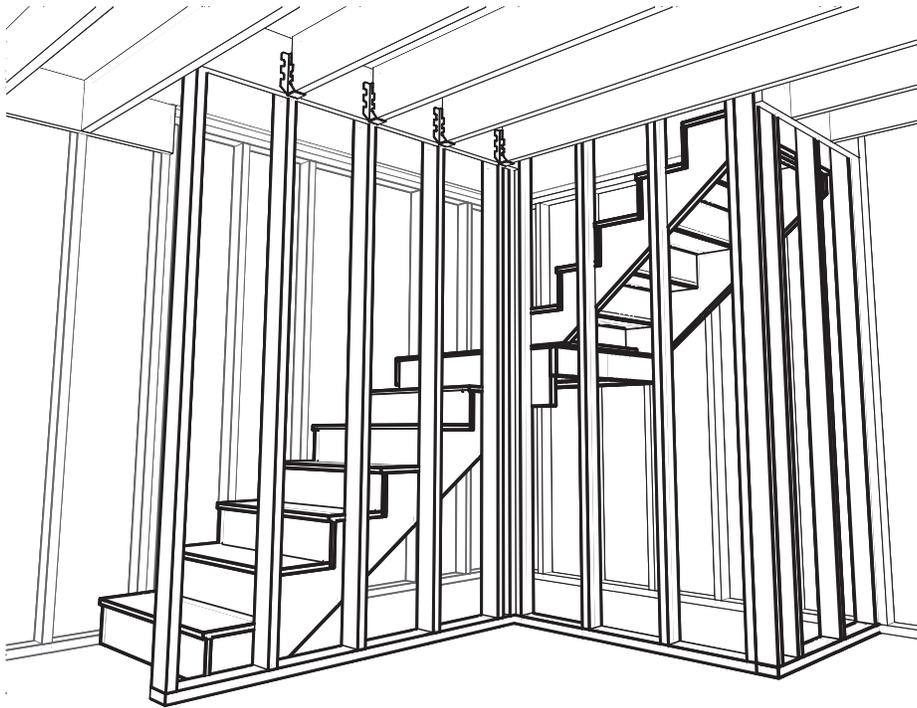




# Sentry Buildings Assembly Book

Revised March 21, 2024



**Stair kit for 16' wide buildings.  
2x10 Floor**

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**Manufactured by RBS Holdings, LLC**

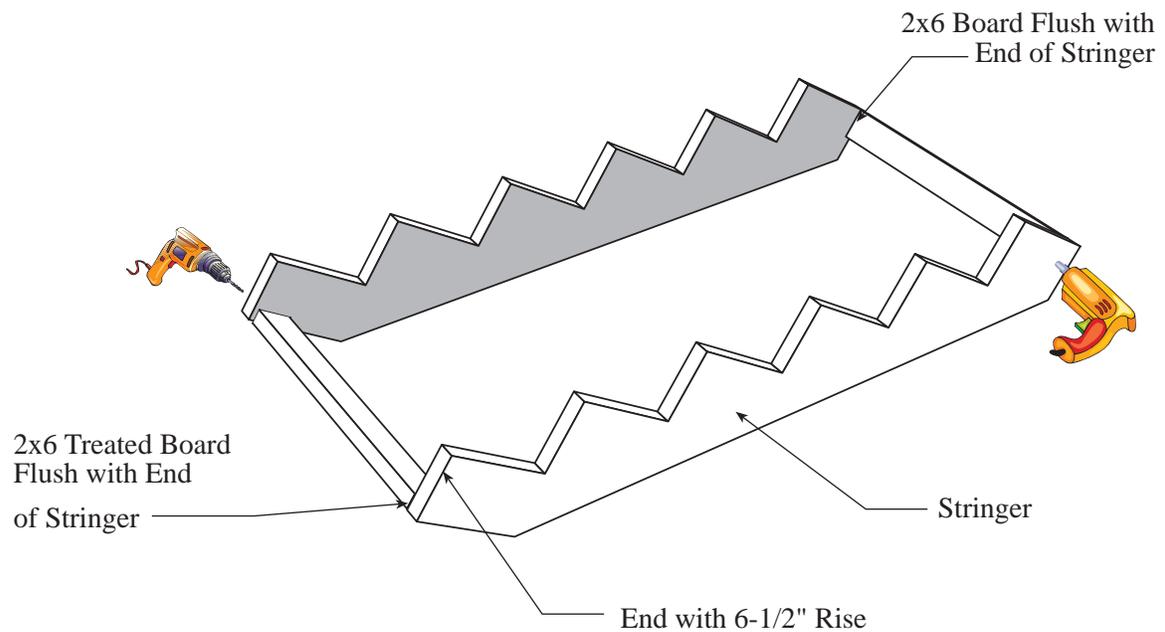
205 Arlington Drive

Greenville, PA 16125

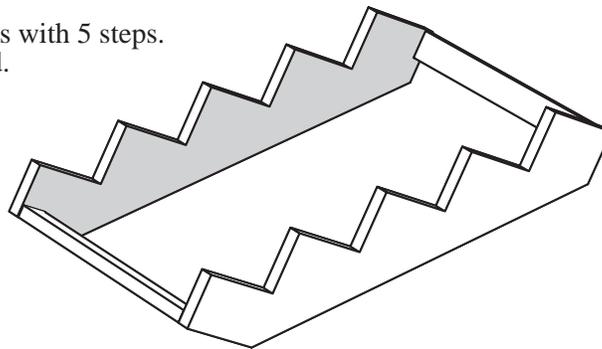
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## Step 1 Assemble Stairs

1. Locate the longer stair stringers with 6 steps. Place on the floor as shown below.
2. Locate (2) two 33" long 2x6 boards. One will be pressure treated. Install boards between the stair stringers as shown. Use the treated 2x6 for the bottom of stairs. Secure with (2) two 3" deck screws on each end of 2x6.

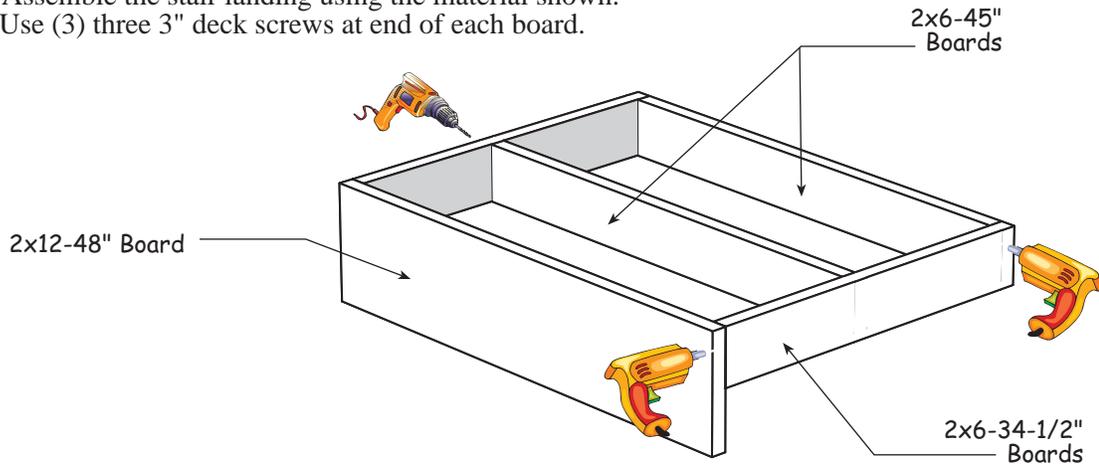


3. Repeat to assemble the upper stairs with 5 steps. The bottom 2x6 will not be treated.

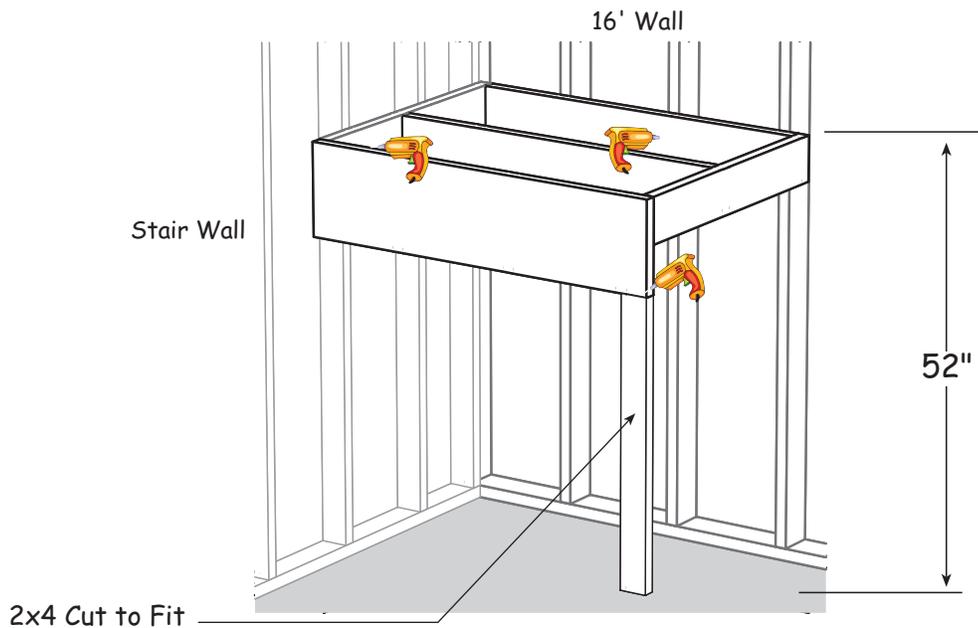


## Step 2 Assemble Stair Landing

1. Assemble the stair landing using the material shown.  
Use (3) three 3" deck screws at end of each board.



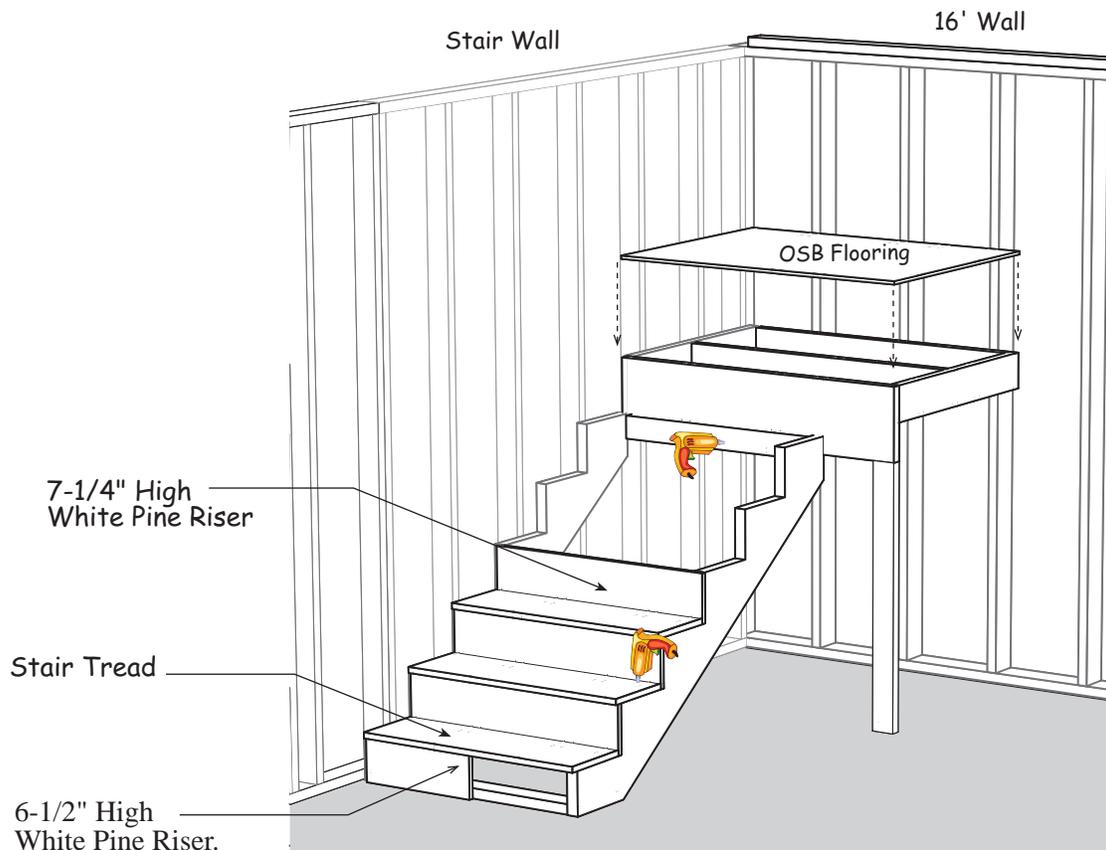
2. Select the corner you want to install the stairs. The 20', 24', 28', or 32' wall will be referenced as the "Stair Wall". Drawing shows back left corner.
3. Install the stair landing with the top set at 52" above floor. The 48" side should be against 16' wall. Check that landing is level. Use (2) two 3" deck screws to secure to each stud.
4. Cut a pre-cut 2x4 to fit and install as a brace under the 2x12 to support the front corner. Save cutoff for a later step. Use a 3" screw to secure.



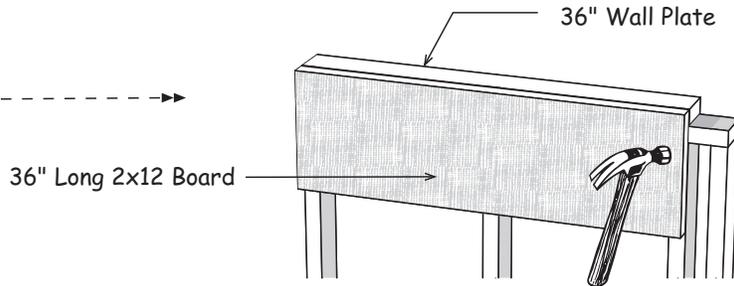
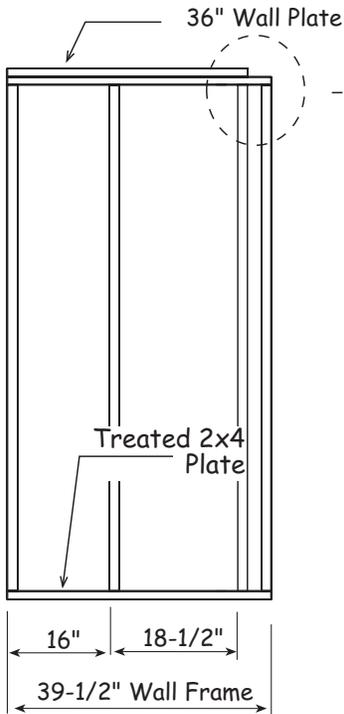
### Step 3 Install Lower Stairs

 If installing on a cement slab secure pressure treated 2x6 to floor with concrete anchor screws or bolts (not included). Use a moisture barrier (not included) under stringers.

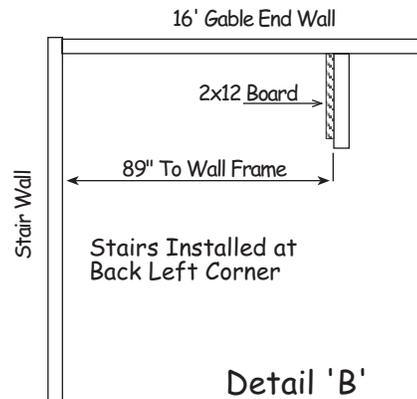
1. Secure 6 step stringer assembly to the landing and against wall studs with the pressure treated 2x6 on floor. Insure stairs are level. Use (2) two 3" deck screws per stud and (6) six 3" deck screws for landing.
2. Starting at the bottom, install a 6-1/2" x 36" riser so the top of the board is flush with first step. Nail to 2x6 board and stringers with 6d common nails.
3. Install (5) five 7-1/4" x 36" risers.
4. Glue bottom of tread to the stringers and risers. Pre-drill holes and secure to stringers with (3) three 2-1/2" screws on each end.
5. Cut a 36" x 48" from a piece of 23/32 OSB sub floor. Install on landing using 2-1/2" screws and glue.



## Step 4 Install Upper Stairs

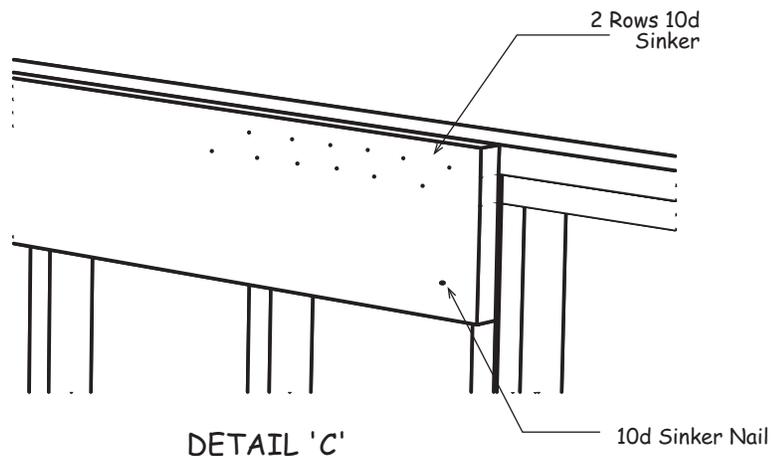


1. Cut cutoff from **step 2** to a length of 39-1/2" long board. Cut (1) one treated 2x4-8' to a length of 39-1/2". Save cutoff. Install (4) four pre-cut studs between plates. Use 10d sinkers for top and 16d galv. nails for bottom.
2. From a pre-cut stud cut a 36" long 2x4 tie plate and install to the top of the wall frame. Save cutoff. Use 10d sinkers.
3. Locate a 36" long 2x12 board, packed in our kit, and install this board to the top of the frame. Use 10d sinkers. *See detail above.*
4. Install the wall 89" from the long wall. Brace the wall frame using a pre-cut stud. Install wall frame with the 2x12 facing towards the stair opening. See Detail 'B'
5. Set 5 step stringer on top of landing. Screw the stair stringer to the wall studs and the 2x12 with 3" deck screws. Install risers and treads as done with the 6 step stringer.



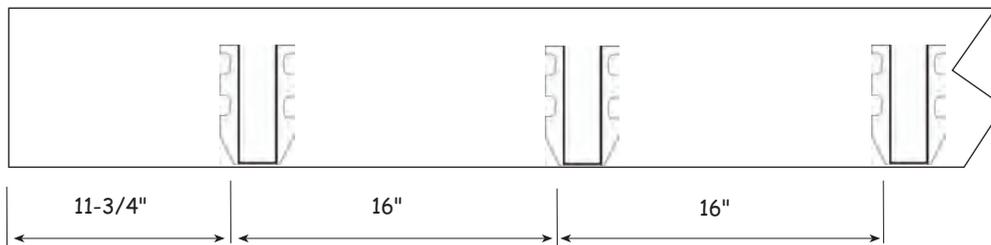
## Step 5 Install 2x10 Joist Headers

1. Refer to chart on next page. Cut from 2x10 boards the quantity and size required for the length of building you are assembling.
2. Install 2x10 boards as joist headers on the 20', 24', 28', or 32' long walls. No joist header will be installed over the stairs. Install each 2x10 flush with the top of the 2x4 tie plate. Secure with (2) two rows of 10d sinker nails spaced 3" apart across the top 2x4 plates. Nail the 2x10 to each wall stud with one 10d sinker. *See Detail 'C'*.



## Step 6 Layout loft Joist Spacing on the 2x10 Joist Header and install Joist Hangers

1. Install hangers on the header attached to the "Stair Wall". Measuring from the 16' wall, opposite the stairs, mark a line at 11-3/4". Then mark a line every 16" as shown below. Install the LU28 hanger flush with the bottom of the 2x10 and to the right of mark, so the top of the 2x10 floor joists will be flush with the top of the 2x10. Install hangers with 1-1/2" hanger nails.

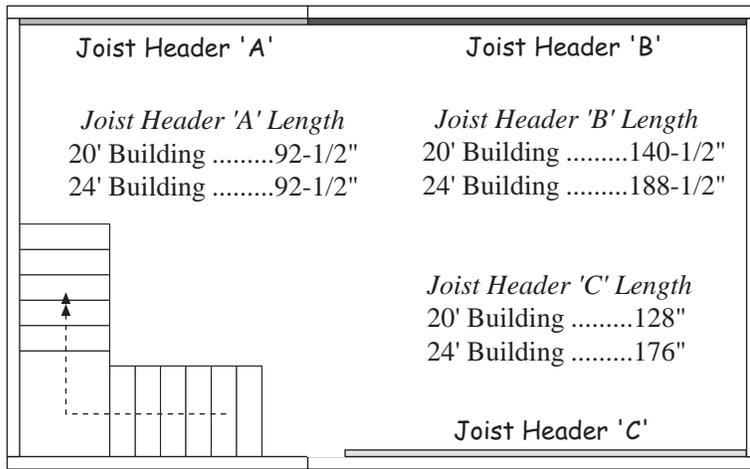


2. Measure and mark the hanger locations on the opposite wall. **IMPORTANT:** Place the hangers to the left of these marks. Floor joists should be parallel to the 16' wall.

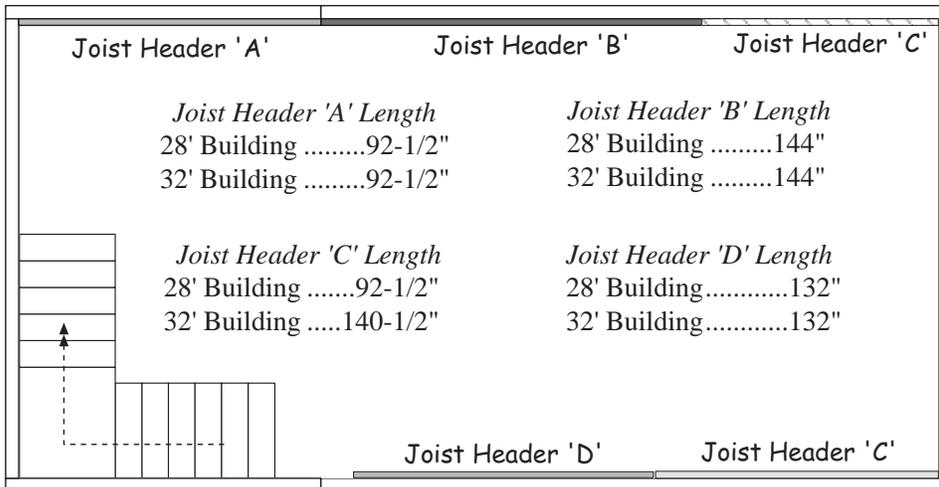
## 2x10 Joist Header Chart



Refer to the diagrams below to cut the 2x10 joist header to length. The diagram shows the stair located in the left corner. The stair can be moved to the opposite corner.



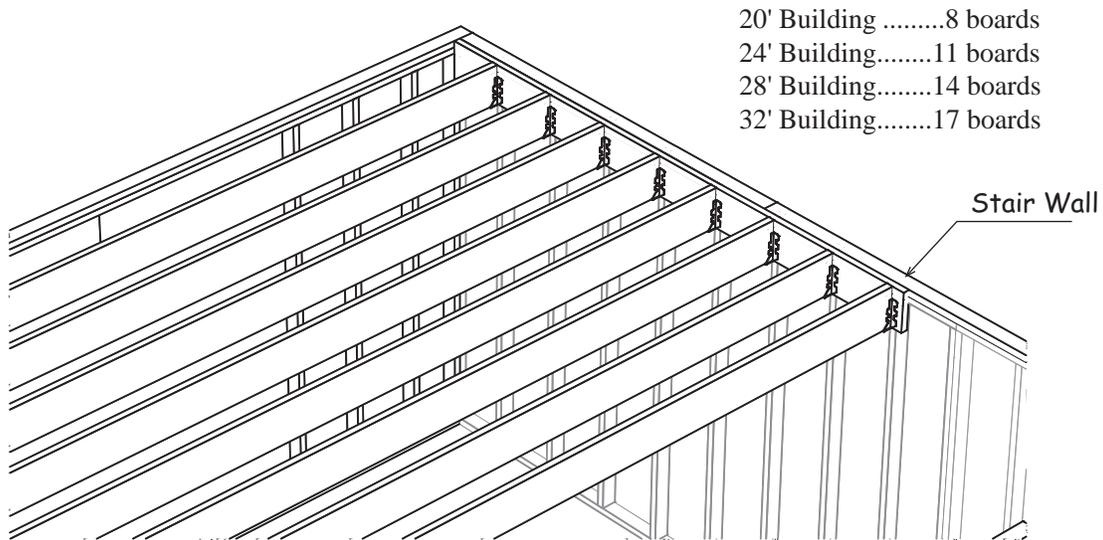
20' and 24' Building Lengths



28' and 32' Building Lengths

## Step 7 Install Floor Joists - Opposite End from Stairs

Cut 16' long 2x10 boards to a length of 182". Refer to list below for the correct quantity. Set boards in joist hangers and secure with 1-1/2" hanger nails.

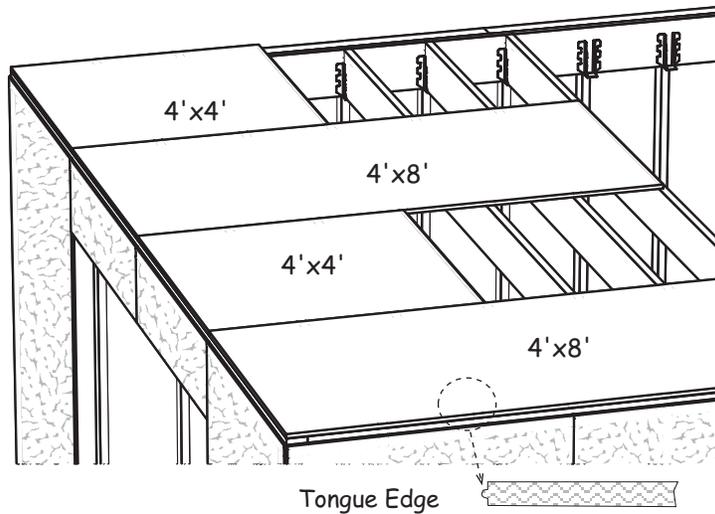


## Step 8 Install Loft Flooring

Install 3/4" T&G flooring with the 'Tongue' edge flush with the 2x4 tie plates on side walls. Stagger the seams in an alternating pattern (see below). Secure flooring with 8d galv. spiral deck nails spaced 6" apart.

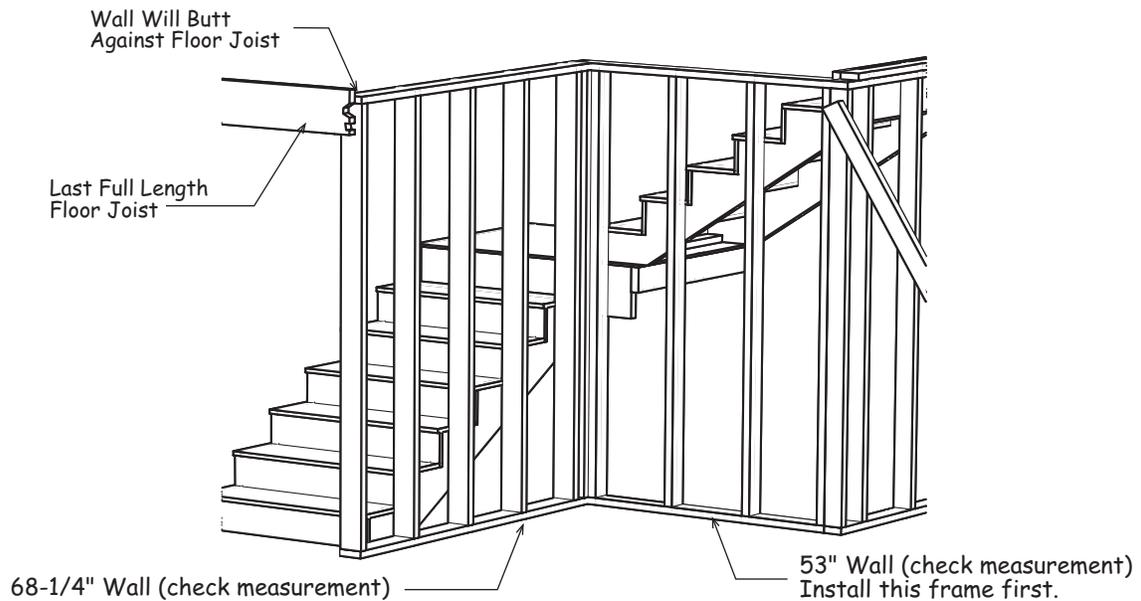
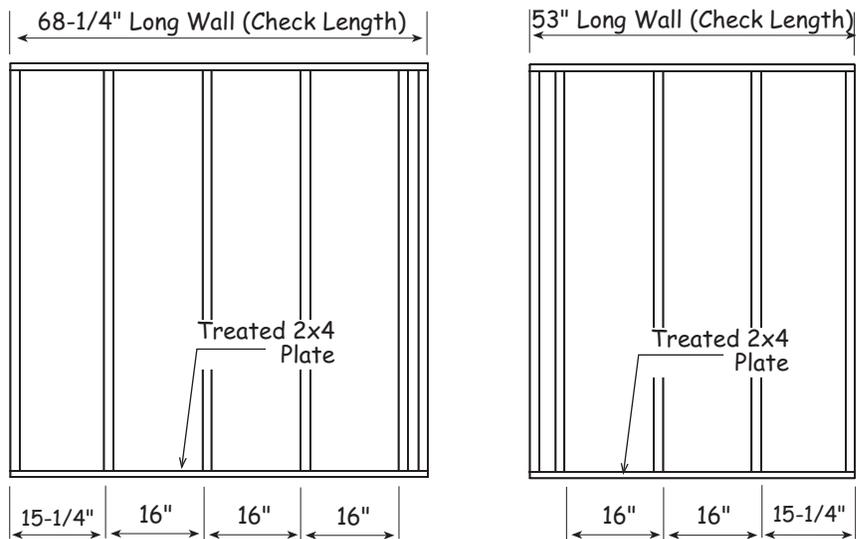


*Balance of flooring will be installed after stairs are installed.*



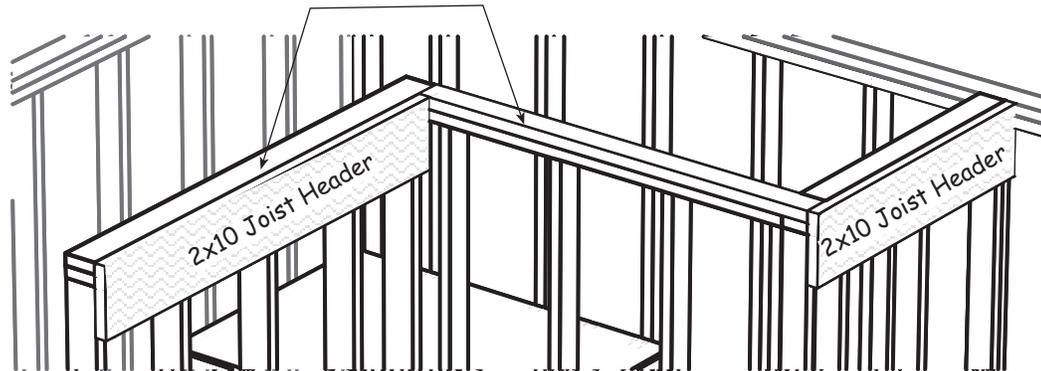
## Step 9 Assemble Stair Walls

1. Cut to 53" long the 2x4 cutoffs from **step 4** (one will be treated). **IMPORTANT:** Verify measurement from 39-1/2" wall to lower stair section and adjust length if necessary. Install wall against upper stair section. Use 3" deck screws to attach to stairs and 10d sinkers to 39-12" wall.
2. Cut a pre-cut stud and a treated 2x4-8' to 68-1/4" long. **IMPORTANT:** Verify measurement from 53" wall to 2x10 floor joist and adjust length if necessary. Install wall between 53" wall and floor joist. Use 10d sinkers.



## Step 10 Install Tie Plates & Joist Header

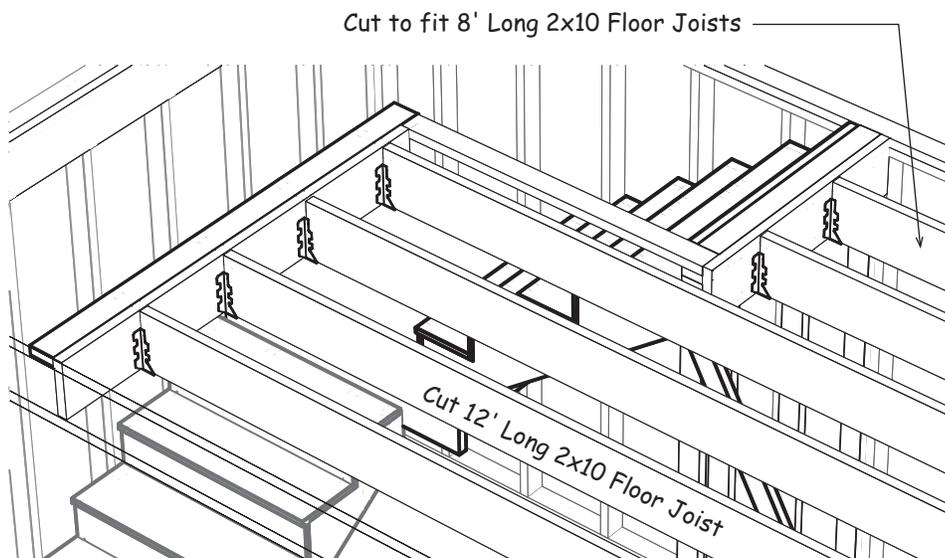
1. Select a pre-cut stud and remove 2x4 brace. Cut these boards to length and install as 2x4 tie plates over wall frames. Use 10d sinkers.



2. Cut, from a 12' long 2x10, to length and install as joist headers on the 68-1/4" and the 39-1/2" long wall frames, flush with the top of the tie plate. Use 10d sinkers as described previously.

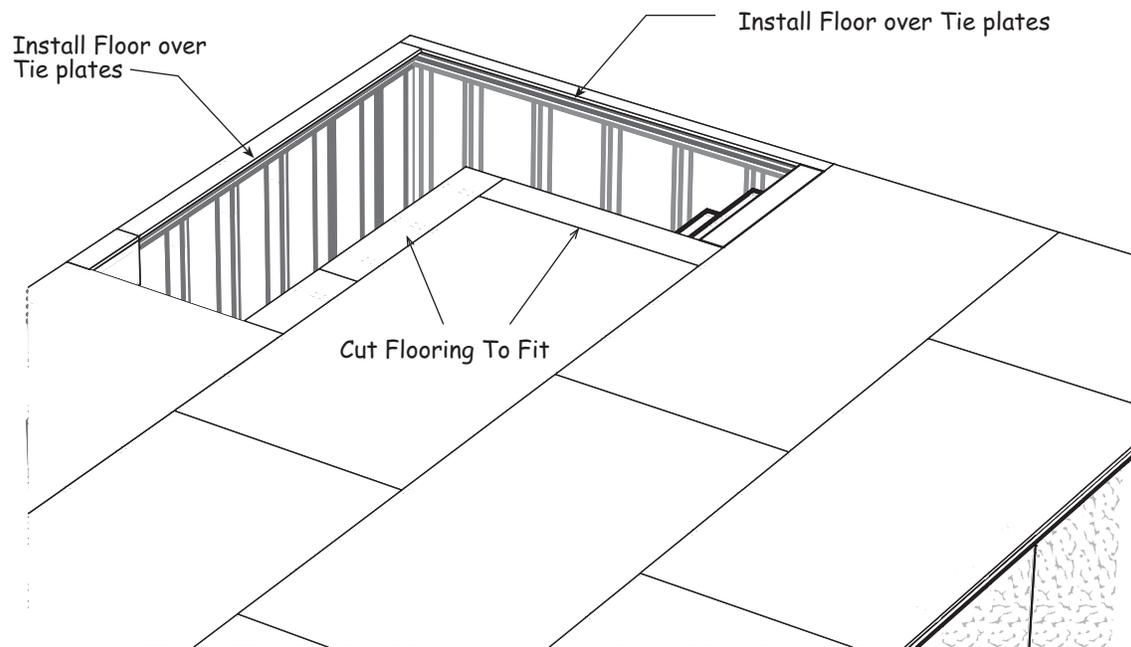
## Step 11 Install Balance of Floor Joist

1. Measure from 68-1/2" wall to opposite wall and cut (4) four 12' long 2x10s to this length. Install floor joists using LU28 hangers. Floor joists should measure 14-1/2" between joists.
2. Finish by measuring, cutting and installing (2) two 8' long 2x10s.



## Step 12 Install Balance of Loft Flooring

Install remaining 3/4" flooring. Install flooring flush with the outside edge of the 2x4 tie plates on the exterior walls around the stairwell. Secure flooring with 8d galv. nails.



Step 13 Return to Main Assembly Manual

## Packing List

<i>Qty.</i>	<i>Material Packed in Kit</i>		
2	2x12	-	6-Step Stair Stringer
2	2x12	-	5-Step Stair Stringer
9	1x8	36"	Stair Riser (7-1/4")
2	1x8	36"	Stair Riser (6-1/2")
1	2x6	33"	Treated
3	2x6	33"	Framing Lumber
2	2x6	34-1/2"	Framing Lumber
2	2x6	45"	Framing Lumber

<i>Qty.</i>	<i>Material Packed in Kit</i>		
1	2x12	36"	Framing Lumber
1	2x12	48"	Framing Lumber
11	-	36"	11-1/2" Stair Treads
50	ea.	2-1/2"	Wood Screws
75	ea.	3"	Deck Screws
1	ea.	2"	Star Screw Bit