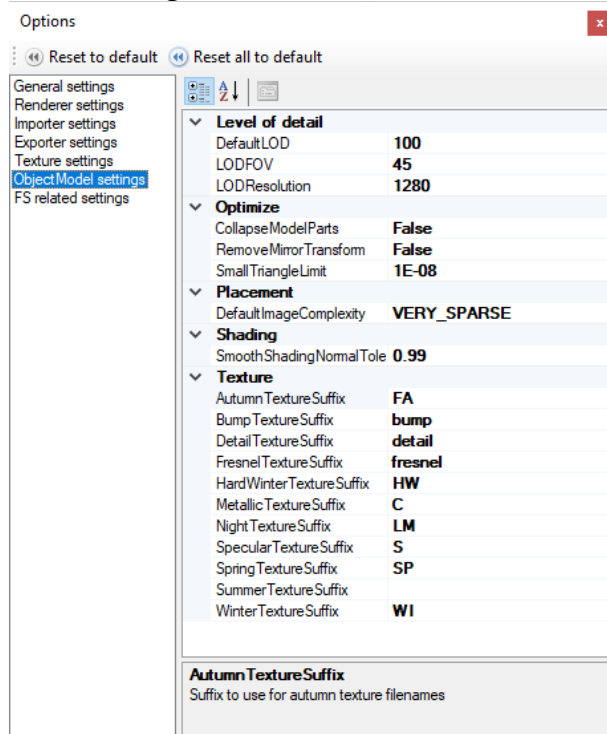


Converting Proximo's NH-90 models

Setting up

MCX Setting



Ensure the following are in your modeldef.xml

```
<PartInfo>
  <Name>Custom_vis_AI_NAV_OR_MOVING_CREW</Name>
  <Visibility>
    <Parameter>
      <Code>(A:LIGHT NAV,bool) (A:GROUND VELOCITY, knots) 0 != or if{ 1 } els{ 0 }</Code>
    </Parameter>
  </Visibility>

  <!-- Trigger visibility when aircraft 100 ft AGL -->
  <PartInfo>
    <Name>Custom_vis_100ftAGL_or_more</Name>
    <Visibility>
      <Parameter>
        <Code>(A:PLANE ALT ABOVE GROUND, feet) 99 > if{ 1 } els{ 0 }</Code>
      </Parameter>
    </Visibility>
  </PartInfo>

  <!-- Trigger visibility when aircraft less that 100 ft AGL -->
  <PartInfo>
    <Name>Custom_vis_100ftAGL_or_less</Name>
    <Visibility>
      <Parameter>
        <Code>(A:PLANE ALT ABOVE GROUND, feet) 100 < if{ 1 } els{ 0 }</Code>
      </Parameter>
    </Visibility>
  </PartInfo>
```

```

<!-- Custom animations for Proximo NH-90 -->
<!-- Show door crew if AI is running or moving triggered by BEACON light and plane below 750 ft-->
<PartInfo>
  <Name>Custom_vis_Nh90_crew</Name>
  <Visibility>
    <Parameter>
      <Code>
        (A:PLANE ALT ABOVE GROUND, feet) 750 &lt; if{
          (A:LIGHT BEACON,bool) (A:GROUND VELOCITY, knots) 0 != or if{ 1 } els{ 0 } }
      </Code>
    </Parameter>
  </Visibility>
</PartInfo>

<!-- Show gun crew if AI is running or moving triggered by BEACON light and plane below 2950 ft-->
<PartInfo>
  <Name>Custom_vis_Nh90_gun_crew</Name>
  <Visibility>
    <Parameter>
      <Code>
        (A:PLANE ALT ABOVE GROUND, feet) 2950 &lt; if{
          (A:LIGHT BEACON,bool) (A:GROUND VELOCITY, knots) 0 != or if{ 1 } els{ 0 } }
      </Code>
    </Parameter>
  </Visibility>
</PartInfo>

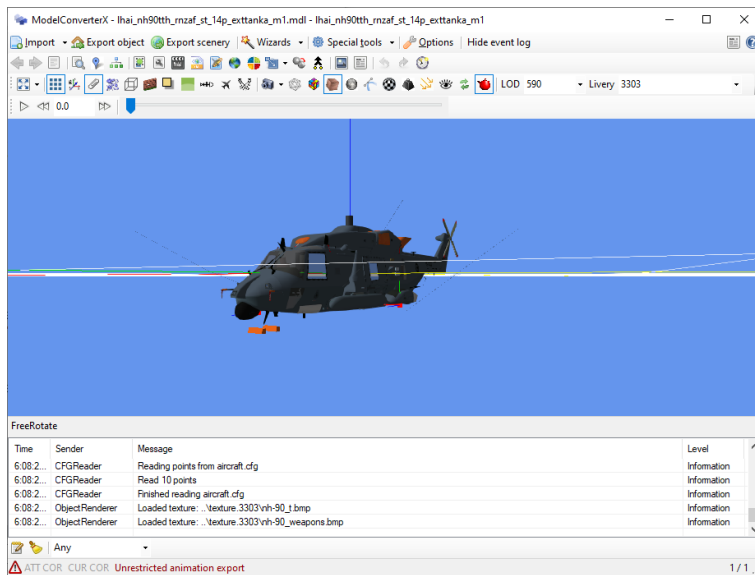
<Animation name="custom_anim_NH90_lift" guid="786cfel6-7215-4210-9c21-e66fc6e78ce4" length="200"
type="Sim" typeParam2="custom_anim_NH90_lift" typeParam="AutoPlay" />
<PartInfo>
  <Name>custom_anim_NH90_lift</Name>
  <AnimLength>200</AnimLength>
  <Animation>
    <Parameter>
      <Code>
        (G:Var3) 1 == if{ (A:VELOCITY BODY Z,knots) 25 &lt; if{ 0 (&gt;G:Var3) 0 } els{ 100 } }
        els{ (A:PLANE ALT ABOVE GROUND,feet) 7 &gt; if{ 1 (&gt;G:Var3) 7 } els{ (A:GENERAL ENG
        THROTTLE LEVER POSITION:1,percent) 95 &gt; if{ 200 } els{ 0 } } }
      </Code>
    </Parameter>
    <Lag>25</Lag>
  </Animation>
</PartInfo>

```

Step 1 – Extracting the static elements (chocks, flags etc).

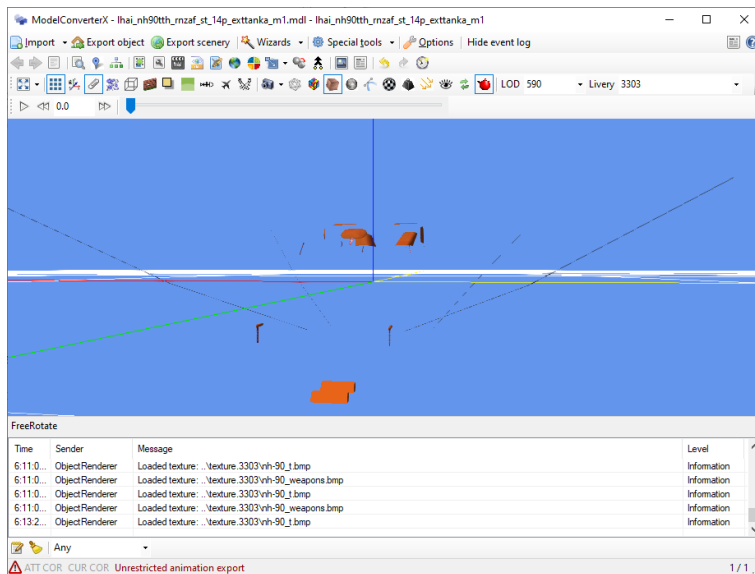
Hopefully we will only need to do this once for each main model variant. [\(Note for instructions v1.1 – In the LHAI_NH90 Conversion Kit there are model files containing the static elements for each of the 4 main variants of the NH-90 so you don’t need to create your own. The FS9 models still need to be imported for each model to check that there are no “non standard ground parts”, some of the naval models have additional parts that support the tail or rotors\)](#) I want to isolate the static parts that are only displayed when the aircraft is on the ground. That way we only need to tag the visibility conditions once.

Import the FS9 model without changing any of the default values in the Set Condition Variables dialog
You get something like this



Use the Generate LODs tool to delete all LODs but the highest (590)

Use the Object Hierarchy tool to delete details until all that are left are
 chocks
 RBF flags
 intake and exhaust covers
 rotor tie downs



Assign each ModelPart the visibility condition custom_part_vis_blocks_nav (this will make the parts visible only so long as the Nav light is not illuminated)

Open the Animation Editor and re-assign usrvar2 animations to AmbientD

Save this model as an FSX model with some name that makes sense like NH90_Parts

Repeat the preceding steps but this time isolate LOD 98. You should see that the only static part is the nose wheel chock. Isolate this part and assign it the visibility condition `custom_part_vis_blocks_nav`. Save this as `NH90_Parts_lod98`.

Create the Prop slow and prop blurred rotor models – hopefully the models I have included in the kit will fit all models.

We should now be ready to start converting the actual models.

Step 2 – Basic conversion

Import FS9 model

Set the following variables in the Set Condition Variables dialog box

`g_lightStates` - 0

`custom_anim_LIGHT_NAV` – 1

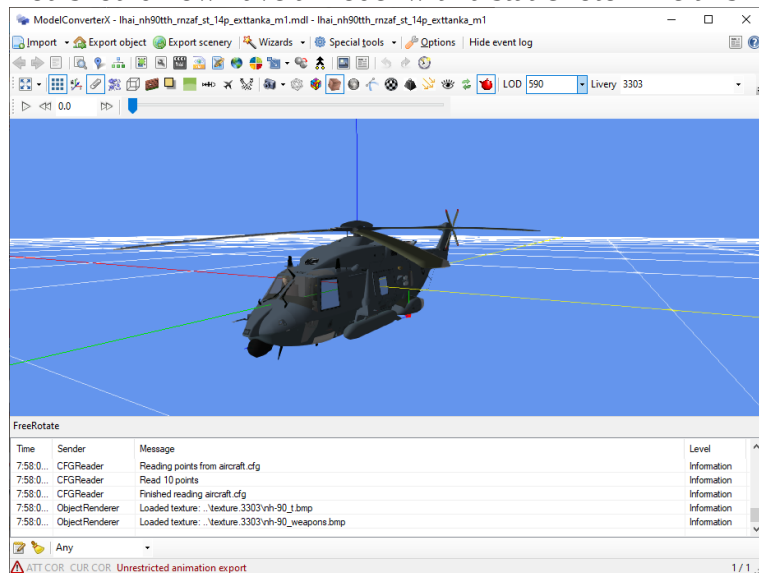
`usrvar` – 1

`custom_anim_PROP_MAX....` - 1

`custom_anim_LIGHT_BEAC...` - 1 (if it exists, not all the models have this variable – it controls door crews)

`custom_anim_VELOCITY_BODY_...` - 1 (if it exists, not all the models have this variable – it controls the display of the FLIR)

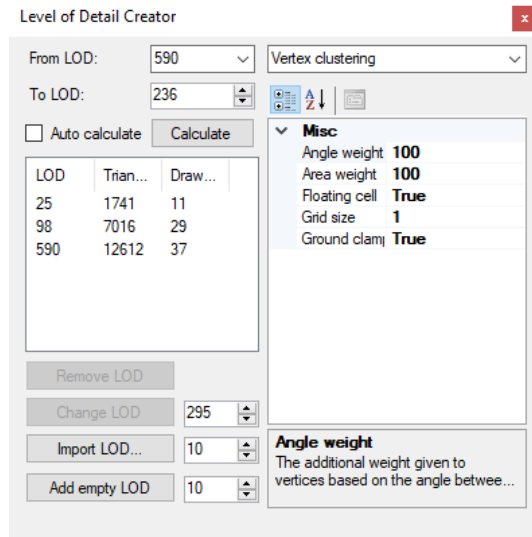
You should now have a model with a static rotor like this



Change the model name – open Object Information and edit the model name to include FSX at the end of the model name. I do this to avoid accidentally overwriting the FS9 model, plus it helps identify the target sim.

Reduce LODs – Open the Level of Detail Creator and delete all LODs except 25, 98, 590

Update V1.1 – Delete all LODs except 10, 98, 590



Assigning visibility to crew.

We need to tag the crew so that they only appear once the NAV light is turned on.

Open Hierarchy Editor and identify the crew parts, this is easiest done in wireframe render mode. The pilot and co-pilots heads are animated so they will occur under a SceneGraph node. Once you have identified the head there are 2 ModelParts (the head and the helmet goggles) assign these parts the Custom_vis_AI_NAV_OR_MOVING_CREW visibility condition.

The pilot and co-pilots bodies (as well as any seated cabin crew) will be just ModelParts. Once you have found them then assign them the same visibility condition.

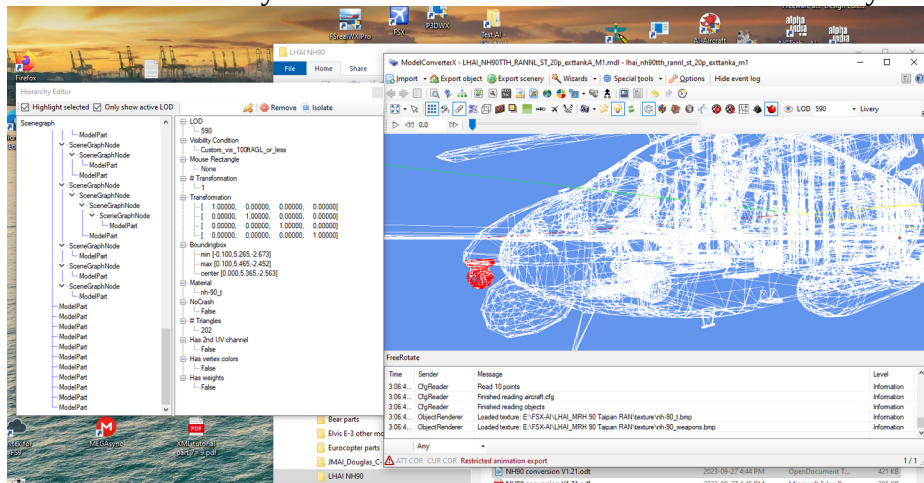
If there are door crew or door guns assign them their appropriate visibility condition. Use Custom_vis_Nh90_gun_crew for models with door guns and Custom_vis_Nh90_crew for the others.

Assigning visibility needs to be done for both LOD 590 and LOD 98. The crew members at LOD 98 do not have animated heads so they are just ModelParts.

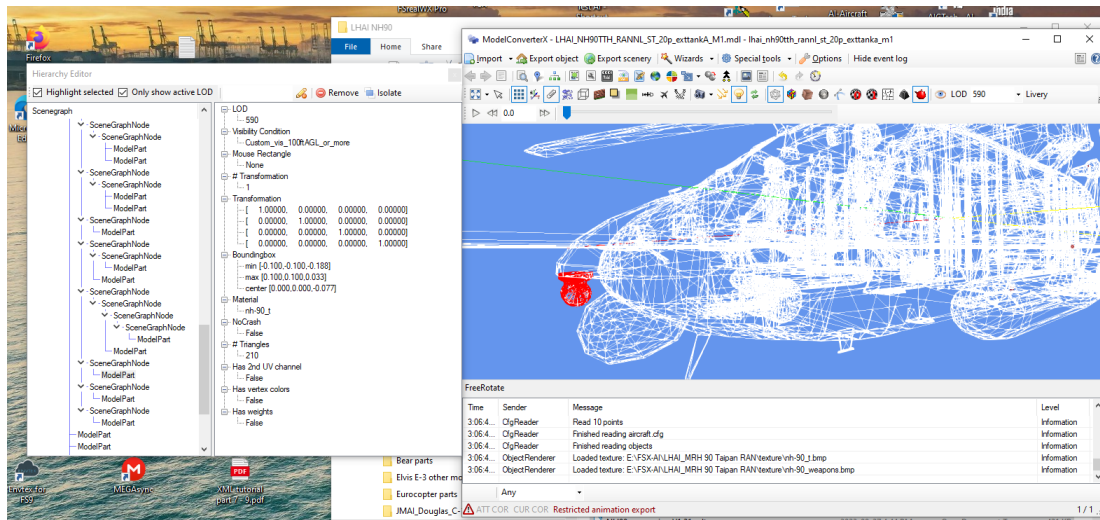
Assigning visibility to FLIR (if it exists)

The FLIR has 2 model states. There is a static model that should be displayed when the aircraft is below 100 ft. and an animated model that should be displayed when the aircraft is above 100 ft.

In wireframe mode you should be able to find the static model fairly easily



Assign the part the visibility code Custom_vis_100ftAGL_or_less. Now do a search for usrv in the Hierarchy editor to quickly find the animated FLIR.



Assign this part the visibility code Custom_vis_100ftAGL_or_more.
Repeat this process for LOD 98.

Re-assigning animations

Open the Animation Editor and select names containing usrv2 (highlighted with pink bar), this is the crew head animation. Assign this to Ambient. There should be 2 usrv2 animations, although some models have a 3rd and possibly a 4th usrv2. These last 2 are for the animation of the FLIR in the nose and/or the head of the door crew. Assign them AmbientC and AmbientD.

Next we are going to re-assign the lift off animations. They are tagged by MCX as custom_anim_var3_01. Assign these the animation custom_anim_NH90_lift.

Export the model in FSX format.

Step 3 – Adjusting textures and adding parts back

Import FSX model

Now we will update the texture parameters

Glass texture

Set the following parameters in Material Editor for the instance of nh-90_t that corresponds to the glass
Alpha Test

Alpha Test Function – Never

Alpha Test Level – 1

Z-Test Alpha – False

Colors

Ambient Color 192,192,192

Diffuse Color – 45, 192,192,192

Specular Color – 128,128,128

Enhanced Parameters

No Shadow – True
Z-Write Alpha – False

Framebuffer Blend
Destination Blend – InvSrcAlpha
Source Blend – SrcColor

Other texture info
Bump scale – 1

Special Functionality
Blend environment by inverse diffuse alpha – True
Reflection Scale - 0.8
Use gloabel environment map as reflection – True

Specular Highlights
Specular Level - 128

Main Texture
Set the following parameters in Material Editor for the instance of nh-90_t that corresponds to the main model

Alpha Test
Alpha Test Function – Never
Alpha Test Level – 1
Z-Test Alpha – False

Colors
Ambient Color 255,255,255
Diffuse Color – 255,255,255
Specular Color – 30,30,30

Enhanced Parameter
Z-Write Alpha – False

Framebuffer Blend
Destination Blend – Zero
Source Blend – One

Other texture info
Bump scale – 1

Special Functionality
Blend environment by inverse diffuse alpha – True
Reflection Scale 0
Use gloabel environment map as reflection – True

Specular Highlights

Assign rotors the Prop0_still visibility condition in Object Hierarchy.

Merge blurred and slow rotor models (these are pre-merged in the `lhali_nh90tth_rotors lod xxx.mdl`) using the Merge Objects tool.

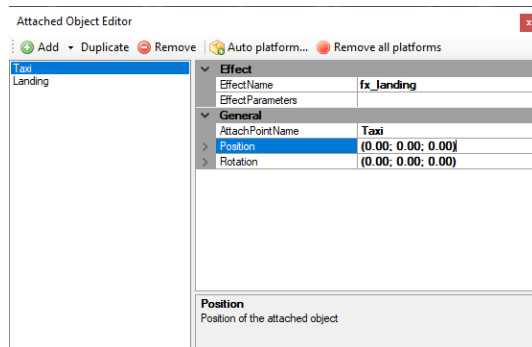
Merge the ground parts model for the appropriate version into LOD 590 and the generic ground parts model into LOD 98

Export Model and re-import (optional but allows you to make a backup of your work so far)

Step 4 – Adding Lights

The FS9 model has the Taxi & Landing light as stand alone lights. We are going to attach those lights to the appropriate model parts so the effect rotates with the landing and taxi light on the model.

In the Attached Object editor create the landing and taxi lights. These are created using the effect `fx_landing`.

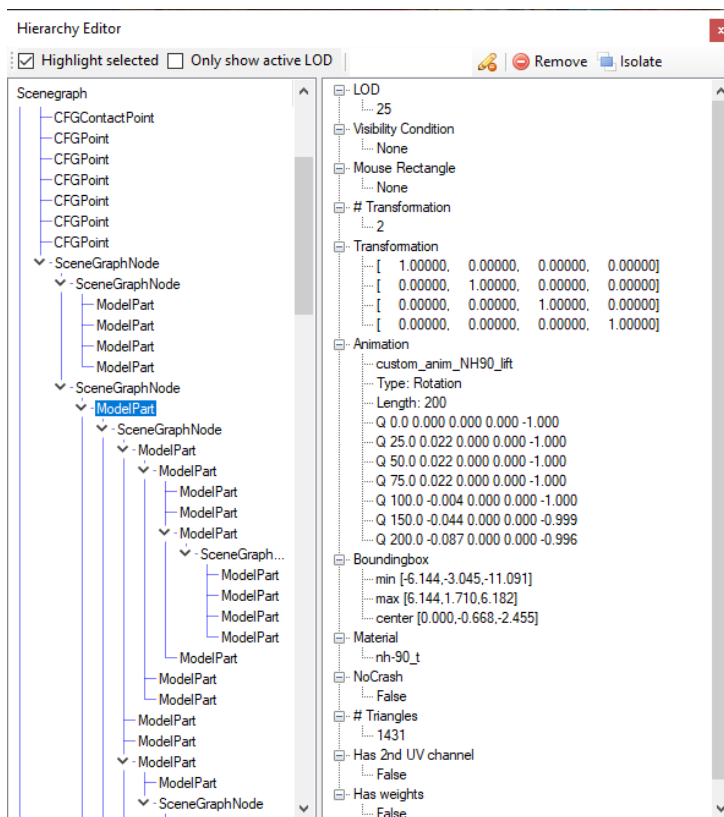


Next we need to create the following additional lights so add the following effects using Attached Object Editor

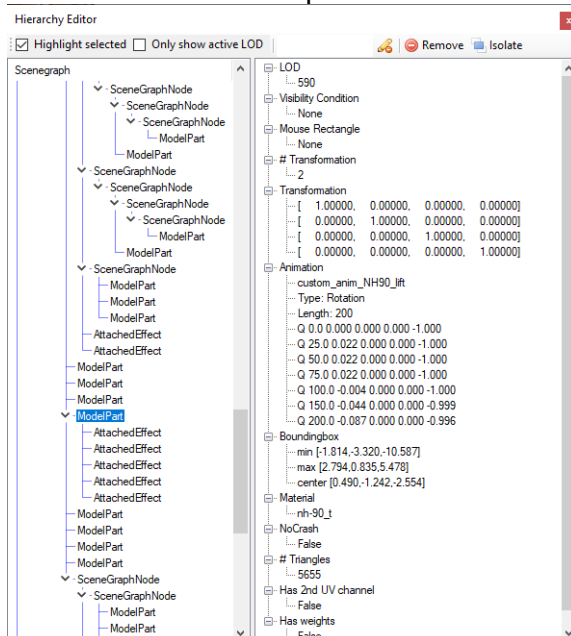
EffectName	AttachPointName
<code>fx_f16_strobeRED</code>	<code>strobe_tail</code>
<code>fx_f16_strobeRED</code>	<code>strobe_belly</code>
<code>fx_navwhi</code>	<code>nav_tail</code>
<code>fx_navgre</code>	<code>nav_right</code>
<code>fx_navred</code>	<code>nav_left</code>

Now we need to attach the effects to the main body of the model so that they are synched with the lift animations.

In Hierarchy Editor drag the AttachedEffects to the ModelPart below the main SceneGraphNode. This will attach the effects and drop them to the bottom of the ModelPart hierarchy.

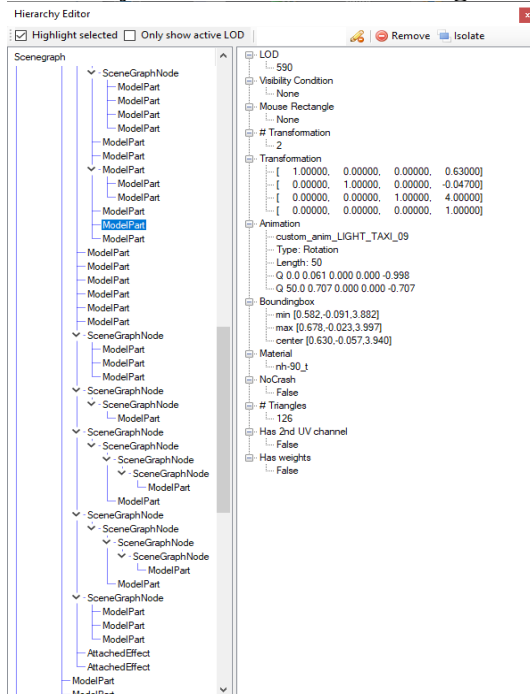


Now identify the ModelPart that is the main fuselage and drag the NAV and STROBE effects down and attach them to this part.



Lastly we need to attach the LANDING and TAXI lights to their appropriate parts. Search up thru the hierarchy until you find a part whose animation is custom_anim_LIGHT_LANDING_xx (the number will vary), just above it should be another part whose animation is custom_anim_LIGHT_TAXI_xx.

The easiest way to do this is to search for landing, this will isolate the landing light and the effect in the Hierarchy Editor. You can then drag the effect onto the ModelPart. Repeat for taxi.



Export and re-import the model (if you don't do this then the light position information gets confused).

Now we can position the lights (hopefully these will be same locations on every model)

Set the Postion and Rotation co-ordinates for each light as follows

	Postion	Rotation
Taxi	(0.00; -0.07; -0.03)	(-90.00; 0.00; 0.00)
Landing	(0.00; -0.07; -0.03)	(-90.00; 0.00; 0.00)
nav_left	(-1.67; -1.05; -2.77)	(0.00; 0.00; 0.00)
nav_right	(1.67; -1.05; -2.77)	(0.00; 0.00; 0.00)
nav_tail	(0.13; -10.62; 0.47)	(-180.00; 0.00; 0.00)
strobe_belly	(0.00; -2.55; -3.15)	(-90.00; 0.00; 0.00)
Strobe_tail	(0.13; -10.29; 0.75)	(0.00; 0.00; 0.00)

Assign lights visibility conditions

landing light – light_landing_vis

taxi light – light_taxi_vis

strobe lights – light_strobe_vis

nav lights – light_nav_vis

Export this and you should have the final FSX native version of the model.

Good luck