Creating Curved or Flared Eaves

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The information in this article applies to:

Premier  Interiors

QUESTION

I am working on a Dutch Colonial gambrel roof and need to add flared eaves. What is the best way to do this?
ANSWER

You can easily join two roof planes using the Join Roof Planes edit tool. The program takes the current positions and heights of the two roof planes, finds the line along which the two planes can join, and then extends or contracts their edges as required to do so.

When manually adding eaves to a roof, though, you typically need the roof planes join at a specific height and/or along a particular line. You can achieve this in a few simple steps.

In this example, we will add flared eaves, sometimes referred to as a Dutch kick, to an automatically generated gambrel roof. This will require three different roof planes on each side of the ridge.

To create an automatic gambrel roof

1. Open a new, blank plan and draw four walls to form a rectangle. In this example, a 30' by 40' structure is used.

![Diagram of a 30' by 40' structure]

2. Select Build> Roof> Build Roof from the menu to open the Build Roof dialog.
- The settings here act like defaults for roofs.

- Specify the **Pitch** of the steep lower roofs of the gambrel.

- Specify the desired depth of the **Roof Overhangs**.

- In this example, a **Pitch** of 16" in 12" and **Overhangs** of 12" are used.

- Do not check **Build Roof Planes** - we aren't quite ready to build the roof yet.

- Click **OK**.

3. Click the **Select Objects** button, then click on one of the vertical walls in the plan. Hold down the **Shift** key on your keyboard and click on the other vertical wall to select them both at the same time.

4. With the two walls selected, click the **Open Object** edit button, and on the **ROOF** panel of the **Wall Specification** dialog check the box beside **Full Gable Wall** and click **OK**.
5. Select the two horizontal walls and click the **Open Object** edit button. On the **Roof** panel of the Wall Specification dialog:

- Check the box beside **Upper Pitch**.
- Specify the desired upper Pitch value. In this example, **4" in 12"** is used.
- Specify either the Starts at Height, which is the height above the floor that the second pitch begins, or the **In from Baseline** value, which is the distance in from the outside of the wall framing that the second pitch begins then click **OK**. In this example, an **In from Baseline** value of **84"** is used.

6. Select **Build> Roof> Build Roof** from the menu and in the **Build Roof** dialog, check the box beside **Build Roof Planes** and click **OK**.
7. Select 3D > Create Perspective View > Perspective Full Overview from the menu to see the results.

To add flared eaves

1. Select File > Close View to return to floor plan view.

2. Click the Select Objects button, then click on one of the lower roof planes’ eave edges to select it. In order to accommodate a curved roof plane for the eave, this roof plane edge needs to be pulled back.
• Click on the temporary dimension that displays the eave edge's distance to the wall.

• In the inline text field, type the distance inside the wall's dimension layer that the eave edge should be moved to. To move the selected edge from the outside of the wall to the inside, use a negative number.

• In this example, the roof plane's ridge edge is positioned 12" in from the wall so a value of -12" is used.

If you do not see a dimension when the roof plane is selected, click **View > Temporary Dimensions** to turn on their display. If there are dimensions already annotating the measurements of the area, Temporary dimensions will not display.
Select **Build > Roof > Roof Plane** from the menu, then click and drag to draw a roof plane that bears on one of the horizontal walls. This roof plane will become a curved eave, or Dutch kick.

- Click and drag to draw the baseline along the outside of the wall's framing layer.
- Release the mouse button and move your cursor in the direction of the roof's ridge.
- As you move the mouse, a preview outline of the roof displays and will snap to the eave edge of the roof plane that you re-positioned.
- Click once to set the location of the ridge edge and finish creating the roof plane.

- With the new roof plane still selected, use its edit handles to extend it across the width of the structure, to match the upper roof planes.
Next, with the new roof plane still selected, click the Open Object edit button. On the General panel of the Roof Plane Specification dialog:

- Click the radio button to the left of Lock Ridge Top Height to lock it, and then enter the desired Pitch for the part of the roof that is farthest from the ridge.

- Check the box beside Curved Roof.

- Specify the desired Radius to Roof Surface as a negative number, and then click OK.

- In this example, the Pitch of the curved eave is specified as 4" in 12", and the Radius to roof surface, -85".

- Repeat these steps on the other side of the structure.
Create a **Perspective Full Overview** to see the results.

**Related Articles**

- Creating a Dormer in a Roof with Multiple Pitches (/support/article/KB-00915/creating-a-dormer-in-a-roof-with-multiple-pitches.html)