

Time	Subject – Total video time 31:25
00:00	<b>Introduction:</b> <ul style="list-style-type: none"> <li>- landing gear tires creation</li> <li>- elevator: pivotpoint and control surface animation</li> </ul>
00:30	<b>Open Blender file</b>
01:00	<b>Left View:</b> <ul style="list-style-type: none"> <li>- reposition 3d cursor to the end of the fuselage</li> <li>- insert torus object with: <ul style="list-style-type: none"> <li>→ 12 major and 6 minor segment</li> <li>→ size it 1 foot, 4 inches</li> </ul> </li> </ul>
02:30	<b>Rotate the torus around the Y axis:</b> <ul style="list-style-type: none"> <li>- [R][Y]90[Enter]</li> <li>- [S] to scale the wheel to match the background image size</li> </ul>
03:15	<b>Top View:</b> <ul style="list-style-type: none"> <li>- resize and reposition the torus</li> </ul>
03:30	<b>Front View:</b> <ul style="list-style-type: none"> <li>- resize and reposition the torus to fit inside the front landinggear-strut</li> </ul>
4:25	<b>Panel-Properties, [Object]:</b> <ul style="list-style-type: none"> <li>– rename the torus to fronttire</li> </ul> <b>3D View:</b> <ul style="list-style-type: none"> <li>- [Ctrl-A][Scale] to reset the scale back again to (1,1,1)</li> </ul>
05:35	<b>Top View:</b> <ul style="list-style-type: none"> <li>- [Shift-D] to copy the wheel</li> <li>- [G][X] to grab the wheel and position it on the left landinggear wheel position</li> </ul> <b>Panel-Properties,[Object]:</b> <ul style="list-style-type: none"> <li>– rename the torus to lefttire</li> </ul> <b>3D View:</b> <ul style="list-style-type: none"> <li>- [Shift_D] to copy the wheel</li> <li>- [G][X] to grab the wheel and position it on the right landinggear wheel position</li> </ul> <b>Panel-Properties,[Object]:</b> <ul style="list-style-type: none"> <li>– rename the torus to righttire</li> </ul>
08:00	<b>3D View:</b> <ul style="list-style-type: none"> <li>- select all 3 landinggear tires</li> <li>- select the body</li> <li>- [Ctrl-P][Object] to parent the tires to the body</li> </ul>
	<b>Creating the elevator surfaces:</b>
09:00	<b>Top View:</b> <ul style="list-style-type: none"> <li>- reposition 3d cursor to the tail</li> <li>- add cube,</li> <li>- [Tab] into edit-mode and resize the cube</li> </ul>
10:1x	<b>Left View:</b> <ul style="list-style-type: none"> <li>- resize and reposition the cube</li> </ul>
12:12	<b>3D View:</b> <ul style="list-style-type: none"> <li>- [H] to hide the body by pressing for a clear view</li> </ul>
14:15	<b>Top View:</b> <ul style="list-style-type: none"> <li>- duplicate the left elevator control surface</li> <li>- [Shift_D] to copy it</li> <li>- [G][X] to grab the copy and reposition it at the right side of the tail.</li> </ul>

15:00	<b>3D View:</b> - select both elevator control surfaces <b>3D View,Toolbar-Left,[Edit]:</b> - [Join] - them together (as one object) <b>3D View,Toolbar-Left,[Edit]:</b> - [Set Origin to Geometry] to re-adjust the center of the joined objects <b>Panel-Properties,[Object]:</b> - rename the object
16:30	<b>Creation and explanation of an (animation) pivot point:</b>
17:00	<b>3D View:</b> - reposition 3D cursor between both control surfaces - insert cube - resize the cube entirely to become very small - resize the cube in the X-axis - [Ctrl-A] to reset the scale back to (1,1,1) <b>Panel-Properties,[Object]:</b> - rename the object
19:00	<b>3D View:</b> - select both elevators_control_surface - select the elevator_control - [Ctrl-P][Object] to parent the elevator to the elevator_control
19:45	- select the elevator_control - select the body - [Ctrl-P][Object] to parent the elevator_control to the body
20:30	<b>Explanation of the visibility eyeball in the Outliner panel:</b>
22:30	<b>Left View:</b> - select elevator_control - [Alt-P] to clear the parent relationship from the elevator_control - move it in its proper location - select elevator_control-surface - select elevator_control - [Ctrl-P][Object] to parent the elevator_control to the body
	<b>Testing of the pivot point action:</b>
23:35	<b>3D View:</b> - select elevator_control <b>Panel-Properties,[Object],[Display]:</b> - [x] X-Ray on to see the object through everything else in the 3D View <b>3D View:</b> - [Z] to switch to “solid mode” view - [R][X] in the X-axis - rotate the elevator_control by moving your cursor
25:05	<b>3D View:</b> - repeat the above steps to see the elevator-control-surfaces move.

	<b>Setting up the FSX animation tag for the elevator control</b> <b>#FSX starts with the animation in the DOWN_POSITION</b>
25:30	<b>3D View:</b> <b>Toolbar-Left,[Blender2FSX],[FSX File Properties]:</b>
26:20	<b>- [Initialize toolkit] first to feed the Blender2FSX toolkit with FSX-SDK (modeldef.xml) data.</b>  <b>Toolbar-Left,[Blender2FSX],[FSX Animation tool]:</b> - [+] to search for the animation tag - enter <b>“elevator_percent_key”</b> - [Assign] to assign this animation tag to the elevator_control object
26:40	<b>3D View:</b> <b>Panel-Properties,[Object],[FSX File Properties]:</b> - Animation Key: → Check if the <b>“elevator_percent_key”</b> is present there → Check the animation-length (0-100)
	<b>Explanation on how to position the animated parts correctly for FSX</b>
27:30	<b>Left View:</b> - select the elevator_control - [R][X] rotate in the X-axis - rotate it 25 degrees (down) by moving your cursor.
	<b>3D View:</b> - check the control-surface-angle
28:05	<b>Panel-Animation:</b> - set Start: 0 - set End: 100 - set framecounter: 0 <b>3D View:</b> - [I][R](otation) to add the 1 <sup>st</sup> animation keyframe <b>Panel-Animation:</b> - set framecounter: 50 <b>3D View:</b> - [R][X] to rotate in the X-axis - rotate it -25 degrees (up, neutral position) by moving your cursor. - [I][R] to add the 2 <sup>nd</sup> animation keyframe <b>Panel-Animation:</b> - set framecounter: 100 <b>3D View:</b> - [R][X] to rotate in the X-axis - rotate it -25 degrees (up) by moving your cursor. - [I],[Rotation] to add the 3 <sup>rd</sup> animation keyframe
30:45	<b>To watch your animated part go live:</b> <b>Panel-Animation:</b> - [<<] to spool back to the beginning - [>] to play the animation
31:25	<b>End of this video</b>