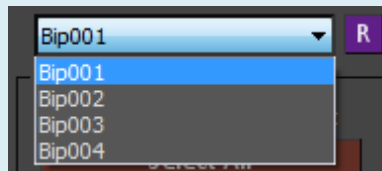


LBTools - Biped Helper - Guide

Biped Helper is an interface designed to be used in conjunction with the main Biped panel. It is intended to provide quick access tools and functionality not supported by default Biped. It includes some limited selection, display options, keying tools, limb Body/Object space settings, TCB continuity settings, pose grabbing, pose referencing (via snapshot meshes) and key baking.

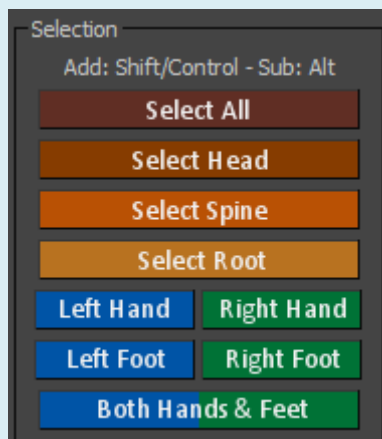
Selection, Display & Keys

The dropdown list is used to pick a Biped that exists in the scene and will automatically find all Bipeds when the interface opens. Furthermore, the interface will not open if there are no Bipeds in the scene. The "R" button can be used to refresh the list if the scene has changed when the interface is already open. The entire interface will only operate on the Biped picked from the dropdown list.



When picking a Biped from the list - hold SHIFT to select the root bone , or hold CONTROL to select all Biped parts. Holding neither will simply make the interface operate on the picked Biped.

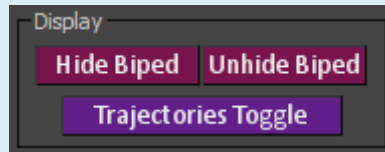
Selection:



- Select All - selects all the Biped parts.
- Select Head - selects the Biped head.
- Select Spine - selects the second spine link.
- Select Root - selects the Biped root (Body) bone; usually called Bip01 or Bip001 by default.
- Left Hand or Left Foot - selects the left palm or left foot respectively.
- Right Hand or Right Foot - selects the right palm or right foot respectively.
- Both Hands & Feet - selects the left & right palms, and the left & right feet.

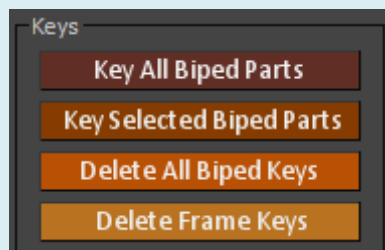
Add to the selection by holding SHIFT or CONTROL , or hold ALT to remove from the selection.

Display:



- Hide Biped - completely hides all Biped parts, including end nubs and footsteps node.
- Unhide Biped - the Biped parts are unhidden, but excludes unhidden the end nubs and footsteps node.
- Trajectories Toggle - turns on the Trajectories option in the Modes and Display section of the main Biped panel. A Biped part must be selected to see the trajectory in the viewport.

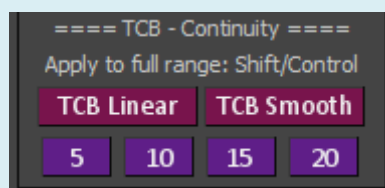
Keys:



- Key All Biped Parts - adds new keys to all Biped parts at the current slider time. Selection of Biped parts is not required.
- Key Selected Biped Parts - adds new keys to any selected Biped parts at the current slider time. You must select one or more Biped parts.
NOTE: Adding keys using these options is not the same as using the Set Key button on the Biped panel. Adding keys will not record a new pose you make, instead it just marks the existing values. To record a pose, either: turn on Animate, or do a pose then use the Set Key button on the Biped panel.
- Delete All Biped Keys - clears all keys on all Biped parts. Selection of Biped parts is not required.
- Delete Frame Keys - removes keys from any selected Biped parts at the current slider time (this is the default option). Alternatively, by holding either SHIFT or CONTROL you can remove all keys on all Biped parts at the current slider time. For this secondary mode, selection of Biped parts is not required.

Keys: TCB - Continuity:

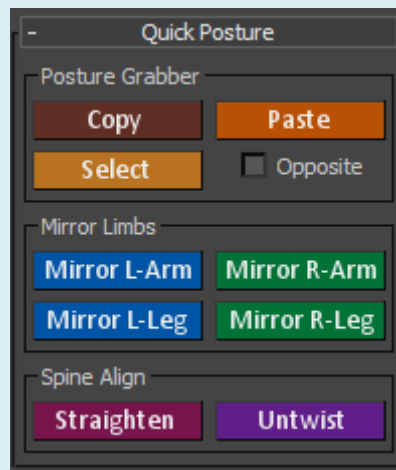
These options will set the continuity values for all selected Biped parts for any keys found at the selected slider time. They range from 0 (linear) to 25 (smooth) and multiples of 5 in between.



Hold SHIFT or CONTROL to make the operation work on all keys over the time range.

Quick Posture

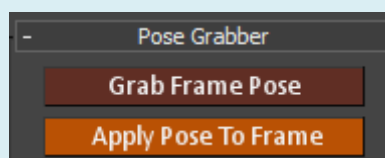
Using the Quick Posture options, biped parts can be quickly copied and pasted, or limbs mirrored without needing to use the biped copy/paste collections interface. The spine links can also be straightened (to have zero rotations) or untwisted (local x-axis rotation is removed on each spine link).



- Copy - store the biped selection as a posture file for later pasting. Each copy will overwrite the same file, so only one posture is stored.
- Paste - retrieve the stored posture file and applies the posture to the biped. There is no need to select any parts as the script knows what parts to use.
- Opposite - paste the stored posture to the opposite side (usually a limb).
- Select - attempts to select the biped parts that were used to copy the posture.
- Mirror L-Arm - mirror the posture from the left arm to the right arm (excludes the fingers).
- Mirror R-Arm - mirror the posture from the right arm to the left arm (excludes the fingers).
- Mirror L-Leg - mirror the posture from the left leg to the right leg (excludes the toes).
- Mirror R-Leg - mirror the posture from the right leg to the left leg (excludes the toes).

Pose Grabber

The idea behind Pose Grabber is to enable quick access and retrieval of a single pose when you need it, to allow for uninterrupted workflow. No need to access the Biped collections panel. The single pose is saved to a file, which allows it to be pasted at any time and on any Biped (for transferring a pose).

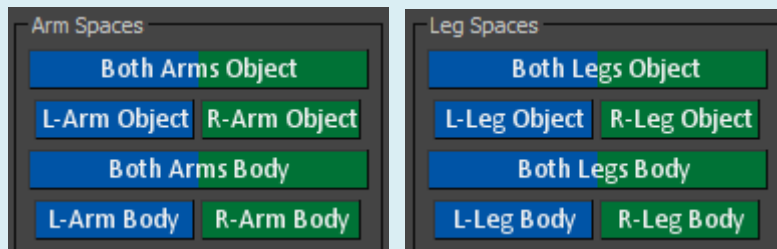


- Grab Frame Pose - saves the current slider time pose for later pasting using the apply button below it.
- Apply Pose To Frame - pastes the previously grabbed pose onto the Biped at the current slider time.

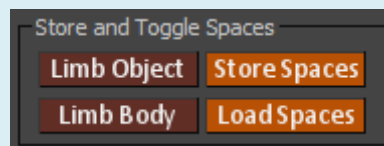
Limb Spaces

Arm and Leg Spaces:

These options can be used to add or modify sliding keys (Object space) or free keys (Body space) for limbs, either individually or together. The limbs do not need to be selected for these to work.



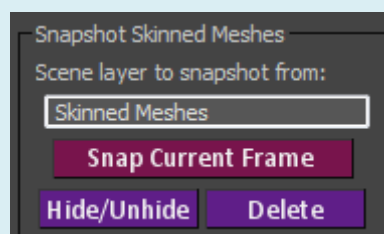
Store and Toggle Spaces:



- Limb Object and Limb Body - activates either the Body or Object space settings on selected limbs for all keys found. Has the same effect as Set Free Key or Set Sliding Key.
- Store Spaces - temporarily stores (not saved to a file) the Body/Object space settings, then sets all keys on all limbs to Body space.
- Load Spaces - restores the Body/Object space settings that were previously stored in memory from all limbs using the Store Spaces button.

Reference

This section is for adding mesh pose references to the scene as a visual guide to help with future posing. Basically, it snapshots the skinned meshes of your character and puts them into a special scene layer. It is expected that your skinned meshes already exist in their own appropriately named scene layer. Simply add the name of this scene layer to the edit box for the buttons to work.



- Snap Current Frame - creates a snapshot of the skinned meshes found in the named scene layer.
- Hide/Unhide - toggles the visibility of the scene layer the snapshots get stored in.
- Delete - removes the snapshots scene layer and its contents.

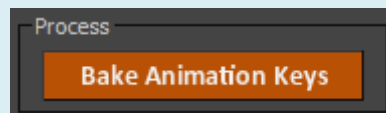
Baking

This section is used when you have bindings or linkages on the Biped in order to have the root and/or limbs follow other objects. By baking the keys of the Biped you can capture the driving motion of the moving objects, but then divorce the Biped of the bindings and linkages.

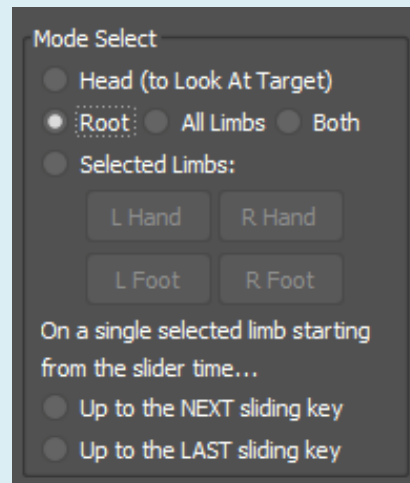
The root will have its motion baked wherever its parent moves. It will also be unlinked from its parent object once baking has completed. The script will recognize both direct linkage and Link Constraints on the root's parent object. Link Constraints may be used so that the root can inherit more complex following motion (i.e. from multiple parents).

For limbs, the key baking will only occur between two or more sliding keys within the current time range. After key baking is complete, the limb object bindings may be removed depending on the mode used - see below.

In order to bake keys, simply select the mode you want then click the **Bake Animation Keys** button to process.

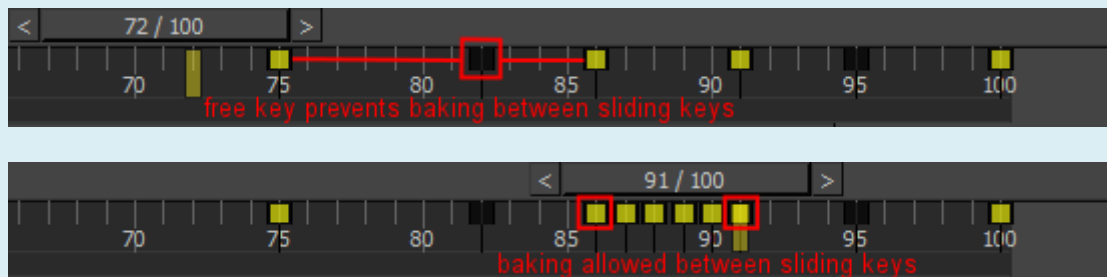


Mode Select:

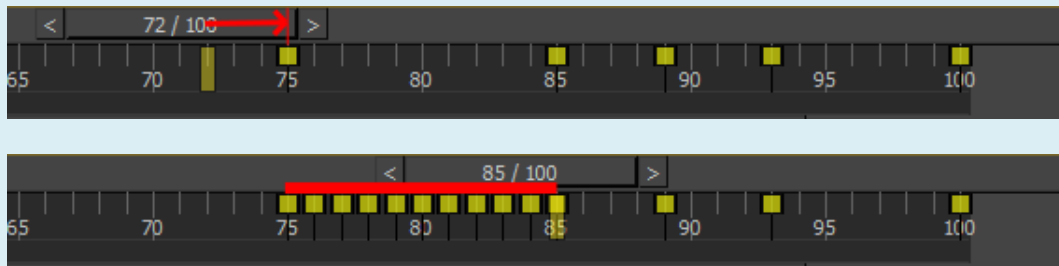


- Head – bakes the head rotation to track an active assigned Look At Target.
- Root – only the Biped root will have keys baked to follow the object it is linked to.
- All Limbs – all the Biped limbs will have keys baked to follow their binding objects.
- Both – performs both root and all limbs key baking.
- Selected Limbs – allows individual limbs to be chosen for key baking.

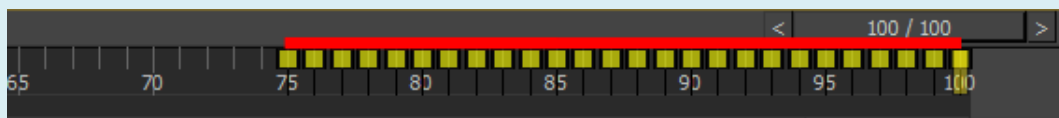
For these modes - any Object space binding objects will be removed on the limbs.



- Up to the NEXT sliding key - keys will be baked on the selected limb starting from the first sliding key found (starting from the slider time) up to the next sliding key found.



- Up to the LAST sliding key - keys will be baked on the selected limb starting from the first sliding key found (starting from the slider time) up to the last sliding found, including all sliding keys in between.



For these two modes - any Object space binding objects on limbs will not be removed.

Baking example:

Suppose we have a Bipod which has its root linked directly to a dummy and its limbs constrained to dummies using the limbs Object space binding option. We can then link the dummies to animated objects and the Bipod will also follow along. In this case the limbs are following the top box and the legs follow the bottom box. The dummy that the root is linked to has a link constraint to follow the top box.

We might then want to remove the limb bindings and root linkage, but keep the animation following the objects. Using the baking tools we can choose which parts to bake keys on or leave constrained.

