

## 7.1.38 Editors - 3D View - Header - Armature - Edit mode - Armature menu

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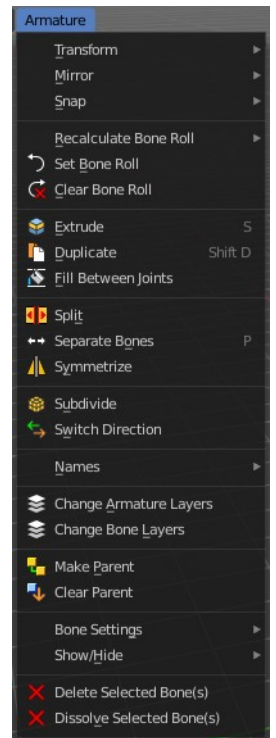
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## Edit Mode - Armature Menu



## Transform

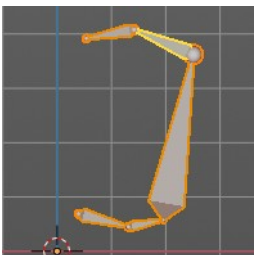
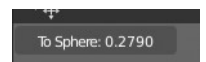
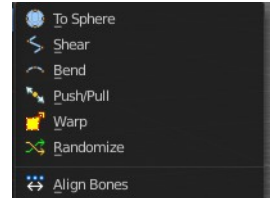
### To Sphere

Shapes a selection of objects into the shape of a sphere. The calculation happens with the object origins.

In Object mode this tool requires to have more than one object selected.

### Usage

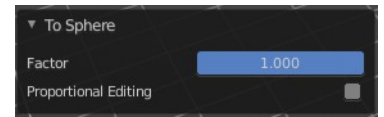
Select the vertices, activate the tool, then drag the mouse in the 3D viewport. In the header you will read the current factor then. Which tells you how close you are towards the sphere shape. With a skeleton the to sphere operation is everything but accurate though. The bones gets stretched or compressed



## Last Operator To Sphere Panel

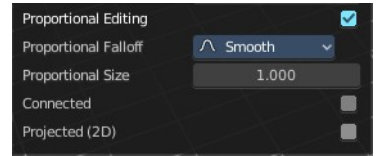
### **Factor**

The factor to transform the selection into a shape form.



### **Proportional editing**

Enables proportional editing. Activating proportional editing reveals further settings.



### **Proportional Falloff**

Adjust the falloff methods.

### **Proportional Size**

See and adjust the falloff radius.

### **Connected**

The proportional falloff gets calculated for connected parts only.

### **Projected(2D)**

The proportional falloff gets calculated in the screen space. Depth doesn't play a role. When it's in the radius, then it gets calculated.

---

## Shear

Shear shears the selection.

### Last Operator Shear

#### **Offset**

Adjust an offset.

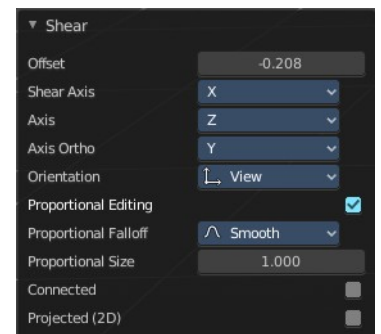
#### **Shear Axis**

The shear tool works along a imaginary 2d plane. The shear axis controls if the items are sheared along the x or the y axes of this plane. This is the plane along which the transformation happens. You can shear along the x or the y axis of this plane.

To make things even more complicated, the orientation of this imaginary plane is defined by the Axis and Axis Ortho items below.

#### **Axis**

Defines one axis of the imaginary shear axis plane.

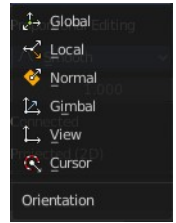


## Axis Ortho

Defines the other axis of the imaginary shear axis plane.

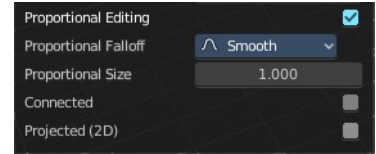
## Orientation

Choose the orientation for the shear action.



## Proportional editing

Enables proportional editing. Activating proportional editing reveals further settings.



## Proportional Falloff

Adjust the falloff methods.

## Proportional Size

See and adjust the falloff radius.

## Connected

The proportional falloff gets calculated for connected parts only.

## Projected(2D)

The proportional falloff gets calculated in the screen space. Depth doesn't play a role. When it's in the radius, then it gets calculated.

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## Bend

Bends the selection.

---

## Push/Pull

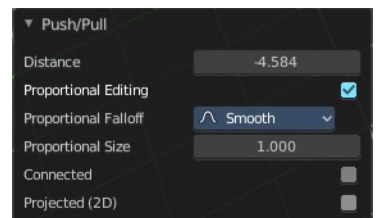
It pushes or pulls the object positions relative to the centre of the selection.

In Object mode this tool requires to have more than one object selected.

## Last Operator Push/Pull

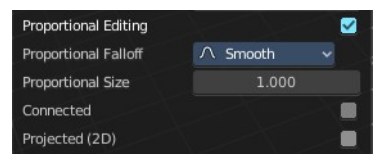
### Factor

Adjust the strength of influence of the tool.



### Proportional editing

Enables proportional editing. Activating proportional editing reveals further settings.



## Proportional Falloff

Adjust the falloff methods.

## Proportional Size

See and adjust the falloff radius.

## Connected

The proportional falloff gets calculated for connected parts only.

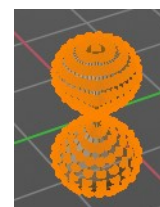
## Projected(2D)

The proportional falloff gets calculated in the screen space. Depth doesn't play a role. When it's in the radius, then it gets calculated.

---

## Warp

Warp a mesh selection between two defined points.



## Last operator Warp

### *Warp Angle*

The strength of the warp effect

### *Offset Angle*

An offset angle to bend sideways.

### *Min*

The start point.

### *Max*

The end point.



---

## Randomize Transform

This tool allows randomizes the positions of the selected vertices.

## Last Operator Randomize Transform

### *Amount*

Adjust the amount.

### *Uniform*

The uniform offset distance.





## **Normal**

Align the offset direction to the normals.

## **Random Seed**

The seed value for randomization.

## **Align Bones**

Aligns the selected bones to the orientation of the active bone.

# **Mirror**

Mirror mirrors the selected geometry along the defined axis.

## **Interactive Mirror**

Mirror by hotkeys. You activate the tool, type in x for x global for example, or x x for x local. And the selection gets mirrored

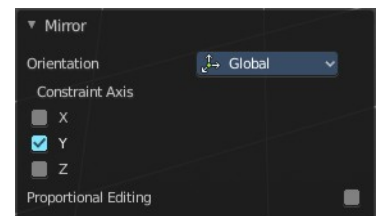


## **X Global, Y Global etc.**

Mirrors the selection around the chosen axis.

## **Last Operator Mirror**

The Last Operator Mirror panel gives you tools to adjust the mirror action.

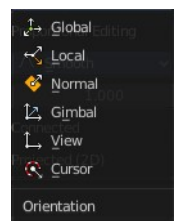


## **Orientation**

Orientation is a drop-down box. Choose the type of orientation for the mirroring action.

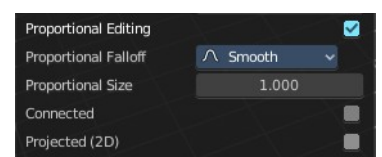
## **Constraint Axis**

Constraint Axis gives you again the possibility to define the mirror axis. You can choose more than one axis here.



## **Proportional editing**

Enables proportional editing. Activating proportional editing reveals further settings.



## Proportional Falloff

Adjust the falloff methods.

## Proportional Size

See and adjust the falloff radius.

## Connected

The proportional falloff gets calculated for connected parts only.

## Projected(2D)

The proportional falloff gets calculated in the screen space. Depth doesn't play a role. When it's in the radius, then it gets calculated.

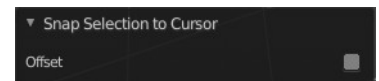
# Snap

Choose several methods to snap one element to another. The menu items should be self explaining.



## Last Operator Snap

Some snap operations shows a last operation panel, some not.



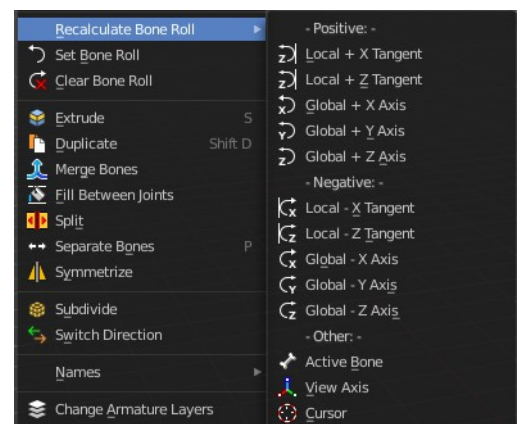
## Offset

If the selection should snap as a whole, or if each individual element of the selection should snap.

# Bone Roll

Recalculate Bone Roll Recalculate Roll is a menu where you can recalculate the bone roll in various ways.

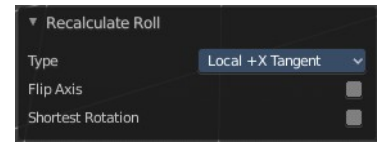
The menu items are pretty self explaining. So we will not repeat the descriptions here.



## Last Operator Recalculate Roll

### Type

Type is a drop-down box. Choose the recalculation method again.

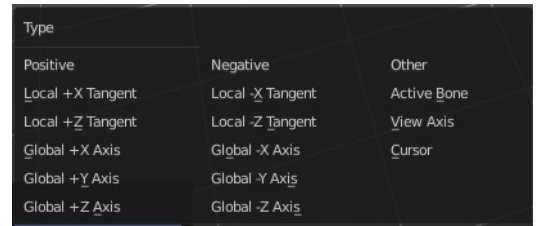


### Flip Axis

Negates the alignment axis.

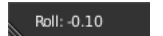
### Shortest Rotation

Ignore the axis direction, and use the shortest rotation to align the bone(s)



## Set Bone Roll

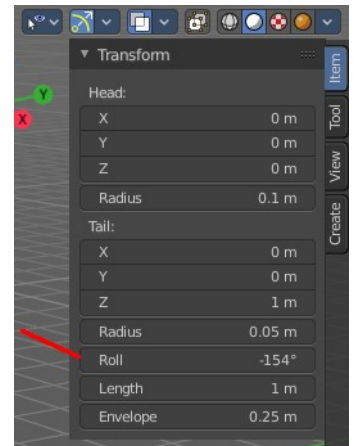
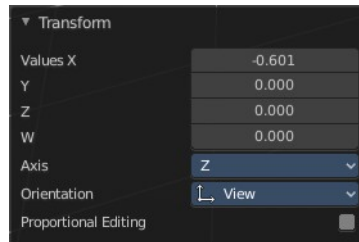
This operation is relative to the starting value, and starts always with zero. It does not display the Bone Roll value from the Transform panel. It adds or subtracts the amount of the operation to/from the Roll value then.



While operating you will see the current relative Roll value in the header.

### Last Operator Transform

The only interesting value is the X value right at the top. The other settings here are simply dysfunctional. You cannot turn on proportional editing, axis and orientation doesn't play any role since it always rotates around the bone orientation. And so we will not go into detail here.



Unfortunately even the X value to display the amount of the roll is broken. It displays the amount in Radians, while the Bone roll is in degrees.

## Clear Roll

Set the bone roll value directly.



### Last Operator Clear Roll

#### Roll

Set the bone roll.

# Single Operators

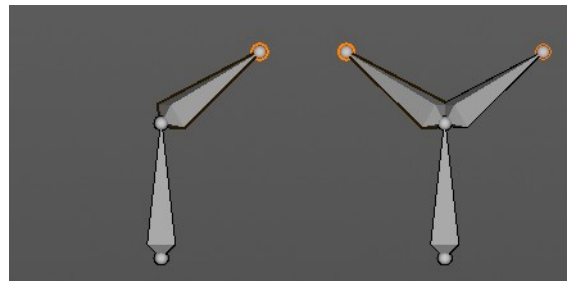
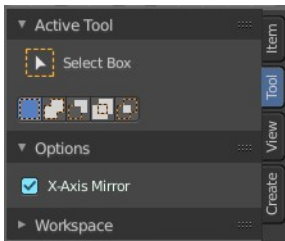
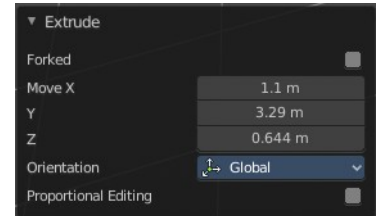
## Extrude

Extrudes out a bone from the selected joints.

## Last Operator Extrude

### Forked

You need to tick X Axis Mirror. When you tick Forked, then the bone that you extrude to the one side will now be extruded to the other side too. The extrude gets mirrored along the x axis. This allows you to create a symmetrical armature.

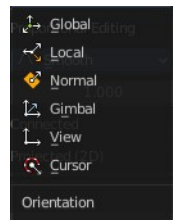


### Move X , Y, Z

The transform values for the new created joint(s)

### Orientation

Orientation is a drop-down box. Choose the type of orientation for the mirroring action.



### Proportional editing

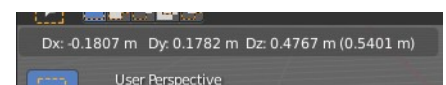
Proportional editing is dysfunctional. You cannot activate it.

## Duplicate

Duplicates selected bones.

You are automatically in grab mode, and so you can easily move the object out of position. Which is sometimes wanted, since you can position the duplicate then. But sometimes this is unwanted. A right click after releasing the mouse lets the object snap back into its creation position.

When you drag the duplicate around you will see the position values in the header.

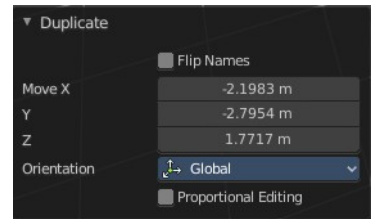


## Last Operator Duplicate

### *Duplicate Objects*

#### **Flip Names**

Tries to flip the names of the bones. This is a name convention feature. When you have a bone called mybone.R, then it tries to become mybone.L

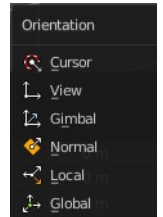


#### **Move X , Y , Z**

The Position of the duplicated object.

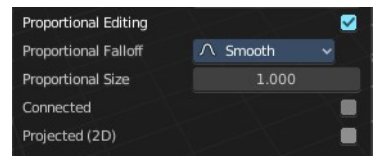
#### **Orientation**

Orientation is a drop-down box. Choose the type of orientation for the duplicate action.



#### **Proportional editing**

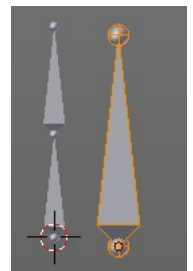
This checkbox has no use here. You cannot activate it.



## Merge Bones

Merges two connected bones in a chain into one bone.

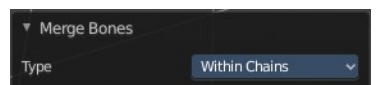
When you click the Merge Bones button then you will get a pop-up. Choose between exactly nothing since there is one choice. Within chains.



## Last Operator Merge Bones

#### **Type**

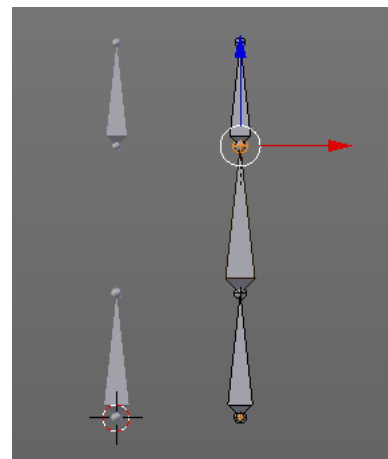
Type is a drop-down box. Choose between exactly nothing since there is one choice. Within chains.



## Fill between Joints

Fill between joints fills a bone between two selected joints.

When there is just one joint selected, then the bone is created between this selected joint and the 3D cursor.



## Split

Split splits the selected bone(s) from connected bones. They are still part of the armature. But the bone is now floating. And you can pull this bone(s) around without pulling the rest of the armature around.

The Last operator for Split has no content.

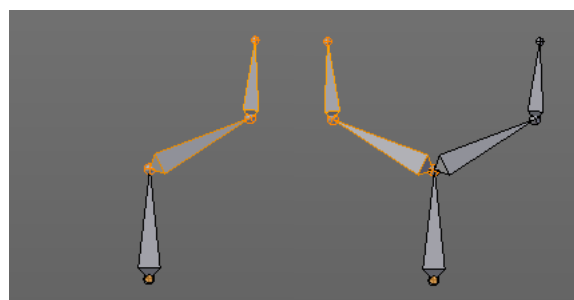
## Separate

Separate separates the selected bone(s) from the armature. And creates a new, independent, armature.

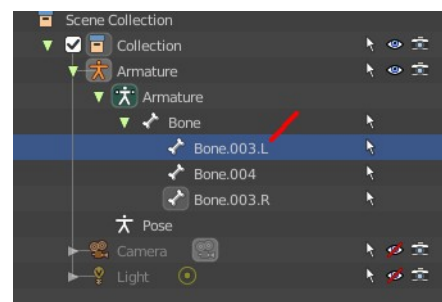
The Last operator for Separate has no content.

## Symmetrize

Creates a symmetrical mirrored copy of the currently selected bones along the X axis. The mirror centre is the pivot of the armature.



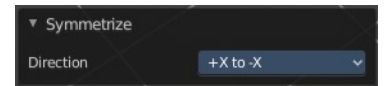
The bones that you want to symmetrize needs to follow the left right name conventions for bones. Bones without this left right naming are not affected by the tool. If there is a lower or upper case “L”, “R”, “left” or “right” with a separating dot in the bone name, then this tool creates and renames the bones names to its counter part. Bone.L becomes Bone.R.



## Last Operator Symmetrize

### Direction

Define the calculation direction. From -X to + X or from +X to -X



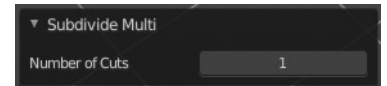
## Subdivide

Subdivide subdivides the current selection.

## Last Operator Subdivide Multi

### Number of Cuts

Adjust the number of subdivisions.

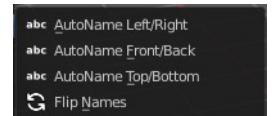


## Switch Direction

Switches the direction in which the selected bones are pointing.

## Names

Bforartists has some internal name conventions for a symmetrical armature. Bones are for example named mybone.L or mybone.R, dependant at which side of the mirror axis they are. The Names items allows you to rename the bone names to this name convention.



### Autoname Left/Right

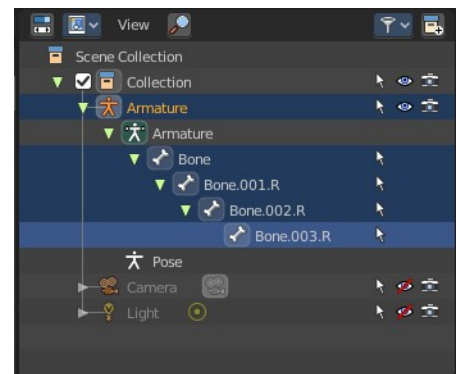
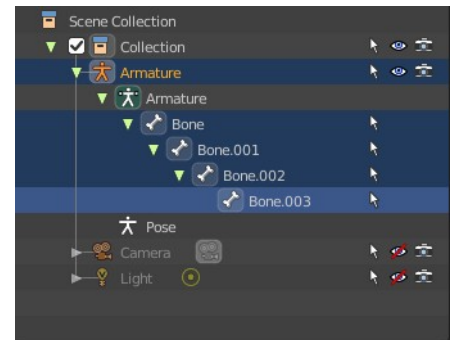
Renames the bones from left to right.

### Autoname Front/Back

Renames the bones from front to back.

### Autoname Top/Bottom

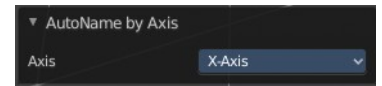
Renames the bones from top to bottom.



## Last operator Autaname by Axis

### Axis

Choose the autaname axis again. Left/Right is X axis, Front/Back is Y axis, and Top/Bottom is Z axis.



## Flip Names

When you mirror a half of an armature you end in names like Bone.001.R.001. But what we need is Bone.001.L for a symmetrical armature. Flip names flips the names to follow the left right name conventions.

## Last operator Autaname by Axis

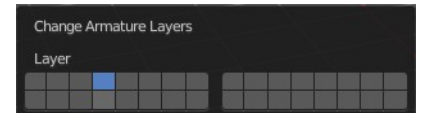
### Strip Numbers

Tries to remove the numbers in the names if possible.



## Change Armature Layers

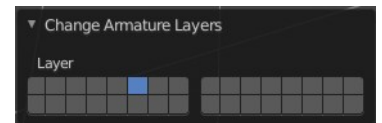
Armatures have its own layer system. This menu item opens a pop-up where you can put the whole armature onto another layer.



## Last Operator Change Armature Layers

### Layer

Put the armature onto another layer.



## Change Bone Layers

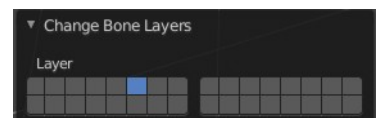
Armatures have its own layer system. This menu item opens a pop-up where you can put single selected bone(s) onto another layer.



## Last Operator Change Bone Layers

### Layer

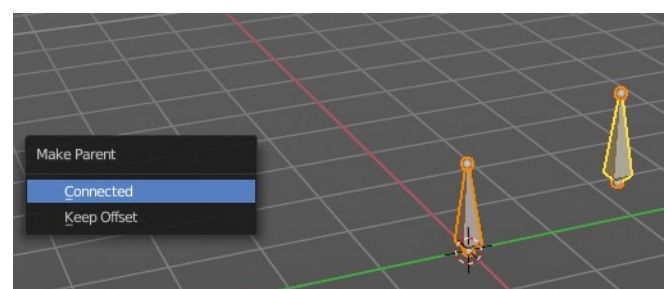
Put the selected bones onto another layer.



## Make Parent

Adds a parent relationship.

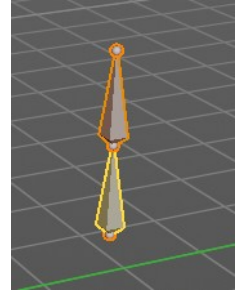
Select a bone, hold down shift, select the bone that you want to parent it to. Perform Make Parent. In the pop-up choose the method that you want to use.





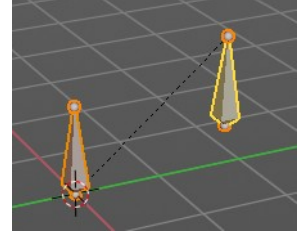
## Connected

The child bone will jump to the position of the tail joint of the parent bone.



## Keep Offset

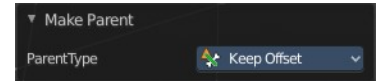
The bone will remain in its original position. The relationship will be displayed by a black dotted line.



## Last Operator Make Parent

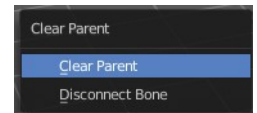
### Parent Type

Choose between Connected and Keep Offset method again.



## Clear Parent

Clears the parent relationship of the selected bone(s). It calls a pop-up menu. Choose between two methods.



### Clear Parent

Clears the parent relationship of the selected bone(s).

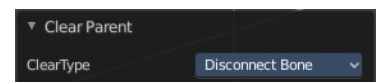
## Disconnect Bone

The parent ship is kept. Turns a Connected parent relationship into a Keep Offset parent relationship. You can move the disconnected bone around without to pull the parent with it.

## Last Operator Clear Parent

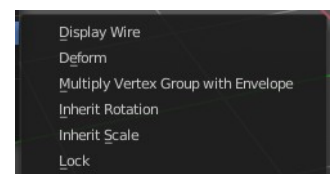
### Clear Type

Choose between Clear Parent and Disconnect Bone method again.



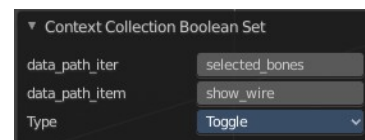
## Bone Settings

Bone Settings is a menu with menu items to toggle special checkboxes in the Properties editor. But here you can do it for a selection too, and not just one object.



## Last Operator Collection Boolean Set

Each of the menu items uses the same Last Operator. With different strings for the booleans.



## Show/Hide

Show or hide the selected bones in the viewport.



### Show Hidden

Makes all bones visible again.

### Hide Selected

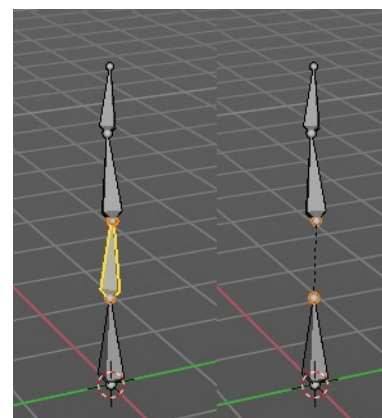
Hides the selected bones.

### Hide Unselected

Hides the not selected bones. The selected bones stays visible.

## Delete selected bones

Deletes the selected bones. The hierarchy is kept. The involved bones becomes disconnected.



## Dissolve selected bones

Merges the selected bone or joint with its hierarchical neighbour bones.

