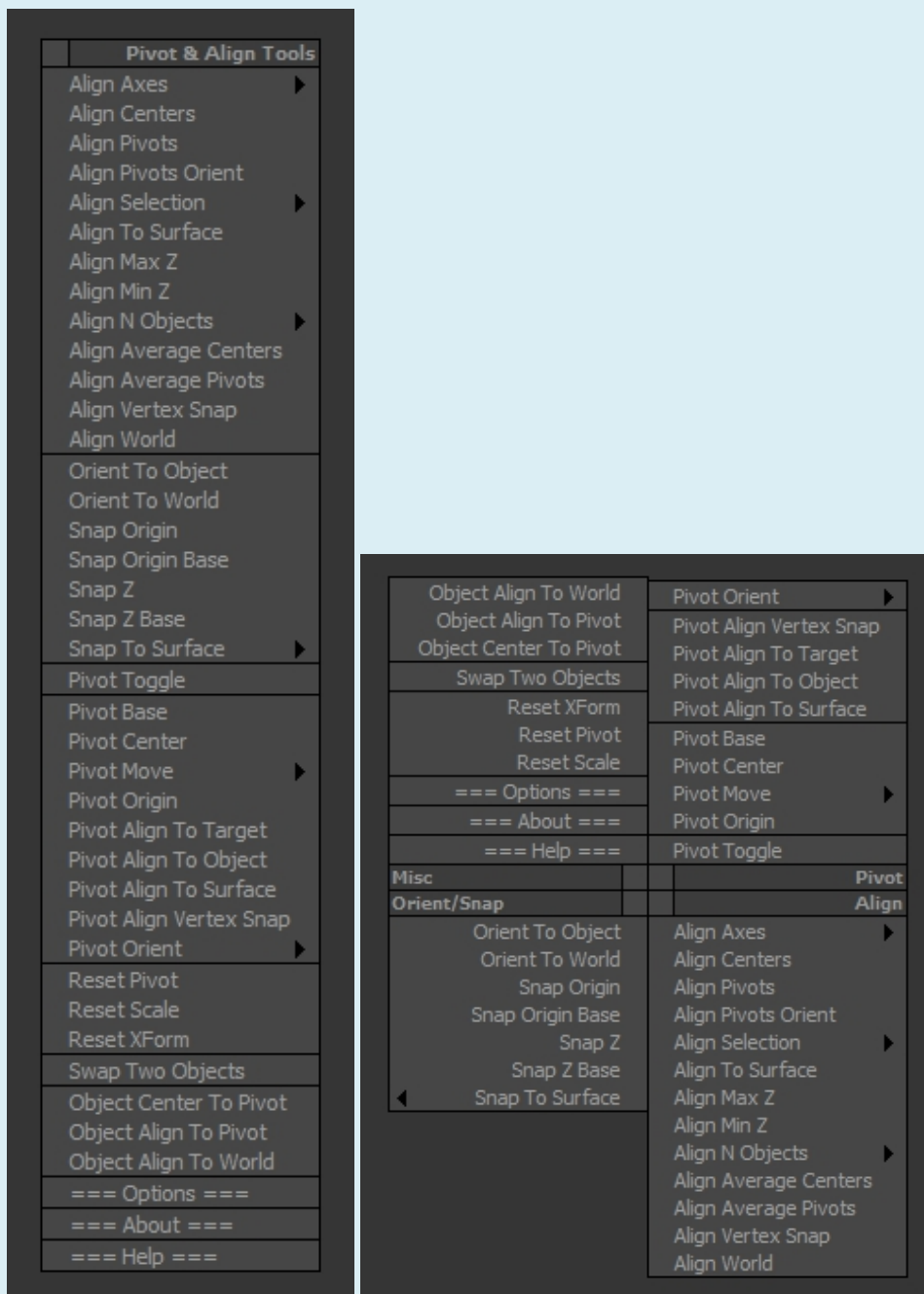


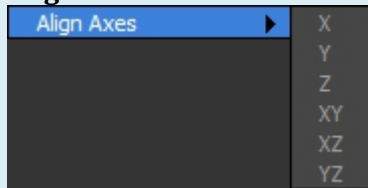
LBTools – Pivot & Align Tools - Guide

Pivot & Align Tools (PAT) are a set of macros bundled into a quad menu (or a single quad list) that allow you to perform various object alignment, pivot alignment and object snapping functions, among others. Most of the functions can operate on a selection of multiple objects at once, including grouped objects as part of the selection (open or closed).



Align Tools

Align Axes...



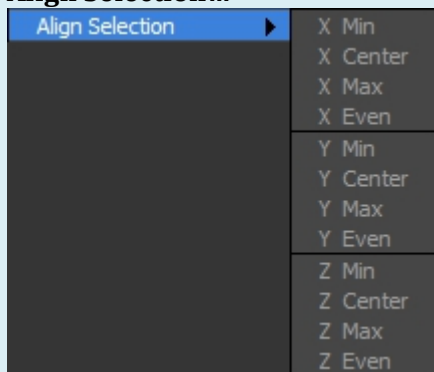
- **X:** Aligns a selection to the same X-axis as the picked object.
- **Y:** Aligns a selection to the same Y-axis as the picked object.
- **Z:** Aligns a selection to the same Z-axis as the picked object.
- **XY:** Aligns a selection to the same X-axis and Y-axis (2d plane) as the picked object.
- **XZ:** Aligns a selection to the same X-axis and Z-axis (2d plane) as the picked object.
- **YZ:** Aligns a selection to the same Y-axis and Z-axis (2d plane) as the picked object.

Align Centers: Aligns a selection to a picked object's center.

Align Pivots: Aligns a selection to a picked object for position only.

Align Pivots Orient: Aligns a selection to a picked object for both position and orientation.

Align Selection...



These tools behave very similar to 2D vector alignment tools, except in 3D for all axes.

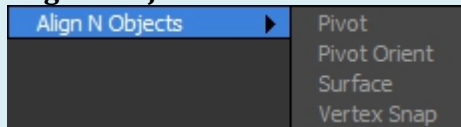
- **Min:** Aligns a selection along the negative chosen axis to the minimum bounding volume of the selection.
- **Center:** Aligns a selection along the chosen axis towards the middle of the bounding volume of the selection.
- **Max:** Aligns a selection along the positive chosen axis to the maximum bounding volume of the selection.
- **Even:** Aligns a selection along the chosen axis so that the two most outer objects are fixed in place and the middle objects are evenly distributed.

Align To Surface: Aligns a selection to the same picked surface and orients them to the surface normal. *Note: An optional dragging method exists in the Options menu for placement of objects.*

Align Max Z: Aligns a selection to a picked object to match its maximum bounding box Z position.

Align Min Z: Aligns a selection to a picked object to match its minimum bounding box Z position.

Align N Objects...



Allows a selection of objects to be placed one after another using the same or different picked target.

- **Pivot:** Aligns a selection of objects in turn to separately picked object's position.
- **Pivot Orient:** Aligns a selection of objects in turn to separately picked objects position and orients them to the object's pivot.
- **Surface:** Aligns a selection of objects in turn to separately picked surface points and orients them to the surface normal. *Note: An optional dragging method exists in the Options menu for placement of objects.*
- **Vertex Snap:** Aligns a selection of objects in turn to separately picked vertices position.

Note: Placement for these tools is based on the order in which the source objects were picked using Ctrl select.

Align Average Centers: Aligns a selection to the average center position between two other picked objects.

Align Average Pivots: Aligns a selection to the average pivot position between two other picked objects.

Align Vertex Snap: Enables vertex 3D snap and aligns the selection to the first picked vertex.

Align World: For each object in a selection, resets the alignment of both the object and its pivot to the world, but does not actually move the pivot.

Pivot Tools

Pivot Toggle: Enables/disables the pivot toggle mode.

Pivot Base: Moves the selection pivots to the center of each object and their minimum bounding box Z position.

Pivot Center: Moves the selection pivots to their object centers.

Pivot Move...



- **Min:** Moves the selection pivots to their minimum bounding volume along the chosen axis.
- **Max:** Moves the selection pivots to their maximum bounding volume along the chosen axis.

Pivot Origin: Moves the selection pivots to the origin.

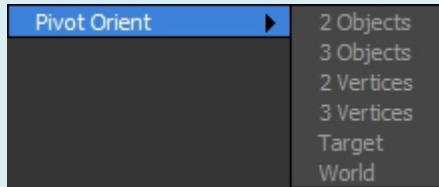
Pivot Align To Target: Aligns the pivots of a selection to a picked target object's pivot.

Pivot Align To Object: Same as... Hierarchy panel > Pivot tab >> Affect Pivot Only > Align To Object.

Pivot Align To Surface: Aligns the pivots of a selection to the position of a picked surface point and the orientation to the surface normal.

Pivot Align Vertex Snap: Enables vertex 3D snap and aligns the selection pivots to the first picked vertex.

Pivot Orient...



- **2 Objects:** Aligns one axis of each pivot of the selection along the vector of two picked objects.
- **3 Objects:** Aligns two axes of each pivot of the selection along the vectors of three picked objects.
- **2 Vertices:** Aligns one axis of each pivot of the selection along the vector of two picked vertices.
- **3 Vertices:** Aligns two axes of each pivot of the selection along the vectors of three picked vertices.
- **Target:** Orients the pivots of the selection to a picked target object's pivot.
- **World:** Orients the pivots of the selection to the world axis.

Orient/Snap Tools

Orient To Object: Aligns the orientation of a selection to that of a picked object.

Orient To World: A selection will be re-oriented to the world based on their pivots. If the object's orientation is offset from its pivot it will not change (unlike the Align World function).

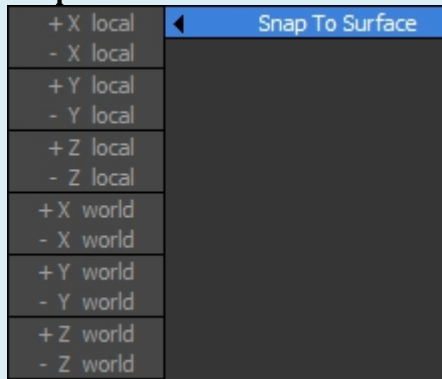
Snap Origin: Moves the selection to the origin.

Snap Origin Base: Moves the selection to the origin and their pivots to the minimum bounding box Z position.

Snap Z: Moves a selection to position Z=0.

Snap Z Base: For each object in the selection, it moves the pivot to the base of the object and the object to Z=0.

Snap To Surface...



Snaps a selection to a picked surface along a chosen axis in either the positive or negative direction.

Note: An option exists in the Options menu to align each object to the picked surface normal. If toggled off, each object's existing orientation will be preserved.

Misc Tools

Object Center To Pivot, Object Align To Pivot & Object Align To World: Same as... Hierarchy panel > Pivot tab > Affect Object Only > Alignment functions.

Swap Two Objects: Two pre-selected objects have their respective positions and orientations swapped.

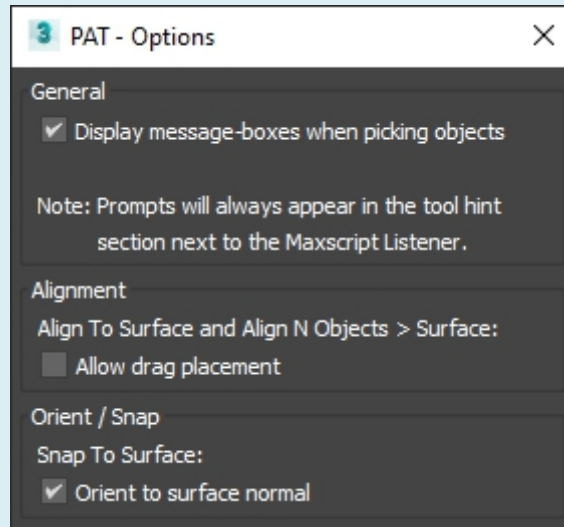
Reset XForm: Resets the transform of a selection. Same as the Reset XForm utility, but also collapses the stack and handles negative scaling.

Reset Pivot: Resets the pivot of a selected object to its original position and orientation when first created. Same as the hierarchy panel version.

Reset Scale: Resets the scale transforms for selected objects. Same as reset scale in the hierarchy panel, but also works on selected hierarchies - unlike the standard version.

=== Options ===

Contains options for setting the behaviour of certain actions. See the action above for details.



=== About ===

Displays contact and version information.

=== Help ===

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