3D Printing Using the Creality CR-10

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Note: The CR-10 removable media is a mini SD card requiring the use of an USB SD card reader. Some of the Dell Laptops have a mini SD card reader on their right side.

Slicing the 3D Model

1. Plug the SD Card into the reader, then plug the reader into the computer's USB port.
2. Verify that the USB card can be accessed.
3. Open the Cura slicer.
4. Open .STL file (File > Open File>
5. Set printer to Creality CR-10
6. Set Material to filament type (typically Generic PLA)
7. Set Print Settings to desired settings, typically
    - Profile = Normal
    - Layer Height = 0.15 mm
    - Infill = 50%, Pattern = Triangles
    - Build Plate Adhesion = Skirt
    - NOTE: Press the down arrow in the quick settings box to reveal full settings
6. Click the Slice button
7. Click the Save to Removable Disk
8. Click Eject and remove the SD card reader, then the SD card.
9. Close Cura

Printing the 3D Model

1. Turn on the printer
2. Scrape the print bed with the plastic "razor" blade then clean with alcohol.
3. You may need to use a glue stick if the print is not sticking to the bed.
4. Plug the mini SD card into the card slot with the gold pins facing upwards.
5. Press in the round knob.
6. Rotate knob clockwise to display "Change SD-Card". Press knob to select.
7. Rotate knob counterclockwise to display "Print from SD". Press knob to select.
8. Rotate knob to highlight desired file and press knob to select. Display should read "Bed heating" as the bed heats. Then "Heating..."
9. Once the bed and extruder reaches the required temperature, the machine will auto-home and draw a line of filament along the left side of the print bed.

    If this line of filament doesn't stick to the bed, it may be necessary to re-level the bed.

10. Verify that the skirt and first layer prints correctly and sticks to the bed. If not, you have to abort the print and manually level the bed.

Aborting the Print

1. Press the knob. Rotate clockwise to highlight "Stop print".
2. Press the knob to select.

Manually Leveling the Print Bed

1. Press the knob. Rotate clockwise to highlight “Prepare” and press again.
2. Rotate to “Auto-home” and press knob again.
3. Wait for printer to find the home position.
4. Press the knob. Rotate clockwise to highlight “Prepare” and press again.
5. Rotate to “Disable Steppers” and press again. This allows you to move the print bed in and out and the print extruder right and left. CAUTION: do not move the extruder up or down.
6. Clean the bed of any plastic and glue with a plastic razor blade.
7. Move the nozzle over the left front bolt. You should be able to slide a sheet of copy paper between the nozzle and the print bed with just a little resistance.

   If you cannot, turn the knob under the bolt to the LEFT to raise the bed. Turn the knob to the RIGHT to lower the bed. Adjust until you can slide the paper with slight resistance.

8. Now move the nozzle to the position over the right front bolt and adjust.
9. Do the same for the right rear and then left rear.
10. Finally move the nozzle to the center of the bed, and verify that you can slide the paper with slight resistance.

Changing the Filament

Note: The CR-10 uses PLA and ABS filament 1.75 mm in diameter.

1. Press the knob. Rotate clockwise to highlight “Prepare” and press again.
2. Rotate to “Disable Steppers” and press again. This allows you to move to raise the print extruder and move it right and left.
3. Manually raise the print extruder 4 inches off the print bed.
4. Press the knob. Rotate clockwise to either “Preheat PLA” or “Preheat ABS” and press knob to select.
5. Watch the display and wait until the nozzle temperature reaches the required temperature.
6. Squeeze the red levers together slightly on the feeding mechanism and pull the filament out. Be sure the filament doesn’t break inside the clear tube.

   Should you not be able to pull out the filament, STOP and ask for help. In all likelihood, it may be necessary to disassemble the extruder.

7. Replace spool of filament.
8. Squeeze the red levels together slightly and feed the new filament into the tube. NOTE: You may have to wiggle the filament in order for it to find it’s way through the feeding mechanism.
9. Continue feeding the filament until the new color is cleanly extruding through the nozzle.
10. You can now proceed to print your model.