



## Geometry Nodes Editor - Header - Add Modifier Menu - Hair - Deformation modifiers

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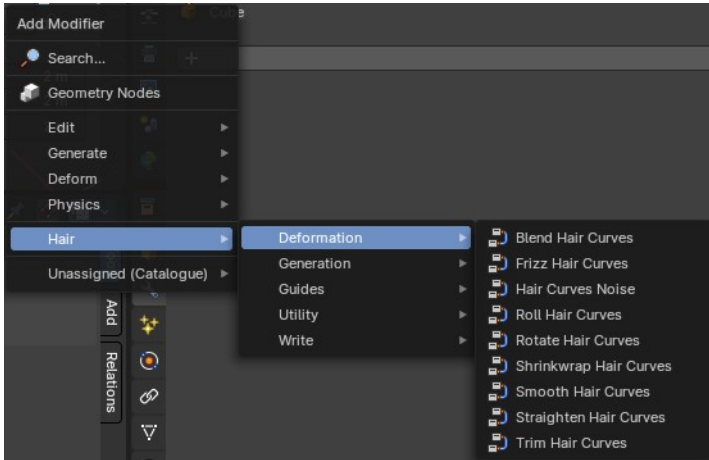
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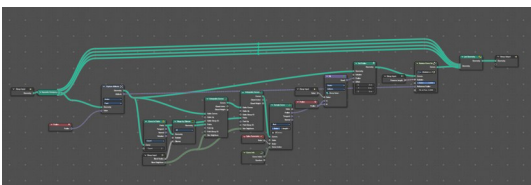
## Hair - Deformation modifiers



Hair nodes are Geometry node groups found in the Essentials Library included with Bforartists. They differ from the other nodes in the add menu due to being mid level node groups instead of individual low level nodes.

These hair nodes are also available as Modifiers. And this modifier adds the same node group as you would do it in the geometry node editor. Which means you can control these node groups in the modifier stack now instead of the geometry node editor.

Note that hair curves is usually a mesh only functionality. But shows for all other object types too.

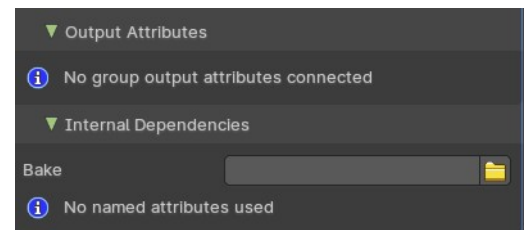


### General functionality

All Hair nodes have an Output Attributes and Internal dependencies tab. If the hair node has output attributes or internal dependencies depends of the hair node.

### Output Attributes

Contains group output attributes in case the node group has any. It is usually the output of the nodes besides the geometry.



## Internal Dependencies

### **Bake**

Define a bake name and a bake folder.

TODO: find out how this is meant to work.

### **Named Attributes**

Named attributes of the hair node group in case the group has any.

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## Blend Hair Curves

Blends the shape between multiple hair curves in a certain radius together.

### **Factor**

Factor to blend overall effect.

### **Blend Radius**

Radius to select neighbors for blending.

### **Blend Neighbours**

Amount of neighbors used for blending.

### **Preserve Length**

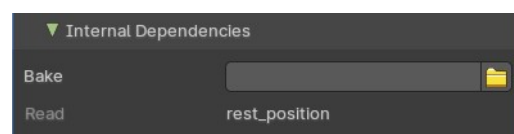
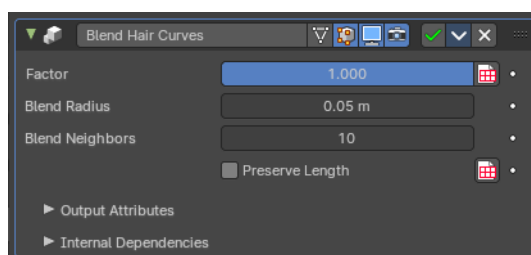
Preserve the length of each curve during deformation.

## Internal Dependencies

### **Named Attribute**

Read attribute with name rest\_position

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## Frizz Hair Curves

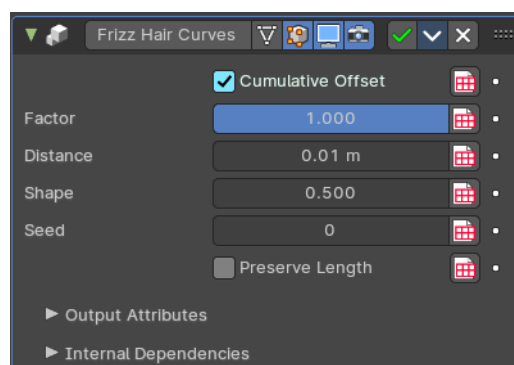
Deforms hair curves using a random vector per point to frizz them.

### **Factor**

Factor to blend overall effect.

### **Distance**

Overall distance factor for the deformation.



## Shape

Shape of the influence along curves. 0 means constant. 0.5 means linear.

## Seed

Random seed for the operation.

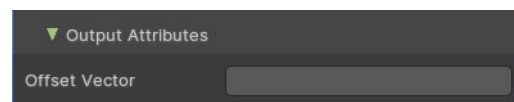
## Preserve Length

Preserve the length of each curve during deformation.

## Output Attributes

### *Offset Vector*

The vector by which each point was offset during deformation.



## Hair Curves Noise

Deforms hair curves using noise texture.

### Factor

Factor to blend overall effect.

### Distance

Overall distance factor for the deformation.

### Shape

Shape of the influence along curves. 0 means constant. 0.5 means linear.

### Scale

Scale of the noise texture by root position.

### Scale along Curve

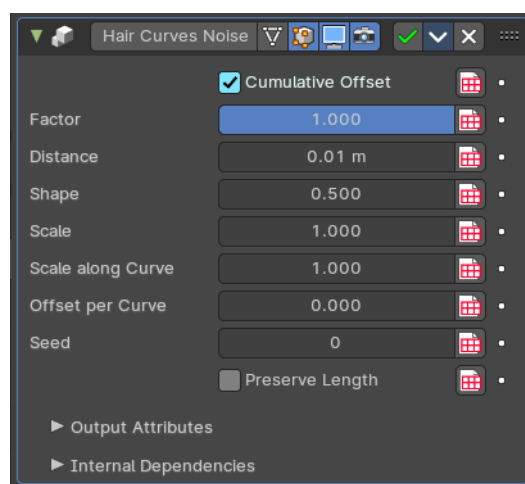
Scale of the noise texture along the curve.

### Offset per curve

The offset per curve.

### Seed

Random seed for the operation.



## ***Preserve Length***

Preserve the length of each curve during deformation.

## **Output Attributes**

### ***Offset Vector***

The vector by which each point was offset during deformation.



## **Roll Hair Curves**

Rolls up hair curves, starting from their tips.

### **Factor**

Factor to blend overall effect.

### **Subdivision**

Subdivision level applied before deformation.

### **Variation Level**

Level of smoothing on the roll path to include shape variation.

### **Roll Length**

Length of each curve to be rolled

### **Roll Radius**

Radius of the rolls.

### **Roll Depth**

Depth offset of the rolls.

### **Roll Taper**

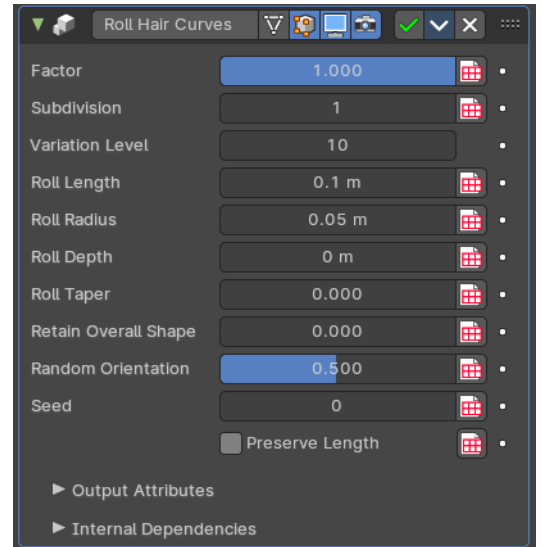
Taper of the roll.

### **Retain Overall Shape**

Offset the roll along the original curve to retain shape.

### **Roll Direction**

The axis around each curve is rolled.



## Random Orientation

Amount of randomization of the direction of the roll.

## Seed

Random seed for the operation.

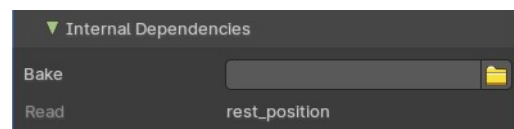
## Preserve Length

Preserve the length of each curve during deformation.

## Internal Dependencies

### *Named Attribute*

Read attribute with name rest\_position



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## Rotate Hair Curves

Rotates each hair curve around an axis.

## Factor

Factor to blend overall effect.

## Axis

Rotation Axis. The default is tangent at root.

## Angle

Angle of rotation

## Random Off

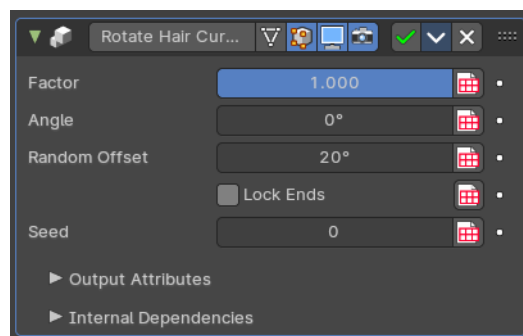
Random offset to the rotation angle per curve.

## Lock Ends

Lock rotation to the axis between the curve ends.

## Seed

Random seed for the operation.





## Shrinkwrap Hair Curves

Shrinkwrap hair curves to a mesh surface from below and optionally from above.

### Surface

Surface geometry used for shrinkwrap.

### Surface Object

A surface object used for shrinkwrap.

### Factor

Factor to blend overall effect.

### Offset Distance

Distance of the surface to shrinkwrap.

### Above Surface

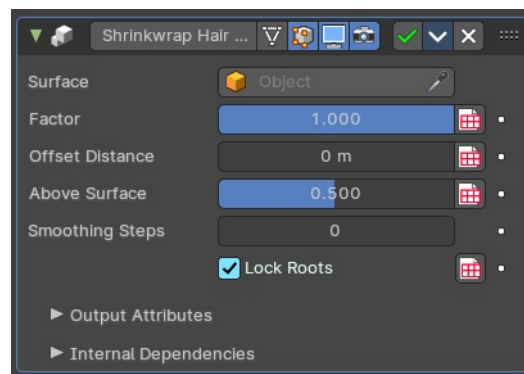
Blend shrinkwrap for points above the surface.

### Smoothing Steps

The steps of Smoothing applied after shrinkwrap.

### Lock Roots

Lock the position of root points.



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## Smooth Hair Curves

Smooths the shape of hair curves.

### Amount

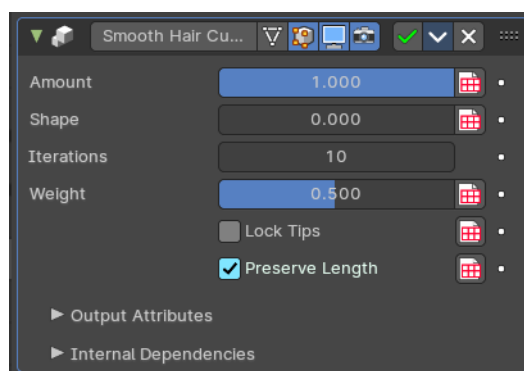
Amount of smoothing.

### Shape

Shape of the influence along curves. 0 means constant. 0.5 means linear.

### Iterations

Amount of smoothing steps.



## Weight

Smoothing weight.

## Lock Tip

Lock the position of tip points.

## Preserve Length

Preserve the length of each curve during deformation.

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## Straighten Hair Curves

Straighten hair curves between root and tip.

### **Amount**

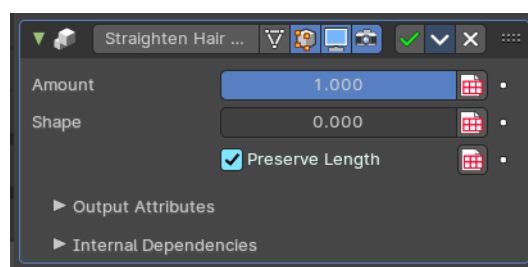
Amount of smoothing.

### **Shape**

Shape of the influence along curves. 0 means constant. 0.5 means linear.

### **Preserve Length**

Preserve the length of each curve during deformation.



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## Trim Hair Curves

Trims or scales hair curves to a certain length.

### **Scale Uniform**

Scale each curve uniformly to reach the target length.

### **Length Factor**

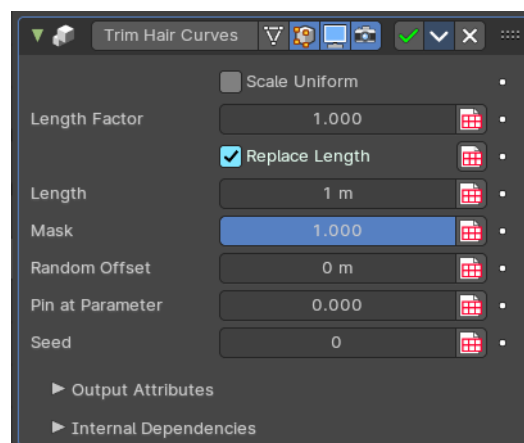
Multiply the original length by a factor

### **Replace Length**

Use the length input to fully replace the original length.

### **Length**

Target length for the operation.



### ***Mask***

Mask to blend overall effect.

### ***Random Offset***

Trim hair curves randomly up to a certain amount.

### ***Pin at parameter***

Pin each curve at a certain point for the operation.

### ***Seed***

Random seed for the operation.

### **Output**

#### ***Geometry***

The output geometry.