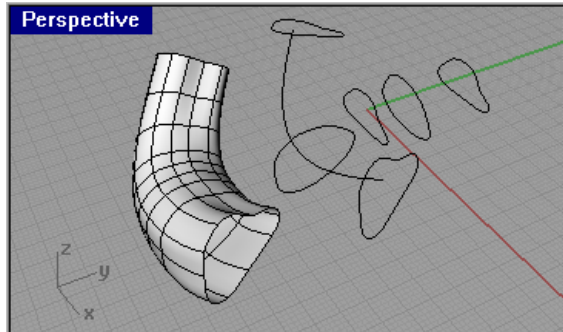




How to flow cross-sections curves along a spine



This demonstration shows:

- ▶ How to easily place cross sections along a free-form curve.

You must know:

- ▶ Curve drawing (**Curve**)

You will learn:

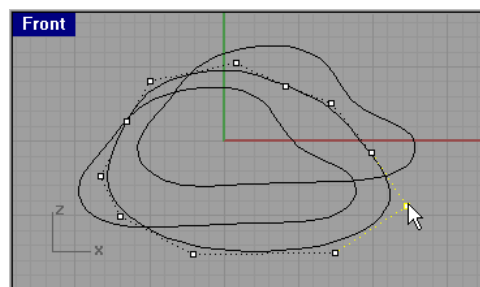
- ▶ Flow along curve (**Flow**)

To place the curves:

- 1 In the **Front** view use the **Curve** command to create a set of cross-section curves.

A surface will be created using the cross-section curves. The surface will look better if the curves all have the same number of control points. The easiest way to ensure this is to edit the copies of the first curve.

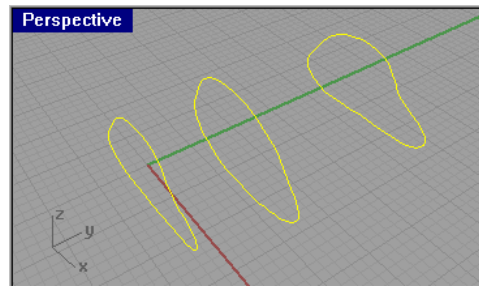
- 2 Edit the curves to the shapes you want.



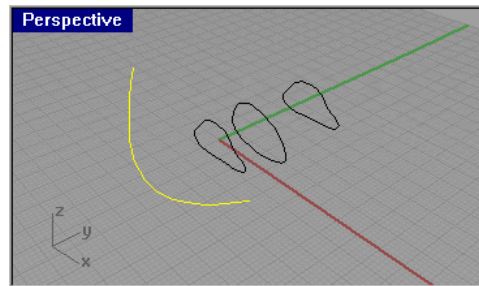


- 3** In the **Perspective** viewport, with **Snap** and **Ortho** on, drag two curves along the y-axis at their relative positions on the final curve.

The distance between second and third cross-section is twice the distance between the first and second cross-section. This will define the relative distance of the curves when flow places them on the spine curve. Only the relative distance counts, so any set of distances where the second distance is twice the first works.



- 4** Draw a curve that will be used as the spine curve.

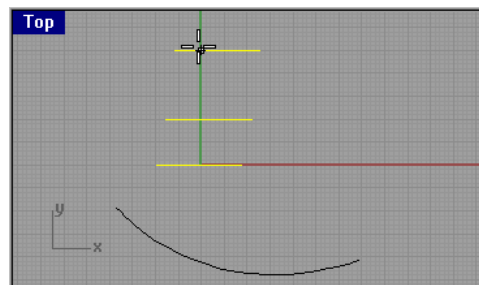


- 5** Select the three cross-section curves.

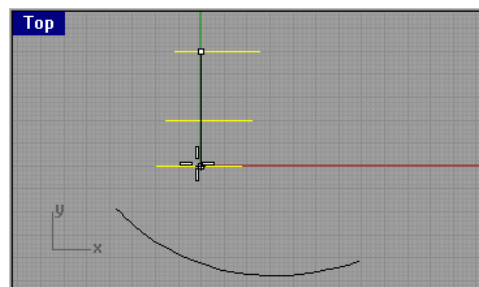
- 6** Start the **Flow** command.

- 7** At the **Original backbone curve - select near end (Copy=No Line)** prompt, set the **Copy** option to **Yes** and select the **Line** option to specify that you want to draw a line as the backbone curve.

- 8** At the **Start of line** prompt in the **Top** viewport turn on grid snap to pick the origin at a point in the plane of the last cross-section curve.

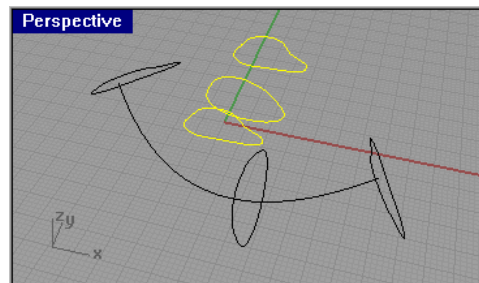


- 9** At the **End of line** prompt, pick the end at a point in the plane of the first cross-section curve.



- 10** At the **New backbone curve - select near end (Copy=Yes Line)** prompt, select the spine curve you drew as the new backbone curve.

The cross-sections are placed on the curve at their relative distances from each other.





- 11 Use the **Sweep1** command to create a surface from the curves using the spine curve as the rail.

