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Ender 3 setup guide

Next you will need to build the carriage, using the M4 16mm screws that come with the printer. After that, you can insert the T8 lead screw into the coupling, making sure to loosen the coupling screw so it can slide in fully, and tightening it up afterwards. Mount the Hot End Assembly Next step you will be installing the hot end assembly onto the rail. It's useful from a safety perspective to improve safety, both physically and from fumes. Mount Spool Holder & Install Final Connectors Final steps to set up your Ender 3 Pro/V2 are mounting the spool holder, with two screws and T-nuts, and then mounting the spool arm into it with the help of a nut you can twist to tighten it. It also makes it easier to paint if you want to paint the model afterward. If you look closely at the picture of the backside of the arm you will see that it is not until after 60 degrees that the print starts to get ripply (vpr - Connect to Computer Yes, you can 3D print from a USB on an Ender 3 by connecting a USB to your computer or laptop then to the Ender 3. ☹ First, use two M4 x 10 screws to align the holes on top of the gantry and stick the screws; ☹ Then, use two M4 x 10 screws to align the holes on the base and lock them all. Be sure to follow this safety guide while doing your prints. Once you mount the first metal frame piece on the electronics side, you can just repeat the process for the one on the opposite side. One aspect that is a downside is how long it takes to assemble, requiring several steps and many separate parts. Always use a rounded three-prong power outlet, which accompanies the printer. Do not touch the nozzle and the heated bed during operation to avoid burns or personal injury. Do not wear gloves or wraps while operating the machine to prevent entrapment of movable parts that could cause crushing and cutting injuries to bodily parts; Use the provided tools to clean the filament from the extruder in time taking advantage of the residual temperature after printing. This tests the ability to make fine lines and grooves and scale test (diameter test) - These are the circles in the back center of the print. If you check out the Creality Ender 3 on Amazon, you'll see plenty of positive reviews from beginners and even experts on just how well this 3D printer performs. How to 3D Print with an Ender 3 - Post-Processing Once the 3D model is done printing, you can remove it from the print bed. There are many tutorials covering different methods to level your bed available online. It's mounted on the left side of the 3D printer base with some T-nuts. You need to mix the resin with the activator, brush it on the print, and leave it to set. Keep reading to find out how to get this done. The base of the printer containing the print bed and the Y axis (back and forth) control as well as most of the wiring are already assembled before leaving the factory. If you're installing the Ender 3 V2, the LCD goes on the side so you may need to flip your printer on its side so it's easier to mount. First run the CHEP_M0_bed_level.gcode file on your Ender 3 or any similar size printer with an 8-Bit board V1.1.4 board. On the next page, click on Add a non-networked printer. The intent is to attach the wires to the back of the clips which allows access to the wires."The clip attach to the frame on one side and hold the wires in place on the other side.one set of the clips is made to hold the ribbon cable at the top of the base, and the other set is made to hold the red and black power wires in the back of the base.The printer will function perfectly fine without these cables being clipped to the frame. I just think they make everything look more tidy. You might have to split the model into multiple sections and assemble it after printing. After installing each upright or many, take a spirit level or speed square to ensure they are correctly level and perpendicular. This will help to avoid the filament getting kinked and possibly breaking. 2929770This is a protective sleeve that slides over the Z axis movement screw and keep the filament from brushing against the screw as it feeds into the printer. It covers screen information, loading filament, bed levelling, software installation, preparing to print and trouble-shooting. Upgrading the Ender 3 after getting some successful 3D prints is a very common event with many beginners out there. A great primer you can use with your 3D prints is the Rust-Oleum primer. Choose a 3D Model After choosing and loading your preferred filament, you will want to download a 3D model that you can 3D print. Check the wiring of the hotend and the motors and make sure they are correctly connected to the mainboard and not loose. If you want a smoother surface, you can keep on using lower grit sandpaper. He also mentioned that the build surface it came with didn't perform the best so he recommended getting your own surface like a Creality Magnetic Bed Surface or a Creality Glass Build Surface. The LCD should light up. And if you are going to have an extruder knob there anyways, why not spruce it up with the addition of Master Yoda.A few coats of paint and clear coat and Master Yoda is looking much more like himself.☹ 3318538Much like the Scraper holder, This is not a absolute necessity, but it makes it nice to have your tool handy when you need it and stored securely out of the way when you don't.I am surprised at how often I am using the caliper, not only to check the things I have printed are in the correct dimension, but also to design new prints when I can't find what I am looking for online.Tripod Quick Release Plate - 3392947 The Ender 3 series from Creality are one of the most sold and used 3D printers around but assembling it can be a little tricky, depending on which Ender 3 you have. NOTE: When tightening an eccentric nut, a good rule of thumb is to tighten the nut until the POM wheels cannot rotate freely when you turn them with your finger. It's a favorite among 3D printing hobbyists, as most have gotten good results with it. CHEP made a great bed levelling video that you can check out below. Step 3: Level The Bed Start with the CHEP_M0_bed_level.gcode file and run that on your Ender 3. Set Spool Holder & Test your Printer The final steps are mounting your spool holder, which can be mounted at the top of the Ender 3, or on the side as preferred by some users. The gantry will control the X (left and right) and Z (up and down) axis movement. Michael does a great job of clearly explaining each test and how making changes to the printer will affect your print results. What Files Does an Ender 3 Print? Just be careful to let the resin cure properly before you start using the 3D printed parts. Install the Z-Axis Limit Switch You want to connect the Z-axis limit switch to the 3D printer using your 3mm Allen key. These are basically wheels on the 3D printer base that moves the bed back and forth. There is no need to remove any bolts to mount this guide into place. You can log in to the Creality Official Wiki () to explore more detailed after-sales service tutorials. How to Build the Ender 3 S1 These are the main steps you need to follow in order to build the Ender 3 S1 Mount the (Uprights) Install the Extruder & Mount the Filament Holder Mount the Cables & Install the LCD Mount the Metal Frame Pieces (Uprights) The Ender 3 S1 comes in very few pieces and is very easy to mount. To mount the LCD screen, screw in the plate to hold it but the actual screen gets plugged in and will sit nicely on top of it. Fortunately several decades of assembling Lego kits served me well in figuring out what needed to be done.Once you unpack everything you will need to attach the uprights to the base. Build the Extruder & Install the Belt Then your next step will be mounting the aluminum extrusion to the bracket with the extruder motor with the help of two screws that will keep it in place. You will need to flip the belt so you can feed it through the holes and pull it right against the gear. You can use various 3D printing software like PrusaSlicer, Cura, OctoPrint, etc. You can also use the Ctrl + O shortcut to import the model. You can adjust the eccentric nuts next to the wheels since it adjusts how close the wheel is to the metal frame. Step 2: Connect Your PC to the Ender 3 with the correct USB cable Turn on your printer Using the correct USB cord, connect your PC to your Ender 3 Open Cura Cura on Monitor You should see your Ender 3 printer on a control panel. Tests the accuracy of the scale of the circles (outer and inner diameters of each circle are listed). 222363 This test the quality of the print at different temperatures. Step - Preheat Your Print Bed Preheating the print bed helps account for the PC's expansion during printing. First, install both metal frame pieces (uprights), which are already connected to each other, to the base of the printer, making sure that the little motors are facing the back of the unit towards power. Every 5 mm the extrusion temperature is reduced by 5 degree Celsius, starting at 240 degrees and going down to 190 degrees.PLA seems to be a very forgiving material and my tests at different temperatures were very similar, no perceptible change in bridging or detail quality between the different temperature layers. If the printhead is digging into the bed, adjust the level with the four bed leveling knobs under the print bed. I detailed some basic steps below: Adjust the Bed Mount the Metal Frame Pieces (Uprights) Build the Extruder & Install the Belt Make Sure Everything is Square Install the Power Supply & Connect the LCD Mount Spool Holder & Install Final Connectors Adjust the Bed The Ender 3 Pro/V2 have a lot of improvements over the first Ender 3 but also share a lot of similarities when building it. Then, you just need to tighten a couple of screws, users recommend flipping the printer on its side so you can do it with more ease. However, using Octoprint requires you to purchase and set up a Raspberry Pi to connect your printer to your PC. If you are using Cura, you can navigate to the Monitor tab and you'll see an interface showing the Ender 3 along with some control options. They are all labeled and should not present any difficulty to connect. I'd recommend getting something like the XYXL 42 Pcs Sandpaper Assortment 120-3,000 Grit from Amazon. To display some of the more advanced options available, click on the Custom button. It also offers decent print quality way above what you'd expect for that price point. You won't even need to hold it while installing it as it has a place built perfectly for it to just sit nicely. They 3D printed a decent number of models, going through a full 1KG spool in just over 2 weeks, having success with each one. A great option is the Alumilite Amazing Clear-cast Epoxy Resin from Amazon. A poor first layer will almost definitely lead to the print failing. Depending on the location of the work you are in, you may need to set the voltage to 115 at the back of the power supply. Install the material rack and material barrel according to the diagram. ☹ Align the installed material rack component holes with the locking positions to the immediate right of the gantry frame and secure them downwards smoothly. It has a large set of tools including: Print Adhesion - large 1.25 oz glue stick Print Removal - super thin spatula tool Print Clean-Up - Hobby knife kit with 13 blades, 3 handles with a de-burring tool with 6 blades, tweezers, pliers, mini-file and large cutting mat Printer Maintenance - 10-piece 3D printing nozzle needles, filament clippers, and a 3-piece brush set Assembling 3D Prints When 3D printing, your model might have multiple parts, or maybe your print bed might not be big enough for your projects. After printing, they are no longer necessary, so you need to remove them. Go to Prepare > Preheat PLA > Preheat PLA Bed. Click Add Once you select it, you can customize your printer's properties and its extruder. It should be smooth and not wobbling. Then connect all the connectors around the printer. There are multiple layers but you can stop the print when you feel the bed has been leveled fully The video below by CHEP is a great illustration to leveling your Ender 3. The manual recommends to mount them both at this stage but a few users suggest focusing on mounting the one on the electronics side as it is the main upright that the arm and stepper motor will be connected to. It's actually quite ideal for beginners to put a 3D printer together because you learn how it works and comes together which is useful if you need to make repairs or upgrades down the line. He just did a good job sharing his knowledge. 2975429This test contains : overhang test - These are the two arms curving up and over the print. First step in setting up your Ender 3 Pro/V2 is adjusting the bed, just tighten the eccentric nuts underneath it and on the sides so the bed won't wobble back and forth. Step 6: Slice the Model After editing the 3D model, click on the slice button to convert it to G-Code. Here's how you can start the 3D printing process. This tests the ability to make crisp clear corners and tapered tolerance test - This is the section behind the overhang test on the left side of the print. If you want to go for a whole kit for your 3D printing needs, I'd recommend going with something like the AMX3D Economy 43-Piece 3D Printer Toolkit from Amazon. You can also check out other printers that offer similar features, maybe one of the most cost-effective 3D printers out there. The Ender 3 comes as a 3D printer kit, which means that it requires a decent amount of assembly. Here are the steps for 3D printing from a USB. The most widely used software is Cura because it's packed with several features, easy to use, and free. Turn on your printer. Or contact our after-sales service center at +86 755 33396 5666, or send e-mail to cs@creality.com. To finish putting the printer together will require connecting the remaining parts to the base using less than 2 dozen bolts, and then plugging up a few wires to the various motors.The instructions that come with the printer do not have words, just pictures. Install the Metal Frame Pieces (Uprights) to the Base Next step is to mount the two metal frame pieces, also known as the uprights, to the base of the Ender 3, no affiliation. . I wrote an article called 33 Best Print-in-Place 3D Prints that has many of these types of models, as well as an article called How to 3D Print Connecting Joints & Interlocking Parts. Then you connect the gantry arm to the uprights. These drivers are usually present on Windows PC but not always. When installing your filament into the extruder, make sure that you cut the filament at a diagonal angle so you can feed through the extruder hole easier. For your convenience, please read through this User Manual before you start and follow the instructions provided carefully. Push the button on the printer after testing each corner (the printer says something like "waiting for user") to go on to the next corner. Do not touch the extruder directly when cleaning, otherwise it may cause burns; Clean the printer frequently. Users suggest turning the base of the printer on its side to make this a little easier. Also, epoxy coatings can help fill in layer lines and give the prints a smoother appearance it sets. Your PC should recognize your printer now. You can also visit our official website () to find more information regarding . View and Download Ender 3 Series user manual online. The Ender 3 doesn't have a designated program that it uses, so you can use it with whatever slicer you choose. How to 3D Print with an Ender 3 - Bed Levelling After assembling your printer, you'll need to level it before you can print accurate models on it. We suggest placing it in a well-ventilated, cool and dustless environment; Do not expose the printer to a violent vibration or any other unstable environment, as this may cause poor print quality; Please use recommended filaments to avoid clogging of the extrusion head and causing damage to the machine; Do not use the power cable of other products during installation. Once it's all assembled, you can slide it on the vertical extrusions. Is an Ender 3 Good for Beginners? Users recommend to first take apart the idler adjuster apart so it will be easier to connect the belt through the hot end assembly. Log in to the website to download Creality Print 5.0 or higher slices; Method 1: Manual retract Method 2: Auto retract ¶ 7.1. Platform plate removal and maintenance ¶ 7.2 Optical axis maintenance It is recommended to purchase lubricating grease for regular maintenance of the optical axis area. Tip 3: Ensure all the rubber POM wheels are gripping the carriages properly. Something like the Engineer NS-04 Precision Side Cutters from Amazon should work well for this. These are the main steps to start doing prints with the Ender 3: Choose & Load your Filament Choose a 3D Model Process/Slice the Model Choose & Load your Filament Before your first print with your newly assembled Ender 3, you should choose the filament you will want to work with. ♦ Detailed instructions for use are available on the TF card. You can use sandpaper to gently buff out these imperfections from the print's surface. You want to achieve a perfect 90 degrees, so leaving the screws a bit loose will help you move it up or down and get it lined up with the bracket. After stopping at each corner twice, it will print several skirts around the bed (you can continue to adjust height as needed as the skirts print), then a disc in each corner and a disc in the middle to check adhesion."Ender3_Level_Test_v2.gcode" just prints the test pattern without leveling so you can check if your bed has shifted"There are literally thousands of videos available on youtube regarding 3D printing. There are 3 majors values, which you are going to adjust to remove stringing : retraction, temperature and travel speed/sharp-corner test. These are the pyramids behind the stringing test. I watched a lot of different videos to learn about the printer that I got and how to set it up to get the best results.One of the better youtube channels that I found was Teaching Tech. One user mentioned that it was perfect for helping him put his 3D printer together. How to Start First Print with the Ender 3 The Ender 3 comes with a USB that has a test print already on it. How to Setup the Ender 3 Pro/V2 The steps for setting up the Ender 3 Pro and V2 are very similar to the Ender 3. This pair of side cutters is constructed from heat treat carbon steel, which provides excellent cutting performance and durability. Step 2: Download And Load The Levelling G-Code The G-Code will help move your printer's nozzle to the right areas of the bed for leveling. Check out the video below to see how the Ender 3 V2 is set up. Then, the next step is mounting the filament holder, which goes on top of the printer and will be facing backwards away from it. The open source aspect of the Ender 3 was a key for him personally so he could upgrade and replace parts easily without worrying about compatibility. If you do not like Cura, you can use several other applications like Proneface, OctoPrint, etc. 3 Series 3d printers pdf manual download. Also, check if the nozzle is digging into your print bed while printing. Then you should slide the belt through the wheels and the wheels onto the aluminum extrusion. How to Build the Ender 3 Building up the Ender 3 is quite a long process because it doesn't have much pre-assembled and there are many steps to take. It's important to be careful when removing supports to avoid damaging the print and yourself. How to 3D Print with an Ender 3 - 3D Printing After slicing your 3D print, it's time to load it up on the printer. You should pull both sides, going through the flat side and feeding it around the gear so it doesn't grab, allowing you to pull it through. Save your G-Code on the SD card or TF card Insert the SD card into the printer Power on the printer Go to the "Print" menu and select your model The bed and nozzle will start to pre-heat to the set temperature and will begin when reached. Tighten them just enough to leave some space to move the arm. The second photo on this step is an obvious fail using PETG filament that comes from dry, with no warping on these parts, turn the adjustable eccentric nut on the side with two POM wheels until there is no wobble. This avoids the filament getting stuck and trace amounts of lubricant on it from touching the screws.I chose this particular filament because it slides over the screw wires easily. Step 4: Adjust The Model's Size And "Teaching Tech Speed Test.slt" This is another gradually increasing test print. It might be the most 3D printed item because it helps test your 3D printer to see if it's performing at a good level. You can download the drivers required for the Ender 3 here. Here they are. Open the files and install them. After installing them, restart your PC. It's a great investment, whether you have a specific hobby, have kids/grandkids, or just love technology and the DIY aspect of things. Yes, the Ender 3 is a good 3D printer for beginners due to the very competitive price, the ease of operation, and the level of print quality that it provides. Also, epoxy can be very dangerous if you do not follow the proper precautions while using it. It's very simple to use and has a lot of features that other slicers don't have. Using a screwdriver, tighten the screws firmly, ensuring the frame stays accurate. Clean the printer body with a dry cloth regularly after powering off the printer, wipe away dust, bonded print filament and foreign objects on the guide rails; Children under 10 years old should not use the printer without supervision, otherwise it may cause personal injury; Users should comply with the laws and regulations of the corresponding countries and regions where the equipment is located (used), abide by professional ethics, pay attention to safety obligations, and strictly prohibit the use of our products or equipment for any illegal purposes; Creality will not be responsible for any violators' legal liability under any circumstance; Tip: Do not plug in or unplug wires on a charged basis. There are tutorials that help with assembly. How to Add an Ender 3 to Cura Open Cura Click on the printer tab at the top of the screen Select Add Printer Click on Add a Non-networked printer. In some cases, the model might still need some post-processing touches to reach its final form in some cases. It can take about 10 minutes of careful sanding with different grits of sandpaper to get great results. A slicer will convert the 3D model (STL, AMF, OBJ) into a G-Code file that the printer can understand. If you're having a file in a different format like STL, AMF, OBJ, etc., you'll need to slice the 3D models with a slicer like Cura before you are able to print it with an Ender 3. There is also an X gantry that carries the extruder and hotend assembly. Use our manual. You can find instructions and videos in the USB flash disk provided with the printer. You can find instructions and videos in the USB flash disk provided with the printer. Be careful not to overtighten the eccentric nut. Plug in the connector for the little unit form and you should be all set. These need to be mounted perfectly straight so you should use some kind of tool to help you level it, like a Machinist's Square Hardened Steel Ruler, which you can find on Amazon, to make sure that the upright is mounted nicely. For the Ender 3 S1, the leveling process is a lot different. How to 3D Print with an Ender 3 - Software To print a 3D model with the Ender 3, you'll need slicer software. The Ender 3 does have an open build volume so for younger beginners, you might want to get a Cromgard 3D Printer Enclosure from Amazon. You also have plenty of forums and YouTube videos that can assist you with the Ender 3 because it has such a large community behind it. ♦ Select the correct input voltage to match your local mains (230V or 115V) ♦ Because of software/hardware upgrades and model differences, new revisions may not be listed in this guide. The arms print at increasing angles of overhang from 10 to 80 degrees. You have to slightly loosen the T-nuts with your Allen key, then fit the limit switch into the aluminum extrusion. Step 1: Download the Drivers for Your PC The Ender 3 drivers allow your PC to communicate with the Ender 3's mainboard. All these components should be perfectly straight, level, and perpendicular. Step 4: Live-Level the Bed Run the next file CHEP_bed_level_print.gcode file and basically adjust your leveling knobs while the bed is moving, being careful with the movement of the bed. I'd recommend choosing PLA as your main filament because it's simple to print, has a lower temperature than most other filaments, and is the most common filament out there. If you're installing the Ender 3 Pro, then there are two screws to hold the power supply behind the beam and two screws to mount the LCD, just don't forget to connect its exp3 connector, which is keyed and will only go into one spot. You can sand the models wet or dry, with your goal to achieve your desired result. Some other choices are: PLA filament you will want to print with and get some of it, you might also want to load it into your Ender 3. I found the standard in Teaching Tech's post on Thingiverse "Ender 3 calibration files". 3071464in Files Tab it is listed as "Ender 3 Calibration Files". "Teaching Tech Speed Test.slt" This is another gradually increasing test print. It might be the most 3D printed item because it helps test your 3D printer to see if it's performing at a good level. You can download the drivers required for the Ender 3 here. Here they are. Open the files and install them. After installing them, restart your PC. It's a great investment, whether you have a specific hobby, have kids/grandkids, or just love technology and the DIY aspect of things. Yes, the Ender 3 is a good 3D printer for beginners due to the very competitive price, the ease of operation, and the level of print quality that it provides. Also, epoxy can be very dangerous if you do not follow the proper precautions while using it. It's very simple to use and has a lot of features that other slicers don't have. Using a screwdriver, tighten the screws firmly, ensuring the frame stays accurate. Clean the printer body with a dry cloth regularly after powering off the printer, wipe away dust, bonded print filament and foreign objects on the guide rails; Children under 10 years old should not use the printer without supervision, otherwise it may cause personal injury; Users should comply with the laws and regulations of the corresponding countries and regions where the equipment is located (used), abide by professional ethics, pay attention to safety obligations, and strictly prohibit the use of our products or equipment for any illegal purposes; Creality will not be responsible for any violators' legal liability under any circumstance; Tip: Do not plug in or unplug wires on a charged basis. There are tutorials that help with assembly. How to Add an Ender 3 to Cura Open Cura Click on the printer tab at the top of the screen Select Add Printer Click on Add a Non-networked printer. In some cases, the model might still need some post-processing touches to reach its final form in some cases. It can take about 10 minutes of careful sanding with different grits of sandpaper to get great results. A slicer will convert the 3D model (STL, AMF, OBJ) into a G-Code file that the printer can understand. If you're having a file in a different format like STL, AMF, OBJ, etc., you'll need to slice the 3D models with a slicer like Cura before you are able to print it with an Ender 3. There is also an X gantry that carries the extruder and hotend assembly. Use our manual. You can find instructions and videos in the USB flash disk provided with the printer. You can find instructions and videos in the memory card provided with the printer. It works well with plastics and also doesn't take long to dry and solidify. You can assemble the individual pieces using superglue, epoxy, or some kind of heat friction method by heating both sides and holding the model together. A YouTube named CHEP created an excellent method for accurately leveling your print bed level. You can secure it with the M4 x 18 screws and tighten it up. First, use four M4x8 screws to align and secure the left and right screw holes on the base; B. Tip 2: Make sure all the wiring is connected to the mainboard. The Ender 3 Pro comes partially assembled. Download the Zip File fromThngs3D Unzip the file Load the CHEP_M0_bed_level.gcode file & CHEP_bed_level_print.gcode file on your SD card Here's what the G-Code file looks like when checked in Cura, which represents the path the model will take. These steps are quite general, so I'd highly recommend checking out the assembly video below by CHEP to assemble your Ender 3. This can be done by going to websites like: Thingiverse MyMiniFactory Printables Cults3D These are websites full of downloadable 3D models which are user-generated and uploaded for your 3D printing pleasure. Users who 3D print cosplay models sand and prime their model to achieve a more professional looking finish. A highly recommended and very popular model to 3D print is the 3D Benchy. Firmware - User manual. You can find instructions and videos on the USB flash disk provided with the printer. It will look different once the Ender 3 is connected. Good Luck and Happy Printing! How to Setup Creality Ender 3 - 3d Printer: In this blog post, we will learn to assemble and setup creality's ender 3 - 3d printer. If you have a file in a different format like STL, AMF, OBJ, etc., you'll need to slice the 3D models with a slicer like Cura before you are able to print it with an Ender 3. You can find instructions and videos in the USB flash disk provided with the printer. If it does, the printer will automatically end the print. You can turn your printer on its side and turn the nuts counter-clockwise but not too tight as you want to leave space for the bed to move smoothly. Slide a piece of paper in between the nozzle and the bed. I wrote an article you can check out called How to Get the Perfect First Layer on Your 3D Prints. Install Z-Axis Motor The Z-axis motor needs to be connected to the base, which you can position carefully so the holes line up on the 3D printer. This helps ensure you get accurate prints consistently. This will make sure that your extrusion temperature is set correctly so that you are able to bridge short distances without support without sagging or delamination of the layers.stringing test -These are the pillars on the right hand side of the print,Just behind the right overhang test. It should sit on the 3D printer base and attach to the aluminum extrusions with some M4 x 20 screws. Install the Extruder & Mount the Filament Holder Installing the extruder on the Ender 3 S1 is very easy, it goes right in the middle of the arm and you will just need to place it there and tighten a few screws. Here's a general overview of how to build the Ender 3: Adjust the Bed Install the Metal Frame Pieces (Uprights) to the Base Connect the Power Supply Install the Z-Axis Limit Switch Install Z-Axis Motor Build/Mount the X-Axis Fix the Gantry Frame at the Top Connect the LCD Set Spool Holder & Test your Printer Adjust the Bed The bed should be pretty stable to have the best operation. Tip 6: Now that your printer is assembled, it's time to turn it on and test it. You can clearly see the print quality reduced dramatically at each step the farther away it gets from the 240 degree extrusion temperature. This test is another gradual change test. After installing the belt, be sure to tighten it so there is a bit of tension. You can either save the sliced G-Code file to an SD card or print it via USB with Cura. Creality is always ready to provide you with high-quality services. I'd recommend checking at the manual or watching a tutorial video to get this information regarding . Tip 1: Unbox the printer, lay out all its components, and cross-check them. You can actually get better print quality in some cases because it protects from drafts that can cause print imperfections. Sanding and Priming Sanding helps eliminate surface deformities like string, layer lines, blobs, and support marks from the model. You can even get some high quality paid models, or get some custom designed by talking to a designer. To make sure everything is square you should position two rulers on the bed that are square, one on each side and then put another ruler off the beam to make sure that they are equal on both sides. It helps seal up the holes and spaces in the print to avoid bacteria accumulation and leakages. Too close together and your nozzle will crash into your print and wreck it.The bed level test I use is: 2987803It is a simple test that prints 3 passes around the perimeter of the bed and then it prints a filled circle at each of the corners as well as the center of the bed.It is a quick test, taking only a few minutes to run.the files that I like to use are: Ender3_Bed_Leveling.gcode"Stick the GCODE on the SD card and have a sheet of paper ready. Place the gantry frame assembly into the slots on the base: A. Thank you for choosing Creality. Auto home the printer by going to Prepare > Auto home Confirm that the printer is hitting all the limit switches and the motors are moving the X, Y, and Z axes seamlessly. Simply turn the Ender 3 base on its back, take the wrench that comes with the 3D printer, and turn the eccentric nuts until there is little to no wobble. Once that is completed, you only have a few more bolts to tighten up and a couple of wires to plug in and your printer is ready to start printing.Sorry that I did not take pictures of the assembly process, but the process is straight forward and the images in the instruction manual are easy to understand.I will be linking to a bunch of different 3D print files that I found on Thingiverse. Just remember the spool arm should go into the back of your printer. ☹ Connect the touchscreen to the base screen using the flexible flat cable. ☹ Swap the buckle on the back of the touch screen into the slots on the base. You can also visit our official website () to find information regarding software, hardware, contact information, device instructions, device warranty information, and more. Ender 3 printers have a lot of components. The print will continue multiple layers if you can stop the print at any time and then you are ready to 3D print without worrying about bed level. 2920060This post has mounting brackets for both the bed wiring, and the gantry wiring. Once you remove all the items from the Ender 3 package, you can start to build up the machine. When you need it, you know right where it is. 3378694"These clips are for attaching the ribbon cable and the power supply wires to the Ender 3 frame. There is an official Creality Slicer that some people use, but most people choose to use Cura for the Ender 3. The printer will auto-home itself, go to the first position, and pause. As you can see my test had a lot of stringing at the 0mm and 2mm levels, but once the setting was changed to 4mm retraction there was no more stringing occurring, so I was able to switch my retraction setting default from 8mm to 4mm.I'm not sure where this file came from originally. There is no individual post for it on Thingiverse. Adjust the bed springs until there is friction between the paper and the nozzle, while still being able to wiggle the paper slightly. A primer helps fill in the gaps on your print to make sanding it down easier. What Program Does a Creality Ender 3 Use? Lastly you'll just need to mount the brackets and install the hot end assembly on the rails of your printer. You can move up to 300 grit once the surface becomes smoother. This will test the nozzle retraction to prevent stringing, it's a technical term lol) so I know that if my angle is greater than a 60 degree overhang I will need to include supports in the print to make sure I get a good quality printbridging test - These are the assorted length bridges (4mm-22mm) in the center of the print between the two overhang tests. Detailed instructions for use are available on the SD card. The Ender 3 is probably the most popular 3D printer in the industry, mainly due to its competitive cost and ability to produce effective 3D printing results. Make sure you compare what's in the box with the bill of materials to ensure no part is missing, and that the long metal lead screw isn't bent. By rolling it on a flat surface. Check out my article How to Upgrade Your Ender 3 The Right Way - Essentials & More. If you do not have a model, you can get one from an online 3D model library called Thingiverse for free. Immediately there is no wobble, stop tightening. The instructions that come with the printer do not really cover some important things to note when assembling the printer. Do you have a question about the 3 Series and is the answer not in ... This guide is for the Ender-3 Pro Series of 3D printers. They can be hard to get to so don't tighten them all the way and adjust them so it goes perpendicular to the rail. You can use the flush cutters provided with the Ender 3 or needle nose pliers to remove them efficiently. Make sure your LCD is working properly, when testing your printer if no image shows up, check these connections to make sure the LCD was properly installed. The easy solution it to have a way to turn the rod from the top. Putting together an Ender 3 printer is no small feat, but trust me, you will have a lot of fun with this machine. It shouldn't be too tight, and you should turn it counter-clockwise to do this. It is recommended you get a set of T Handle Allen Wrenches, which are available on Amazon as they will help you with the whole set up process. It uses M5 x 8 screws to secure the LCD frame in place, along with a ribbon cable to transfer the data. Additionally, if the corner of the print is lifting due to warping, you may need to improve your first layer settings. When you slice your model, simply select "Print via USB". Then run the CHEP_bed_level_print.gcode file and live adjust or "adjust on the fly" the bed level knobs to get as close to a level bed as possible. Laying them out helps you quickly find what you're looking for when assembling the printer. Connect the Cables & Install the LCD You will then need to connect the cables for the printer, which are all labeled so you should not have any trouble with them. Once the T-nut is lined up, you tighten it, you should rotate to hold it in place. Leave the machine settings and do not modify them Now, you can use the Cura virtual workspace Step 3: Import Your 3D Model Into Cura If you have a model that you want to print, click on it and drag it into the Cura application. Once you're done with that, click the knob to take the printer to the next position Repeat the entire procedure until all the points on the bed are level. This guide is for the Ender 3 Series of 3D printers. If needed, you can try tightening the screws at the top again, as having them properly tightened is key to making sure everything is square. I'll be taking you through the basic process of building up the Ender 3 so you can know what the process is like. Too far away and you will not get proper layer adhesion. If your bed isn't properly leveled then filament may not stick on it causing a lot of problems such as warping or problems getting your first layer right. I decided to put together a nice starter's guide for 3D printing with an Ender 3. Need help? Some other popular choices are PrusaSlicer and Simplify3D (paid). Let me show you how to set up: Step 1: Install Cura On Your PC Download the Cura installer from the Ultimaker Cura website Run the installer on your PC and agree to all the terms Launch the app when it's done installing Step 2: Set Up Cura Follow the prompts on the onscreen guide to set up the Cura application. Process/Slice the Model To correctly process/slice your 3D model you need to adjust settings such as: Printing Temperature Bed Temperature Layer Height & Initial Layer Height Print Speed These are the main settings, but there are plenty more that you can control if you desire. If it doesn't come out too well, you can do some basic troubleshooting, for which there are plenty of guides. Plug the power supply into the power source and turn on the printer. 3421795There comes a time in every 3D printers life when they need to move the gantry out of the way. There are two Z uprights, one on each side with a crossbar on top. If you can 3D print a 3D Benchy, you'll be able to 3D print a lot of things successfully. You will need to tighten up three T-nuts on its bracket and install its connector, which is keyed and can only go in one way. The GCODE will stop at each corner, pausing so you can adjust the leveling knobs. Adjust each corner by running a piece of paper or Filament Friday sticker under the nozzle until you can barely move it then click the LCD knob to advance to the next corner. Since the Ender 3 pro has the bed wiring in a mesh wiring sleeve I only put the chain around the gantry wiring. Tip 5: Switch the power supply's voltage The Ender 3's power supply comes with a voltage switch that you can switch to your country's voltage (120/220V), contact information, device instructions, device warranty information, and more. According to many users, you can take an hour or so if you have a good tutorial with you but you want to take your time to make sure things work well. Epoxy Coating Epoxy coating is beneficial if you need the print to be watertight or food safe. The options are 110V or 220V for the Ender 3. Doing this will help reduce any hardware problems interfering with your printing. You'll use the longer screws, which are the M5 by 45 screws. As you get comfortable with it, you might even decide to spring for some more upgrades. Most users recommend checking whether the resin is food safe and FDA compliant before using it with your print. You can upgrade the firmware directly through the device screen; You can upgrade the firmware via the Creality Cloud OTA; Please visit the official website , click on "Support - Download Center", select the corresponding model to download the required firmware. (Or click on Creality Cloud → Downloads → Firmware") After installation is complete, you can use it. Check out the video below to see how the Ender 3 Pro is set up. Once the surface is sufficiently smooth, wash the model, apply a coat of primer, then send it down with 400 grit sandpaper. If you've leveled your bed correctly, it should adhere nicely. Here are some of the more common ones. Mount the Metal Frame Pieces (Uprights) In order to set up your Ender 3 Pro/V2 you'll need to mount both the metal frame pieces, the right and the left one, you will need to tighten two screws for each of them and attach them to the base of the printer. It also has ESD safe comfort grips that is constructed from oil resistant material. How to 3D Print with an Ender 3 - Step by Step The Ender 3 is a 3D printer, which means it comes with some assembly required. Check out the video below to see how the Ender 3 S1 is set up. It also requires the installation of the belt on the X-axis carriage which can be tricky. Tip 4: Make sure the printer's frame is well aligned. I do not have affiliation with any of these authors (except my self), I am simply providing access to the files I used to set up my printer. Do not use the printer in any way other than described here in order to avoid personal injury or property damage. Do not place the printer near any heat source or flammable or explosive objects. First, sand the print down with 20/200 grit coarse sandpaper. If you connect your 3D printer to your PC and your PC does not recognize it, you need to download and install the drivers. I usually recommend going to thingiverse since it's the largest repository of 3D model files. If you encounter any issues with our products, please use the contact information at the end of this manual to contact us. The revision may not be listed in the manual. You can find the link to the manual in the product description for Creality3D on the list and select your Ender 3 version. This time you are increasing the speed that the print head moves to see if there is any degradation in the quality of layers.The print starts at 50mm/s and increases in increments of 10 mm/s every 5 mm so the final print is 30mm high and the final 5mm is printed at 100mm/s. This will let you assess if you are able to speed up the printer to get your prints completed quicker. The instructions and documentation for assembling the printer can be pretty complex so, I've written this guide to help you get the printer up and running quickly. Make Sure Everything is Square After connecting the assembly you mounted on the step above to the metal frame pieces, you should make sure that everything is square, again. . Fix the Gantry Frame at the Top You should have the last metal bar which attaches to the top of the 3D printer to close the frame. These pieces are mostly the same for the Ender 3 Pro/V2 as well. Just the S1 model will differ as we will talk more in another section, but they have different levels of being pre-assembled. One user who purchased the Ender 3 as his first 3D printer said he's absolutely in love with the 3D printer. The X and Y axis move very easily once you disable the steppers in the menu, but the Z axis required rotating the threaded rod clockwise to elevate the gantry.It is very inconvenient to rotate the rod by hand since it is directly behind the left upright support of the printer. When printing with the Ender 3, it's essential to observe the first layer of the print because it's vital to the print's success. You'll need to disable the stepper motors through the menu on the LCD screen to allow you to manually level the bed and move it freely. When the printer is laying down the filament, check if the filament is adhering properly to the bed. Some 3D prints have built-in hinges or snap fits that mean they can be assembled without glue. There are cables on the X, Y, and Z motors, extruder all clearly marked so you can connect them in the right places. I decided to write this article with the main ways to build and assemble different types of Ender 3 machines. You can find them inside the bag of prints and bolts. Navigate to Creality3D, select the Ender 3 from the list and click Next. These POM wheels should grip the carriages tightly to avoid wobbling during operation. Check out the video below by MatterHackers on how to bond your 3D prints together. Note: When printing via USB, make sure your PC doesn't turn off or go to sleep. Now you can use the idler adjuster you took apart to help you get the belt connected through the hot end assembly. Can You 3D Print from a USB on an Ender 3? You'll need to connect properly when the bed stops wobbling and the bed slides back and forth easily. The Ender 3's base comes in one piece, with the bed and electronics wiring already connected to the mainboard. The Ender 3 can only print G-Code (.gcode) files. They did mention that it took a lot longer than they thought to put it together, but it was still a fairly simple process. So, we've composed a list of helpful tips for assembling an Ender 3 Printer. If you want to use different test prints feel free to look around, there are lots of options.**edit** added the Z-axis crank 2/11/2019Once the printer is assembled the next vital step is to make sure the bed is level in relation to the print head.There are 4 knobs, one on each corner of the bed, that will raise and lower that corner. You can either choose to create a free Ultimaker account or skip the process. Step 3: Slice and Print your Model After slicing your model in Cura, you'll see an option saying Print via USB instead of Save to file. Then, use four M4x8 screws to align and secure the screw holes on the bottom of the base. Before turning on the power supply, make sure you check and see if the switch is set to the correct voltage for your country. Check out the video below to see how it's done. The model should have its settings done already since it's a G-Code file that the 3D printer understands.

^[1] https://radekslodkiewicz.pl/files/file/96497012885.pdf

^[2] landlord rules for tenants

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