



7.1.34 Editors - 3D Viewport - Header - Armature - Edit mode - Armature menu

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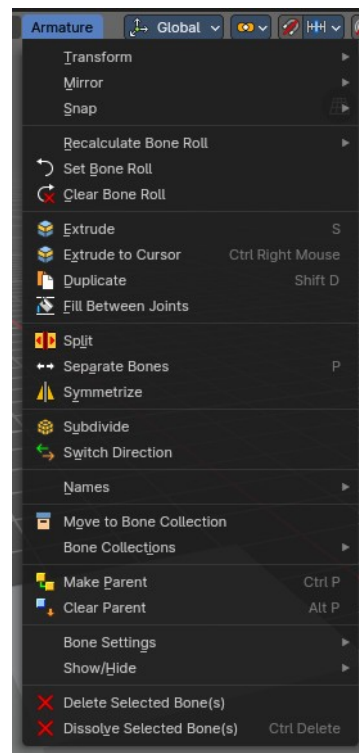
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Edit Mode - Armature Menu

The Edit Mode for Armature objects has a number of operators in this header submenu to change and edit the default bone orientation, relationships and structure before using the Armature in Pose Mode for animation.



Transform - Submenu

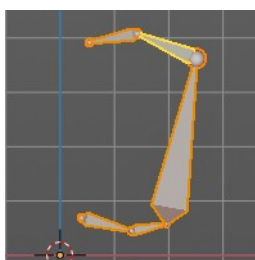
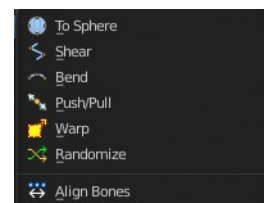
To Sphere

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

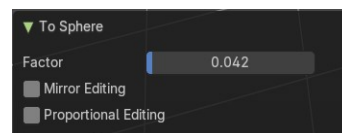
Select the vertices, activate the tool, then drag the mouse in the 3D viewport. In the header you will read the current factor then. Which tells you how close you are towards the sphere shape. With a skeleton the to sphere operation is everything but accurate though. The bones gets stretched or compressed



Last Operator To Sphere

Factor

The factor to transform the selection into a shape form.

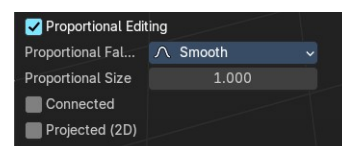


Mirror Editing

Enable mirror editing.

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.

Shear

Shear shears the selection.

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

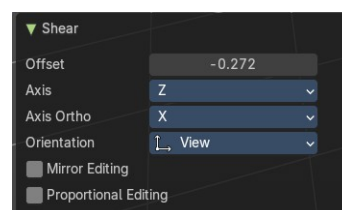
The shear tool works along an imaginary 2D plane. The shear axis controls if the items are sheared along the x or the y axes of this plane. This is the plane along which the transformation happens. You can shear along the x or the y axis of this plane.

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

Last Operator Shear

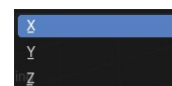
Offset

Adjust an offset.



Axis

Defines one axis of the imaginary shear axis plane.



Axis Ortho

Defines the other axis of the imaginary shear axis plane.



Orientation

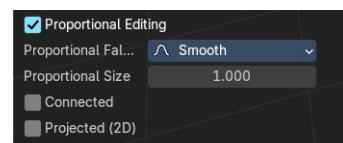
Choose the orientation for the shear action.

Mirror Editing

Enable mirror editing.

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.

Bend

Bends the selection.

Push/Pull

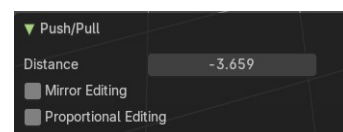
It pushes or pulls the object positions relative to the center of the selection.

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

Last Operator Push/Pull

Distance

Adjust the distance of influence of the tool.

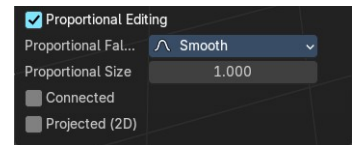


Mirror Editing

Enable mirror editing.

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

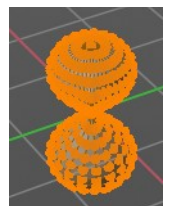
The proportional falloff gets calculated for connected parts only.

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

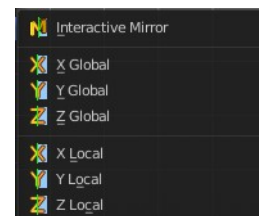
Aligns the selected bones to the orientation of the active bone.

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

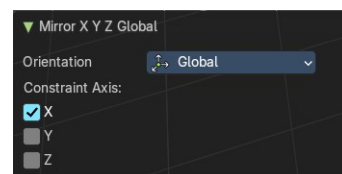


X Global, Y Global etc.

Mirrors the selection around the chosen axis.

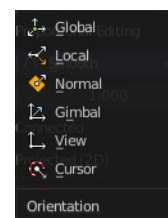
Last Operator Mirror

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.

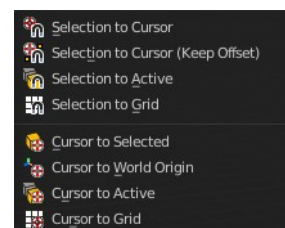


Constraint Axis

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

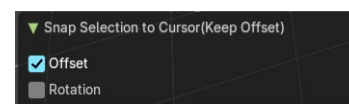
Snap

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



Last operator Snap Selection to Cursor

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.

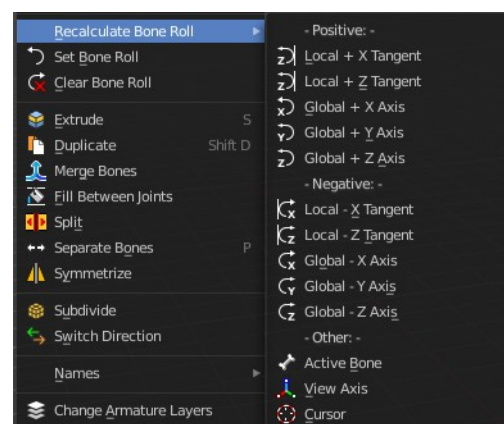
Rotation

If the selection should be rotated to match the cursor.

Recalculate Bone Roll - Submenu

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.

| Type | Negative | Other |
|------------------|------------------|-------------|
| Positive | Negative | Other |
| Local +X Tangent | Local -X Tangent | Active Bone |
| Local +Z Tangent | Local -Z Tangent | View Axis |
| Global +X Axis | Global -X Axis | Cursor |
| Global +Y Axis | Global -Y Axis | |
| Global +Z Axis | Global -Z Axis | |

Shortest Rotation

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

Set Bone Roll

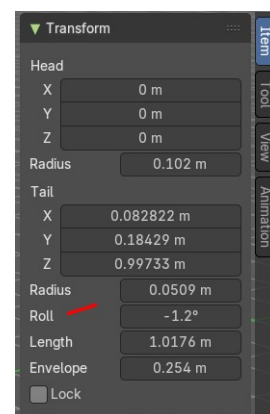
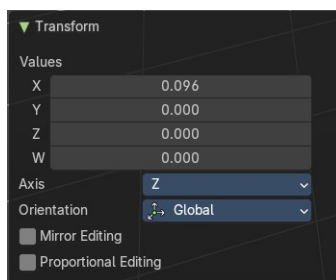
This operation is relative to the starting value, and starts always with zero. It does not display the Bone Roll value from the Transform panel. It adds or subtracts the amount of the operation to/from the Roll value then.

Roll: -0.10

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.



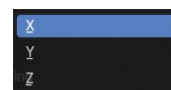
Unfortunately even the X value to display the amount of the roll is broken. It displays the amount in Radians, while the Bone roll is in degrees.

Values

The vector 4 values.

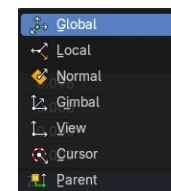
Axis

Defines one axis of the imaginary shear axis plane.



Orientation

Choose the orientation for the shear action.

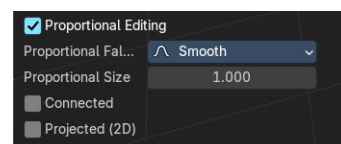


Mirror Editing

Enable mirror editing.

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.

Clear Roll

Set the bone roll value directly.



Last Operator Clear Roll

Roll

Set the bone roll.

Single Operators

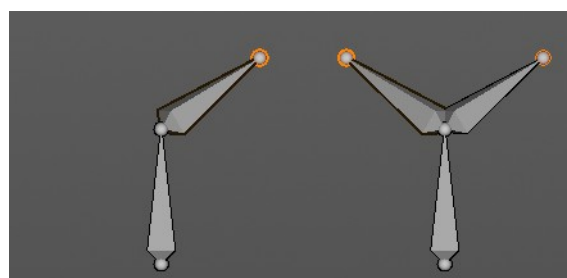
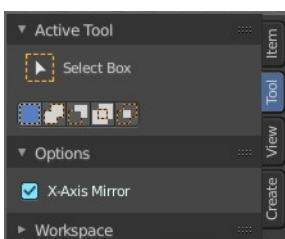
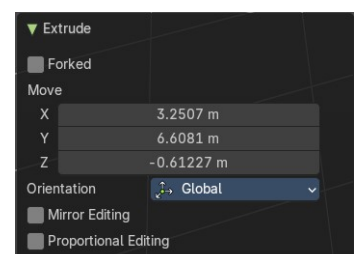
Extrude

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.

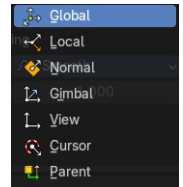


Move X , Y, Z

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.

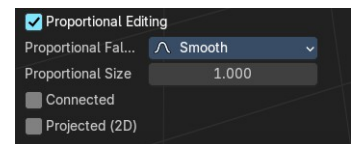


Mirror Editing

Enable Mirror Editing.

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.

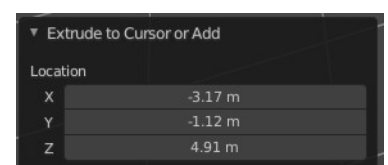
Extrude to Cursor

Hotkey only tool. Extrude to the mouse position.

Last Operator Extrude to Cursor or Add

Location X Y Z

The location to extrude to.

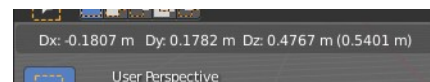


Duplicate

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.

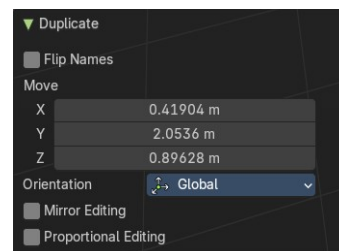


Last Operator Duplicate

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

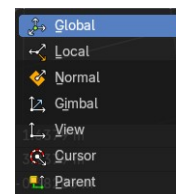


Move X, Y, Z

The Position of the duplicated object.

Orientation

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

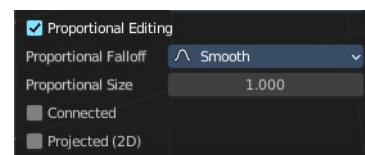


Mirror Editing

Enable Mirror Editing.

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.

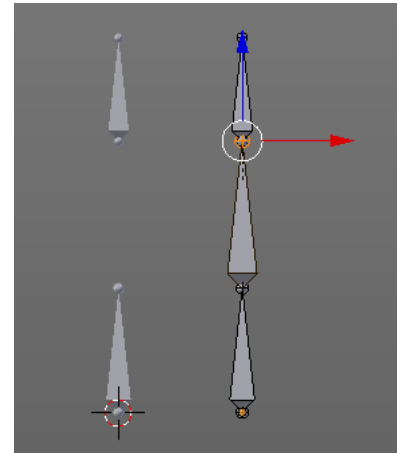
Projected(2D)

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.

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.

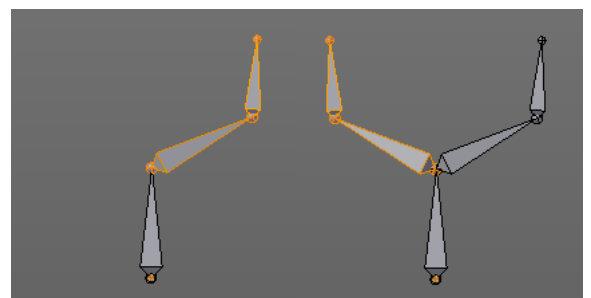
Separate Bones

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

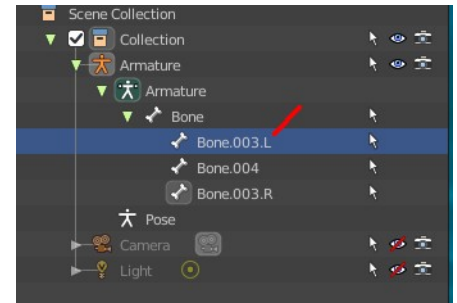
The Last operator for Separate has no content.

Symmetrize

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



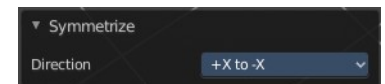
The bones that you want to symmetrize needs to follow the left right name conventions for bones. Bones without this left right naming are not affected by the tool. If there is a lower or upper case “L”, “R”, “left” or “right” with a separating dot in the bone name, then this tool creates and renames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



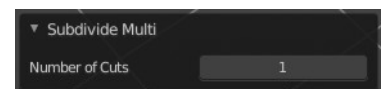
Subdivide

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 - Submenu

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.

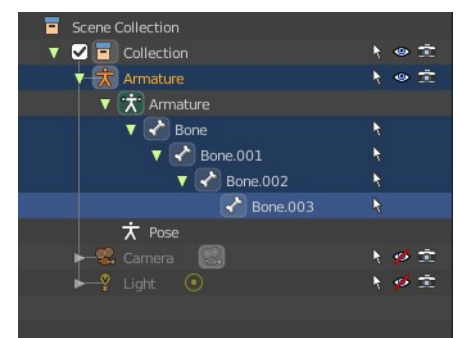


Autoname Left/Right

Renames the bones from left to right.

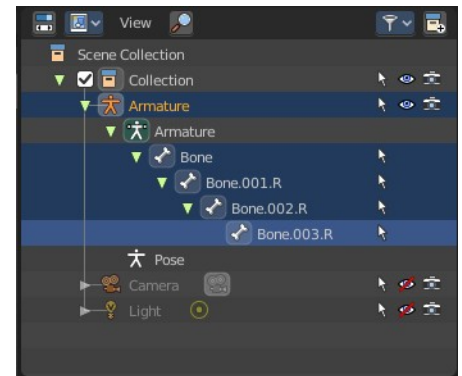
Autoname Front/Back

Renames the bones from front to back.



Autoname Top/Bottom

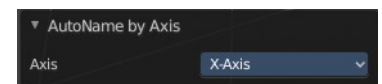
Renames the bones from top to bottom.



Last operator Autoname by Axis

Axis

Choose the autoname 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 Flip Names

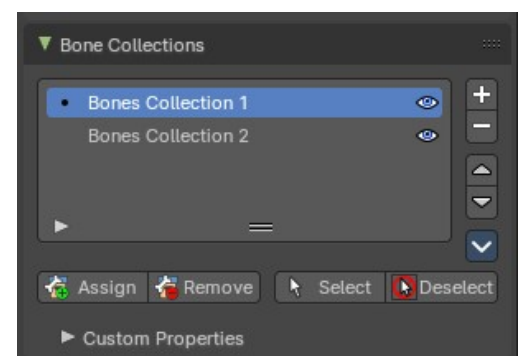
Strip Numbers

Tries to remove the numbers in the names if possible.



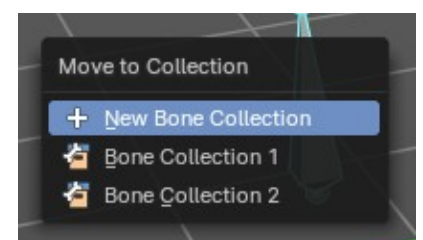
About Bone Collections

Bone Collections is a menu to handle bone collection functionality from within a menu in the 3D View editor. The bone collections themselves can be found in the Properties editor then in the Armature tab.



Move to Bone Collection

Armature and bones have their own collection system. This menu item opens a popup where you can put the selected bones into a New Collection or an existing Bone Collection.



New Bone Collection

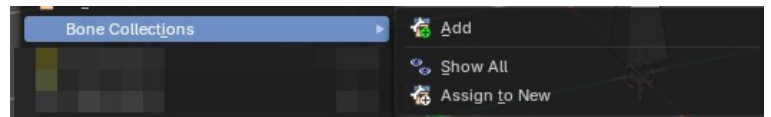
Assigns the selected bones to a new Bone Collection. This will prompt to name the new collection.

Bone List

Assigns or unassigns the selected bones to or from the collection. The green + icon and red – icon show if you can remove or add a bone to the listed collection.

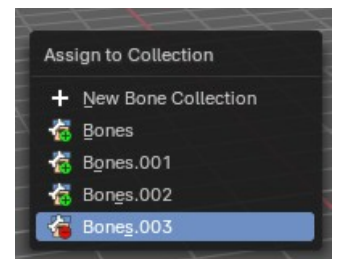
Bone Collections – Sub Menu

Armature and bones has its own collection system.



Add

Add or remove the bone from the listed bone collections. The green + icon and red – icon show if you can remove or add a bone to the listed collection. A bone can be in multiple collections at the same time.



New

Assigns the selected bones to a new Bone Collection. This will prompt to name the new collection.

Bone List

Assigns or unassigns the selected bones to or from the collection. The green + icon and red – icon show if you can remove or add a bone to the listed collection.

Show All

Show all bone collections.

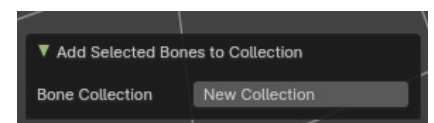
Assign to New

Add selected bones to a new collection with a new name.

Last Operator Add Selected Bones to Collection

Bone Collection

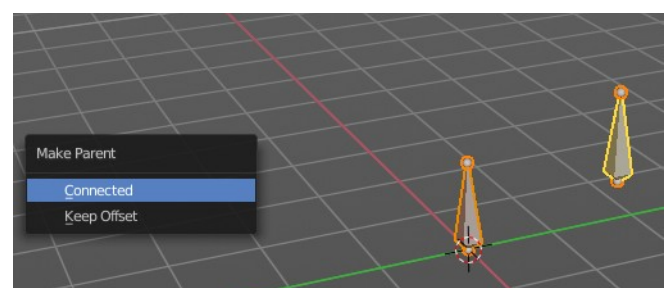
Change name of the new collection.



Make Parent

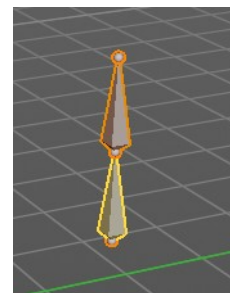
Adds a parent relationship.

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.



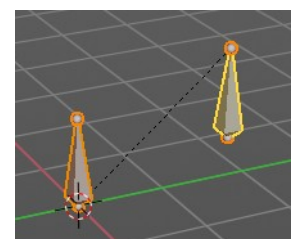
Connected

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.

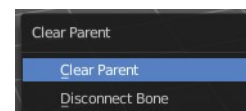


Clear Parent

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).



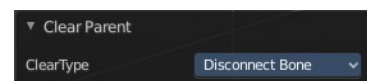
Disconnect Bone

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 - Submenu

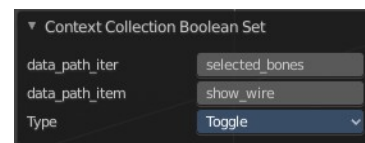
Bone Settings is a menu with menu items to toggle special checkboxes in the



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 – Submenu

Show or hide the selected bones in the viewport.



Show Hidden

Makes all bones visible again.

Hide Selected

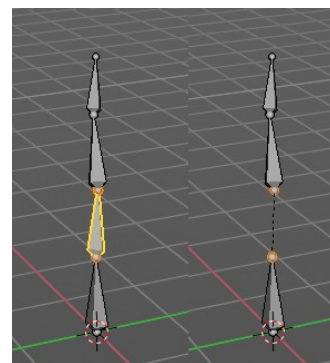
Hides the selected bones.

Hide Unselected

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

Delete Selected Bone(s)

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



Dissolve Selected Bone(s)

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

