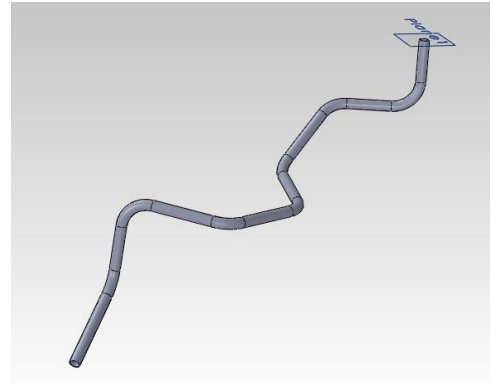
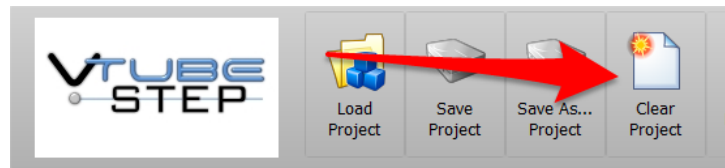


This is a quick-start guide that shows how to perform a basic import of a simple STEP file (the demo 3 part) and then export the data to a bender using the Supervision Network Ethernet protocol. The steps in this workflow are from version 2.2.

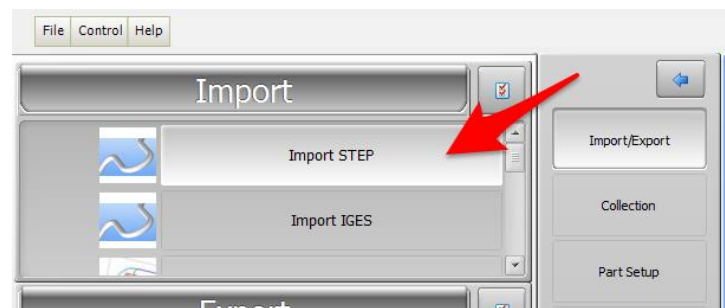


Start VTube-STEP, then follow these steps:

1. Press the Clear Project button in the tool bar on the top of the VTube-STEP window.

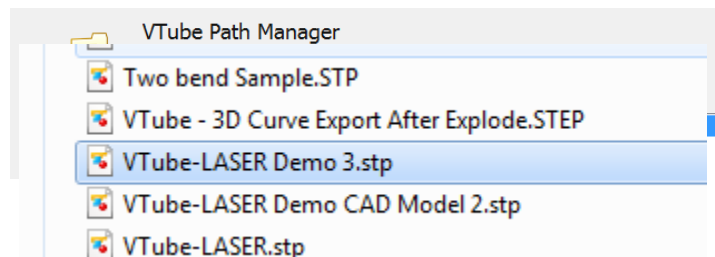


2. Press the Import/Export button in the Navigation Pane, then press the Import STEP button in the Import menu.

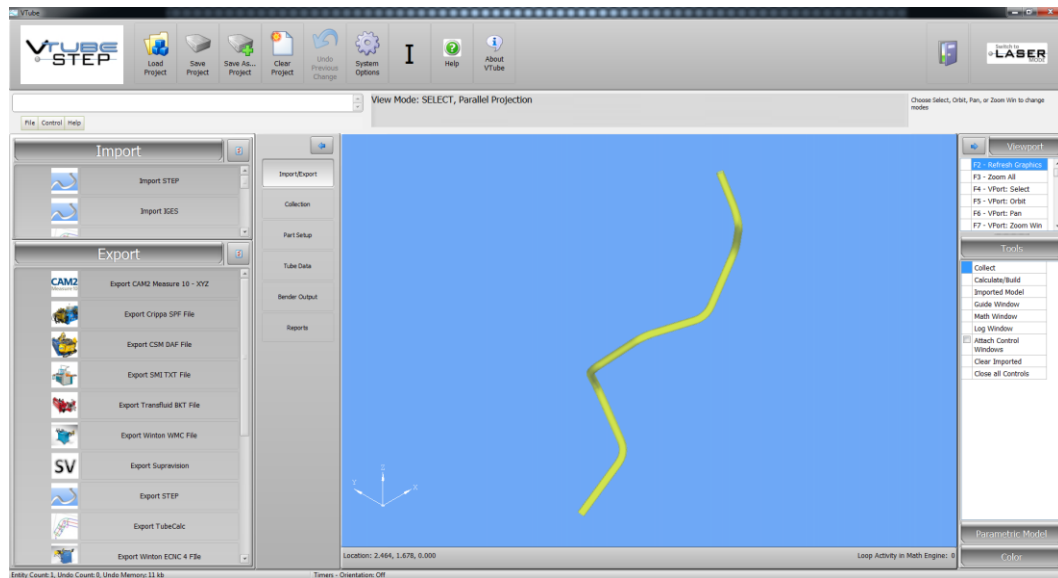


3. Double click on the VTube path in the Path Manager.

Find **VTube-LASER Demo 3.stp** file and load it into VTube-STEP.

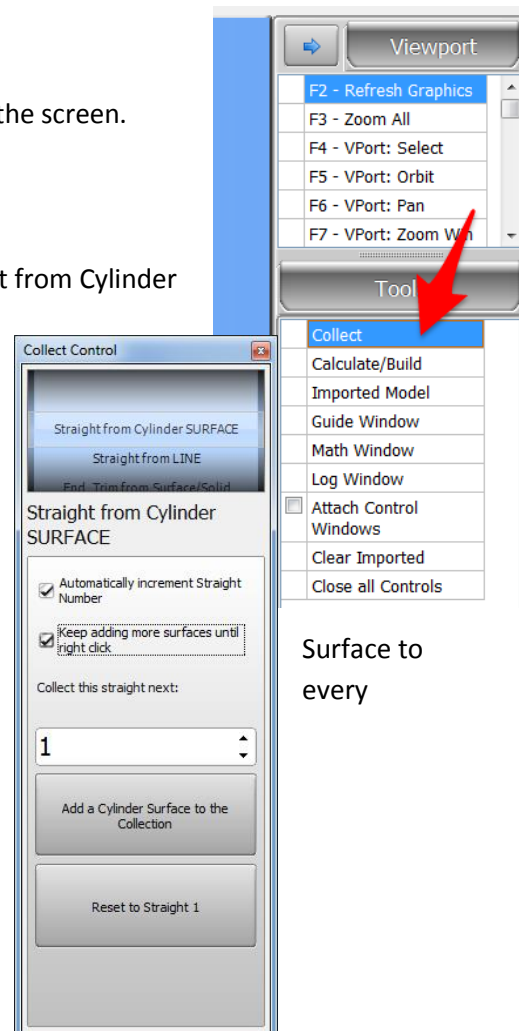


4. The screen will appear something like this:



5. Press the Collect button on the right side of the screen.
6. Check on both the checkboxes in the Straight from Cylinder SURFACE option.
7. Press **“Add a Cylinder Surface to the Collection”** button.

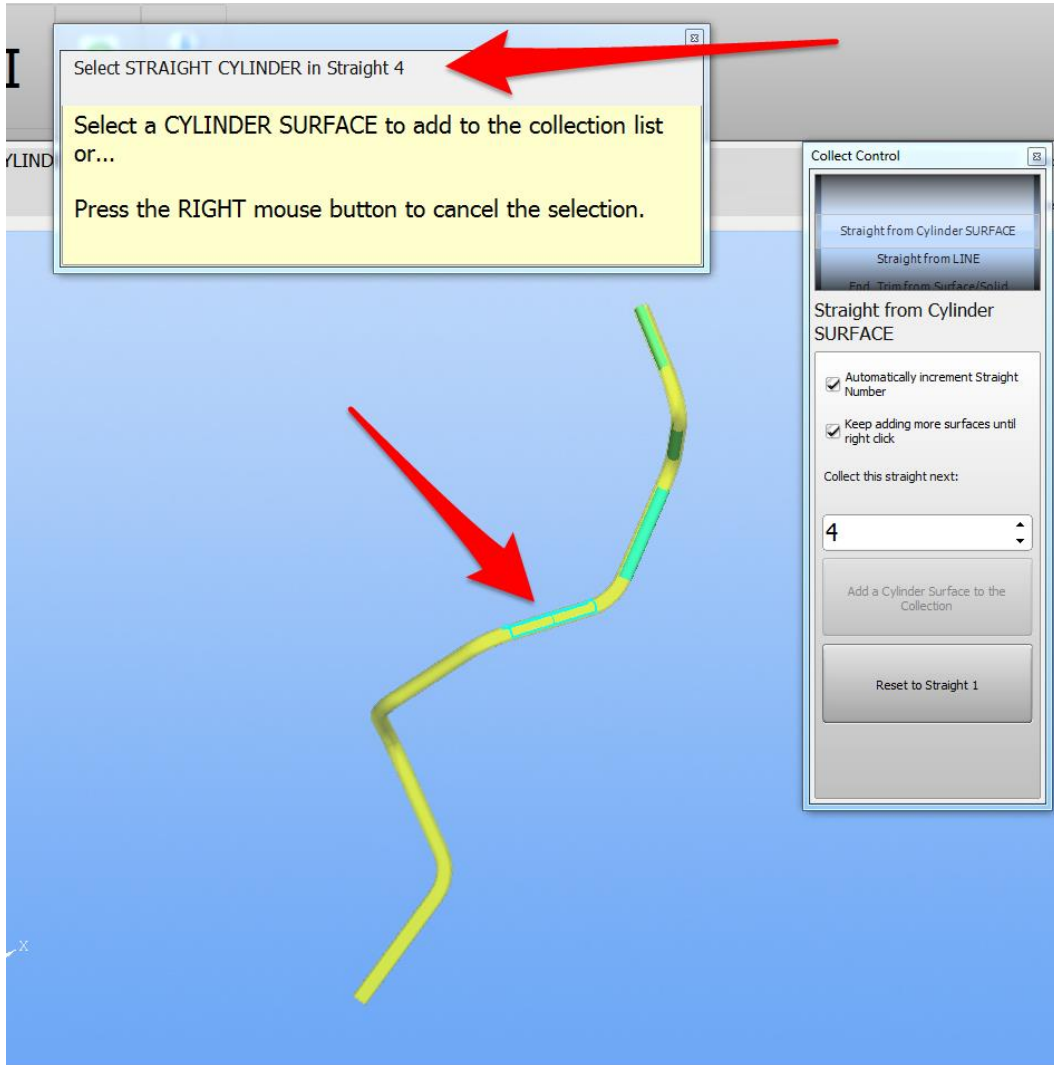
Note that with the **“Keep adding more surfaces”** option enabled, VTube will continue to press the **“Add Cylinder the Collection”** button automatically after straight surface selection.



Surface to  
every

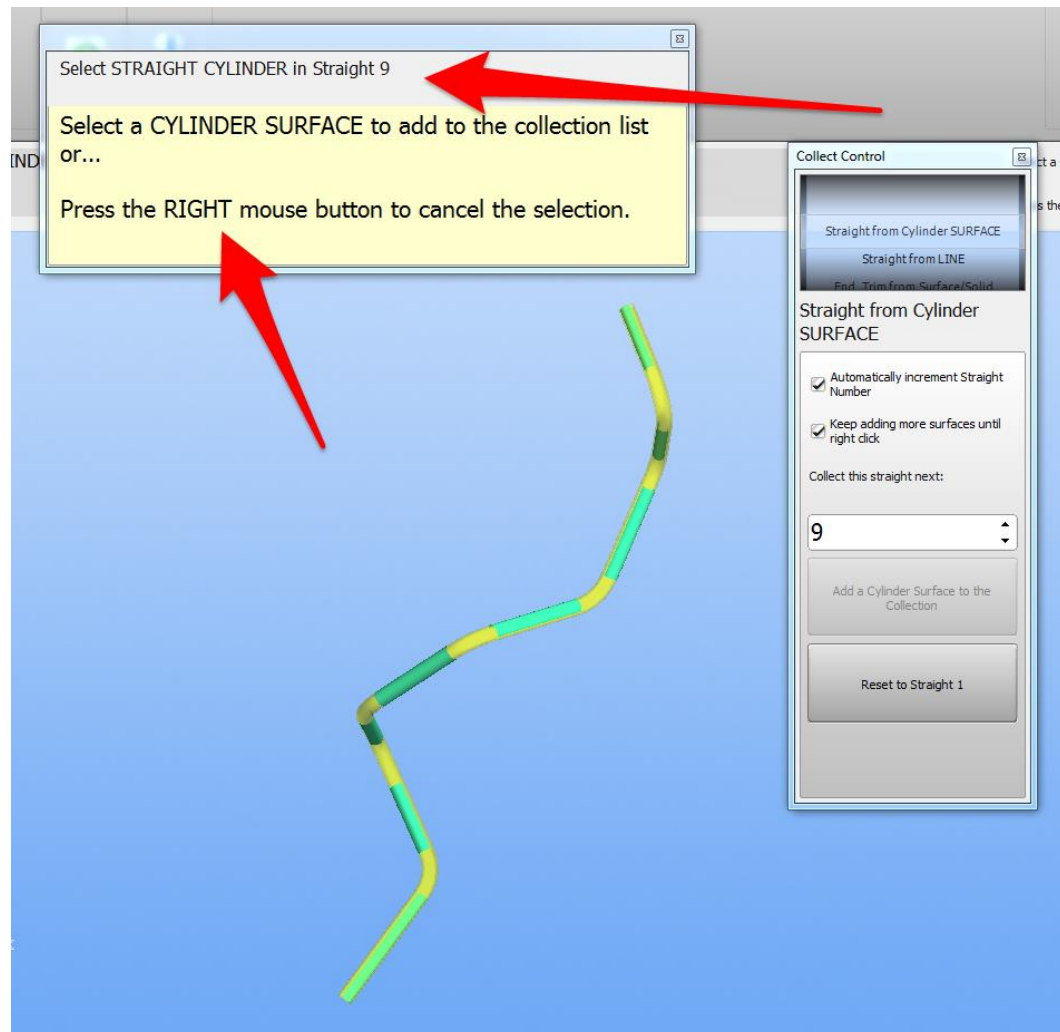
8. Select the surfaces of the tube straights in order. We recommend that you choose the shorter of the two end straights as the first straight.

Follow the instructions in the yellow guide box.

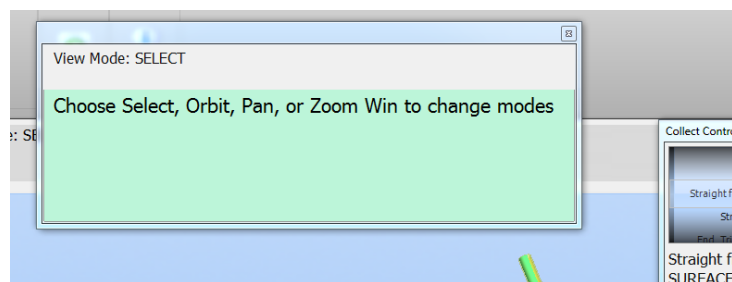


9. It is acceptable to collect both outer diameter surfaces, and inner wall surfaces in any straight. If you collect a variety of both, then VTube will calculate the wall thickness as well as the diameter.

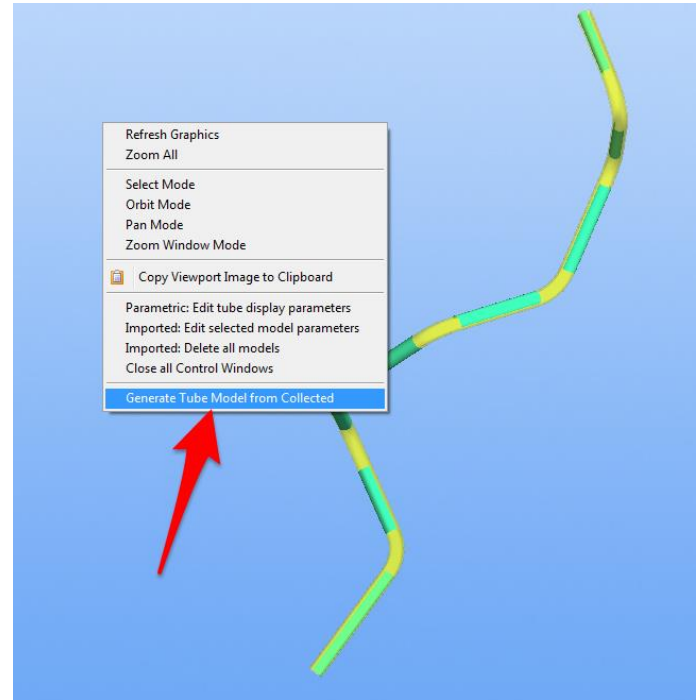
When you have selected all the straights, VTube will continue to ask for straight 9. There is no straight 9 in this part, so stop the collection process by RIGHT clicking the mouse on the viewport.



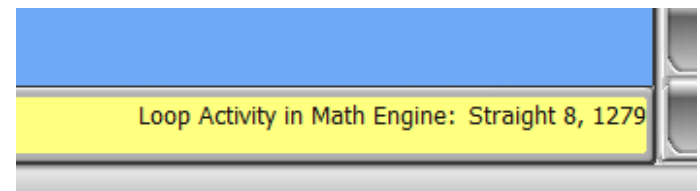
10. The CAD mouse mode will change to SELECT mode – which means that the process of adding to the collection is stopped.



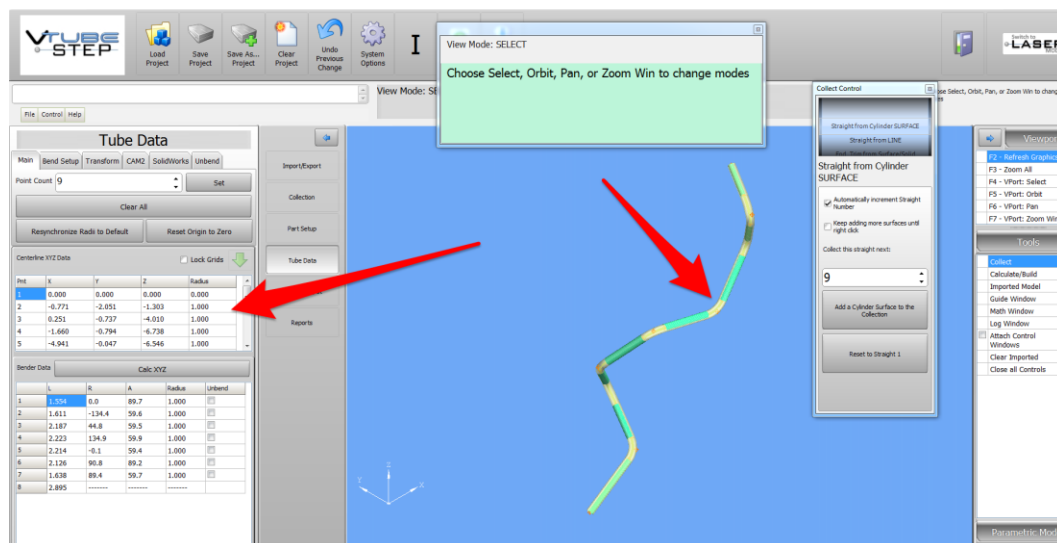
11. Right click on the viewport again, then click on **“Generate Tube Model from Collected”**.



12. In the lower right corner of the viewport, you will see the math engine work its way through the straights in order to solve for the centerline.



13. When the calculation is complete, you will see new XYZ data in the Tube Data menu. You will also see a white tube superimpose on the imported model.



14. During the calculation, VTube also calculated the diameter, the wall thickness (if you selected an inner wall in the collection), and calculated the cut length.

All of these values can be seen in the Part Setup menu. So, click on the Part Setup menu in the navigation pane, and show the diameter, wall (if non-zero), and the cut length.

15. Scroll to the bottom of the Part Setup menu. At row 31, enter a tube elongation percentage of "4" and press enter. This is a typical elongation percentage in the tube fabrication industry.

	Adjust		
28	B-End Length Adjust	0.000	inches
29	A-End Solid Model Offset	0.000	inches
30	B-End Solid Model Offset	0.000	inches
31	Tube Elongation %	4	%
32	Fixed Springback	0.00	deg
33	Proportional Springback	0.00	%

16. Right click on the Part Setup menu, and click on Calculate Cut Length. The cut length will change from 24.775 to 24.442. This would be a value closer to the actual cut length of the tube based on expected elongation in the bends.

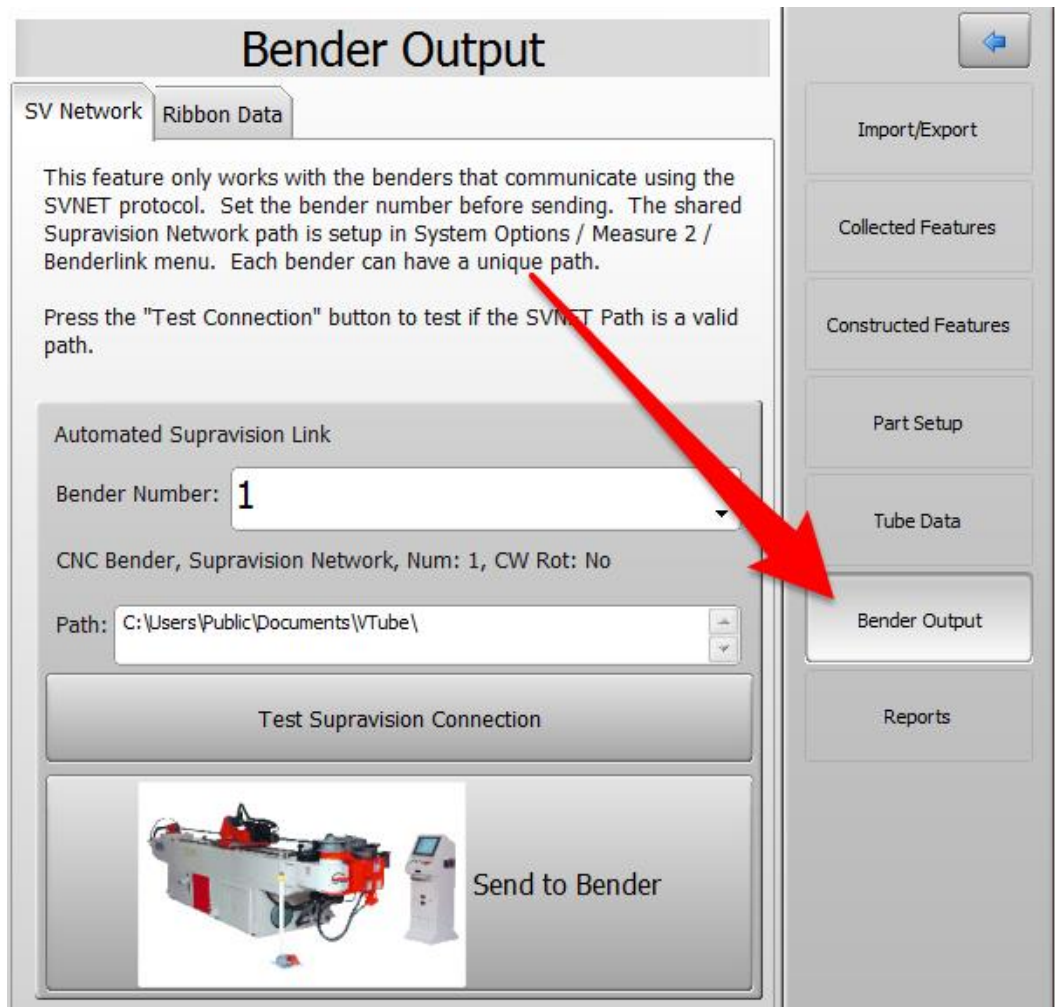
25	Cut Length	24.442	inches
----	------------	--------	--------

25	Cut Length	24.775	inches
26	Default Radius	1.000	inches
27	A-End Length	0.000	inches
28	B-End Length	0.000	inches
29	A-End		
30	B-End		
31	Tube Elongation %	4	%

17. Now we can export the data the bender.

This training document assumes that the bender is communicating with the Supervision Network protocol. This protocol connects through standard networking to share data automatically through file sharing.

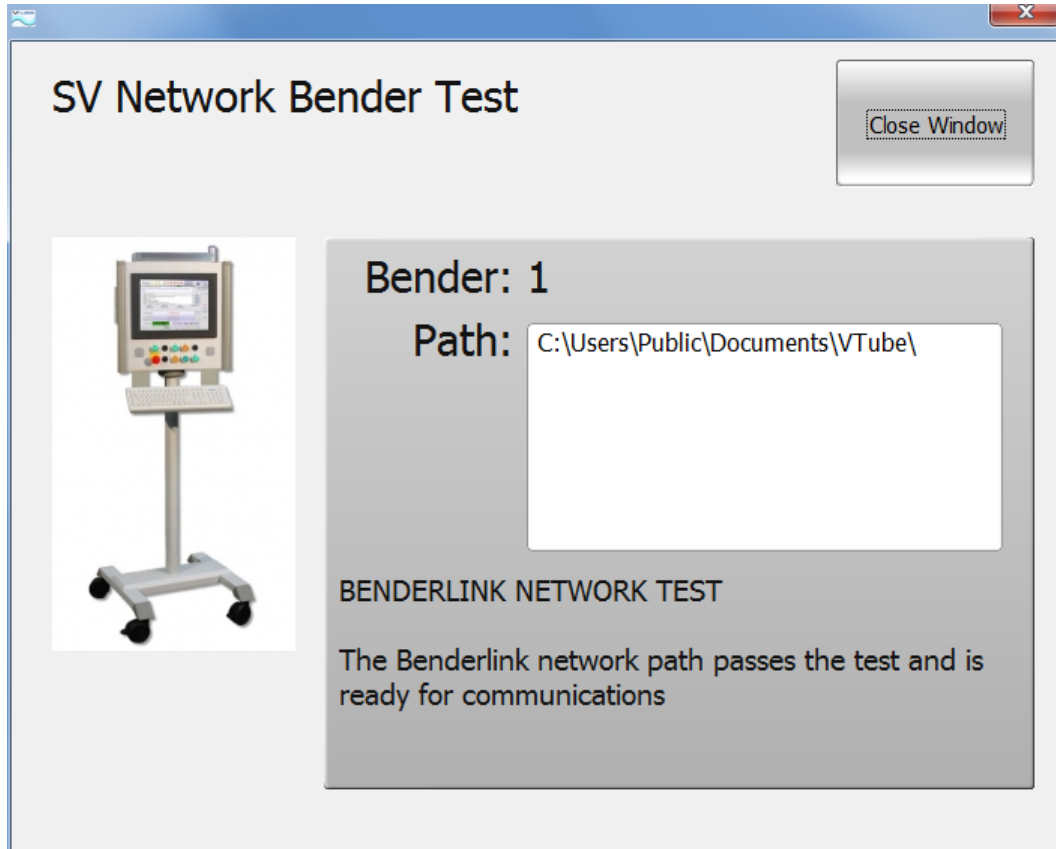
Press the Bender Output button in the Navigation Pane like this:



18. The standard setup will show a folder that is already setup for bender 1. VTube can communicate with up to 100 benders. The Bender Number box shows bender "1" by default. You can choose any of the 100 benders by press the up and down arrow keys in the Bender Number box, or just enter a value from 1 to 100.

This standard folder setup works fine for demonstration. It usually has to be changed to work with a bender. (It is changed in the System Options > Measure 2 Tab > Setup Benderlink network menu.)

19. Press the “Test Supervision Connection” to show that VTube can check for a good network connection to the bender. In this case, the location is in the public folder of your local hard drive – so it should pass without a problem.

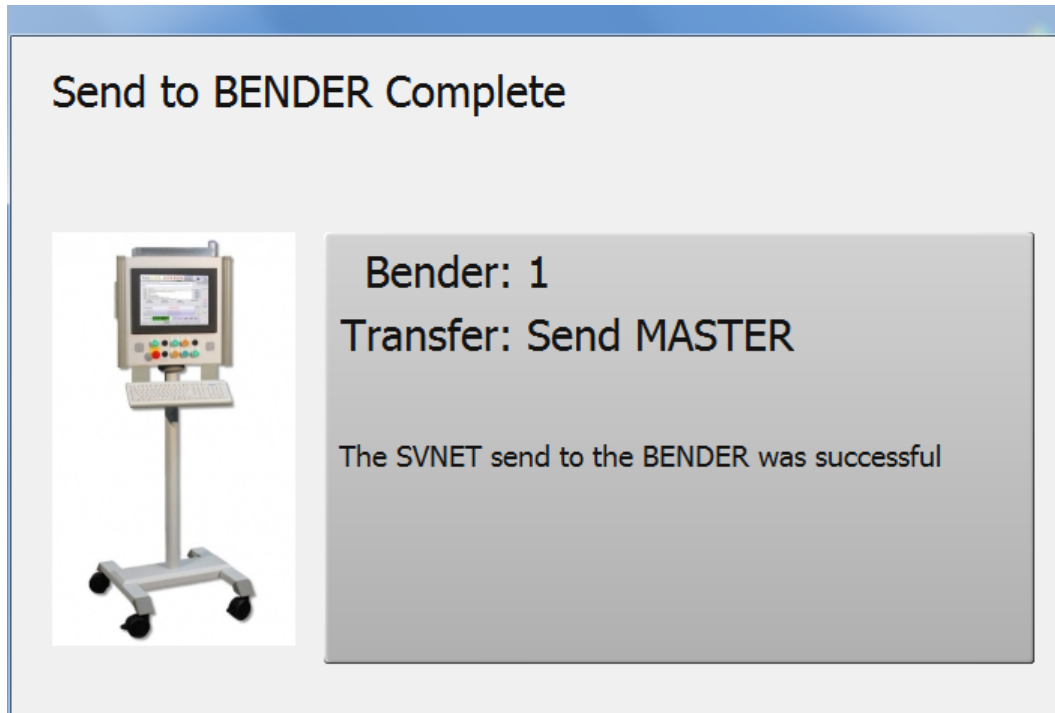


Press the Close Window button.



20. Press the **Send to Bender** button to send the data to the bender you've selected.

The data will now be saved to the location that is shared between VTube and the bender. When the save is complete, VTube shows this window:

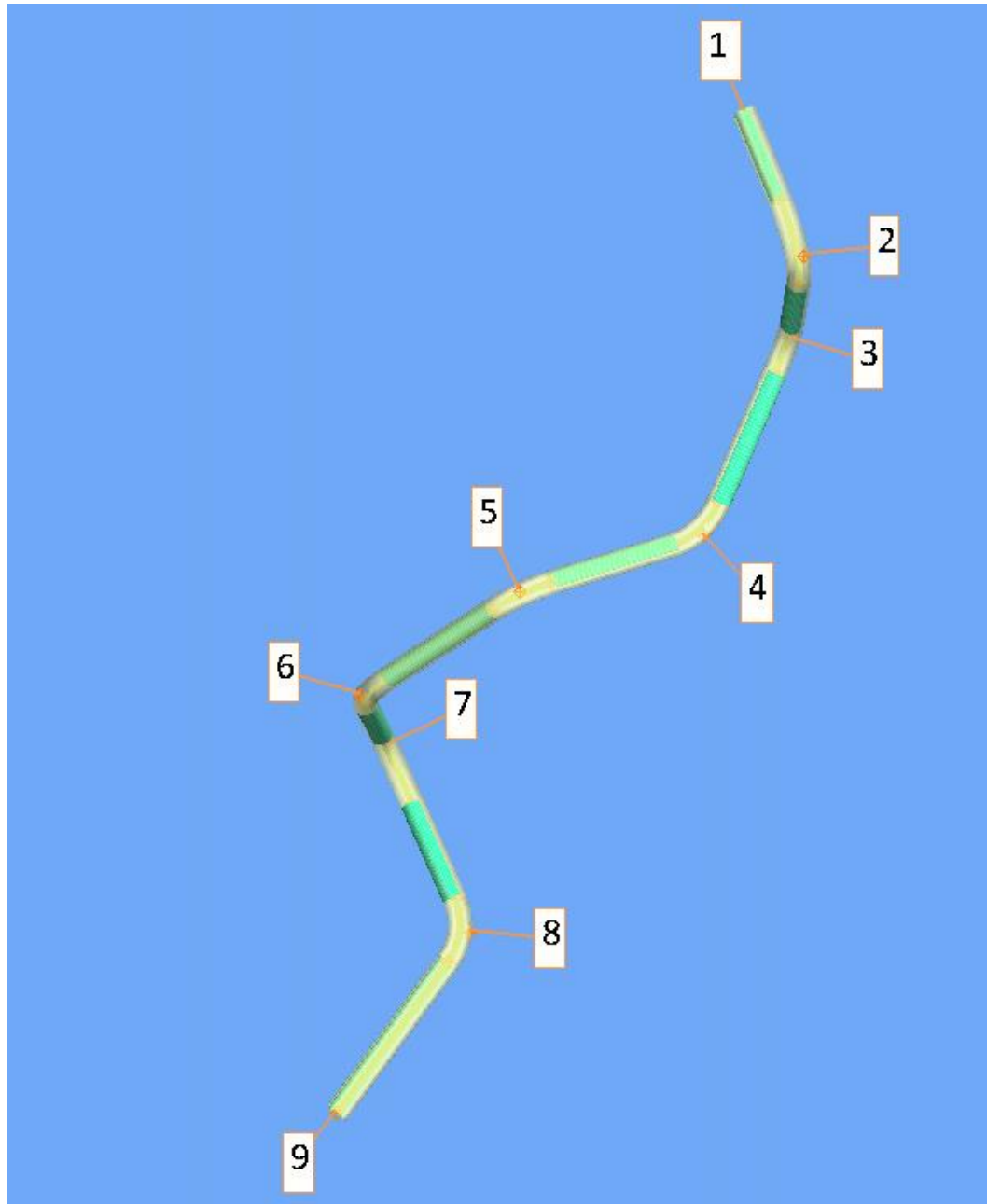


21. Move over the bender and finish the import of the data. Every bender handles importing this data slightly differently. In every case, it will be important to setup your bender control to be watching the same path that is programmed into VTube-STEP for this protocol to work.

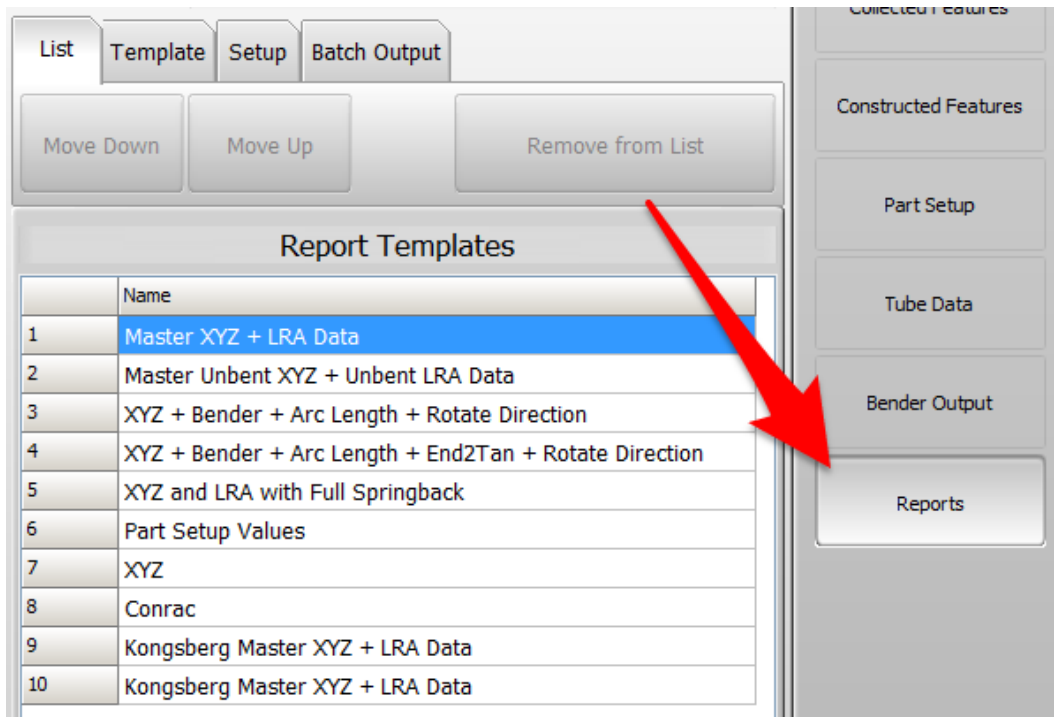
Also, both VTube and the bender will have to agree on each bender NUMBER to use. The bender number can be changed in VTube in the **Setup Benderlink network** menu.

We have an extensive web knowledgebase that covers setup for different benders. Please ask us about specific types of benders for setup instructions for details on how to setup bender controls to work with the Supravisation Network protocol.

22. To build prepare for a report, let's turn on the point labels using the F9 key. If the labels don't turn on when you press F9, then click on the blue viewport, then press F9 again.



23. In the navigation pane, press the Reports button.

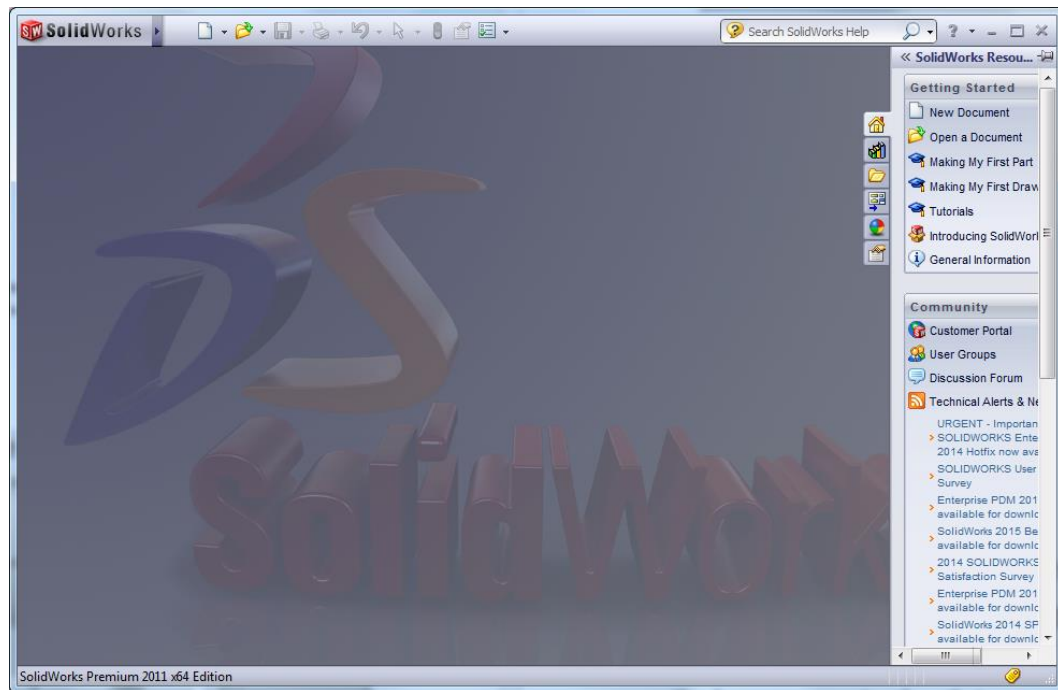


24. Double click on any one of the report template names to show a report. If the image in the report is not the same as the image in the viewport, then click on the **Refresh Image** button at the top of the **VTube Report** window.

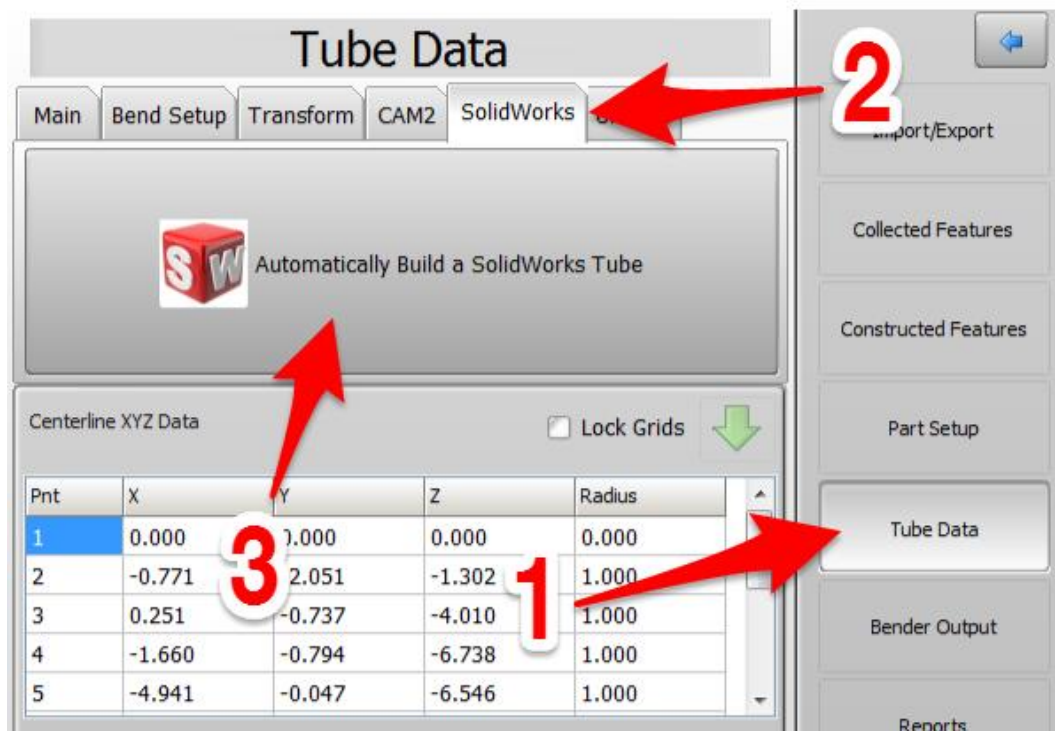


25. If you have SOLIDWORKS installed on the VTube computer, then VTube you can also have VTube automatically build a fully defined, fully constrained, 3DSketch-based tube in SOLIDWORKS.

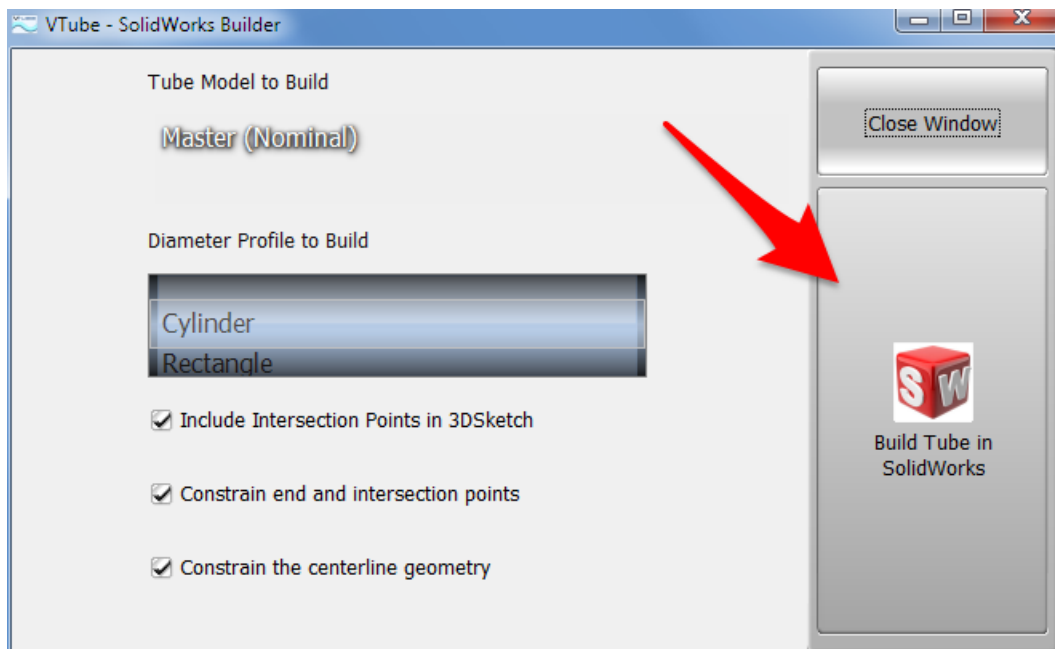
Start SOLIDWORKS.



26. In VTube, switch to the **Tube Data** window, and press **SOLIDWORKS**, then press **Automatically Build a SolidWorks Tube**.

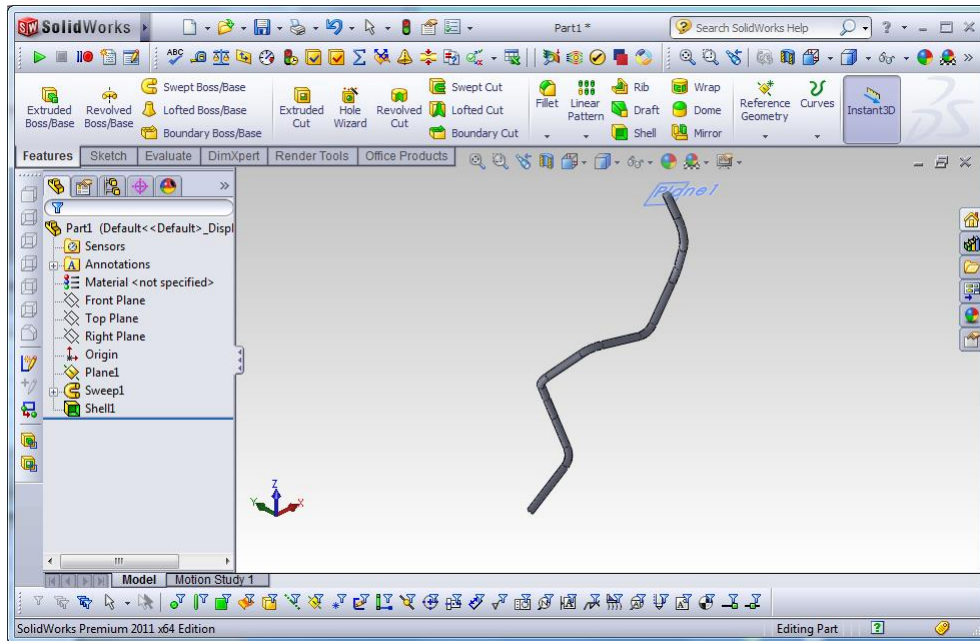


27. Press the **Build Tube in SolidWorks** button.

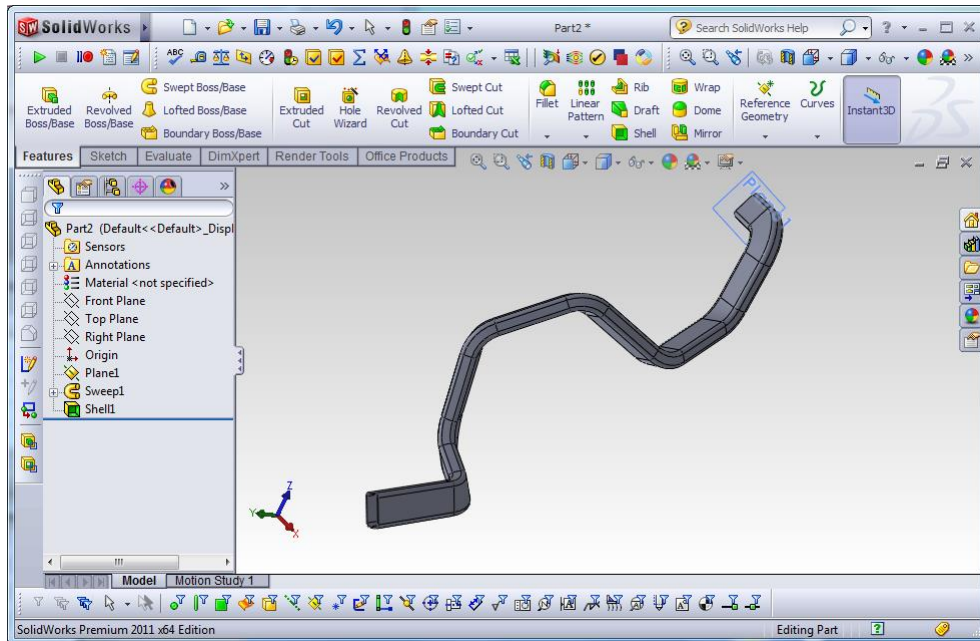


28. VTube will take over SOLIDWORKS as an operator and draw the tube in a few seconds.

If you explore the part features on the left, you can confirm that the part is designed with a 3DSketch centerline.



VTube can also draw square and rectangular tubes:



This is the end of the Quick-Start guide to VTube-STEP.

To learn more in depth import techniques, please visit the **VTube-STEP Video page** in our web knowledgebase:

[http://www.advancedtubular.wiki/index.php/VTube-STEP\\_Videos](http://www.advancedtubular.wiki/index.php/VTube-STEP_Videos)

### Example videos:

- Video 23: Super-Fast Model Data to Bender Communication
- Video 22: How to Import a Rectangular Tube Model
- Video 21: Sending a SOLIDWORKS tube a bender in 60 seconds
- Video 20: Unbending
- Video 19: Data Input Types
- Video 18: General Demo
- Video 17: Springback Compensation Tutorial