

Automatically Building a One and a Half Story Roof

Reference Number: **KB-00358**

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The information in this article applies to:



QUESTION

I want to create a Cape Cod style house, sometimes called a story and a half or an attic loft. How can I create this in Home Designer?



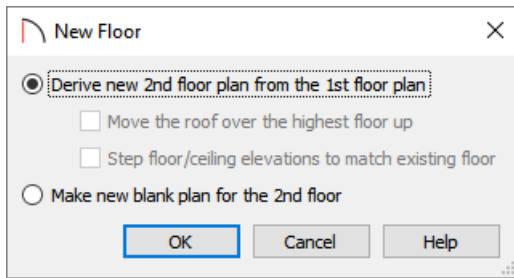
ANSWER



There are two ways to create a Cape Cod style house; with the roof sitting directly on top of the 1st story walls or with the roof sitting on knee walls a set distance above the second story floor.

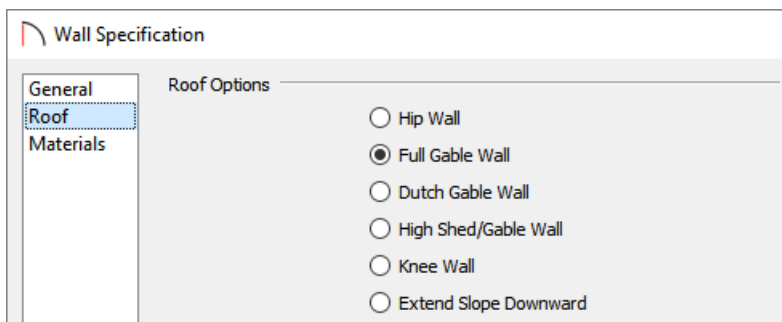
For the purposes of this example, both techniques start with a 30' x 40' building.

To build a second floor with gable walls

1. From the menu select **Build> Floor> Build New Floor** .



2. In the **New Floor** dialog, choose the option to **Derive new 2nd Floor plan from the 1st Floor plan**, and click **OK**.
3. The **2nd Floor Defaults** dialog will display. Click **OK** in this dialog without making any additional changes at this time.
4. On the newly created Floor 2, use the **Select Objects**  tool to click on the left wall of your rectangular structure, then click on the **Open Object**  edit button.
5. On the **Roof** panel of the **Wall Specification** dialog, select the **Full Gable Wall** option, then click **OK** to close the dialog and apply your change.



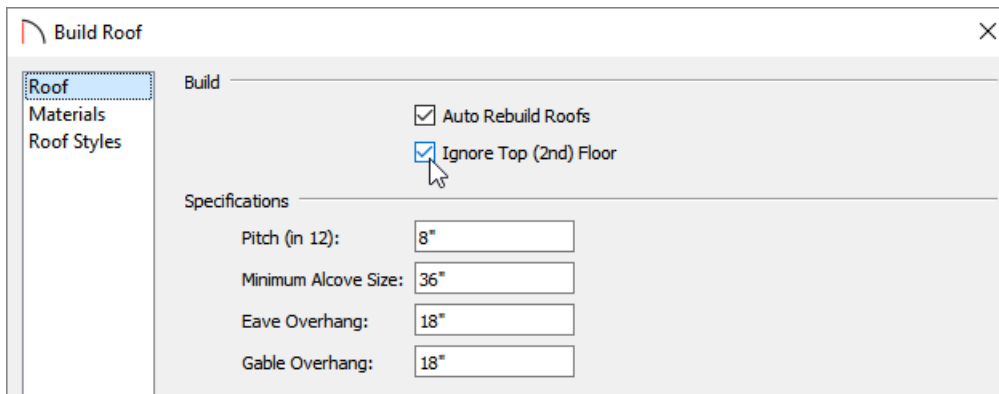
6. Repeat this process for the right wall on your second floor as well.

If the design calls for the roof to be built directly off of the 1st floor walls but retain a usable attic space, you will need to generate roof planes that ignore the top floor. If this is the case, you will need to repeat steps 4 through 6 on the first floor walls.

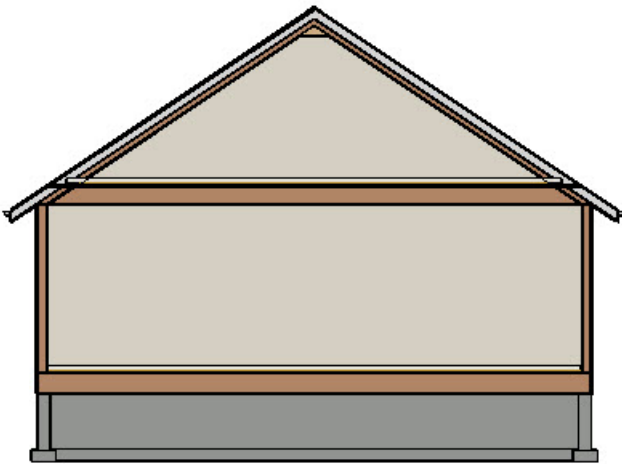
To build a roof ignoring the top floor

1. From the menu click **Build> Roof> Build Roof** .

2. On the **Roof** panel of the **Build Roof** dialog, check **Ignore Top Floor**, then click **OK**.





Note: In Home Designer Pro, this setting is located near the center of the dialog rather than towards the top.



If the plan design calls for a roof structure that is built up to a specific height on knee walls, you will need to adjust the height of the second floor walls, then rebuild the roof.

To adjust the second floor to accommodate knee walls





1. Using the **Select Objects**  tool, click inside of the second floor room to select it, then click the **Open Object**  edit button.
2. On the **STRUCTURE** panel of the **Room Specification** dialog, set the **Finished Ceiling** height to that which you want the exterior walls to be, then click **OK**.

For the purposes of this example, this is set to 24".






Room Specification

General
Structure
Moldings
Fill Style
Materials


Absolute Elevations

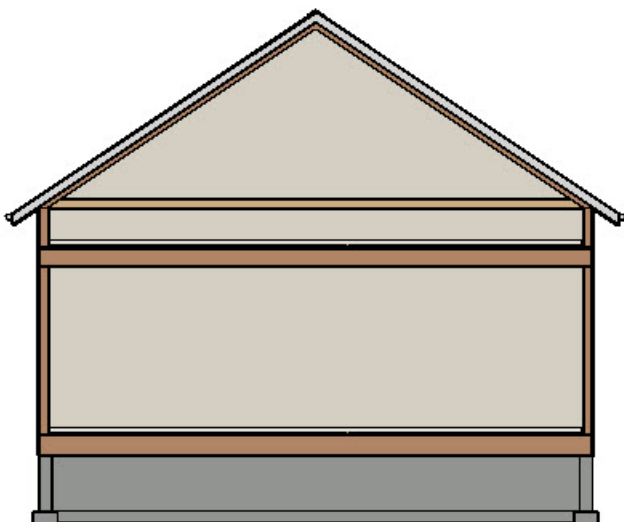
Floor Above: 152 3/4" 
Ceiling: 147 1/4" 
Floor: 121 3/4" 
Floor Below: 0" 

Relative Heights

Rough Ceiling: 25 1/2" 
Finished Ceiling: 24" 
SWT To Ceiling: 25 1/2" 
Ceiling Below: 109 1/8" 
Stem Wall: 37 1/2" 
SWT = Stem Wall Top



The appearance of the dialogs may vary depending on what version of Home Designer you're using.

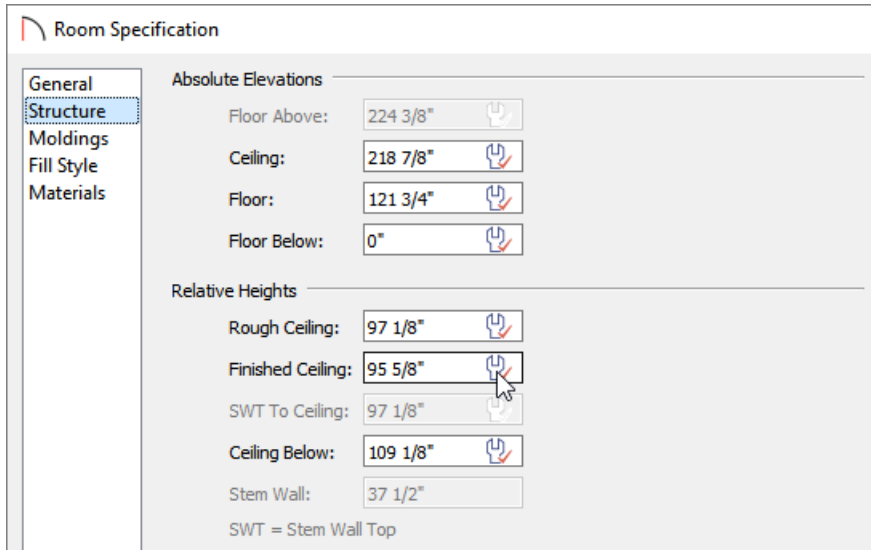
3. Select **Build> Roof> Build Roof**  from the menu to display the **Build Roof** dialog:
 - Uncheck **Auto Rebuild Roofs** so that the program will not automatically rebuild the roof if you make future changes that affect the roof, such as to exterior wall positions or ceiling heights.
 - Specify the **Pitch (in12)**.
 - If you are using Home Designer Pro, check the box by **Build Roof Planes**.
 - Verify that the **Ignore Top Floor** option is not checked.
4. Click **OK** to confirm the changes and notice that the newly regenerated roof accommodates the 24" high knee walls on the second floor.



Now that we have created our roof at the correct height for our story and a half structure, we are ready to set the Finished Ceiling height back to its default value.

Resetting the finished ceiling height

1. Use the **Select Objects**  tool to click inside of the second floor room once again, then click the **Open Object**  edit tool to again display the **Room Specification** dialog.
2. On the **STRUCTURE** panel, click the wrench icon in the **Finished Ceiling** field to change this back to the default value.



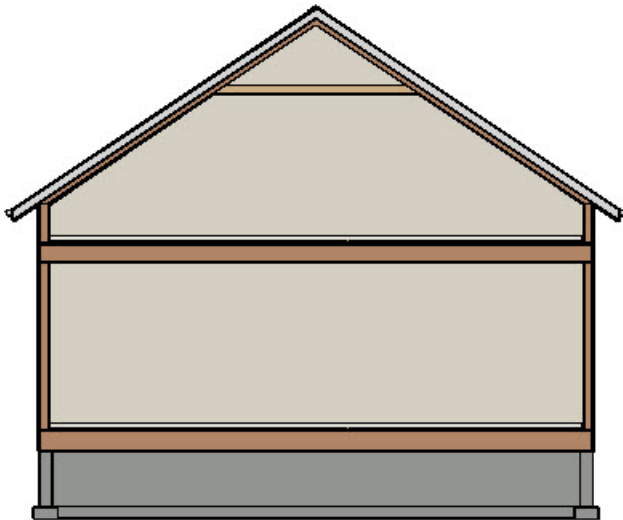
The image shows the 'Room Specification' dialog box with the 'Structure' panel selected. It contains two sections: 'Absolute Elevations' and 'Relative Heights'. The 'Finished Ceiling' field in the 'Relative Heights' section is highlighted, and a wrench icon is visible next to it, indicating it can be reset to its default value.

Absolute Elevations	
Floor Above:	224 3/8"
Ceiling:	218 7/8"
Floor:	121 3/4"
Floor Below:	0"

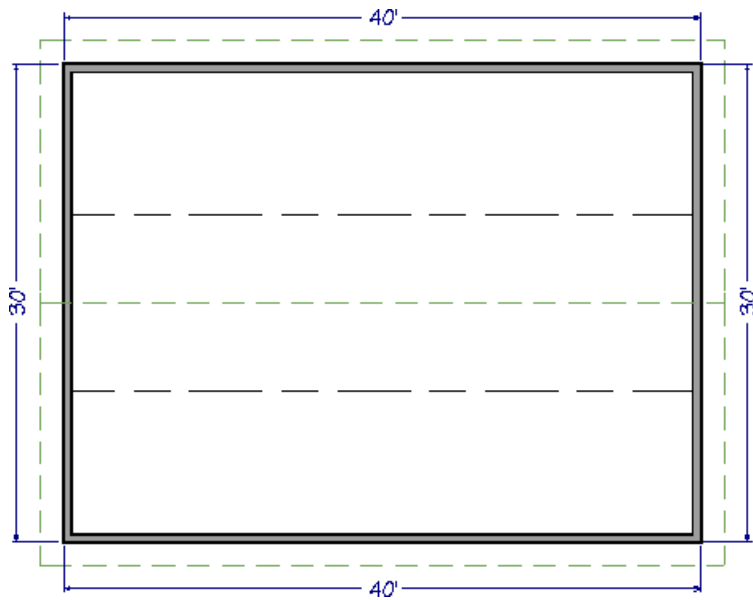
Relative Heights	
Rough Ceiling:	97 1/8"
Finished Ceiling:	95 5/8"
SWT To Ceiling:	97 1/8"
Ceiling Below:	109 1/8"
Stem Wall:	37 1/2"

SWT = Stem Wall Top

3. Click **OK** to close the dialog and apply the change.



Dotted lines display on the plan indicating where the ceiling planes intersect the roof.



4. You are now ready to furnish the area, or take the information that you have learned in this article and apply it to your own design.

Related Articles

[🏠 Using Open Below Rooms to Define an Opening to a Lower Floor \(/support/article/KB-00210/using-open-below-rooms-to-define-an-opening-to-a-lower-floor.html\)](/support/article/KB-00210/using-open-below-rooms-to-define-an-opening-to-a-lower-floor.html)