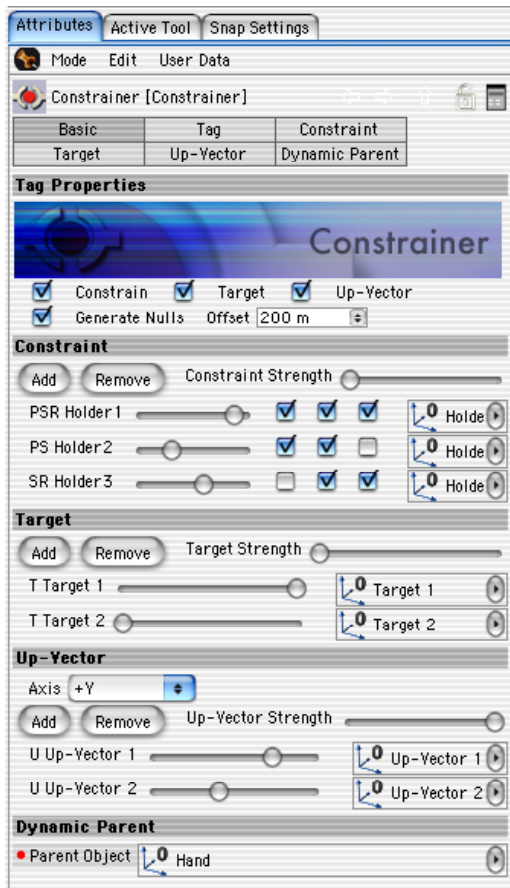


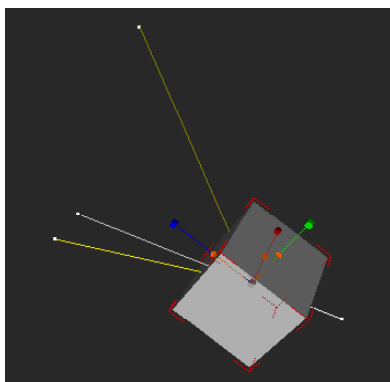
C.A.R. Tags - Constrainer Tag

The Constrainer Tag works by simply slaving certain rotation, position or scale properties of the object it is on to other objects. It can also be used to blend between multiple constraints, up-vectors and targets thus making it exceptionally useful for many rigging situations (both character and non character rigging).

The interface:



Directly under the “Constrainer” logo are a number of check boxes. These are not global switches for the constraints themselves, but instead refer to visibility of connecting lines from the constraints in question.

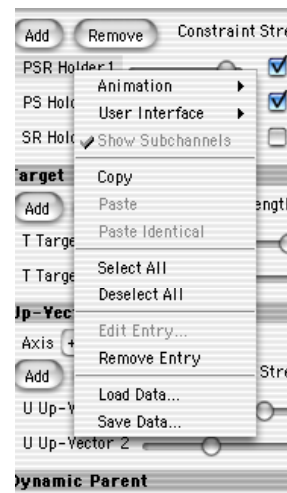


The colour of the line represents what sort of constraint it is (Yellow=Target, Cyan=Up-Vector, Red=Position, Green=Scale, Blue=Rotation though the Position, Scale & Rotations can be blended together), and the brightness of the line represents how strong a constraint it is.

Under the 3 visibility check boxes is “Generate Nulls” and “Offset”. If “Generate Nulls” is checked, then when you add target or Up-Vector constraints the tag will automatically create Null objects and link them in directly to the appropriate slots. The “Offset” value controls how far away they are generated from the object the Constrainer tag is on.

Constraint Tab

Add/Remove will Add and Remove slots from the list. If you wish to remove a specific slot rather than the last one then right click on it's name and choose “Remove Entry”.



The “Constraint Strength” slider allows you to blend in some of the objects own Position/Scale/Rotation values into the mix. This allows you to create “Lagging” effects when used with very low blending values in the slots (see the Lag.c4d example).

Once you have added a constraint slot by clicking the “Add” button you will be presented with a line that contains from left to right the name, strength slider, position, scale, rotation check boxes, and constraining object link.

At first the strength will be set to 0 and none of the check boxes will be checked. Just drag an object you want to use as the constraint into the link box, bring the strength up and choose what

you want to constrain (PSR).

Target Tab

Targets are simply things being pointed at by the object, along its Z Axis. The object can freely rotate along that axis too, which is why you often use targets in association with an Up-Vector.

Like the Constraint tab it contains Add/Remove buttons to add remove slots, and a Target Strength Slider, which works much as the Constraint to blend in a little of the objects own facing direction to the mix (hint if you use an animation track on the object the tag is on these strength sliders are most useful for blending in that track to the mix).

When you add a Target Slot you get from left to right, Target name, Target Strength, Target Object Link. Blending targets is as simple as adding a new slot for the new target and modifying/animating the target strength values for each slot.

Up-Vector Tab

An Up-Vector is like a target except it keeps one side of the object the tag is on roughly upwards towards the Up-Vector target. It does this by rotating the object only along its Z-axis (thus it is in effect also the opposite of a Target which points the Z-axis towards itself).

The "Axis" control chooses which axis is meant to be "Up" on the object. The Add/Remove buttons work as with the Constraint and Target Add/Remove as does the Up-Vector Strength slider.

New slots are from left to right, Name, Strength, Linked Up Vector Target Object.

Dynamic Parent Tab

A dynamic parent is an object that is used just like a parent object for motion in the Object Manager hierarchy, except that it doesn't change any hierarchy and can be animated. This means you can use it for instance to allow a character to easily pick up and put down objects, or pass objects between his hands.

When you use a Dynamic Parent it's good to sometimes set the initial position of an object using a single frame length sequence on frame 0, or using Xpresso. If you do so then you could select the sequences in the timeline and choose to not have Right Influences on them. You can see how this works in the Dynamic Parent example in the Examples folder.

A dynamic parent allows autonomous movement of the "child" object that the tag is on. However your child's space is still the space it's in, not the dynamic parents space. This means that if you animate the child you should always be aware of how that will be affected (or wont be affected) by the dynamic parenting system.

Dynamic parents are calculated on a frame to frame basis too, so they are unlike other constraints often not suited to split rendering, e.g. over NET render. However once the animation has been completed you can of course Bake the motion using Cinema's timeline controls.