

LDraw Tutorial (VI)

Publishing instructions

Text and pictures by Jetro

After all the work you've done to document your MOC and get some nice renders you must be asking yourself if there isn't a better and easier way to show the construction process of your model. The answer (obviously) is: Yes! But before we start thinking about publishing let's get back to the MLCad and prepare the file for publication.

Although I mentioned steps in the first part of this tutorial it is quite likely they weren't the first thing on your mind while preparing your virtual model. As a matter of fact, depending on the complexity of the model it isn't always practical to start building the LDraw file in the same way you would build the physical model. So now you have a lengthy list of parts and it is difficult to decide where to start and how to get organised. Let me give you some pointers:

- Identify which part of the model you want to start with in order to organise matters. It doesn't need to be the part the construction should start with. Simply divide the large file into manageable chunks.

- Drag all the parts you want to work with to the beginning or the end of the parts list and add a good number of steps by way of division between those parts and the rest. If you select several parts at once (maintaining Ctrl pressed while you select them) even if they are not contiguous in the parts list, when you drag them to another part they will end up all together.

- Group the parts you are not going to work with (Ctrl+G). This way if you accidentally try to select one of them, the whole group will be selected and you will notice immediately that you are trying to select the wrong part. At the same time, doing this it is easy to hide all those parts in one click so you can work more comfortably with the rest of them.

- Save your work frequently. Since MLCad has no 'undo' option this is the safest way of rolling back if you do make a mistake: simply click on 'open file' (don't save the file you are working on this time!) and open the file you were working with again.

- Remember that in order to check how the steps are coming along you only need to press F2 to enter

view mode (and F3 to get back to edit mode). This way you can see your instructions step by step and check if you haven't added parts in a step to fit in with parts you haven't included yet.

- If you notice there are certain part of your MOC that could be built separately and then added as a single part you can do so in the following way:

- o Insert a comment before and after the set of parts you wish to extract from the construction and turn into separate file and then save the file.
- o Open the LDraw file you are working on in text editor [1].

- o Locate the section you have delimited with the comments, select and cut it (Ctrl+X)

- o Paste the section in a new text file.

- o Copy the first six lines of the original LDraw file and add them to the top of the new file you have created. This is the header every LDraw file should have. You can place the name that will identify the file in the first line and the name you save it with in the second.

- o Save the file with the extension .ldr and also save and close the original file.

- o Open the original file in MLCad. You will see that the part you have extracted is missing. In order to include it again you can use one of two methods: (Choose the second if you are going to use MPDWizard [2] to create the MPD file and include any unofficial parts.)

- Include it as part of an MPD file. Go to Multipart and select "Import model"

- Include it as a new part (Edit > Add > New part ...)

- o You may have to move/rotate the part to put it back in the right place, but since you are now working with a relatively large block this should not pose any serious difficulties.

- There are two interesting options in the "Edit > Select" menu that can make the job easier: "same type" and "same color". This reminds us that at times it can be useful to use colour coding in order to identify which parts make up a certain section of a MOC.



The right angle

In addition to having the parts organized in steps, it may be necessary to see your MOC from a specific angle in certain construction steps. For this purpose you can use the “turn step” command. This tool is very similar to the normal steps and as a matter of fact, including a turn step as the same effect as including a normal step. In addition a turn step allows you to set a specific angle from which the MOC will be seen from that point onward.

The window that opens to configure the angle is very easy to use. You can give precise angles for each direction (x, y and z) which by default will be absolute angles. Underneath you will see a preview of the model you are working with. You can also use that preview to drag the model to the right angle using your mouse. If later on you need to change or adjust the angle you can do so by double clicking on the line that was added when you inserted the turn step command.

Unfortunately, using angle steps will result in all four views in the MLCad working area showing you the model in 3D and from the same angle when you try to see the step by step instructions in view mode. However, if you publish the instructions in a different and more accessible format (as you will see below) the turn steps are well worth including.

L Pub

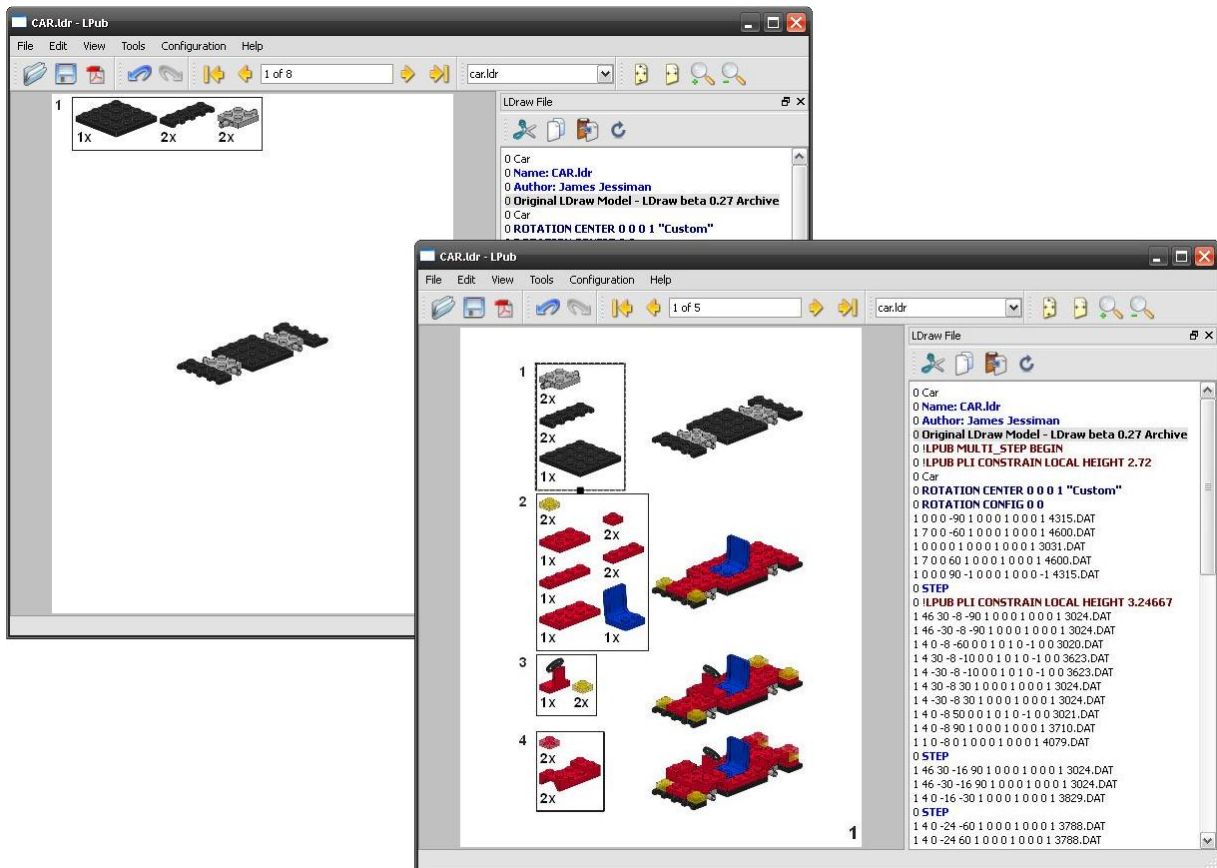
L Pub is LEGO® Publishing software. It uses LDraw tools to create step by step instructions based on LDraw files. The first versions of L Pub were quite complicated to use. They relied on Pov-Ray for rendering and although the quality obtained is very

good, this is quite a lengthy process. With version 4, L Pub has changed in many ways. It no longer uses Pov-RAY but now relies on LDView or LDGLite for rendering. This speeds up the process and renders are still of enough quality for the purpose they are made for. Previous versions of L Pub output png images and could generate the necessary html code to create an online instruction set. L Pub 4 outputs a PDF file.

Although some may miss the higher quality renders and the ability to easily create the html container files, L Pub 4 is a huge step forward because it gives you step by step control over what you generate and because the L Pub instructions are included directly into the ldr file they can easily be adapted or changed later on to generate a newer file without having to go through all the configuration steps again.

Installing L Pub [4] is pretty straight forward. Since L Pub needs either LDView [5] or LDGLite [6] to render the steps make sure you have one of these applications installed. During setup L Pub will ask you a few questions about where your LDraw parts library is as well as the location of the LDview and/or LDGLite and if you want to work with cm or inches. You can change these setting later on in the Configuration > Preferences tab.

To test drive the application we will have a look at the CAR.dat file that's in your LDraw\Models folder. Open it by going to File > Open or clicking on the first icon on the icon bar. You will notice it takes a little while for the file to open. This is because L Pub need to get LDView to render the parts for the Parts List and the model before L Pub can show you the first page of the instruction manual. Since the L Pub



commands will be written directly into the file you may want to save the file with a different name first (File > Save as...).

It would take too much time to show you all the options available in LPub and since this is only a first contact we'll simply try to make a short instruction booklet for the car of the example model.

Take a look at the parts list. If you click on it you will see a black square appears on the bottom line of the black rectangle around it. If you click and drag the square you will see you can very easily change the way the parts are displayed. Now click on the model. Again there is a change. This time there is a square outlining the model which you can drag to any convenient location on the page.

In the icon bar you can see you are on page 1 of 8. 8 pages for such a small car is overdoing it a little so we will put several steps on the same page. Right click on any free part of the page and select "Add Next Step". You will notice the changes you made to the size and position of the elements related to the first step disappear, but we'll worry about that later. Repeat this operation until you have 4 steps on the same page. Unfortunately the steps plus Part Lists are quite wide, so click on the first Part List and reduce it to a single column. Reduce the Part List for the second step to 2 columns. Now the page looks a

lot better.

Go to the next page and put the remaining 4 steps on it (5-8). Play with the width of the Part Lists until you like the way the page looks. When you are ready go to File> Print to file (or the 3rd icon on the icon bar) and choose a name of your liking. Click on save and LPub will print the instructions to a PDF file.

In the next part of the LDraw tutorial we will have a closer look at LPub and the many options it presents.

- [1] There is a specific text editor for LDraw files called LDDP (LDraw Design Pad) which you can download at <http://sourceforge.net/projects/lddp/>
- [2] MPDWizard is a tool that allows you to combine ldr files. It also allows you to include specific parts in the same file. For more information about this tool read the second part of this tutorial in Hispabrick Magazine 002
- [3] <http://www.holly-wood.it/ldraw/helpers-en.html>
- [4] <http://www.kclague.net/LPub/>
- [5] <http://ldview.sourceforge.net/Downloads.html>
- [6] <http://ldglite.sourceforge.net/> ■