

How to make... ankle bindings and belts in Poser 7

Preliminary steps

Breeches in the Celtic world were often drawn tight at the base of the legs. This HowTo will explain the different steps to simulate this in Poser.

The procedure described here can be used for other pieces of garment too. Think about a belt around the waist, a shirt tucked into a pair of trousers, or leggings. In all cases, the same procedure should be followed.

First, you need a pair of breeches that you will have to make in another application like, e.g. Blender, Wings3D, or Silo.

Second, you need some objects that will simulate the bindings around the breeches' legs. In your application you can make them for instance from toruses, properly scaled to the dimensions of the figure's legs. Do not make them too tight as you will need some room for the folds of the breeches' cloth.

Step 1

Start with posing a figure in Frame 1 into the Zero Figure (Joint Editor). If necessary, in the Figure Menu, switch off the IK of the legs, check Drop to Floor, and check Use Limits.



Figure 1.



Figure 2.

Import now the objects that are going to be the bindings on the legs. Position them to the correct position on your figure (Fig. 1). In the Objects Properties, open 'Set Parent' and check the Shins of

the figure. Import also the breeches, and check the 'Set Parent' to the Body of the figure (Fig. 2)

Step 2

We are going to use Frame 1 to Frame 30 for the simulation of the figure's pose, and Frame 30 to Frame 40 for drawing tight the breeches' legs. Any other number of frames will do, but remember always to reserve the final run to the tightening. Going to Frame 30, we select a pose for our figure, for instance, let us assume he is walking. Make the breeches invisible and we see that the bindings have remained nicely in place around the legs (Fig. 3).

What you can do at this stage, is to set up correctly the simulation for the breeches and test this out until you are entirely satisfied. In particular, check all the 'Additional Cloth Collision Options' in the 'Simulation Settings', and set both 'Dynamic friction' and 'Static Friction' in 'Collide Against...' to their minimum value (0.1). In the example we use here, note that the blue band around the waist of the breeches (Fig. 2) represents the Constrained Group which holds the breeches in place on the figure. Read the Tutorial Manual in particular for setting up the simulation.

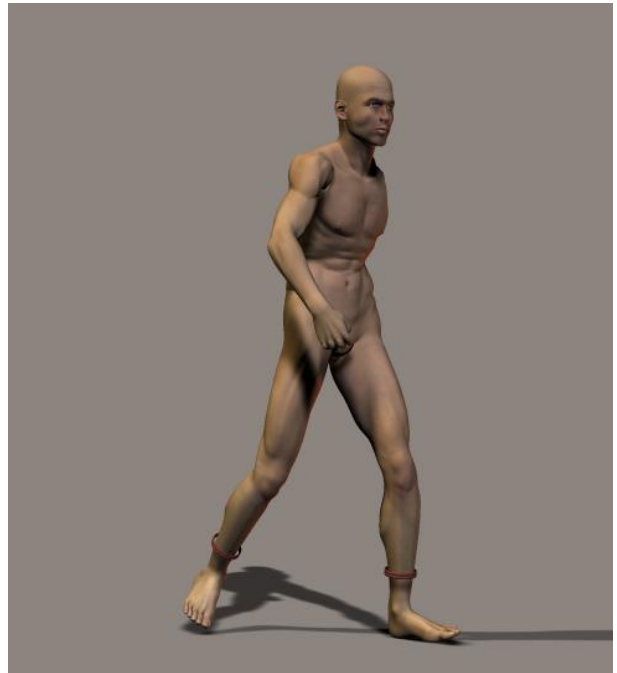


Figure 3.

Step 3

What we need now, is some proxy object that is going to draw tight the cloth of the breeches. Ideally, this would have been the bindings that we have already adjusted around the legs. However, Poser does not permit scaling of objects that have been parented to a figure, and unfortunately, it is through scaling that we are going to reach our goal. There is a work-around however.

Go back to Frame 1, make the breeches visible again, and import the bindings a second time. Change their names in the Object Properties into something like "BindingR_proxy" and "BindingL_proxy" to distinguish them from the original ones. Now scale the proxies until they appear outside of the breeches, and not touching them (Fig. 4).

Important! The proxies are not to be parented to the figure, but they are going to interact with the cloth of the breeches in the same way as the chair interact with the dress in the Tutorial Manual.



Figure 4.

If you move the Frame Slider, you will see that, as the figure changes towards his walking pose, the proxies remain at the same place. What we

have to do, is move them separately until Frame 30, in such a way that they stay around the legs, without touching the cloth. This is easier than you may think it is as you can change the proxies' position in steps of, e.g. 10 frames. The simulation will take care of the intervening ones. If necessary, you can make corrections in between. In Frame 30, the proxies should be exactly parallel to the original bindings (Fig. 5).



Figure 5.

Step 4

At this stage, make the breeches invisible, and increase the number of simulation frames from 30 to 40. Go to Frame 40. The figure should be in exactly the same position as in Frame 30. Scale down the proxies to exactly the same size as the original bindings, take care to place them also exactly under the same angle and in the same position. They should totally overlap but a little

discrepancy is not going to have serious consequences.

Step 5

You are now ready to start the simulation (cross your fingers!). Go back to Frame 1 and start it. While Poser calculates the successive frames, you will see the figure gradually change towards its walking pose while the proxies float around the legs until Frame 30 is reached. From then on, the figure remains still and the proxies are gradually shrinking, taking the cloth with them until Frame 40 is reached (Fig. 6). You can now make the proxies invisible, sit back, and enjoy your work!

Acknowledgment

Thanks to PhilC for setting me on the right track!



Figure 6.

Thomas de Groot (a.k.a. ThomdeG)

June 1st, 2007