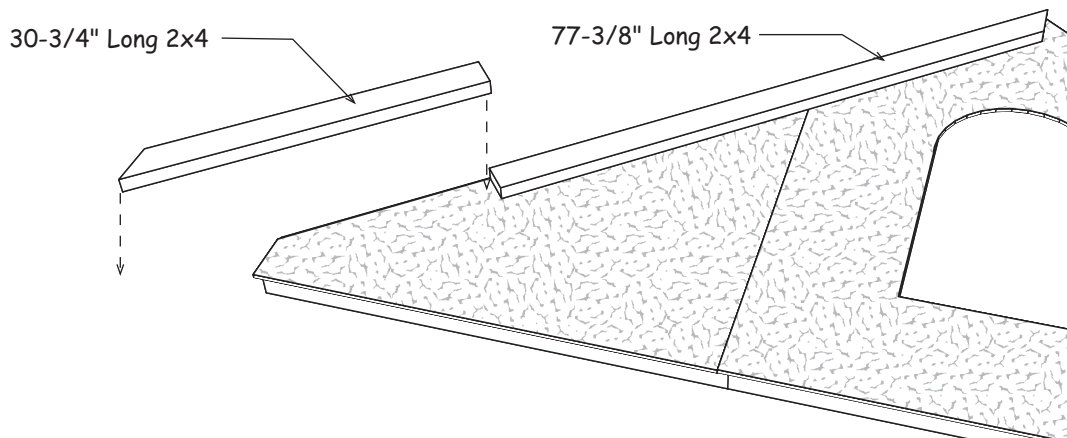


4. Install last siding panel.


Step 13 Install Gable Overhang

1. Locate (2) two 77-3/8" long 2x4 rafters on gable. Install 2x4s flush with the top of gable frame. Use 10d sinkers.
2. Locate (2) two 30-1/4" long 2x4 rafters and install to finish. 2x4s will extend beyond end of gable.

Do not remove the temporary 1x4 blocks until the roof trusses and back gable are assembled.

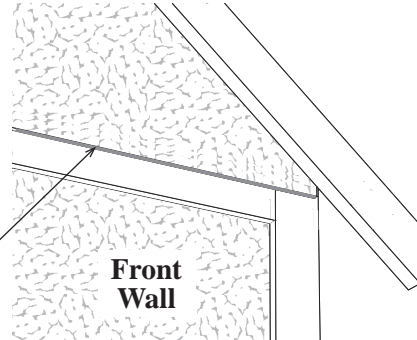


Step 14 Set Gables

 **Important: Temporarily brace the gables with 2x4s to secure gables until the roof sheathing is installed!**

1. Install gable on the front wall. Secure bottom of gable to loft floor and OSB fillers using 10d sinkers.
2. Nail the bottom edge of the siding into the 1x4 trim. Use 6d galv. nails.

Bottom edge of gable siding extends over 1x4 trim




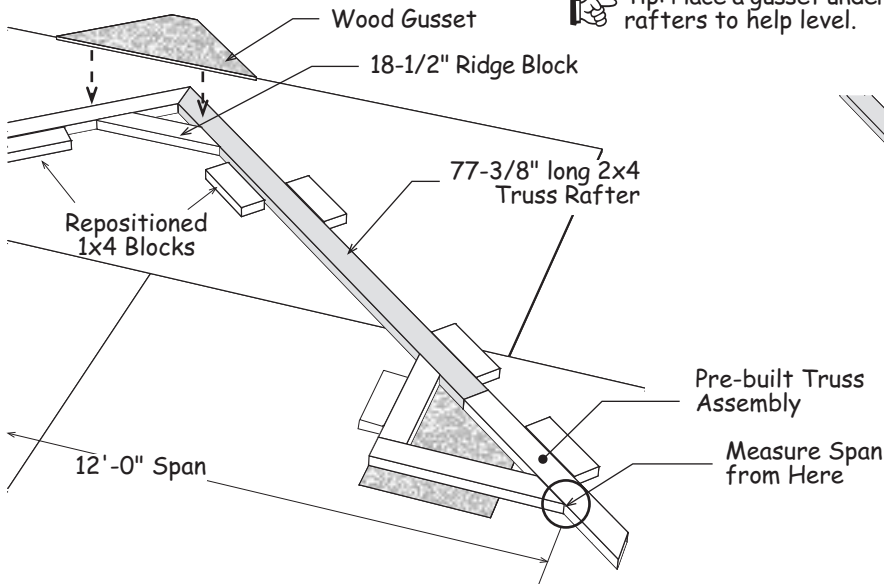
Step 15 Assemble Rear Gable

Repeat Steps 11 through 13 to assemble and set rear gable.

Step 16 Assemble Roof Trusses

1. Insert left and right pre-built truss ends into the blocks that held the gable frames in place. Insure span is 12'-0" between truss ends as indicated in drawing below.
2. Butt (2) two 77-3/8" long 2x4s against the truss ends. Remove the 1x4 blocks that secured the bottom gable plate and reposition to keep rafters aligned. Locate a 18-1/2" long 2x4 ridge block with angled ends and install at peak. Secure rafters and ridge block at peak with a wood gusset. Install with (14) fourteen 6d common nails.
3. Install gussets on truss ends. See Detail A. Install with (20) twenty 6d common nails.
4. Carefully flip truss over and install another gusset at the peak.
5. Set truss aside. Repeat steps to build (6) six more trusses.
6. Remove temporary 1x4 blocks.

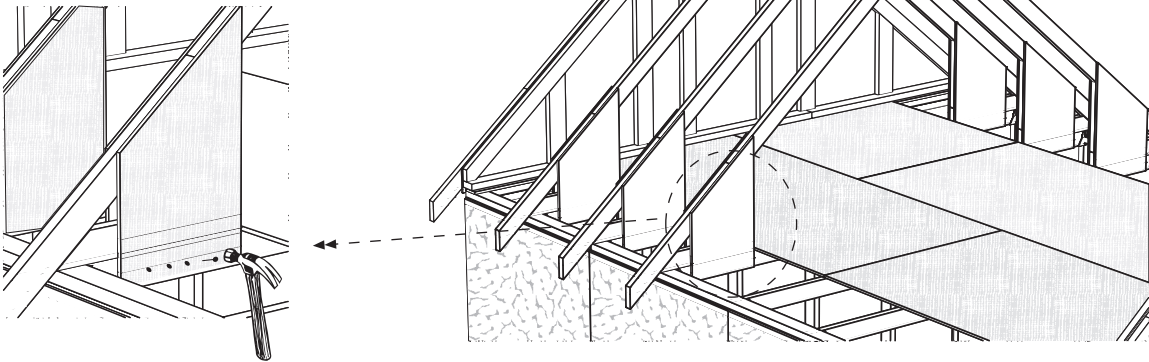
 **Tip: Place a gusset under rafters to help level.**




Detail 'A'

Step 17 Set Trusses

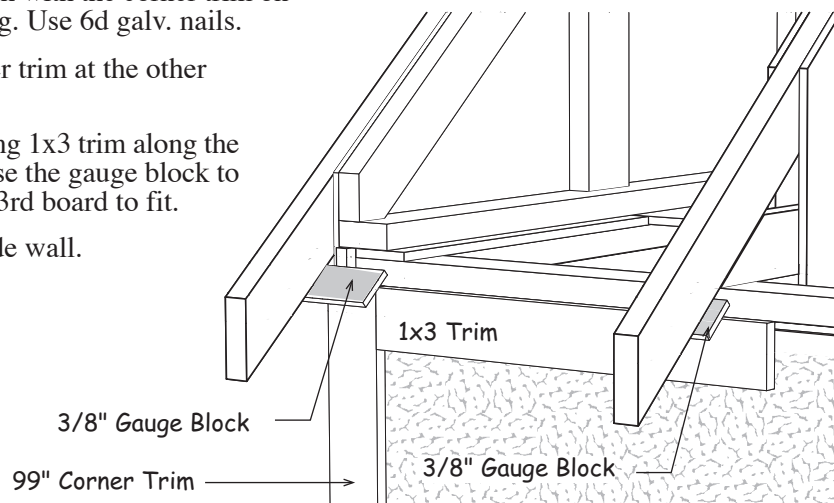
1. Starting at back gable set a truss by sliding ends over 2x4 floor joist. Truss ends should set flat atop floor joist. Secure with (10) ten 6d common nails on both sides.
2. Continue standing trusses to front of building. Make sure trusses and gables are plumb. If necessary span a 2x4 across tops and tack to keep plumb until roof sheathing is installed.



Step 18 Install Side Wall Trim

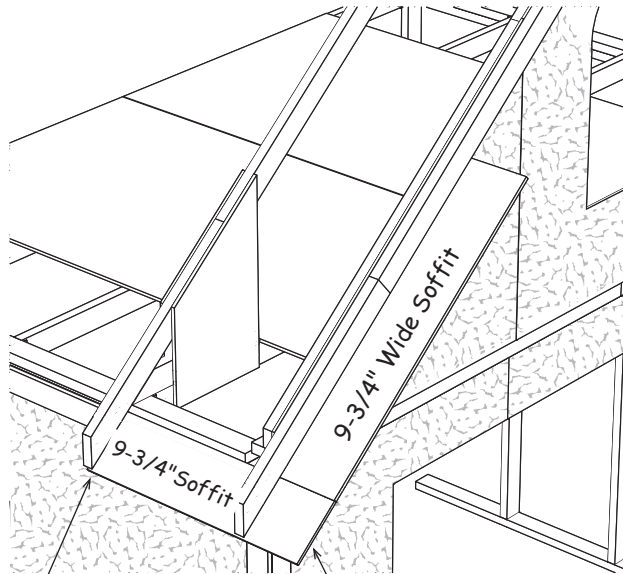
 *It's easier to install the soffit if the corner and side wall trim are installed first. This enables the soffit to rest on the trim where it meets the building. See lower detail.*

1. Locate a 3/8" x 3" x 8" siding gauge block packed in the hardware bag. Place this gauge block under the 2x4 overhang and butt a 99" long 1x4 corner trim board against it. Cut trim board to length and install the trim flush with the corner trim on the back of the building. Use 6d galv. nails.
2. Repeat to install corner trim at the other three corners.
3. Install (3) three 72" long 1x3 trim along the top of the side wall. Use the gauge block to properly set trim. Cut 3rd board to fit.
4. Repeat on opposite side wall.



Step 19 Install Soffit

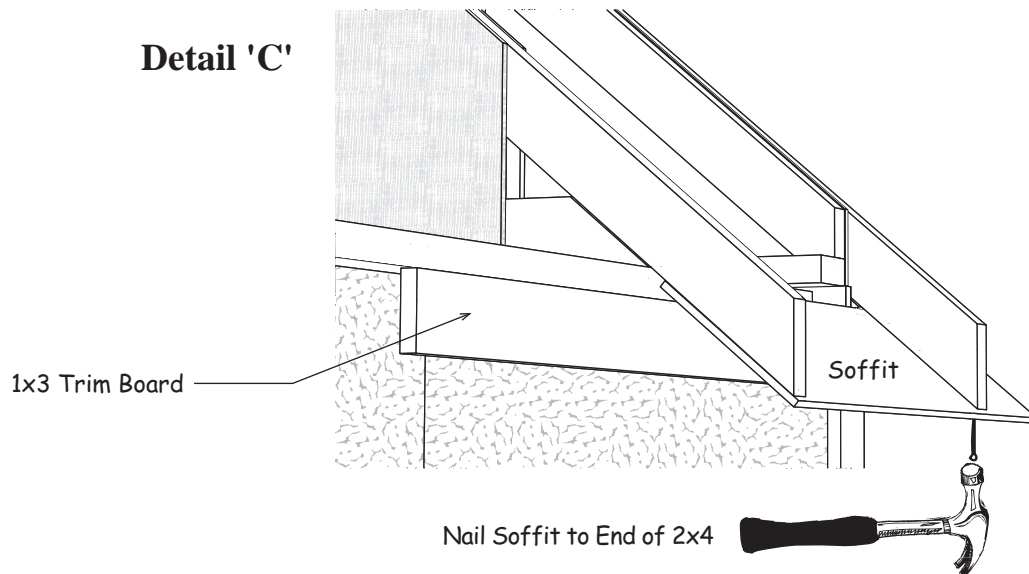
1. Locate (4) four 9-3/4" x 48" soffit panels. On the front gable nail first soffit with the 'LAP' edge positioned 9-3/4" from the bottom end of the 2x4 to allow for the width of the soffit panels on the side walls. Use 6d galv. nails.
2. Cut to fit next soffit to cover 2x4 at the peak. Install (2) two soffit panels on other side.
3. Locate (5) five 9-3/4" x 48" soffit panels. Measure from center of first truss to edge of soffit on gable. Cut one soffit panel to this length. Make sure 'LAP' edge is the side cut off.
4. Nail the soffit panel to the end of the 2x4s. See **Detail 'C'** below.
5. Install four soffit panels along the side of the building cutting the last soffit panel flush with the 2x4 on the rear gable.
6. Repeat steps 3-5 to install soffit panels on the front gable and the opposite side wall.



Tongue Edge at
Center of Truss

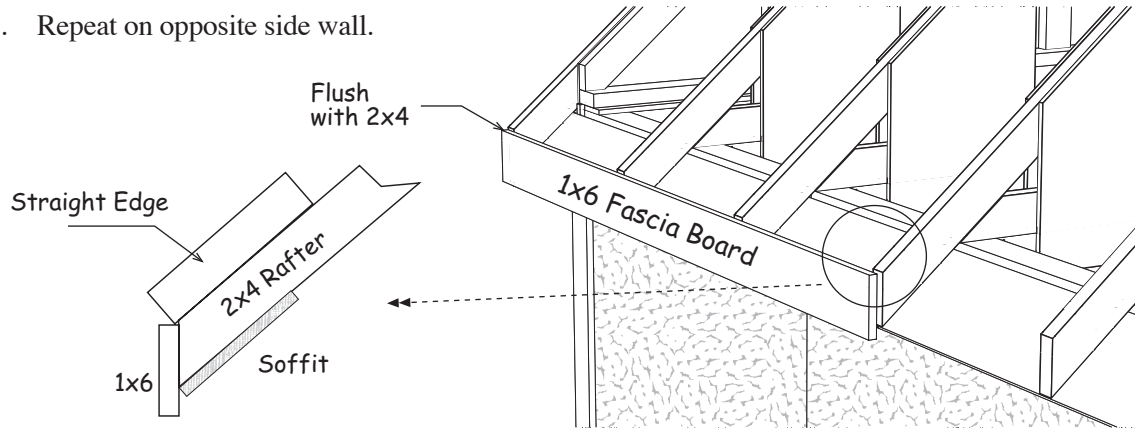
Cut LAP
Edge Off

Detail 'C'



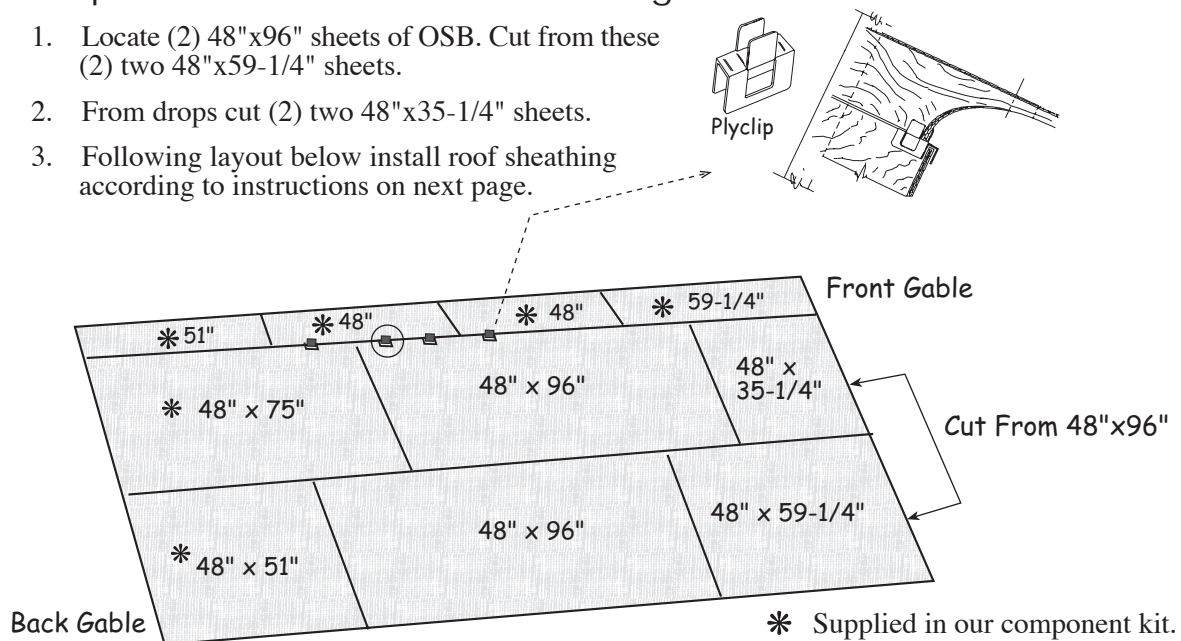
Step 20 Install 1x6 Fascia on Side Walls

1. Starting at the back gable, install a 75" long 1x6 trim board flush with the face of the 2x4 on gable. Install the 1x6 board so the top of the board is aligned with the top of the trusses. The roof sheathing, *installed later*, should rest on the fascia. Use a straight edge as shown below. Use 6d galv. nails.
2. Install (2) two 1x6-6' trim boards next. Cut the last trim board flush with the front soffit overhang.
3. Repeat on opposite side wall.



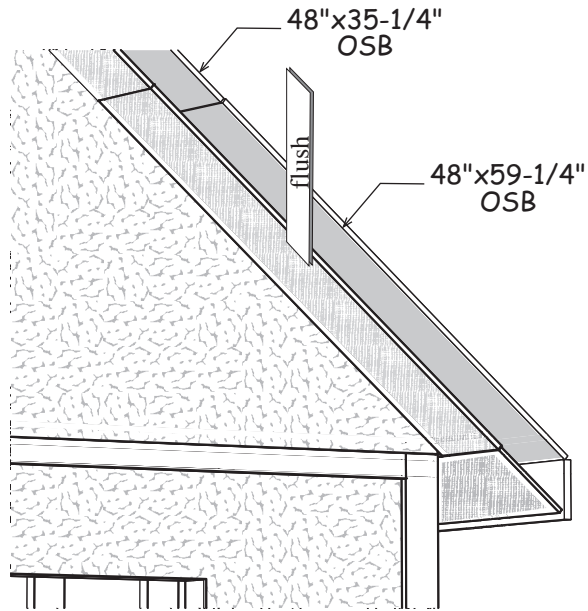
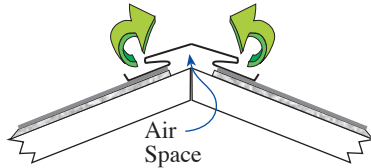
Step 21A Install Roof Sheathing

1. Locate (2) 48"x96" sheets of OSB. Cut from these (2) two 48"x59-1/4" sheets.
2. From drops cut (2) two 48"x35-1/4" sheets.
3. Following layout below install roof sheathing according to instructions on next page.



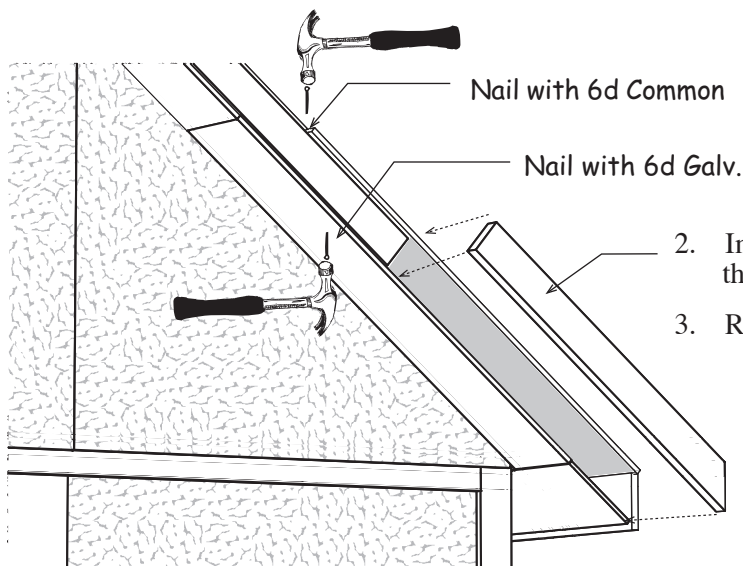
Step 21B Install Roof Sheathing continued

4. Make sure the trusses and gables are plumb.
5. Refer to the roof sheathing layout. Install a 48"x59-1/4" sheet at lower front corner. Sheathing should be flush with soffit and rest on 1x6 fascia. Secure sheathing with 6d common nails. Space nails 12" apart. Continue installing to back gable.
6. The top row of sheathing will allow a gap at the top for ventilation if ridge vent is applied. Insert (2) two ply-clips into the roof sheathing between each truss at the top row, see drawing on previous page.



Step 22 Install 2x4s in Front Overhang

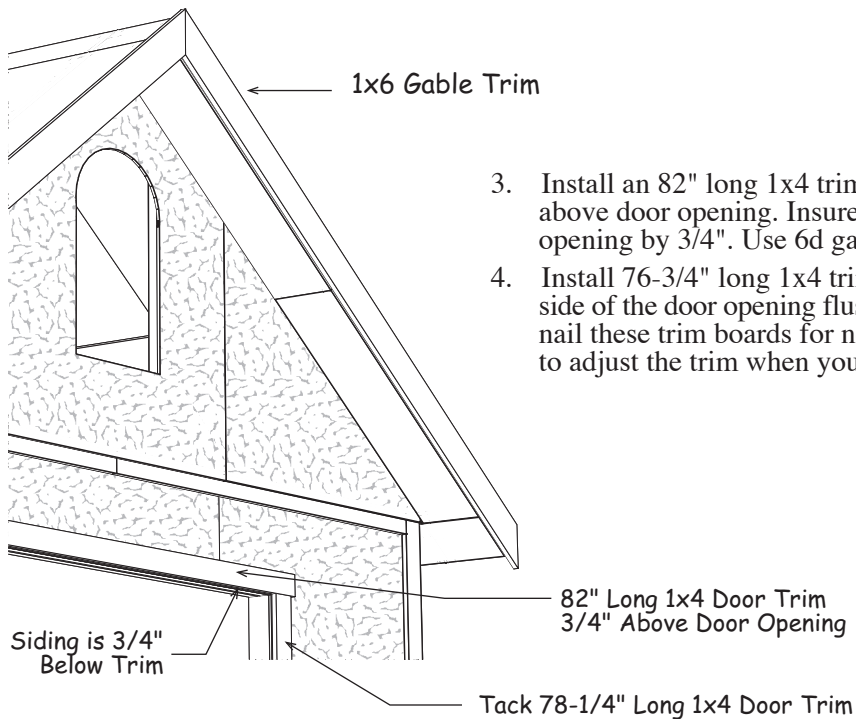
1. Starting at the peak install a 77-3/8" long 2x4 between the roof sheathing and the soffit panels. Set this board flush with edge of soffit panels and roof sheathing. Use 6d galv. nails on soffit and 6d common through the roof sheathing.



2. Install a 30-1/2" long 2x4 between the roof sheathing and the soffit panel
3. Repeat on opposite side.

Step 23 Install Front Gable Trim and Door Trim

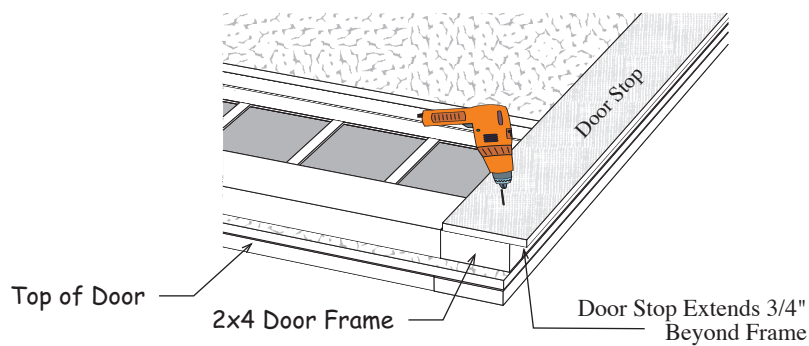
1. On front gable install (2) two 1x6 trim boards over the 2x4 boards, flush with the top of the OSB roof sheathing. Use 6d galv. nails.
2. Install gable trim on the rear gable.



3. Install an 82" long 1x4 trim board centered above door opening. Insure board is above opening by 3/4". Use 6d galv. nails.
4. Install 76-3/4" long 1x4 trim boards on each side of the door opening flush with siding. Tack nail these trim boards for now, you may need to adjust the trim when you install the doors.

Step 24 Install Door Stop on Left Door

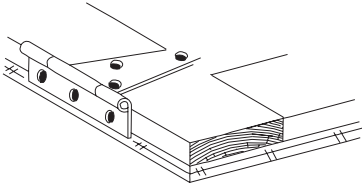
Select a door without a pre-drilled hole for handle and lay trim side down. Install a 4-1/4" x 75-1/4" long siding panel as a door stop to the right side of door. *See detail below.* The door stop should extend 3/4" beyond the side frame of the door and be flush with top of 2x4. Install with 1-1/2" exterior screws spaced 12" apart.



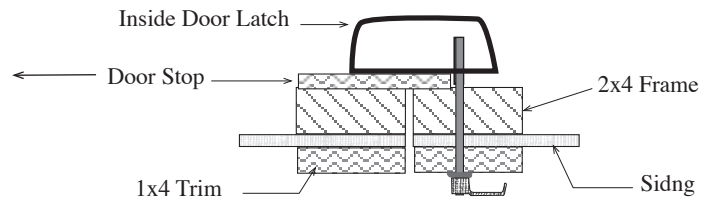
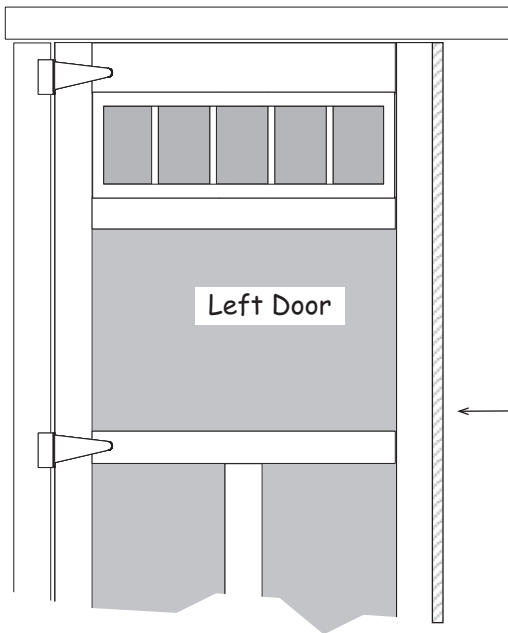
Step 25 Install Doors



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

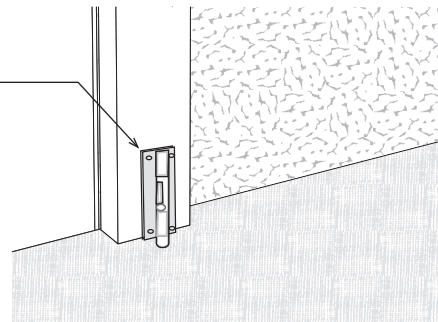


1. Install (3) three 6" hinges to sides of the doors. To position the hinge properly, hold the rectangular plate against the frame. Use 1-1/4" black screws.
2. Before fastening the hinges to the trim, temporarily prop the doors in the opening. Leave a space at the top and between the doors and the side trim to allow room for the doors to expand due to humidity.
3. Determine position of hinges and install to side trim with 2" screws.
4. Install the window using the short white screws.
5. Install door handle into the pre-drilled hole on right side door. When the handle is turned the inside latch will hold doors closed. Tighten set screw to finish.

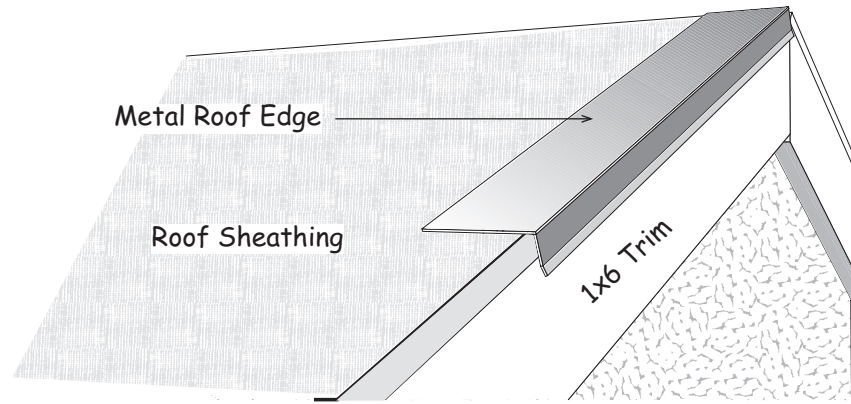


6. Install a barrel bolt on the inside lower back of the left door to secure this door in place when closed. You will need to drill a hole for the round shaft to drop into.
7. Install another barrel bolt at the top of the door.

Barrel Bolt on the back of left door



Install Roofing — Not Supplied in Kit



1. Install metal roof edging along the end walls and the front edge of the roof sheathing.
2. Install felt paper and shingles according to manufacture's instructions.

Optional Roof Covering

12	bdl.	Roof Shingles
8	pcs.	Roof 'drip' Edge-10'

<i>Qty.</i>	<i>Material Shipped in 36" Door Kit</i>	
2	ea.	36" x 76" Pre-built Doors
2	ea.	12" x 31" Transom Windows
2	ea.	1x4" x 78-1/4" Door Trim
1	ea.	1x4" x 82" Door Trim
1	ea.	4-1/4" x 75-1/2" Door Stop
6	ea.	6" Door Hinges
1	ea.	Door Latch
2	ea.	6" Barrel Bolt
25	ea.	1-1/4" Hinge Screws
25	ea.	2" Hinge Screws
16	ea.	White Window Screws

<i>Qty.</i>	<i>Material Supplied by Local Supplier</i>	
36 pcs.	2x4	Pre-cut Wall Studs
13 pcs.	2x4 - 12'	Wall & Tie Plates
6 pcs.	2x4 - 16'	Wall & Tie Plates
2 pcs.	2x8 - 8'	Door Header
13 pcs.	Exterior Siding	4x8
9 pcs.	OSB Sheathing	4x8

Qty.	<i>Material Packaged on Pallet</i>		
20	Truss Rafters	2x4	77-3/8"
7	Ridge Block	2x4	18-1/2"
6	Gable Overhang	2x4	30-3/4"
4	Gable Rafters	2x4	32-3/8"
2	Gable Plates	2x4	49-1/2"
4	Gable Studs	2x4	50-3/4"
6	Trim	1x3	72"
4	Trim	1x4	72"
2	Trim	1x6	75"
4	Trim	1x6	72"
2	Pre-built Gable Frames - lefthand		
2	Pre-built Gable Frames - righthand		
7	Pre-built Truss Ends - lefthand		
7	Pre-built Truss Ends - righthand		
2	Pre-cut 46" High Gable Siding - tongue edge		
2	Pre-cut 46" High Gable Siding - lap edge		
2	Pre-cut 66" High Gable Siding - center		
2	Pre-cut Siding 20" x 48-3/4"		
	1 Not used in this model		

Qty.	<i>Material Shipped in Trim Carton</i>		
4	ea.	1x3 x 99"	Corner Trim
4	ea.	1x4 x 99"	Corner Trim
4	ea.	1x6" x 104"	Gable Trim

Qty.	Material Packaged on Pallet		
1	7/16"	48" x 24" OSB Sheathing	
2	7/16"	48" x 51" OSB Sheathing	
1	7/16"	48" x 48" OSB Sheathing	
2	7/16"	48" x 75" OSB Sheathing	
4	7/16"	9-3/4" x 48" OSB Sheathing	
2	7/16"	9-3/4" x 51" OSB Sheathing	
2	7/16"	9-3/4" x 59-1/4" OSB Sheathing	
4	7/16"	3-1/2" x 24" OSB Sheathing	
2	7/16"	7-1/4" x 48" OSB Header Fillers	
14	3/8"	Soffit Boards	9-3/4" x 48-3/4"
6	3/8"	Filler Boards	2" x 48-3/4"
4	lbs.	10d	Sinkers
5	lbs.	6d	Galv. Nails
7	lbs.	6d	Common
1	lb.	1-1/2"	Hanger Nails
25	2-1/2"	Wood Screws	
14	2x4	Joist Hangers	
50	Plyclips for Roof Sheathing		
1	8 oz.	Bottle Wood Glue	
14	Wood Gussets	15-3/4" x 27-1/2"	
16	Wood Gussets	24" x 11"	
4	Wood Gussets	5-3/4" x 14"	
2	Wood Gussets	5-1/2" x 27-3/4"	
12	1x4	Jig Blocks 18"-10" long approx.	
2	3/8"	Gauge Blocks 3" x 8"	

