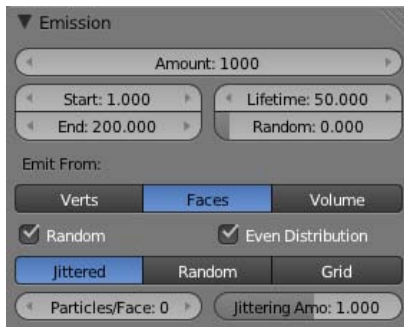


Chapter 13- Particle Systems and Interactions

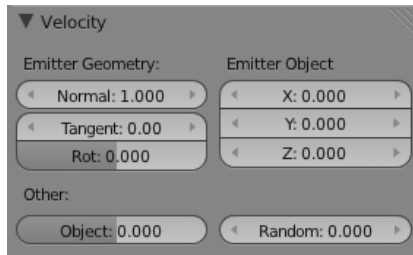
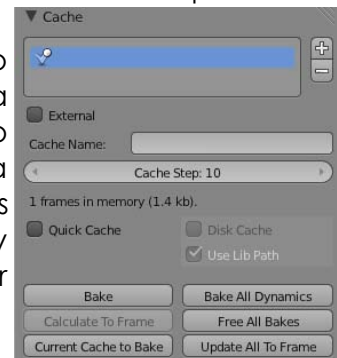
Particle Panel Basics

Some of the panel basic settings are explained below:



When adding a particle effect to a mesh, think of the mesh now acting like a collection of small parts, being created at various points in time, living for a while, then dying. In the **Emission** panel, you set the total amount of particles, when the particles start in time, when they end, how long each particle will live after birth and if you want some randomness to their lives. This is where you can also select Random for how they are emitted from the mesh, otherwise, they may appear to come off in a sequence.

The **Cache** panel is useful for saving you particle calculations so working and rendering can run faster. Every time you make a change to your particle settings, the computer needs to recalculate those changes over time. Saving this data in a folder or file will help a lot. This is called *Baking*. When you press “Alt-A” to see an animation on screen, Blender will temporarily Cache the data in memory while you work, but won't save it for a future session.



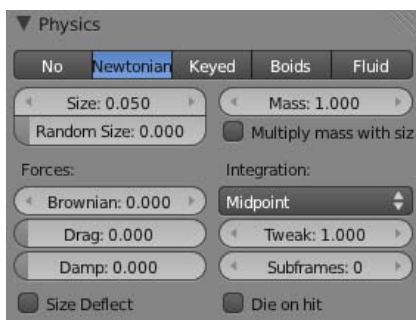
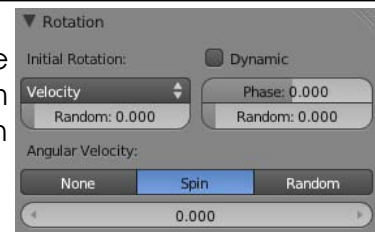
The most important settings in the **Velocity** panel are “Normal” and the “X,Y,Z” settings. Normal controls the outward force of the particles while X,Y,Z control the directional push. You also have a few other setting to adjust. The Random setting is also important to make the effect look more real.



RoboDude Asks: *There are a lot of settings- how do I keep them straight?*

It is best to only make one or two changes at a time and test them out by pressing “Alt-A” to see the effects in the viewport. You can always “Ctrl-Z” to undo- and practice helps.

The **Rotation** panel gives you options related to how the particles spin when released. If you are looking at random spinning and dynamics, it's good to set these high. You can also change what effects the spin (by default it is velocity).



The **Physics** panel is where you can make some basic adjustments in the physics model used (default is Newtonian), size and randomness of particles, mass (when dealing with gravity and reactions) and dampening.