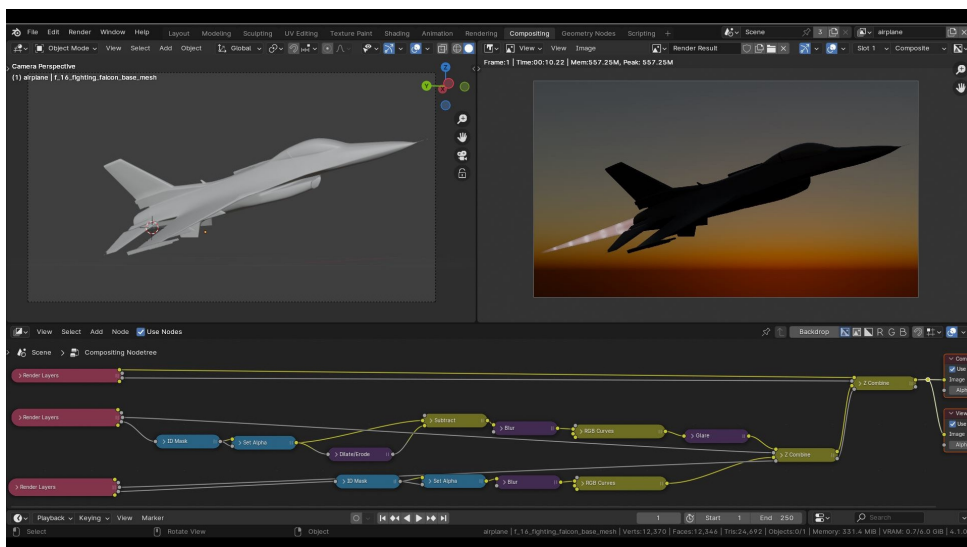


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Hello everyone!

This is an addendum to my video tutorial on **View Layers and Z-Combine**, published a few days ago.

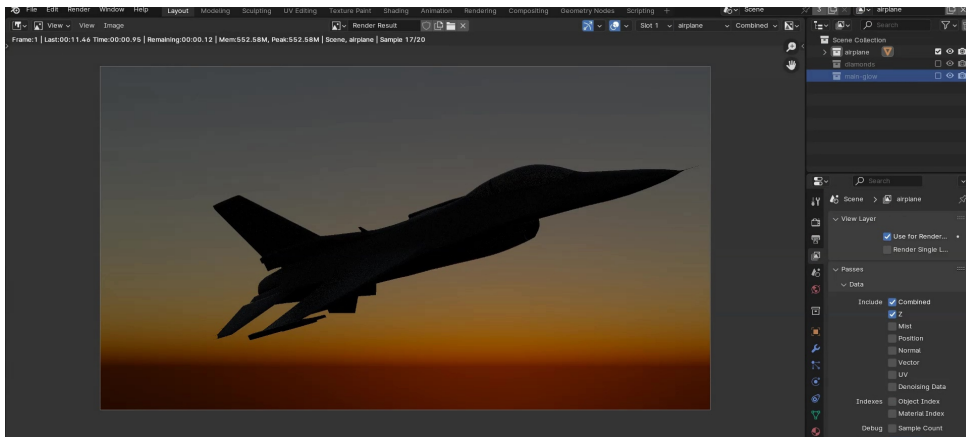
In that tutorial, I showed you how to define View Layers in Blender 4.1 to render objects belonging to a scene separately and how to blend them later using the Z-Combine node, thus displaying pixels based on their distance from the camera.

In this tutorial, we'll see how to use View Layers **to obtain masks from objects** that, actually, do not need to be rendered, but whose shapes and positions are of interest to us in order to achieve other effects.

In the scene I'm using, there are, in particular, **three View Layers**, each containing an object; specifically, we have an **aircraft**, a cone representing the **exhaust gases**, and a mesh object made by some cylinders representing the **shock diamonds**.

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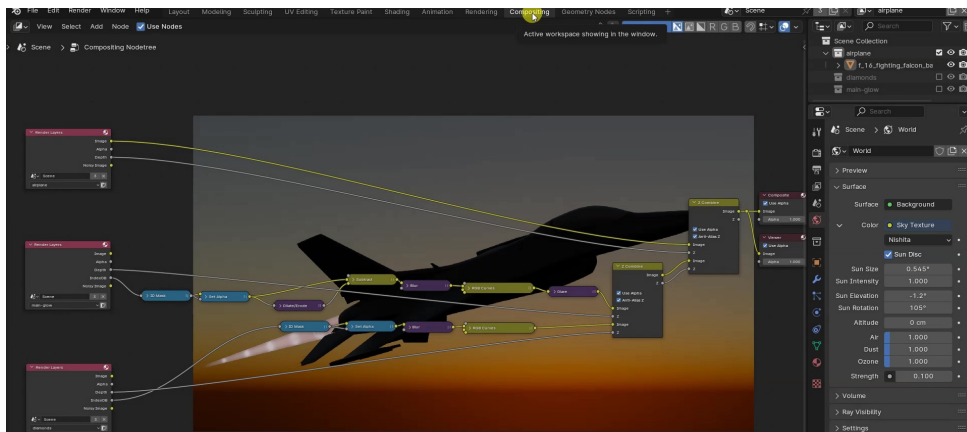
If we render **only the View Layer containing the aircraft**, we notice that it is rendered against the background of the virtual universe (which was obtained with Nishita Sky), without the exhaust gases and shock diamonds.



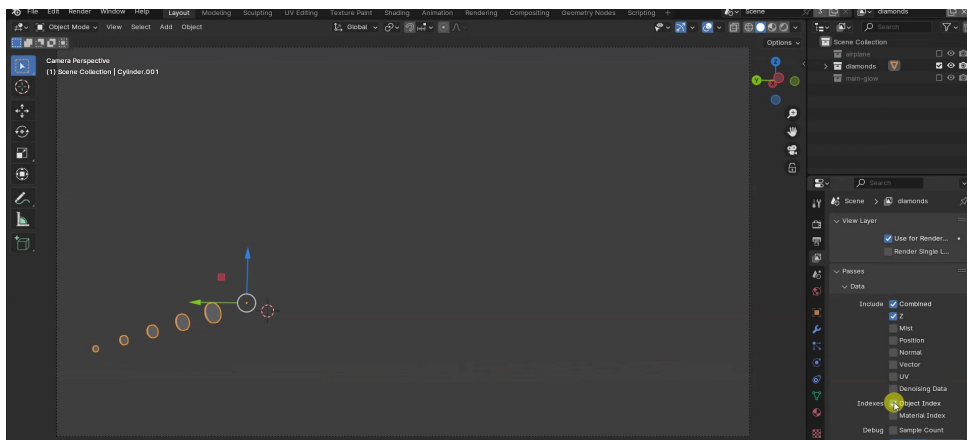
The mesh representing the **shock diamonds** is parented to the cone representing the **exhaust gases**, which in turn is **parented** to the aircraft, so these two elements **will follow the aircraft in all its movements**.



If we render all the View Layers, we get the **three separate renderings** that are then blended together in Compositing. Let's see how.



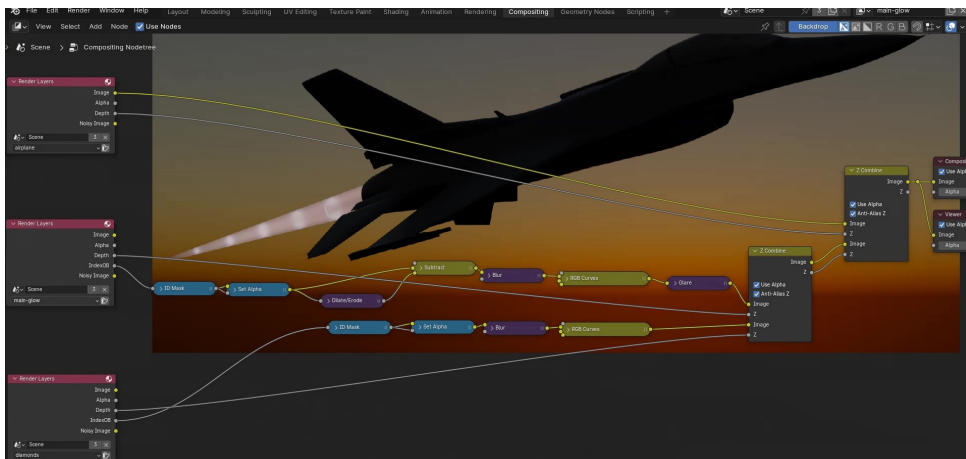
Since we are not interested in the actual rendering of these two elements, but rather **two black and white masks** representing them, let's activate the **Object Index Render Pass** in the two **View Layers** containing the objects and provide a numerical index to these two objects in the **Relations** section of the **Object Data** tab. It's worth noting that we can also give them the same index, as they are still **on two different View Layers**, so we can distinguish them without any issues.



In the **View Layer** tabs of the two View Layers, we also need to **activate the Z Render Pass**, in order to get the **Depth** information in Compositing.

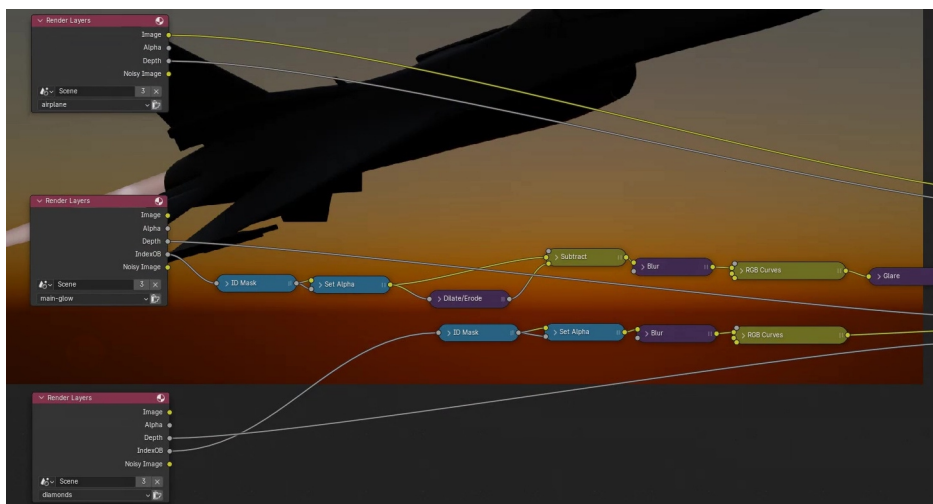
Depth information is indeed necessary to blend the various View Layers with the **Z-Combine** node.

Let's take a look at the **Compositing setup** I've created to achieve the final rendering, which I showed at the beginning of this tutorial.

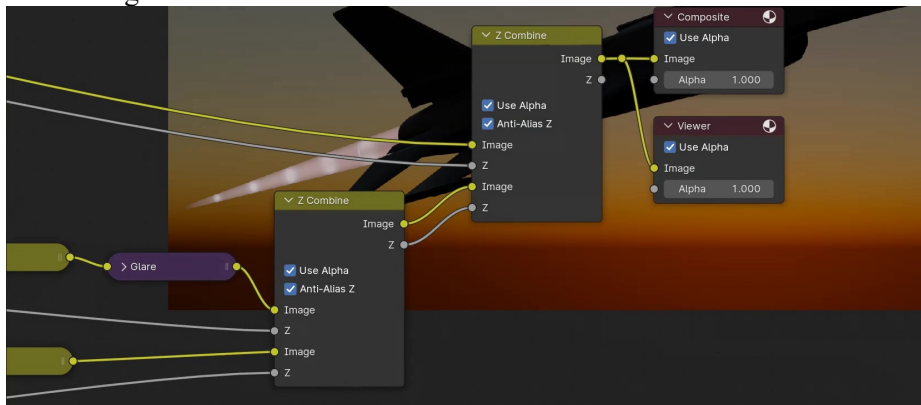


On the left side of the setup, we have the **inputs**.

As you can see, we have **three Render Layers nodes**, each with its own **View Layer**. In the two Render Layers dedicated to the exhaust gases and shock diamonds, there are the IndexOB outputs too.

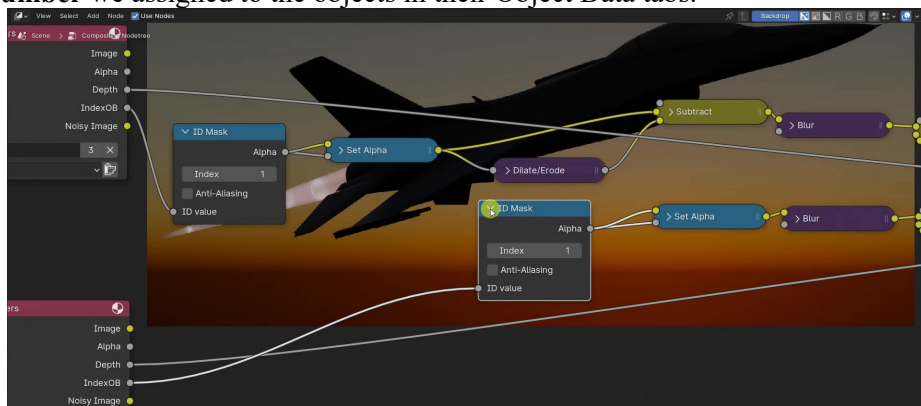


On the right side of the setup, we have the **two Z-Combine nodes**, which you should be familiar with. In particular, the exhaust gases and shock diamonds are blended first, **in this order**, and then the result of this blending is passed as Foreground to another Z-Combine node, where the Background is represented by the rendering of the aircraft.



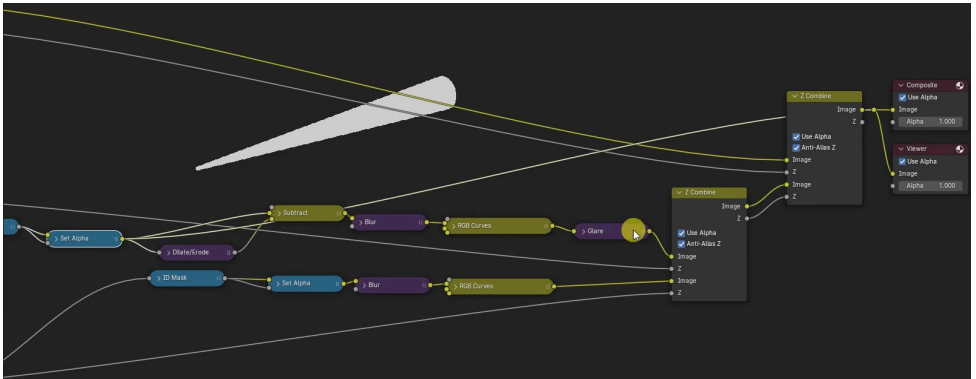
As I mentioned in the basic tutorial on View Layers and Z-Combine, the two inputs of the **Z-Combine** node are actually distinguished between **Background** (the first one) and **Foreground** (the second one), because if the information coming to Foreground is semi-transparent, then the information in the Background node is partially shown as well.

To get only the mask of the two additional objects, without rendering them, we extract only **the IndexOB information** from their Render Layers nodes, providing this information to **ID Mask nodes**, where we have to specify the same **number** we assigned to the objects in their Object Data tabs.

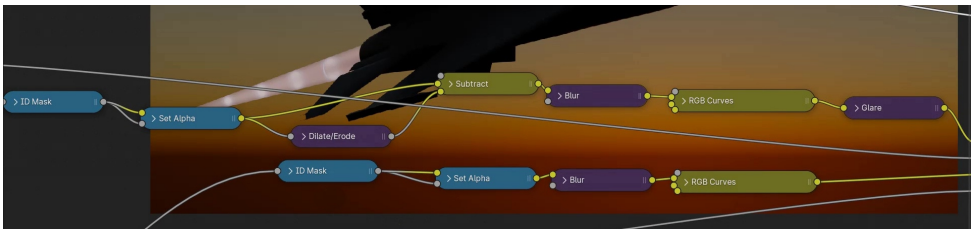


The incoming masks are white on a black background.

To obtain masks **on a transparent background**, let's provide the ID Mask output to a **Set Alpha** node, connecting the mask to both inputs: this way, the black part of the mask will be rendered as transparent.

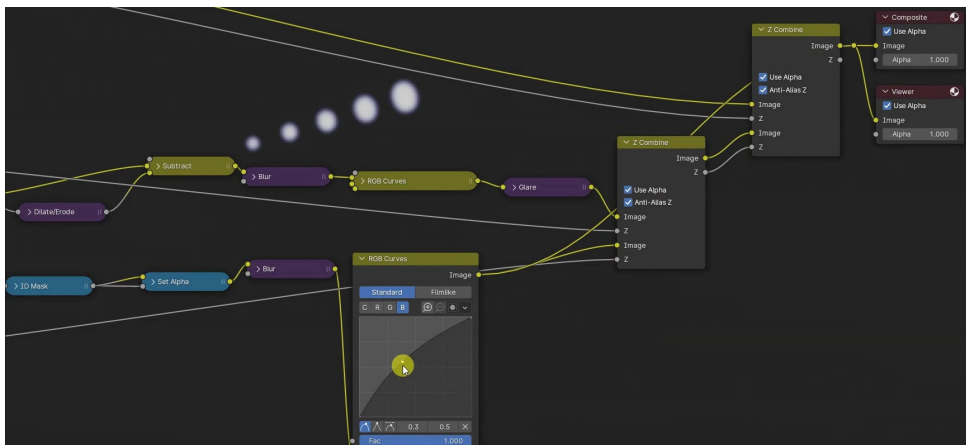


Then there are the nodes that allow us to implement **the glows** as we desire, but in this case, it's up to you to use the Compositing nodes and parameters to achieve the desired effect: I can only provide some guidance on those I used to show the final rendering here, but these indications are by no means "binding"!

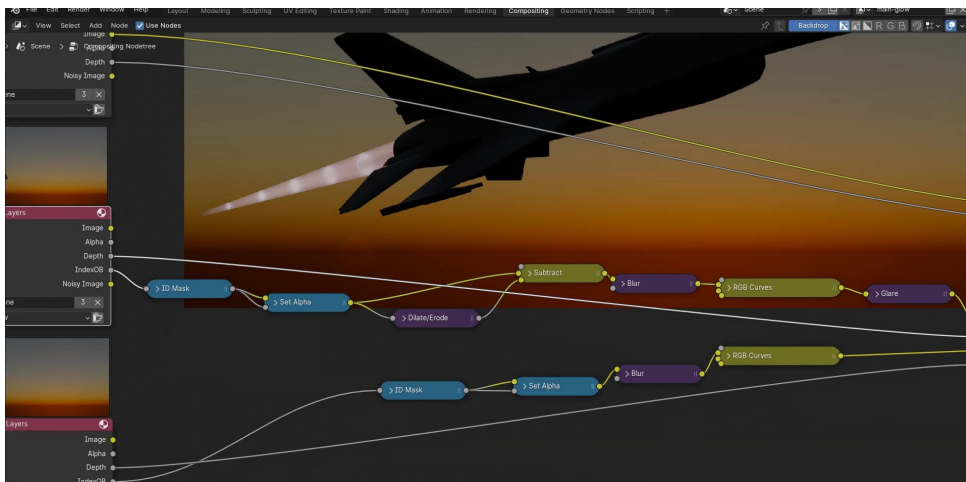


The node setup for the **shock diamonds** is the simplest because the mask is simply blurred with a **Blur** node and its brightness modified using an **RGB Curves** node.

Inside the RGB Curves node, I also adjusted the B curve to give a slightly bluish tone to the final image.

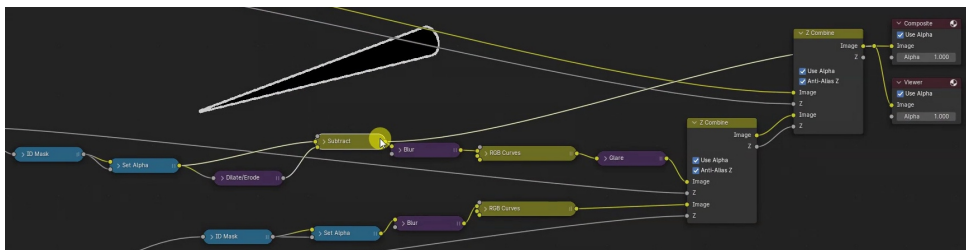


The node setup for the **exhaust gases** is slightly more complicated because I wanted to obtain **only the outline of the cone** representing the exhaust gases.

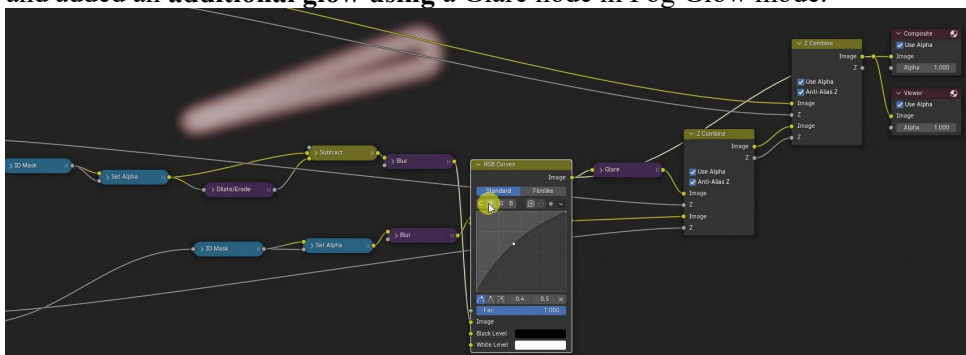


To achieve this outline, I **subtracted from the mask a narrowed version of it**, obtained using a **Dilate Erode** node with a negative value.

On using the Dilate Erode node to obtain only the outlines of a mask, I made a video tutorial some time ago, called "Glowing Edges," which I recommend you watch if you haven't already, as it contains some insights that might interest you.



Anyway, I then **blurred** the mask, changed its **brightness** and **color** using an RGB Curves node (in this case, modifying the R curve, but it's a personal choice), and added an **additional glow** using a Glare node in Fog Glow mode.



Since they are 3D objects, **exhaust gases** and **shock diamonds** will always **follow the aircraft**; in Compositing, you can modify their **intensity** and **appearance** as you like; finally, by setting up the **Z-Combine** nodes in this way, they will be rendered **correctly in every frame**, i.e., without being superimposed on the aircraft.



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Well, that's all for this tutorial! I hope it can be helpful to you!
See you soon!