# Best Barns USA
## Assembly Book
### *Revised November 4, 2022*
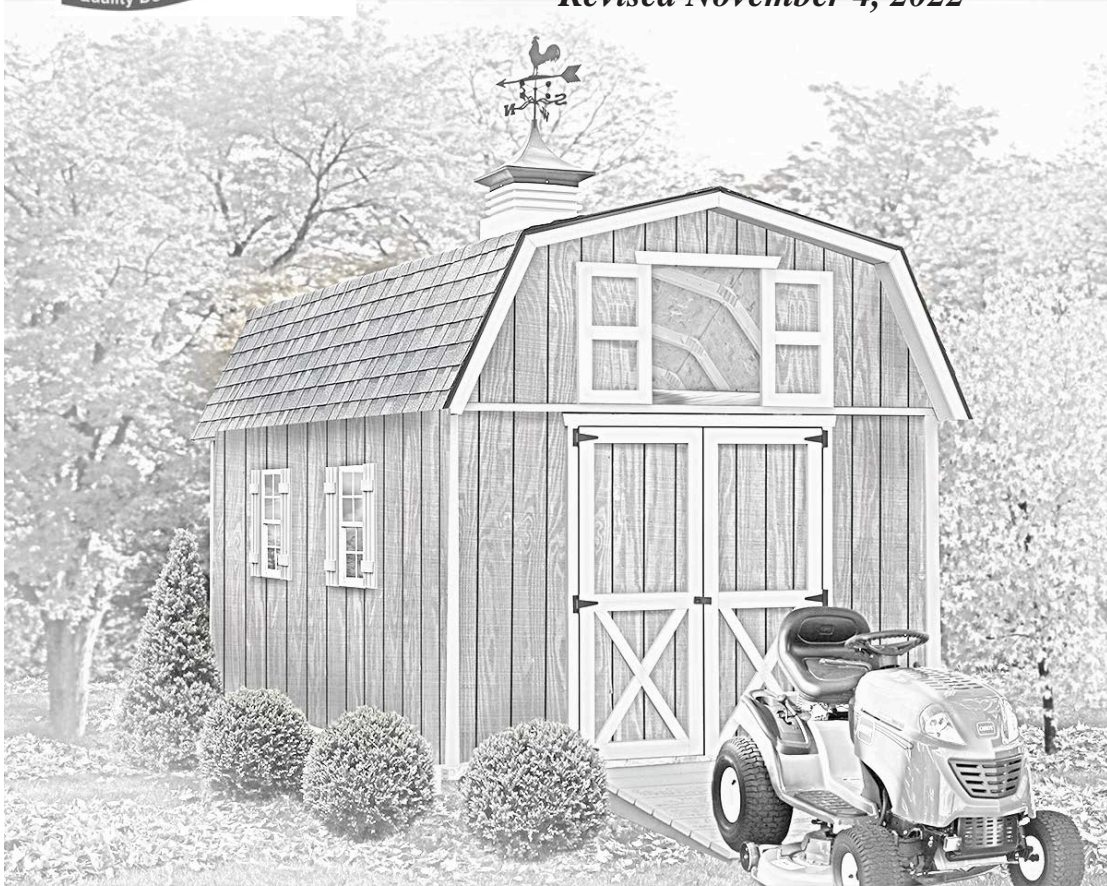
**the Woodville-R**     **10' x 16'**

# 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
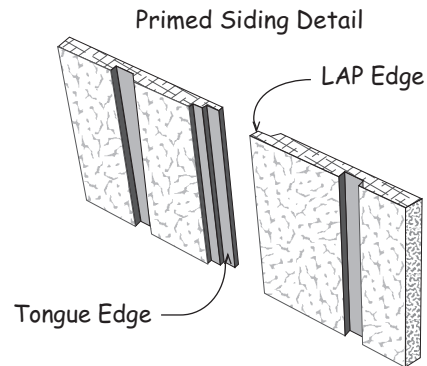    Tie Plate - 2x4s connecting wall sections together
    Header - Spans top of door opening
    OSB - Oriented Strand Board
    LAP - Edge of siding that overlaps Tongue
    Tongue - Edge of siding that is overlapped

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

# Constructing Details for Deluxe Floor System

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

Foundation size is 10'-0" x 15'-9".  Check local building codes in your area, the construction may have to change.  For a concrete slab, install sill sealer as a moisture barrier between the concrete and the wall plates.  Foam sill sealer can be purchased at home centers in rolls 3-1/2" or wider.

1.  Cut 2x4-16' joist headers to 15' - 9".

    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" →|
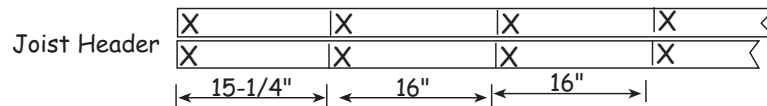
2.  Cut 2x4-10' floor joist to 9'-9". *Treated lumber may be thicker than 1-1/2". Take this into account when cutting the length of floor joists. Shorten joist measurements if necessary to obtain 10'-0" building width.*

10' - 0" Building Width

Building Length  15' - 9"

4x4 Treated Runners

2x4 Joist Header

Joist 9' - 9" Long
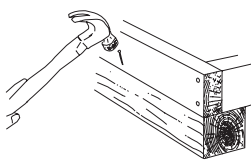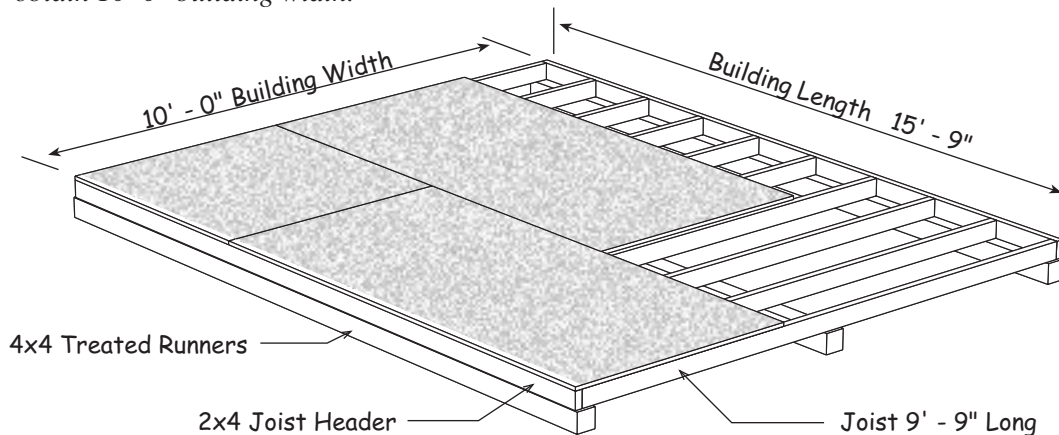
Nail the 2x4s to the 4x4 runners to keep the 2x4 frame from moving.

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 when the floor is square.

| Material Description | 10' x 16' shed | |
|---|---|---|
| 2x4   Joist Headers | 2 pcs. | 16' |
| 2x4   Floor Joist | 13 pcs. | 10' |
| 4x4   Treated Runners | 6 pcs. | 8' |
| Flooring 5/8" or 3/4" | 5 pcs. | 4x8 |
| Screw Floor Nails | 2 lb. | 8d |
| Galv. Box Nails | 1 lb. | 16d |

## Step 1  Assemble Trusses

1. Position (2) two truss halves together so that a 116-1/4" long 2x4 bottom cord may be placed between them.

2. Hold truss parts in place by temporarily screwing 2x4 blocks to the floor. There are short 2x4 blocks supplied in the kit for this purpose. Use 2-1/2" wood screws.

3. Secure the tops together with a a wood gusset. Nail the gusset with (16) sixteen 6d common nails. Space nails evenly.

4. Secure the truss bottom legs to the bottom cord with wood gussets. **Note**: You may have to spread the truss bottom to fit the bottom 2x4. Use 12 nails per gusset. Space nails evenly.

5. Assemble (5) five more trusses.

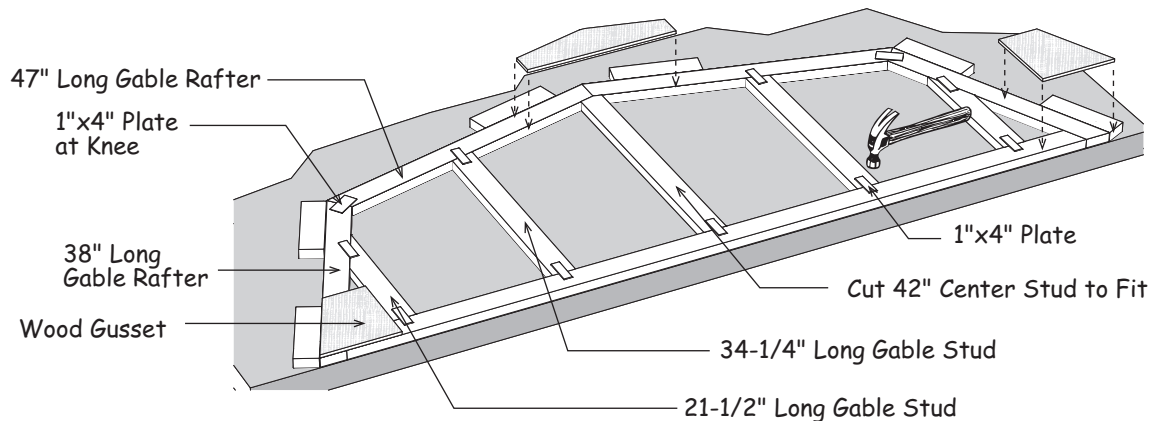6. Turn trusses over and apply wood gussets to the opposite side.
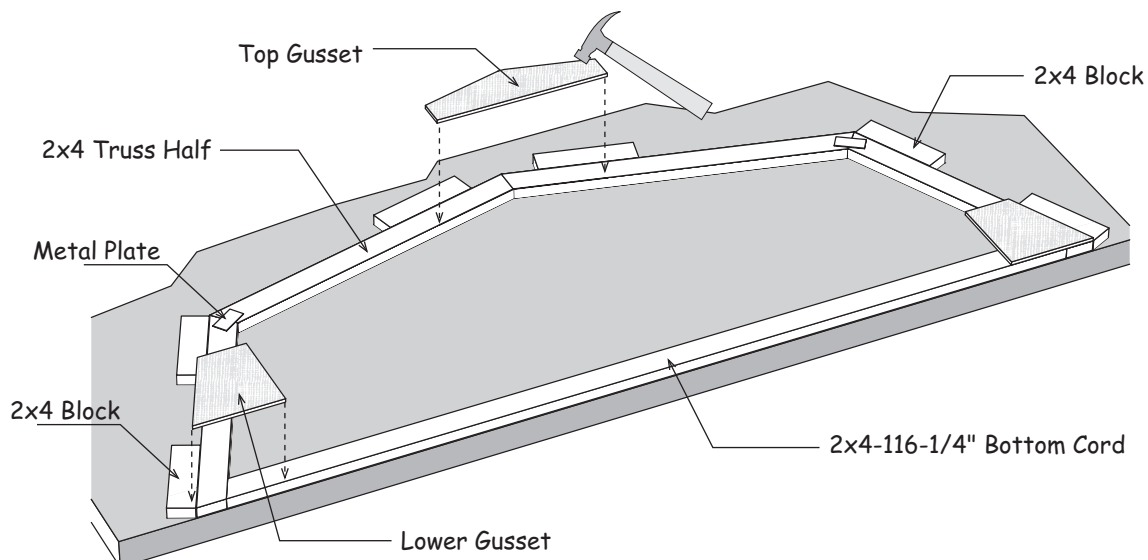


7. Assemble another truss without a bottom cord. Locate wood gussets with a 2x4 block attached to one side.

8. Attach this block/gusset to the bottom of each truss leg. Secure to leg with 6d common nails.

9. Turn truss over and apply gussets.
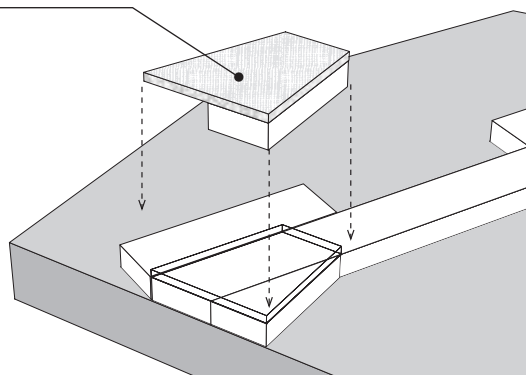


Do Not remove blocks from floor until **Step 2** is completed.
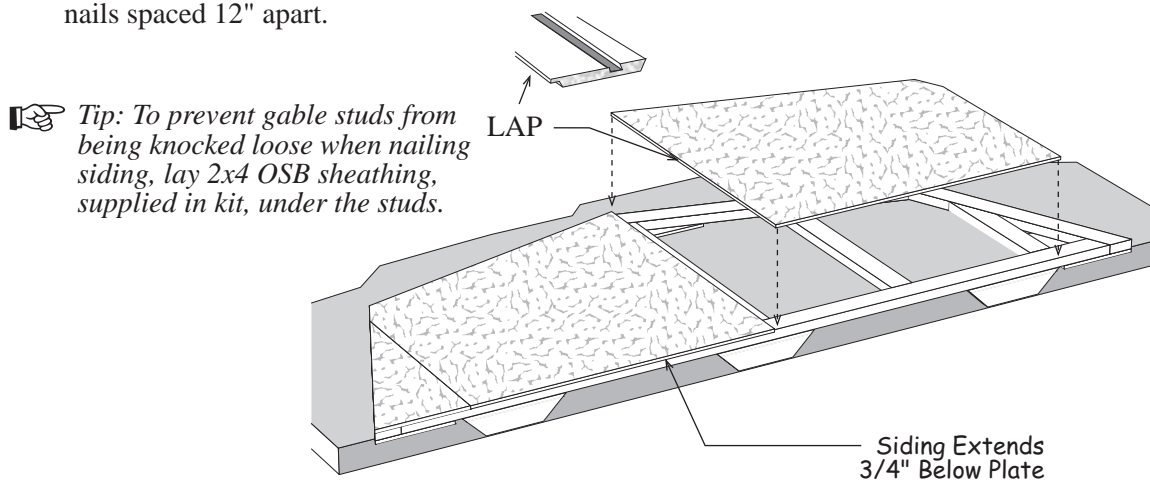
## Step 2    Assemble Rear Gable

1. **IMPORTANT: Do no use truss halves to make gables.** Place (2) two 47" long, (2) two 38" long 2x4 gable rafters and a 116-1/4" bottom cord in the truss jig. Secure at knee with 1"x4" drive-on plates. Secure bottom cord with gussets.

2. Select a 42" long 2x4 center stud and cut to fit between ridge and bottom cord.

3. Install (2) two 21-1/2" and (2) two 34-1/4" with angle cut on one end. Secure 2x4 gable studs to the truss with (9) nine 1"x4" metal plates at top and bottom.

47" Long Gable Rafter

1"x4" Plate
at Knee

38" Long
Gable Rafter

Wood Gusset

1"x4" Plate

Cut 42" Center Stud to Fit

34-1/4" Long Gable Stud

21-1/2" Long Gable Stud

4. Screw (3) three 16" long 2x4 blocks flush with bottom of the 2x4 bottom cord. One on each end and one in the center. Use (2) two 2-1/2" screws.
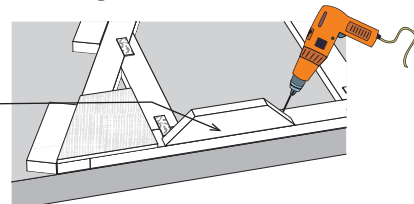
5. Turn the gable over. Locate pre-cut gable siding. Starting from left install the siding extending 3/4" below the bottom 2x4. Insure the siding does not extend above the top frame. Use 6d galv. nails spaced 12" apart.

☞ *Tip: To prevent gable studs from being knocked loose when nailing siding, lay 2x4 OSB sheathing, supplied in kit, under the studs.*

LAP

Siding Extends
3/4" Below Plate

# Step 3    Assemble Front Gable

1.  Repeat Step 2 to frame another gable. You will NOT
    use a 42" center stud. Place a 36" long 2x4 between
    the 34-1/4" studs. Measure 24-3/4" from bottom cord
    and secure with 1"x4" plates.

36" Long 2x4

2x4 Truss Half

24-3/4"

34-1/4" Long
Gable Stud
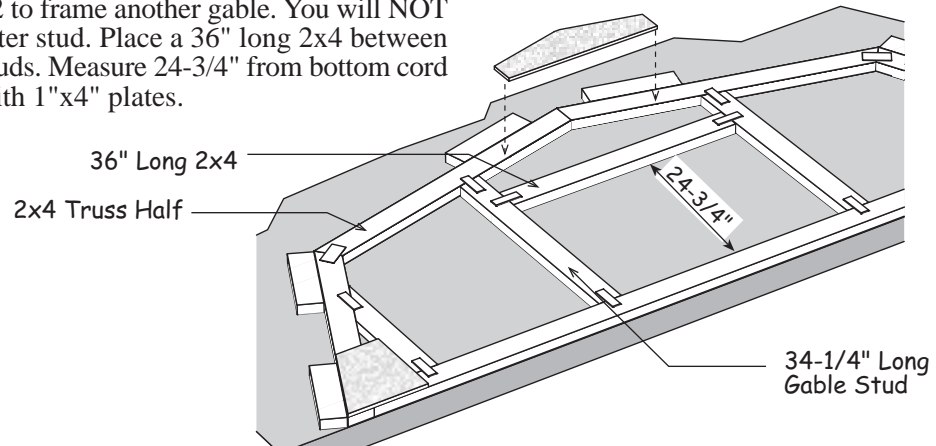
☞ *If you don't need loft access from the outside, attach loft door frames to
   the gable to create a decorative look and weather tight storage area.*

2.  Turn the gable over. Lay out the first (2) two pieces of siding on frame. **Important: Do not
    nail to frame.** Mark and cut so siding is flush with top and left side of opening. Cut to bottom
    of siding below gable plate. Nail first two pieces of siding to frame. Lay out next siding panel,
    do not nail, and repeat cut for right side door opening. Nail last two pieces of siding to frame.

Cut Flush with Top

Cut Flush with Side
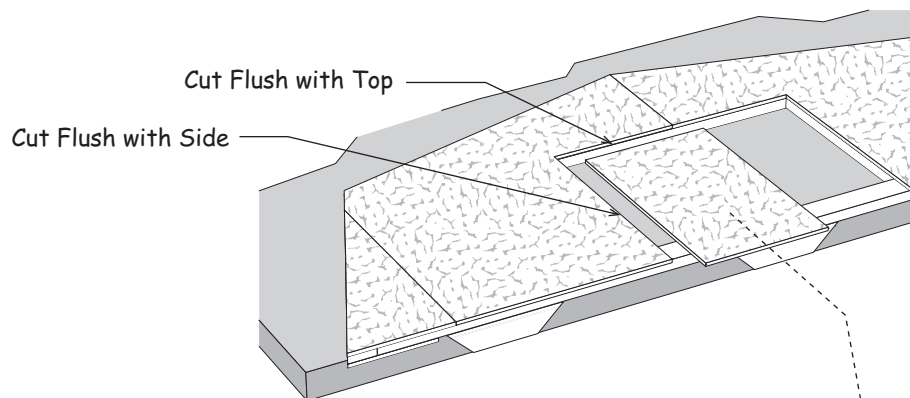
3.  Assemble the loft doors. The loft door frames are
    temporarily held together with corrugated fasteners,
    this is the back side of the door frame. Place the
    doors on level surface, face side down. Cut the siding
    from above step to the size of the door frame. Secure
    the siding panel to the frame with 1" screws provided.
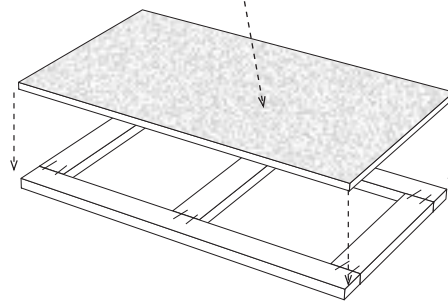
## Step 4    Install Front Gable Overhang and Front Loft Doors

1.  Apply 47" long 2x3 boards <u>to the front gable</u>. Install flush with the top of the gable frame. Use 10d sinkers

2.  Install a 42-1/4" long 2x3 at the sides of the gable, flush with the frame. Board will extend below siding.

3.  Install 29-1/4" long 1x3 trim boards on each side of the loft door opening. Install a 43" long trim board across the top. Use 6d galv. nails spaced 8" apart.

4.  Install loft doors using 4" hinges and 1-1/4" long hinge screws. The screws have a square head. The bit is packed with the screws. Install barrel bolts to the inside top of the doors to secure doors when closed. When door is closed mark where bolt will hit 2x4 gable frame. You will need to drill a 1/4" hole into the underside of the 2x4.

1x3-43" Trim Board

2x3-47" Board

4" Hinge

1x3-29-1/4" Trim Board

2x3-42-1/4" Board
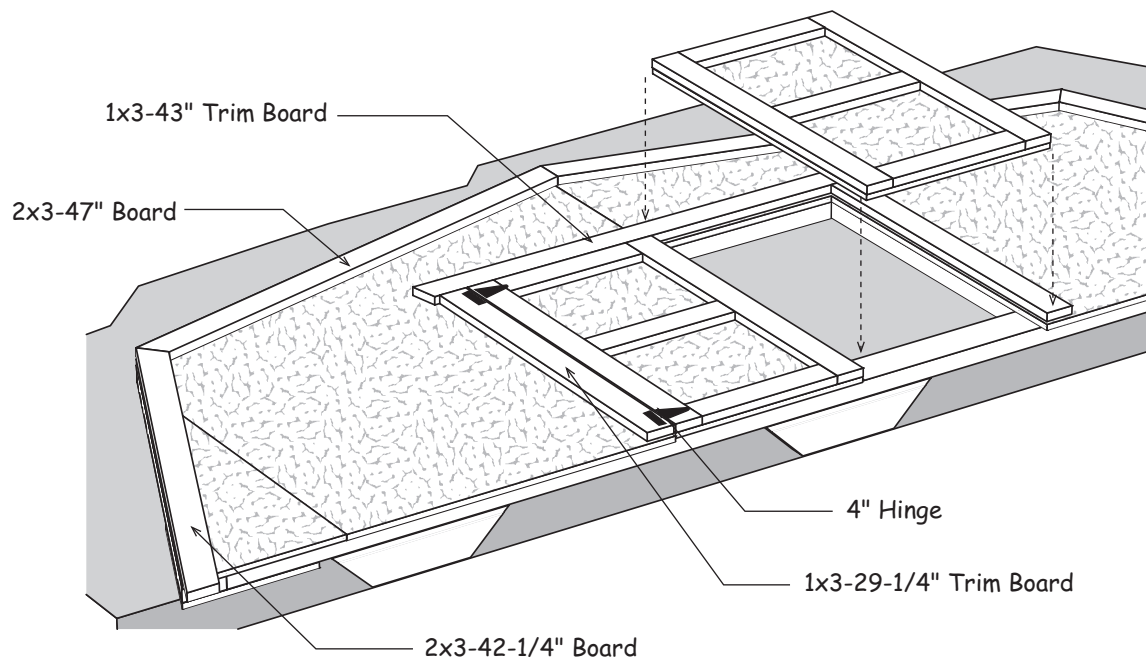
## Step 5    Layout Plates for Back Wall

Position (2) two 2x4-10' boards together and indicate with 'X' marks, where the wall studs will be located.

10' - 0" Wall Plate

X    X    X    X
X    X    X    X

11-1/4"    24"    24"
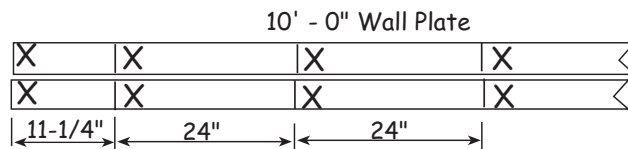
## Step 6    Assemble Back Wall

1.  Install 72" wall studs between the top and bottom plates. Nail studs to plate using (2) two 10d sinkers on each end of the stud.

2.  Install (2) two 56-1/2" long 2x4 as tie plates over the top plate. The 2x4s will be 3-1/2" short of the end of the wall frame.

56-1/2" Tie Plate

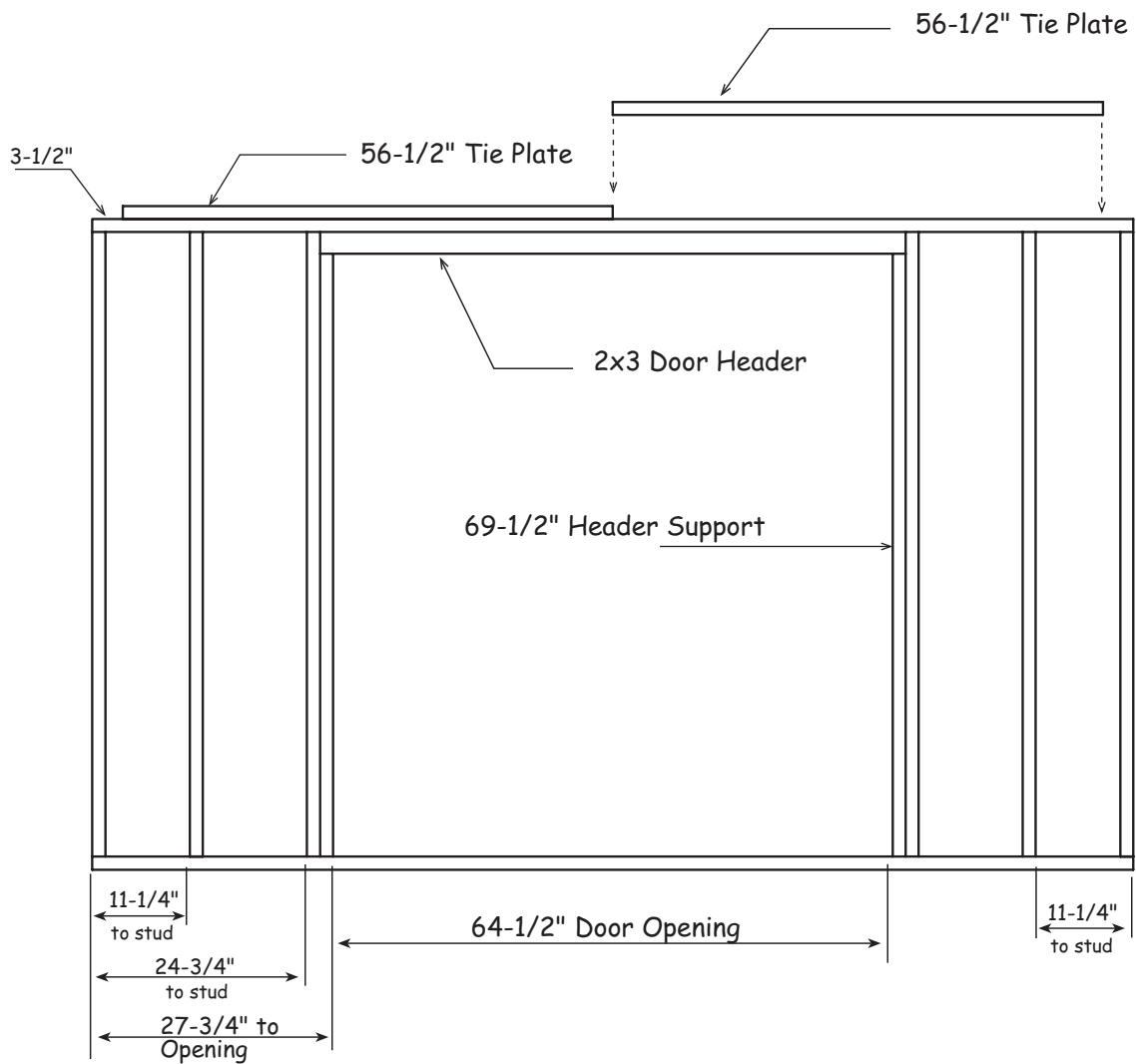3-1/2"

56-1/2" Tie Plate

Top Plate

Wall Stud

X"    Y"
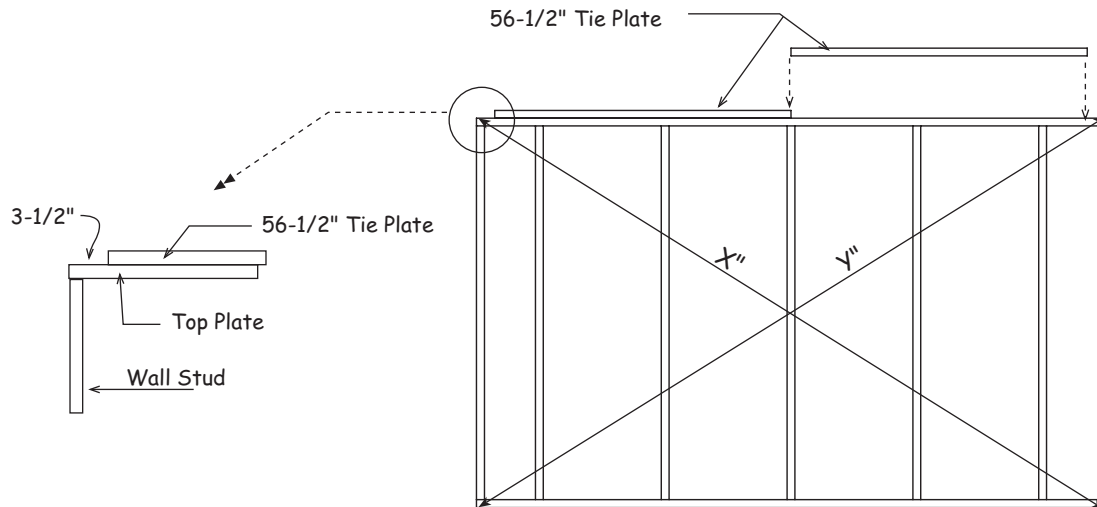
3.  Square wall frame. *Measure diagonally (corner to corner).* The two measurements (x" and y") will be the same when the wall is square.

4.  Locate a 36-3/4" x 77-1/4" siding panel with the 'Tongue' edge. Install the siding panel on the left corner, with the 'cut edge' flush with the end of the wall and flush with the top of the 2x4 tie plate. The siding should extend below the bottom plate. Use the 6d galv. nails spaced 12" on center.

5.  Install a 48-3/4" x 77-1/4" siding panel in the center of the wall frame.

6.  Install a 36" x 77-1-4"  panel witht he 'LAP' edge last.

LAP

Tongue Edge

36-3/4" Panel

Cut Edge

Siding Extends 3/4" Below Plate
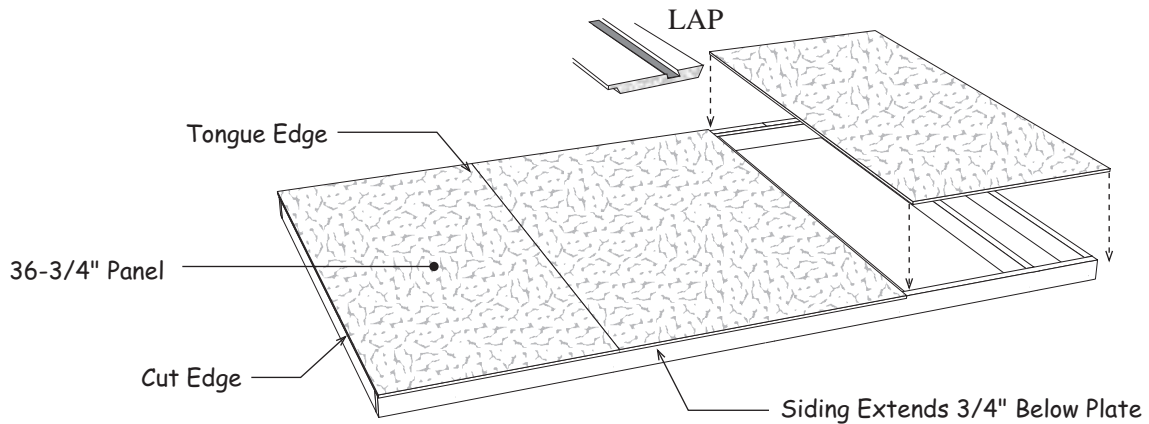
## Step 7A   Assemble Front Wall Panels

1.   Install (6) six 72" wall studs between 2x4 - 10' top and bottom plates.

2.   Cut (2) two 2x4-6' boards to 69-1/2" in length. Install a pre-built 2x3 door header and the 2x4s as header support under the door header.

3.   Install (2) two 56-1/2" long 2x4 as tie plates over the top plate. The 2x4s will be 3-1/2" short of the end of the wall frame.

4.   Square wall frame.

56-1/2" Tie Plate

56-1/2" Tie Plate

3-1/2"

2x3 Door Header

69-1/2" Header Support

11-1/4"
to stud

11-1/4"
to stud

64-1/2" Door Opening

24-3/4"
to stud

27-3/4" to
Opening

## Step 7B    Assemble Front Wall Continued

5.   Locate a 16" x 77-1/4" 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.

6.   Locate the 12-3/4" wide siding with a 'tongue edge' and install on the left end of the front wall.

7.   Install (2) two 6" siding panels over the door opening, flush with the top plate. Siding will extend below header.

8.   Install another 16" wide siding panel with the 'cut' edge flush with the side of the door opening.

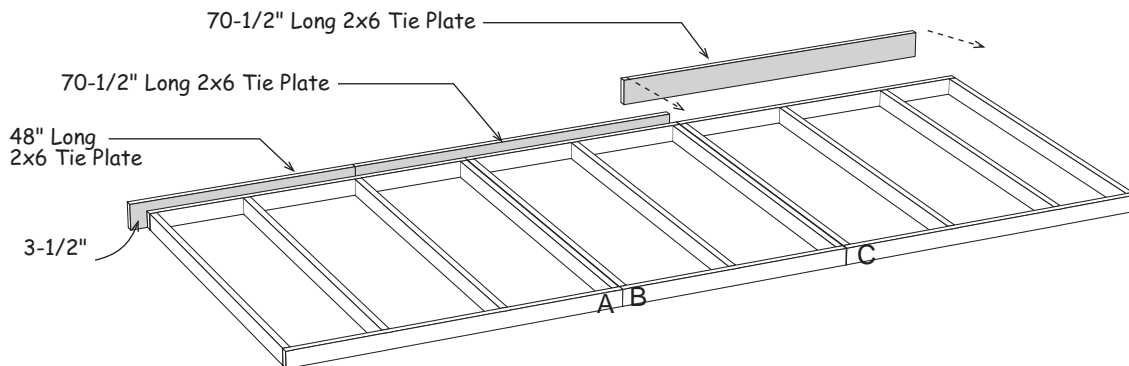9.   Install the last siding panel..
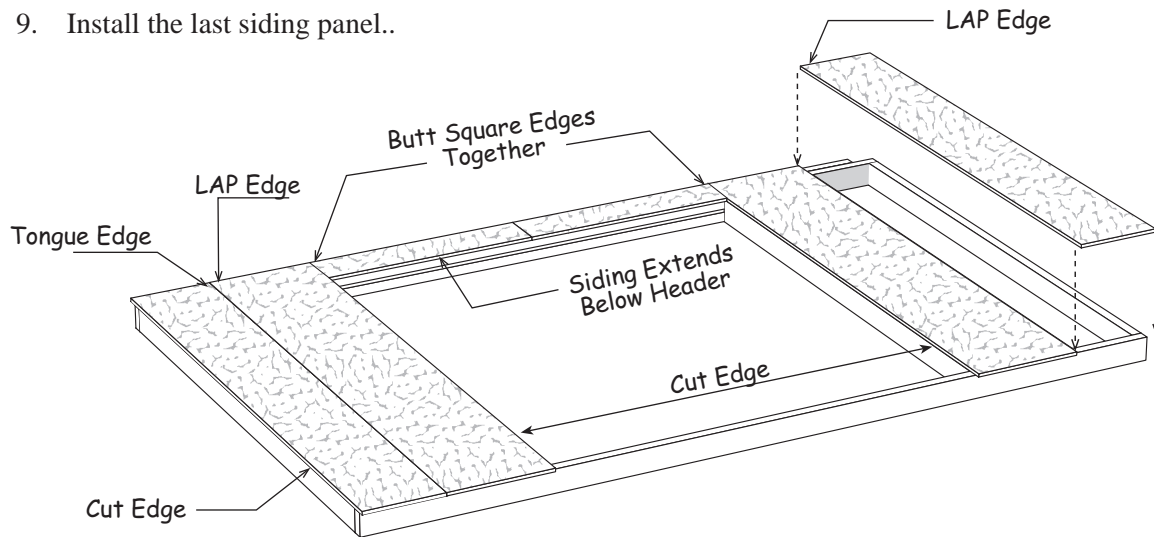


## Step 8A    Assemble Side Walls

1.   Position 68-1/2", 48",  and 65-1/2" long 2x4 boards together and mark where the wall studs will be located. Mark the ends that will butt together with the letters 'A', 'B' and  'C'.
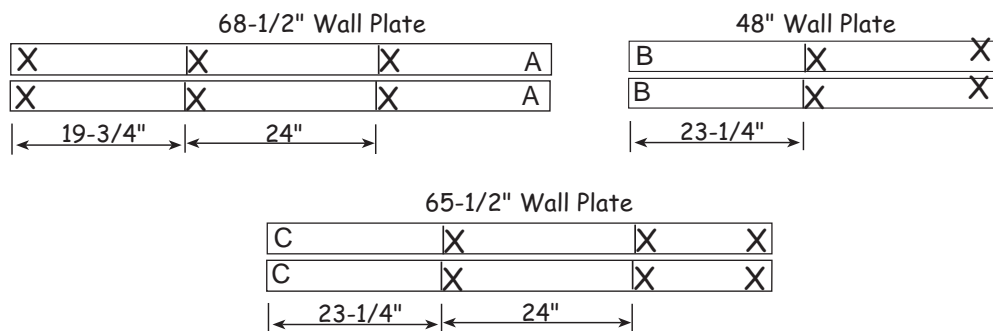
## Step 8B    Assemble Side Walls Continued

2.  Install 72" wall studs between the top and bottom plates.

3.  Nail frames together with 10d sinkers.

4.  Install a 48" and (2) two 70-1/2" long 2x6 boards as tie plates over the top plate.
    The 2x6s will extend 3-1/2" beyond the ends of the wall frame.

70-1/2" Long 2x6 Tie Plate

70-1/2" Long 2x6 Tie Plate

48" Long
2x6 Tie Plate

3-1/2"

A  B                    C

5.  Locate (2) two siding panels that are 77-1/4" long and cut them to a length of 75-3/4".

6.  Square wall frame. Install (4) four 75-3/4" long siding panels. Install the first siding
    panel with the 'LAP' edge extending 3-1/2" beyond the wall frame.

7.  Install (2) two full width siding panel in the center.

8.  Cut the last siding panel to extend 3-1/2" beyond the last wall stud.

*Tip; it will be easier to handle this wall if you install
the last siding panel after the walls are set.*

LAP

Siding Extends 3/4" Below Plate

Siding Extends 3-1/2" Past Wall
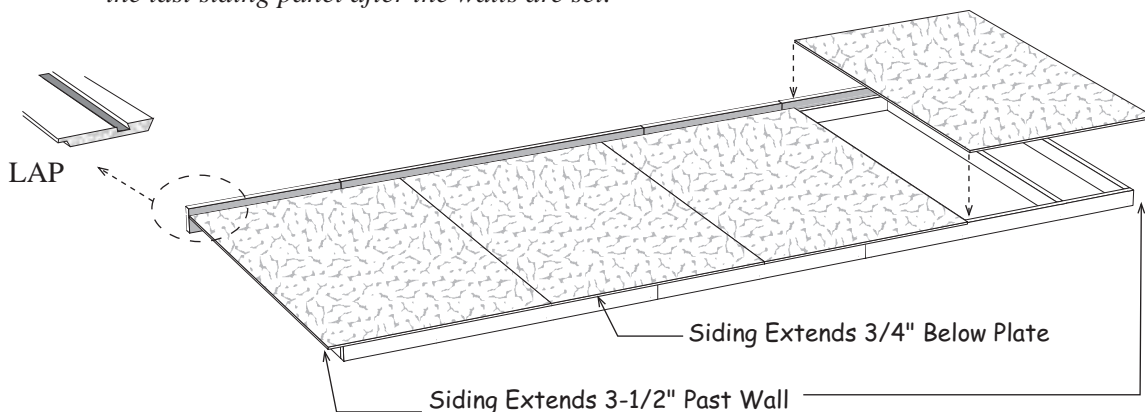
9.  Repeat to assemble another side wall frame and install (4) siding panels.

## Step 9    Set Lower Walls

1.  Secure wall panels together at the corners. Use (4) four 10d coated nails per corner. Nail wall panels to the floor. Nail through the bottom plate. Space 10d sinkers 24" apart.

2.  Cut the 2x4 from door opening
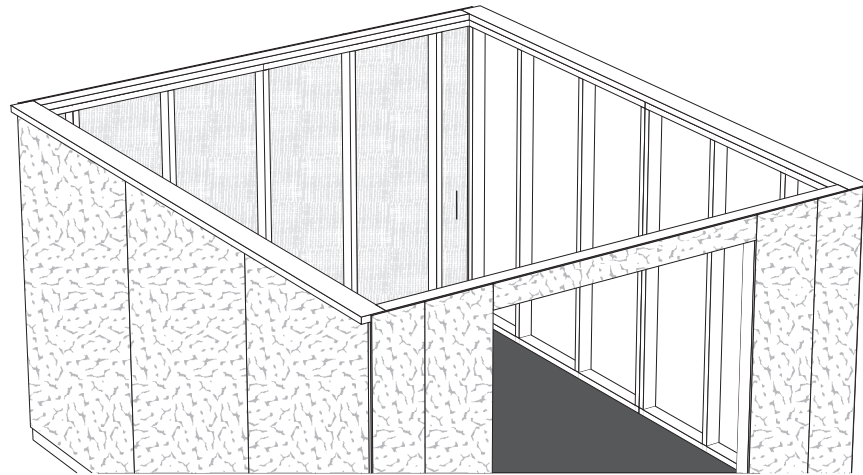


## Step 10    Install Trim

1.  Install (2) two 1x3-62" long trim boards flush with the top of the front wall. Use 6d galv. nails.

2.  Install 1x4-75  3/4" trim boards at the front corners of the sidewall. Install the trim flush with siding on the front wall.



1x3-62" Trim Boards
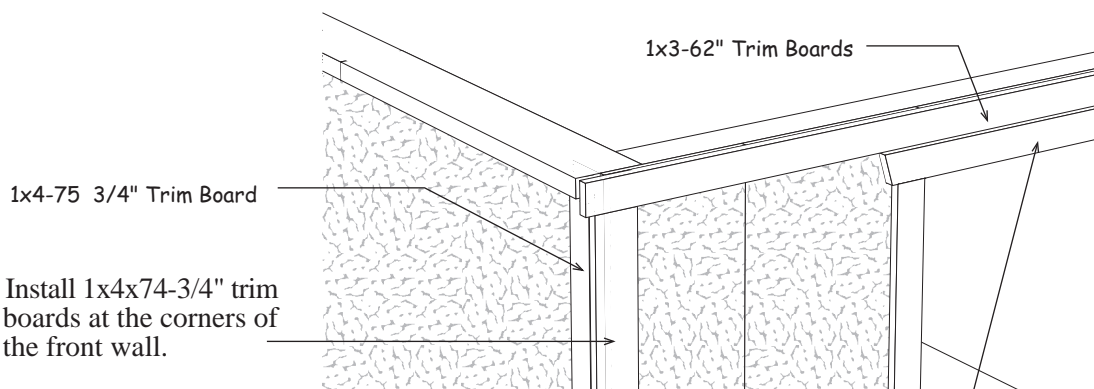
1x4-75  3/4" Trim Board

3.  Install 1x4x74-3/4" trim boards at the corners of the front wall.

4.  Install lx4x72" 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.

5.  Install a 1x3x72" board over the door opening.

6.  Install trim on the back of the building.

## Step 11  Install Rear Gable

1.  Apply 1x4 trim to gable. Install a 47-1/2" long 1x4 at the top of the gable. Install the 1x4 gable trim extending 1/2" above the siding on the gable. When installed later, the roof sheathing will be flush with the top of the trim.

2.  Install a 43" long 1x4 at the sides of the gable, 1/2" above the siding on the gable.
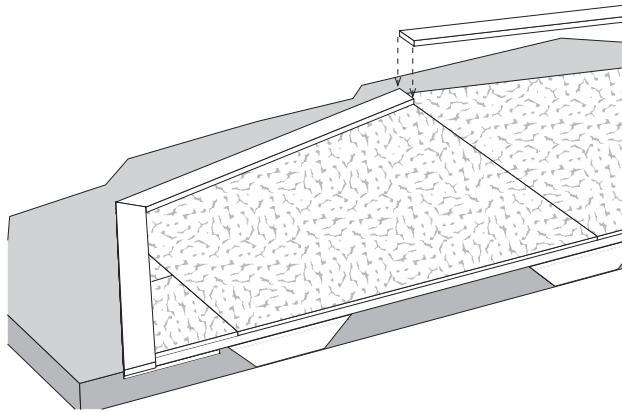


3.  Install the rear gable on the back wall. The gable siding will <u>extend over the 1x3 trim</u> on the lower wall. **NOT behind the trim!** Secure gable to wall by nailing through the gable blocks with 10d sinkers. Nail siding along the 1x3 trim board with 6d galv. nails.



Gable Siding

1x3 Trim
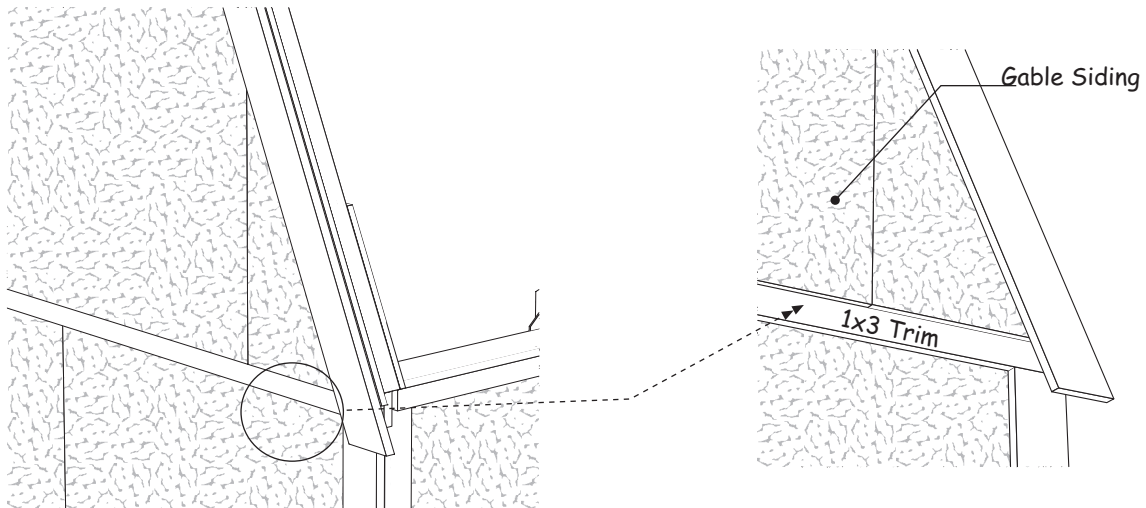
## Step 12   Layout for Truss Spacing

1.  Layout the truss spacing on the left sidewall, facing building. Start at the back of the building. Measure from the <u>inside face of the wood gusset</u> when marking the location of the first truss.

2.  Locate the truss hangers, there are left and right hangers. Select the right hangers.

3.  Using 1-1/2" hanger nails, install the right hangers to the 2x6 tie plate. The top hanger flange should line up with the 'X' mark.

Long Side Nailed to Wall Plates →

Rear Gable

Wood Gusset

2x6 Tie Plate

20-3/8"

24"

Inside of Building
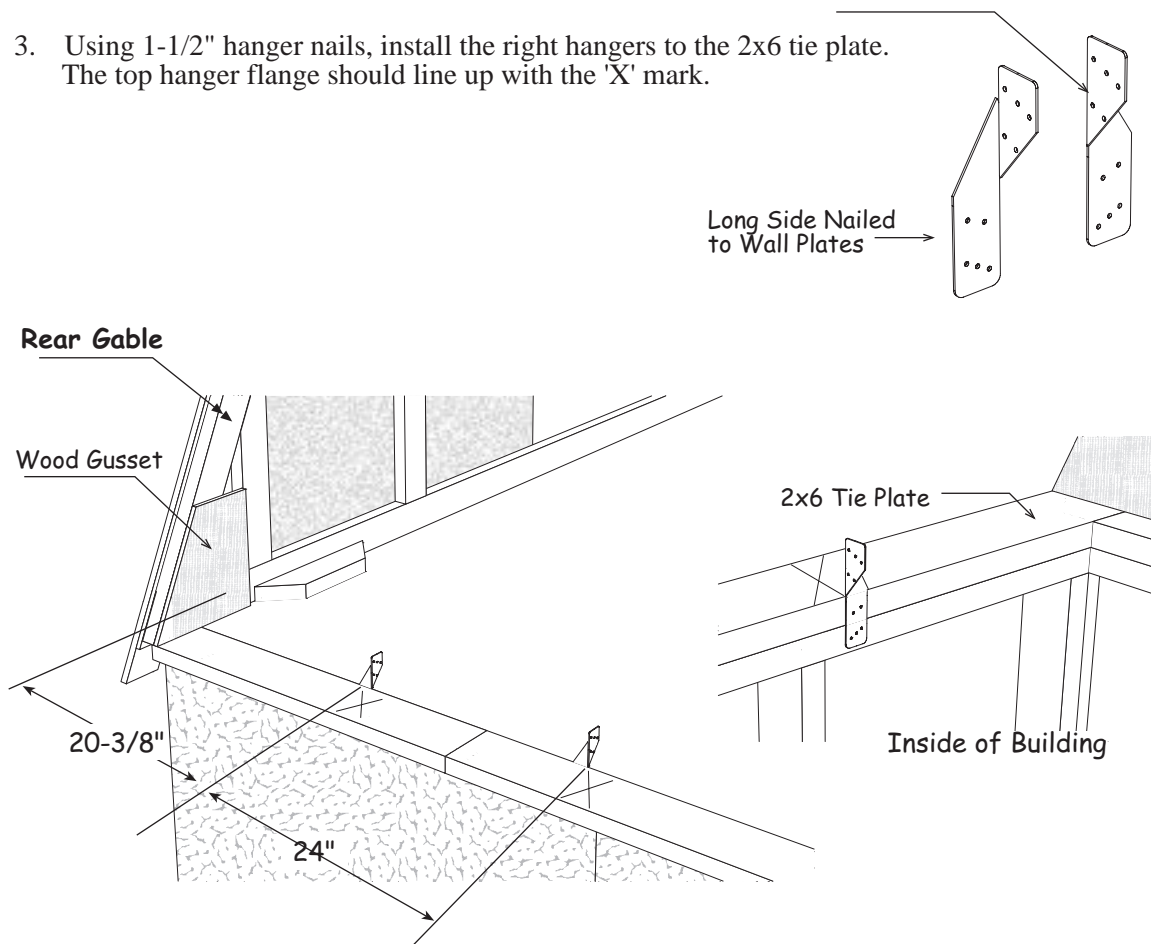
☞   **Important:** When marking the opposite wall, use the <u>left hangers</u> and place the 'X' mark on the same side of the line so your trusses are parallel when they are installed.

## Step 13    Install Trusses

1.  Install the trusses over the 'X' marks. Install hanger to the opposite side
    of the trusses. Secure truss to metal hangers using 1-1/2" hanger nails.
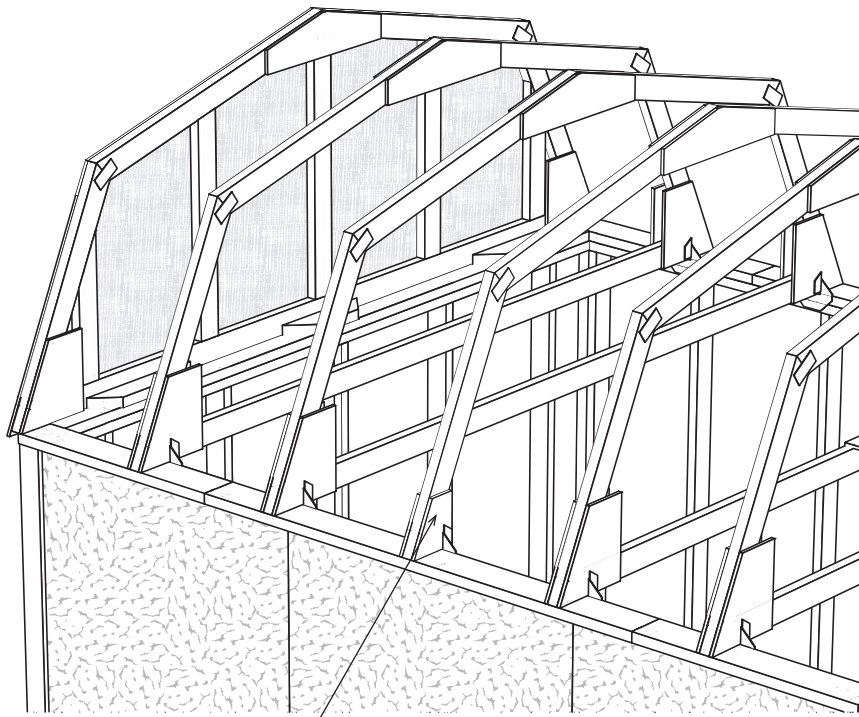
Note: The center truss will
not have a bottom cord.

2.  Install front gable.

## Step 14    Install Loft Floor

1. Install a 4' x 4' OSB flooring panel between the siding on the rear gable and the center of the 2nd truss. Notch the panel around the studs on the gable and cut the width to fit on the center of the 2x4 truss bottom. Note: Some OSB panels may be attached to the shipping pallet. Secure floor with 6d common nails spaced 12" apart.

2. Cut and install 2' x 4' OSB panels on each side of the center panel.
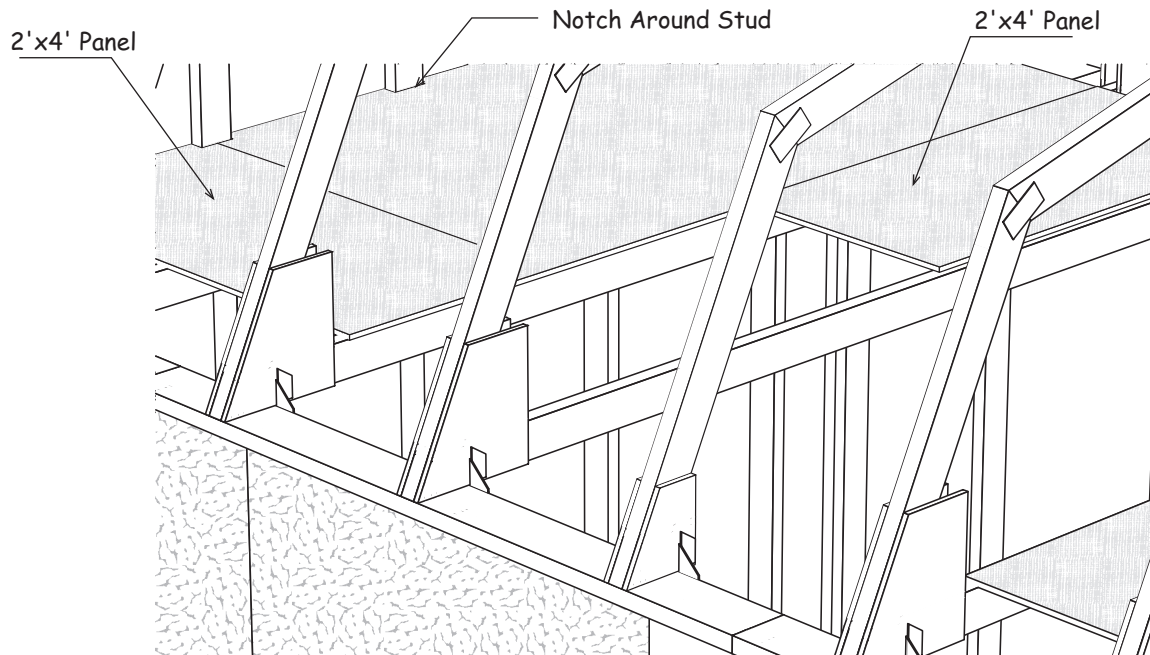


3. Install (2) two 2'x4' pieces as the 2nd row of flooring.

4. Install OSB flooring at the front of the building.

## Step 15A  Install Roof Sheathing - Supplemental Details



**Detail 'B'**

**Detail 'G'**

2x3 Board

Roof Sheathing

Straight Edge

Truss

6-1/2"
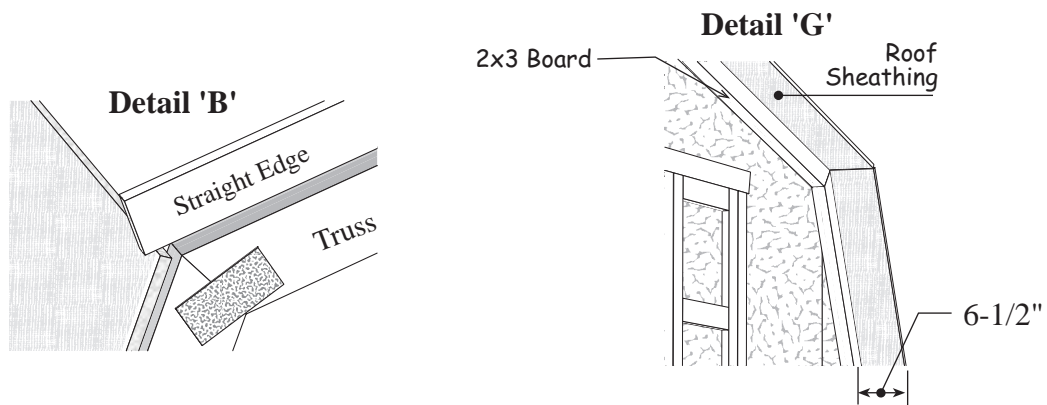
## Step 15B  Install Roof Sheathing

Install roof sheathing on the steep side of the roof.  Use a straight edge to align the top of the sheathing with the top of the truss; see **Detail 'B'**.  Make sure the trusses are plumb and the roof sheathing meets the center of the truss.  Use 6d common nails spaced 8" apart.

The top roof sheathing will not extend to the ridge.  This will allow an opening for air ventilation should you install a ridge vent.
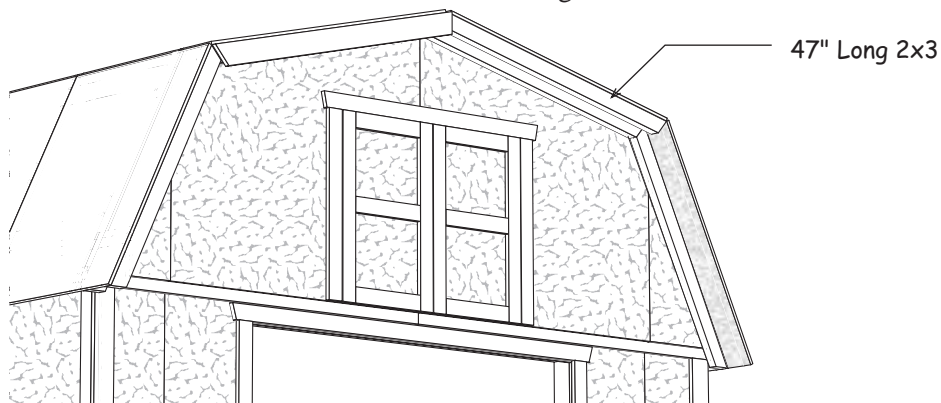
1.  Working from rear gable install a 42" x 72" OSB sheet against back of trim. Install 42" x48" sheet next.

2.  Install a 42" x 80" and cut (if necessary) to extend 6-1/2" past 2x3 board on front gable.

3.  Install upper sheeting next cutting the 80" sheet if necessary.
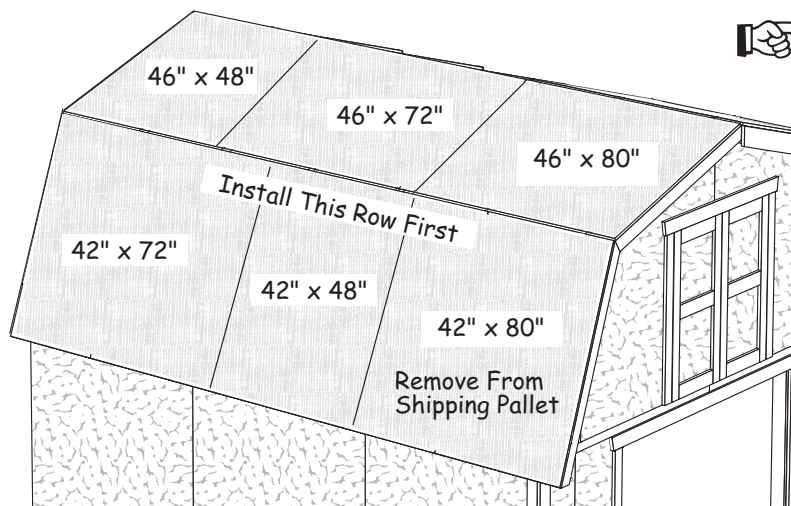
**Important:** Make sure the gable is plumb and the roof sheathing extends 6-1/2" past the 2x3s along the face of the gable; see **Detail 'G'**



46" x 48"

46" x 72"

46" x 80"

Install This Row First

42" x 72"

42" x 48"

42" x 80"

Remove From Shipping Pallet

## Step 16    Install Gable Overhang

1.  While a helper holds the 47" long 2x3s under roof sheathing and against the front edge. Screw the sheathing to the 2x3s with 1-1/2" long screws.

2.  Install the 42-1/4" 2x3s on the side roof sheathing in the same manner.



47" Long 2x3

## Step 17    Install Gable Soffit and Trim

1. Locate (4) four 8" x 48" soffit panels. Cut length to fit under 2x3s and install using 6d galv. nails

2. Install 1x4 trim over the 2x3 boards. Use 6d galv. nails.

8" Soffit Panels

1x4 Gable Trim

3. Cut and install a 2x3 block to close off the opening at the bottom of the overhang.
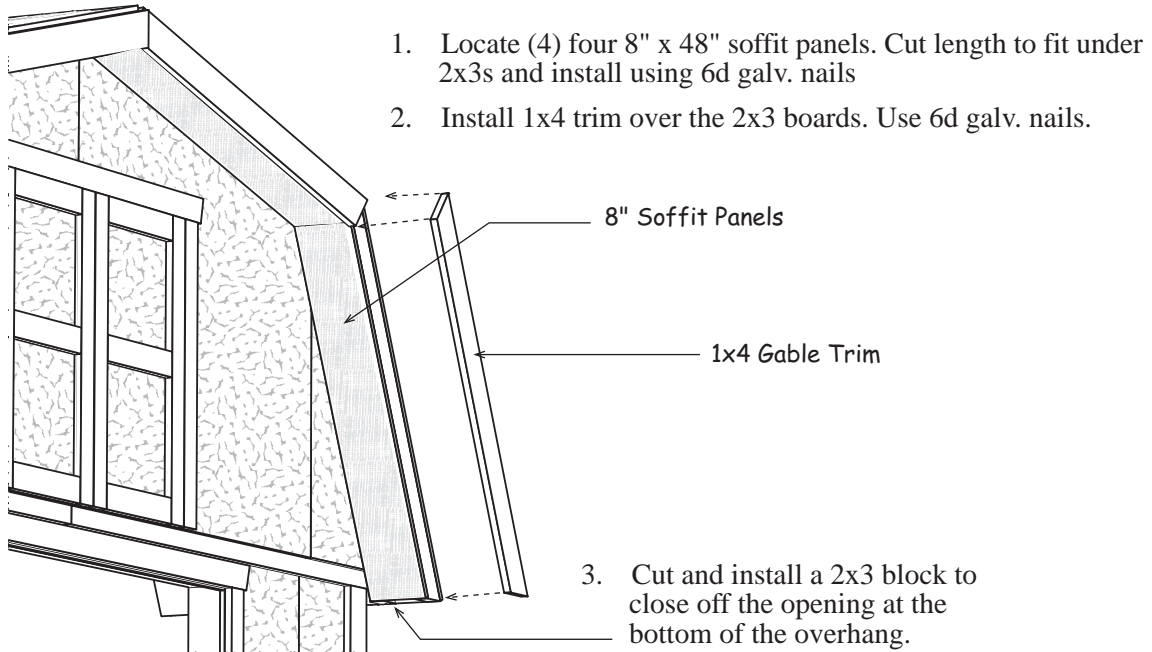
## Install Shingles - not included in kit

Install roof shingles per instructions on outside of wrapper.

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

| Material Description | Quantity |
|---|---|
| Roof Shingles | 10 bdl. |
| Roof 'drip' Edge | 7 pcs. |

Shingles

Truss    Air
Space

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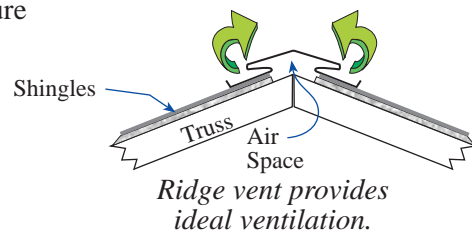
## Step 18    Install Doors & Hardware
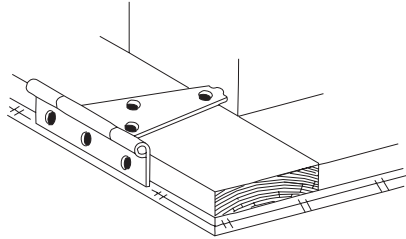
1.  Lay the <u>left door</u> with the trim facing up. The siding on the left door <u>extends past the door trim</u>. See detail below.

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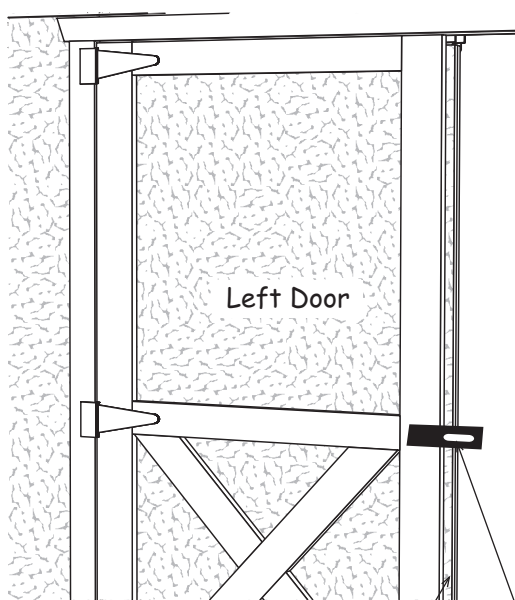
4.  Before fastening the hinges to the side trim, temporarily prop the doors in the opening. Leave a space at the top and bottom of the doors and between the doors and the side trim to allow room for the doors to expand due to humidity.

    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.
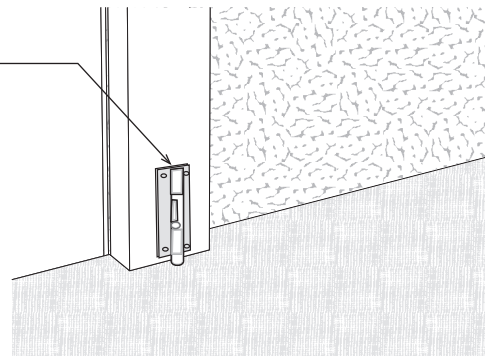
Left Door

Siding Extends Past Trim
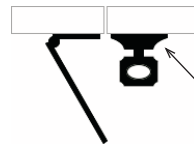
Fold Hasp to Cover Screws

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.

# Meadowbrook and Woodville 10'x 16' Barn kit

| Qty. | 2x4 & 2x6 Framing | Size | |
|---|---|---|---|
| 4 | Wall Plates | 120 | " |
| 8 | Truss - Bottom Cords | 116 | 1/4" |
| 37 | Wall Studs black ends | 72 | " |
| 4 | Wall Plates | 68 | 1/2" |
| 4 | Wall Plates | 65 | 1/2" |
| 4 | Wall Plates | 56 | 1/2" |
| 2 | Wall Plates | 48 | " |
| 4 | Gable Framing | 47 | " |
| 4 | Gable Framing | 38 | " |
| 1 | Gable Studs & Framing | 36 | " |
| 1 | Gable Studs & Framing | 42 | |
| 4 | Gable Studs & Framing | 34 | 1/4" |
| 4 | Gable Studs & Framing | 21 | 1/2" |
| 6 | Gable Nailing Blocks | 15 | 3/4" |
| 2 | 2x6 Tie Plates for Sidewalls | 48 | " |
| 4 | 2x6 Tie Plates for Sidewalls | 70 | 1/2" |
| | | | |
| | 2x3 Framing | | |
| 4 | Gable Overhangs | 47 | " |
| 4 | Gable Overhangs | 42 | 1/4" |
| 2 | Gable Blocks | 6 | 1/4" |
| | Pre-built Components | | |
| 14 | Pre-built Truss Halves | | |
| 2 | 32" x 72"  Pre-built Barn Doors | | |
| 2 | 18"  x 29" Loft Door Frames | | |
| 1 | 2x3 Door Header | 67-1/2" | |
| | Loft Floor & Roof Sheathing | | |
| 2 | 42" x 80" | 2 | 42" x 72" |
| 2 | 46" x 80" | 2 | 46" x 72" |
| 2 | 48" x 48" | 8 | 24" x 48" |
| 2 | 42" x 48" | 2 | 46" x 48" |

| Qty. | Trim | Size | |
|---|---|---|---|
| 4 | 1x4  Gable Trim | 47 | 1/2" |
| 4 | 1x4  Gable Trim | 43 | " |
| 4 | 1x4  Corner Trim | 75 | 3/4" |
| 4 | 1x4  Corner Trim | 74 | 3/4" |
| 2 | 1x4  Door Trim | 72 | " |
| 1 | 1x3  Top Door Trim | 72 | " |
| 4 | 1x3  Lower Wall Trim | 62 | " |
| 2 | 1x3  Loft Door Trim | 29 | " |
| 1 | 1x3  Loft Door Trim | 42 | 3/4" |
| | Exterior Siding & Soffit | | |
| 3 | 48" x77-1/4" | 2 | 12" x 77-1/4" |
| 2 | 36" x 77-1/4" | 6 | 48" x 75-3/4" |
| 2 | 16" x 77-1/4" | | |
| 4 | Siding for Roof Gables | 48" x 48" | |
| 4 | Siding for Roof Gables | 16" x 30" | |
| 1 | Siding For Header 6" x 32-3/4" & 6" x 32-1/4" | | |
| 4 | 8" x 48" Front Soffit Panels (Woodville model) | | |
| | Hardware | | |
| 3 | lb. 10d Sinkers | | |
| 4 | lb. 6d Galv. | 28 | Truss Hangers |
| 6 | lb. 6d Common | 75 | Hinge Screws |
| 3 | lb. Hanger Nails | 1 | Door Hasp |
| | | 2 | 4" Barrel Bolts |
| | | 2 | 6" Barrel Bolts |
| 4 | 4" Door Hinges | 12 | 2-1/2" Screws |
| 6 | 5" Door Hinges | 36 | 1-1/4"  Screws |
| 26 | 1x4 Drive-on Plate | 24 | 1-5/8"  Screws |
| | Miscellaneous Lumber | | |
| 16 | Wood Truss Ridge Gussets | 8" x 24" | |
| 28 | Wood Bottom Truss Gussets 12" x 12" | | |
| 2 | Center Truss Blocks w/gusset | 3-1/2"x7-1/2" | |