

## Tutorial

### Using Life Forms with Cinema 4D

This tutorial explains the most effective way of bringing Cinema 4D meshes into Life Forms for animation. Sample files are provided for the tutorial so that you can enter the tutorial at any step. Note: This tutorial was tested with Cinema 4D XL R6 and Life Forms Studio 3.9.

For the tutorials you need:

- **Cinema 4D XL 5.27 or higher .**
- **Life Forms Studio 3.9**

## Tutorial: Animating a Bones Skeleton

This tutorial outlines the process of animating a Cinema 4D bones skeleton within Life Forms. With Life Forms Studio 3.9, you can now preview your mesh against your bones for a smoother process.

### Creating the Mesh

First, you need to create your mesh model in Cinema 4D and export as a 3ds file. Make sure File>import/export for 3ds R4 scale factor is 1 before you export. If you are bringing in a mesh from another file, you should also make sure the File>import/export for 3ds R4 is set to 1 before importing.

For this tutorial, we have supplied a sample mesh file, mesh.3ds.

Once you have your mesh model, you will want to open Life Forms to animate it.

### Setting up the Skeleton

You can now use a Life Forms figure for your skeleton. We recommend you use the 3back model, included in the Model Gallery on your Life Forms CD.

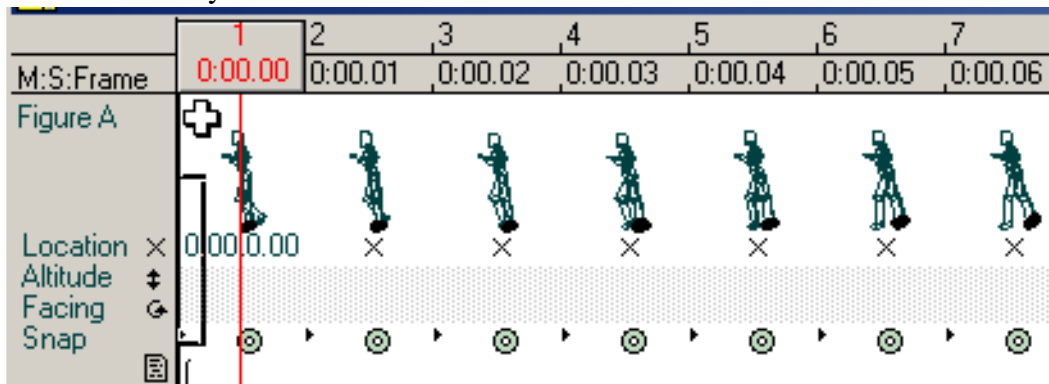
For this tutorial, we are supplying a 3back model with pre-applied animation, servedrink.lfa.. This file is a motion capture file from our MeGa MoCap collection.

**Note:** for more information on the MeGa MoCap motion library, see the product section of our website at [www.CharacterMotion.com](http://www.CharacterMotion.com)

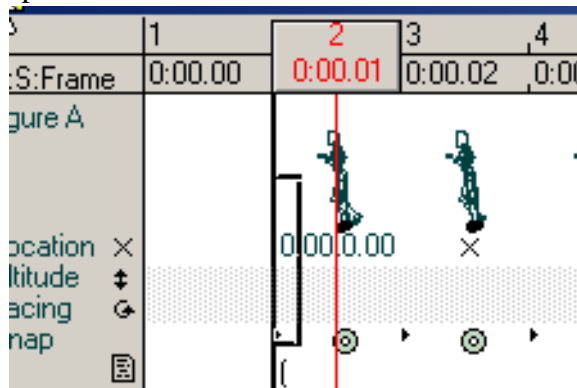
### Setting The First Frame to the Default Shape

To match up the skeleton to the mesh with ease, we will first need to set add a default shape in the first frame.

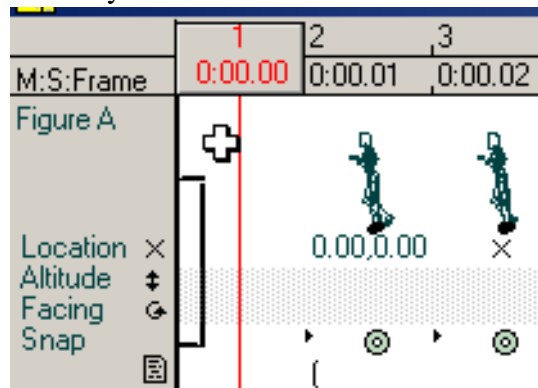
- 1 Open the servedrink.lfa file in Life Forms.
- 2 Insert your cursor on the first frame.



- 3 Press the space bar



- 4 Double click with your cursor onto the new frame 1 in the timeline.

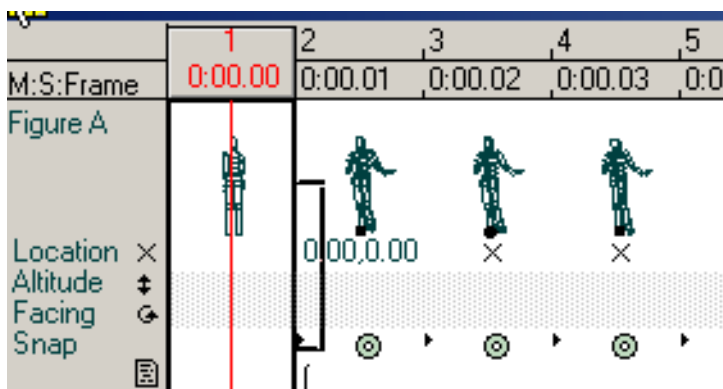


- 5 This will open the Figure Editor. Double click on the figure to highlight it, then go to Edit > Reset to Default Shape.



Note The Quick-key shortcut for Reset to Default Shape is Alt / (Windows, or Command / (Mac).

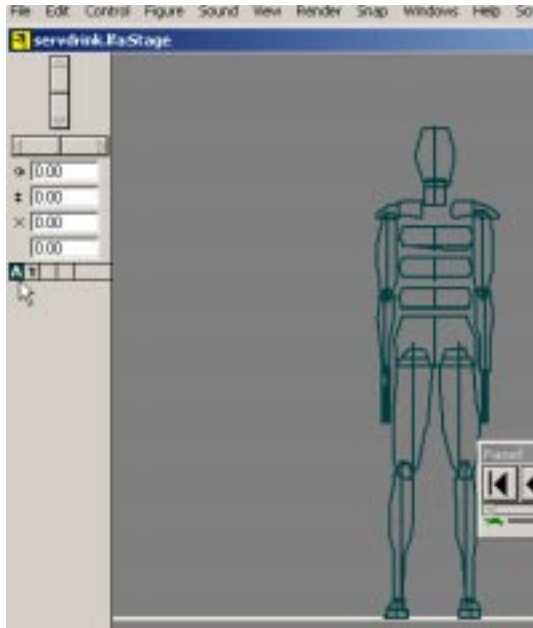
Look at the timeline. You will now see the default shape as a keyframe in the timeline.



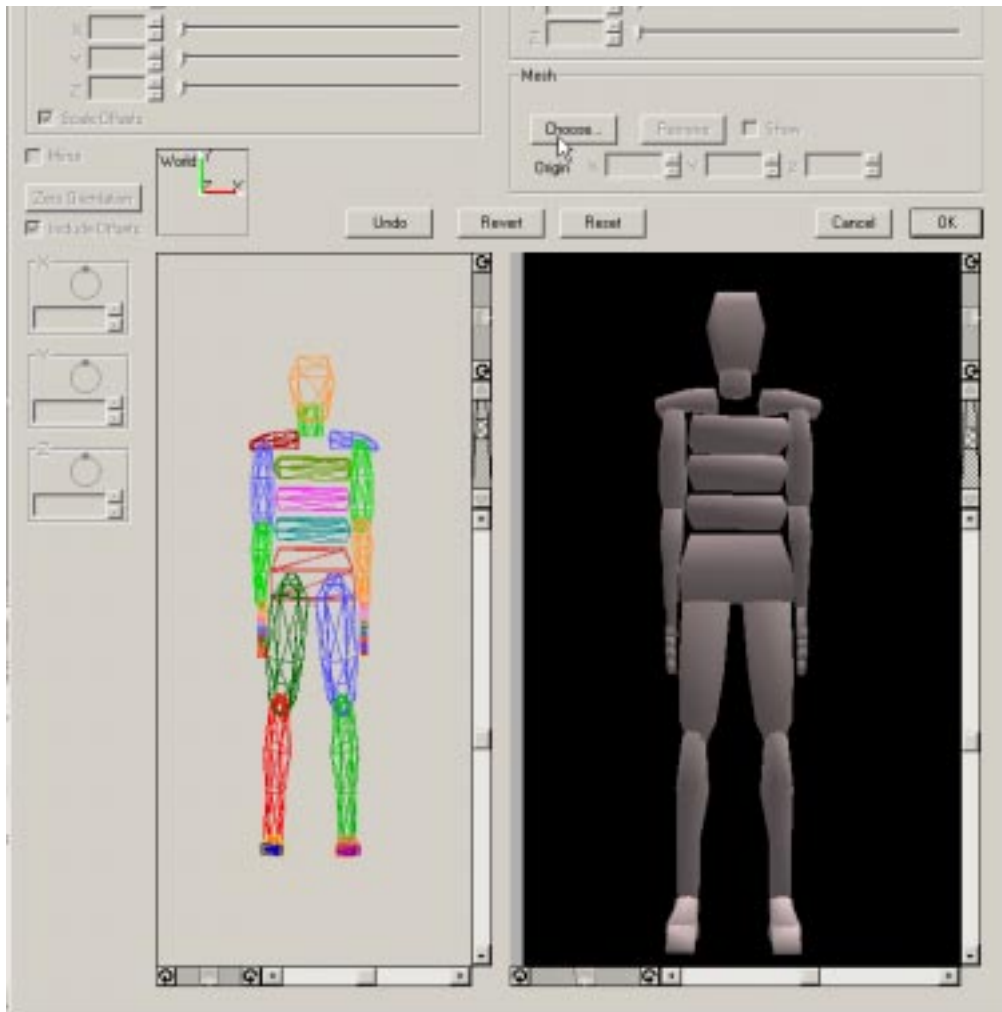
## Previewing the Mesh in the Model Editor

We need to edit the bones to make sure they fit the mesh perfectly. To do this, we must preview the mesh against the bones in the Model Editor.

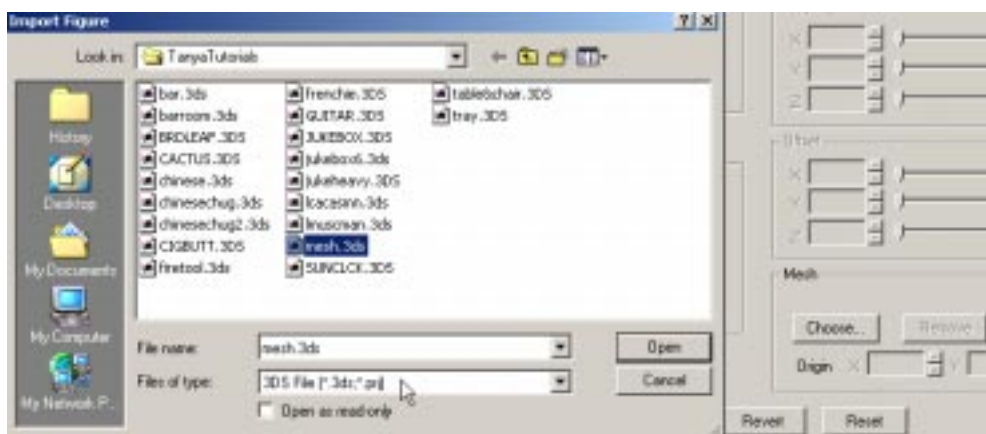
Select the model by double-clicking on it in the stage. You can also click on the letter A at the top left hand corner of the stage to select it.



Go to Figure>Model Editor. The Model Editor dialog box will open.



To see the mesh, go to the mesh box and click the Choose button, as seen above. The following dialog box will open:



Set File of Type to .3DS and select mesh.3ds. Click open. Your mesh will appear. You may have to turn your model along the Y axis to make sure it is facing in the same direction as your model.

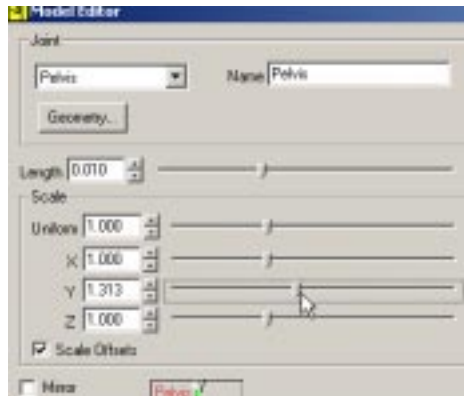
### Editing the Skeleton

Once the mesh and model are lined up, examine the differences in the proportions and decide on your plan on action to match them up.



For example, the model's arms need to be rotated out to match the mesh, in order to examine the length of the arms. The pelvis and back need to be lengthened slightly, and the arms may need to be lengthened as well.

Start by scaling the pelvis. Select the pelvis in either the rendered or wire frame view. Then, add length to the pelvis by using the scale slider on the Y axis.



Once the pelvis has been adjusted, the mesh can be moved into alignment with the skeleton by using the mesh location arrows or by typing numeric values into the mesh location value boxes. You can also rotate around the mesh preview window to get a better view.

Follow the same process for the rest of the skeleton's joints which need altering.

After this is done, rotate the arms, shoulders, and hands to fit the mesh perfectly, because this is the pose you will use to fix your mesh to the skeleton in Cinema 4D. Turn on the mirror command so that you only have to rotate one side.

Once it is lined up with arms out to the side, click the zero orientation button to zero it out.



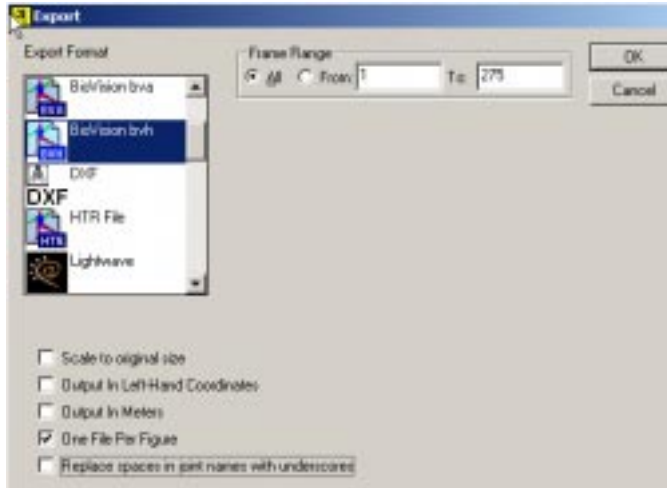
Close the model editor window, and playback the animation in the stage window. Since you have changed the model you may have to apply Snap to get animation perfect. Please see Chapter 8 in the User Guide for more information on how to use Snap.

Once you have made the necessary changes, save the file.



## Exporting the Skeleton to Cinema 4D

Go to File > Export and export as BVH, using the preferences as shown below.



Open your original mesh file in Cinema 4D. Set the import preferences for the BVH as a scale factor of 1, then use the Merge function to import the BVH.

Line up your mesh and the imported skeleton and fix it to the mesh. The bones may need to be roated in place. For fixing bones to meshes, see the Cinema 4D documentation available from [www.cinema4d.com](http://www.cinema4d.com).

To make the mesh fit properly, you will need a few holding bones for the front of the face and the sides of the chest.

Create the bones, then places them in your scene file.

In the Object Editor, drag the bones into part of the skeleton that they should be attached to according to their hierarchy. For example, if you create a face bone, it should be under the head bone.

Fix the bones in place and set the values accordingly.























