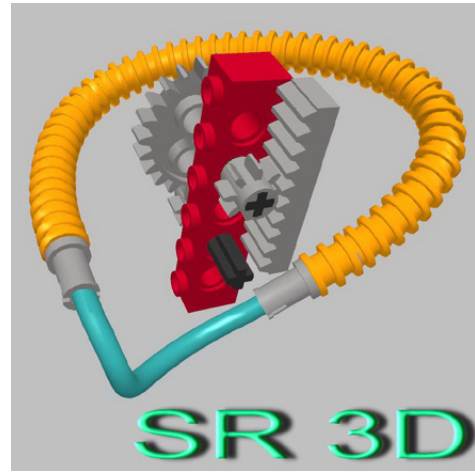


SR3D Tutorial

Basics

By legolijntje



SR3D Builder is a LEGO® CAD program to build your digital models. It uses the LDraw library of parts and it's files (.l3b) can be used in other LDraw programs such as LDview, LPUB, MLCad and more (although there can be compatibility issues).

SR3D Builder is the perfect combination between LDD (LEGO Digital Designer) and MLCad. It has the easiness and modern feeling of LDD (and the automatic brick placing; bricks snap into place) and the huge parts collection and a variety of options of LDraw.

SR3D Builder can be used for every theme or model type you want to make, but it's focus is on Technic models. It has tools to animate and test your model's functions, it has (at the time of writing) basic pneumatic movements, it has all kinds of connections and much more.

In this tutorial, you'll learn the basics of SR3D Builder. The more advanced stuff will be explained in later issues Before I start, there are some things to remember:

- SR3D Builder is still in development, so, it is possible that there are some changes in future versions. This tutorial uses V0.8.9.16.
- SR3D Builder has a free and a paid version. The basic stuff covered in this issue is all available in the free version. However, more advanced things aren't. I will add a note when a function is not available in the free version.

Installing

I won't go very deeply in installing SR3D Builder. Just go to the website and click on Download in the download menu. When downloaded, it's just a normal installation, which I think doesn't need any more explanation.

The first startup can take some time, because SR3D Builder has to build its database images.

The interface

SR3D Builder consists of 2 windows. The Model Space, in which you build and view your model. And the Toolbox, in which you can choose parts and colors, manage your groups (explained later on) and move (animate) your (Technic) model.

The Model Space

The Model Space has 2 top bars. The first one is the standard top bar that you've probably seen in other programs. It includes

things like save, open, import, help, options and some other less used stuff.

The top bar underneath it includes all the main functions SR3D has to offer. I won't explain every button now, as you will come across them eventually as you go along.

On the bottom of the main windows you will see a small bar which shows information. From left to right:

1. A loading bar for general use (for example when selecting multiple parts or loading a file).
2. Your current FPS (frames per second).
3. The green block shows the group in which you're currently building.
4. The red block displays information about what the program just did (or is doing). It shows things like "Action: Add Step" when adding a step or it displays the loading time when you selected a brick and much more.
5. The blue block displays the name and number of your currently selected brick.
6. The last part displays the position of your current selected brick.

The Toolbox

The toolbox is a very important part of SR3D Builder. It has four tabs on the top:

- Parts: this is where you choose your parts and colors.
- Groups: this is where you can manage your groups (explained in a later issue).
- Minifigs: this is where you can assemble your minifigs. At the time of writing, this isn't working yet.
- Anim. Console: this is the Animation Console (only available in the paid version). This is where you can make buttons and sliders to control and test the functions of your model. This is mainly used for Technic models.

For now, I'll only explain the Parts tab.

On the top is a dropdown menu in which you can select the brick type you want to use. Under the dropdown is a search bar, in which you can search bricks. And next to the search bar are quick searches: left-click on a quick search to find the bricks matching the query (only in the current brick type). Right click on the quick searches to see more quick searches (not all brick types have 2 pages).

The search bar has some special commands to make searching easier:

- Just type something to search all parts.
- Add a – before your search term to only search in the currently selected brick type.
- Add a * before your search term if it's a part number, so the program will search for a part with that part number.

Placing your first bricks

When you start making a new model, this is what you have to do:

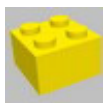
1. Choose your model theme/type in the top bar. This affects what parts and categories are shown in the parts drop down in the toolbox.
2. Choose a part by clicking on it in the toolbox. It appears in the model space with a pink line, this means the part isn't placed yet. You can also choose the color now.
3.
 - a. You can move the part by holding the left mouse button and dragging the mouse/part across the screen. You can rise and lower the part using the mouse wheel (difference: 1 plate), holder ALT while using the mouse wheel (difference: 1 brick) or using the "Page Up" and "Page Down" buttons on your keyboard (difference: 1 brick).
 - b. You can rotate the part by using the 3 arrows sticking out of the brick. Holder CTRL while using the arrows will make the rotations smaller. Holding SHIFT while using the arrows will make the rotations even smaller than CTRL.
 - c. You can move the "camera" by holding both left and right mouse buttons and dragging the mouse across the screen or by pressing the mouse wheel. You can rotate the camera by holding the right mouse button and dragging the mouse across the screen. (*)
4. When the brick is on the right place, just press enter or use the spacebar to place your brick. You can also right-click on the yellow dot in the middle of the blue arrow. The brick outline will switch to green, which indicates the brick is placed.
5. You can now place the same brick again or press delete or escape on your keyboard to stop placing the brick (you can also just select another brick if you want to place more bricks).

(*) If you don't like the way the camera moves, try using the "LDD like mode". Many people prefer this over the standard. To enable it, go to "View" in the top bar, select "Preferences" and an options screen will appear. Select "LDD like rotation mode" in the "Appearance" tab.

Selections

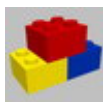
If you are new to SR3D Builder, I recommend to try to build a small model or set before going further.

This part is about the many different selection modes SR3D Builder has to offer. I'll list them all together with a description and the button to use them (all in the second top bar), but remember: the first click is very important.



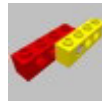
- Brick Selection Mode

This is the normal selection mode. Just selecting a piece in the model.



- Block Selection Mode

This selects all bricks connected to the selected brick, but it selects only the really connected ones, such as normal bricks or pins in Technic holes.



- Connected Selection Mode

This is the same as the previous one, but it also selects connected parts that are loosely connected, such as axles in Technic holes.



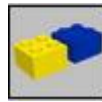
- Color Selection Mode

This selects all bricks with the same color as the selected brick.



- Shape Selection Mode

This selects all bricks with the same part number as the selected brick.



- Group Selection Mode

This selects the whole group the selected part belongs to.

Moving parts

In this last part, I'll explain how to rotate things and how to test functions like moving gears.

This is the button you have to select to rotate bricks:



If you've have selected the button, you can select the brick you want to rotate. If you've selected a brick, all available rotation axles will have a green box and the active rotation axle will have a red box.

You can change the active rotation axle by pressing \ on your keyboard (it's probably located under your backspace). When you are ready to rotation, just keep the left mouse button pressed while dragging to the left or the right.

To test (Technic) functions, like moving gears or beams you have to select the button next to the rotation button, called "Animation Mode":

Now select a gear or beam or whatever you want to try and do the same as rotating: drag the mouse to the left or the right while keeping the left mouse button pressed.

WARNING: SR3D Builder is still a beta program, so it can't handle all types of connections and functions yet, so the program could crash (although the chance of crashing gets lower with every version). However, ALWAYS save you model before using the Animation Mode.

In the next tutorial, I'll explain how to use groups and how to animate your model using the animation console (only for the paid version).

For more information about SR3D Builder, visit <http://sr3dbuilder.altervista.org>

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