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

# Best Barns USA
## Assembly Book
Revised December 13, 2022
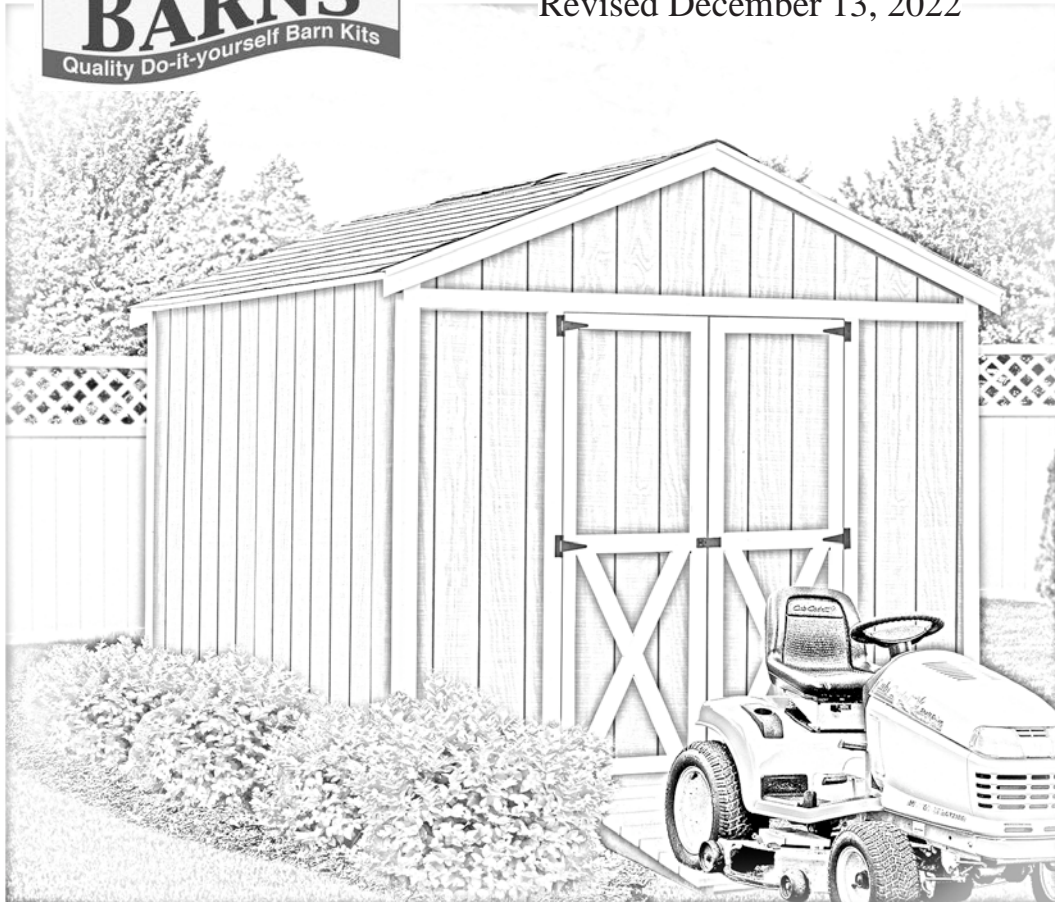


# the Danbury                    8' x 12'

# 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
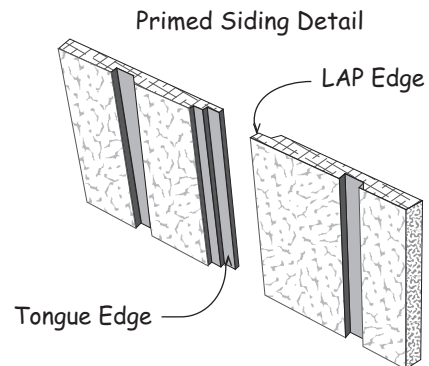
Organize:

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
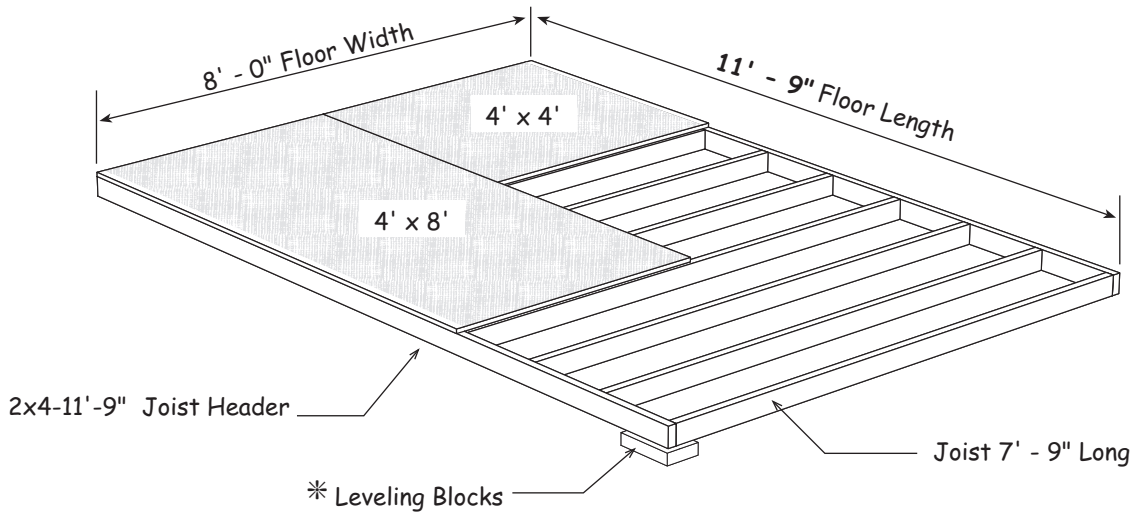
**Email** - questions@barnkits.com

# 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 **11'-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" →|
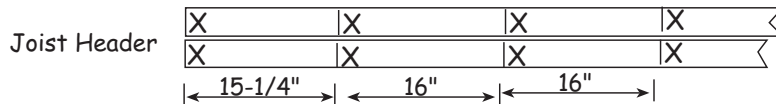
2.  Cut 2x4-8' floor joists to a length of 7'-9". *Treated lumber may be thicker than 1-1/2". Take this into account when cutting the length of floor joists. Shorten joist measurements if necessary to obtain 8'-0" building width.*

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

8' - 0" Floor Width

11' - 9" Floor Length

4' x 4'

4' x 8'

2x4-11'-9" Joist Header

Joist 7' - 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 (170-1/2").

| Material Description | 8' x 12' Floor | |
|---|---|---|
| 2x4   Treated Headers | 2 pcs. | 12' |
| 2x4   Treated Floor Joist | 10 pcs. | 8' |
| Flooring 5/8"   4x8 | 3 pcs. | 4x8 |
| 8d Screw Floor Nails | 1 lb. | 8d |
| 16d Galv. Box Nails | 1 lb. | 16d |

## Step 1    Assemble Roof Trusses

☞ It is important that all the trusses be assembled the same. While assembling first truss temporarily screw 1x4 or 2x4 blocks to the work surface against the top of rafters. These blocks maybe 8-12" long and could have angle cuts.

1. Temporarily install a 2x4-8' board, *to the end of the floor*, extending 1-1/2" above the surface of the floor. This will secure the bottom of the truss during construction. Use 2-1/2" screws.

2. Position two 50-3/4" long 2x4 truss rafters together Secure the tops together with a wood gusset. Nail the wood gusset with (10) ten 6d common nails. Do Not attach the truss rafters to the 8ft. long 2x4. Turn truss over and apply wood gusset to the opposite side.

3. Repeat to assemble (4) four more trusses.

Wood Gusset

50-3/4" Truss Rafter

2x4-8' Board

Ends Flush
with Floor
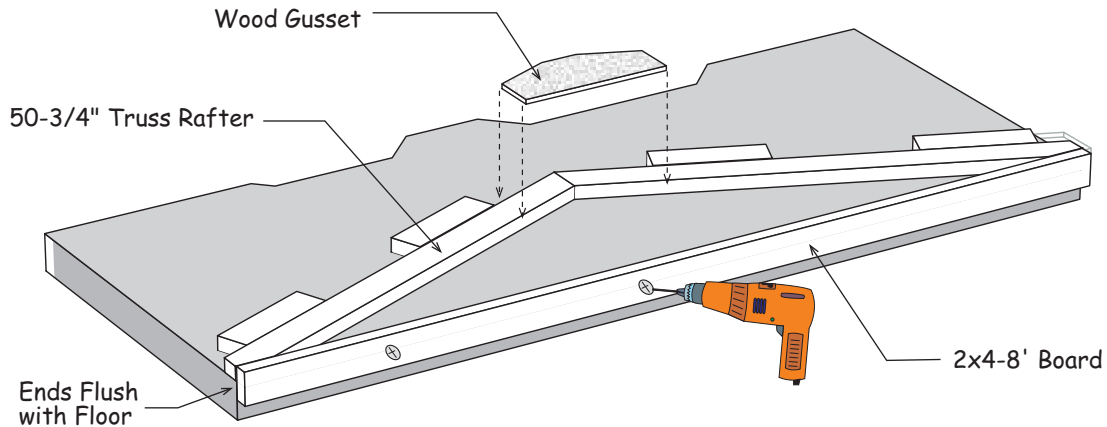
4. Set trusses aside. Leave 2x48' board attached to floor for next step.

## Step 2        Assemble Gables

1.  Position (2) two 50-3/4" long 2x4 truss rafters together. Rafters should be flush with top edge of 8' long 2x4.

2.  Install a 14-3/4" long 2x3 gable stud, with a angle cuts on one end, in the center. Secure the bottom by screwing through the bottom 2x4-8' with 2-1/2" screws. Siding will secure the top to rafters.

3.  Secure rafter ends to 2x4-8' using 2-1/2" screws.

Rafter Flush
with Top Edge

14-3/4" 2x3 Gable Stud

50-3/4" Truss Rafter
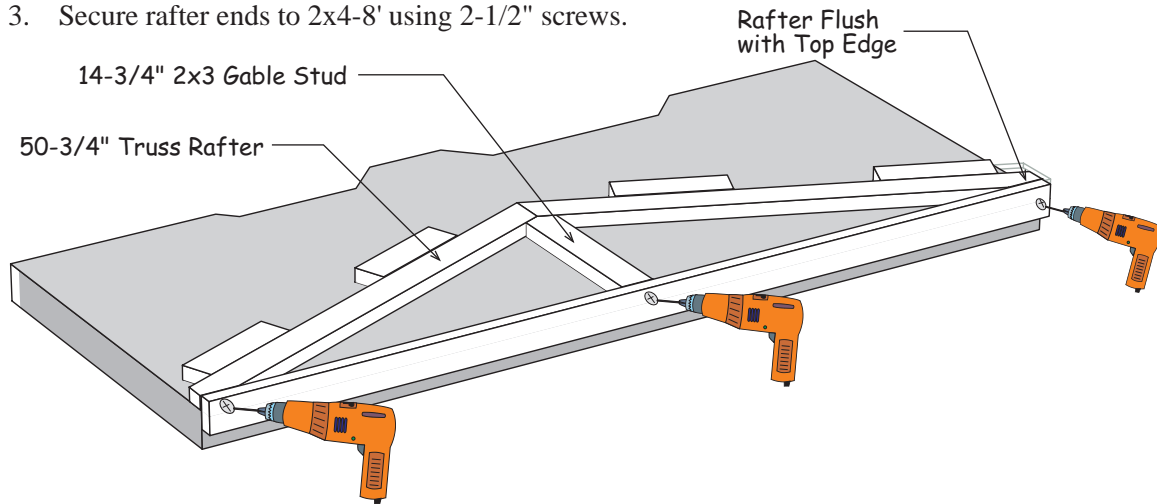
4.  Install gable siding over the gable frame. Use 6d galv nails spaced 8" apart. The siding will be flush with the top and end of the 2x4 frame and extend below the gable frame.
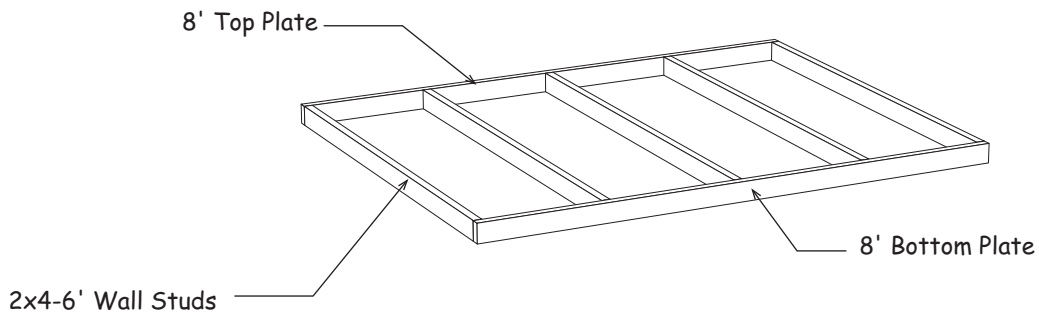
'LAP' Edge

Tongue Edge

Siding Flush

Siding Flush

Siding Extends Below Frame
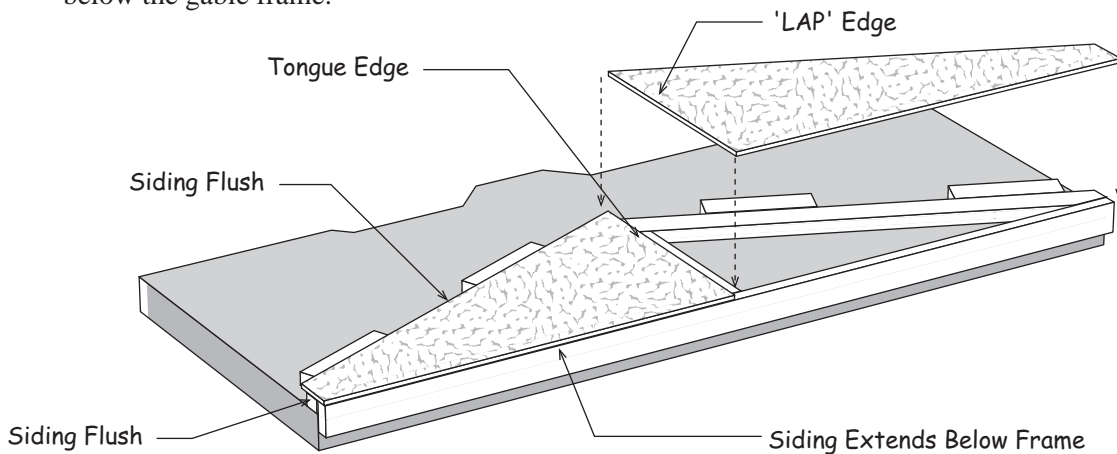
5.  Unscrew the bottom 2x4-8' from floor and remove the gable frame.

6.  Assemble another gable using another 2x4-8' board, raftess, gable stud and siding.

7.  Remove short blocks from work surface. Set gables aside.

## Step 3    Assemble Back Wall

1.  Gather (2) two 2x4-8' boards. Layout boards for wall stud spacing. Indicate with 'X' marks where the wall studs will be placed.

2x4 - 8'
Wall Plates

| X | X | X | X |

|←—23-1/4"—→|←— 24" —→|←— 24" —→|
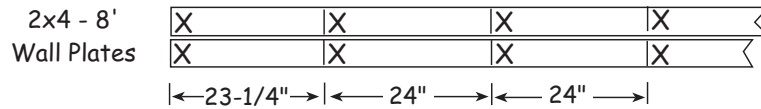
2.  Install (5) five 72" wall studs between the top and bottom plates. Secure studs with 10d sinkers, use two (2) nails at each stud end.

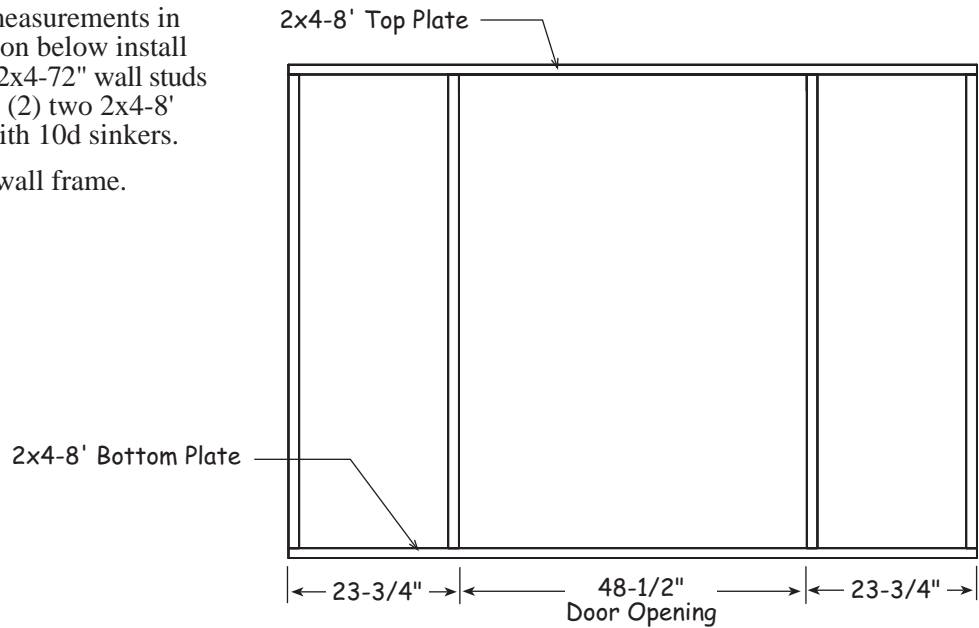8' Top Plate

8' Bottom Plate

2x4-6' Wall Studs

3.  Square wall frame. *Measure diagonally (corner to corner). The measurements will be the same when the wall is square.*

4.  Locate (2) two 48" x 75-3/4" siding panels. Install the first panel with the 'LAP' edge flush with the end and cut edge flush with top of the wall frame. Install siding with 6d galv. nails. Space nails 8" apart.

5.  Install the second siding panel.

LAP Edge

Siding Flush

LAP Edge

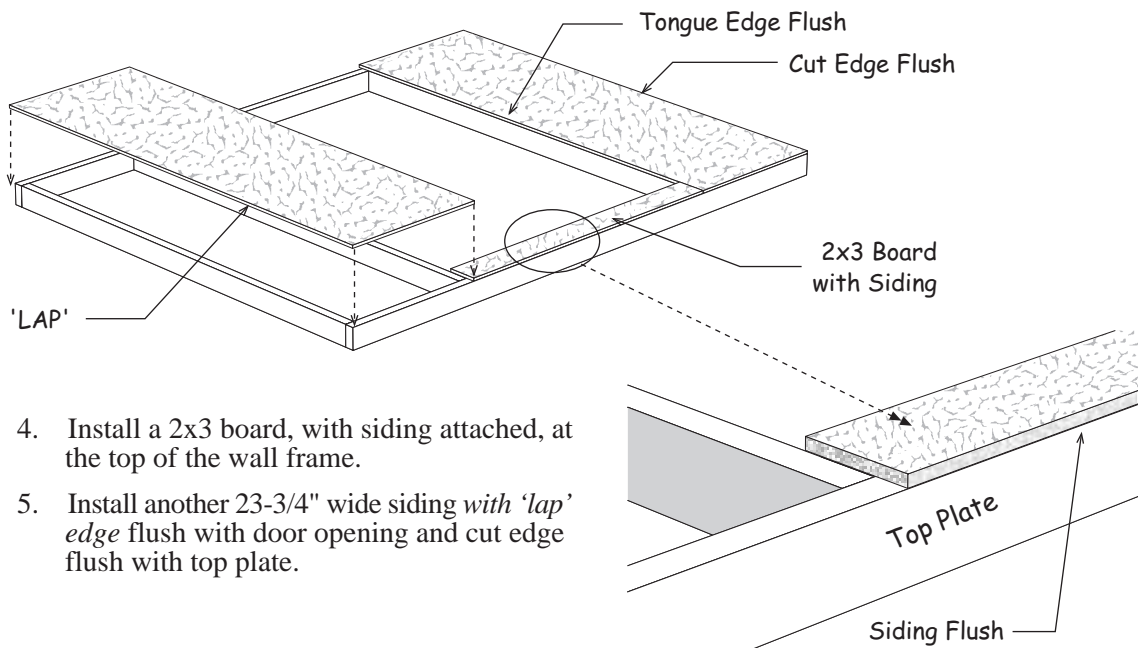Siding Flush

Siding Extends Below Plate
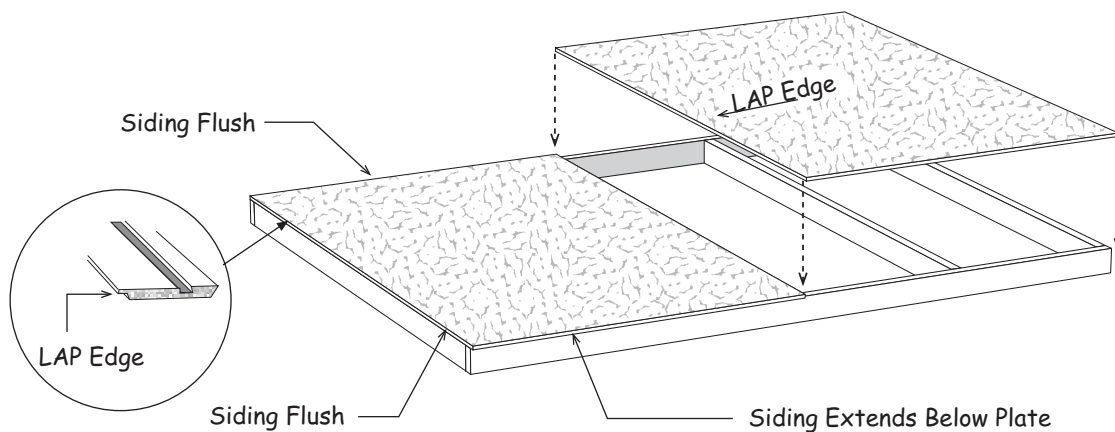
# Step 4     Assemble Front Wall

1. Using measurements in illustration below install (4) four 2x4-72" wall studs between (2) two 2x4-8' plates with 10d sinkers.
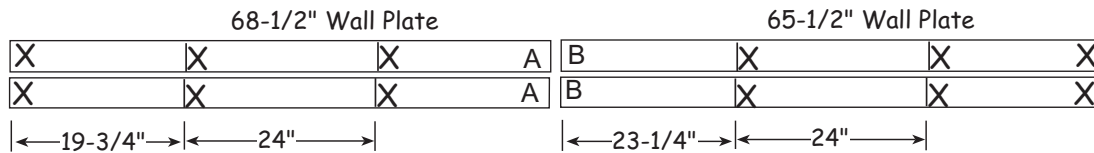
2. Square wall frame.

2x4-8' Top Plate

2x4-8' Bottom Plate

|← 23-3/4" →|← 48-1/2" →|← 23-3/4" →|
Door Opening

3. Install a 23-3/4" x 75-3/4" wall siding *with 'tongue' edge* flush with the door opening and cut edges flush with end stud and top plate.

Tongue Edge Flush

Cut Edge Flush

2x3 Board with Siding

'LAP'

4. Install a 2x3 board, with siding attached, at the top of the wall frame.

5. Install another 23-3/4" wide siding *with 'lap' edge* flush with door opening and cut edge flush with top plate.

Top Plate

Siding Flush

## Step 5     Assemble Side Walls

1.  Position 68-1/2" and 65-1/2" 2x4 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                    65-1/2" Wall Plate

| X | X | X | A | 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 wall frames together with (4) four 10d sinkers staggered on each side.

72" Wall Studs

A B
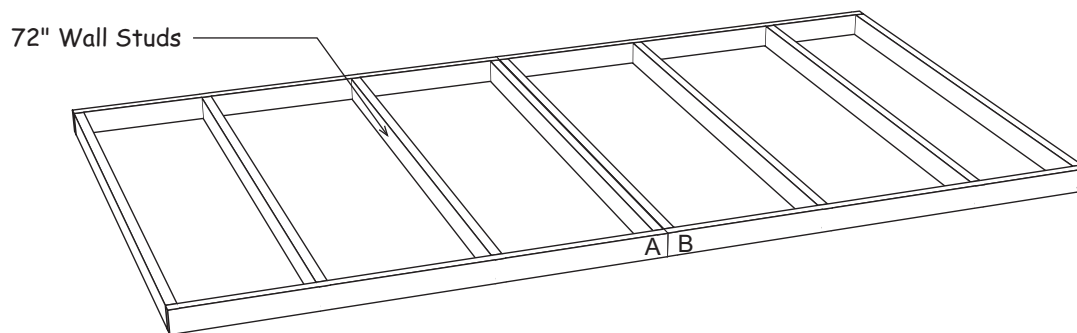
3.   Square wall frame.  Angle measurement should be 153-1/2" when squared. Install (2) two 48" x 79-1/4 siding panels. Install the first siding panel with the 'LAP' edge extending 3-1/2" past the end of the wall frame. Insure siding extends 3/4" below the bottom plate. Siding will extend above top plate.

4.   Install a 45" wide siding panel last. The panel will extend 3-1/2" past the wall frame.

Siding Extends
Above Top Plate

LAP Edge

LAP Edge

Siding Extends
3-1/2"

Siding Extends 3/4" Below Plate
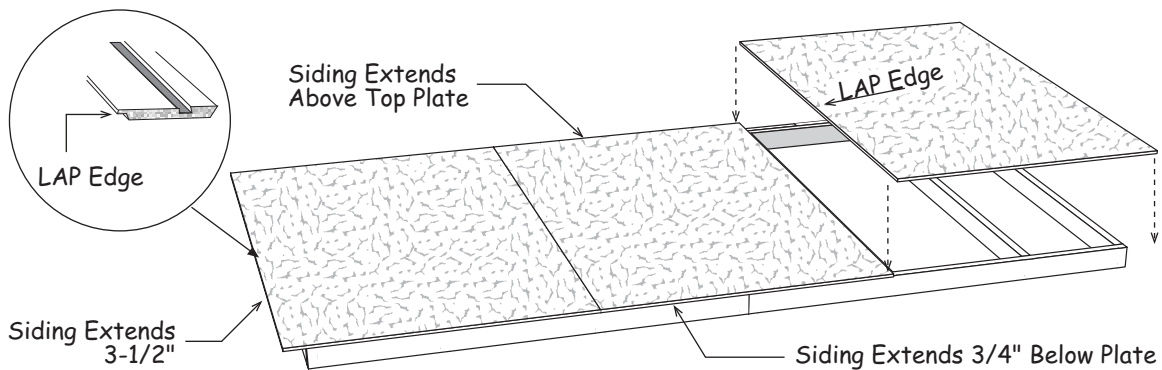
5.   Repeat steps to assemble another side wall panel.

## Step 6    Set Wall Panels and Install Trim

1.  Erect side walls between front and back walls. Nail wall panels together using 10d sinkers (4) four per corner.

2.  Secure panels to floor. Use 10d sinkers or, concrete anchor bolts (not included) spaced 24" apart. Do not nail 2x4 to floor in door opening.

3.  Cut 2x4 from door opening.

Siding Extends Above Frame

Cut 2x4 From Opening
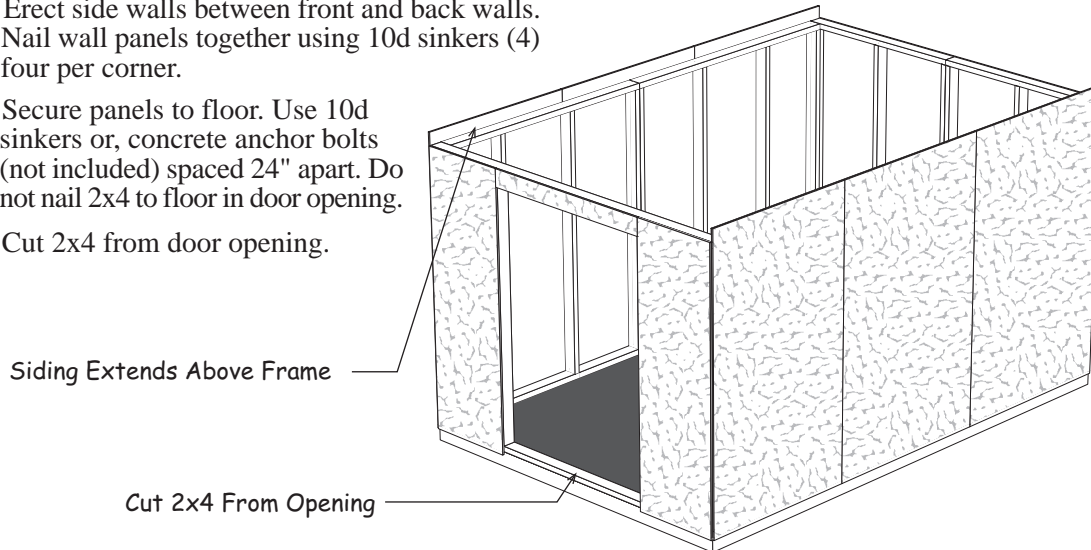
3.  Install 1x3-75 -3/4" trim boards at the front corners. Install the trim flush with siding on the side walls. Use 6d galv. nails, spaced 12" apart.

4.  Cut a 1x4-8' trim board to fit and install between the corner trim, flush with the top of the wall plate.

5.  Repeat steps to install trim on the back wall.

1x4-8' Trim Board

Siding Extends Below Trim

1x3-72" Trim Boards

1x3-75 -3/4" Trim Board
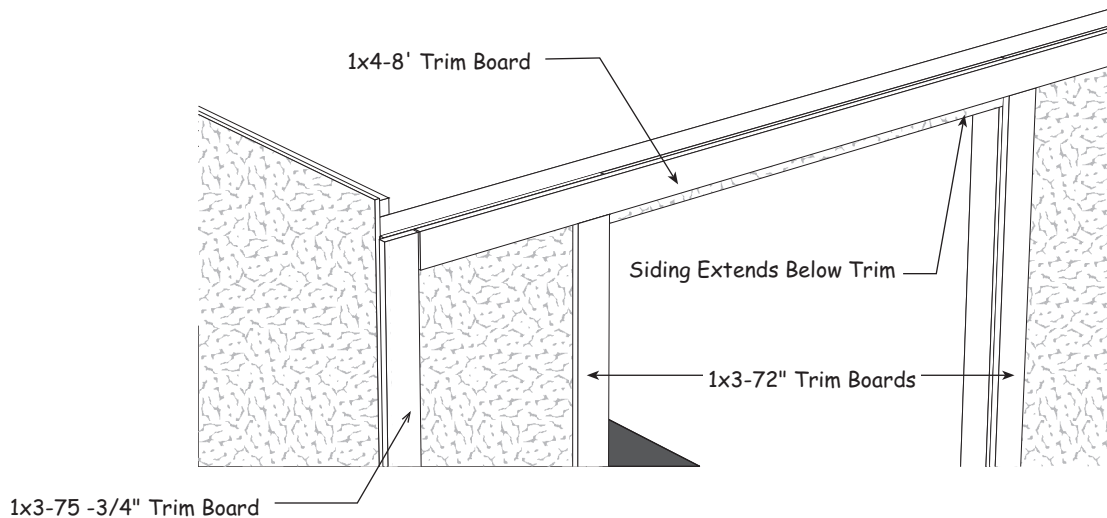
6.  Install lx3-72" boards along each side of the door opening. Tack these boards temporarily with a couple nails; you may want to move the trim later when you install the doors.

## Step 7    Set Roof Gables

1.  Install the rear gable on the back wall. The gable siding will <u>extend over the 1x4 trim </u>on the lower wall. **NOT behind the trim!** Secure gable to wall by nailing through the gable plate with 10d sinkers spaced 16" apart. Nail siding along the 1x4 trim board with 6d galv. nails.

Gable Siding

Bottom Edge of Gable Siding
Extends Over Trim

1x4 Trim
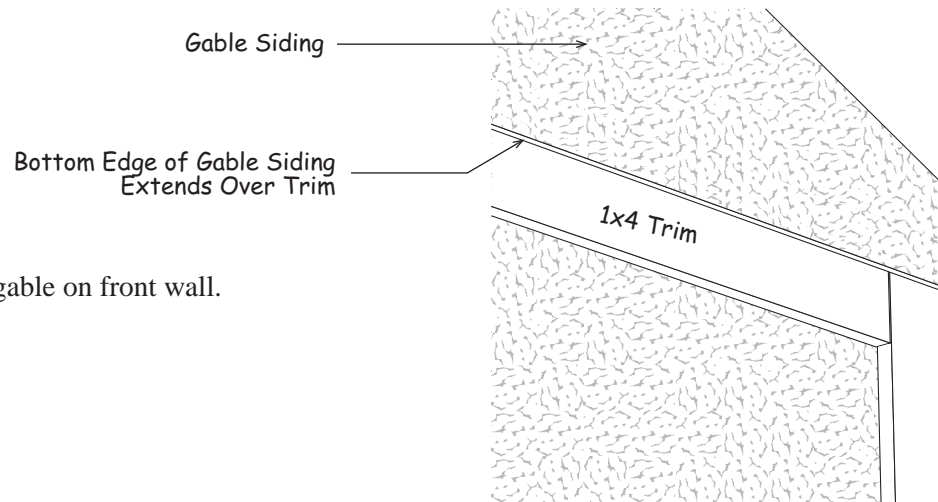
2.  Install gable on front wall.

3.  Install (2) two 72" long 2x4s as tie plates on the side walls. Install a 2x4 in the center of the wall overlapping where the walls butt together. Cut the other 2x4 into (2) two pieces so to fit between the center 2x4 and the gable ends. Use 10d sinkers spaced 16" apart.

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

Cut to Fit Tie Plate

Cut to Fit Tie Plate

72" Long 2x4
Tie Plate
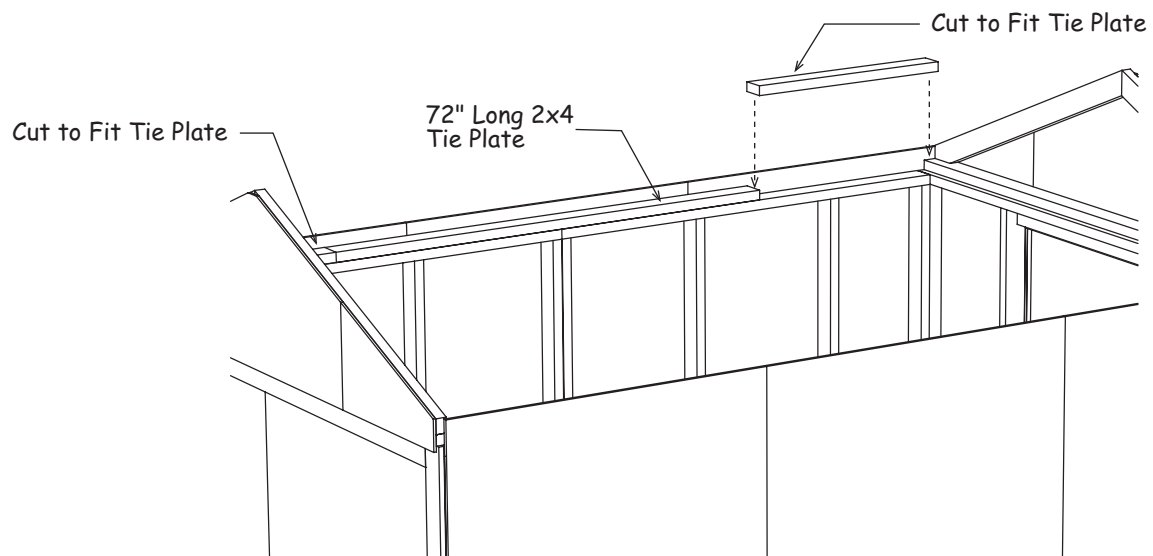
## Step 8    Set Trusses

1.  Starting at the back of the building. Set the first truss with a 21-3/8" space between the truss and the rear gable. Tonail truss to tie plate with a 10d sinker on either side. See Detail 'A' below.

2.  Set the remaining trusses spaced 22-1/2" apart.

**21-3/8"**

**22-1/2"**

**22-1/2"**
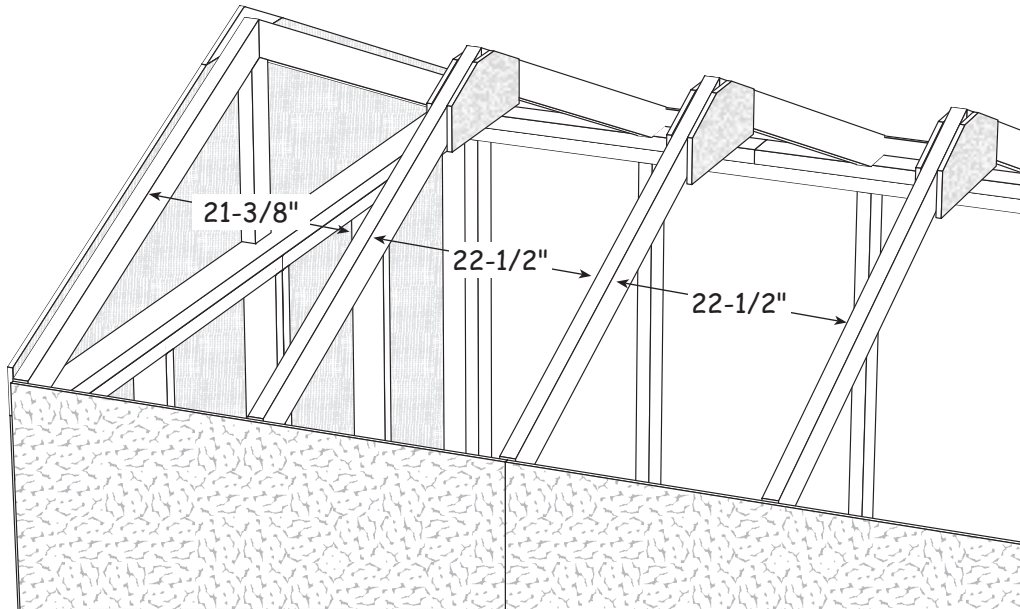
## Detail 'A'

Toenail truss to wall plate using (2) two 10d sinkers. Also nail through the siding into the truss with a 6d galv. nail.
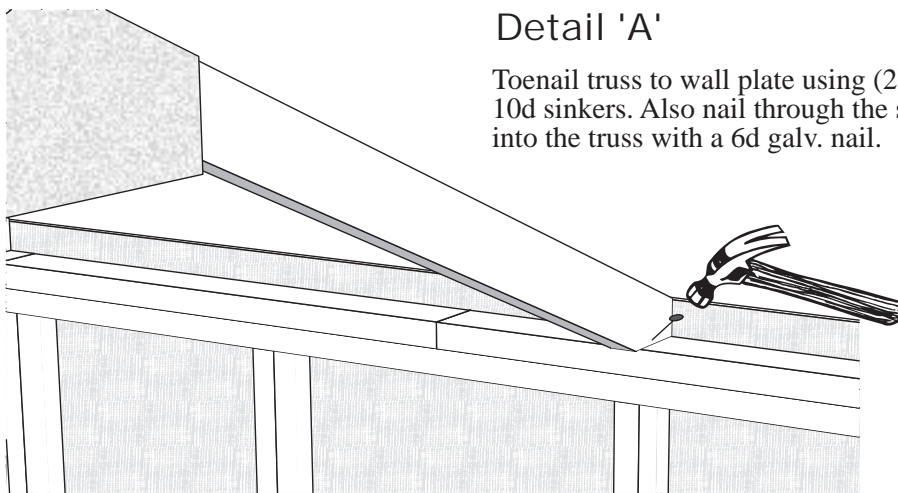
## Step 9    Install Roof Sheathing

1.  Install the roof sheathing per the layout below. Starting from back gable install 24"x72" sheathing flush with gable siding and 1" past siding on side wall. Sheathing will be below peak of trusses approximately 1-1/2" to allow for ridge venting if purchased. Use 6d common nails spaced 12" apart.

Flush with Gable Siding

26" x 48"

26" x 48"

26" x 48"

24" x 72"

24" x 72"

Extends 1" Past Siding
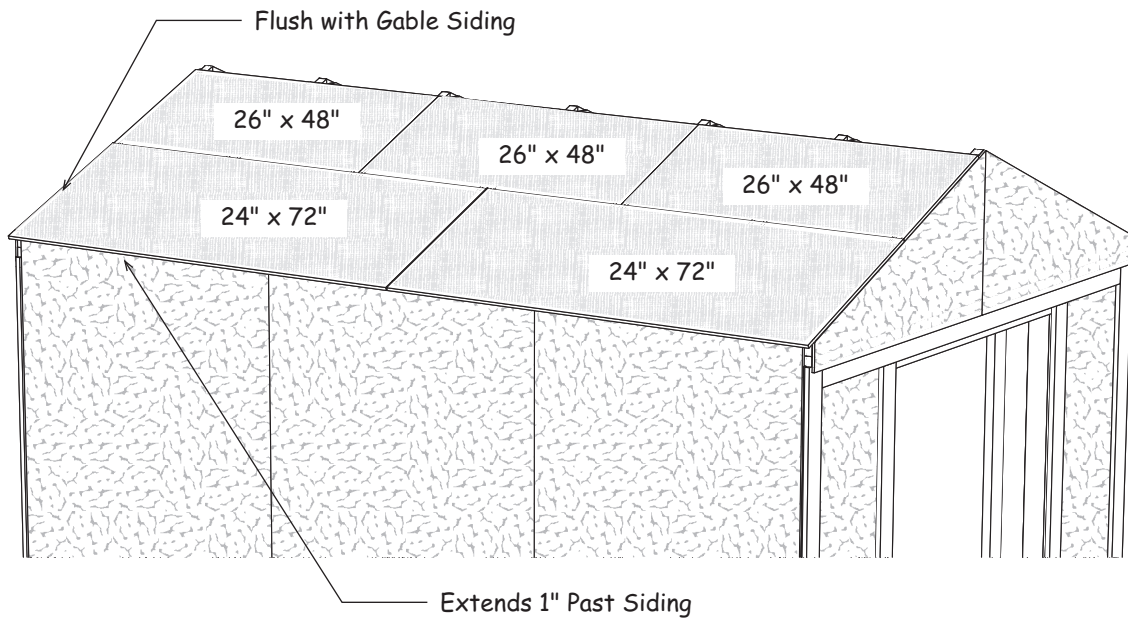
## Step 10    Install Gable Trim

1.   Install 1x4 gable trim at the front and back of the building. Top of trim
     will be flush with roof sheathing.

1x4 Gable Trim
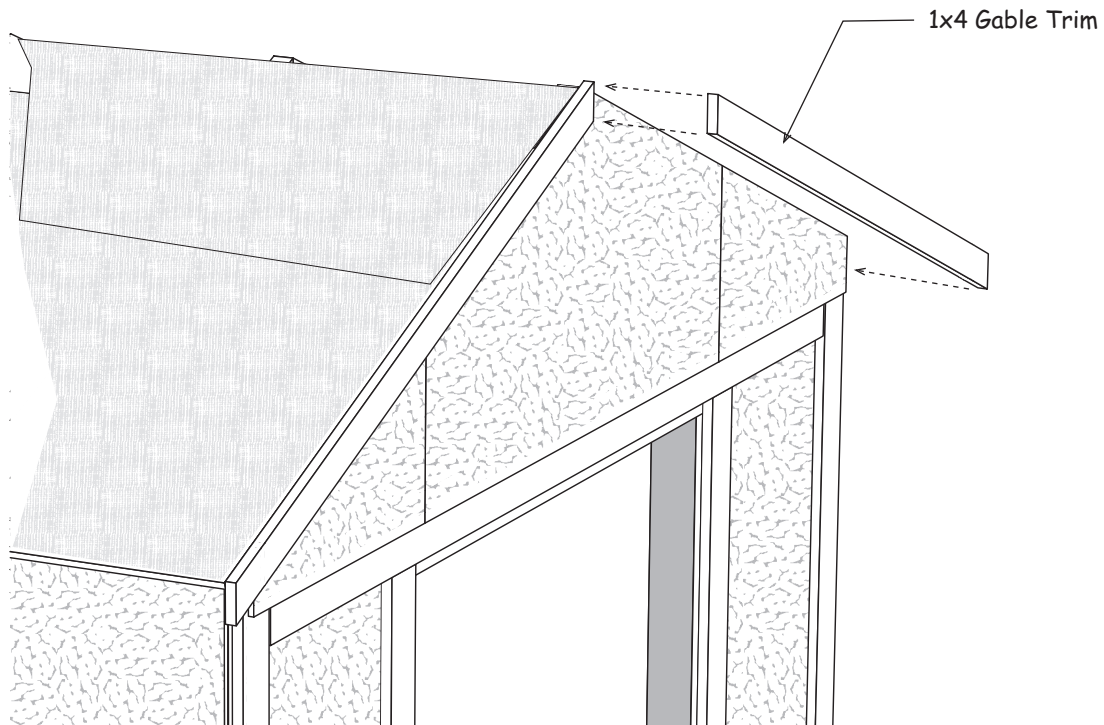
## Step 11    Install Door Hinges

1.   Place the <u>left door</u> with the trim facing up. The left door has a 2x4 installed on the back
     extending past trim and siding, see **Step 13**.

2.   Install 4" 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" screws.

3.   Install hinges to the right side of the
     other door.

Use 1-1/4"
Screws Here

Do Not
Screw Here
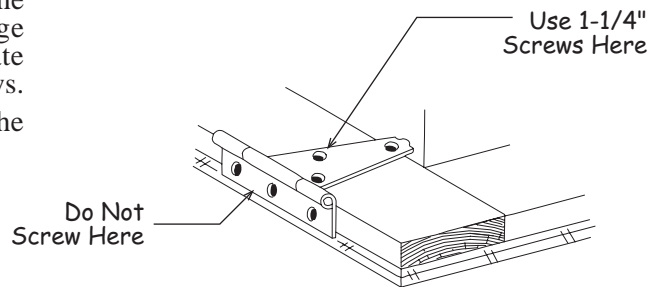
## Step 12  Install Doors & Side Wall Trim

Left
Door

1x4 Corner Trim

Fold Hasp to Cover
Screws
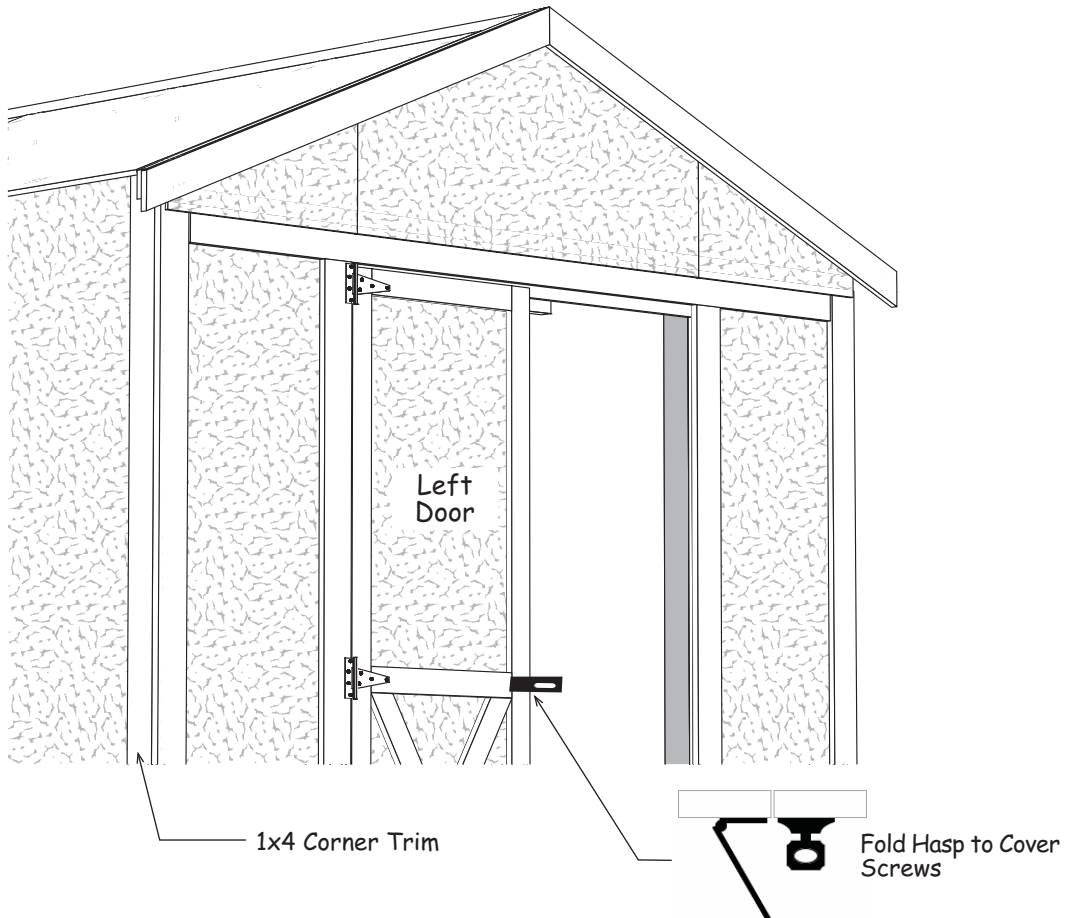
1.  Install 1x4 corner trim on the side walls. Edge of trim should be flush with face of front and back wall trim.

2.  Before you fasten the hinges to the door trim, temporarily prop the doors in the opening. Leave a space between the doors and the side trim to allow room for the doors to expand due to changes in weather.

   If your door opening is out of square, the space around the doors will not be even. You can remove and reposition the side trim to make allowances for this. The side trim does not have to be flush with the frame of the door opening. You can move the trim in or out to make the door spacing equal. Adjust trim, if necessary, and then secure with 6d galv. nails. Secure hinges to the door trim with 2" long screws.

3.  Install door latch.

## Step 13    Install Barrel Bolt

1.    Install a barrel bolt, on the 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. Install another at the top of the door.

Back of Left Door

2x4 Door Stop

Barrel Bolt on the back of left door
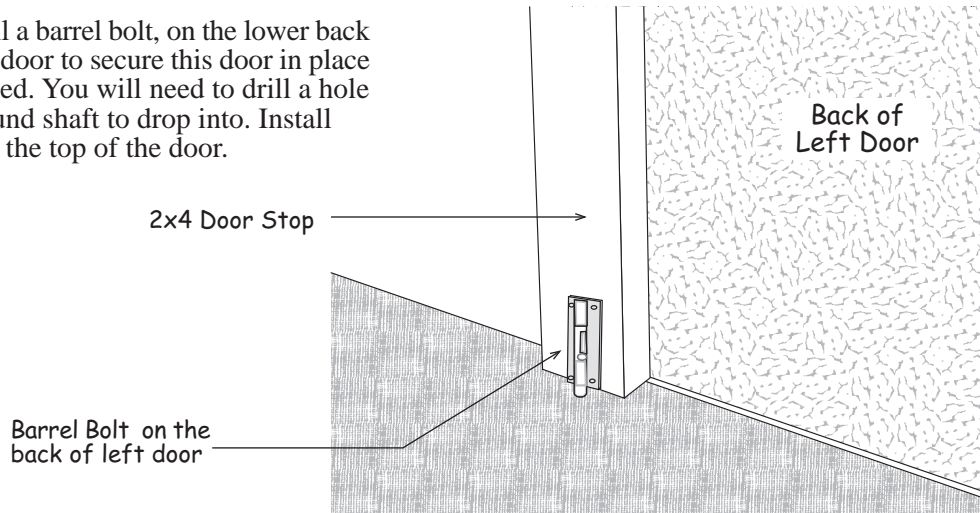
## Step 14     Install Roofing — Not Supplied in Kit

Install shingles according to the instructions on the wrapper.

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

*You will need to purchase.*

☐  5    Bundle roof shingles with nails.

☐  5    Pieces roof 'drip' edge.

*Optional ridge vent provides ideal ventilation.*

Shingles

Truss

Air Space
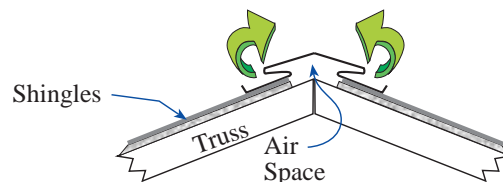
# Danbury 8'x 12' Packing List

| Qty. | Description | Size | | Qty. | Description | Size | |
|---|---|---|---|---|---|---|---|
| | **2x4 Framing** | | | | **W Trim** | | |
| 4 | Tie Plates (attached to pallet) | 80 " | | 4 | 1x4    Gable Trim | 51   3/4" | |
| 14 | Truss Rafters | 50   3/4" | | | | | |
| 6 | Plate Material | 96    " | | 4 | 1x4    Corner Trim | 78   3/8" | |
| 29 | Wall Studs | 72    " | | 4 | 1x3    Corner Trim | 75   3/4" | |
| 4 | Plate Material | 68   1/2" | | 2 | 1x3    Door Side Trim | 72    " | |
| 4 | Plate Material | 65   1/2" | | 2 | 1x4    Lower Gable Trim | 96    " | |
| 4 | Tie Plate Material | 48    " | | | | | |
| | **2x3 Framing** | | | 2 | 24" Wide Barn Doors | 24" x 72" | |
| 1 | Door Header w/ siding | 48   1/2" | | | **Hardware** | | |
| 2 | Gable Studs | 14   3/4" | | 2 | lb. 10d Sinkers | 25 | 2" Black Screws |
| | | | | 2 | lb. 6d Galv. | 25 | 1-1/4" Black Screws |
| | **LP Exterior Siding** | | | 2 | lb. 6d Common | 6 | 4" Hinges |
| 4 | Pcs. 48" x 79-1/4" Side Wall Siding | | | | | 1 | 4" Door Hasp |
| 2 | Pcs. 45" x 79-1/4" Side Wall Siding | | | | | 2 | Barrel Bolts |
| 2 | Pc. 48" x 75-3/4"" Back Wall Siding | | | | **7/16″ Roof Sheathing** | | |
| 2 | Pcs. 24" x 75-3/4" Front  & Back Walls | | | 4 | 24" x 72" | 6 | 26" x 48" |
| 4 | Pcs. Gable Siding     20-1/2" x 48" | | | | **7/16″ Wood Gussets** | | |
| | | | | 10 | 8" x 12" Wood Gussets | | |