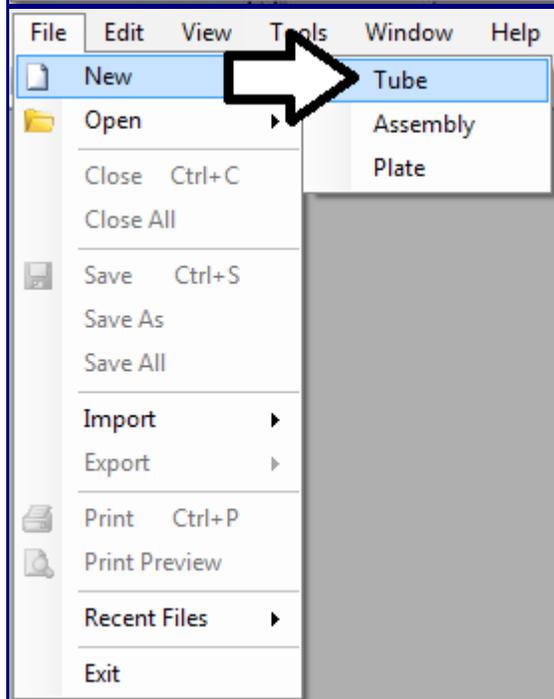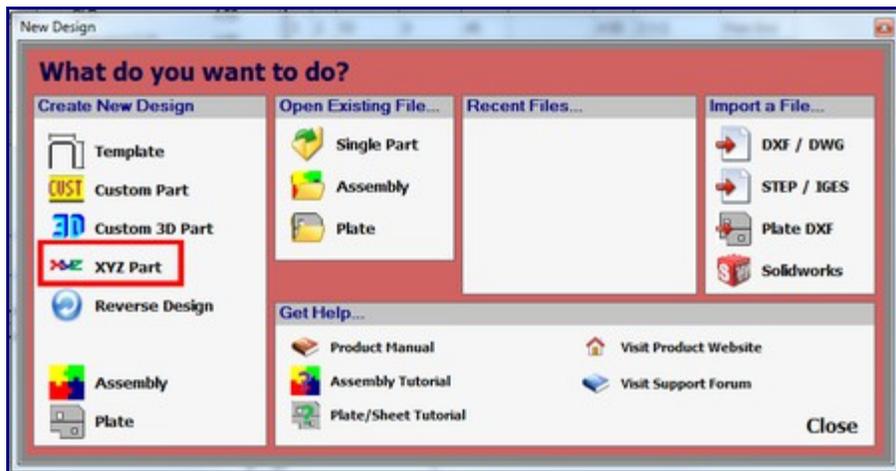# XYZ Part

Current Item: XYZ Part

Description

Parts can be created by entering XYZ coordinates in the XYZ part design interface.

How-To

Selection

To create an XYZ part, select the 'XYZ Part' option in the New Design menu that shows up when Bend Tech first starts up. This same menu can be will also be displayed when 'Tube' is chosen under 'New' in the 'File' menu or when the blank page icon (New Part) at the top of the page below the main menu bar is clicked.

Design

Once 'XYZ Part' is selected, a new XYZ part design window will open. If a default die and material have not been set, a die and material must be chosen before designing the part. If necessary, choose a material and die in the Die and Material tab. Once a die and material are selected, the custom 3D part design section will appear.


The number of bends can be chosen from the 'Number of Bends:' drop down menu by clicking it and selecting a bend amount. Up to 50 bends can be added to a part. To the right of the design coordinates,

a list of every bend will be shown along with the end length.

Check the box next to 'Refresh on Keystroke' to have the 3D part display and results table updated immediately when changes are made in the part design section. Check the box next to 'Verification Points' to have blue points displayed on the part's starting point, the center of each bend, and on the end point in the 3D part display. Check the box next to 'Display Dimensions' to display the part dimensions on the part in the 3D part display.

Click either of the 'Zero X', 'Zero Y', or 'Zero Z' buttons to clear out any values entered in the X, Y, or Z coordinate field columns. Once clicked, the appropriate fields will be filled with zeros.

Click either of the 'Mirror X, 'Mirror Y', or 'Mirror Z' buttons to finish off the part as a mirror image of the first half across the X, Y, or Z plane. To be able to do this, at least 2 bends at least half of the coordinates plus one after the halfway point need to be filled in (For example: A two bend part would need the start, bend 1 and bend 2 coordinates added).
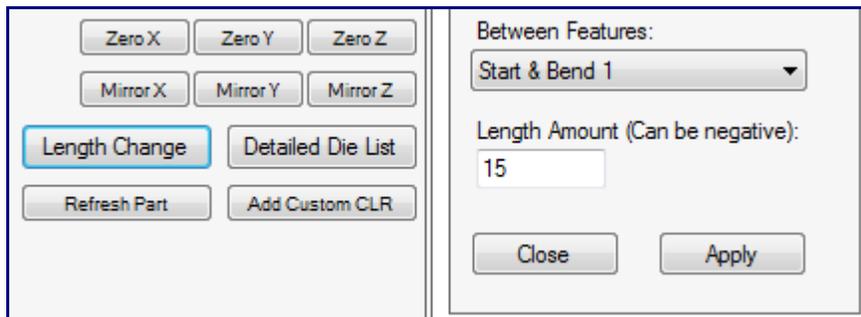
Click the 'Length Change' button to add or remove a section of straight material between two specified bends. Once clicked, a small menu box will appear to the right. Select which bends to add the length between from the drop down menu below 'Between Features:'. Enter a value in the field below 'Length Amount:' field. Entering a negative amount will remove the specified amount of length.Click 'Apply' to add/remove the amount. Click 'Close' to close the menu without adding or removing any amount.

To manually refresh the 3D part display and results table, click the 'Refresh Part' button.To add a custom die centerline radius, click the 'Add Custom CLR' button. Enter a value and click 'OK'. Doing this will add the entered value to the die drop down menus as 'Custom - (Entered Value)'. This will basically act as a die with only the CLR value.

To enter the XYZ part coordinates, enter values into the X, Y, and/or Z fields. Each bend will have 'Dim Type' and 'Die' drop down menus. To set a bend's dimension type, select Apex, Tangent, or Perp from the 'Dim Type' drop down menu. Apex will measure to the outside intersection (apex) of the bends two legs. Tangent will measure to the edge of the bends, the tangents, so no bent material will be included in the measurements. Perp is basically the tangent plus the CLR of the bend. To assign a die to a bend, select a die or custom CLR from the 'Die' drop down menu.