Assembly Book

Revised March 19, 2021

BEST BARNS
USA
Quality Do-it-yourself Barn Kits

the Weston

Building Size 12'x20'

IMPORTANT INFORMATION ABOUT YOUR KIT

Delivery: Insure you receive 1 pallet and 1 bundle of lumber. A second delivery from a home center will contain pre-cut wall studs and sheet goods.

Items not included: Shingles, vinyl siding, woof floor, garage door and windows are purchased separately.

Garage door: An 8ft. wide x 7ft. high door is required.

Prior to building:

Unpack all items and organize items according to size and type. This will make them easier to find when instructed. DO NOT discard any material until your building is complete.

Check with your local permitting authority to obtain any required documentation.

Thoroughly read this manual. DO NOT skip outlined steps.

Tools Required:

Hand or Circular Saw   Cordless Drill   Hammer   Phillips Screwdriver   Framing Square

Level   Measuring Tape   Step Ladders (two recommended)   Safety Glasses   Dust Mask

Terminology:

Plumb: Checking to see if a wall is vertical

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

Tie Plate: Second layer of 2x4s connecting wall sections together

Header: Spans top of door opening

OSB: Oriented strand board used for sheathing walls and trusses

Material lists located on back page.


Questions: Call 800-245-1577 8am-5pm EST. After hours call 724-866-4357. Or email questions@barnkits.com

Always wear safety glasses when cutting or nailing!

Details for Optional Sturdy-Built Floor System

Foundation size is 12'-0" x 20'-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 2x4-12' to a length of 12' -0". They will be used for the joist headers. Layout, from the left, for 12" on center joist spacing. The 'X' marks where floor joist will be placed.

2. Cut (13) thirteen 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 the joist measurements if necessary to obtain 12'-0" building width.*

3. Place 4x4-10' treated timbers on the ground. Cut (2) two 2x4-8' boards into 2' long blocks to secure the 4x4s where they butt together.

4. Install the floor joists cut above between the 12' joist headers. Secure with 16d galv. deck nails.

5. Place floor sections over the 4x4s. Square floor. Measure the floor diagonally (corner to corner). These measurements will be the same if the floor is square (203-5/8"). To keep the 2x4 frame from moving, toenail frame to the 4x4 runners.
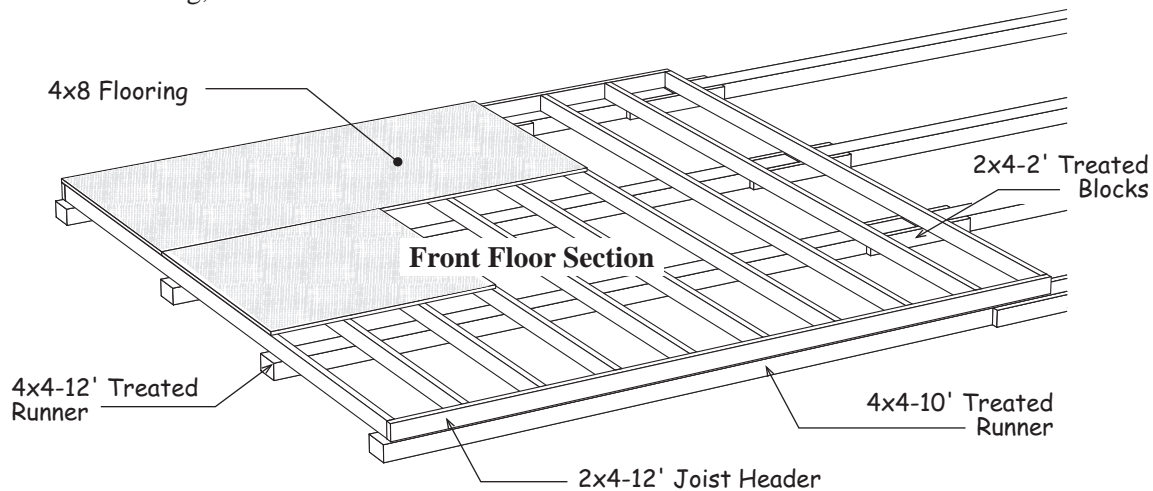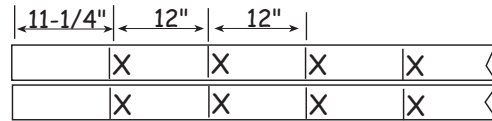
*Assembly Instructions for Rear Floor Section*

6. Cut (2) two 2x4-8' to a length of 8' -0". Layout for 12" joist spacing, *see above*.

7. Cut (7) seven 2x4-12' floor joist to 11'-9". Install floor joists between the joist headers. Install this section against the section assembled above.

8. Square floor (173"). Install 4x8 flooring over the 2x4s. Use 8d galv. spiral nails.

| Material Description	12' x 20'	
2x4 Headers_Blocks	4 pcs.	8'
2x4 Headers	2 pcs.	12'
2x4 Floor Joist	22 pcs.	12'
4x4 Treated Runners	8 pcs.	10'
Flooring 3/4"	8 pcs.	4x8
Screw Floor Nails	5 lb.	8d
Galv. Box Nails	5 lb.	16d

Step 1 Assemble Sidewalls

☞ ***Do not discard any material until construction is complete, including short 2x4 blocks.***

1. Cut (2) two 2x4-10' (one will be treated) to a length of 116-1/2". Position the boards together and indicate with 'X' marks where the wall studs will be located.

116-1/2" Wall Plates

Top Wall Plate

Treated Bottom Plate

Stud Spacing - - - - - - - →

19-3/4"   24"   24"
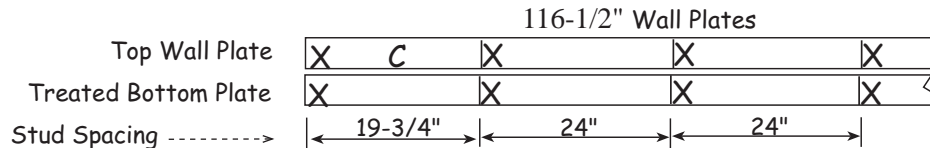
2. Mark a 'C' anywhere left of first stud mark. This is referenced in a later step.

3. Install (6) six pre-cut wall studs between the top & bottom plates. Nail top plate to studs using (2) two 10d sinkers per stud. Nail bottom plate to studs using (2) two 16d galv. nails per stud.

☞ *The length of pre-cut studs will vary from 92-1/4" to 93" depending on your locality.*

116-1/2" Top Plate

Pre-Cut
Wall Studs

116-1/2" Treated
Bottom Plate
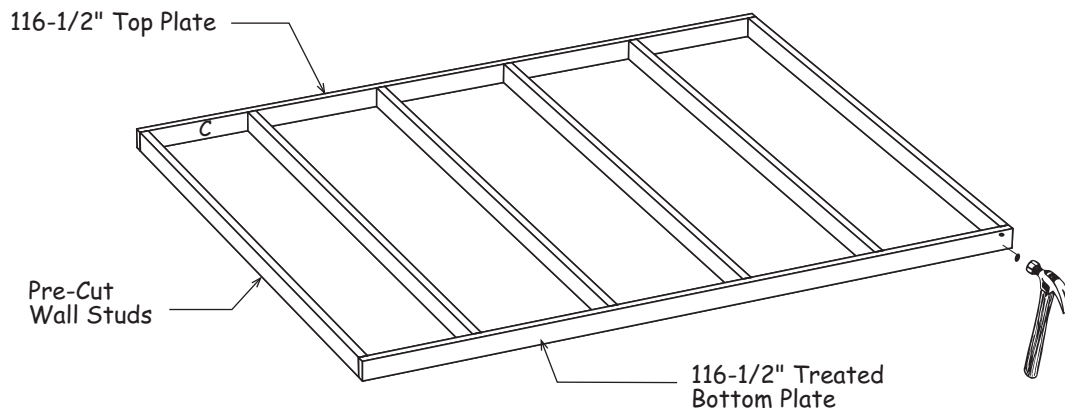
3. Repeat to assemble (3) three more 116-1/2" long wall frames.

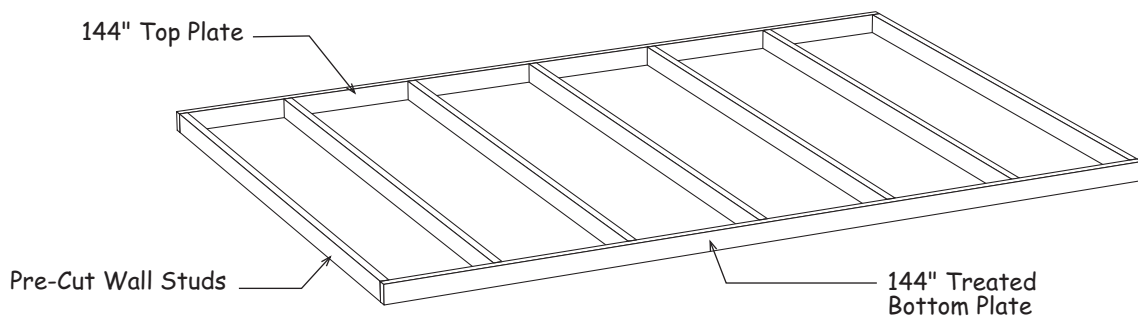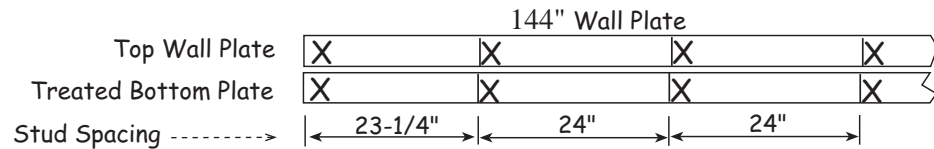4. Set frames aside. OSB sheets will be installed after the walls are set.

Step 2 Assemble Door Header

1. Locate (2) two 2x8-10' boards. Cut these boards to a length of 99".

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 of OSB. Position OSB fillers 1-1/2" from either end of 2x8s. Nail together with (12) twelve 10d sinkers spaced evenly on each side.
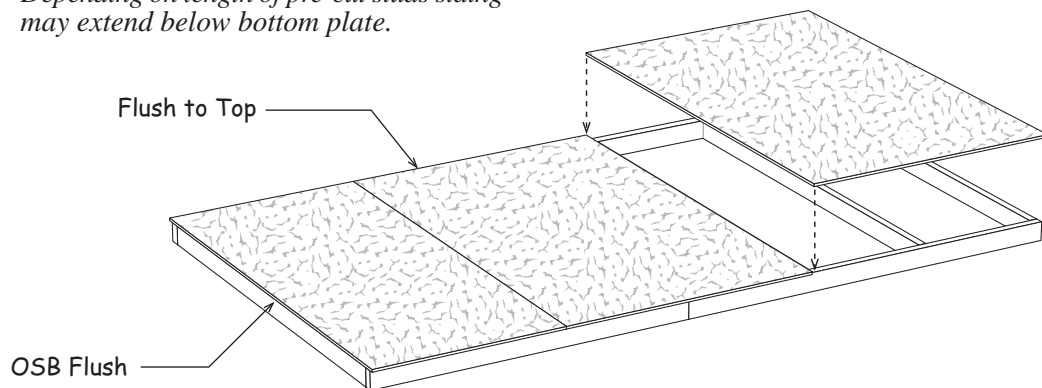
99" Long 2x8

Siding Filler

1-1/2" From End
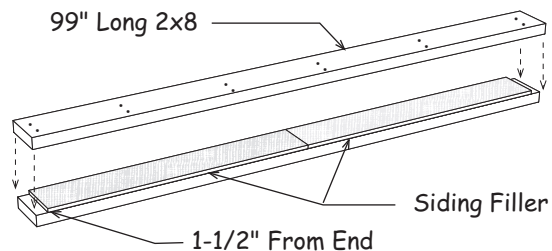
Step 3   Assemble 12' Back Wall

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

144" Wall Plate

Top Wall Plate   X   X   X   X

Treated Bottom Plate   X   X   X   X

Stud Spacing ---------> | 23-1/4" | 24" | 24" |

144" Top Plate

Pre-Cut Wall Studs
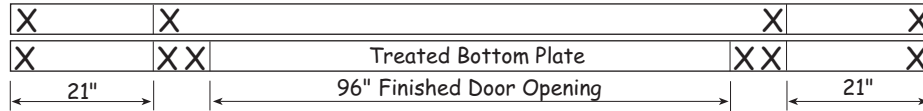
144" Treated
Bottom Plate

2. Install (7) seven pre-cut wall studs between the top & bottom plates. Nail top plate to studs using 10d sinkers. Nail bottom plate to studs using 16d galv. nails.

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 Oriented Strand Board (OSB) panel flush with the side of the wall stud and flush with the top 2x4 plate. Nail siding with 6d common nails, spaced 8" apart. Cut the OSB flush with the 2x4 bottom plate if you are installing the building on a concrete slab.

5. Install (2) two more OSB panels.

Depending on length of pre-cut studs siding may extend below bottom plate.

Flush to Top

OSB Flush

Step 4   Assemble Front Wall Frame

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

```
X        X                              X        X
X        X X        Treated Bottom Plate        X X        X
|← 21" →|        |← 96" Finished Door Opening →|        |← 21" →|
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2. Install (4) four pre-cut wall studs between the wall plates where shown. Nail top plate to studs using 10d sinkers. Nail bottom plate to studs using 16d galv. nails.

3. Cut (2) pre-cut studs to a length of 82" and install as header supports where shown. Nail to stud using 10d sinkers.

4. Install the door header on the header supports. Nail to the wall stud with 10d sinkers.

5. Remove a 2x4 screwed to the pallet. Measure space between header and top plate. Cut (5) five pieces to this length. Evenly space pieces and nail through top plate and toenail to header. Use 10d sinkers.

nail →   2x8 Door Header   ← nail

2x4 Block Centered

82" Header Support
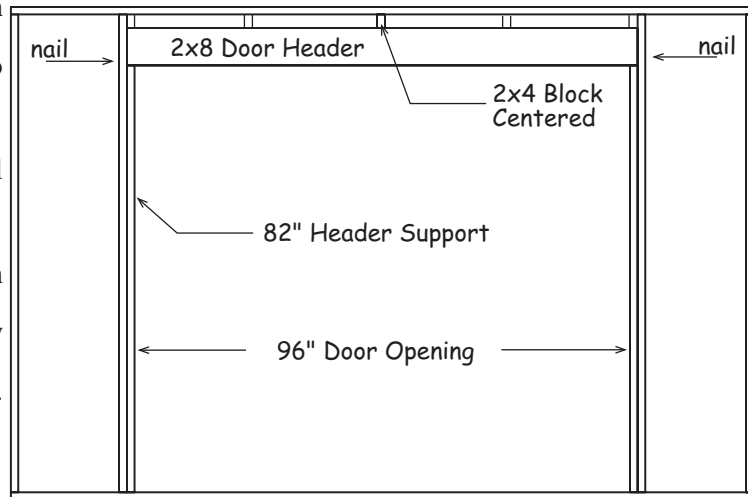
96" Door Opening

6. Cut a 4'x8' OSB panel in half creating (2) two 2'x8' panels. Install one panel flush with the side of the door opening and flush with the 2x4 top plate. Use 6d common nails.

7. Locate (2) two 20"x 48" OSB panels and install above the door opening. Install flush with top plate. Cut the siding flush with bottom of header.

8. Install 2'x8' siding panel on the right side of the wall panel.

Flush

OSB Flush
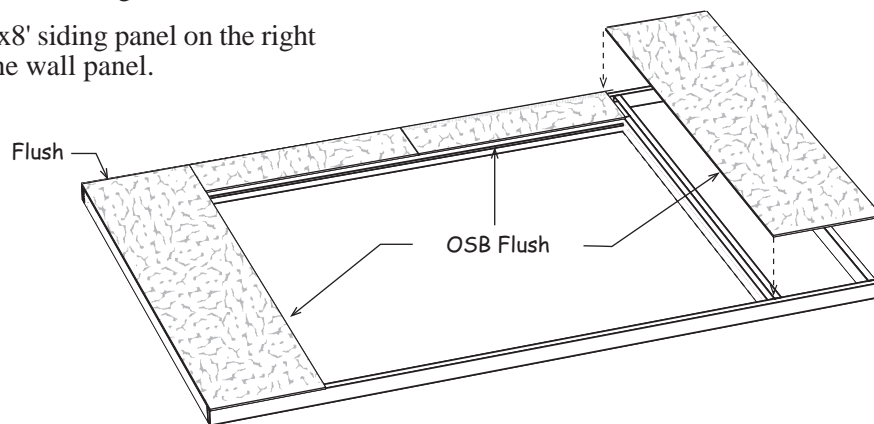
Step 5   Set Wall Panels

1. Erect back wall and side walls. The 'C' marks on side walls must be at each end. 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 OSB panel flush with the back wall 2x4 frame and flush with top plate. Nail OSB to back wall and all 2x4s using 6d common nails spaced 8" apart

3. Install (4) four more OSB panels. Last panel will extend 3-1/2" past wall to receive front wall panel.

4. Start at back wall and apply OSB to opposite wall.

5. Erect front wall panel and secure corners with 10d sinkers. Nail OSB to front wall.

6. Cut and remove bottom 2x4 from door opening.

7. Nail walls to floor through bottom plate. Space 16d galv. nails 24" apart.

Back Wall

End Marked 'C'

End Marked 'C'

**End Marked 'C'**

Cut 2x4 Plate
from Opening
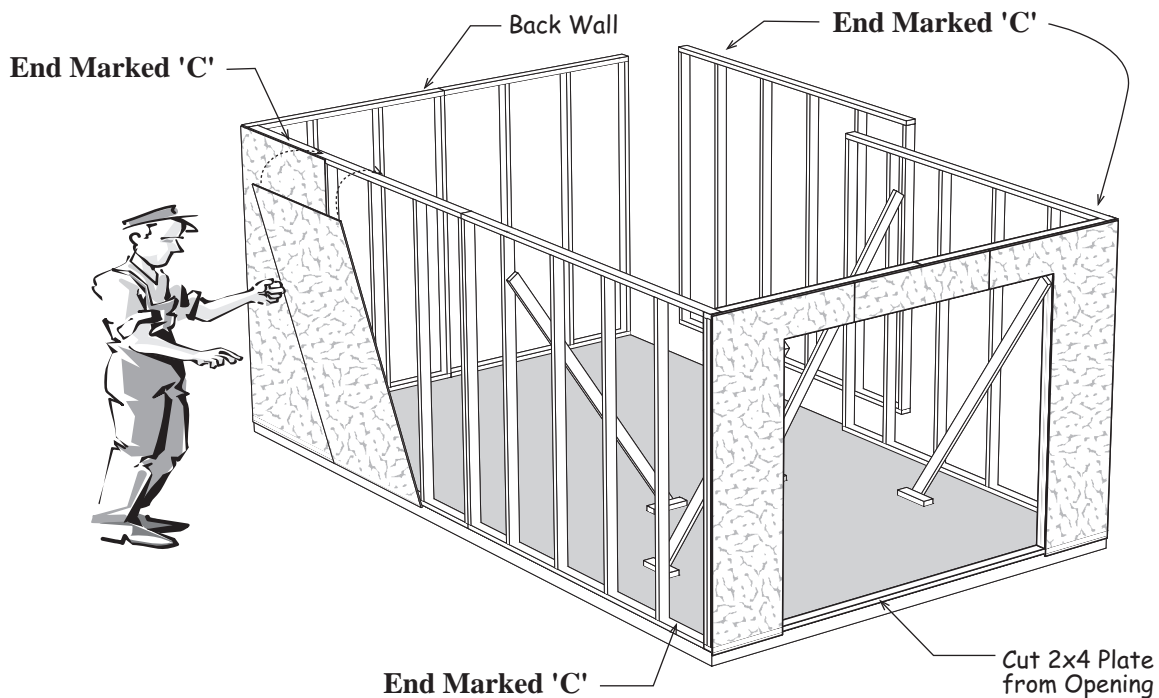
Step 6   Assemble Roof Gables

1.   Cut (2) two 2x4-12' boards to a length of 144".

2.   Place one of the 144" boards on the floor along with (2) two 80-1/2" long 2x4 rafters as shown below. Bottom 144" plate will be on edge. Rafters will lay flat.

> There are short 2x4s, *that may have an angle on one end*, supplied in the kit. Use these to hold the rafters 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 are identical.

3.   Secure the top of the rafters together with a 1"x4" barbed metal drive-on plate.

4.   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.
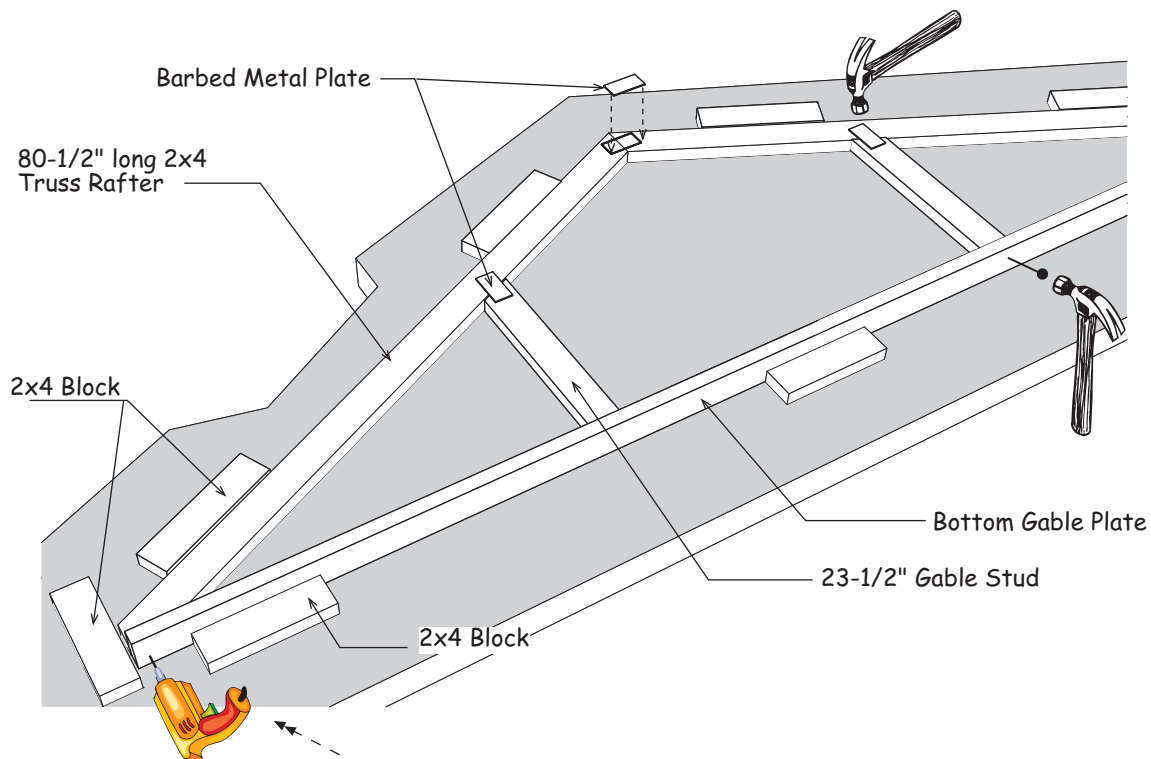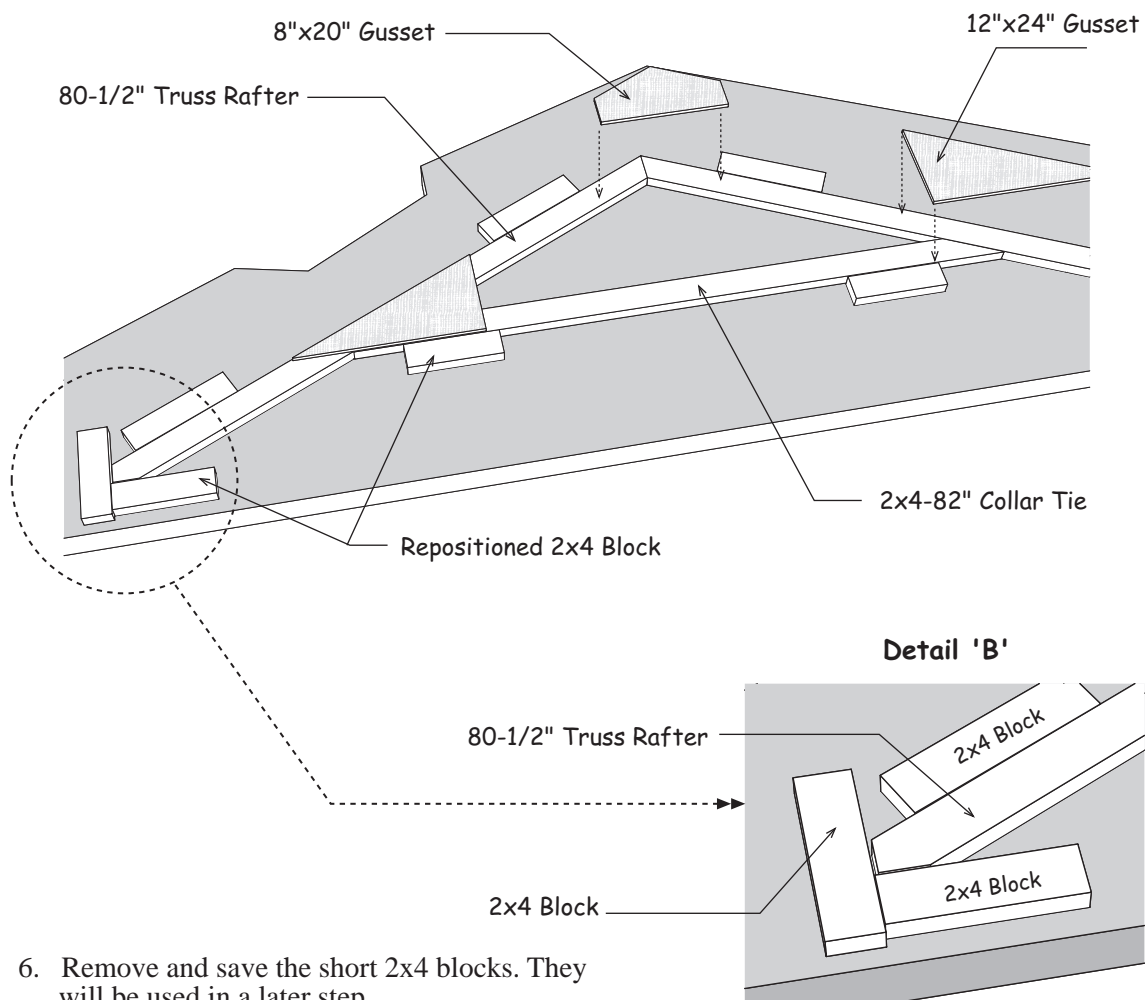

6.   Secure the 2x4 bottom plate to the truss rafter with a 2-1/2" wood screw on both ends. Set gable aside.

7.   Repeat steps 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. Insure the collar tie ends are at equal distances from truss top. 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 (8) eight more trusses.

8"x20" Gusset

12"x24" Gusset

80-1/2" Truss Rafter

2x4-82" Collar Tie

Repositioned 2x4 Block

Detail 'B'

80-1/2" Truss Rafter

2x4 Block

2x4 Block

2x4 Block

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

## Step 8   Install Primed Soffit and Fillers

1. Install a 7" wide x 48-3/4" siding panel over the side wall with the primed side facing down. The 'tongue' edge should be flush with <u>front wall plate</u>, NOT over OSB. Tack the soffit with a couple 6d common nails. Installing 2x4 tie plates in a later step will provide more nailing.

2. Install (4) four more siding panels. Cut the last soffit flush with the 2x4 wall plate.

Flush with
Inside of 2x4

3-1/2" Filler

7" Soffit

Side Wall

Front Wall
Door Opening

Tongue Edge
Flush
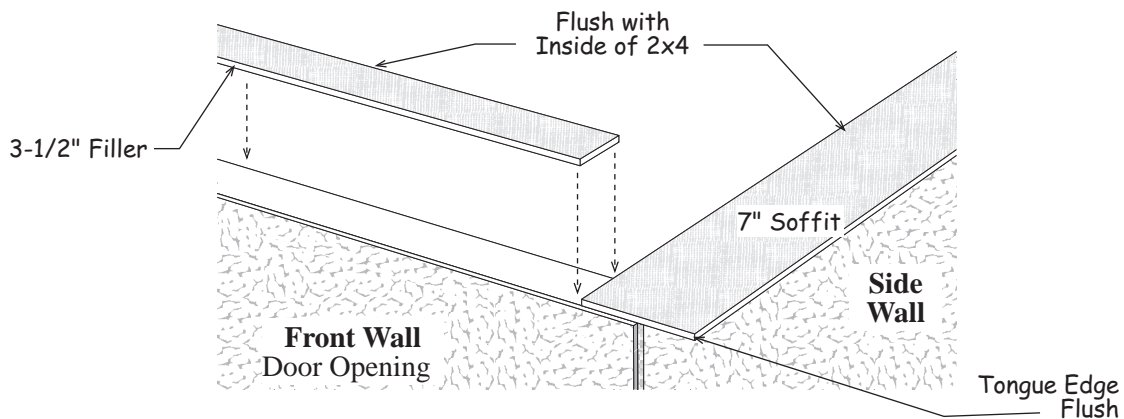
4. Repeat to install soffit on the opposite side wall.

5. Install (3) three 3-1/2" wide x 48-3/4" filler panels over the front and back wall. Cut the last filler to fit between the soffit on the sidewalls.

Step 9   Install Roof Gables

1. Install a gable frame centered on the back wall. Gable plate should be flush with filler. NOT over OSB. Secure with 10d sinkers.

2. Install the gable frame on the front wall.

Gable Flush
with Filler
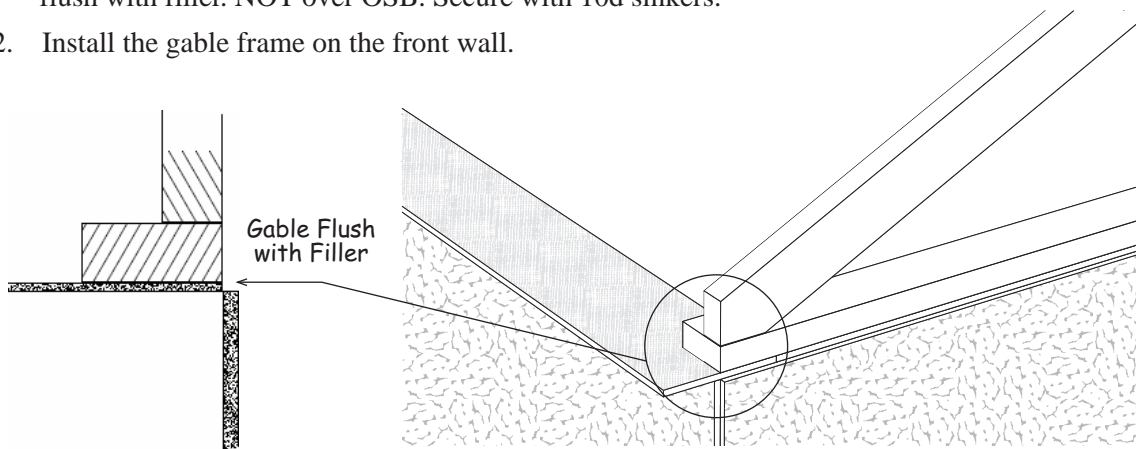
Step 10   Install Siding on Gables

1. Locate pre-cut gable OSB. Install OSB above the lower OSB wall panels and flush with ends of gable frame. Use 6d common nails.

2. Repeat to install OSB on the other gable frame.
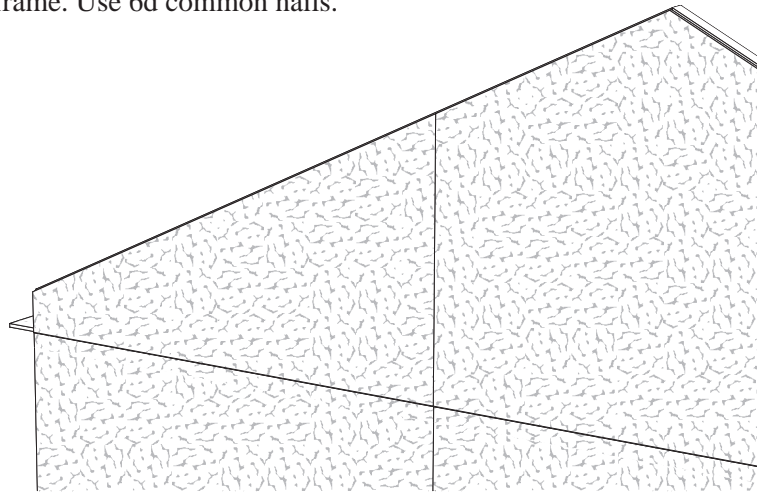
Step 11   Install 2x4 Tie Plates on Side Walls

1. Install a 2x4-8' on a side wall against the gable on the back wall and flush with the inside of soffit. Cut a 2x4x12 to fit against gable on front wall. Use 10d sinkers.

2. Repeat to install tie plates on the opposite side wall.

2x4-8'

Install Flush

Side Wall
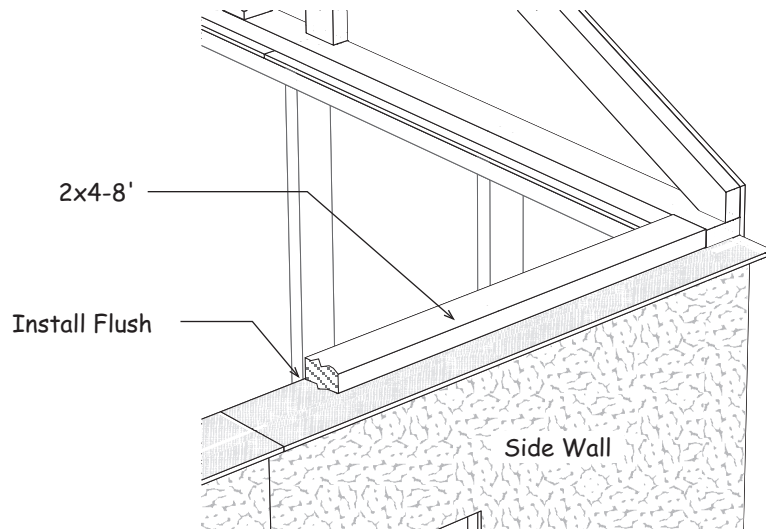
Step 12   Layout Roof Trusses & Install Soffit Blocks

1. Starting on back corner measure from the <u>backside</u> 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 1-1/2" hanger nails . The opening should line up with the 'X' mark, the bottom of the opening, flush with the 2x4 tie plate. **Detail 'D'**.

Measure from
Backside of 2x4

Detail 'D'

19"

2x4 Tie Plate

24"

Inside of Building
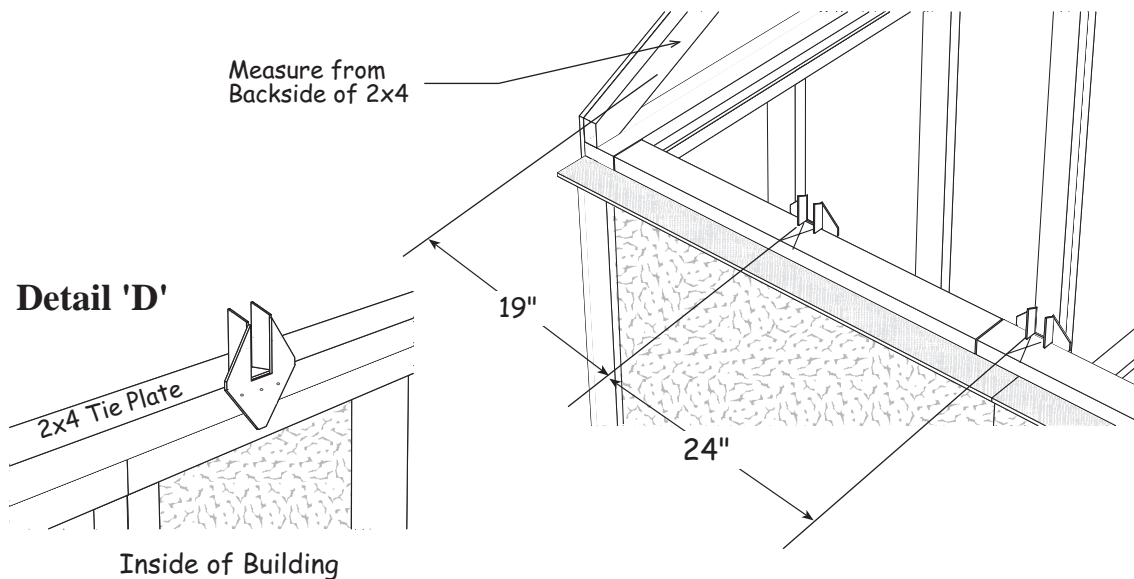
3. Set roof trusses. Secure trusses to metal hangers with 1-1/2" hanger nails.

2x4 Block

4. Gather (18) eighteen short 2x4 blocks and install one at both ends of each truss. Secure 2x4 blocks to the soffit panel using (2) two 1-1/2" long exterior screws.

5. Gather (4) four more 2x4 blocks. Install one 2x4 block at each end of the soffit, flush with the 2x4 gable frame.
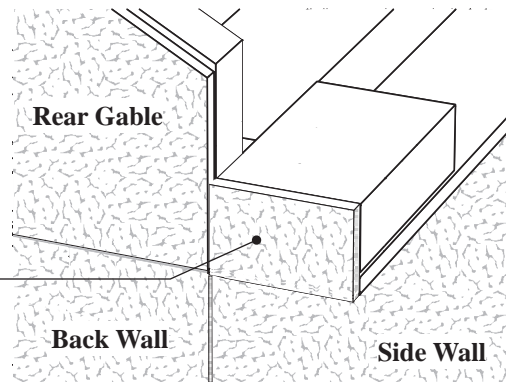
2x4 Block with
Gable Frame
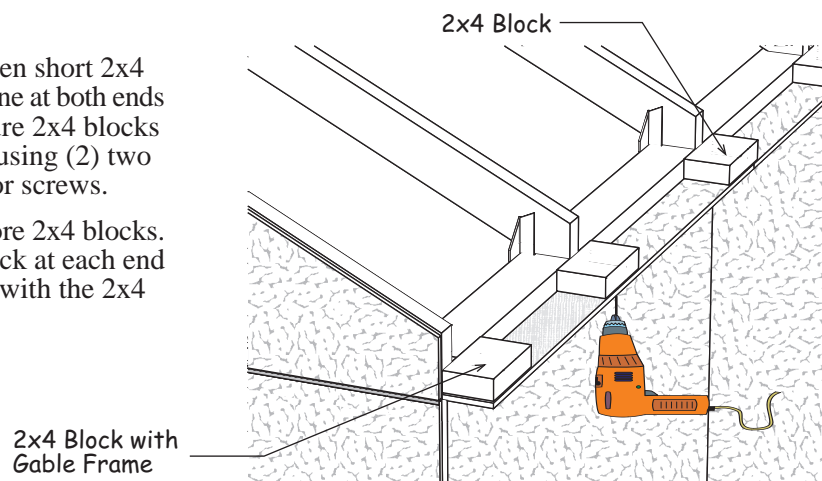
Step 13   Install Rear Gable Trim

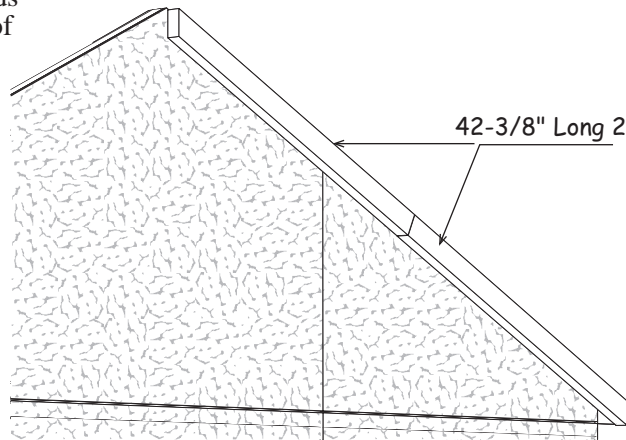☞ *The front able trim will be installed in a later step.*

1   Install (4) four small OSB fillers, *packed with the hardware*, over the 2x4 soffit blocks. Fillers will be flush with the gable siding. Use 6d common nails.

Rear Gable

OSB Filler

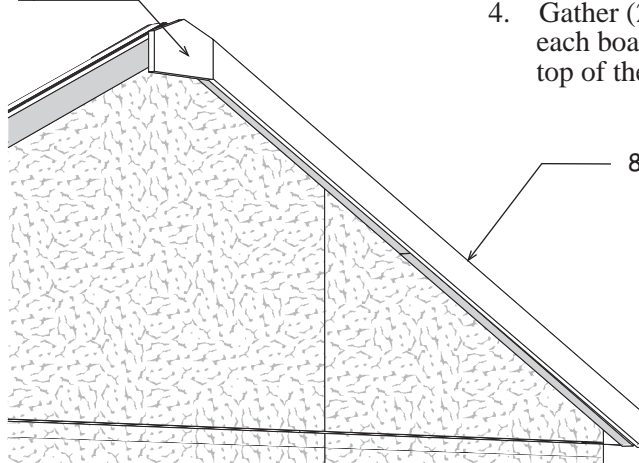**Back Wall**

Side Wall

2. Install (4) four 42-3/8" long 2x3 boards on the rear gable flush with the top of the gable frame. Use 10d sinkers

42-3/8" Long 2x3

3. Install a 8-1/2" long trim board, *called a keystone*, at the top of the gable flush with the top of the gable frame. Use 6d galv. nails.
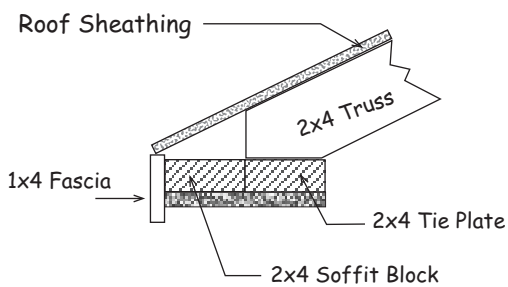
Keystone

4. Gather (2) two 82-1/2" long 1x4 trim boards. Butt each board against the keystone and flush with the top of the gable frame. Use 6d galv. nails.
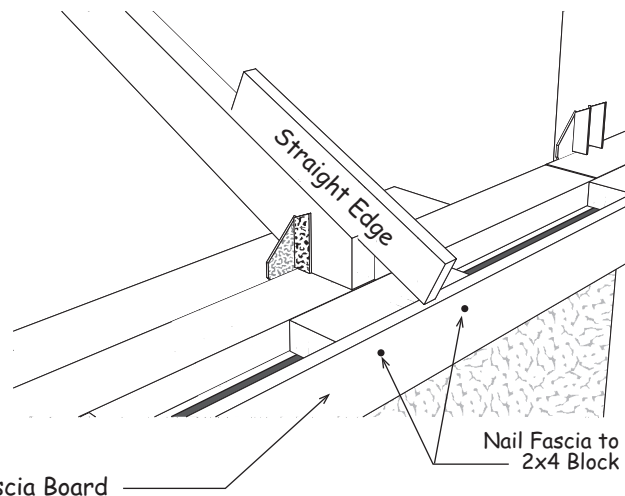
82-1/2" Long 1x4 Trim

Step 14   Install Fascia on Side Walls

1. Install a 1x4-6' white pine fascia board against the rear gable trim. Install the fascia so the bottom edge of the roof sheathing will rest on the edge of the 1x4. **See Detail 'E'**. Use a straight edge to align the 1x4 board with the top of the trusses. Use 6d galv. nails.

2. Install (2) two nore 6' fascia board. Do not install the last fascia board. This will be applied after the front overhang is installed.

3. Repeat on opposite side wall.

Roof Sheathing

2x4 Truss

1x4 Fascia

2x4 Tie Plate

2x4 Soffit Block

Detail 'E'

Straight Edge

Nail Fascia to
2x4 Block

1x4 -6' Fascia Board

Step 15A Install Roof Sheathing

1. Install (4) four 42-3/8" long 2x3 boards on the front gable flush with the top of the gable frame. Use 10d sinkers

2. Plumb each truss and gables.

3. Refer to sheathing layout at the top of the next page. Install roof sheathing starting at the front gables lower corner. The roof sheathing should extend 6-1/4" beyond the 2x3s. Continue to back wall. Use 6d common spaced 8" apart. The top row of roof sheathing will be about 1" below the ridge to allow for optional ventilation.

6-1/4"

42-3/8" Long 2x3

Front Gable

Shingles

Truss

Air
Space
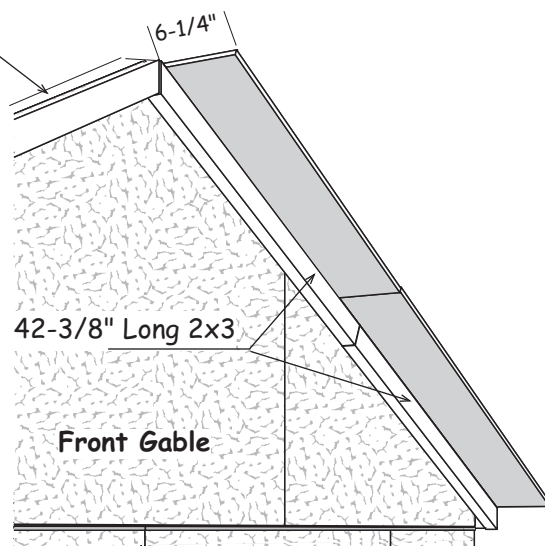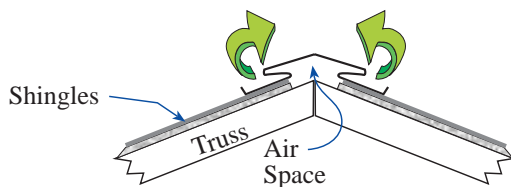
Step 15B Install Roof Sheathing continued

☞ *Sheets should meet at center of trusses when installed*

4.   From 4x8 sheets of OSB cut to the sizes indicated with an * below. Repeat for opposite side.

* 36-1/2" x 96"   36-1/2" x48"   36-1/2" x 72"   36-1/2" x 34-3/4"

48" x 72"   48" x 96"   48" x 82-3/4"
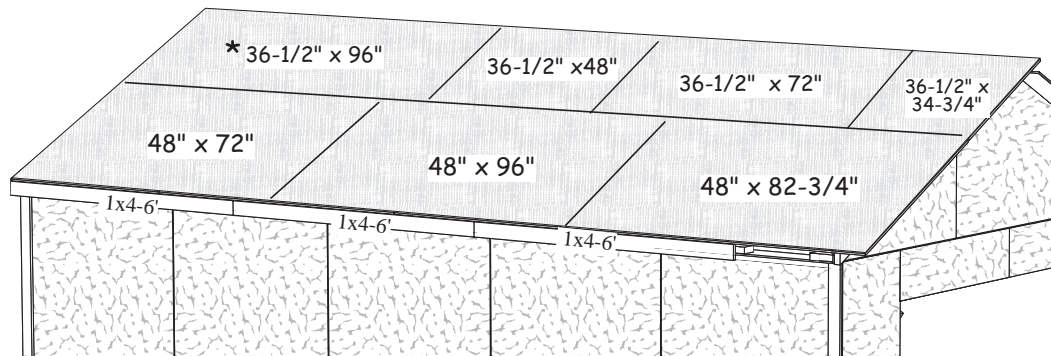
1x4-6'   *1x4-6'*   *1x4-6'*

5.   Trim off any sheathing that extends over the rear gable trim.

Step 16   Install Front Soffit

1.   Gather (2) two 7" wide soffit panels. Install first panel flush with lower end of 2x3 and against siding. Install with 1-1/2" exterior screws . Cut upper panel to fit.

2.   Install (2) two 42-3/8" long 2x3s between the roof sheathing and the 7" soffit panels. Install with 1-1/2" exterior screws on soffit and 7d sinkers through roof sheathing. Set these boards flush with soffit panels. The roof sheathing will extend 3/4" past the 2x3s to allow for trim.

3.   Repeat on other side.

42-3/8" Long 2x3

Upper Roof Sheathing

7" Wide Soffit Panels

Nail with 7d Sinkers

42-3/8" Long 2x3

Sheathing Projects 3/4"
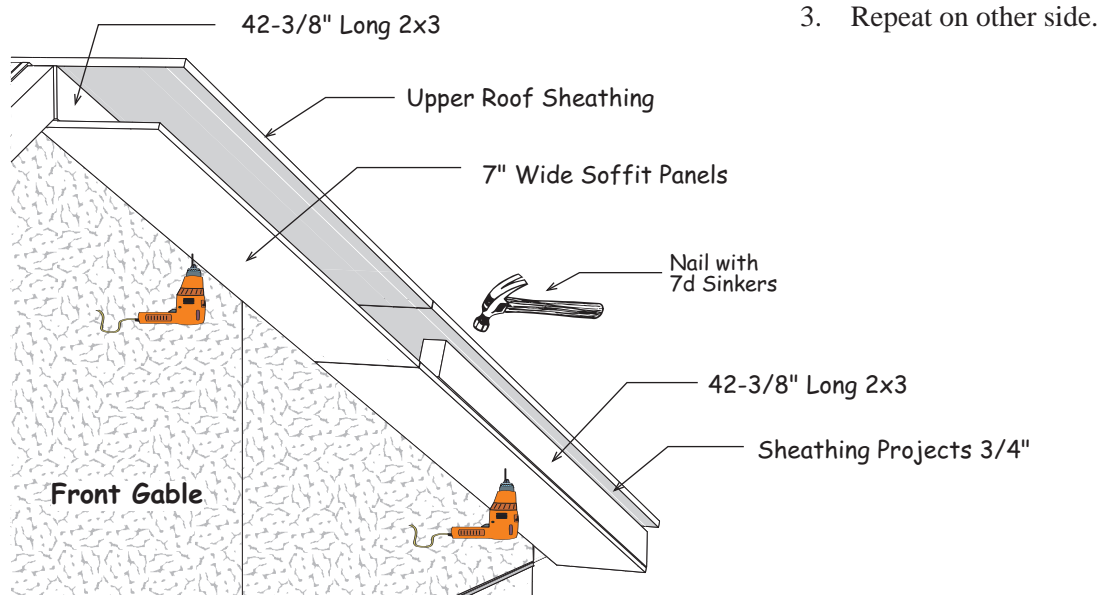
Front Gable

Step 17   Install Gable & Door Trim

1. Install a keystone and gable trim under the roof sheathing as done in **Step 13**.

1x4 Gable Trim

Keystone Trim

Siding Extends 3/4" Below Trim
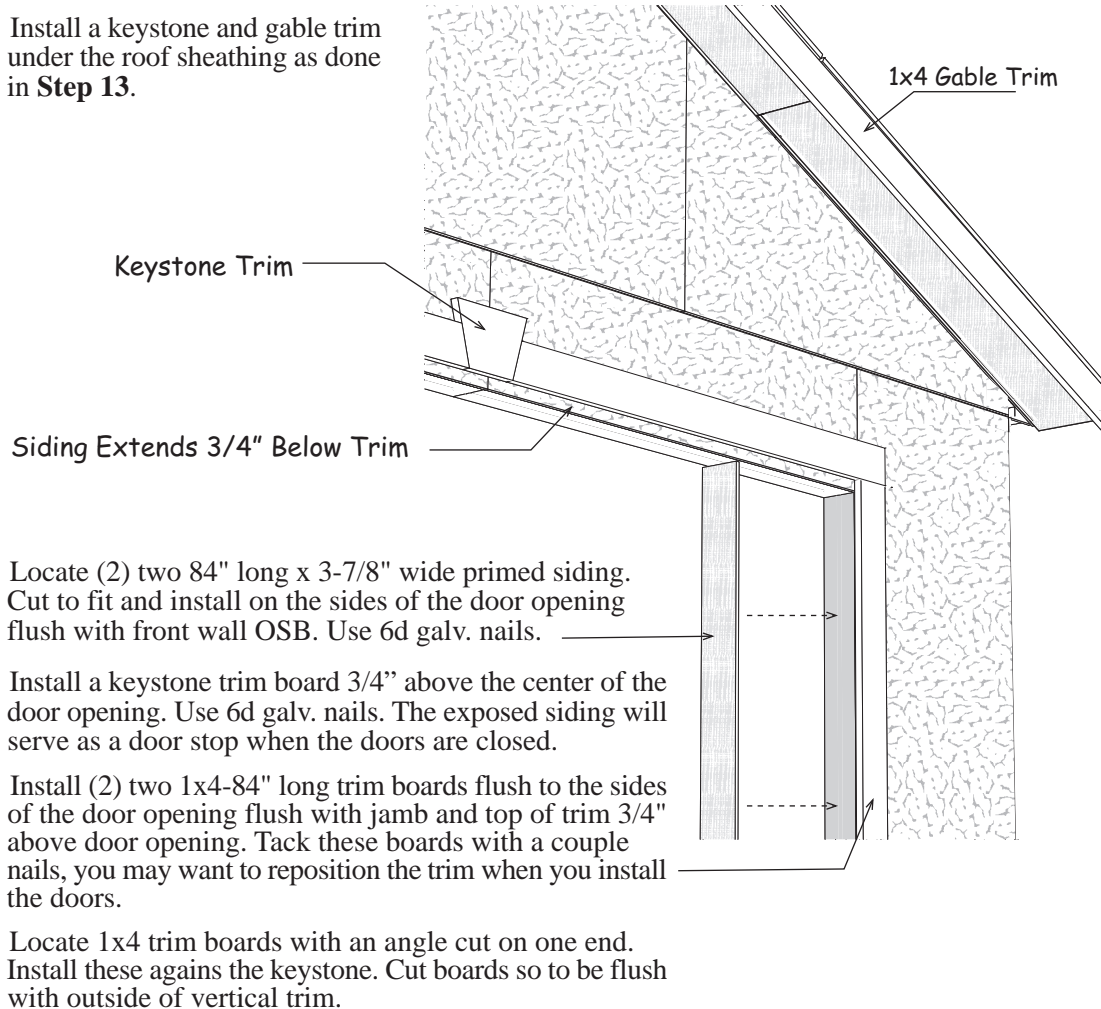
2. Locate (2) two 84" long x 3-7/8" wide primed siding. Cut to fit and install on the sides of the door opening flush with front wall OSB. Use 6d galv. nails.

3. Install a keystone trim board 3/4" above the center of the door opening. Use 6d galv. nails. The exposed siding will serve as a door stop when the doors are closed.

4. Install (2) two 1x4-84" long trim boards flush to the sides of the door opening flush with jamb and top of trim 3/4" above door opening. Tack these boards with a couple nails, you may want to reposition the trim when you install the doors.

5. Locate 1x4 trim boards with an angle cut on one end. Install these agains the keystone. Cut boards so to be flush with outside of vertical trim.


Step 18   Finish Side Wall Trim

1. Locate (2) two 1x4-6' trim boards. Cut each to fit against back of front gable trim and install on the side walls.

1x4 Fascia

1x4 Gable Trim
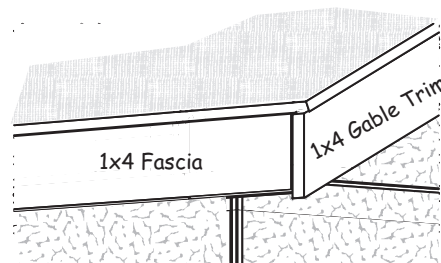
Step 19   Install Doors

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.
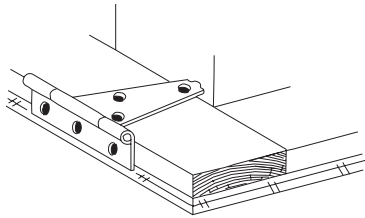
1.   Install (3) three 6" hinges to sides of the doors. To position the hinge properly, hold the rectangular plate against the frame. Use 2" black screws.

2.   Before fastening the hinges to the trim, temporarily prop the doors in the opening. Leave a space at the top and 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. When the handle is turned the inside latch will hold doors closed.

Left Door

Inside Door Latch

Door Stop

1x4 Trim

2x4 Frame

Siidng

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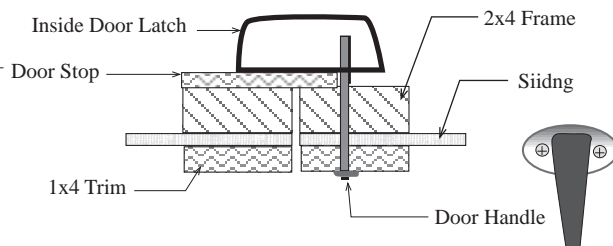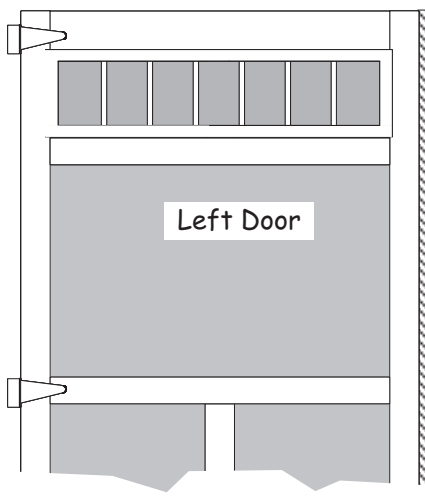
6.   Install a barrel bolt on the lower back of the door to secure this door in place when closed. You will need to drill a hole for the round shaft to drop into.

7.   Install another barrel bolt at the top of the door.
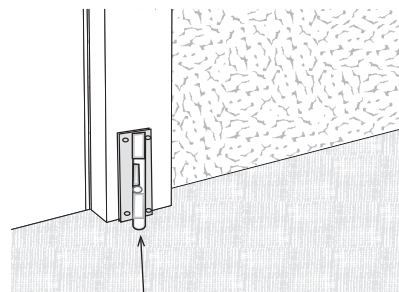
Barrel Bolt on the back of left door

Step 20   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
9 pcs.	Roof 'drip' Edge-10'

Metal Roof Edge

Roof Sheathing

1x4 Trim
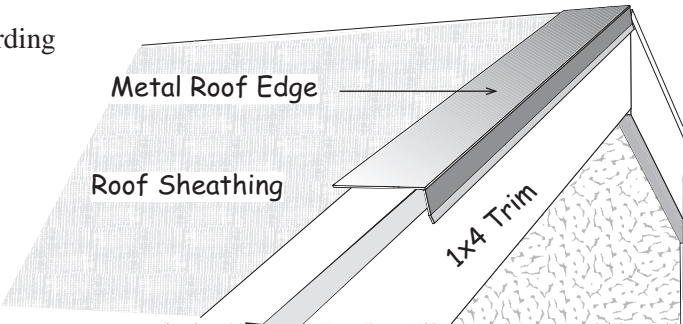
Qty.		*Material Shipped in 48" Door Kit*
2	ea.	48" x 84" Pre-built Doors
2	ea.	12" x 42" Transon Windows
2	ea.	1x4" x 84" Whipe Pine Door Trim
2	ea.	1x4" x 48-3/4" Whipe Pine Door Trim
1	ea.	1x6" x 10" Whipe Pine Keystone
2	ea.	3-7/8" x 84" LP 3/8" Primed Door Jamb
6	ea.	6" Door Hinges
1	ea.	Door Handle w/key
1	ea.	6" Barrel Bolt
75	ea.	2" Hinge Screws
16	ea.	White Window Screws

Vinyl Siding General Information

Install the siding according to the manufacturer's instructions.

Starter Strip is installed along the bottom of the building.

Center the nail in the nailing slots. DO NOT nail the siding tight. The panels should float on the nails to provide for expansion and contraction. Nail into wall studs wherever possible. If it is necessary to nail between the studs, cutoff the tips of nails that protrude through the siding.

When installed, the siding panels should have 1/4" free space at each end of the siding panel. This will allow the panel to expand with changes in temperature.

Material List for Vinyl Siding			
5	sq.	Vinyl Siding	*double 4" standard profile*
4	ea.	Outside Corners	
5	ea.	J-Channel	
4	ea.	Under Sill Trim	
5	ea.	Starter Strips	
2	lb.	Nails	

Starter Strip

Under Sill Trim

Outside Corner

1x4 Door Trim

J-Channel
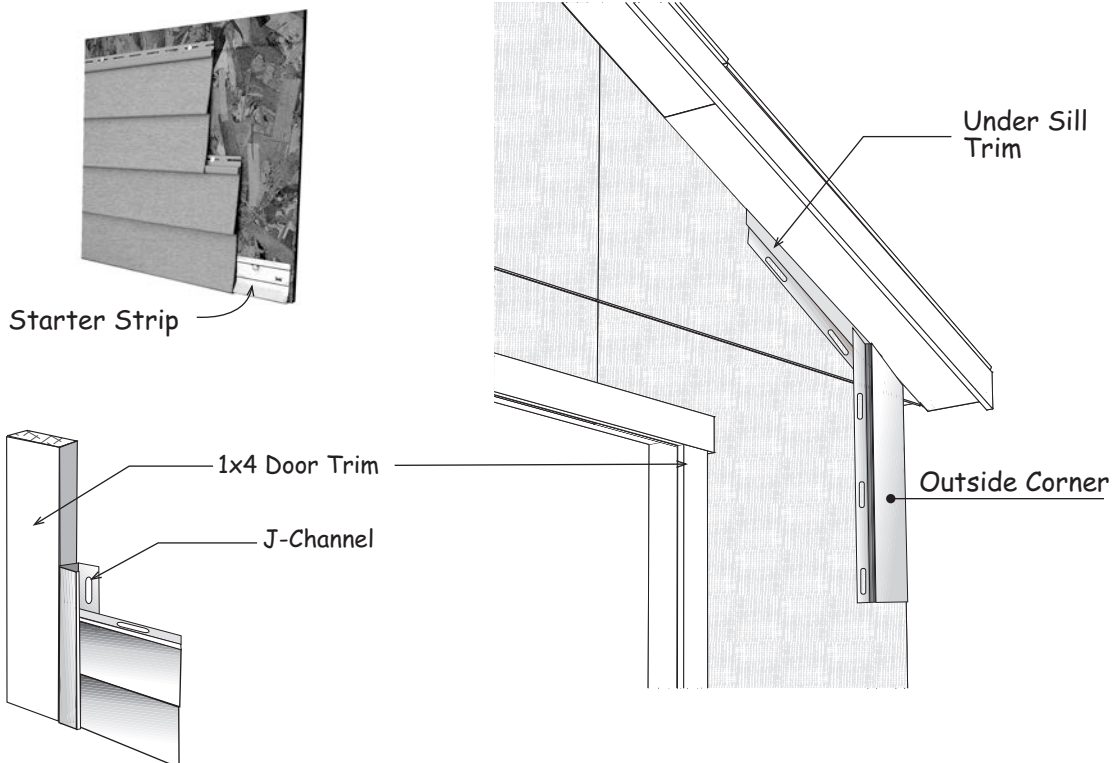
Weston 12x20 Material List

7	2x4 for Collar Ties			82"
18	2x4 for Truss Rafters			80-1/2"
4	2x4 for Gable Studs			23-1/2"
18	2x4 for Soffit Blocks			5" or longer
6	1x4 for Sidewall Fascia			72"
4	1x4 for Gable Trim			82-1/2"
12	2x3 for Gable Overhang			42-3/8"
14	Truss Gussets		7/16"	10" x 24"
28	Truss Gussets		7/16"	12" x 24"
2	ea	Siding Panels		16" x 48"
2	ea	Gable Siding		48" x 40" *angle cut*
4	ea	Gable Siding		48" x 28" *angle cut*
12	ea	Soffit Panels		48" x 7"
6	ea	Soffit Fillers		48" x 3-1/2"

4	lbs.		10d	Sinkers	
2	lbs.		6d	Galv.	
10	lbs.		6d	Common	
2	lbs.			Hanger Nails	
100	ea.	1-1/2"		Exterior Screws	
25	ea.	2-1/2"		Deck Screws	
6	ea.	1"x4"		Metal Plates	
14	ea.	H1		Metal Truss Hangers	
2	ea.	Bottle Glue			
2	ea.	1x6 Keystone		8-1/2"	
2	ea.	Sheathing	7/16"	48" x 82-3/4"	
2	ea.	Sheathing	7/16"	48" x 72"	
2	ea.	Sheathing	7/16"	36-1/2" x 72"	
2	ea.	Sheathing	7/16"	36-1/2" x 48"	
2	ea.	Sheathing	7/16"	36-1/2" x 34-3/4"	
2	ea.	Header Filler	7/16"	7-1/4" x 48"	
2	ea.	Door Jamb	3/8"	5-3/8" x 48"	
2	ea.	Door Jamb	3/8"	5-3/8" x 84"	

Qty.	*Material Shipped in 4' Extension Kit*			
2	2x4 for Collar Ties			82"
4	2x4 for Truss Rafters			80-1/2"
2	1x4 for Sidewall Fascia			48"
4	2x4 for Soffit Blocks			5" or longer
4	Truss Gussets		7/16"	10" x 24"
8	Truss Gussets		7/16"	12" x 24"
2	ea.	Soffit Panels	7" wide x 48"	
4	ea.	H1 Metal Truss Hangers		

Qty.	*Material Supplied by Local Supplier*		
41 pcs.	2x4	Pre-cut Wall Studs	
2 pcs.	2x4 - 8'	Tie Plates	
4 pcs.	2x4 - 10'	Wall & Tie Plates	
4 pcs.	2x4 - 10'	Treated Wall Plates	
6 pcs.	2x4 - 12'	Wall & Tie Plates	
2 pcs.	2x4 - 12'	Treated Wall Plates	
2 pcs.	2x8 - 10'	Door Header	
18 pcs.	OSB Siding	4x8	
2 lbs.	16d Galv. Nails		