User Manual Introduction

Information for the correct use of the manual

RepRapBCN Team

FUNDACIÓcim UPC BARCELONATECH

- If you are holding this book, it means that you are about to start building a **BCN3D+**. We hope you have a nice experience and enjoy the construction process of your printer as much as you'll enjoy creating your pieces.

- Before you start we are going to give you a **brief introduction** to the handbook series to make the experience even **easier**.

Location of the manuals

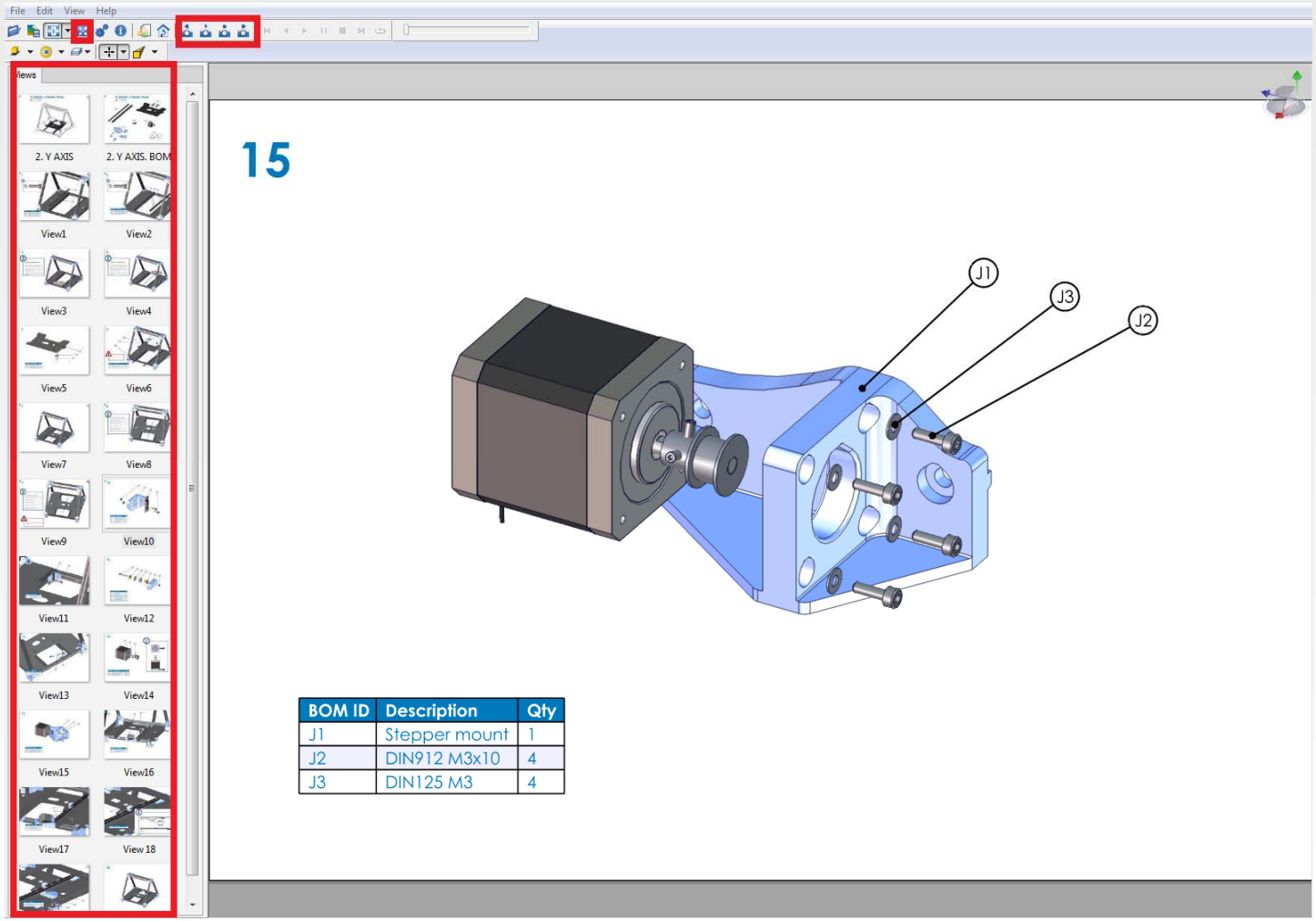
- There are 6 folders in the directory of manuals in the **SD card**. Each of them corresponds to a subsystem of the printer and we will mount them in the **order indicated** in the numbered order.

- Thus we will start with the structure of the printer and continue with the elements that allow movement in the three axes (Y, X and Z). With the whole mechanical part ready we will just have to add the electronics, LCD and eventually the wiring.

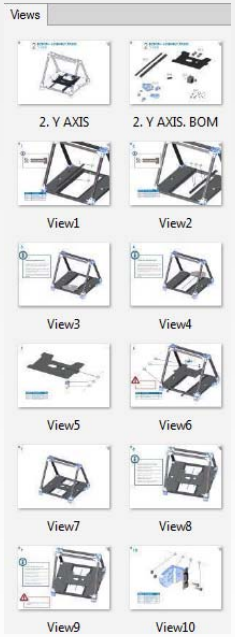
- In each folder you will find 2 types of file with the same name:
  - The exe file or ***.exe*** is an application that provides an interactive assembly guide. It allows you to zoom, move and rotate the view. **We recommend its use** to gain a much better understanding of the assembly process.

  - The ***.pdf*** is a succession of images that correspond to the interactive manual. It is the same as the previous manual but intended for those users who can not run the application (especially **Mac** and **Linux**). It is also useful to use the PDF file if you are pretending to build the printer with a **paper edition** of the manual.

- The application of the interactive manual is easy to use; you only need to know the icons and you will be able to **manipulate the 3D printer assembly**:



- *Sequencial navigation:* You can use the buttons on the top to move along the manual. You can **go back** one slide, **advance** in auto mode, stop auto play and advance a slide in the order displayed.



- *Random navigation:* If you prefer, you can also go directly to the slide you want making use of the summary of the document located on the left side panel. You will be able to access it **directly** by just double-clicking on any slide.

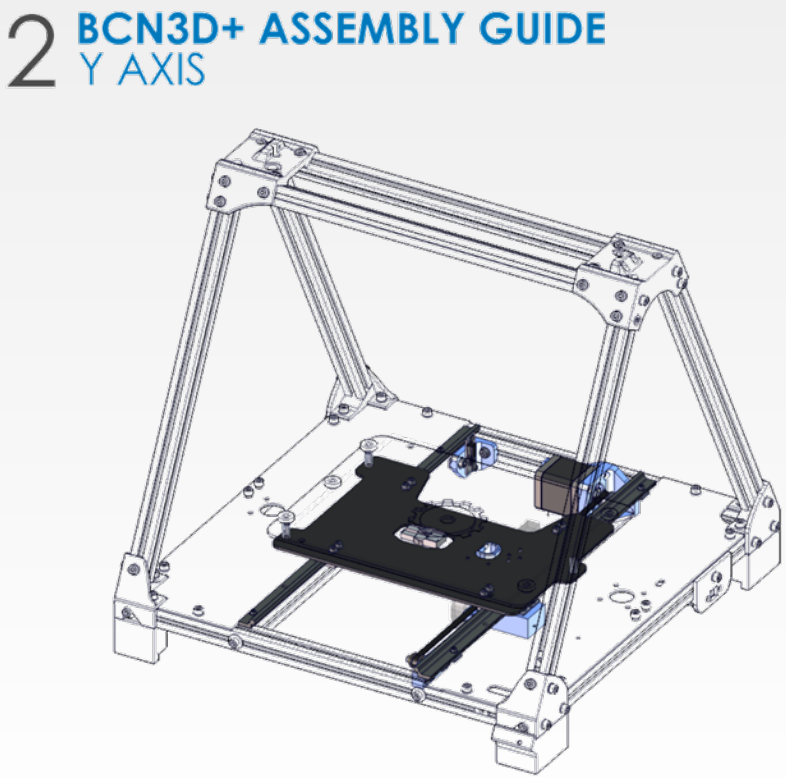
- *Zoom In / Out:* By rotating the mouse wheel you can both modify the **zoom** and focus on the area you want.

- *Move:* By pressing the wheel you can **move** the image. This way you can move the printer to different points without changing the perspective.

- *Rotate:* If what you need is to get **another point of view,** you can change the perspective using the right mouse button, holding it down while you rotate the view.

1st Page: Introduction

In the first slide there is the title of the chapter and the whole machine, with the silhouette of the pieces that you have assembled so far and which are going to be mounted in this chapter in color.



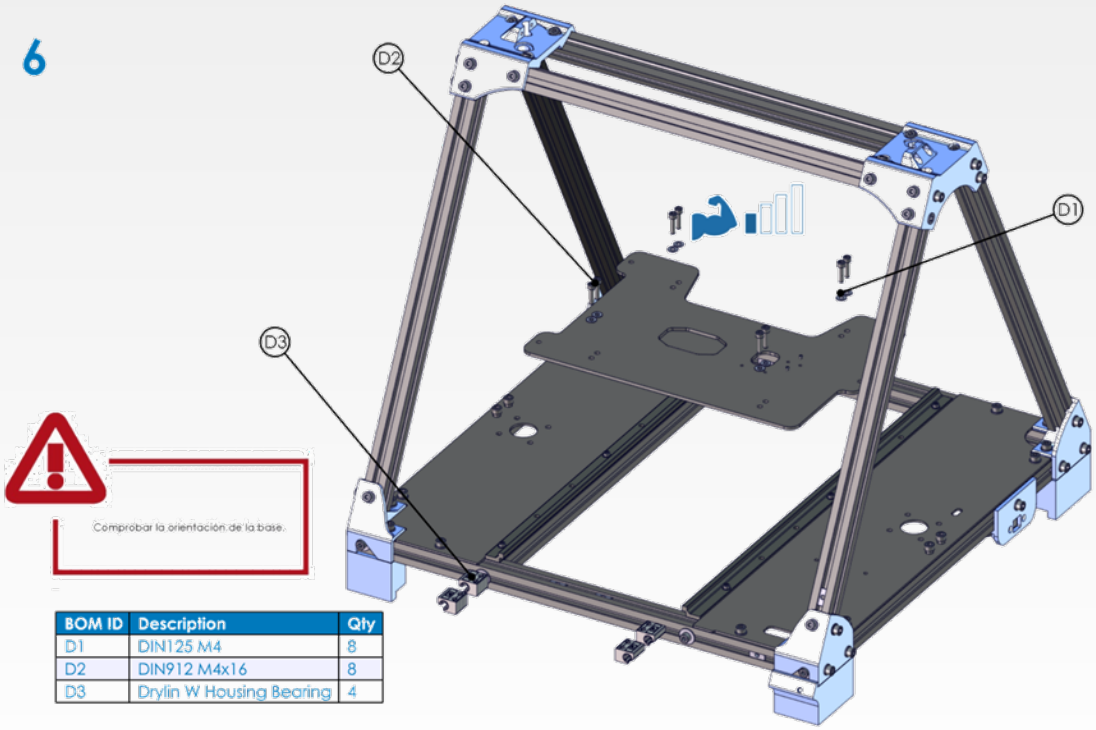
2nd Page: distribution box part

The second page is a **summary** of the parts which are going to be used in this chapter, grouped by part types, and shows you where you will find each one depending on the box.

It is important to note that **NOT** all parts are listed, but it is a significant sample to see which boxes are getting the necessary material.

Other pages: Assembly Steps

Each of the steps is shown in a transparent type which has **common elements**: number of transparency, steps to take, list of components, component identifier balloons and several notes (only when necessary).



Commonalities

- *Number of transparency:* It is located in the upper left side, and it is used to identify the **step** that is being carried out.

- *Steps to take:* The figure machine shows you the **components** that are going to be assembled on that step. When you go for the next slide, the components are moved to be positioned at the mounting position. Advancing and receding can give you a better idea of how to mount the component, and you can repeat this step as many times as you want.

Commonalities

- *List of components:* The table that is usually found in the lower left part (although sometimes may appear elsewhere) indicates the components that you will need in this step. The first column corresponds to the indicator part in the manual, the second one to the name and third one to the quantity. It is recommended to **get all the parts of the table ready before** you start assembling every step.

- *Component indicator ballons:* Indicators are used to easily **identify** the assembly pieces in the 3D view. The balloon keeps popping up even when you rotate the 3d view and if you want, you can move it wherever you want to have a clearer view of the image. You just have to click on the balloon and without releasing the mouse button, drag it to the desired position.

Notes: In the required slides it shows an annotation list. Each symbol corresponds to the message that is described below:

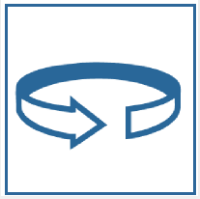
INFORMATION: It always comes accompanied by an explanatory annotation that it is not essential for the assembly of the printer but it is used to understand the manual **better**.

CAUTION: This icon is always accompanied by an **essential** explanatory annotation for the correct assembly of the printer.

NO: It is used to show you what you should not do. It also helps you to distinguish between the used components.

Structure of the chapters

PRESS WITH THE FINGER: It is used to indicate that something must be held by hand until it is definitely fixed.



TAP: It indicates that the component must be threaded.

FLAT SURFACE: It indicates that the operation that it refers to must be done on a flat surface. It affects the **critical parts** of the structure and it is used to ensure good reference plans where the rest of mechanisms are going to be placed.

CLOSE CLAMP: This icon indicates that we have to close one or more clamps in the indicated position.

Structure of the chapters

PRESS SOFTLY: This icon refers to tighten a screw. It indicates that this tightening should be soft, just to ensure that the screw holds the component **without** deforming it. It usually affects to plastic components that can break if you use too much force.

TIGHTEN STRONG: This icon refers to tightening a screw. It indicates that this tightening must be strong to ensure that the component is secured. It usually affects metallic components that **transmit significant efforts** during the operation.

FLAT SURFACE: It indicates that the operation that it refers to must be done on a flat surface. It affects the critical parts of the structure and it is used to ensure good reference plans where the rest of mechanisms are going to be placed.

TAPE: It indicates that during the step you should use tape (or similar) to hold temporarily some component.

Last Page: Final Chapter

The last page of each chapter shows the **final** result of the process.

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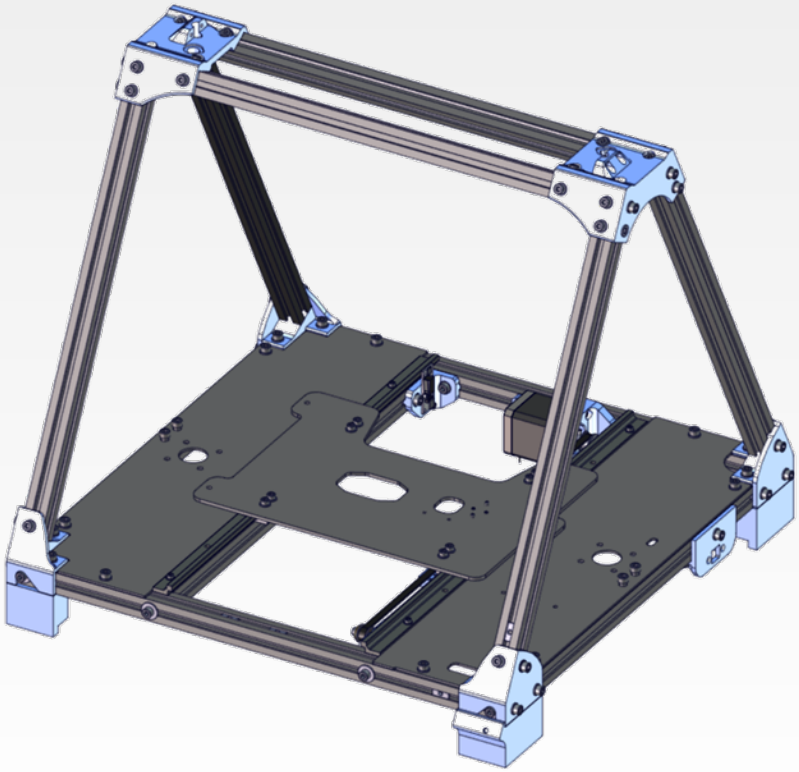

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RepRapBCN Team