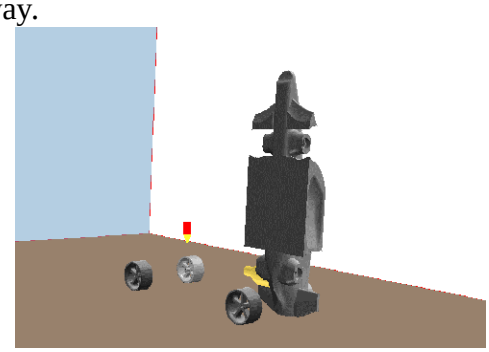
1.7. Car Body Orientation and Size

A very important point is the orientation of the co-ordinate system used in the STL file. F1 VWT is set up with the car pointing in the +X direction, the car width in the +Y direction, and +Z pointing up.

The F1 STL import software will assume that the largest dimension is along the length of the car body, and that the Z axis points up. The units are assumed to be millimetres.

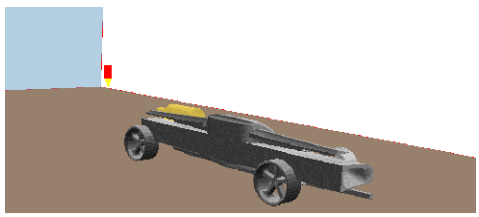
If the STL has been generated with +Z upwards, it should be imported correctly. If the STL has been generated in another orientation, it is usually still possible to rotate the body to face the right way.



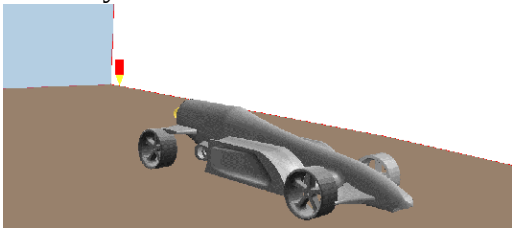
In this example, the body was generated with +Z as the Length, +X as the Width and +Y as the Height. These need to be switched round to the F1 convention of X is length, Y is Width and Z is Height.

Firstly, turn the legality check off, then click ‘Go’ next to ‘Tweak Body Size’. On the new dialog, you should see that the Length, Width, and Height values are mixed up. Enter the correct value into each box. Click ‘Previous panel’, turn the legality check back on then ‘OK’ to close the Main Menu.

The body should now have the correct dimensions, but will still be orientated wrongly.



Click on the body to select it. It will be highlighted to confirm the selection. Now click on the Rotate Object Up  button on the Editor handset (second icon from right, top row). Each click will change the orientation of the body within its box. Continue clicking until the body orientation is correct.



If the units in the STL file are not millimetres, the body size will be wrong. Go to the ‘Tweak Body Size’ page described above and enter the correct sizes in metres or feet depending on the chosen unit system. Cancel any warnings about illegal dimensions.