

Modeling a Ranch House

Step 02

Modeling - Loop Cutting

Units of Measurement and Dimensions

The first thing we need to do is chose the units of measurement (Imperial) for our model.

- **Open Blender** and in the **Properties Editor** (on the right) **LMB** click on the **Scene Icon** (the one with the three objects) and **select Imperial** as the unit of measurement.
- Also **place a check** in the **Separate Units Checkbox**. This will allow us to use both feet and inches.

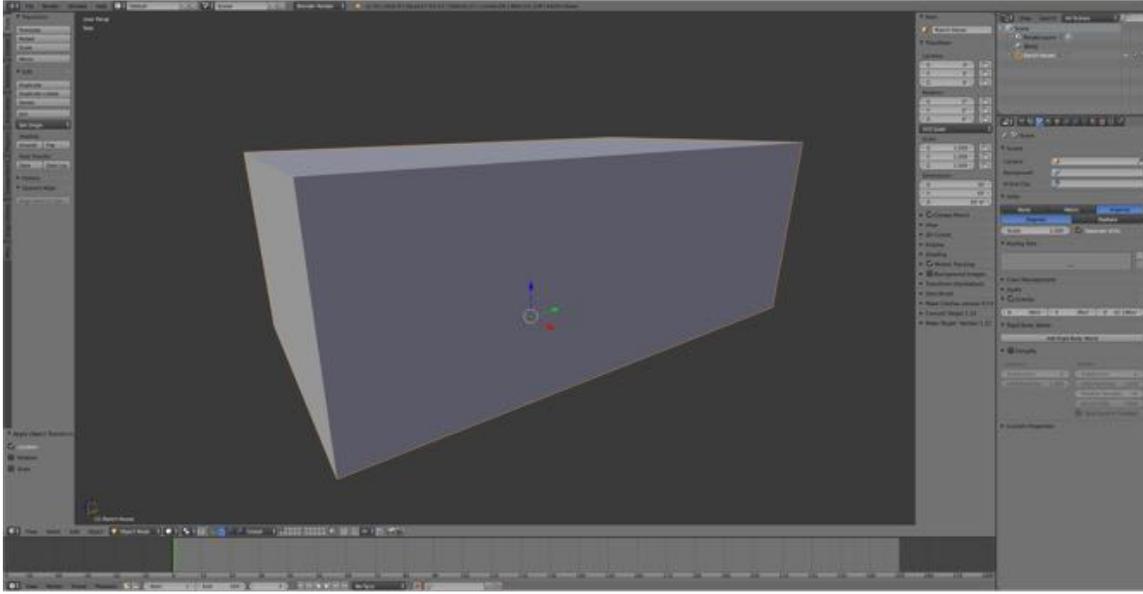
Now we need to modify the dimension of the Default Cube to represent a cube large enough to include the model within.

- In the **3D Editor**, **open the Properties Panel (N-KEY)** and the **Transformation Pane (LMB click on the triangle to the left of the name)**.
- Under **Dimensions enter X = 30 feet, Y = 55 feet and Z = 20 feet 6 inches**.
- Also, under **Location enter Z = 10 feet 3 inches** to raise the building to sit on the grid.

Note: You can clean up your scene by deleting the **Camera** and the **Lamp**. We will not need these. In the 3D Editor **select (RMB)** and **delete (X-KEY)**.

It is important at this stage that we apply the location, rotation and scale (see: [Apply Location, Rotation and Scale Tool](#)) (see website). (The reasons are rather technical. Suffice to say, get in the habit of doing it to prevent problems later).

- **Press CTRL + A-KEY** to **open the Apply Menu** and **select Location**.
- **Press CTRL + A-KEY** to **open the Apply Menu** and **select Rotation & Scale**. (Notice that the Locations and Rotations have been set to zero and the Scales have been set to 1.000.)
- In the **Properties Panel** under the **Item Pane** **change the name** from Cube to **“Ranch House”**.



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Saving Blender Files

Now is a good time to save your Blender file.

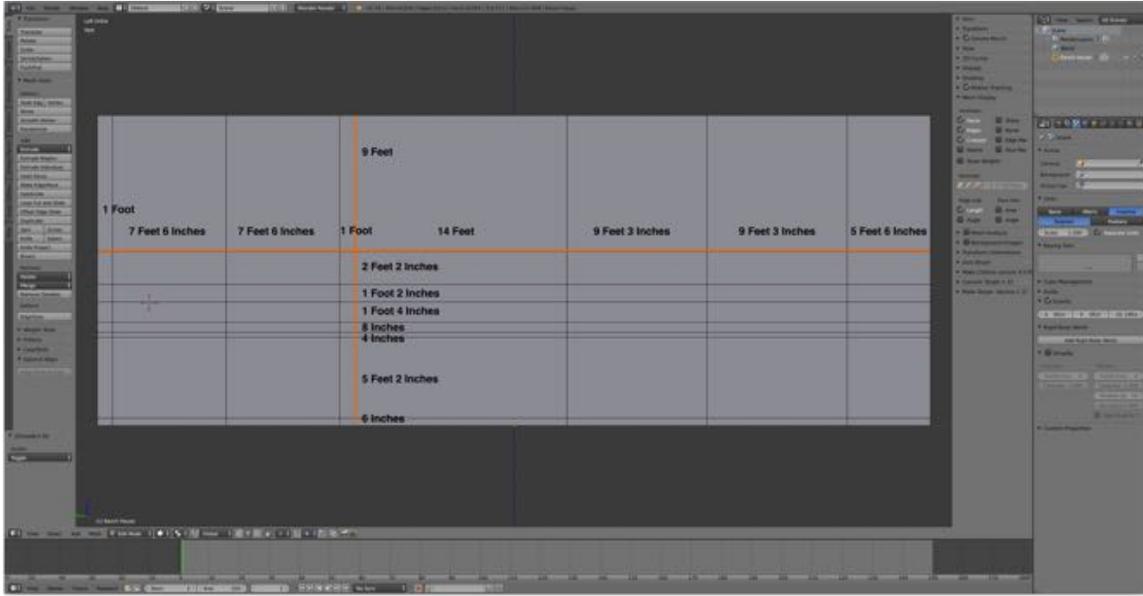
- Press **SHIFT + CMD + S-KEY** and **name** the file “**RanchHouse01**” (the .blend extension will be added automatically).
- **Save** the file to your **Ranch House Blender Files** folder.
(You do have one, right?).

I like to also save a screenshot of the file for reference.

- Right after you have saved your Blender file, under the **Information Editor’s Window Menu** select **Save Screenshot**. The screenshot will be saved with the same incremental number as the Blender file just saved.

Adding Loop Cuts

The sculpt method of box modeling requires using the Loop Cut and Slide Tool (see website) to demarcate features of the model such as rooflines and wall placements. We will begin by marking these out for the side of the model, then the end.



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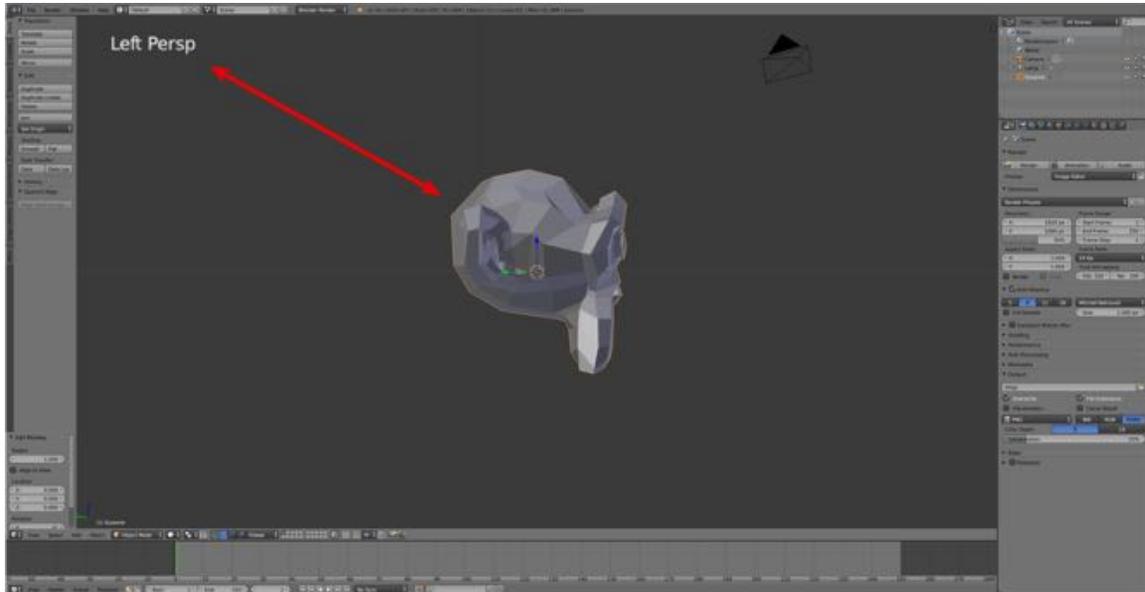
To position loops we will need to turn on length measurement display.

- **Switch** to the 3D Editor’s **Edit Mode (TAB-KEY)** and **Edge Selection Mode (CTRL + TAB-KEY > Edge)**.
- **Switch** to **Left Side View (CTRL + NUMPAD-3-KEY)** and **Ortho View (NUMPAD-5-KEY)**.

Note: Blender labels the sides somewhat backwards. The left side is the side to your left when looking face on at the front of the model. The right side, then, is the side to your right when looking face on at the model. By “backwards” I mean that if you think of yourself as the model then what Blender calls the left is the right and what Blender calls the right is the left. We’ll use Blender’s convention, that is, the side on your left as you stare at the front of the model on the screen is the LEFT.

Try it.

- **Open Blender** and **delete (X-KEY > Delete)** the **Default Cube**.
- **Add** the **Monkey Primitive (Suzanne) (Add Menu > Mesh > Monkey)**.
- **Switch** to **Front View (NUMPAD-1-KEY)** then **switch** to **Left (Side) View (CTRL + NUMPAD-3-KEY)**.



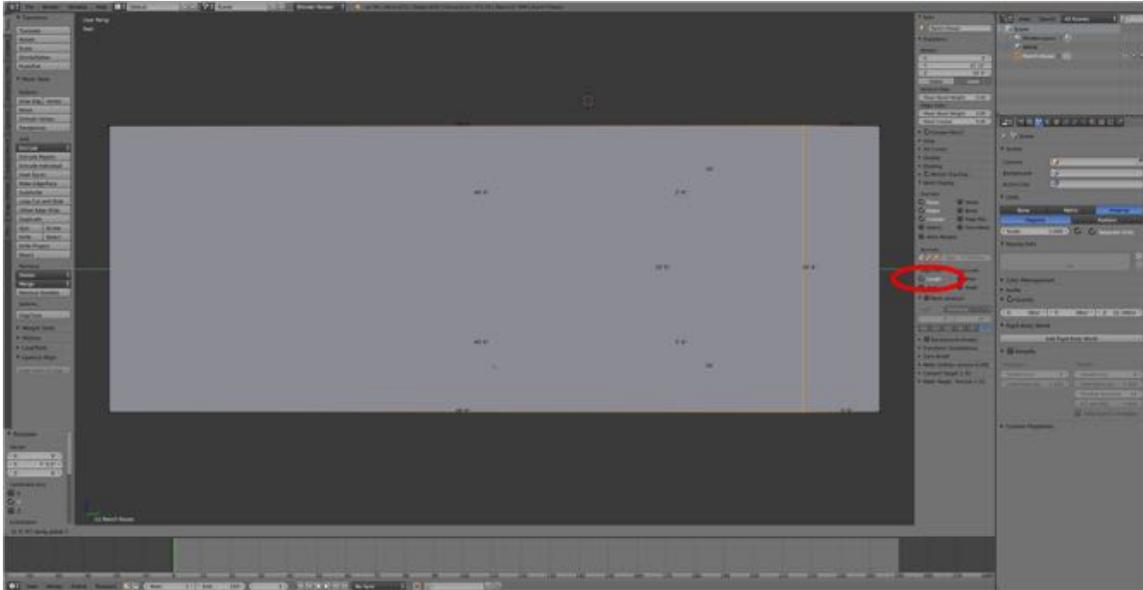
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Continuing on...

- **Open the Properties Panel (N-KEY)** and under the **Mesh Display Pane** and **Edge Info**, **LMB** the **Length Check Box**. (This adds dimension indicators to selected edges and faces.)
- **Press CTRL +R-KEY** to activate the **Loop Cut and Slide Tool** and **position** the mouse cursor over the model moving it **until** a vertical **magenta loop** appears.
- **RMB** to **place** the loop then slide (**LMB**) to **5 feet 6 inches** from the end of the model to your right (the front).

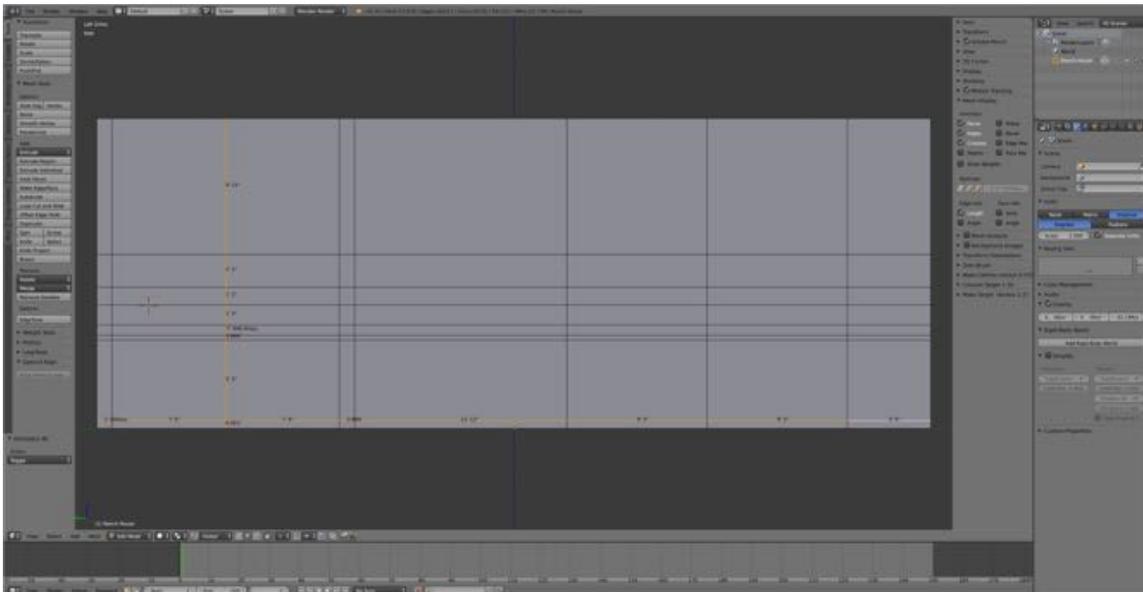
Note: You can zoom in on the position of the selected loop by pressing the **NUMPAD-PERIOD-KEY**. The closer your view the finer the control you have over placement. Also use the **SHIFT-KEY** for finer control.

To center the model to place the next loop cut, press the **HOME-KEY**. Zoom using the mouse scroll wheel or the **NUMPAD-PLUS-KEY** and **NUMPAD-MINUS-KEY**.



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- Place loop cuts at 9 feet 3 inches, 9 feet three inches, 14 feet, 1 foot, 7 feet 6 inches and 7 feet 6 inches.
- Place horizontal loop cuts starting from the bottom up at 6 inches, 5 feet 4 inches, 4 inches, 8 inches, 1 foot 4 inches, 1 foot 2 inches, 2 feet 2 inches and 9 feet.



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We now need to add loop cuts to the front of the model.

- **Switch to the Front View (NUMPAD-1-KEY).**
Notice that the horizontal loop cut place in side view are present and visible in the front view.

- Press **CTRL +R-KEY** to activate the **Loop Cut and Slide Tool** and position the mouse cursor over the model moving it **until** a vertical **magenta loop** appears.
- **RMB twice** to **place** and **confirm** the loop cut in the center of the face.
- Place two additional loop cuts on either side **9 feet 6 inches** from the center.



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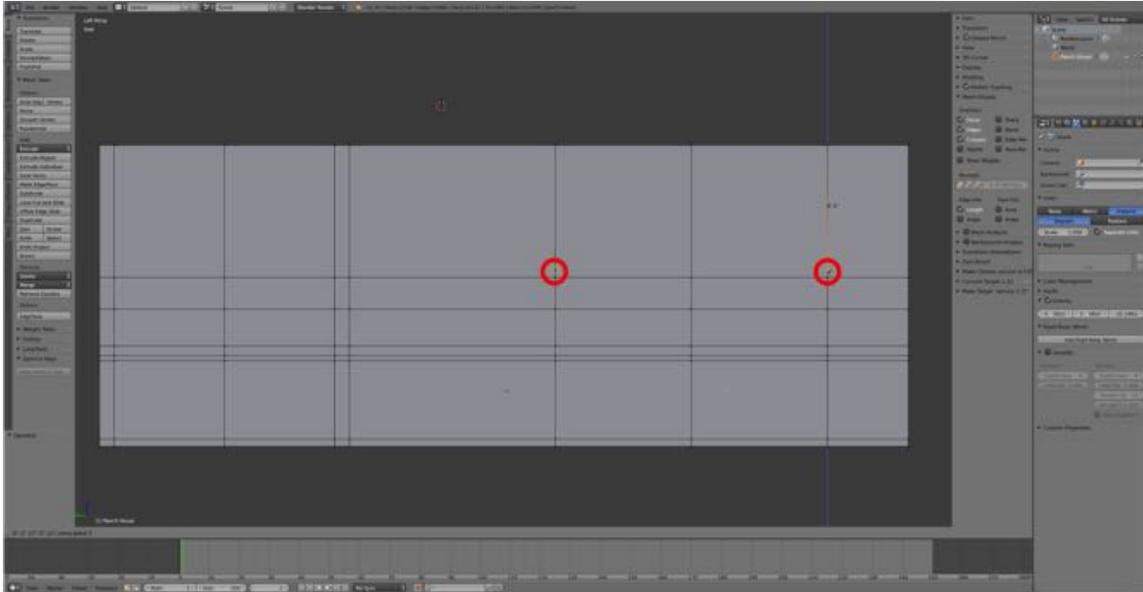
Save your work.

- Save a copy of the **Blender file** (**SHIFT + CMD + S-KEY** and **NUMPAD-PLUS-KEY** to **incrementally increase** the file number to **“RanchHouse02.blend”** and **LMB** click **Save as Blender File**).
- Save a screenshot (**Information Editor > Window Menu > Save Screenshot**).

Rooflines

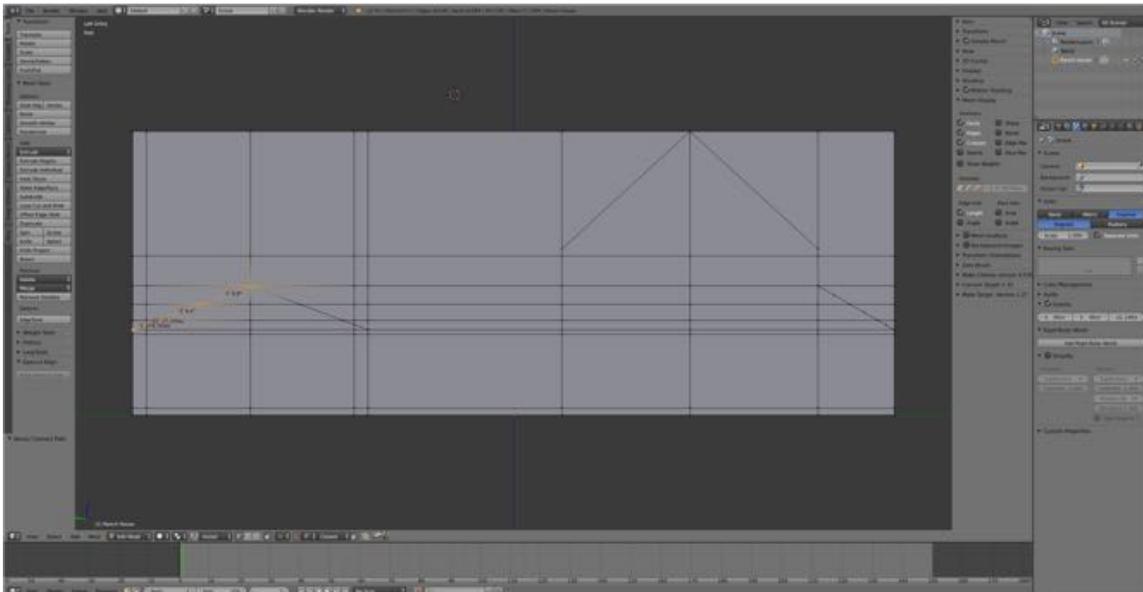
The next thing we need to do is put in the rooflines.

- **Subdivide** (**Tool Shelf > Tools Tab > Add Pane > Subdivide**) the lines as **marked below**.
- **Switch to Vertex Selection Mode**, **select (RMB)** each new vertex and **slide (G-KEY > Z-KEY > Drag)** them **down to 6 inches** from the lower vertex.



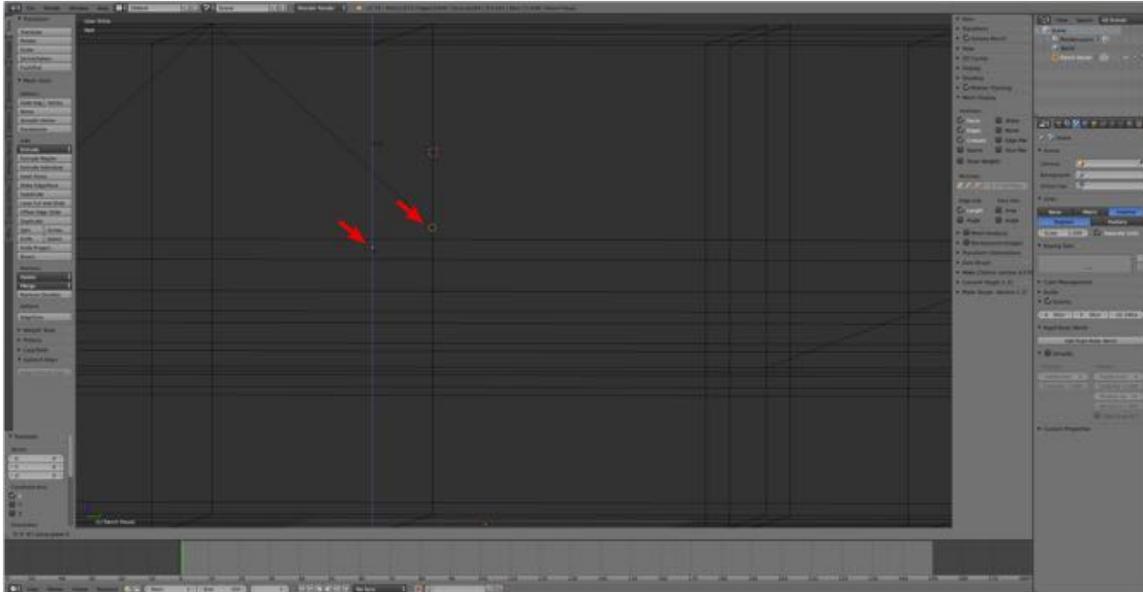
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- **Select pairs of vertices and connect** using the **J-KEY** to **split faces** as shown below.



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Repeat the process of adding the rooflines on the right side. The process can be facilitated by working in Wireframe View Mode (Z-KEY) so that you can snap the vertices to the location already established on the left side.



Vertex snapping, target vertex and targeted vertex (orange circle).

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Time to save your work.

- **Save a copy of the Blender file (SHIFT + CMD + S-KEY and NUMPAD-PLUS-KEY to incrementally increase the file number to “RanchHouse03.blend” and LMB click Save as Blender File.**
- **Save a screenshot (Information Editor > Window Menu > Save Screenshot).**

Now we are ready to start sculpting.