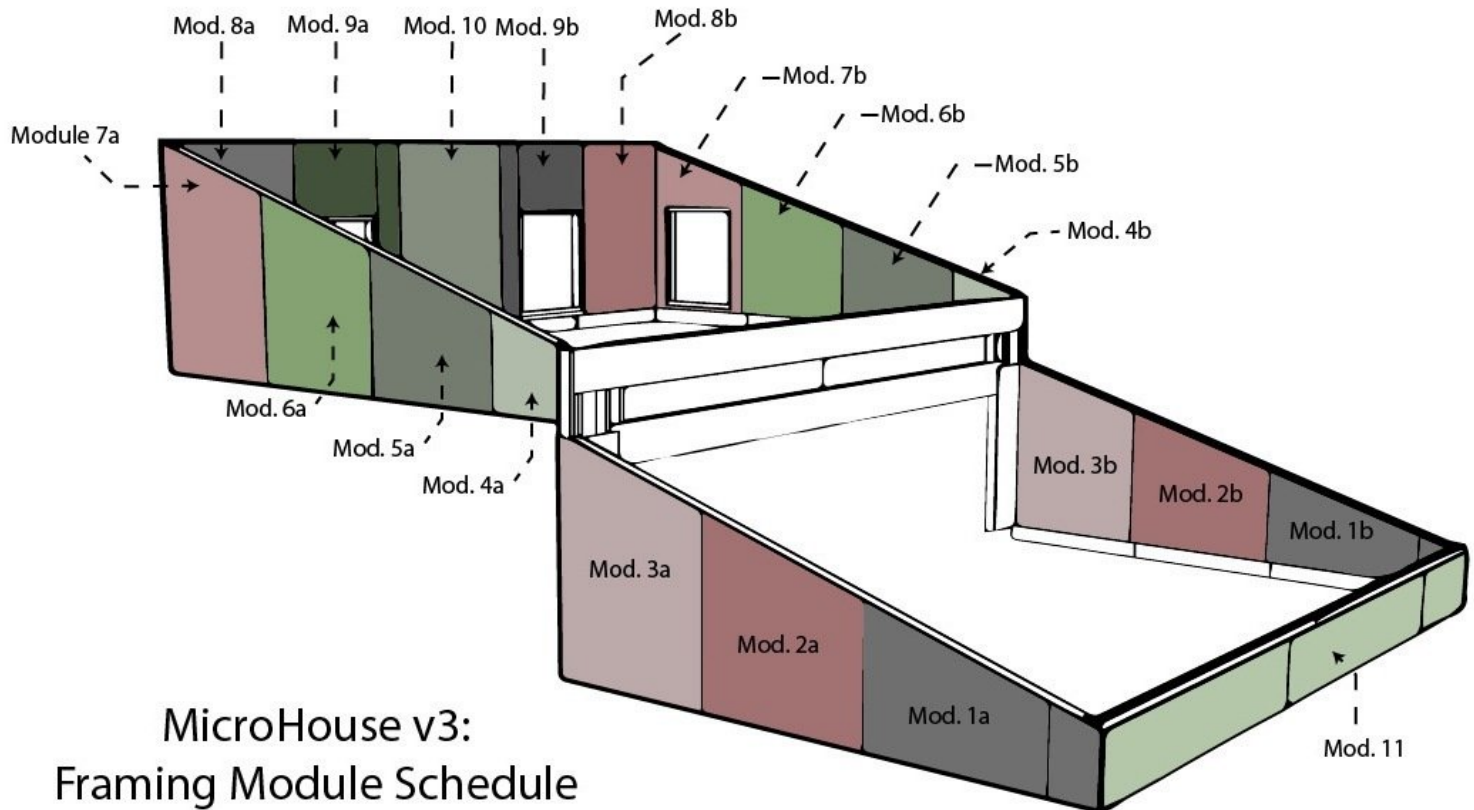




Module 9a & b

This guide will explain how to construct the 2x4 modules of the walls that sit atop the masonry and provide the 17 degree slope of the roof.

Written By: Eric Powell



MicroHouse v3:
Framing Module Schedule
Open Source Ecology
8/6/14

INTRODUCTION

We are going to break down the framing into 11 framing modules that will be assembled on the ground in parallel with other construction processes.

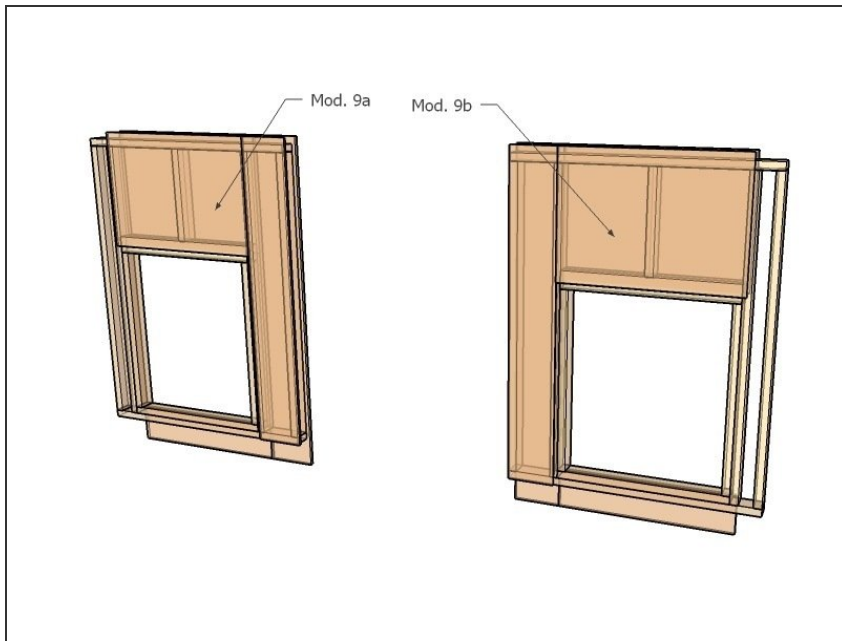
This is the how-to for the modules of the 2nd floor. Starting from the south, they are labeled 4-9 with an "a" and "b" distinction referencing their location on either west or east respectively.



TOOLS:

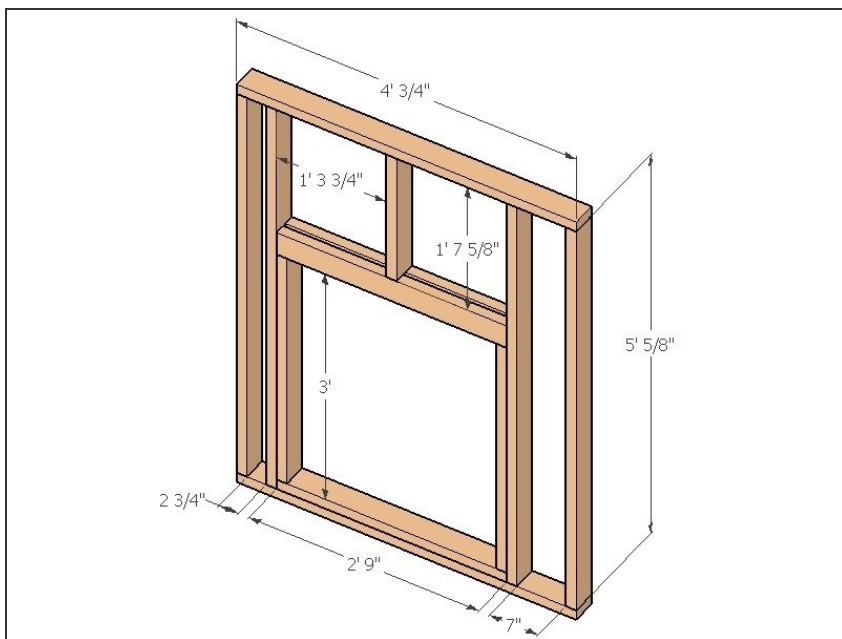
- [Circular Saw](#) (1)
 - [Table Saw](#) (1)
 - [Tape Measure](#) (1)
 - [Chalk Line](#) (1)
 - [carpenters pencil](#) (1)
 - [Cordless Drill / Driver](#) (1)
 - [Speed Square](#) (1)
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Step 1 — Module 9a & b



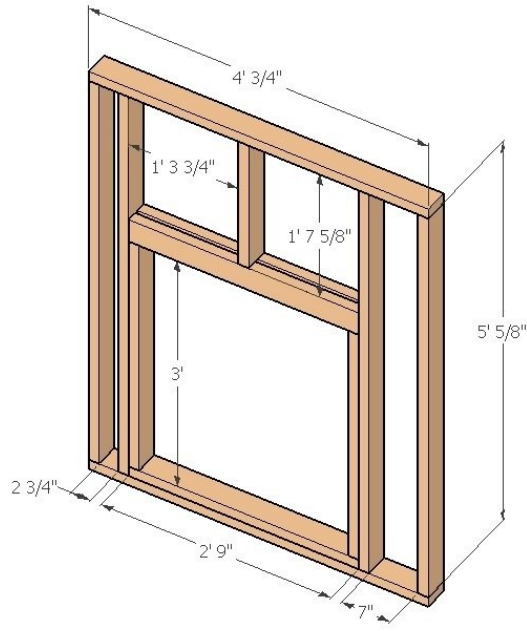
- **Gather materials for mod 9a&b**
(these are enough materials for **BOTH** walls)
- 8:2x4x8
- 2:2x4x10
- 2 sheets of 3/4"x4'x8' OSB for exterior sheathing
- 2 sheets of 1/2"x4'x8' plywood for interior sheathing
- ~buncha 3-1/8" construction screws
- ~buncha 1-5/8" coated deck screws

Step 2



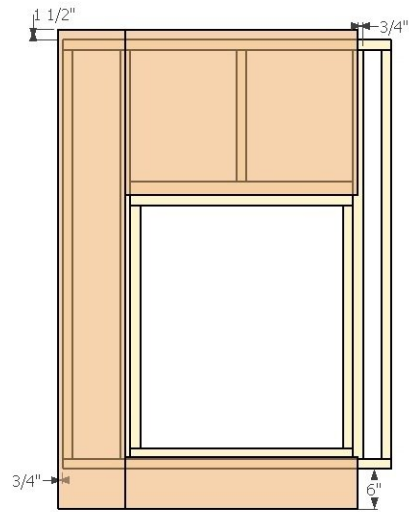
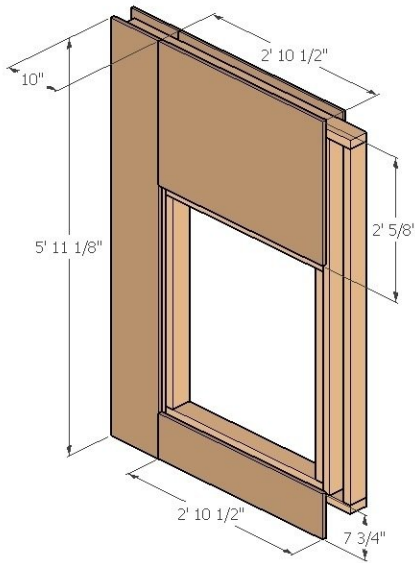
- **Cut Framing Members**
- 4: 2"x4"x5'5/8" (verticals)
- 2: 2"x4"x4'3/4" (horizontal top/bottom)
- 3: 2"x4"x2'9" (window frame top/bottom)
- 2: 2"x4"x3' (window frame sides)
- 1: 2"x4"x1'7-5/8" (blocking over window)
- 1: 2'8"x3.5"x1/2" plywood

Step 3



- **Assemble Framing**
- Place vertical studs (60-5/8") inside horizontal top and bottom plates (48-3/4")
- Sandwich plywood strip between two of the three 33" pieces and screw together (three screws across length is fine)
- Use sandwich to form top of window box, use 3' members to form sides and remaining 2'9" member for the base; screw together with 3-1/8" screws (toe-in screws at a diagonal into top plate from side members) - **IMPORTANT** Window hole must be at least 3'tall by 30" wide
- Screw one stud (60-5/8") to either side of window box; letting top of studs hang free off the top of the window box but making sure they are all aligned at the bottom
- Toe-in center vertical above window box
- Place top and bottom plate such that vertical studs at edges leave a gap of 7" to one side of window, and 2-3/4" on the other.

Step 4



- **Cut and attach Exterior Sheathing (OSB)**

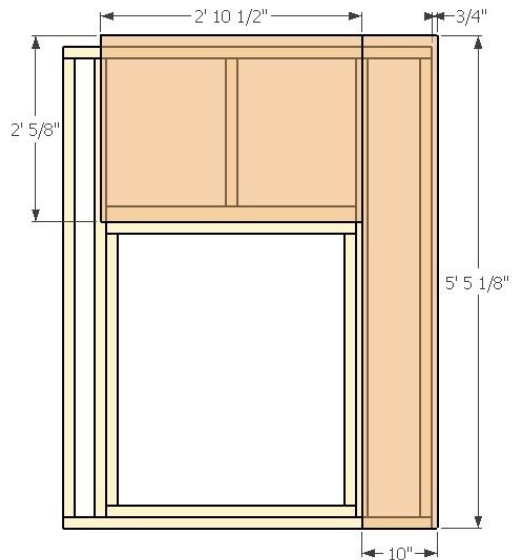
- 1: 34-1/2"x24-5/8"x3/4" OSB
- 1: 34-1/2"x7-3/4"x3/4" OSB
- 1: 71-1/8"x10"x3/4" OSB
- Place assembled frame on table/ground with narrow stud-gap on right and window on bottom
- Place tall strip over left stud-gap so that half the outer 2x4 of the window frame is exposed, and leave a 6" overhang along the bottom edge. This should leave a 1.5" overhang off the top and a 3/4" overhang off the left side. screw in at 16" spacing with 1-5/8" screws
- Place smaller strip along the bottom leaving a 6" overhang off the bottom and butting up against right edge of first osb strip; screw in at 16" spacing with 1-5/8" screws
- place remaining piece butted against right edge of first osb strip, and aligned with the top yielding a continuation of the 1.5" overhang at the top. the right edge should cover half the stud-face; screw in at 16" spacing with 1-5/8" screws

Step 5



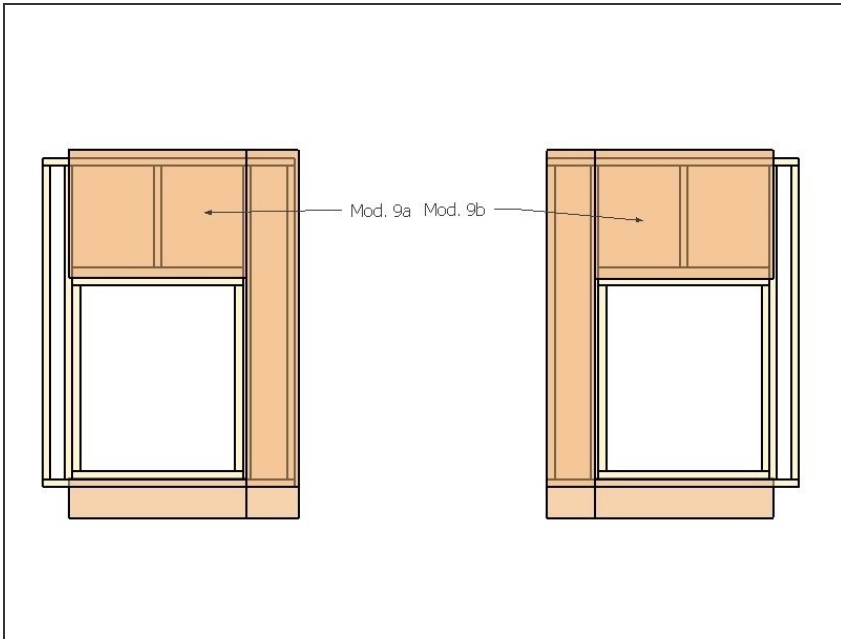
- Flip over the assembly and stuff bays with insulation cut to size. Place with paper-side up

Step 6



- **Cut and attach interior sheathing (plywood)**
- 1: 34-1/2"x24-5/8"x1/2" plywood
- 1: 65-1/8"x10"x1/2"plywood
- Place long strip flush against bottom and leaving a 3/4" overhang off the right edge; this should leave the left edge halfway across outermost stud of window frame
- place remaining piece butted up against left edge of tall strip (over the window) and aligned with the tall strip at the top.
- There should be a 1.5" overhang along the top
- Screw all in @ 16" spacing into all any spanned stud and along perimeter

Step 7



- **Module 9b is basically the same thing**
- Build the framing exactly the same and cut the sheathing identically, but attach to opposite sides.
- So essentially, after the framing is built and before the exterior sheathing (osb) goes on, place the assembled frame on the table/ground with the narrow stud-gap on the left instead of right and the window on the bottom.
- Attach sheathing as in step 4 and continue following all directions.