

Automatically Building the Basic Roof Styles

Reference Number: **KB-00359**

Last Modified: **July 20, 2021**

The information in this article applies to:



QUESTION

How do I use the automatic roof tools to create some of the basic roof styles?

ANSWER

Automatically creating the basic roof styles in Home Designer can be easy using the Roof panel located in the Wall Specification dialog. The Pitch value set in the Build Roof dialog only sets the default pitch for all roof planes in a plan. The pitch, along with the roof style can be overwritten on a per-wall basis by accessing the Roof panel that wall's specification dialog.

For this tutorial we will begin by creating a basic 40' x 30' enclosed rectangular structure as shown in the image

below.

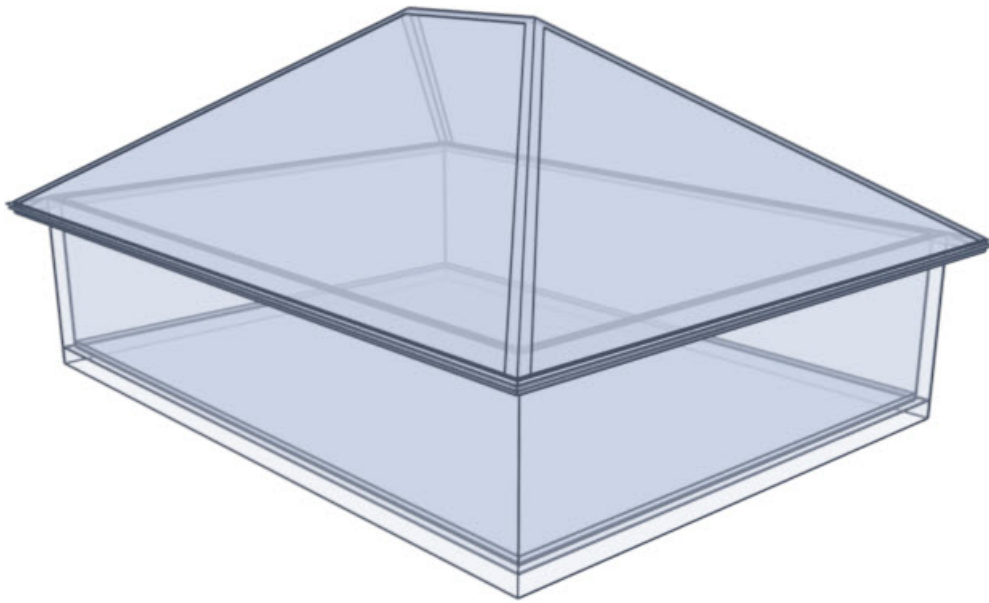


In this article, we will show you how to create the following roof styles automatically:


- [Hip](#)
- [Gable](#)
- [Offset Gable](#)
- [Dutch Gable](#)
- [Shed](#)
- [Gambrel](#)
- [Gullwing](#)
- [Half-Hip](#)
- [Mansard](#)

HIP ROOF

A [hip roof](#) has a roof plane built over every exterior wall in the plan that does not have another wall drawn above it, as shown in the image below.

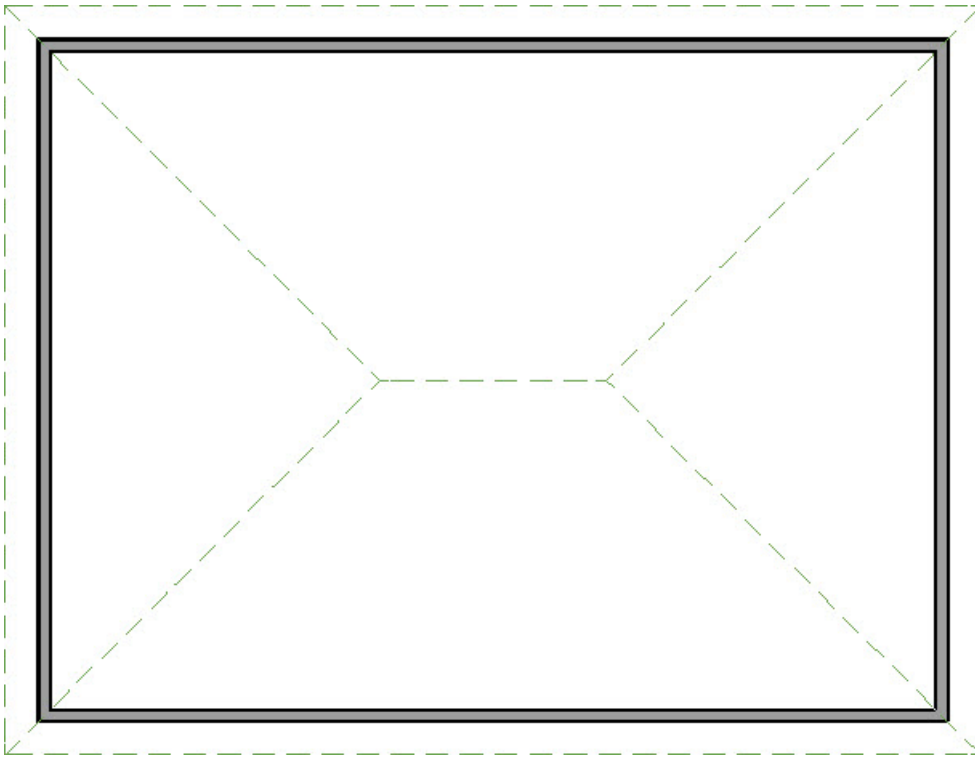


To create a hip roof

1. By default, a Hip Roof will be automatically created on our 40' x 30' structure without making any changes.
2. Select **Build> Roof> Build Roof**  from the menu.
3. On the **Roof** panel of the **Build Roof** dialog, the default **Pitch (in 12)** of the entire roof, its **Minimum Alcove Size** setting, and the **Roof Overhang** values can all be set.

Note: If you're using Home Designer Pro, place a check in the "Build Roof Planes" box and click OK. Whenever you want to regenerate the roof planes after making changes to roof directives, it's necessary to place a check in this setting unless you have the Auto Rebuild Roofs setting turned on.

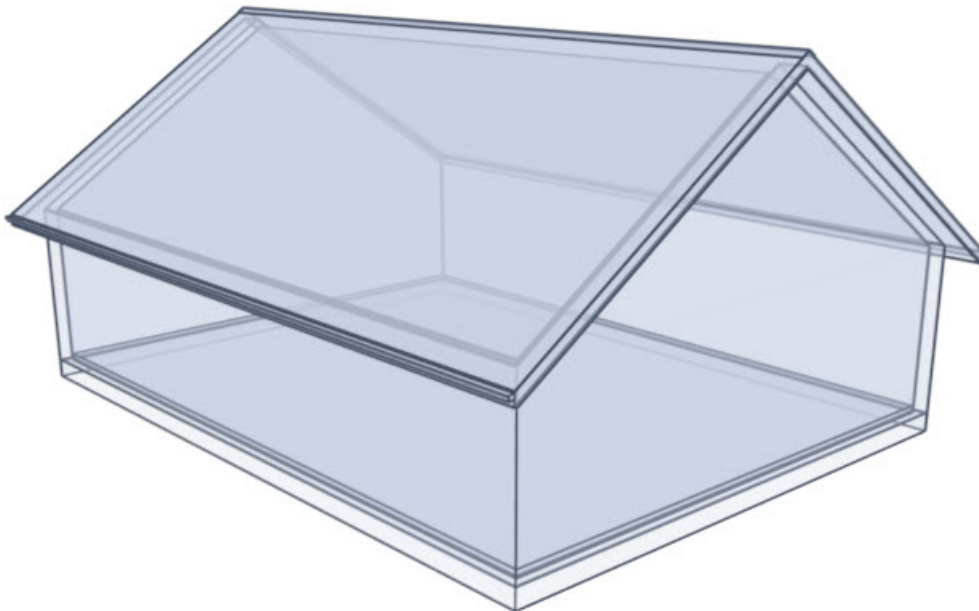
4. Go to the **MATERIALS** panel to change the default Roof material, as well set the material for that of other roof aspects, such as the Gutter.
5. Click **OK** to apply any changes made in this dialog to rebuild the roof with the new settings.



The floor plan view of a standard hip roof will look like the image above.



GABLE ROOF

If a wall does not have a roof plane bearing on it, then it's a gable wall.

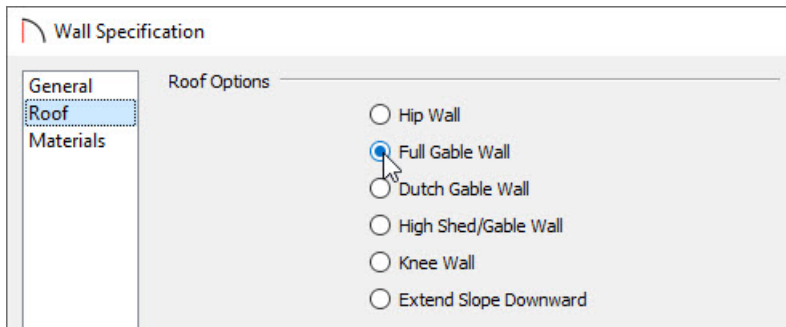



To create a gable roof

To create a basic gable style roof, we need to tell the program to not build a hip roof plane over the two 30' walls in our plan

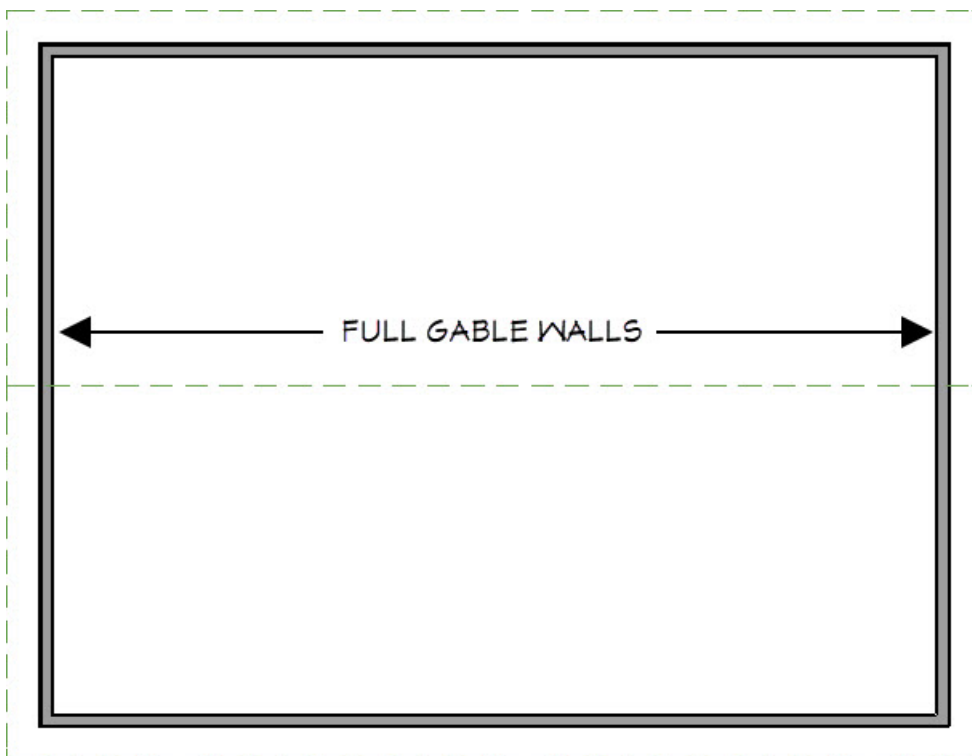
1. Use the **Select Objects**  tool to select the left 30' wall, then click on the **Open Object**  edit tool.

2. On the **Roof** panel of the **Wall Specification** dialog that displays, select the **Full Gable Wall** option, then click **OK**.



3. Follow the same steps for the right 30' wall.
4. If you have **Auto Rebuild Roofs** enabled in the **Build Roof** dialog, then your plan will update automatically, otherwise select **Build> Roof> Build Roof**  to display the **Build Roof** dialog, then click **OK** to rebuild the roof.

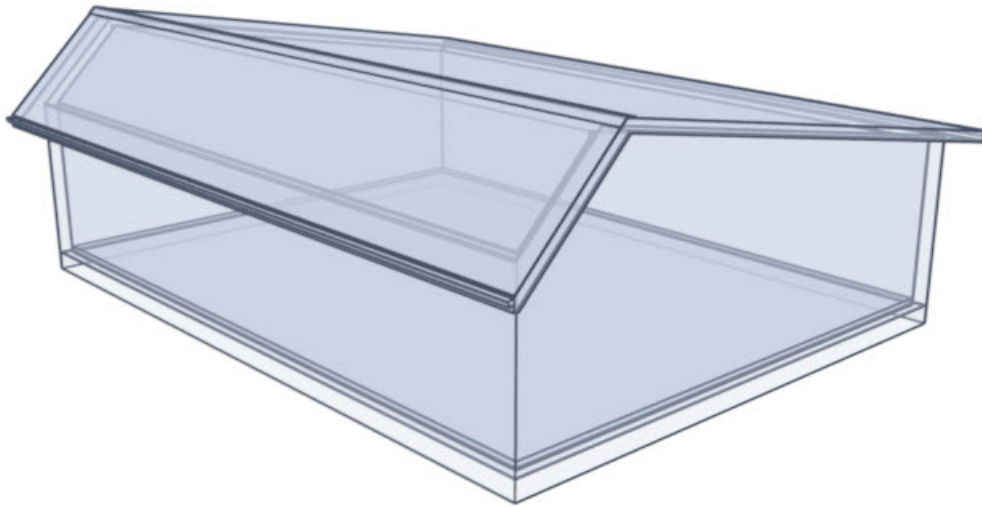
Note: If you're using Home Designer Pro, place a check in the "Build Roof Planes" box and click OK. Whenever you want to regenerate the roof planes after making changes to roof directives, it's necessary to place a check in this setting unless you have the Auto Rebuild Roofs setting turned on.



The floor plan view of a standard gable roof will look like the image above. We have indicated the two walls that should be defined as Full Gable Walls to create this roof style.



OFFSET GABLE ROOF

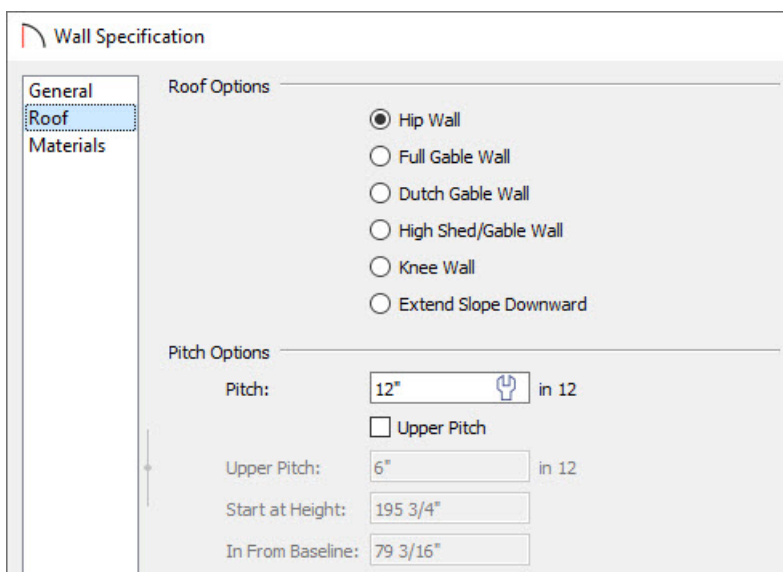
An offset gable roof is a type of gable roof with different pitches on each of the two roof planes and a ridge that is offset from the building's center line.




To create an offset gable roof


This roof style can be created by assigning a different pitch to the two roof planes adj

1. Specify both the left and right walls to be **Full Gable Walls**.
2. Use the **Select Objects**  tool to select the bottom 40' wall, then click on the **Open Object**  edit tool.
3. On the **Roof** panel of the **Wall Specification** dialog that displays, change the **Pitch** value to larger than the rest of the roof, such as **12"**, then click **OK**.

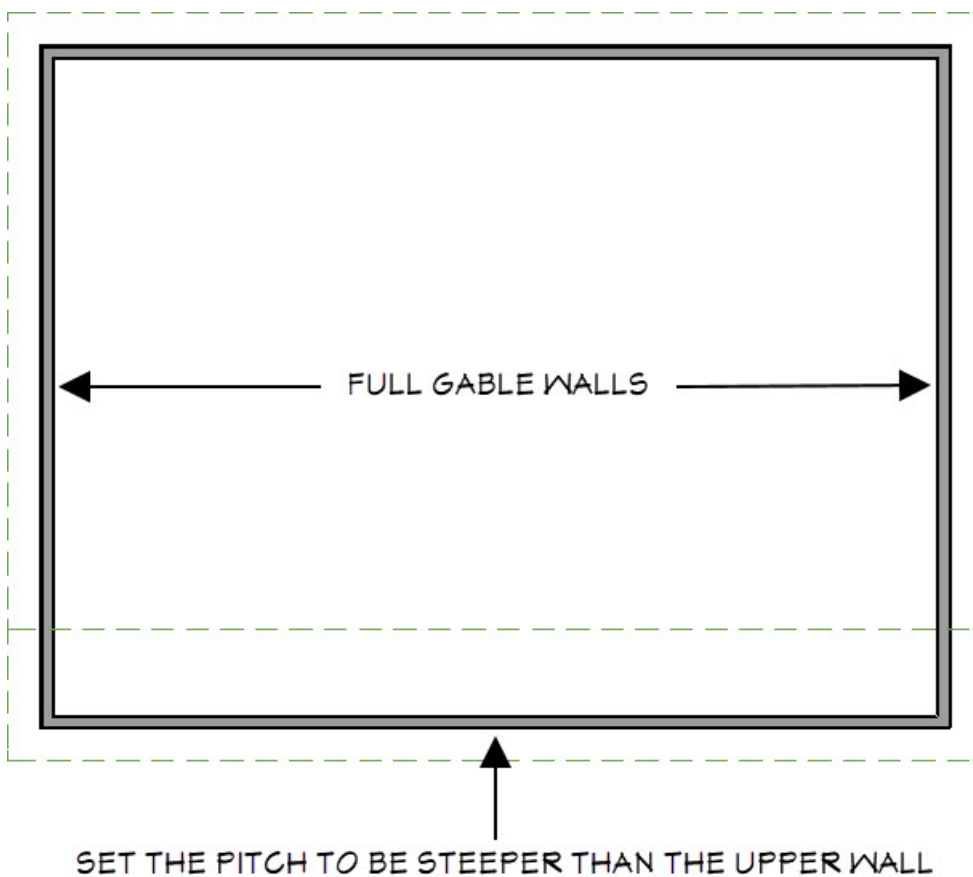


4. **Open**  the upper 40' wall, and on the **Roof** panel, change the **Pitch** to be a lower value, such as **2"**, then

click **OK**.

5. If you have **Auto Rebuild Roofs** enabled in the **Build Roof** dialog, then your plan will update automatically, otherwise select **Build> Roof> Build Roof**  to display the **Build Roof** dialog, then click **OK** to rebuild the roof.

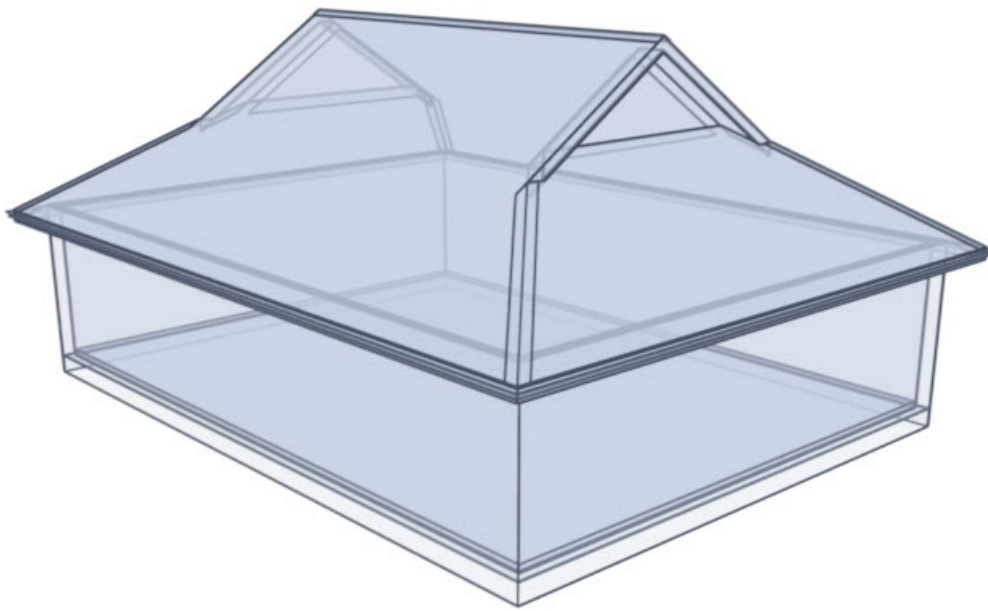
Note: If you're using Home Designer Pro, place a check in the "Build Roof Planes" box and click OK. Whenever you want to regenerate the roof planes after making changes to roof directives, it's necessary to place a check in this setting unless you have the Auto Rebuild Roofs setting turned on.





The floor plan view of an offset gable roof will look like the image above. We have specified the lower horizontal wall to have a steeper pitch than the upper horizontal wall.

DUTCH GABLE ROOF

A dutch gable, sometimes called a dutch-hip, is a combination of hip and gable roof styles in which a gable is located at the end of the ridge, at the top of a hip roof plane.



To create a dutch gable roof

1. Use the **Select Objects**  tool to select the left 30' wall, then click on the **Open Object**  edit tool.
2. On the **Roof** panel of the **Wall Specification** dialog that displays:

Wall Specification

General
Roof
Materials

Roof Options

☐ Hip Wall
☐ Full Gable Wall
☒ Dutch Gable Wall
☐ High Shed/Gable Wall
☐ Knee Wall
☐ Extend Slope Downward

Pitch Options


Pitch: 8" in 12
☒ Upper Pitch
 Upper Pitch: Vertical in 12
 Start at Height: 180 9/16"
 In From Baseline: 96"

- Select the **Dutch Gable Wall** option.
- Set either the **Start at Height** or **In From Baseline** value.

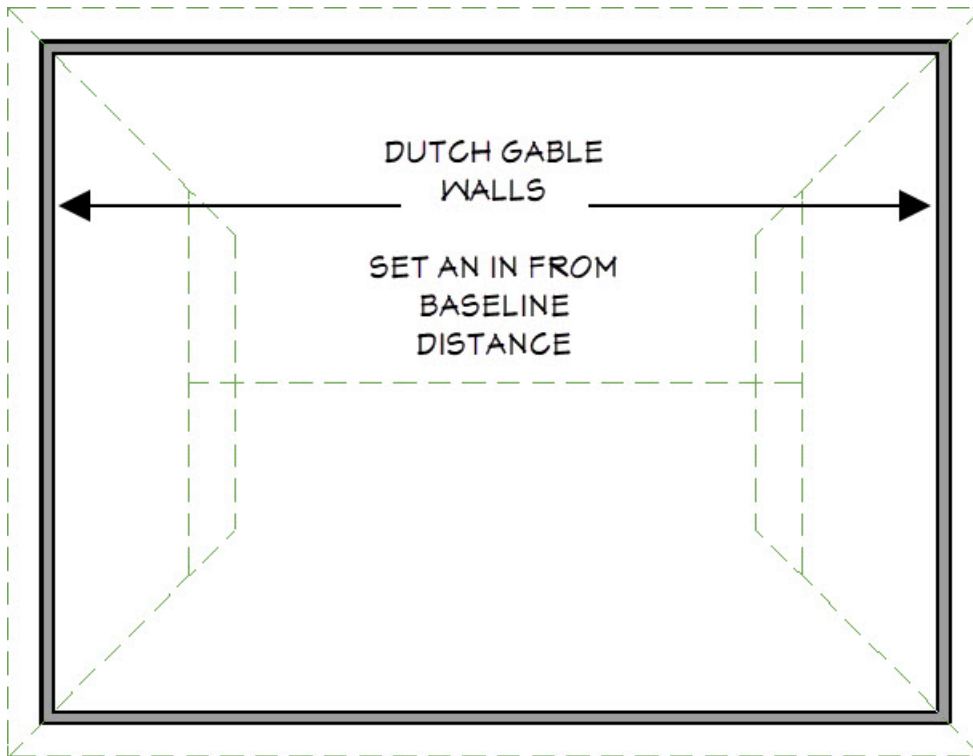
In this example, we specified an **In From Baseline** value of **96"**.

- Click **OK** to apply these changes and close the dialog.

3. Follow the same steps for the right 30' wall.

4. If you have **Auto Rebuild Roofs** enabled in the **Build Roof** dialog, then your plan will update automatically, otherwise select **Build> Roof> Build Roof**  to display the **Build Roof** dialog, then click **OK** to rebuild the roof.

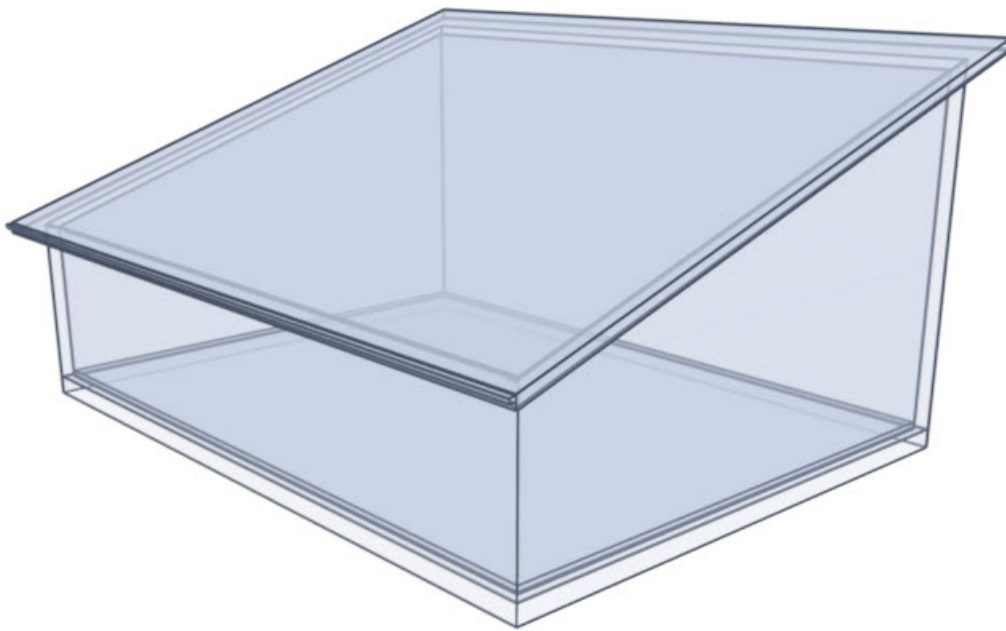
Note: If you're using Home Designer Pro, place a check in the "Build Roof Planes" box and click OK. Whenever you want to regenerate the roof planes after making changes to roof directives, it's necessary to place a check in this setting unless you have the Auto Rebuild Roofs setting turned on.



The floor plan view of a dutch gable roof will look like the image above. We have specified the left and right vertical walls to be Dutch Gable Walls and have set the In From Baseline distance to be 96.



SHED ROOF

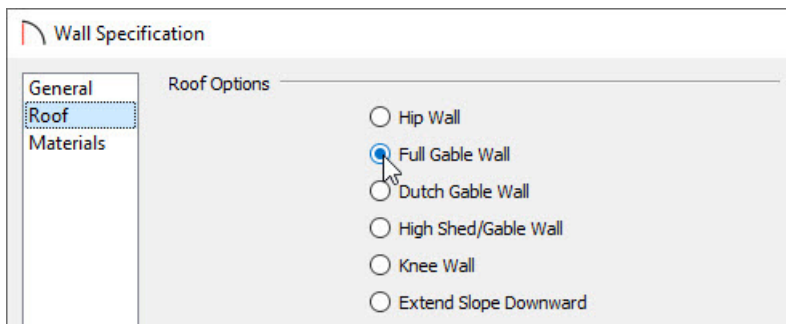
A Shed Roof is a single, sloping roof plane.





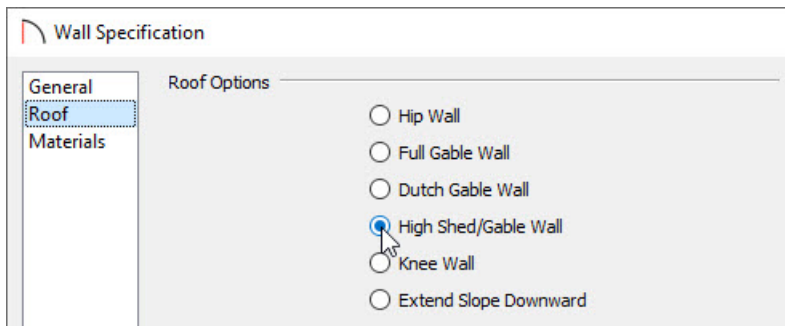
To create a shed roof


First, we need to tell the program to not build a hip roof plane over the two 30' walls in our plan, set one wall to be a High Shed/Gable wall, and we will also lower the Pitch on the roof so it's not so steep.

1. Use the **Select Objects**  tool to select the left 30' wall to select it, then click on the **Open Object**  edit tool.
2. On the Roof panel of the **Wall Specification** dialog that displays, select the **Full Gable Wall** option, then click **OK**.

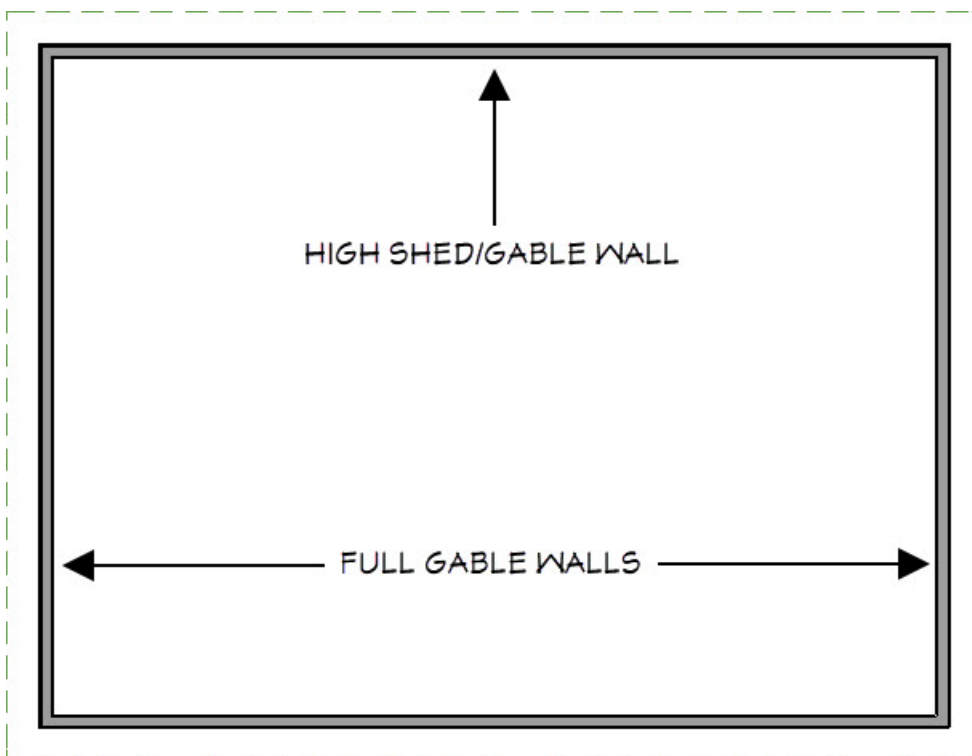


3. Follow the same steps for the right 30' wall.
4. Use the **Select Objects**  tool to select the upper 40' horizontal wall and click on the **Open Object**  edit tool.
5. On the Roof panel, select the **High Shed/Gable Wall** option, then click **OK**.



6. If you have **Auto Rebuild Roofs** enabled in the **Build Roof** dialog, then your plan will update automatically, otherwise select **Build> Roof> Build Roof**  to display the **Build Roof** dialog, then click **OK** to rebuild the roof.

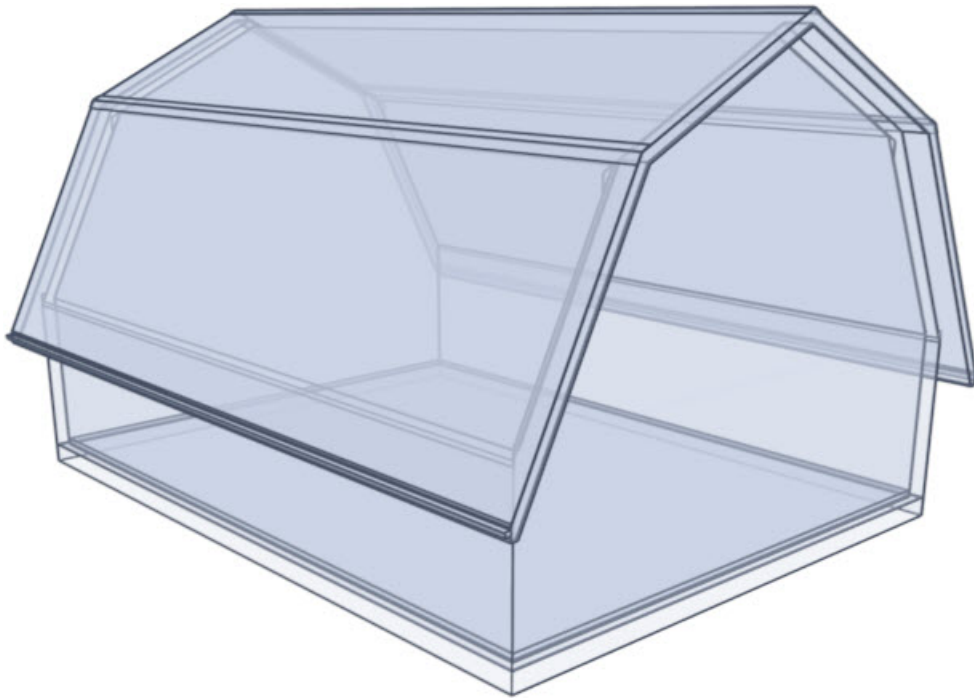
Note: If you're using Home Designer Pro, place a check in the "Build Roof Planes" box and click OK. Whenever you want to regenerate the roof planes after making changes to roof directives, it's necessary to place a check in this setting unless you have the Auto Rebuild Roofs setting turned on.



The floor plan view of a standard shed roof will look like the image above with a single roof plane. We have indicated the two vertical walls to be defined as Full Gable Walls, and the upper horizontal wall to be defined as a High Shed/Gable Wall.



GAMBREL ROOF

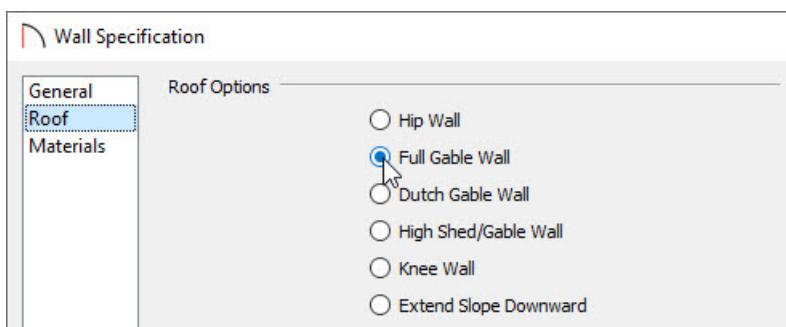
A gambrel, or barn style, roof has two pitches on each side of the ridge. The first (lower) pitch on either side is steeper than the pitch near the ridge.





To create a gambrel roof

To create a basic Gambrel Roof, we need to tell the program to not build a hip roof plane over the two 30' walls in our plan, as well as to set the appropriate Lower and Upper Pitches for the two horizontal 40' walls.

1. Use the **Select Objects**  tool to select the left 30' wall to select it, and click on the **Open Object**  edit tool.
2. On the **Roof** panel of the **Wall Specification** dialog that displays, select the **Full Gable Wall** option, then click **OK**.



3. Follow the same steps for the right 30' wall.
4. Use the **Select Objects**  tool to select the upper 40' wall and click on the **Open Object**  edit tool.
5. On the **Roof** panel of the **Wall Specification** dialog that displays:

Wall Specification

General
Roof
Materials

Roof Options

- ☒ Hip Wall
- ☐ Full Gable Wall
- ☐ Dutch Gable Wall
- ☐ High Shed/Gable Wall
- ☐ Knee Wall
- ☐ Extend Slope Downward

Pitch Options


Pitch: 24" in 12

☒ Upper Pitch

Upper Pitch: 6" in 12

Start at Height: 236 9/16"

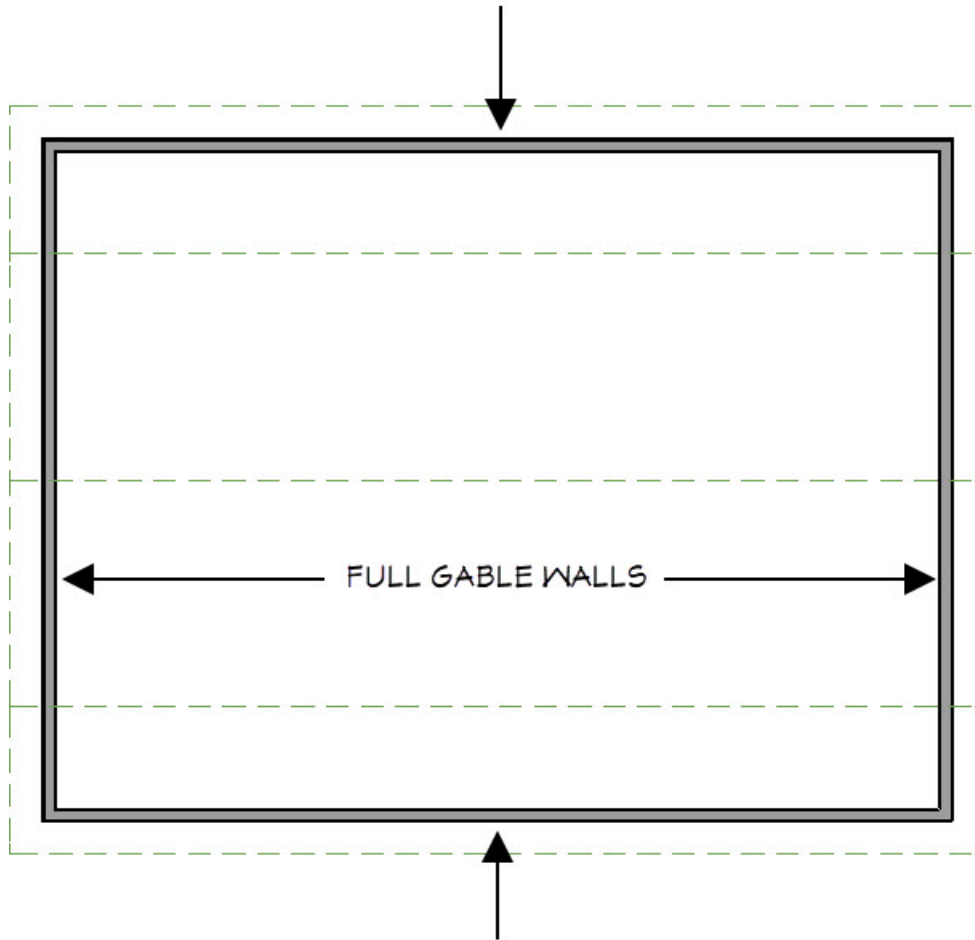
In From Baseline: 60"

- Specify the **Pitch** as **24"** in 12.
 - Place a check in the **Upper Pitch** box and set its pitch as **6"** in 12.
 - Change the **In From Baseline** value to **60"** so that the second pitch will begin 5' in from the top plate. The Start at Height value will adjust automatically based on the other values entered.
 - Click **OK** to apply these changes and close the dialog.
6. Follow this same procedure for the lower 40' horizontal wall.
7. If desired, experiment with alternate pitches and overhangs. Also, try varying the height at which the second pitch begins so that you can see the effect it has on your gambrel roof design.
8. If you have **Auto Rebuild Roofs** enabled in the **Build Roof** dialog, then your plan will update automatically, otherwise select **Build> Roof> Build Roof**  to display the **Build Roof** dialog, then click **OK** to rebuild the roof.

Note: If you're using Home Designer Pro, place a check in the "Build Roof Planes" box and click OK. Whenever you want to regenerate the roof planes after making changes to roof directives, it's necessary to place a check in this setting unless you have the Auto Rebuild Roofs setting turned on.

SET A LOWER AND UPPER PITCH

SET THE START AT HEIGHT OR IN FROM BASELINE
DISTANCE



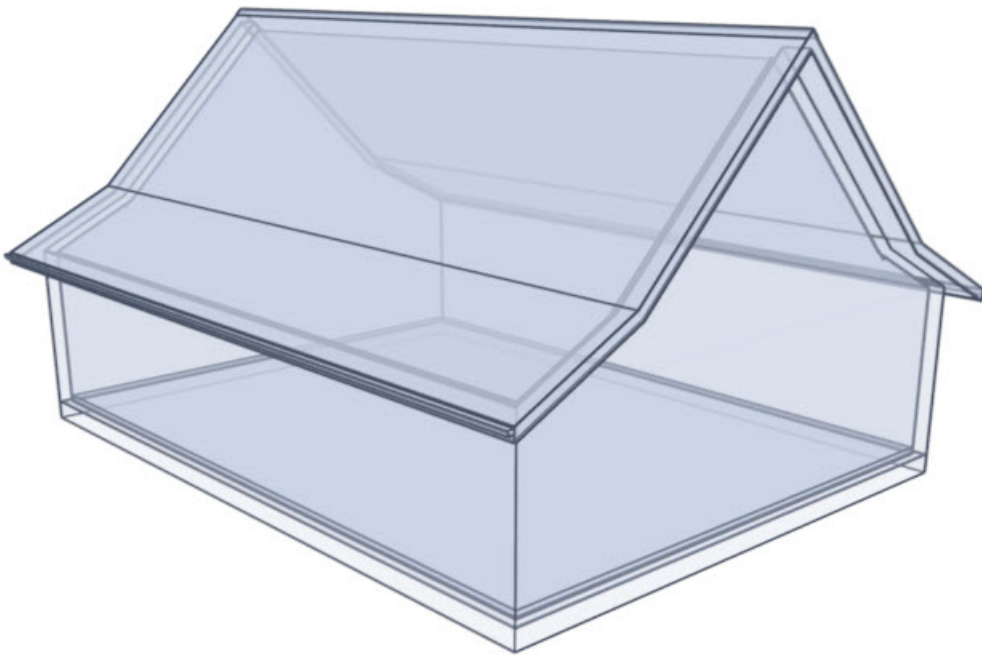
SET A LOWER AND UPPER PITCH

SET THE START AT HEIGHT OR IN FROM BASELINE
DISTANCE

The floor plan view of a standard gambrel roof will look like the image above. We have indicated the two vertical walls to be defined as Full Gable Walls, and the two horizontal walls to have an Upper and Lower Pitch, as well as an In From Baseline distance.



GULLWING ROOF

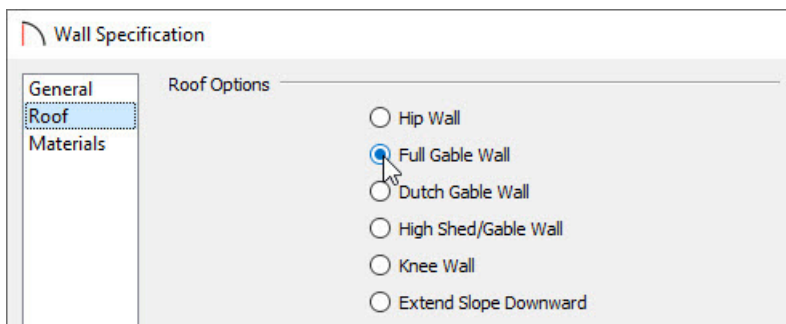
A gullwing style roof has two pitches on either side of the ridge, where the first pitch is shallower than the second.





To create a gullwing roof

First, we will need to tell the program to not build a hip roof plane over the two 30' walls in our plan as well as to set the appropriate Lower and Upper pitches for the two 40' walls.

1. Use the **Select Objects**  tool to select the left 30' wall to select it, and click on the **Open Object**  edit tool.
2. On the **Roof** panel of the **Wall Specification** dialog that displays, select the **Full Gable Wall** option, then click **OK**.



3. Follow the same steps for the right 30' wall.
4. Use the **Select Objects**  tool to select the upper 40' wall and click on the **Open Object**  edit tool.
5. On the **Roof** panel of the **Wall Specification** dialog that displays:

Wall Specification

General
Roof
Materials

Roof Options

- ☒ Hip Wall
- ☐ Full Gable Wall
- ☐ Dutch Gable Wall
- ☐ High Shed/Gable Wall
- ☐ Knee Wall
- ☐ Extend Slope Downward

Pitch Options


Pitch: 6" in 12

☒ Upper Pitch

Upper Pitch: 12" in 12

Start at Height: 146 9/16"

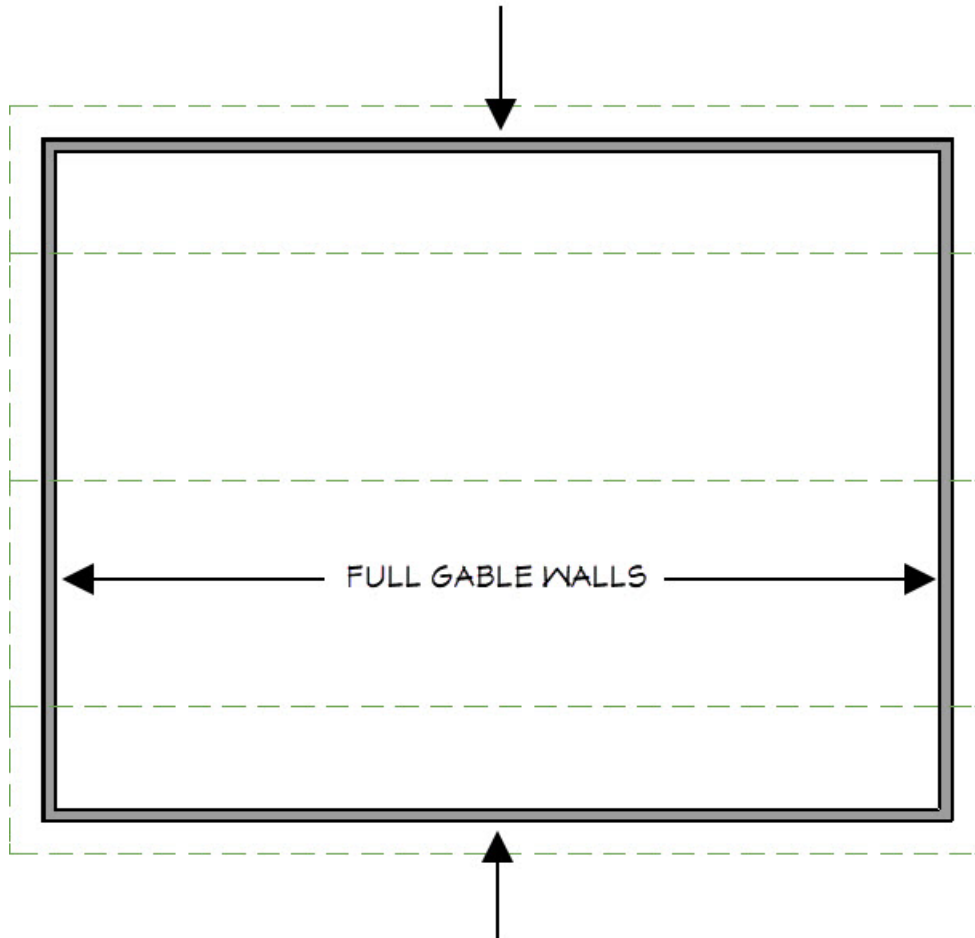
In From Baseline: 60"

- Specify the **Pitch** as **6"** in 12.
 - Place a check in the **Upper** box and set its pitch as **12"** in 12. It's important that the upper pitch is steeper than the standard pitch to create this roof style.
 - Change the **In From Baseline** value to **60"** so that the second pitch will begin 5' above the top plate.
 - Click **OK** to apply these changes and close the dialog.
6. Follow this same procedure for the remaining 40' wall.
7. If desired, experiment with alternate pitches and overhangs. Also, try varying the height at which the second pitch begins so that you can see the effect it has on your gull wing roof design.
8. If you have **Auto Rebuild Roofs** enabled in the **Build Roof** dialog, then your plan will update automatically, otherwise select **Build> Roof> Build Roof**  to display the **Build Roof** dialog, then click **OK** to rebuild the roof.

Note: If you're using Home Designer Pro, place a check in the "Build Roof Planes" box and click OK. Whenever you want to regenerate the roof planes after making changes to roof directives, it's necessary to place a check in this setting unless you have the Auto Rebuild Roofs setting turned on.

SET A LOWER AND UPPER PITCH

SET THE START AT HEIGHT OR IN FROM BASELINE
DISTANCE



SET A LOWER AND UPPER PITCH

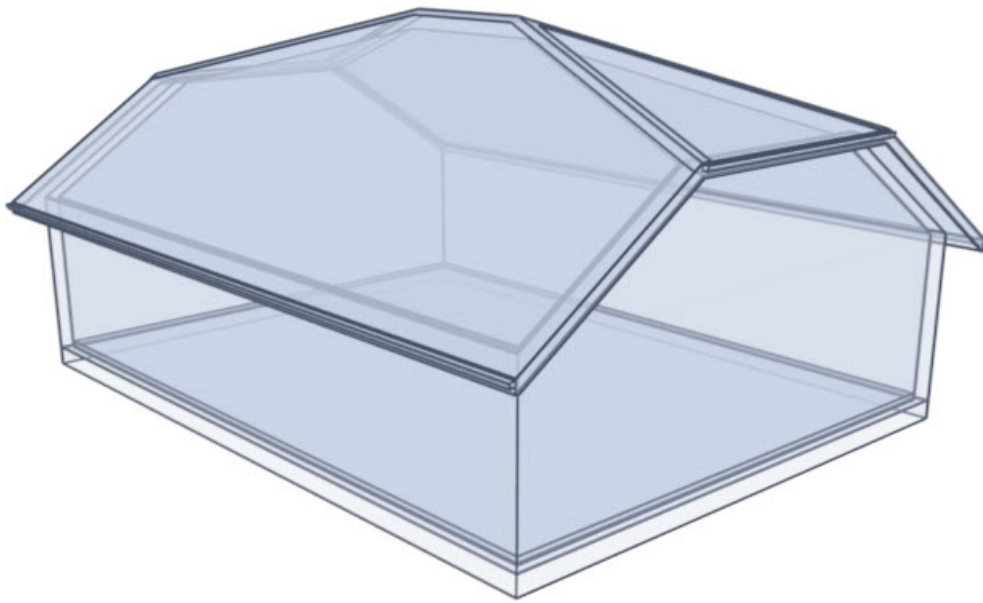
SET THE START AT HEIGHT OR IN FROM BASELINE
DISTANCE

The floor plan view of a standard gull roof will look like the image above. We have indicated the two vertical walls to be defined as Full Gable Walls, and the two horizontal walls to have an Upper and Lower Pitch, as well as an In From Baseline distance.

Notice that in floor plan view, this roof style can look identical to the gambrel roof, so it's important to verify that you have your upper and lower pitches set correctly, and verify with a camera view.



HALF-HIP ROOF

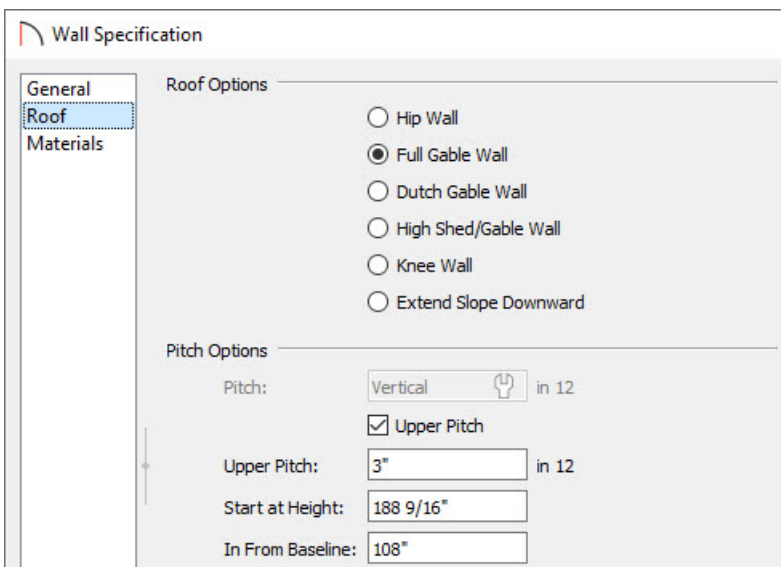
A half-hip roof has two gable ends, but at the top of each gable is a small hip that extends to the ridge. It is a combination of gable and hip roof styles in which a hip roof plane builds upward from a partial gable wall.



To create a half-hip roof

We need to tell the program to not build a hip roof plane over the two 30' walls in our plan

1. Use the **Select Objects**  tool to select the left 30' wall to select it, and click on the **Open Object**  edit tool.
2. On the **Roof** panel of the **Wall Specification** dialog that displays:




Wall Specification

General
Roof
Materials

Roof Options

- ☐ Hip Wall
- ☒ Full Gable Wall
- ☐ Dutch Gable Wall
- ☐ High Shed/Gable Wall
- ☐ Knee Wall
- ☐ Extend Slope Downward

Pitch Options

Pitch:  in 12


☒ Upper Pitch

Upper Pitch: in 12

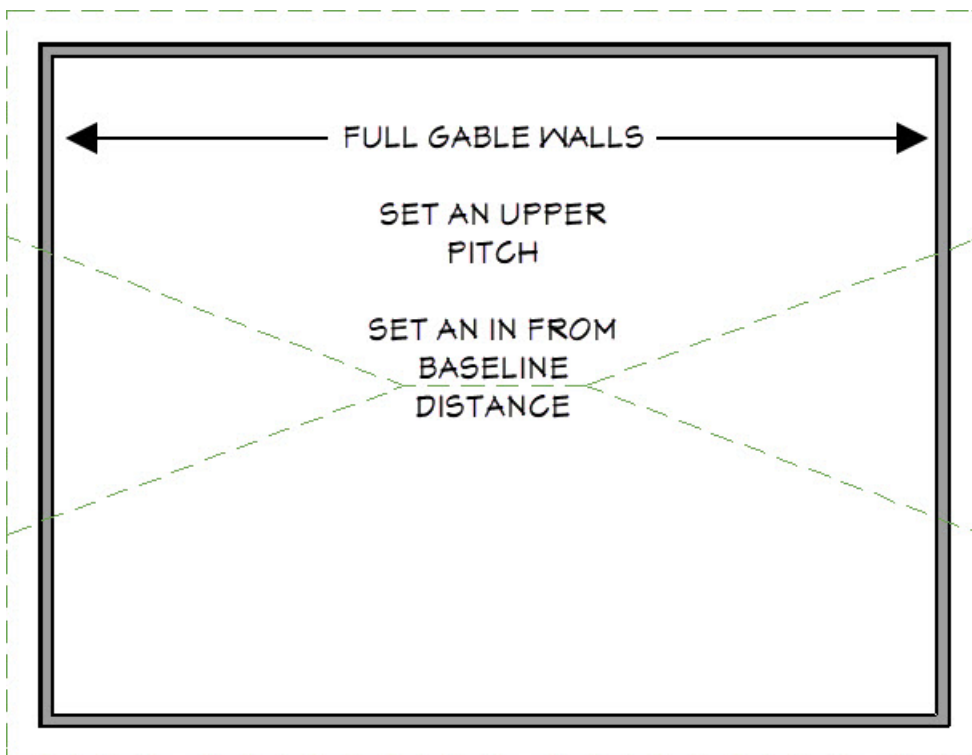
Start at Height:

In From Baseline:

- Select the **Full Gable Wall** option.
- Check the box next to **Upper** pitch, then specify the **Upper** pitch as **3"** in 12
- Set the **In from Baseline** value to **108"**.
- Click **OK** to apply these changes and close the dialog.

3. Follow the same instructions for the right 30' wall.
4. If you have **Auto Rebuild Roofs** enabled in the **Build Roof** dialog, then your plan will update automatically, otherwise select **Build> Roof> Build Roof**  to display the **Build Roof** dialog, then click **OK** to rebuild the roof.

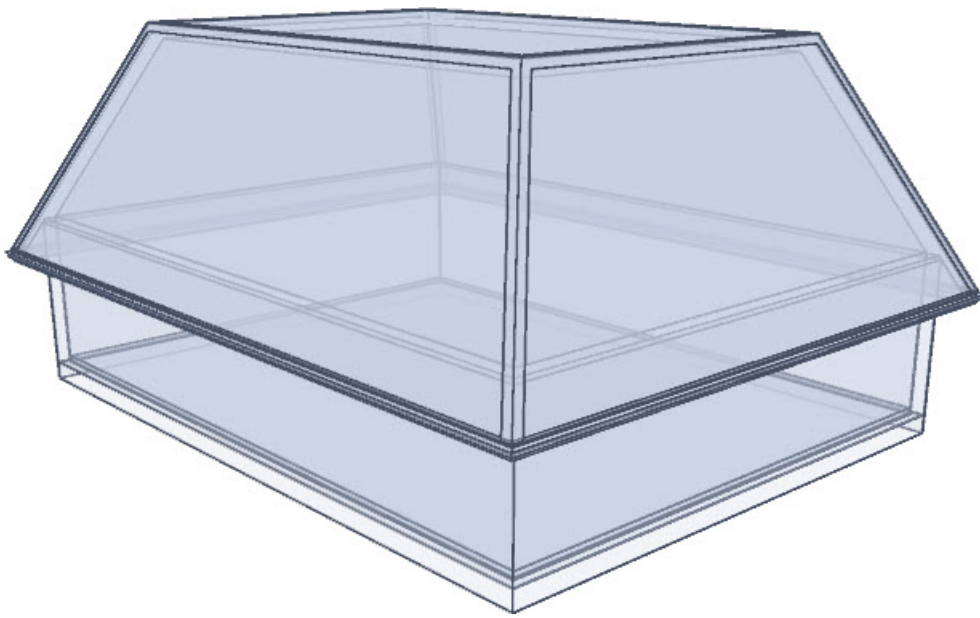
Note: If you're using Home Designer Pro, place a check in the "Build Roof Planes" box and click OK. Whenever you want to regenerate the roof planes after making changes to roof directives, it's necessary to place a check in this setting unless you have the Auto Rebuild Roofs setting turned on.



The floor plan view of a standard half-hip roof will look like the image above. We have indicated the two vertical walls to be defined as Full Gable Walls, and have set the same walls to have an Upper Pitch and an In From Baseline distance.



MANSARD ROOF

A mansard roof is a hip roof with two slopes on the roof sections above each of the four walls. The second slope begins at the same height above each wall. The upper slope is usually quite gentle and the lower slope, much steeper.



To create a mansard roof

To create a Mansard style roof, we will need to change the Roof panel of the Specification dialog for all four walls in the .plan file.

1. Use the **Select Objects**  tool to select the left 30' wall to select it, and click on the **Open Object**  edit tool.
2. On the Roof panel of the **Wall Specification** dialog that displays:

Wall Specification

General
Roof
Materials

Roof Options

- ☒ Hip Wall
- ☐ Full Gable Wall
- ☐ Dutch Gable Wall
- ☐ High Shed/Gable Wall
- ☐ Knee Wall
- ☐ Extend Slope Downward

Pitch Options

Pitch: 24" in 12


☒ Upper Pitch

Upper Pitch: 1/4" in 12

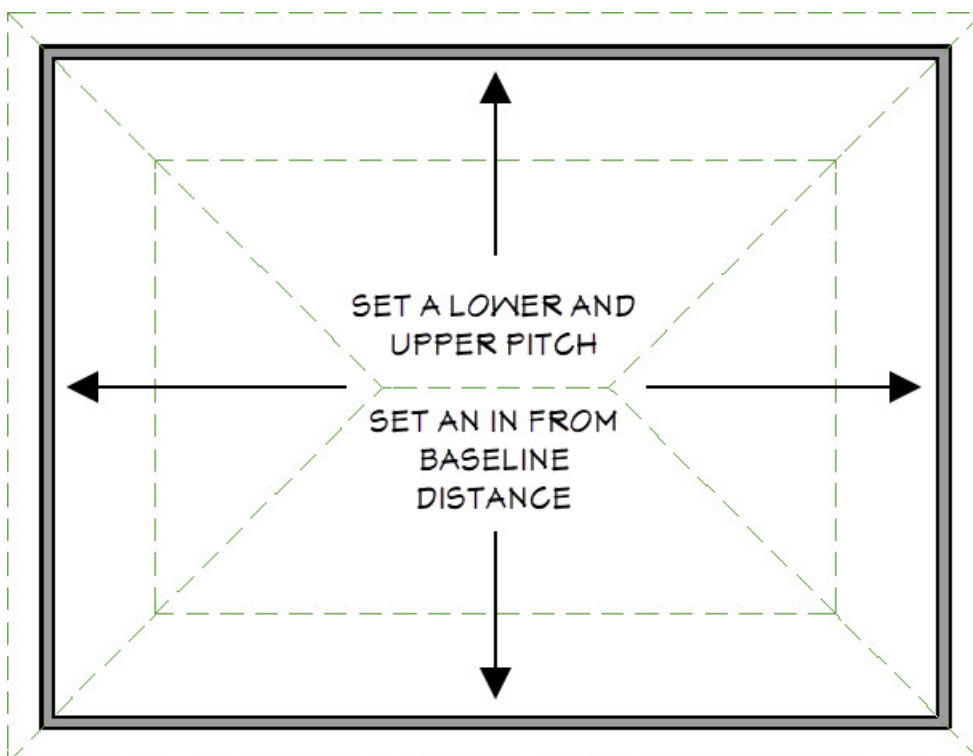
Start at Height: 236 9/16"

In From Baseline: 60"

- Specify a **Pitch** of **24"**.
- Place a check next to the **Upper Pitch** box and enter a value of **1/4"**.
- Change the **In from Baseline** value to **60"**.
- Click **OK** to apply these changes and close the dialog.


3. Follow the same instructions for the remaining three walls.
4. If you have **Auto Rebuild Roofs** enabled in the **Build Roof** dialog, then your plan will update automatically, otherwise select **Build> Roof> Build Roof**  to display the **Build Roof** dialog, then click **OK** to rebuild the roof.

Note: If you're using Home Designer Pro, place a check in the "Build Roof Planes" box and click OK. Whenever you want to regenerate the roof planes after making changes to roof directives, it's necessary to place a check in this setting unless you have the Auto Rebuild Roofs setting turned on.




The floor plan view of a standard mansard roof will look like the image above. We have indicated all four walls should have their Upper and Lower Pitches defined, along with an In From Baseline distance.





MORE INFORMATION

All of these instructions, and more can be located within your software by selecting the **Help** menu, and clicking on **Launch Help**  to launch the software's searchable resources.

You may also want to review some of the other articles within the [Knowledge Base](https://www.homedesignersoftware.com/support/database.html) (<https://www.homedesignersoftware.com/support/database.html>), as well as the online [Training Videos](https://www.homedesignersoftware.com/videos/) (<https://www.homedesignersoftware.com/videos/>), to learn more about how to create custom roof styles.

Related Articles

 [Automatically Building a One and a Half Story Roof \(/support/article/KB-00358/automatically-building-a-one-and-a-half-story-roof.html\)](https://www.homedesignersoftware.com/support/article/KB-00358/automatically-building-a-one-and-a-half-story-roof.html)

-  [Building a Clerestory/Skillion Roof \(/support/article/KB-00492/building-a-clerestory-skillion-roof.html\)](/support/article/KB-00492/building-a-clerestory-skillion-roof.html)
-  [Creating a Prow Roof \(/support/article/KB-01197/creating-a-prow-roof.html\)](/support/article/KB-01197/creating-a-prow-roof.html)
-  [Creating Multiple Shed Roofs \(/support/article/KB-01020/creating-multiple-shed-roofs.html\)](/support/article/KB-01020/creating-multiple-shed-roofs.html)
-  [Resources for Creating a Complex Roof Plan \(/support/article/KB-00158/resources-for-creating-a-complex-roof-plan.html\)](/support/article/KB-00158/resources-for-creating-a-complex-roof-plan.html)