Digital Canal Corporation

Solution Papers

Summary: ***Creating Round Log Rafters***

Overview: The following procedure below will show you how to create round (log) rafters to represent them in the 3D model. You will be creating the rafters by inserting girders and then rotating the girders to the slope of the roof. It is recommended that you go through the tutorial or the training cds to get a better understanding of how SolidBuilder operates before going through this process.

Solution:

1. First create the roof using the roof command.

2. Click on the **Girder/Post** icon and then Options. Type in the size of the log rafter for the width and depth. Change the shape to Circular and make sure the "Match Elevation To" is set to Bottom and the current Elevation is set to the top of the wall.

3. Draw the first Girder/Rafter on the edge of the roof (does not matter how long).

4. Now you need to find the slope angle of the pitch of the roof. Click on **Tools/Calculate Slope**. Type in the Rise and Run and this will give the angle. We need to know this angle to rotate the girder.

5. Make Visible only the roofs and girder. Turn the drawing to a side view so you can see the profile of the girder. To rotate the girder, you have to do this in the Cad Menu. Click on **File/Cad Menu**.

6. Click on **Draw/Tools/C-Space/Align/View**. This will align the cursor to the view.

7. Select **Geometry/Axis and Base Point/Set Base Point/Blocks**. Using the arrow keys, highlight the girder and make sure it says "\girder" in the bottom right corner and press Enter. Press "E" and click on the bottom corner of the girder and this will be the axis it rotates from.

8. Click on **Geometry/Rotate/Block**. Using the arrow keys, highlight the girder and make sure it says "\girder" in the bottom right corner. Press Enter.

9. Type in the slope angle for the rotation. This will rotate the girder and it should match the slope of your roof.

10. Select Tools→Toolbars→Edit, Select Developer, Click OK.

11. Click Open in the developer toolbar; change Files of Type to EX. And open sbstart.ex

12. Click on Execute File. This will open Solid Builder back up.

13. Click on the **Girder/Post** icon. Click on the Shape icon and select Project. You need to project the ends of the girder to the edges of the roof.

14. In the Project command, select **To Another** and **Roof**. Click OK.

15. Select the roof first and right click until you have the ridge edge highlighted and press Enter.

16. Click on the girder and select the edge of the girder to project and press Enter. This will extend the girder to the edge of the roof. You may need to run the same command to the other side of the girder.

17. Then click on **Edit/Drawing/Copy** and type in how many girders you want copied.

18. Select the girder and then press enter for the base point. For the offset point, type in the spacing for the rafters.using X and Y coordinates. You may need to use the Shape commands to adjust some of the rafters.

19. If you have a gable roof, then you can use the Copy Mirror command to place the rafters on the other side. Click on **Edit/Drawing**. Click on Mirror and OK. Click on Up-Down if the ridge is running horizontal or Left-Right if ridge is running vertical and click OK.

20. Select all the girders/rafters that you want to copy. Then right click and select Finished.

21. Now you need to select the point you want to mirror from so this will probably be somewhere along your ridge. Press “E” and select the top corner of one of your rafters. Left click again or you type in a X or Y coordinate to offset the new rafters from the ridge beam. Now you should have rafters on both sides.