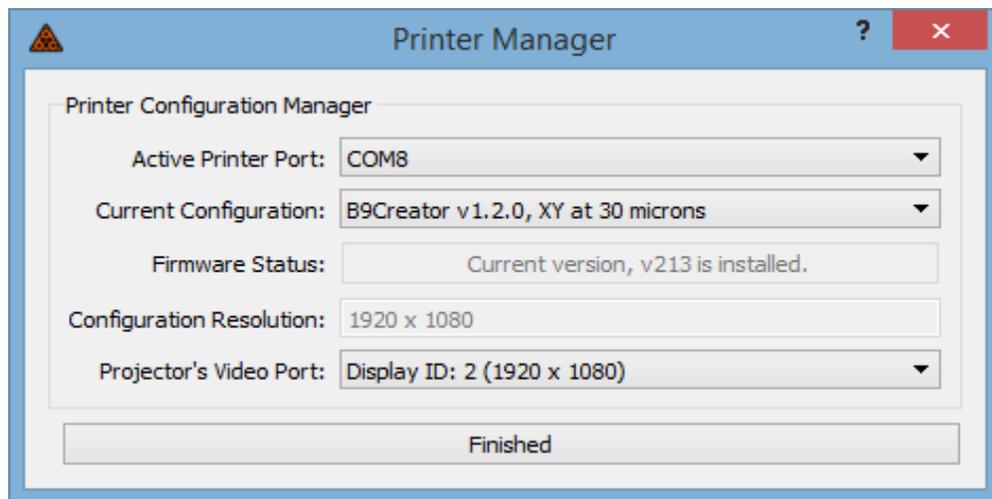# Your First Print

Once your B9Creator is fully calibrated or you have received an assembled B9Creator, you are ready to start your first print:

For this guide we will assume you have a bottle of B9R-1-RED resin or B9R-1-CHERRY resin and a B9Creator v1.2 machine configured at 30 microns XY. Other configurations will work as well, just be sure to use the appropriate B9Job file.

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1.) Download the First Print Job file from Step 5 of the First Print Guide.

2.) Run the B9Creator software if it is not already running.

3.) Ensure that you are connected to your B9Creator using the printer manager. Under the Settings menu click "Printer Management". Ensure that the dialog you see looks as such (where COM8 can be any numbered COM port):

Click "Finished" to exit the dialog.

4.) From the main menu click the "Print" button. If this button says "Preview" you need to return to step 3 and ensure your printer is properly connected. Once clicking "Print", you will need to select the "FirstPrint_v1_2__30xy_30z.b9j" print Job you downloaded in step 1. Once opening the file, you will be presented with the following "Print Setup" dialog:

Information updated June, 2015
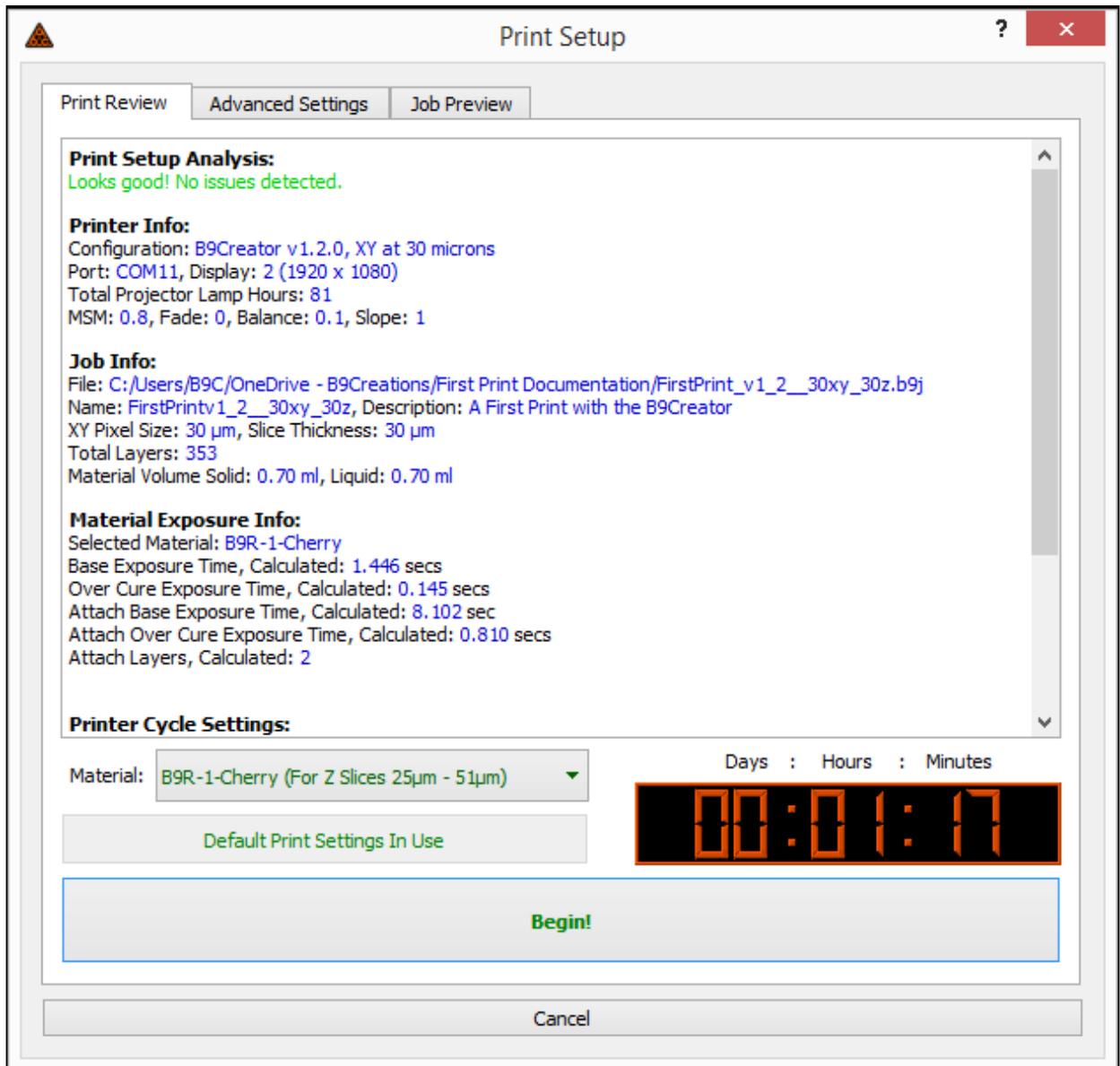
The Print Setup dialog opens showing the "Print Review" tab, this tab gives you a summary of all printing parameters that will be in effect for your print.

If you have selected a B9Job and Material that will work well with your configuration, you will see "Looks good! No Issues Detected" Under the "Print Setup Analysis" Heading. If something is not setup normally, your will see a "Caution" warning depicting what the issue is.

NOTE: Caution warnings will also be shown if Advanced Settings such as Exposure and Cycle Timings are altered from the defaults, for your First Print, this is not a recommended starting point, to fix this warning simply click the "Default Print Settings Overridden, Click to Restore" button:

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Default Print Settings Overridden, Click to Restore

For this print, be sure that you choose "B9R-1-Cherry" from the Material Drop Down, notice that the slice thickness of our job (30um) is within the range for this material:

Material: B9R-1-Cherry (For Z Slices 25µm - 51µm)

This dialog will also show the estimated print time. Prints with more layers generally take longer to print, changing materials will also affect print times as well due to different exposure timings.

5.) Before we start the print process, we will look at the "Job Preview" Tab. This will show us an overview of each "Slice" or "Layer" in our print:
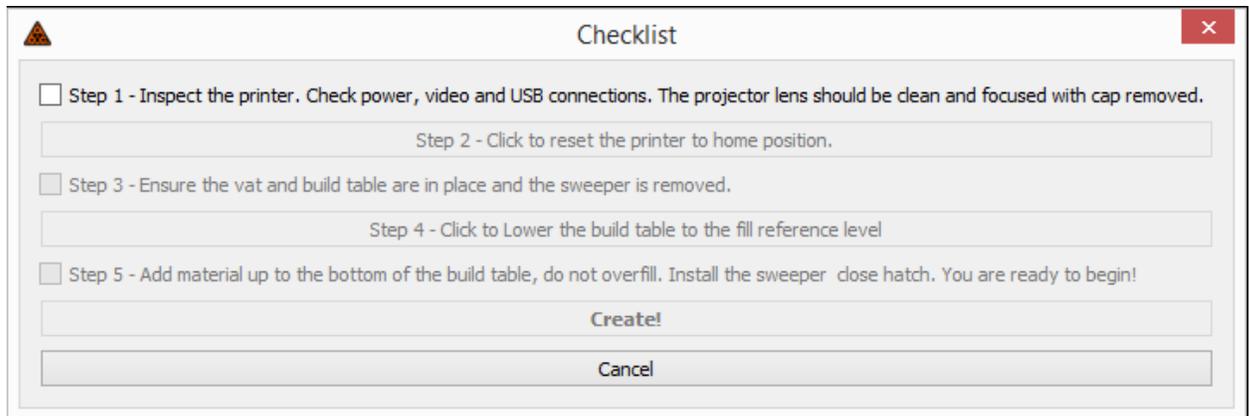
Information updated June, 2015
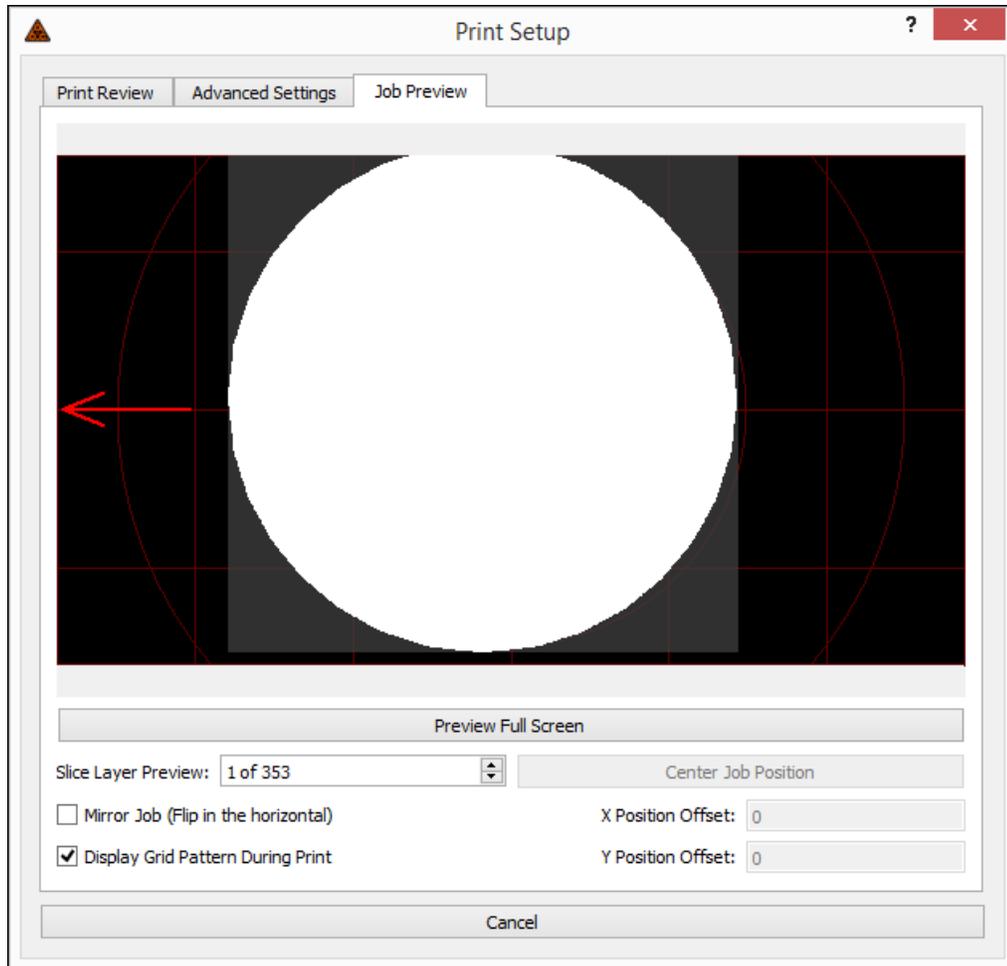
In this view we can inspect each individual layer. You can use scroll wheel on your mouse to quickly scroll through all the layers in the print. The layer number you are currently viewing is shown in the "Slice Layer Preview" scrollbar. By Clicking in the scroll bar, you can use the up and down arrows keys to go from slice to slice, and the "Page-up" and "Page-down" keys to jump in increments of 10. For this print layer "1" is printed first, while layer "353" is printed last.

TIP: If the object you are printing is small, you can slide it around in the build area by clicking and dragging with the mouse inside the viewport. This can be useful if you are trying to extend the life of your PDMS and do not want to re-slice a new B9Layout file!

6.) Click the "Begin!" button, this will bring up the Pre-Print Checklist:

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Checklist

☐ Step 1 - Inspect the printer. Check power, video and USB connections. The projector lens should be clean and focused with cap removed.

Step 2 - Click to reset the printer to home position.

☐ Step 3 - Ensure the vat and build table are in place and the sweeper is removed.

Step 4 - Click to Lower the build table to the fill reference level

☐ Step 5 - Add material up to the bottom of the build table, do not overfill. Install the sweeper close hatch. You are ready to begin!

Create!

Cancel

7.) We will now run through the checklist, following the directions depicted in each step of the dialog:

Step 1 – Inspect the printer. Check power, video and USB connections. The projector lens should be clean and focused with cap removed.

If you have already run through the steps in the *Printer Setup* and *Printer Projector Calibration* procedures you should be good to go for this step.

NOTE: You should not need to put a lens cap on your projector ever if you have a relatively clean environment.

Step 2 – Click to reset the printer to home position.

The Build Table will move to the "Home" position just above the VAT.

Step 3 – Ensure the vat and build table are in place and the sweeper is removed.

If your VAT is not already placed on the X axis plate, screw the vat into the plate with the 2 thumbscrews as shown below (finger tight is just fine here):

Step 4 – Click to lower the build table to the fill reference level.

This will lower the build table even more until it is inside the VAT. This serves to give you a reference as to how much resin you should put in the VAT.

Step 5 – Add material up to the bottom of the build table, do not overfill. Install the sweeper and close the hatch. You are ready to begin!

a) Ensuring that your bottle of cherry is sealed with the lid firmly tightened, shake the bottle to ensure that the resin is well mixed inside the bottle.

b) Once mixed, carefully pour the resin from the bottle into the VAT. Do this slowly as to not splash resin!

c) Fill until the resin just covers the top surface of the red build table:

d) Place the sweeper in the metal slots as shown below:

e) Secure the sweeper with the springs as shown below, using grips to assist with looping the ring around the small hooks:

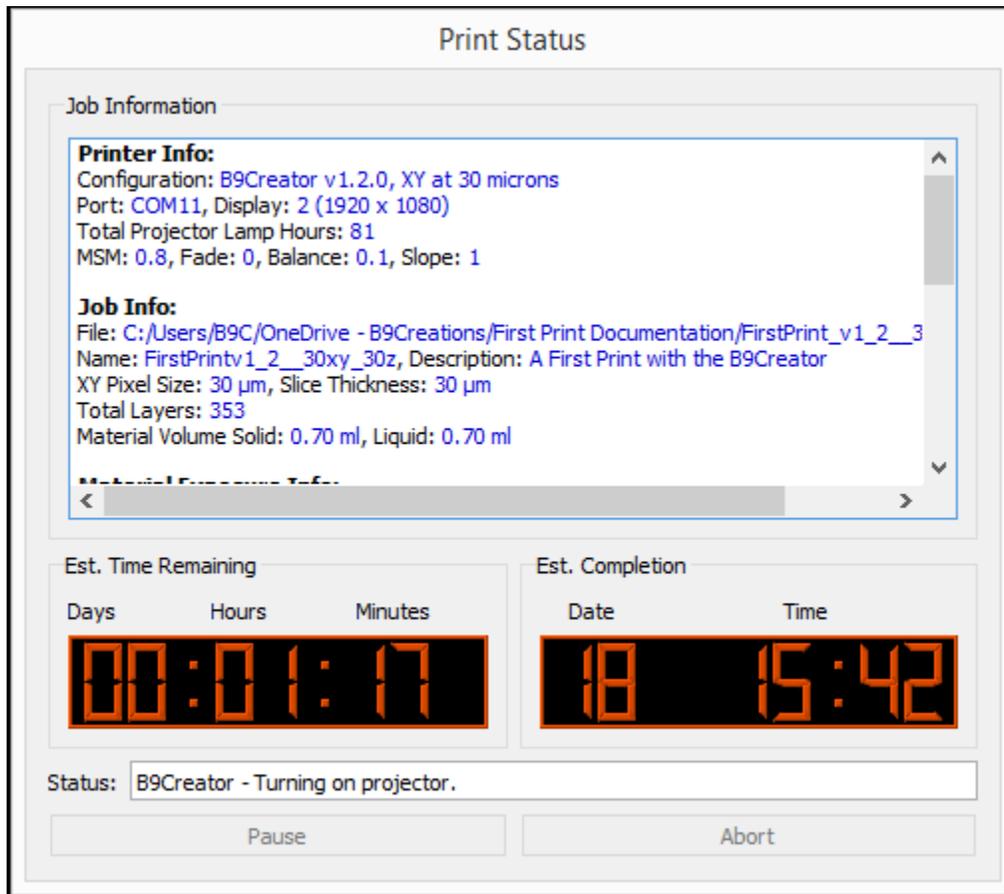**NOTE: The springs must be attached on BOTH sides of the sweeper!**

Create!

This will begin the print! This will close the Checklist dialog box.

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8.) Once the print has begun you will see the following Print Status dialog:

This shows the current status of the print for the entire duration. There is an estimated time remaining indicator showing how much longer the print should take (in hours and minutes) as well as an estimated time of completion in military time.

9.) Once the Print Has Finished, the Build Table rill rise up again giving you room to remove the build table from the build arm. The projector will also turn off.

a) From the bottom of the build table, you should see your first print hanging from the build plate:

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b) While holding the black build table housing, remove the build table assembly by removing the thumbscrew, drain excess resin back into the vat being sure not to drip any off the sides:
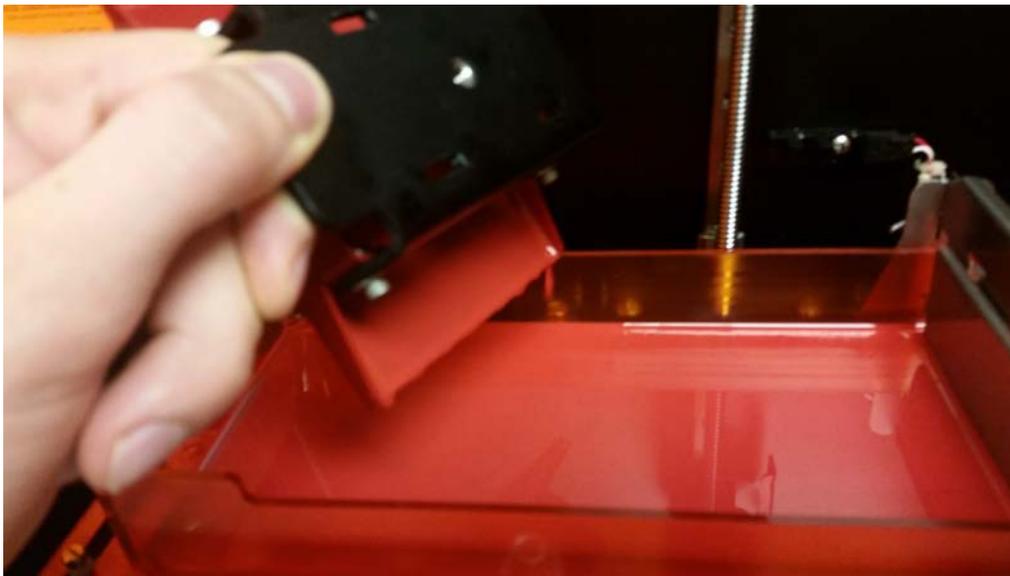
c) Once most of the resin has drained off the build table, you can let it rest on top of the build arm as shown below, letting the hex screws rest inside the top holes in the arm:

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This will allow the plate to fully drain while you get ready for cleaning.

10.) Over a paper towel, remove the print using a blade to peel off the circular foundation:

11.) Once the print is removed you can now rinse the print off under running water:

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12.) After washing off the print, you need to Post-Cure your print. You can easily do this by setting your print out in sun for a couple of hours or using a UV cure box.

13.)You have now finished your first print!

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