Project Evolution and V4 dynamic clothing.

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Introduction

This document will describe how you can use existing V4 dynamic clothes on PE. In most cases this is a very simple thing and works great. In some cases you need to make changes to the cloth parameters to make it work.

This document is not a tutorial for dynamic clothes, but assumes knowledge of the Cloth room and focuses on using V4 dynamic clothes on PE.

There are 4 different scenarios I will look at in this document: Sleeveless garments, Garment with Sleeves, Garments with constraints and special cases. Each needs their own approach.

General remarks.

- Before you simulate, make sure you have your scene saved – this is because the simulation uses the scene file name to save its simulation. If you have not done so, the simulation is lost.
- If you go from zero pose to your final pose, think of how long it would take in real life to get to that pose. Take that time an calculate what frame that would be (30 frames/second) and apply the pose on that frame.
- When the simulation reached the final pose, the cloth is still in motion. If you want it to have it abide to gravity, add some additional frames to the simulation to give gravity time to work (10-30 frames depending on the weight and distance).
- If the cloth has folds or the pose makes the cloth touch itself, make sure self collision is On in the simulation parameters.
- If the cloth simulation does not seem to start, check if there are any non-welded parts of the cloth (think of buttons). Often setting these parts to soft-decorated will work, if not you might have to use a modelling program to weld the parts (this should not happen in tested V4 dynamic clothes).
- This tutorial uses Metesr as units (Edit!General Preferences, Interface tab)

Collision Settings for PE

The important thing for any dynamic clothing simulation for PE is to turn off the handles as collision actors. The handles are useful for posing PE, but interfere with the simulation, so we have to exclude them when running a simulation.

The following picture shows the handles and where they are in the figure.
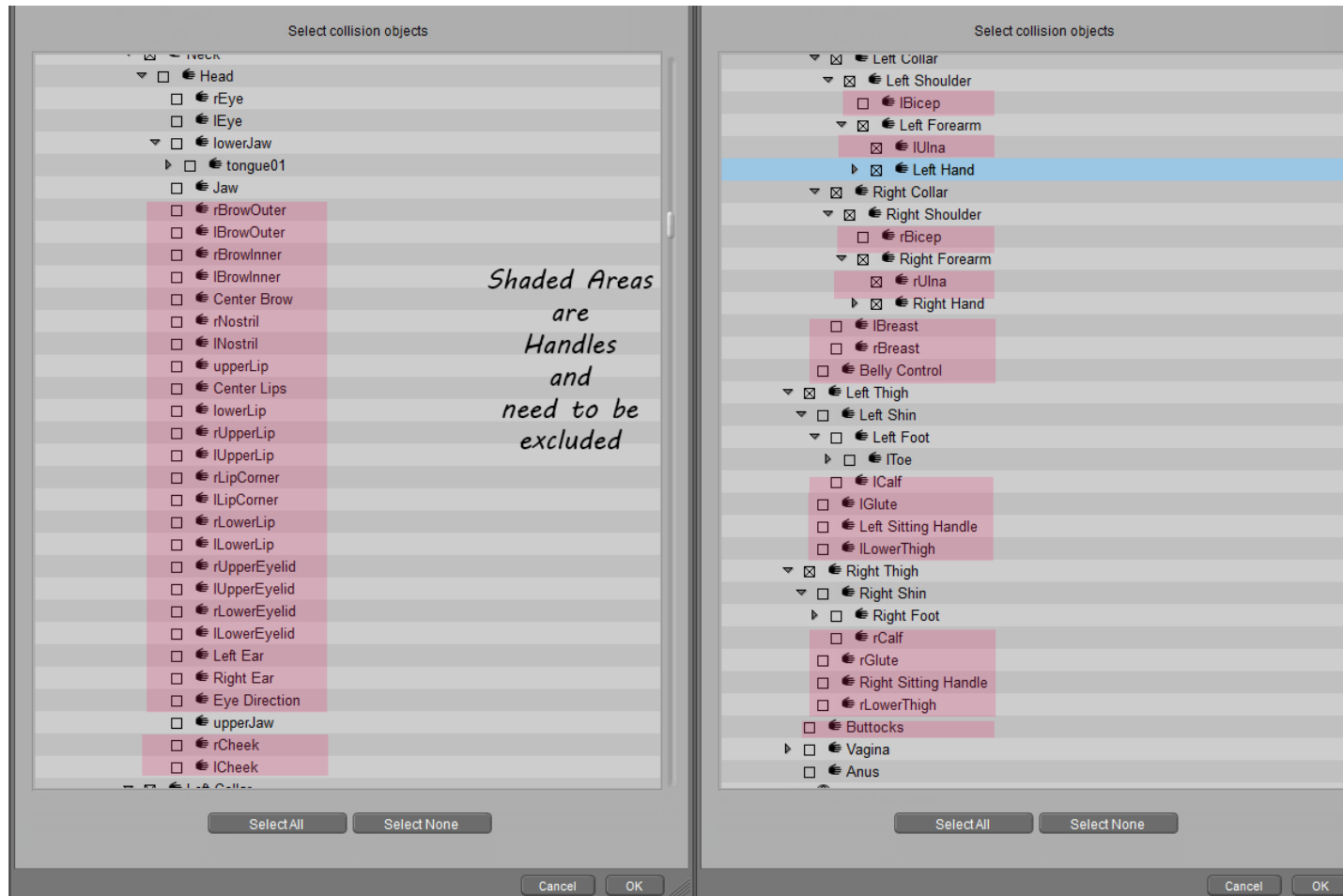
Fortunately, most of them are in the head which is seldom used for simulations. Just Alt-click the head and all of them are excluded.

Sleeveless Dynamic V4 clothes.

Apart from the obvious change in shape, PE is slightly shorter as V4. If no sleeves are involved, it is usually sufficient to do a small decrease of the ytrans dial of the cloth and it will suffice to get the dynamic simulation going. Make sure the top of the garment rests on the correct position with the ytrans and start your simulation. Do not worry about the poke throughs, the cloth sim will take care of that.
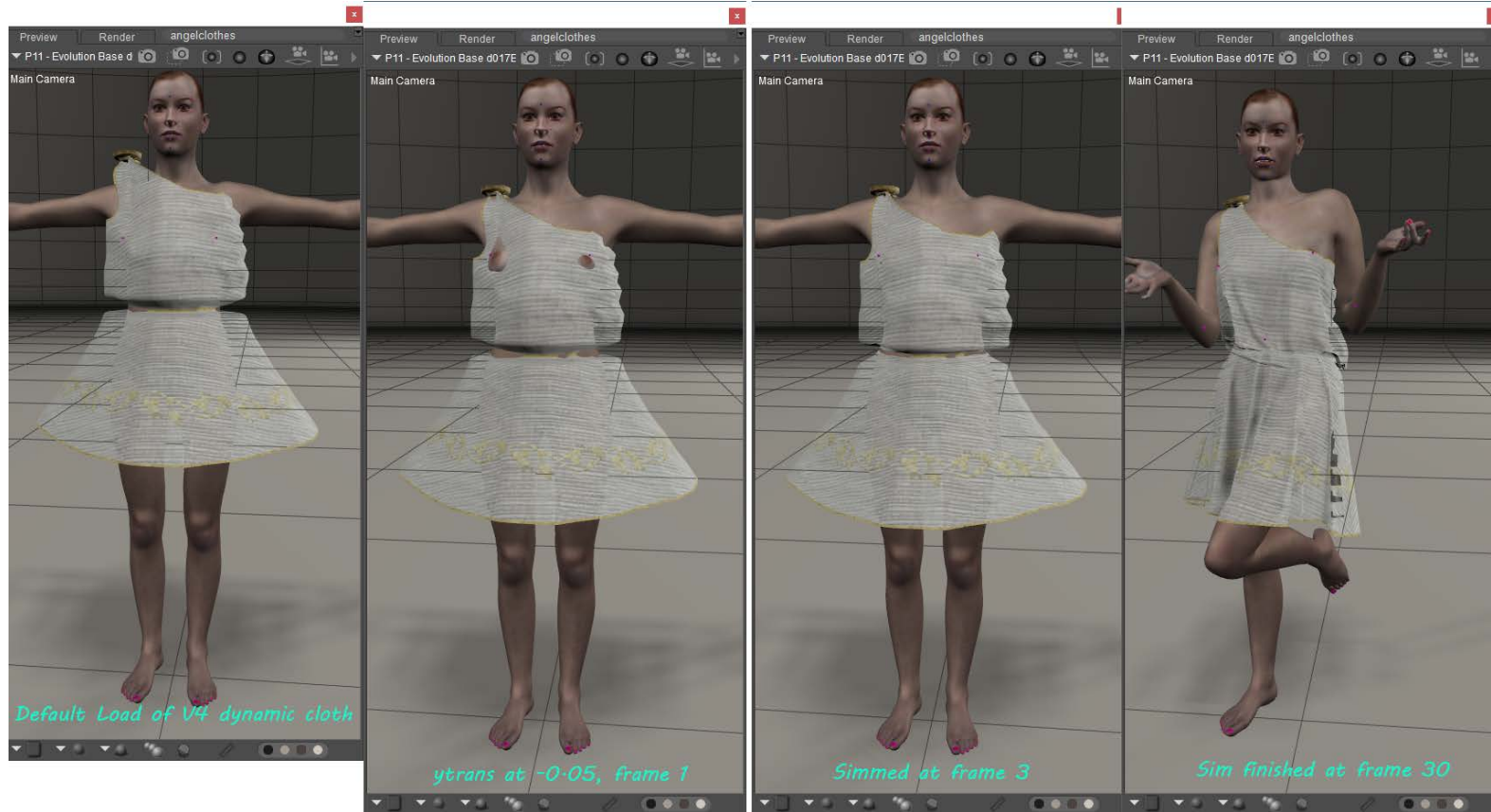
Examples:

Sav's Fighting Dress
All cloth parameters at default, just a slight ytrans is used to fit the cloth to PE's shoulders

Tipol's AngelClothes

This cloth has a rigid decoration at the shoulder, this will not move so make sure the cloth is at the top of the shoulder of PE.

The cloth has also tendency to slip of the right breast. To correct that I decreased the shear and increased the dynamic friction.

Default Load of V4 dynamic cloth

ytrans at -0.05, frame 1

Simmed at frame 3

Sim finished at frame 30

Tipol's White Wedding Dress

The wedding dress drapes to the ground and since PE is slightly shorter as V4, we need to Y-Scale the dress a little bit (94%) to prevent the dress from sinking into the ground at start of the simulation. This in combination with the -0.055 ytrans to fit it to the shoulder.

V4 Dynamic Clothes with Sleeves

The zero pose of PE is slightly different from V4 due to her T-Shape and her slightly different proportions. To fix that we need to change the starting pose for PE to make it similar to V4's zero pose. It does not need to be an exact fit, we just need to make sure that the overall majority of the arms fit in the sleeves of the cloth.

A setting which I often use is a Ytrans of the cloth of around -0.05 and for the figure Right Collar Up-Down 1°, Front-Back 7° and Left Collar Up-Down -1°, Front-Back -7°.

Examples:

Esha's Empire Dress for V4

This dress uses an y-trans of -0.026 and a Yscale of 98% and has a ground collision object in addition to the PE collision actors.
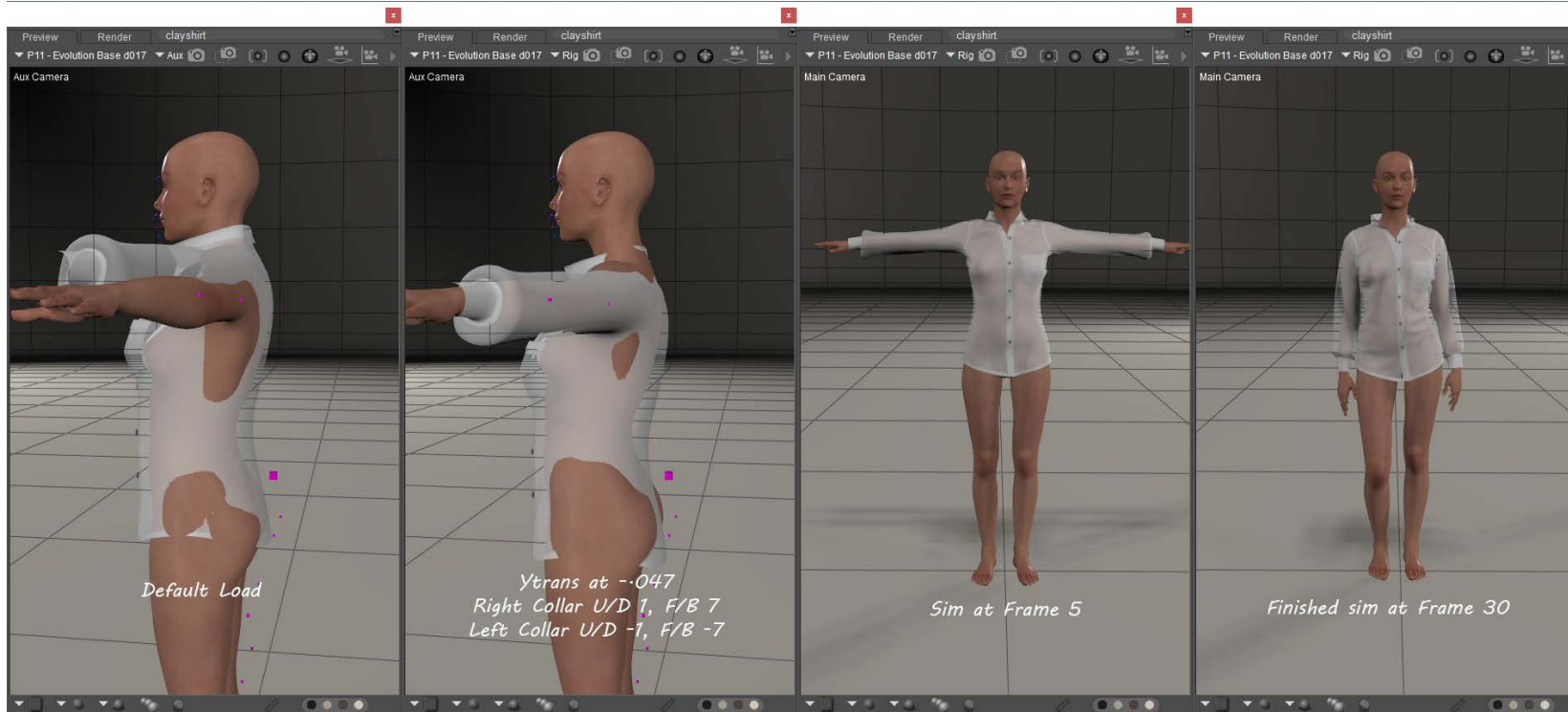
The Right and Left collars have been adjusted (1,7 and -1,-7) to fit the shoulders in the dress.

Load Default

Cloth: UTrans at -0.02, YScale at 98%
PE: Right Collar at U/D 1, FB 7
PE: Left Collar at U/D -1, F/B -7

Frame 3

Finished Sim

Clay's Dynamic Shirt for V4

In this example I used the settings again as described above for right and left collar, ytrans is set at -0.05.

The shirt has soft-decorated sections for the button and the hems and work well in this simulation for PE.

Default Load

Ytrans at -.047
Right Collar U/D 1, F/B 7
Left Collar U/D -1, F/B -7

Sim at Frame 5

Finished sim at Frame 30

V4 Dynamic Clothes with Constraints

Dynamic clothes which have constraints built in or where you need contraints to prevent accidental draping can be a bit more complex as the previous examples, but can be done relatively easy.

The reason why it needs special treatment is because the shape of PE is different from V4. This means that constraints (which are often close to the body shape) can fall within the body of PE when loaded by default. The Cloth room keeps those constraints in place so it will not fit the bodyshape when the simulated.

There are several approaches to this. The traditional approach is to "grow"in the cloth: Scale the body so the figure fits within the cloth, then set the correct scale a few frames further along (do not forget to set a spline break for the scale at this frame).

There are however other ways of doing this in some cases – one possible option is to remove the constraints and change the settings for the constrained area into an area with more stiffened settings. This will often keep the cloth in place. It is most suited for belts and similar constraints.

Another method is by creating a morph which fits the constraint area outside the body. Use the morph brush with tight fitting and paint on the constraint area. Once you have done this, you can sim the cloth. Once the cloth is finished, go back to frame 1 and set the morph back to zero. The simmed cloth has already applied the morph into the simulation, so you switch it off

Examples

Good Girl Bad Girl Dress by Biscuits

In this example I use the scaling method. Scale the figure (PE) so the constraint area falls outside the body, use the Z-Scale and X-Scale for this. You can find them in the Separate Scalars group in PE. Then use the Ytrans to fit the height of the cloth as usual. Now at frame 5, set the zScale and xScale back to 100%. Now use the graph editor (click on the right of the yscale dial and select Graph) to do a spline break in frame 5 for both zScale and xScale. Close the graph editor afterwards. We need the spline break to stop the scales to go beyond 100% (By default Poser makes nice curves of the graph).

Now you can sim as normal and the cloth will fit.
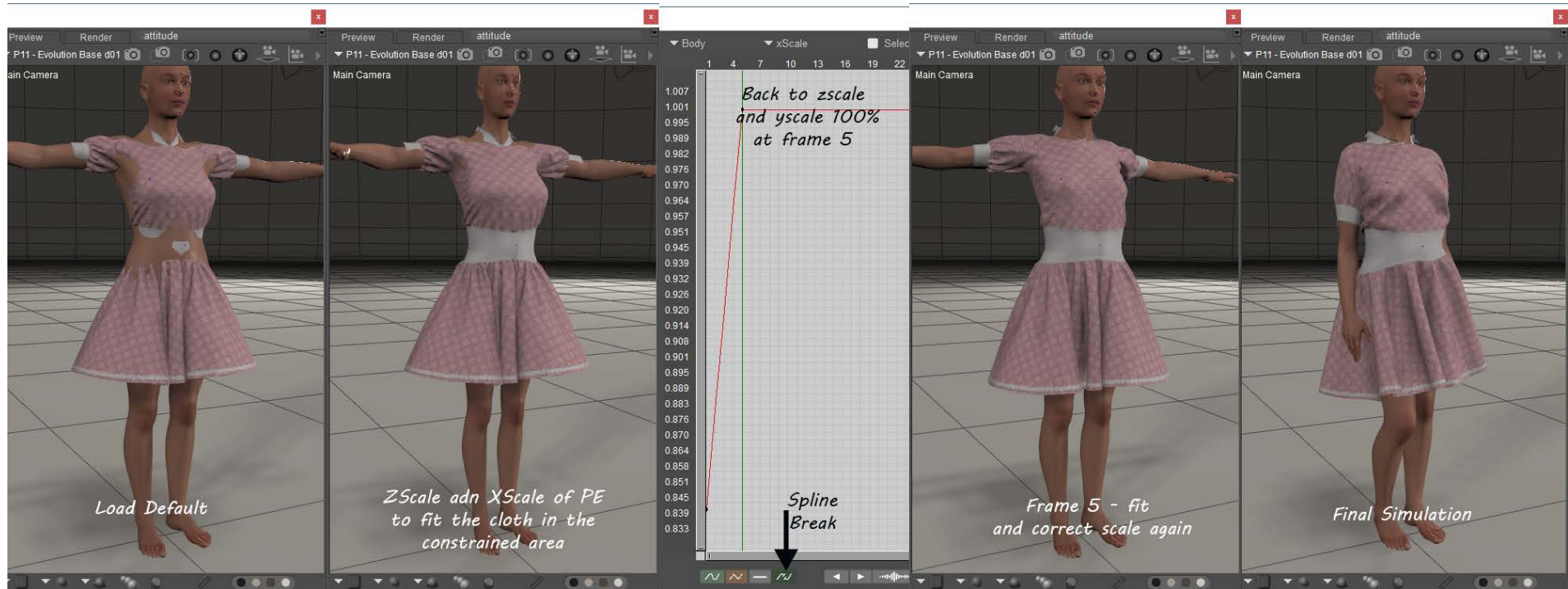
Friday Fashion by Biscuits

In this dress there is a constraint around the belt which is party in the body. Instead of scaling, you can make the belt more stiff (so it does not move). To prevent the rest of the clothing to become stiff as well, you can create a new dynamic group and assign the belt group/material to it. Now increase friction and shear resistance.

Now you can sim the cloth as usual. This method does not always work, but when it does, it keeps all of the cloth settings in tact.

CatSuit by Vyktohria
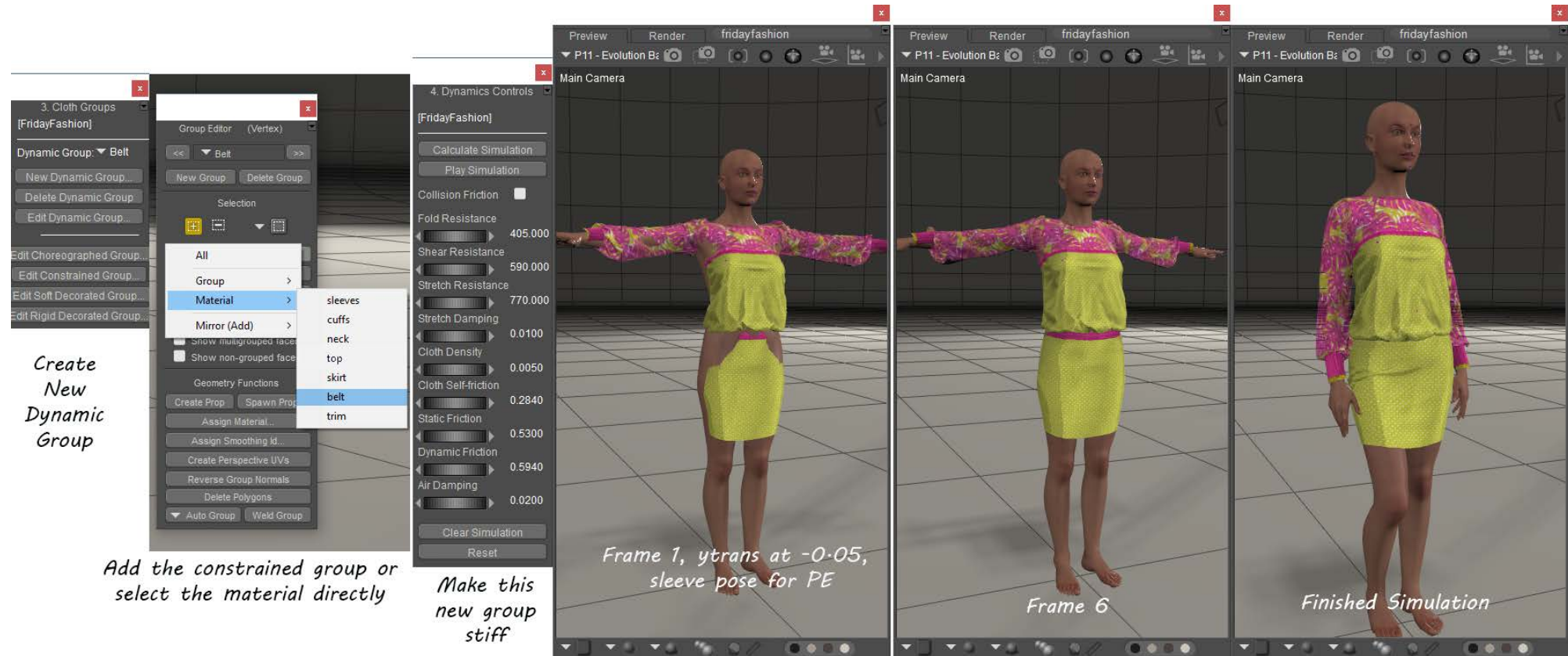
For more shape fitting clothing it is best to take another approach when constraints are needed. PE's body shape is different from V4, especially in the back and in the breast area. If you keep the constraints in those areas, the clothing will float above it. Removing the constraints will change the shape of the clothing and not look good either.

In this case you can use a 2 step simulation. First do a 5 frame simulation to make a general fit, then make a morph out of it. Then use the morph brush on that new morph to adjust the shape in areas where it is needed. Then use the new morph as a starting point to do a new sim for all the frames.

In the following example the Catsuit has a constraint around neck and top of breast as well as a constraint on the back.

Here is a complete step by step process:

1) Load the cloth (see fig 1)
2) Adjust the yscale to 98%, lower yTrans to -0.03 on the cloth (see fig 2)
3) Adjust the figure's Right Collar to Up-Down 1°, Front-Back to 7°, Left Collar to -1° and 7° (see fig 3)
4) Go to frame 5 and zero PE
5) Set the simulation range to 5
6) Simulate the clothing
7) The cloth will now have a general fitting (see fig 4)

Fig 1   Fig 2   Fig 3   Fig 4
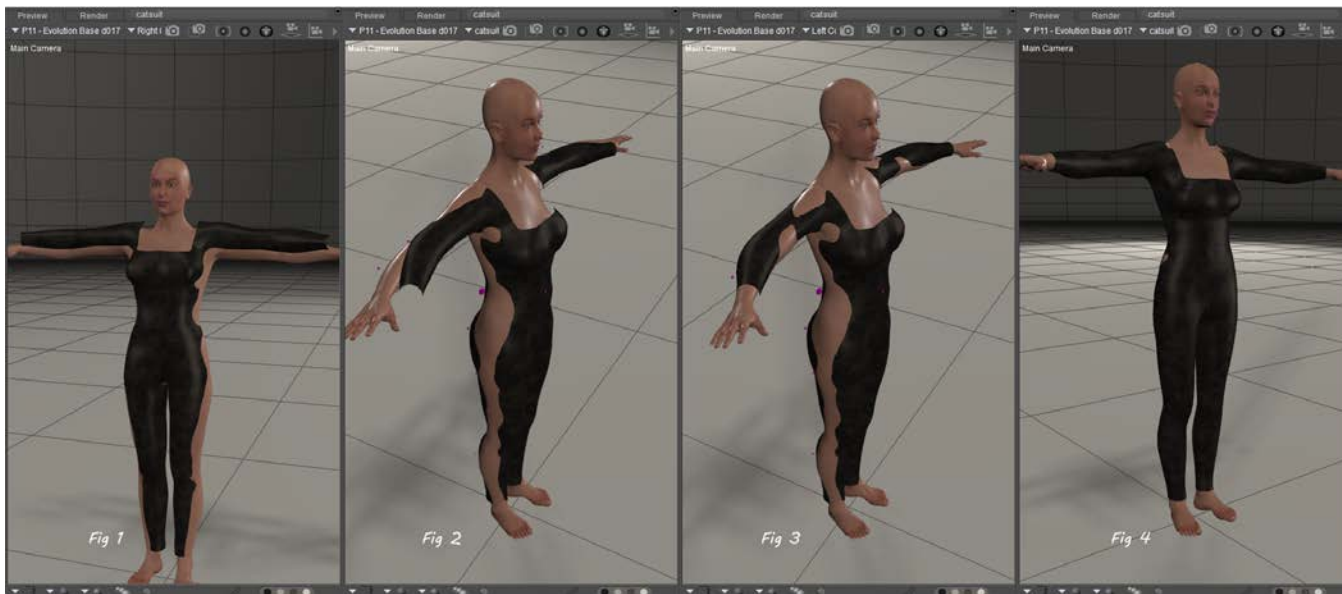
There are several areas now which have poke through due to the constraints on the catsuit. That is what the next step is for. There are 2 things we need to do: Make sure that the constraint areas are outside of the body (Fig 5) and also make the catsuit follow the body shape better (Fig 6, breast area).

Fig 5

Fig 6
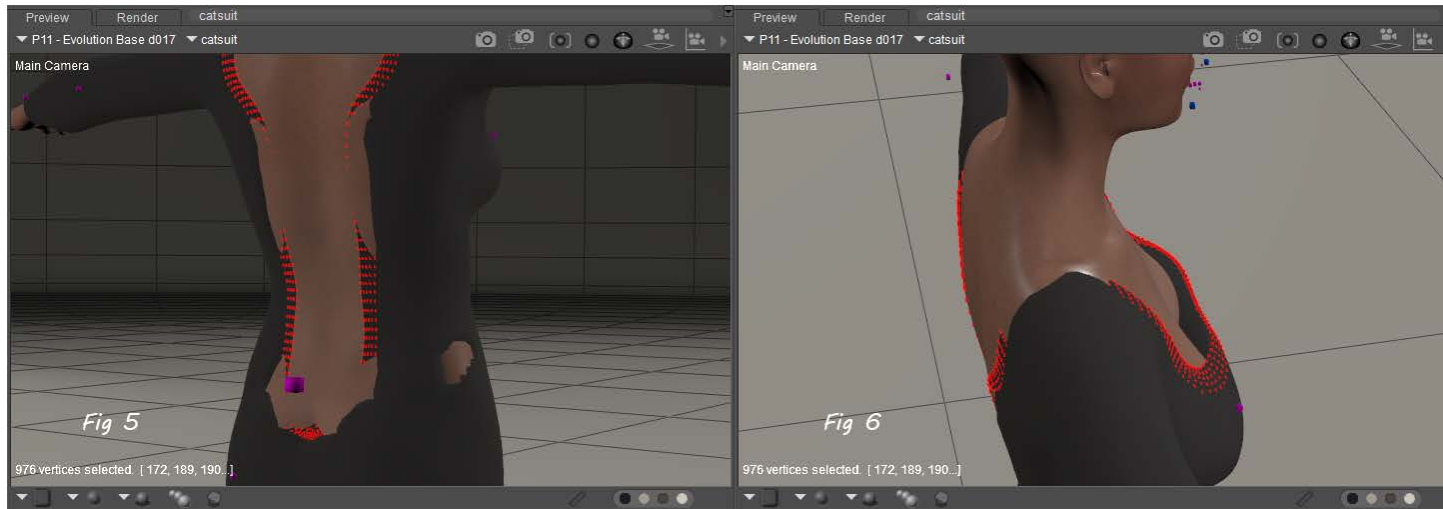
The morph brush is perfect for this task. Use it to paint away the poke through areas, then make the suit follow the breast shape.

To do this follow these steps:

8) Select the catsuit and Spawn a morph target (Object!Spawn Morph Target, name it PEFit)
9) Go back to frame 1
10) Clear the dynamic simulation (Set Dynamics dial to 0)
11) Set PEFit morph to 1
12) Go to the Pose room
13) Select PE and hide the handles (Body, Rig Control group, Hide Handles to 1). Select Catsuit again.
14) Start morph brush
15) Select Edit and choose the PEFit morph to edit
16) Now select the Tighten Fit tool, Set Goal to PE
17) Set Poke Through margin to 0.0004
18) Paint on the poke through areas so the suit fits (if still some poke persist, slightly increase the Poke through margine for that area (Fig 7)
19) Now, with the same tool, shape the breast area (Fig 8). If the cleavage are gets too close to the body, use the pull tool with small strength to pull it back again.

Fig 7

Fig 8

20) Once done, close the morph brush
21) Go back to the cloth room. We are at frame 1, PEFit morph is still at 1.
22) Set the Simulation range back to 30 in Simulation settings
23) Run the simulation again.
24) All has gone to hell!!!!!! (see fig 9) Do not worry!. At frame 1 set the PEFit morph to 0
25) Go back to frame 30 and all is well (Fig 10)

Fig 9

Fig 10

Alternative solutions

There are several other options to use V4 dynamic clothing on PE, such as:

- Use the PE shape for V4 inject pose on V4, then simulate it to get the new shape and save it as a new cloth for PE
- Use PE mannequins as target for the initial fitting simulation – then replace the mannequin with V4. This has the added benefit of begin able to use the cloth morphs in the mannequin for better fitting.

If one particular method does not give the desired result, try one of the other methods.

Good luck!