![Best Barns logo - USA Quality Do-it-yourself Barn Kits]

Best Barns
Assembly Book
revised March 13, 2023

the Elm R   10' x 12'

Manufactured by RBS Holdings, LLC
205 Arlington Drive   Greenville, PA   16125

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

Primed Siding Detail

LAP Edge

Tongue Edge
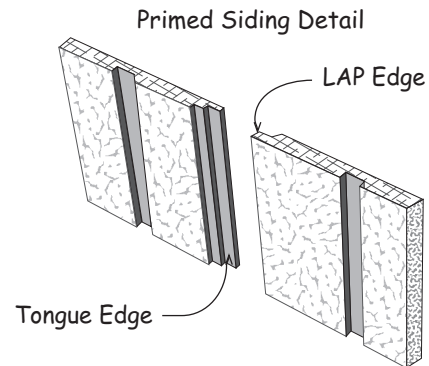
Organize:

   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
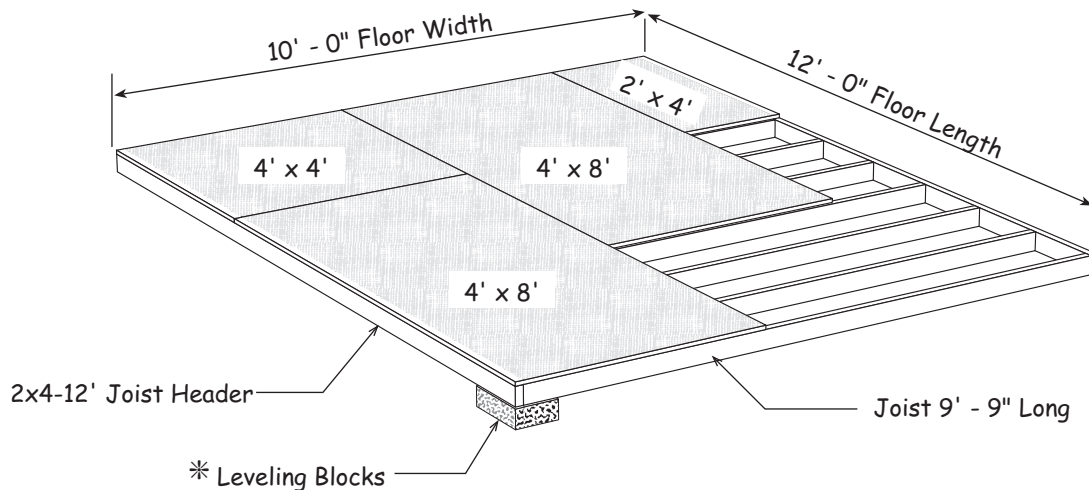
        Email - questions@barnkits.com

Construction Details for Optional Floor System

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. Treated lumber is not cut to exact length. Cut (2) two 2x4-12' boards to 12'-0".
    Layout for 16" on center joist spacing. 'X' marks where floor joist will be placed.

    Joist Header
    ```
    X       X       X       X
    X       X       X       X
    |← 15-1/4" →|← 16" →|← 16" →|
    ```
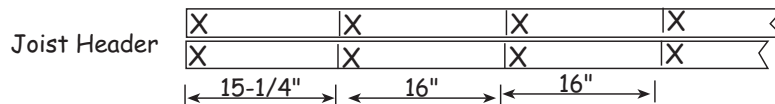
2. Cut (10) ten 2x4-10' floor joist to 9'-9". *Treated lumber may be thicker than 1-1/2". Take this into account when cutting the length of floor joists. Shorten joist measurements if necessary to obtain 12'-0" building width.*

3. Install the floor joist, *over the 'X' marks*, between the 12' long joist headers. Use 16d galv. deck nails.

    10' - 0" Floor Width
    12' - 0" Floor Length
    2' × 4'
    4' × 4'
    4' × 8'
    4' × 8'
   2x4-12' Joist Header
    Joist 9' - 9" Long
    ✳ Leveling Blocks

✳ *If necessary use bricks, patio stones or similar material to level or provide additional support to the floor. If your ground has low areas consider adding gravel and or 4x4 treated timbers to rest the floor on. If you use 4x4 timbers you will need (3) three pieces 12' long.*

It is important that the floor be level and square. Before nailing the flooring, measure the floor diagonally (corner to corner). Then measure the opposite corners. These measurements will be the same if the floor is square (187-1/2").

| Material Description	10' x 12' Floor	
2x4 Treated Headers	2 pcs.	12'
2x4 Treated Floor Joist	10 pcs.	10'
Flooring 5/8" 4x8	4 pcs.	4x8
8d Screw Floor Nails	1 lb.	8d
16d Galv. Box Nails	1 lb.	16d

Step 1   Assemble Back Wall

1. Position (4) four 60" 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'.

60" Wall Plate

60" Wall Plate
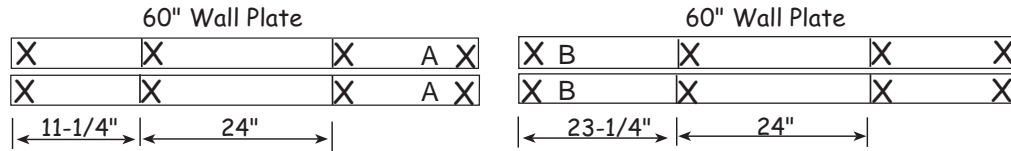
2. Install 72" wall studs between the top and bottom plates. Assemble wall frames with 10d sinkers. Use (2) two nails at end of each wall stud.

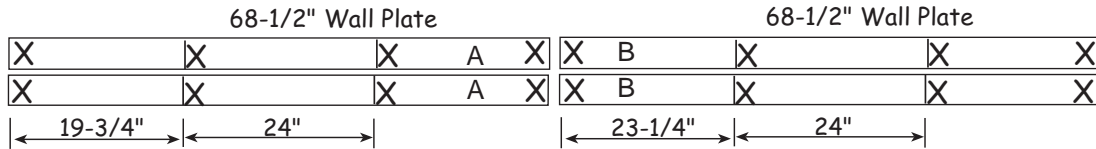3. Nail both wall frames together with (4) four 10d sinkers on each side.

60" Wall Plate
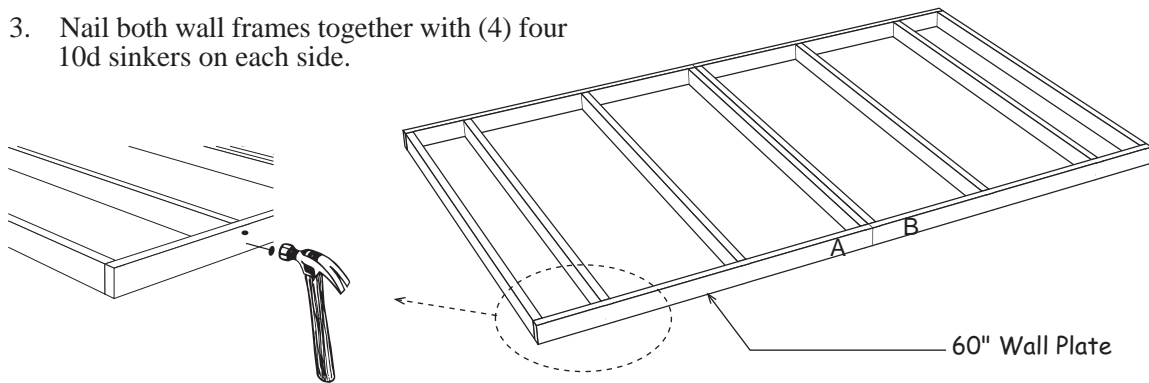
4. Square frame, *measure diagonally (corner to corner).* The measurement should be 141-1/2".

5. Select a 36-3/4" wide siding panel with a 'tongue' edge. Install this panel with the 'Cut' edge flush with the end of the wall frame. Install siding flush with the 2x4 top plate. Use 6d galv. nails spaced 8" on center.

6. Install a full width x 75-3/4" long siding panel next.

8. Install a 36" x 75-3/4" siding panel last. If necessary trim panel flush with 2x4.

Tongue Edge

LAP Edge

36-3/4" Wide Siding

Cut Edge

Siding Extends 3/4" Below Plate
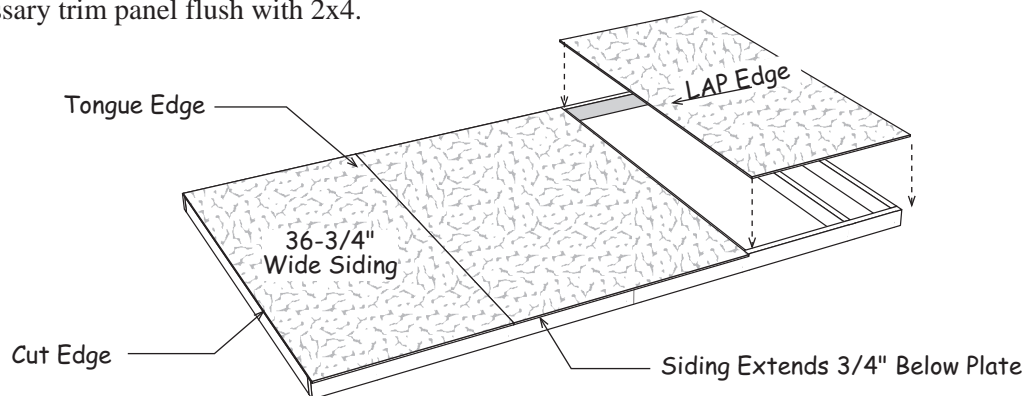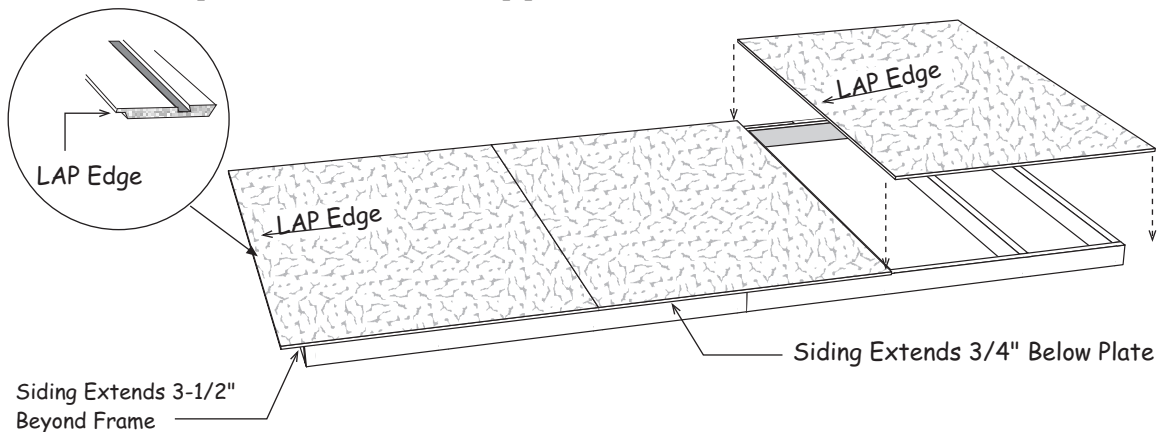
Step 2   Assemble Side Walls

1.   Position (4) four 68-1/2" 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'.

68-1/2" Wall Plate   68-1/2" Wall Plate

| X | X | X | A | X | X | B | X | X | X |
| X | X | X | A | X | X | B | X | X | X |

|←— 19-3/4" —→|←— 24" —→| |←— 23-1/4" —→|←— 24" —→|

2.   Install 72" wall studs between the top and bottom plates. Assemble wall frames with 10d sinkers. Nail both wall frames together.

72" Wall Studs

A   B

68-1/2" Wall Plate
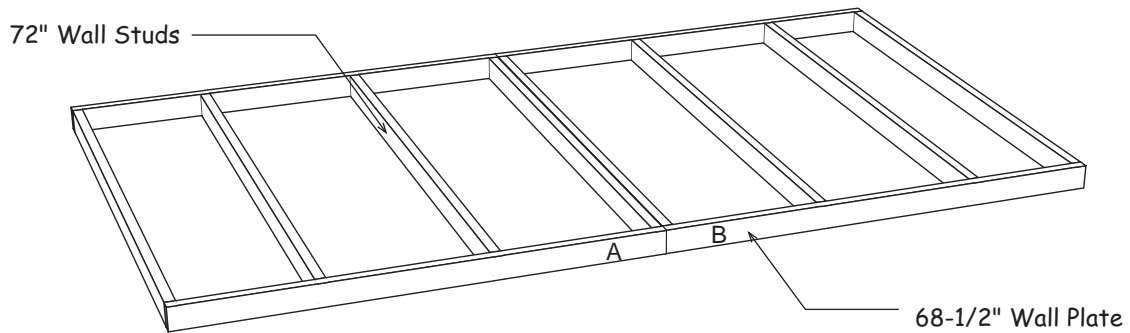
3.   Square wall frame. The measurement should be 156-1/4". Install (3) three full width siding panels. Install the first siding panel with the 'LAP' edge extending 3-1/2" past the end of the wall frame. The last panel should extend 3-1/2" past frame. The siding should extend 3/4" below the bottom plate and flush with the top plate.
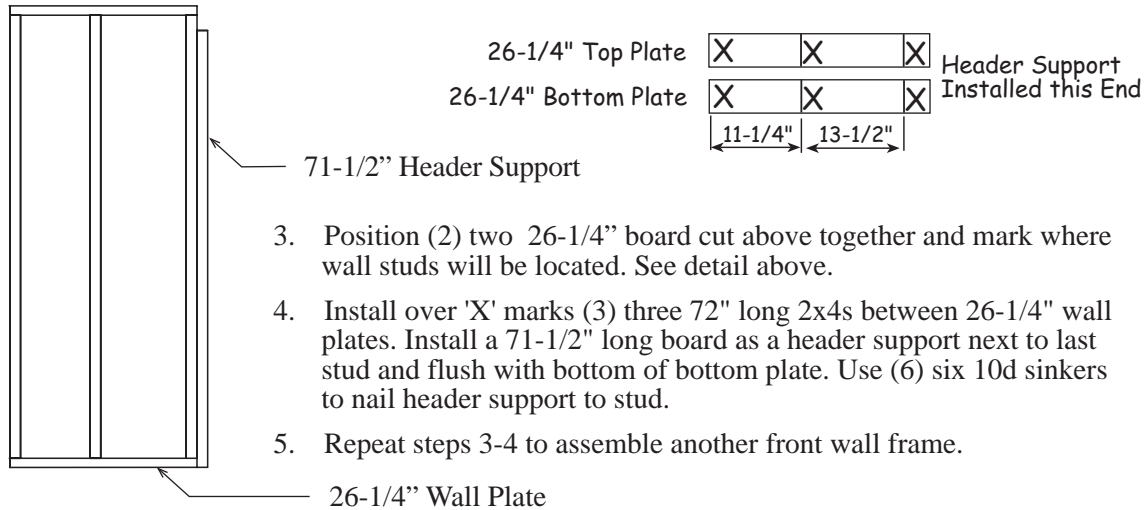
LAP Edge

LAP Edge

LAP Edge

Siding Extends 3/4" Below Plate

Siding Extends 3-1/2" Beyond Frame

4.   Repeat to assemble another side wall panel.

Step 3   Assemble Front Wall Frames

1. Cut (4) four 26-1/4" long boards from (2) two 60" long 2x4 board.

2. Cut (2) two 72" 2x4s to a length of 71-1/2" used for header supports.

26-1/4" Top Plate

26-1/4" Bottom Plate

Header Support
Installed this End

11-1/4"   13-1/2"

71-1/2" Header Support

3. Position (2) two 26-1/4" board cut above together and mark where wall studs will be located. See detail above.

4. Install over 'X' marks (3) three 72" long 2x4s between 26-1/4" wall plates. Install a 71-1/2" long board as a header support next to last stud and flush with bottom of bottom plate. Use (6) six 10d sinkers to nail header support to stud.

5. Repeat steps 3-4 to assemble another front wall frame.

26-1/4" Wall Plate

Step 4   Assemble Roof Gables and Trusses

☞ *Gables will have (1) one gusset applied. Trusses will have (2) two gussets.*

Tip: If possible, temporarily screw 2x4 blocks to the floor using 2-1/2" deck screws. Short 2x4s, *that may have an angle on one end*, supplied in the kit for this purpose. This will secure the gable and truss boards in position so all the trusses will be assembled the same.

1. Place (2) two 62" long 2x4 boards with angled ends together as shown below to make a gable. Hold in place with 2x4 blocks as shown. Make sure the gable measures 10'-0" wide when assembled to fit properly when installed

2. Secure the tops together with a 24" wide OSB gusset. Nail the gusset to the 2x4s with (14) fourteen 6d common nails. Angle nails slightly so nails do not protrude through the 2x4 boards.

3. Repeat to assemble (1) one more gable for a total of (2) two gables.

4. Select (2) two 62" long 2x4 boards with angled ends to make the first truss. Secure the tops together with a 24" wide OSB gusset. Turn truss over and install another 24" wide gusset.

5. Repeat steps to assemble (4) four more trusses.

2x4-62" Boards

2x4 Block

2x4 Blocks

OSB Gusset
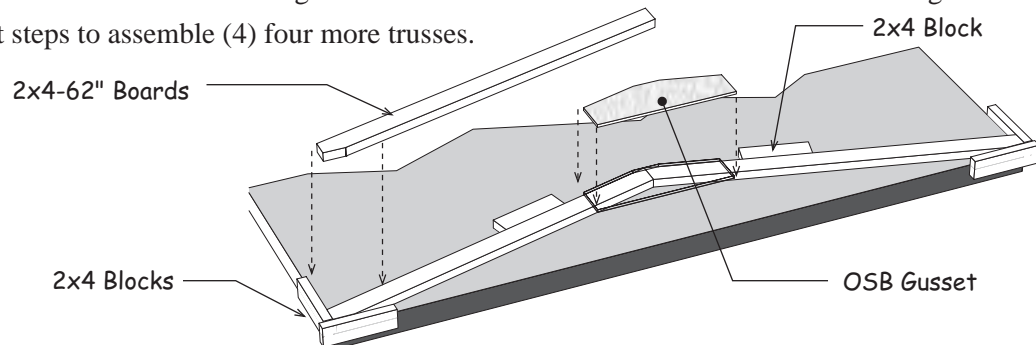
Step 5   Set Walls and Install Header

1. Erect wall panels. **IMPORTANT: Make sure walls are plum and square.** Secure wall panels together at the corners. Use (4) four 10d sinkers per corner. Use 10d sinkers or, if erecting on a concrete slab, concrete anchor bolts (not included) spaced 24" apart.

2x4 Wall Brace
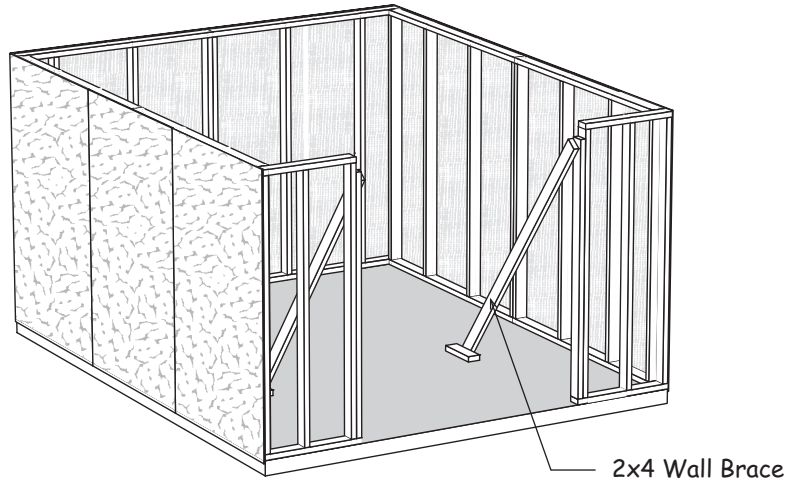
2. Temporarily brace the front wall on either side of the door opening using (2) two 72" long 2x4s.
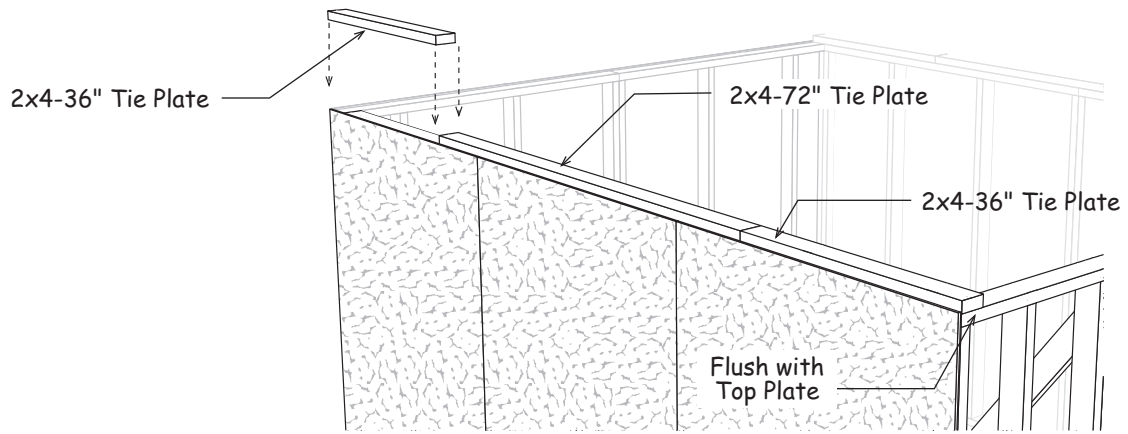
67-1/2" Long 2x4

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

OSB Filler
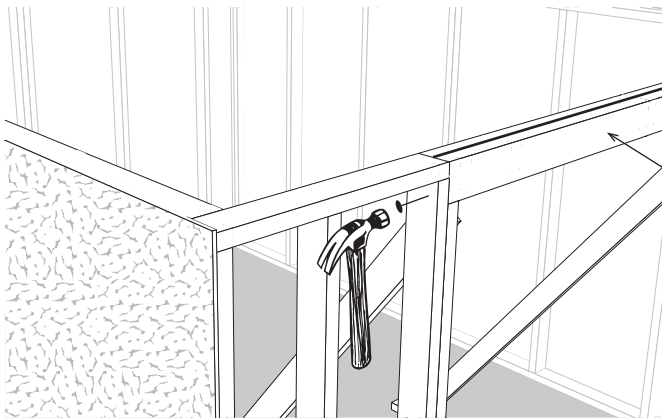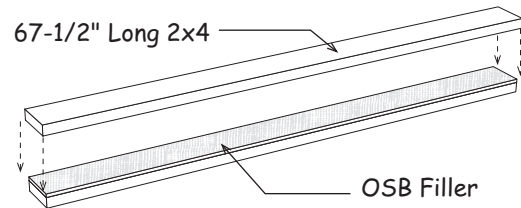
4. Install the 67-1/2" door header between the front wall frames on top of header supports. Secure with 10d sinkers through wall studs.

Step 6   Install Tie Plates on Side Walls

1. From a 72" long 2x4 cut (2) two 36" long boards.

2. Install (1) one 36" board as a tie plate over the side wall flush with the 2x4 wall plate on the front wall. Use 10d sinkers spaced 16" apart.

3. Install a 72" long 2x4 next. Install another 36" board to finish.

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

2x4-36" Tie Plate

2x4-72" Tie Plate

2x4-36" Tie Plate

Flush with
Top Plate

## Step 7   Install Tie Plates on Front and Back Walls

1. Cut (2) two 20-1/2" long 2x4s from a 2x4-60" board. Install one board against tie plate on front wall.

2. Install a 72" long 2x4 next. Finish with last 20-1/2" board.

3. Cut (2) two 26-1/2" long 2x4s from a 2x4-60" board. Install one board against tie plate on back wall.

4. Install a 60" long 2x4 next and finish with another 26-1/4" long 2x4.

72" Tie Plate

20-1/2" Tie Plate
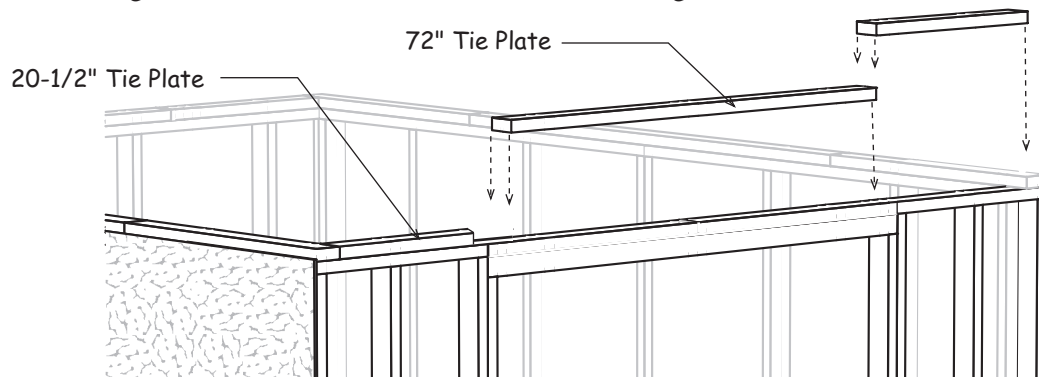
Step 8   Install Siding on Front Wall

1. Select a 12-1/2" siding panel with a 'Tongue' edge and install at the front left corner. Cut edge will be flush with side wall siding. Install a 15-3/4" siding panel with a 'LAP' edge next. Cut edge should be flush with door opening.

2. Install (2) two 4-3/4" x 32-1/4" siding panels over the door opening. Bottom of siding should extend 3/4" below header. Trim will cover where the siding panels butt together in the center.

3. Install the 16-1/2" panel with the 'cut' edge flush with the door opening.

4. Install last siding panel.

Siding 3/4"
Below Header

Cut Edge

Cut Edge

Cut Edge
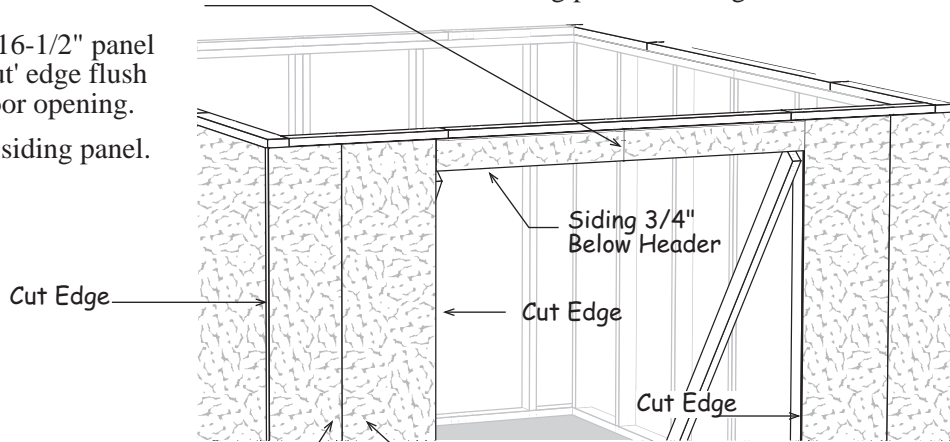
12-1/2" Siding with 'Tongue' edge

15-3/4" Siding with 'LAP' edge

Step 9   Install Roof Gable

1. Select a truss with a gusset installed on one side. Position this truss with the gusset facing towards the inside of the building and flush with 2x4s on back wall.

2. Install a 10" to 12" long 2x4 block on a side wall using 10d sinkers. Secure the truss to the 2x4 block with (2) two 10 sinkers.

3. Install a 2x4 block on the opposite side wall and secure the truss.

Install 2x4 Block
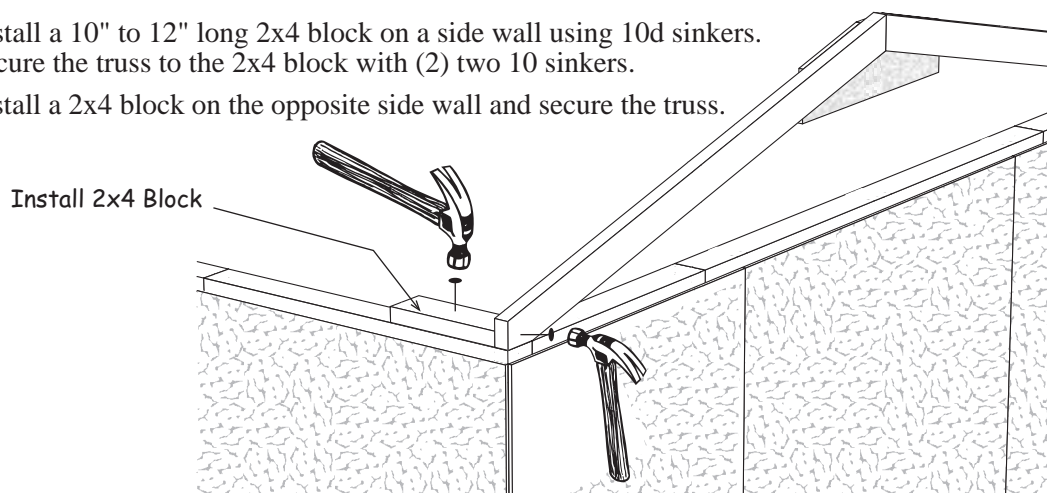
Step 10   Install 'Z' Flashing

Install (2) two 60" pieces of 'Z' flashing across the top of the siding on the back wall siding. Secure in place using 6d galv. nails spaced 12" apart. The ends will be covered by corner trim.

Roof Gable

60" Long 'Z' Flashing

Back Wall Siding
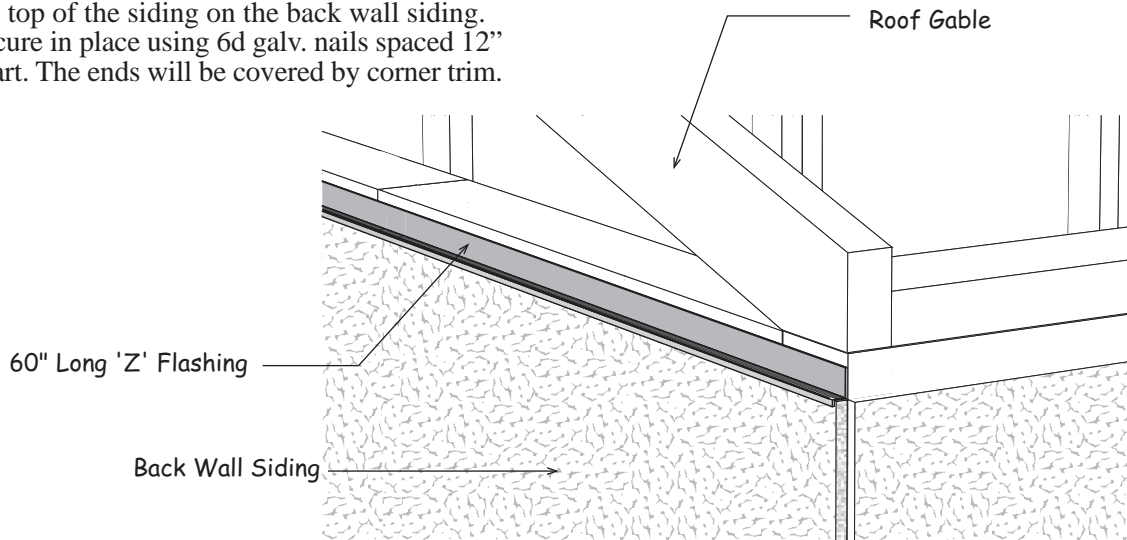
## Step 11   Install Roof Gable Siding

1. Install gable siding on the roof gable using 6d galv. nails. The gable siding should extend no more than 1/2" above the 2x4 frame and 1-1/2" past gable ends.

Siding extends 1/2" above truss

2. Repeat **Steps 9** thru **11** to install the gable on the front wall.

'Tongue' edge

1-1/2" Past End of Gable
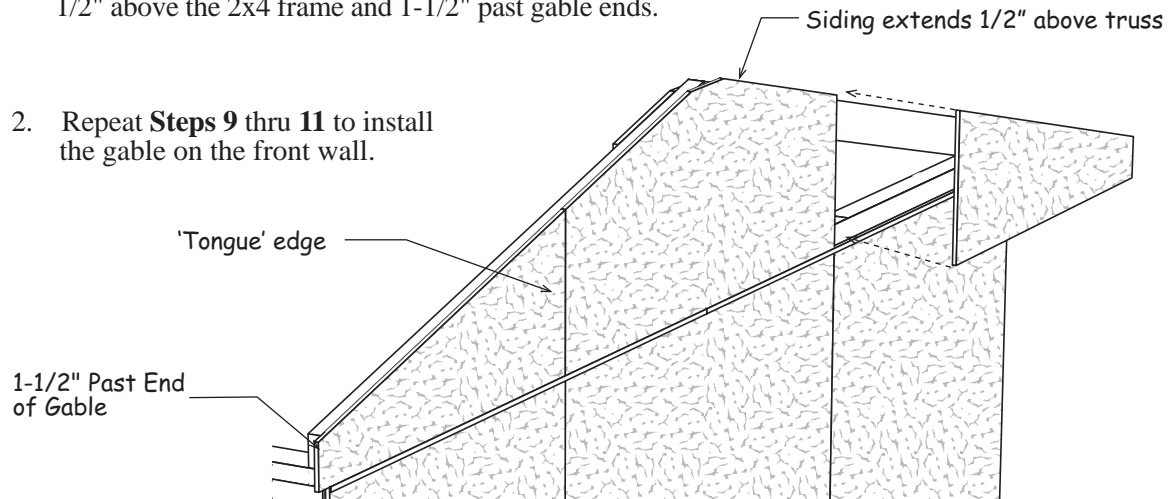
Step 12   Install 2x4 Truss Headers

1. Place a 72" long 2x4 on top of the siding on the sidewall. It will butt against the siding on the roof gable. Nails this 2x4 to the 2x4 tie plate with 10d sinkers.

2. Remove a 2x4 used to brace the front wall. Cut to fit and install to finish.

3. Repeat to install 2x4s on the opposite side wall.

Roof Gable

2x4-72" Board

Side Wall Siding
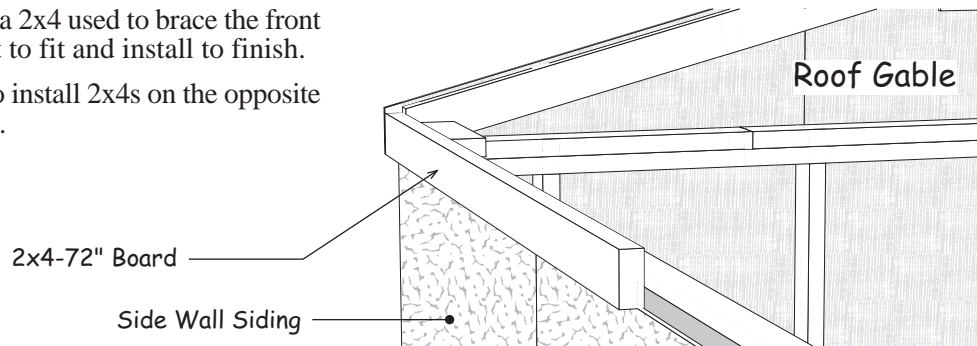
Step 13   Install Trusses

1. Starting from back wall install the first truss measuring 21-3/4" from the face of the 2x4 on back gable and the face of 2x4 truss. Secure the trusses using 2-1/2" screws and 10d sinkers, See Detail 'A' on next page.

2. Install the remaining trusses 24" on center, *see detail below*.

21-3/4"   24"   24"

2x4 Truss Header

Back Wall

Side Wall
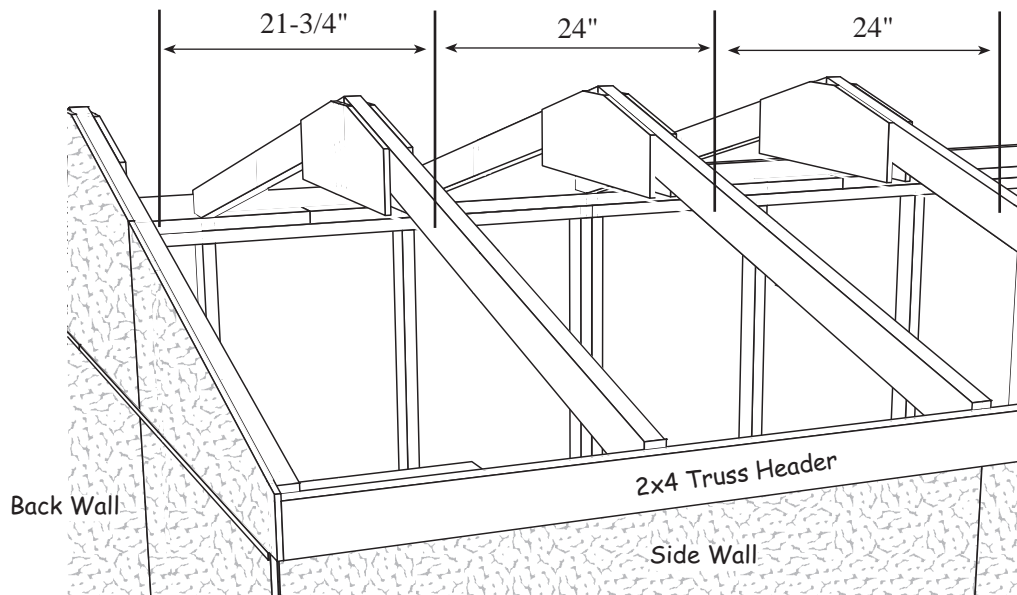
Step 14   Install Trusses Continued

Using a 2-1/2" screw, secure all trusses to
2x4 Truss Header installed in **Step 12**. Toe
nail truss into 2x4 tie plate using 10d sinkers.

Detail 'A'
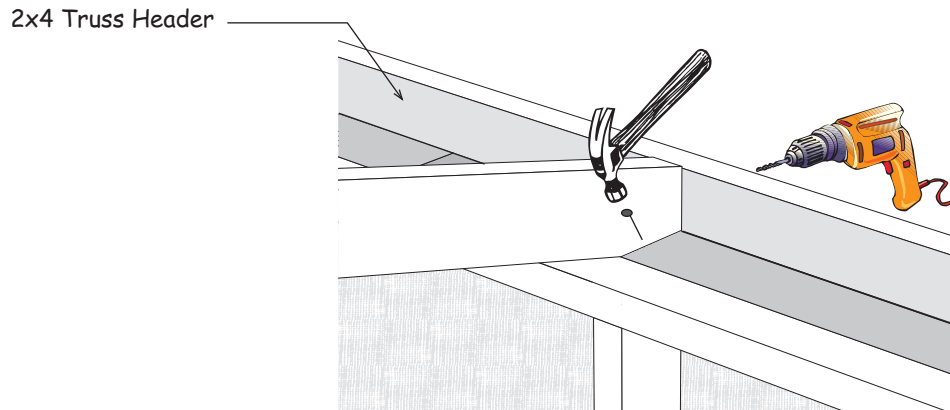
2x4 Truss Header

Step 15   Install 1x4 Fascia

1.   Install 72" long 1x4 fascia trim over the 2x4 Truss Headers. Install 1x4 trim boards flush with
     the bottom of the 2x4 and flush with face of siding on the front gable. Use 6d galv. nails spaced
     12" apart.

2.   Cut a 74" long 1x4 to fit and install flush with the face of siding on the back gable.

3.   Repeat to install 1x4 fascia on the
   opposite side wall.

1x4 Fascia Trim
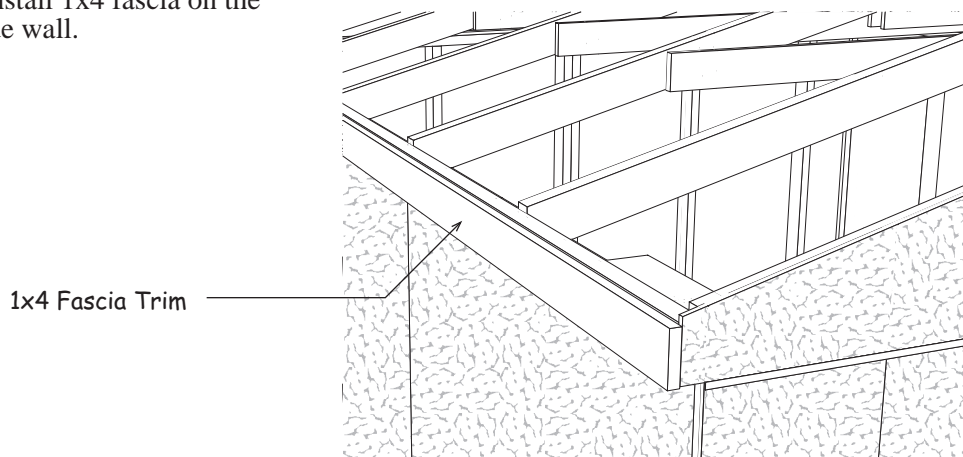
Step 16   Install Roof Sheathing

☞ Install roof sheathing with 6d ommon nails, space nails 12" apart. When installing sheathing across the top, insert a plyclip into the roof sheathing between each truss. The top row of sheathing will be about 1" below the ridge to allow for optional ridge venting. See detail below.

See supplier of shingles to purchase ridge venting.

Shingles

Truss   Air Space
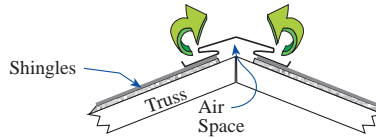
1. Install a 24"x48" roof sheathing panel against the back of of gable siding. Note: Using a straight edge install the top edge of the roof sheathing flush with the face of the 1x4 fascia. See Detail 'B'.

2. Install a 48"x48" sheet next to teh 24"x48" sheet.

3. Install a 15"x48" sheathing panel at the top.

4. Continue to install sheathing per layout below.

5. Repeat on opposite side.

Plyclip

Detail 'B'

Straight Edge

Roof Sheathing

2x4 Truss Header

1x4 Fascia

Siding
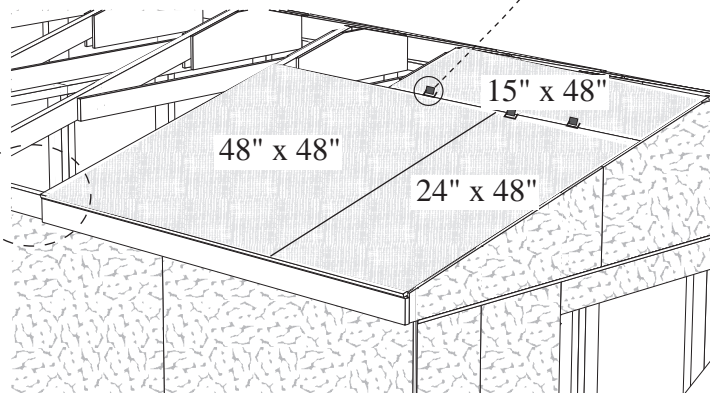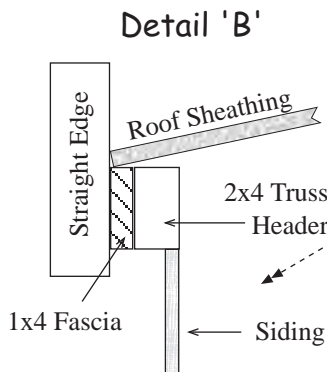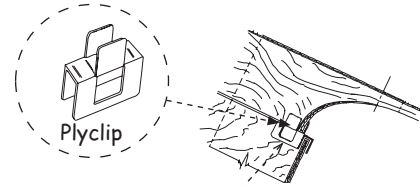
15" x 48"

48" x 48"

24" x 48"

Install roof sheathing on each side of the building as per pattern on right.

Roof Ridge

| 15" x 48"		15" x 48"		15" x 48"	
24"x48"	48" x 48"		48" x 48"		24"x48"

Step 17   Install Trim

1. Install 64-3/8" long 1x4 gable trim flush with the top of the roof sheathing on the front and back. Use 6d galv. nails spaced 12" apart.

2. Install 75-3/4" long 1x3 corner trim, on the side walls, flush with the face of the siding on the front and. Repeat for back wall.

3. Install 77-1/4" long 1x4 corner trim on front wall, flush with the face of the side wall trim. Repeat for back wall.

75-3/4" Long 1x3 Corner Trim

77-1/4" Long 1x4 Corner Trim

72" Long 1x3 Door Trim

Siding Will Extend Below Trim
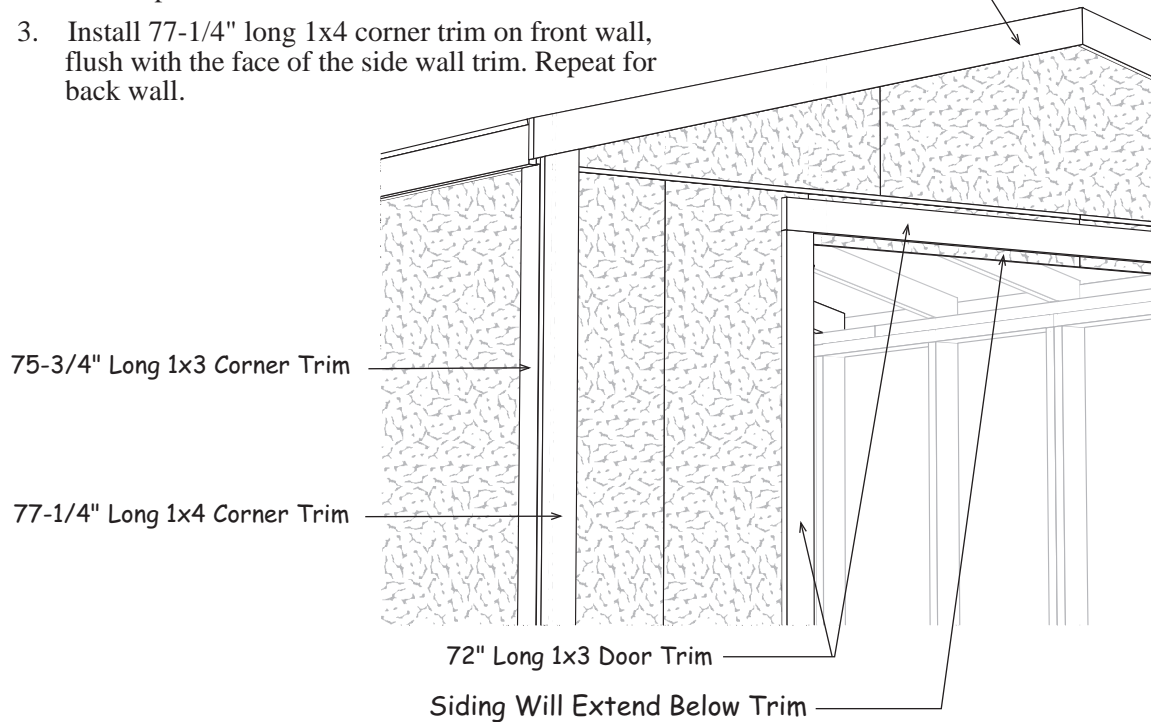
4. Install (2) two 72" long 1x3 trim boards, *with top edge 3/4" above door opening*, along each side of the door opening. Use 6d galv. nails. Tack these boards with a couple nails; you may want to move the trim later when you install the doors.

5. Install a 72" long 1x3 trim board centered across the top of the vertical trim. 3/4" of siding will be revealed at top of door.

Step 18   Install Doors & Hardware
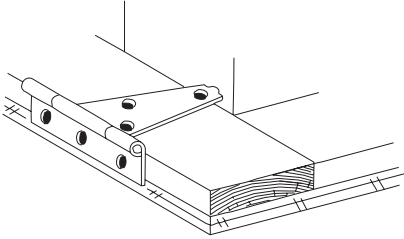
1. Lay the <u>left door</u> with the trim facing up. The siding on the left door <u>extends past the door trim</u>. See detail below.

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.
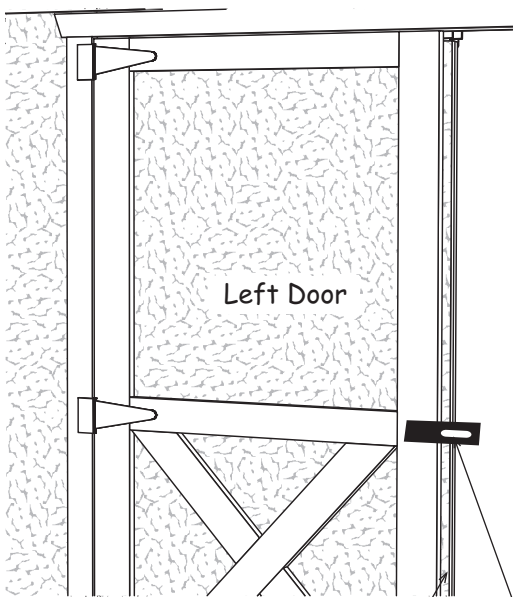
4. Before fastening the hinges to the side trim, temporarily prop the doors in the opening. Leave a space at the top and bottom of the doors and between the doors and the side trim to allow room for the doors to expand due to humidity.

    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.
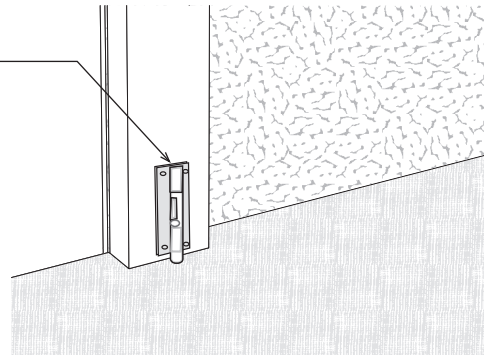
5. Determine position of hinges and install to side trim with 2" screws.

6. Install door hasp on double doors. When properly installed the hasp will fold in half to receive locking latch and the screw heads will be covered.

Left Door

Siding Extends Past Trim
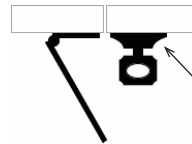
Fold Hasp to Cover Screws

Barrel Bolt on the back of left door

7. 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.

8. Install another barrel bolt at the top of the door.

Packing List

Qty.			Description
14	2x4	62"	Truss Rafters
41	2x4	72"	Studs & Plate Boards
8	2x4	68-1/2"	Plate Boards
10	2x4	60"	Plate Boards
6	2x4	10"-12"	Blocks for Truss Jig
2	2x4	67-1/2"	Door Header
4	1x4	64-3/8"	Gable Trim
4	1x4	77-1/4"	Corner Trim
4	1x3	75-3/4"	Corner Trim
3	1x3	72"	Door Trim
2	1x4	74"	Fascia Trim
2	1x4	72"	Fascia Trim
2			Pre-built Barn Doors
7	48"x75-3/4"		Primed Wall Siding
2	36"x75-3/4"		Primed Wall Siding
2	16"x75-3/4"		Primed Wall Siding
2	12-1/2"x75-3/4"		Primed Wall Siding
2	4-3/4"x32-1/4"		Primed Wall Siding
2	48"x19-3/4"		Primed Gable Siding
4	38"x14-1/4"		Primed Gable Siding
4	48"x48"		OSB Roof Sheathing
4	24"x48"		OSB Roof Sheathing
6	15"x48"		OSB Roof Sheathing
1	3-1/2"x67-1/4"		Header Filler
12	8"x24"		OSB Wood Gussets

Qty.			Hardware Description
3	lbs.	10d	Coated Sinkers
3	lbs.	6d	Galvanized Nails
3	lbs.	6d	Common Nails
6		5"	Hinges
1		4"	Door Hasp
2		6"	Barrel Bolts
25		1-1/4"	Hinge Screws
25		2"	Hinge Screws
50		2-1/2"	Deck Screws
18		7-16"	Ply-clips
16		3/4"	Pan Head Screws
4		60"	'Z' Flashing

Roofing Material Purchased By Owner			
5	bdl.	Roof Shingles	6 pcs. Roof 'drip' edge