

Time	Subject – Total video time 37:50
00:00	<b>Introduction</b> <ul style="list-style-type: none"> <li>- Material assignment</li> <li>- B2FSX export to x, xamin, mdl file formats</li> <li>- FSX testplane folder preparation from the default FSX C172 folder</li> <li>- FSX – first loading of the model into FSX</li> </ul>
00:20	<b>Open Blender file</b>
	<b>Short introduction and explanation for the next part piece of the B2FSX workflow</b> <ul style="list-style-type: none"> <li>- <b>Blender → MDL export → FSX import → testfly the plane inside FSX.</b></li> <li>- <b>Using the aircraft, model, texture files from the default C172 to get started</b></li> </ul>
02:00	<b>3D View:</b> <b>Toolbar-Left, [Blender2FSX],FSX File Properties]:</b> <ul style="list-style-type: none"> <li>- [Intitalize Toolset] to load the modeldef.xml file into the B2FSX toolset.</li> </ul>
02:47	<b>3D View:</b> <ul style="list-style-type: none"> <li>- [A] – to select all parts</li> <li>- [Ctrl-A] to reset the model scale back to (1,1,1)</li> </ul> <b>Animation Window:</b> <ul style="list-style-type: none"> <li>- set framecounter:0 → <i><b>#if you forget this, you get truncated animation inside FSX!</b></i></li> </ul>
03:50	<b>[File],[User Preferences],[Input-tab],[Select With]:</b> <ul style="list-style-type: none"> <li>- set [Left-Click] to be the selection mouse-button.</li> </ul>
	<i><b># Make sure the [Blender Render] engine is selected!</b></i> <i><b># Each object needs to get it own texture, for the UV mapping process later.</b></i>
04:20	<b>3D View:</b> <ul style="list-style-type: none"> <li>- select the body</li> </ul> <b>Panel-Properties,[Materials]:</b> <ul style="list-style-type: none"> <li>- [New] to create a new material to the body object</li> <li>- Name: body_color</li> <li>- Diffuse color: white (FFFFFF)</li> <li>- Specular intensity: 0,1000</li> </ul> <b>3D View:</b> <ul style="list-style-type: none"> <li>- select the wing</li> </ul> <b>Panel-Properties,[Materials]:</b> <ul style="list-style-type: none"> <li>- [New] to create a new material</li> <li>- Name: main_wing_color</li> <li>- Diffuse color: white (FF0000)</li> <li>- Specular intensity: 0,1000</li> </ul> <b>3D View:</b> <ul style="list-style-type: none"> <li>- select the left-aileron</li> </ul> <b>Panel-Properties,[Materials]:</b> <ul style="list-style-type: none"> <li>- [New] to create a new material</li> <li>- Name: left-aileron_color</li> <li>- Diffuse color: white (FFFFFF)</li> <li>- Specular intensity: 0,1000</li> </ul> <b>3D View:</b> <ul style="list-style-type: none"> <li>- select the left-flap</li> </ul> <b>Panel-Properties,[Materials]:</b> <ul style="list-style-type: none"> <li>- [New] to create a new material</li> <li>- Name: left-flap_color</li> <li>- Diffuse color: white (FFFFFF)</li> <li>- Specular intensity: 0,1000</li> </ul>

07:24	<p><b>3D View:</b></p> <ul style="list-style-type: none"> <li>- select the right-flap</li> </ul> <p><b>Panel–Properties,[Materials]:</b></p> <ul style="list-style-type: none"> <li>- [New] to create a new material</li> <li>- Name: right-flap_color</li> <li>- Diffuse color: white (FFFFFF)</li> <li>- Specular intensity: 0,1000</li> </ul> <p><b>3D View:</b></p> <ul style="list-style-type: none"> <li>- select the right-aileron</li> </ul> <p><b>Panel–Properties,[Materials]:</b></p> <ul style="list-style-type: none"> <li>- [New] to create a new material</li> <li>- Name: right-aileron_color</li> <li>- Diffuse color: white (FFFFFF)</li> <li>- Specular intensity: 0,1000</li> </ul>
08:10	<p><b>3D View:</b></p> <ul style="list-style-type: none"> <li>- select the elevator</li> </ul> <p><b>Panel–Properties,[Materials]:</b></p> <ul style="list-style-type: none"> <li>- [New] to create a new material</li> <li>- Name: elevator_color</li> <li>- Diffuse color: white (FF0000)</li> <li>- Specular intensity: 0,1000</li> </ul> <p><b>3D View:</b></p> <ul style="list-style-type: none"> <li>- select the elevator-control_surface</li> </ul> <p><b>Panel–Properties,[Materials]:</b></p> <ul style="list-style-type: none"> <li>- [New] to create a new material</li> <li>- Name: elevator_control_color</li> <li>- Diffuse color: white (FFFFFF)</li> <li>- Specular intensity: 0,1000</li> </ul>
09:40	<p><b>3D View:</b></p> <ul style="list-style-type: none"> <li>- select the rudder</li> </ul> <p><b>Panel–Properties,[Materials]:</b></p> <ul style="list-style-type: none"> <li>- [New] to create a new material</li> <li>- Name: rudder_color</li> <li>- Diffuse color: white (FF0000)</li> <li>- Specular intensity: 0,1000</li> </ul> <p><b>3D View:</b></p> <ul style="list-style-type: none"> <li>- select the rudder-control_surface</li> </ul> <p><b>Panel–Properties,[Materials]:</b></p> <ul style="list-style-type: none"> <li>- [New] to create a new material</li> <li>- Name: rudder_control_color</li> <li>- Diffuse color: white (FFFFFF)</li> <li>- Specular intensity: 0,1000</li> </ul>
10:30	<p><b>3D View:</b></p> <ul style="list-style-type: none"> <li>- select the left_landinggear</li> </ul> <p><b>Panel–Properties,[Materials]:</b></p> <ul style="list-style-type: none"> <li>- [New] to create a new material</li> <li>- Name: left_landinggear_color</li> <li>- Diffuse color: white (FF0000)</li> <li>- Specular intensity: 0,1000</li> </ul>

	<p><b>3D View:</b></p> <ul style="list-style-type: none"> <li>- select the right_landinggear</li> </ul> <p><b>Panel–Properties,[Materials]:</b></p> <ul style="list-style-type: none"> <li>- [New] to create a new material</li> <li>- Name: right_landinggear _color</li> <li>- Diffuse color: white (FF0000)</li> <li>- Specular intensity: 0,1000</li> </ul> <p><b>3D View:</b></p> <ul style="list-style-type: none"> <li>- select the front_landinggear</li> </ul> <p><b>Panel–Properties,[Materials]:</b></p> <ul style="list-style-type: none"> <li>- [New] to create a new material</li> <li>- Name: front_landinggear _color</li> <li>- Diffuse color: white (FF0000)</li> <li>- Specular intensity: 0,0</li> </ul>
11:50	<p><b>Panel–Properties,[Materials]:</b></p> <ul style="list-style-type: none"> <li>- [New] to create a new material</li> </ul> <p><b>3D View:</b></p> <ul style="list-style-type: none"> <li>- select the left_landinggear_tire</li> </ul> <p><b>Panel–Properties,[Materials]:</b></p> <ul style="list-style-type: none"> <li>- [New] to create a new material</li> <li>- Name: left_tire_color</li> <li>- Diffuse color: white (333333)</li> <li>- Specular intensity: 0,1000</li> </ul> <p><b>3D View:</b></p> <ul style="list-style-type: none"> <li>- select the right_landinggear_tire</li> </ul> <p><b>Panel–Properties,[Materials]:</b></p> <ul style="list-style-type: none"> <li>- [New] to create a new material</li> <li>- Name: right_tire_color</li> <li>- Diffuse color: white (333333)</li> <li>- Specular intensity: 0,0</li> </ul> <p><b>3D View:</b></p> <ul style="list-style-type: none"> <li>- Select the front_landinggear_tire</li> </ul> <p><b>Panel–Properties,[Materials]:</b></p> <ul style="list-style-type: none"> <li>- [New] to create a new material</li> <li>- Name: front_tire_color</li> <li>- Diffuse color: white (333333)</li> <li>- Specular intensity: 0,0</li> </ul>

13:00	<b>#The control-surface pivot points do not need colors (so they do not show up on fsx)</b>
13:20	<b>Save the Blender file</b>
	<b>Explanation about measuring the fuselage-height for the aircraft.cfg file parameters Only change the current height of the plane (in relation to the default C172)</b>
14:15	<b>Left View:</b> <b>Toolbar-Right,[Background Images]:</b> - [...] Turn off the background images to see the grid /measuring lines in the background  <b>TIP:</b> <b>A - Panel-Properties,[World],[World],[Horizon Color]:</b> - set this color to something lighter like [hex:1F67FF] to see those lines much better <b>B – Toolbar-Right,[Display]:</b> - [x][World background color] to make the background color visible in the 3D view This works much better since you can clearly see the lines now against a lighter background color
15:15	<b>Explanation about the text in the upper left corner of 3D View(port):</b> <b>Its shows the measurement distance between the background (scale)lines in Units (foot, meters):</b> - <b>Blender Y direction (in front of the plane = +, behind of the plane = -)</b> - <b>Blender X direction (right of the plane = +, left of the plane = -)</b> - <b>Blender Z direction (above the plane = +, below of the plane = -)</b>
17:00	<b>Explanation about:</b> - <b>how the model will show up in FSX, scale wise</b> - <b>how to put the model height-data into the aircraft.cfg and/or .AIR file</b> >>> <b>Note: The current model height is 8 feet!</b>
	<b>Explanation: No use of FSX materials parameters for now (due to Blender material, no textures)</b>
20:00	<b>EXPORTING THE BLENDER MODEL INTO FSX</b>
	<b>3D View:</b> <b>[File],[Export to],[DirectX for FSX(.x)]</b> - choose the following Export options: → Apply modifiers → Export animations → Export MDL <b>Put the export file in the project's ....\MDL folder:</b> - [Export FSX .X file] <b>Open Windows Explorer:</b> - look in the ..\MDL folder to see if the export was successful <b>Close Blender.</b>
21:43	<b>Open Windows Explorer:</b> - locate your FSX folder:“C:\Program Files (x86)\Microsoft Games\Microsoft Flight Simulator X” - locate for the default C172 in your airplanes folder ..\Simobjects\Airplanes\C172
23:30	>
	- copy the entire FSX - C172 folder into your Blender project folder and rename it (testplane1) - locate the .air file and rename it (testplane1.air)
24:30	>
	- locate the copied ...C172\ model folder - copy the newly exported testplane1.mdl file into the copied ..C172\model folder - delete the other C172 related .mdl files (cessna172sp.mdl and cessna172sp_interior.mdl)

25:20	<ul style="list-style-type: none"> <li>- open the model.cfg file (with notepad.exe)</li> <li>- delete the name behind the interior=... entry, since we do not need this now</li> <li>- rename the name behind the interior=testplane1</li> <li>- save the model.cfg file and close the editor</li> </ul>
26:20	<b>Go back to the copied C172 folder root:</b> Locate and open the aircraft.cfg file: <ul style="list-style-type: none"> <li>- find: title, change its value into “testplane1”</li> <li>- find: sim, change its value into “testplane1”</li> <li>- find: atc_id, change its value to “tp1”</li> <li>- find: manufacturer, change its value to “KP1001”</li> <li>- find: ui_type, change its value to “Test Plane”</li> <li>- find: ui_createdby, change its value to “your own name”</li> <li>- find: description, change its value to “Test Plane”</li> </ul>
29:00	Delete the entire entries [flightsim.1] – [flightsim.5], since we do not need it
29:10	<ul style="list-style-type: none"> <li>- find [General]</li> <li>- find atc-type, change its value to “TestPlane1”</li> <li>- find atc-model, change its value to “TP1”</li> </ul>
	<b>Altering the model height parameters in the aircraft.cfg</b> <b># - type “1” is a landing gear</b> <b># - type “2” is a skid</b>
30:00	<ul style="list-style-type: none"> <li>- find [Contact_points]</li> <li>- find point.0, change the 3<sup>rd</sup> value to -8.00 (the height between the center of gravity and the ground)</li> <li>- find point.1, change the 3<sup>rd</sup> value to -8.00</li> <li>- find point.2, change the 3<sup>rd</sup> value to -8.00</li> </ul>
31:00	- find static_cg_height, change it to 7,7 (this puts the tires polygons a little bit into a ground)
	<b>Altering the (animated) flap positions:</b>
32:10	<ul style="list-style-type: none"> <li>- find [flaps.0]</li> <li>- find flaps-position.1, change its value to 15 (2<sup>nd</sup> animation point x-axis rotation angle)</li> <li>- find flaps-position.2, change its value to 30 (3<sup>rd</sup> animation point x-axis rotation angle)</li> <li>- find flaps-position.3, and delete the entire line (since we have only 2 animated flap positions)</li> </ul>
32:48	<b>Save the file and close the editor again</b>
33:00	<b>Open Windows Explorer:</b> <ul style="list-style-type: none"> <li>- go back to the testplane1 folder</li> <li>- copy and paste in entirely into the ... \Simobjects\Airplanes folder</li> </ul>
33:44	<b>Start-up FSX:</b> <ul style="list-style-type: none"> <li>- go to Free Flight menu</li> <li>- select the newly Testplane aircraft</li> <li>- click [Ok]</li> </ul> >> Your model is now spinning in the FSX 3D view <ul style="list-style-type: none"> <li>- select location: your own test-airport</li> <li>- select time: day-time</li> <li>- select weather: clear skies</li> <li>- click [Fly Now]... and see the B2FSX magic unfold right before your eyes :-P</li> </ul>
35:35	<b>Inside FSX:</b> <ul style="list-style-type: none"> <li>- press [F11] to get an external viewpoint</li> <li>- test all control surfaces by moving your joystick.</li> <li>- test your flaps (1<sup>st</sup>, 2<sup>nd</sup> down)</li> </ul>
37:30	<b>End of the video</b>