Key Turner

3D Printing, Soldering, and Assembly Directions

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3D Printing Instructions

1.) Download the device file from the virtual library.

2.) Open PrusaSlicer and click the “Add…” button (see Figure 1), then select the device file from the downloads folder.

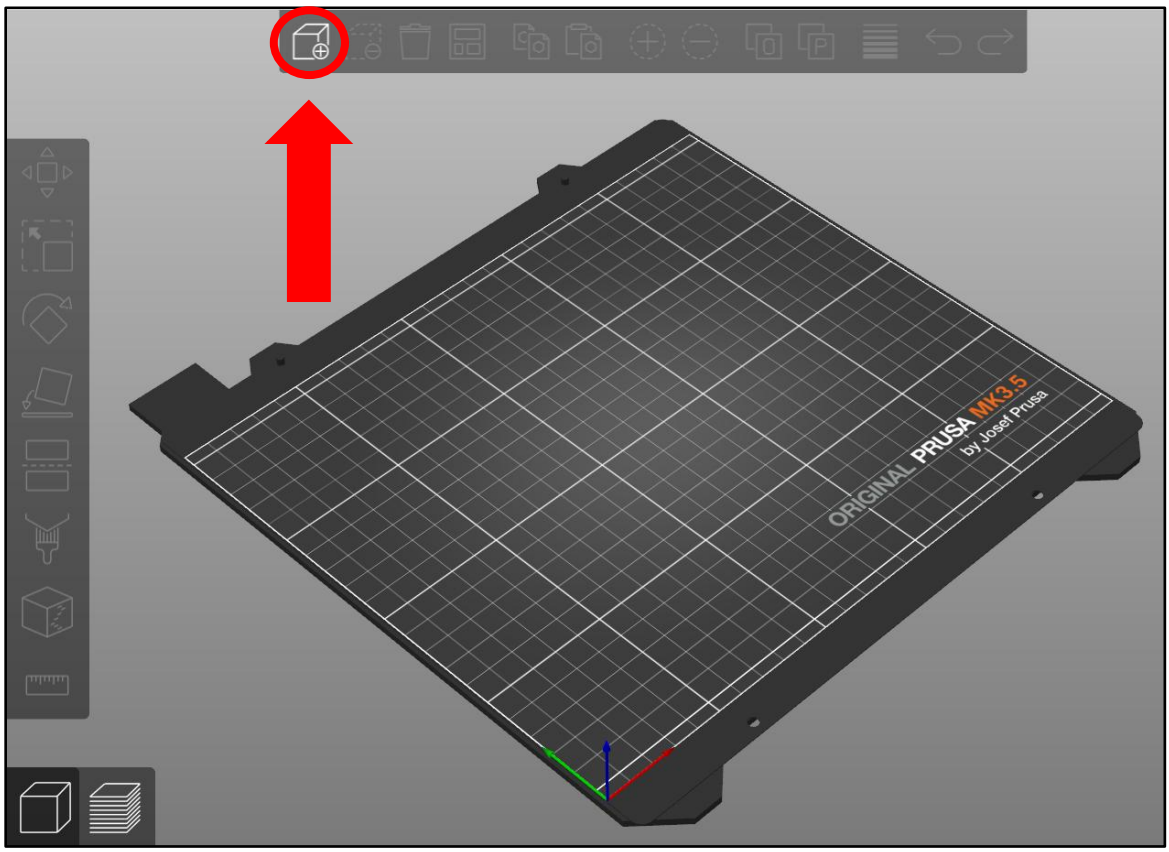

Figure 1. Button to Import Files into PrusaSlicer.

3.) Go to the “Print Settings” tab in the top left corner of PrusaSlicer and double-click on the “Infill” subtab (see red arrow in Figure 2). Then change the fill density to 100% and the fill pattern to Rectilinear (see blue arrow in Figure 2).

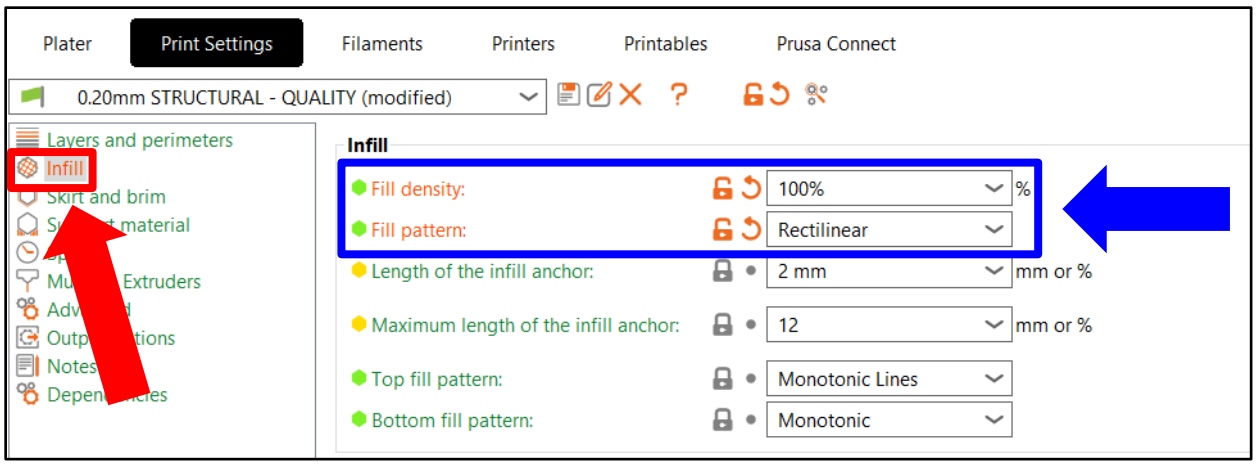

Figure 2. Adjusted Infill Settings.

4.) Go back to the "Plater" tab in the top left corner of PrusaSlicer. Then click the "Print settings" drop-down menu and select the 0.20mm Structural option (see red arrow in Figure 3).

   a. *Note:* The titles of each print setting option will vary slightly between printer models, so there may not be an option matching this wording exactly – that's ok! What's important is that you select one of the 0.20mm options.

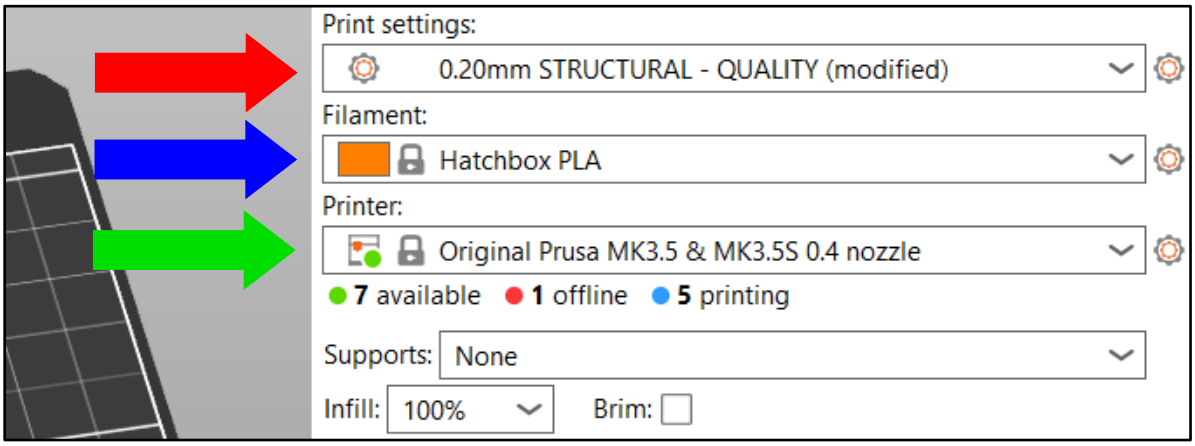

Figure 3. Main Plate Settings.

5.) Open the Filament drop-down menu (see blue arrow in Figure 3) and select the filament type you want to print in.

   a. *Note:* The recommended material for this device is PLA, but PETG is also acceptable.

6.) Open the Printer drop-down menu (see green arrow in Figure 3) and select your printer make and model.

   a. *Note:* If you don't see your specific printer in the drop-down menu, follow these instructions to add them: https://help.prusa3d.com/article/configuration-wizard_1754

7.) Click the "Slice now" button in the bottom right corner of PrusaSlicer and wait for the software to finish slicing the file.

8.) Once the slicing is finished, click "Export G-code" in the bottom right corner of PrusaSlicer (see Figure 4) and save the G-code to a flash drive.

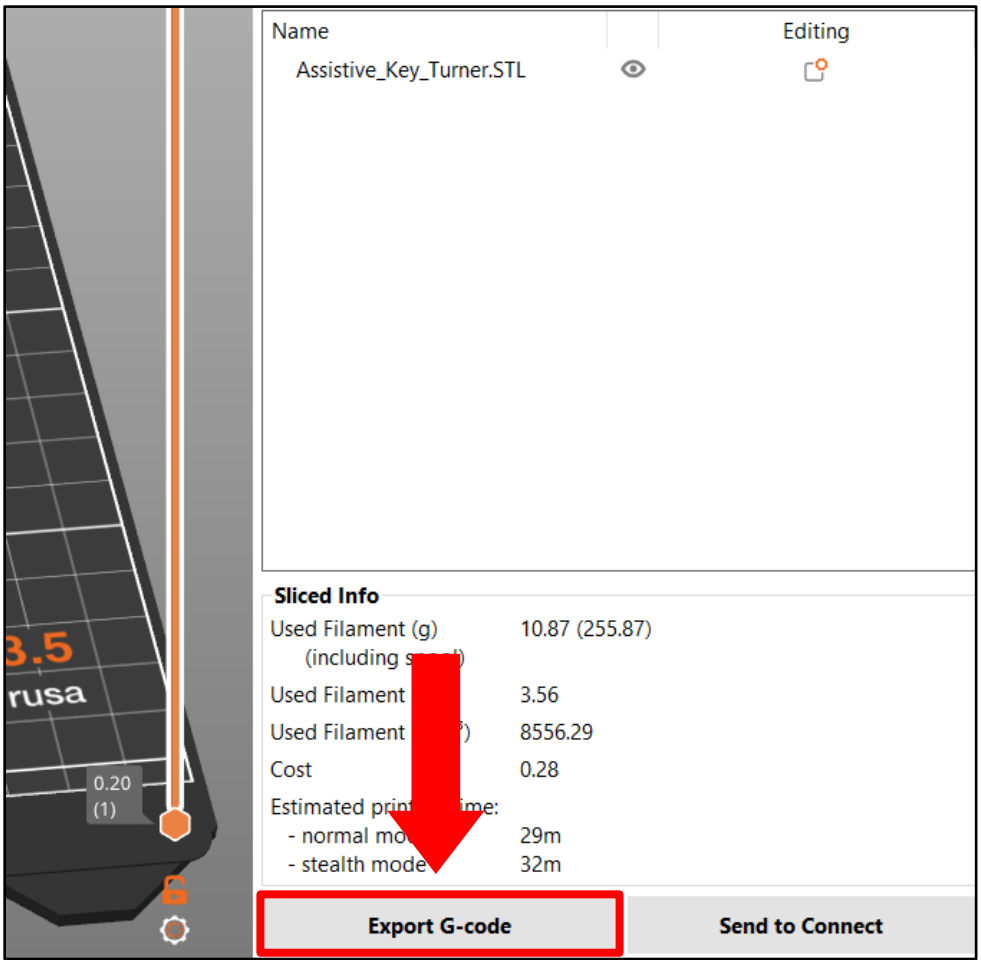

Figure 4. Export G-code Button.

9.) Insert the flash drive into your 3D printer, select the G-code, and print!

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Soldering Instructions

1.) No soldering is required for this device.

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Assembly Instructions

Bill of Materials:

Material	Quantity	Vendor	Manufacturer	Product ASIN
M4 x 12mm bolt	1	Amazon	Jackson Palmer	B076CVQZWG
M4 hex nut	1	Amazon	Jackson Palmer	B076CVQZWG
M4 washer	1	Amazon	Jackson Palmer	B076CVQZWG

Note: The above vendors and manufacturers are recommendations only and may be substituted with equivalent products.

Tools Required:

- Phillips screwdriver
- Pliers

1.) Place key into the recess on the top side of the 3D printed key turner (see Figure 5).

Figure 5. Key Turner Initial Setup.

2.) Place the M4 washer onto the M4 x 12mm bolt, then thread the bolt through the keyhole and the hole in the 3D printed key turner (see Figure 6a) and secure with the M4 hex nut (see Figure 6b).

Figure 6. (a) Front and (b) Back of Final Key Turner Assembly.

3.) Hold the M4 hex nut with the pliers while tightening the bolt to ensure the key is securely fastened to the key turner.