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Technical Paper:

Tiffany Rig Unlinked Skin Cluster

While working on rig tweaks, I came across an issue where I could no longer see or edit the skin weights on Tiffany's torso geometry. The skinning still functioned with the controllers, however I could not see the skin weights when I was in the Paint Skin Weights Tool menu.

This was an issue because I had to create a corrective Blend Shape and needed to edit the skin weights on a copy of the torso geometry.

The torso geometry with Paint Skin Weights Tool open with its skinCluster **linked**:
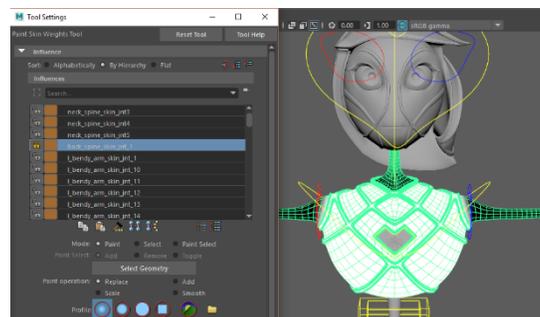
The torso geometry with Paint Skin Weights Tool open with its skinCluster **unlinked**:
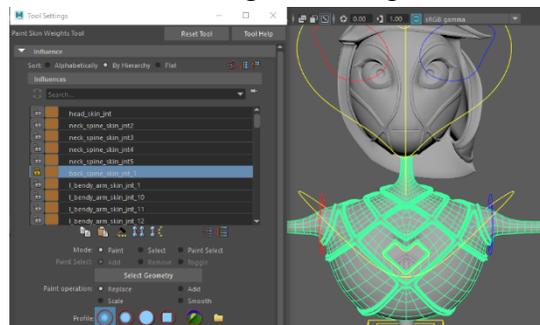
I checked all the geometry and found that it was only the torso that had the issue. I went back through older versions of the TY_rig and looked at my rig revisions chart and found that the skin weights had disappeared after we had cleaned the DAG objects in the rig file. We cleared out a lot of DAG objects from the rig file in order to make the file size smaller and make referencing it more efficient, but somehow, we unlinked the skin cluster with the torso geometry's skin weights on it.

First, I imported an old copy of Tiffany's torso geometry with visible skin weights into the current rig file to see if I could copy the visible skin weights from the old torso geometry to the current one with no skin weights. This attempt was not successful because the current torso geometry's skin cluster was unlinked so there was nothing to copy the old skin weights to.

Next, I opened the current TY_rig file with the broken skin weights and the old TY_rig file with the skin weights still visible and I opened the Node Editor in both (Windows > Node Editor). After making a new tab in the Node Editor (The + icon), I clicked on Tiffany's torso geometry (TY_torso_geo) and loaded its input and output connections.

This button in the top left:

TY_torso_geo with the **linked** skinCluster in the Node Editor:
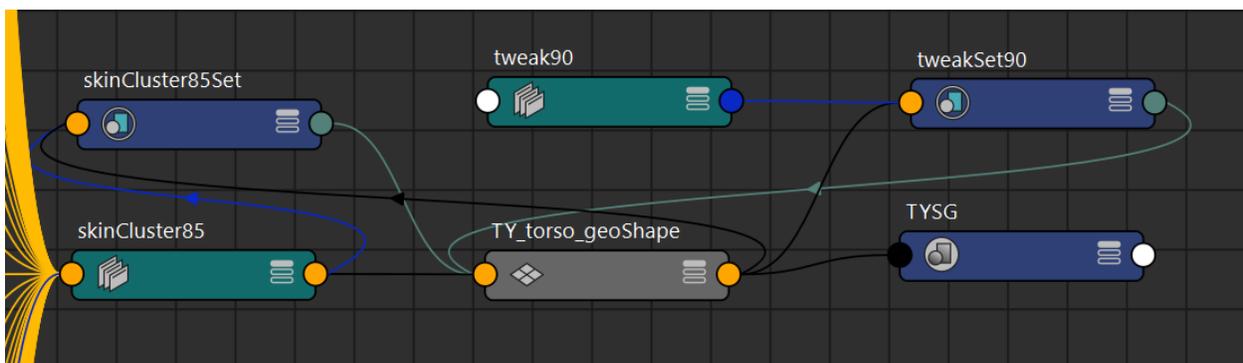
TY_torso_geo with the **unlinked** skinCluster in the Node Editor:
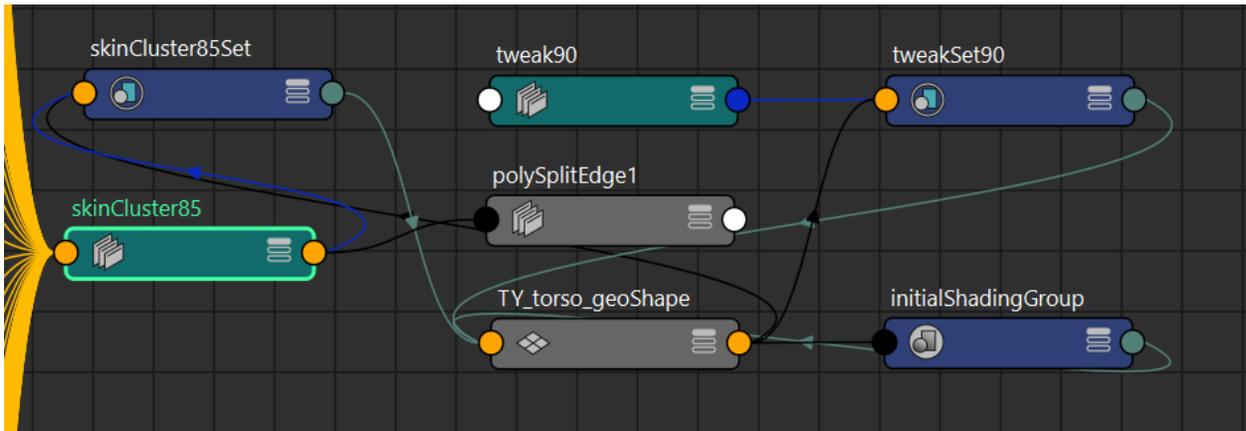
As you can see in the **unlinked** skinCluster image above, there is no black line connecting the green skinCluster85 node to the gray TY_torso_geoShape like in the **linked**, functional file. Instead, it is connected to the polySplitEdge1 node.

Hide all the nodes except for the skinCluster85 node and the TY_torso_geoShape node by Ctrl + clicking on them and clicking the "remove selected nodes from graph" button in the top left:

Open your nodes by clicking on them and pressing "2" or "3" on the keyboard.

The shortcuts correspond to these buttons on the top shelf:

that (1) hide attributes on selected nodes, (2) show connected attributes on selected nodes, (3) show primary attributes on selected nodes, or (4) show attributes from custom attribute view.

Opened nodes in **linked** Node Editor:
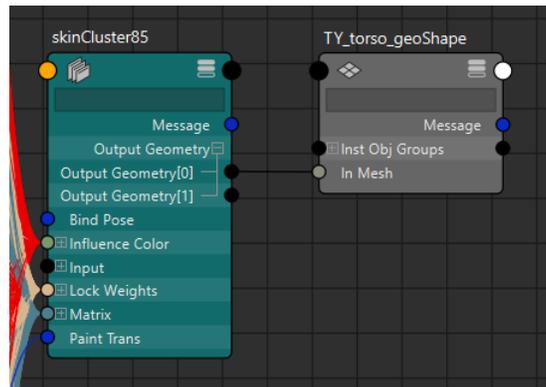
Opened nodes in **unlinked** Node Editor:
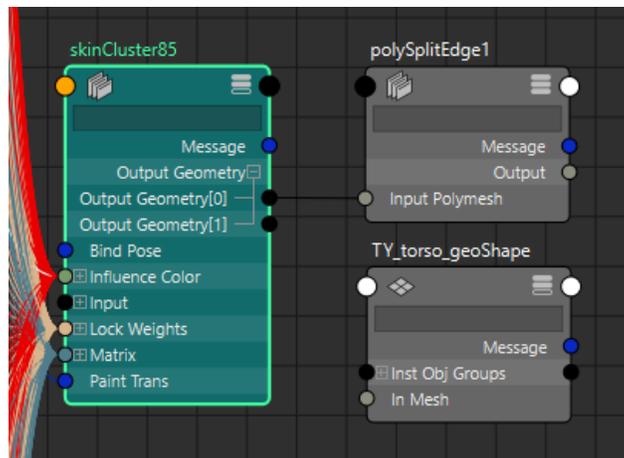
In the opened nodes in **unlinked** Node Editor image above, you can see that the "Output Geometry[0]" attribute of the skinCluster85's output (the black line) is connected to the "Input Polymesh" attribute of the polySplitEdge1 node instead of the "In Mesh" attribute of the TY_torso_geoShape node that you can see in the opened nodes linked Node Editor image above.

I deleted the polySplitEdge1 node from the **unlinked** Node Editor (you might not have an extra node, the output may just be unlinked) and connected the "Output Geometry[0]" attribute of the skinCluster85's output to the input of the "In Mesh" attribute of the TY_torso_geoShape node (click the little circle and drag across) to make it match the opened nodes in **linked** Node Editor image exactly and I was able to see and edit the torso geometry's skin weights again.