

Nudge-It

A plugin for Cinema 4D

This is a very simple plugin to move, rotate, or scale an object by a small incremental amount when a button is clicked.

The reason for this plugin is straightforward. When creating a scene you often need to move an object to a precise position. Sometimes you need to move it, then rotate it, then go back to adjusting the position again, and so on until it's right. You may find that you want to move the object (or rotate it, or even scale it) by such a small amount that you can't do it accurately with the mouse, so you resort to typing numbers into the coordinates manager, hoping that eventually you'll hit on the right ones by trial and error.

What's needed to avoid this tedious process is a means to nudge an object by a small amount repeatedly until it's in the right place. Unfortunately Cinema doesn't provide any way to do this. Although you can click the arrow controls or use the mouse scrollwheel in the coordinates manager, this only moves the object by one unit (i.e. 1 cm, 1 inch, or whatever units you use). This is no use if you want to move it several times by, say, 0.01 units until it fits into the correct location.

Nudge-It was written to overcome this problem. It doesn't do anything fancy, but it does work with any object, making it very easy to nudge a scene component into position.

System requirements

Nudge-It requires Cinema 4D 2025; separate versions are available from R19 onwards. Please make sure you have downloaded the correct version for your version of Cinema 4D.

Changes in version 1.13

Version 1.12 was the original release version. The new version 1.13 is identical to the original, except that by default the plugin now supports Cinema's autokeying function. That is, with autokeying turned on, Nudge-It will add or update keyframes each time a nudge button is clicked. This can be turned off if desired.

Invoking the plugin

Click on the plugin name ('Nudge-It') in the plugins menu in Cinema 4D in the usual way.

Four important points to note:

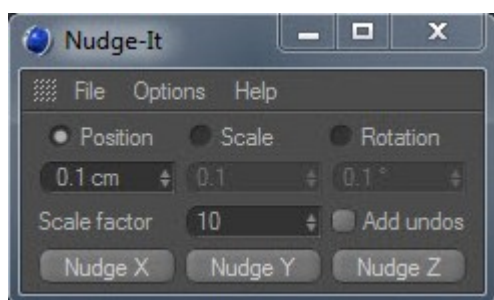
1. Nudge-It will do nothing unless an object is selected in the object manager.
2. It works with multiple selected objects. If you have more than one object selected, Nudge-It will perform the same action on all the selected objects.
3. It will work with selected points, but only to move them (not rotate or scale them). Future versions will add point scaling and rotation, and will work with polygons and edges, too.
4. Children of the selected object are affected in the same way as if you used the Move, Scale, or Rotate tools in Cinema. That is, the position/scale/rotation of child objects relative to their parent is unchanged. Their *global* position/scale/rotation will be changed, of course.

The plugin is not a tool plugin, but it can be docked in Cinema 4D's interface if you use it frequently.

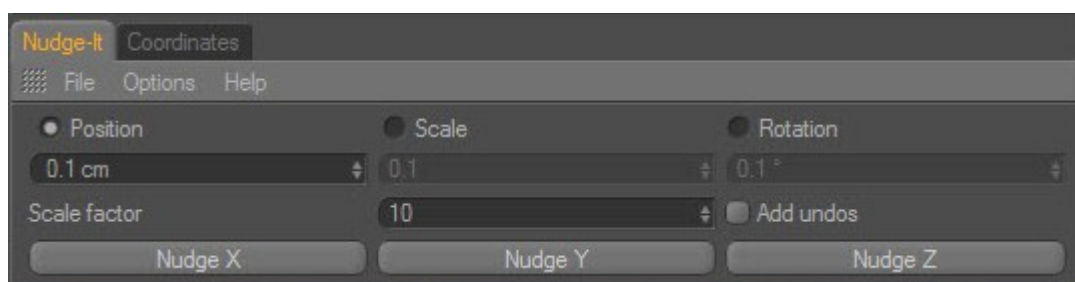
You can choose to nudge the object's position in 3D space, or its rotation, or its scale. Just click one of the top row of radio buttons in the plugin window to select the mode you want.

Interface

These screenshots show the plugin interface. Nudge-It can be docked in the Cinema interface, and if you dock it alongside the coordinates manager, it won't use up any more valuable screen real estate:



Nudge-It undocked



Nudge-It docked adjacent to the Coordinates manager

Moving an object

To move the object (or selected points), select 'Position' in the top row of buttons, then click one of the 'Nudge X', 'Nudge Y', or 'Nudge Z' buttons. By default, the object will move along the X, Y, or Z axis by one increment. The distance it will move is determined by the 'Position' setting. With the settings in the screenshot above, the object (or selected points) would move along the positive X, Y, or Z axis by 0.1 cm.

If you want to move the object (or selected points) along the negative X, Y, or Z axis, then hold down the 'Alt' key when clicking the button. Or, if you prefer, enter a negative value into the Position edit box. In that case, clicking the nudge button will move the object/points along the negative axis; and, of course, holding down 'Alt' will reverse the effect and nudge along the positive axis.

Suppose you find that the position offset setting is set to be too small to move the object quickly. You can, of course, just change the offset, but a way to move it faster is to hold down the Shift key when clicking the nudge button. This will move the object a distance equal to the position offset setting multiplied by the 'Scale Factor' setting. So, for example, if the position offset is set to 0.1 units, and the scale factor is 10, holding down Shift when clicking the nudge button will move by 0.1×10 – that is, 1 unit.

You might also find that sometimes the offset is too large. Rather than changing it, you can hold down the Control (Ctrl) key when clicking the button. This will move the object a distance equal to the position offset setting divided by

the 'Scale factor' setting. So, for example, if the position offset is set to 0.1 units, and the scale factor is 10, holding down Ctrl when clicking the nudge button will move by $0.1 / 10$ – that is, 0.01 units.

You can change the scale factor to whatever you like, if the default setting of 10 is not what you want.

Scaling or rotating an object

To scale or rotate an object, first select either the 'Scale' or 'Rotation' option in the top row of buttons. Rotating or scaling works in exactly the same way as moving an object. If you choose the rotate option, the buttons now read 'Rotate H', 'Rotate P' and 'Rotate B'; if you choose to scale an object, they read 'Scale X', etc.

The Alt, Shift, and Ctrl keys work in identical fashion to moving an object.

Note that the increments for position, scale, and rotation are all independent of one another; so for example you can have a position offset of 0.1, a rotation offset of 5 degrees, and a scale value of 1.27, if you need to.

Other settings

There is only one other setting, and that is the 'Add Undos' switch. If this is off (unchecked), then whenever you nudge an object the action won't be added to the list of undos that Cinema maintains. The reason for this is that you might click the nudge buttons many times to move an object to the exact desired position. This runs the risk of removing everything from the undo list other than your nudges! So that you might be able to undo a lot of small incremental moves but not something important because it's been pushed off the list.

For this reason, 'Add Undos' is off by default. If you really need to be able to undo them, you can turn this on and the plugin will cause Cinema to remember the nudges.

Saving your settings

Your desired settings (the position, rotation, and scale increment values, the scale factor, and the state of the 'Add Undos' and autokeying switches) might not be the same as the defaults I've chosen. To set your own defaults, change the settings to whatever you want and choose 'Save Settings' from the File menu. This will ensure that the next time the plugin loads it will use your preferred settings.

The menus

File menu

There are two entries in this menu:

Save Settings – this saves the plugin settings as described above.

Reset Settings – this will load your saved settings from disk, or if you haven't saved any, will reset Nudge-It to its default settings.

Options menu

The entries here are:

Position increment – a list of predefined offset values, purely for convenience so that you don't have to type anything into the text boxes. You are NOT restricted only to these settings! You can type in any offset you like, but these are convenient presets.

Scale and Rotation increments – as for the Position increment.

Add undos – a menu equivalent to the check box with the same name.

Support Autokeying – if this menu option is checked (which is the default), then if autokeying is turned on in Cinema's animation palette, Nudge-It will update/record a keyframe each time a button is clicked. What is recorded is determined by the options in the animation palette, just as if you used the Move tool, etc. on an object. If you don't want Nudge-It to record keyframes when autokeying is turned on, then uncheck this option.

Help menu

There are two entries in this menu, too:

About Nudge-It... – brings up a small box with some basic details, including the plugin version.

Show Help File – opens this help file in your reader of choice for PDF files.

Acknowledgements

The original version of Nudge-It was not as functional as this one, and took up a good deal more screen space. My thanks to Scott Moncrieff, who provided many comments and suggestions for improvements, particularly with regard to the user interface. Thanks Scott!

Thanks also to Holger Biebrach, who suggested adding autokeying support to the plugin.

Contact details

I hope you find Nudge-It useful. If you have any comments, feature requests, or (especially) bug reports, please let me know. You can contact me through my website at <https://microbion.co.uk/html/contact.htm>.

The latest version of the plugin is available on my site at <https://microbion.co.uk/html/nudgeit.htm>.

Thank you!

Steve Pedler
October 2024

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