How does our entry level 3D-printer works?

1. Model Preparation

Use a 3D modeling software to output stl or obj format 3D model file.

2. Slicing the Model

Import your model to a designated slicing software to prepare the gcode file for 3D-printing.

3. Transfer the GCode file

Save the GCode file into the SD card, and insert it into the SD card reader of the printer.

4. Prepare to Print it!

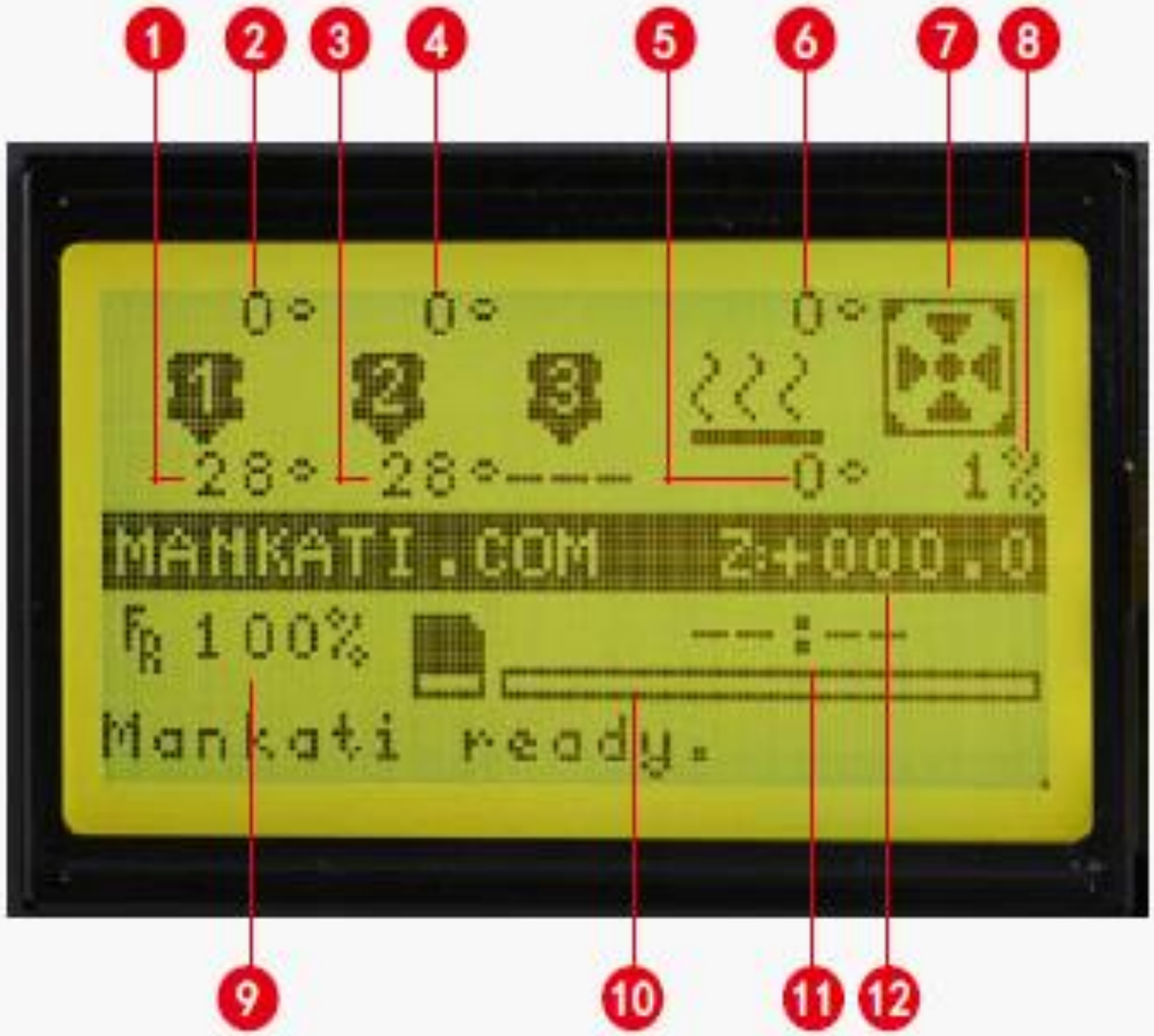
Operate the knob beside the LCD and choose the model from the SD card inserted into the printer.

Printer Components

1. SD-card slot
2. Push and rotate knob
3. LCD screen
4. Build plate screws
5. Build plate
6. Print head
7. Filament guide tube
8. Printer holder
9. Power switch button
10. Power Socket
11. Machine label
12. Spool holder
13. Feeder motor
14. USB Socket

Printer Info Screen

Info Screen



1. Actual Temperature of Nozzle 1;
2. Preset Temperature of Nozzle 1;
3. Actual Temperature of Nozzle 2;
4. Preset Temperature of Nozzle 2;
5. Actual Temperature of Build Plate;
6. Preset Temperature of Build Plate;
7. Cooling Fan;
8. Fan Speed Rate;
9. Filament Feed Rate;
10. Printing Process Bar;
11. Printing Time;
12. Build Plate Coordinate;

Printer LCD Menu Structure

- Info Screen
  - 1 - Prepare
    - 1.1 - Auto Home
    - 1.2 - Disable Steppers
    - 1.3 - Move Axis
      - 1.3.1 - Move 10mm
        - 1.3.1.1 - Move X
        - 1.3.1.2 - Move Y
      - 1.3.2 - Move 1mm
        - 1.3.2.1 - Move X
        - 1.3.2.2 - Move Y
        - 1.3.2.3 - Move Z
        - 1.3.2.4 - Extruder
        - 1.3.2.5 - Extruder 2
      - 1.3.3 - Move 0.1mm
        - 1.3.3.1 - Move X
        - 1.3.3.2 - Move Y
        - 1.3.3.3 - Move Z
        - 1.3.3.4 - Extruder
        - 1.3.3.5 - Extruder 2
    - 1.4 - Preheat PLA
      - 1.4.1 - Preheat PLA 1
      - 1.4.2 - Preheat PLA 2
      - 1.4.3 - Preheat ALL
      - 1.4.4 - Preheat PLA Bed
    - 1.5 - Preheat ABS
      - 1.5.1 - Preheat ABS 1
      - 1.5.2 - Preheat ABS 2
      - 1.5.3 - Preheat ALL
      - 1.5.4 - Preheat ABS Bed
    - 1.6 - Leveling Bed
    - 1.7 - Cool Down
  - 2 - Control
    - 2.1 - Temperature
      - 2.1.1 - Nozzle
      - 2.1.2 - Nozzle 2
      - 2.1.3 - Bed
      - 2.1.4 - Fan Speed
      - 2.1.5 - Auto Temp
    - 2.2 - Motion
    - 2.3 - Restore Failsafe
    - 2.4 - Save Memory
    - 2.5 - Restore Factory
    - 2.6 - Firmware Version
  - 3 - Cool Down
  - 4 - No SD Card

Prepare Printer for Printing

1) Clean the build bed by ensuring there is no printing leftover

2) Press the knob: LCD Main Menu appear

3) Rotate the knob: **Prepare** → *Auto Home*

4) Rotate the knob:
Prepare → Preheat PLA → *Preheat PLA1*

5) Rotate the knob:
Prepare → Move axis → Move 1mm → Move Z → *20*
(Turning the knob ***clockwise***)

6) Rotate the knob:
Prepare → Move axis → Move 1mm → Extruder →
20 – 100 (Turning the knob ***clockwise***)

7) Ensure the filament is extruding out until it stops.

Printing your Model

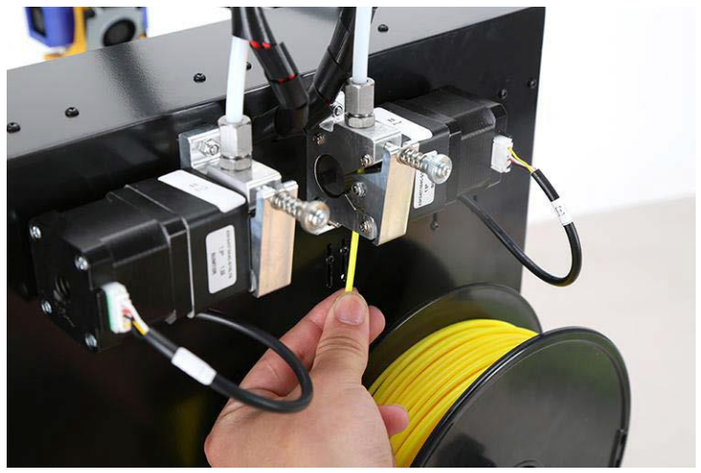
1. Insert SD-Card

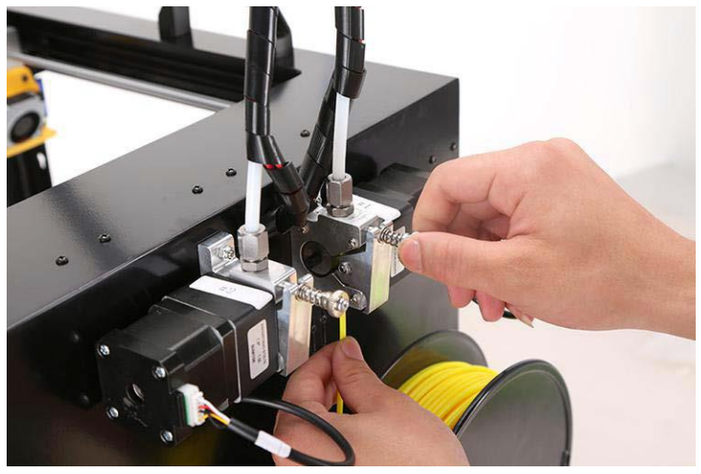
2. Select Print from SD

3. Select the gcode file to be printed

4. When printing completed, the build plate will move down and be heated to 50℃ automatically for model removal.
Use shovel to take it out gently to avoid the damage of the heat bed glass and your model.

Loading Filament





1. Preheat the nozzle:
Prepare → Preheat PLA → Preheat PLA 1

2. Wait for nozzle to reach filament preheat temperature.

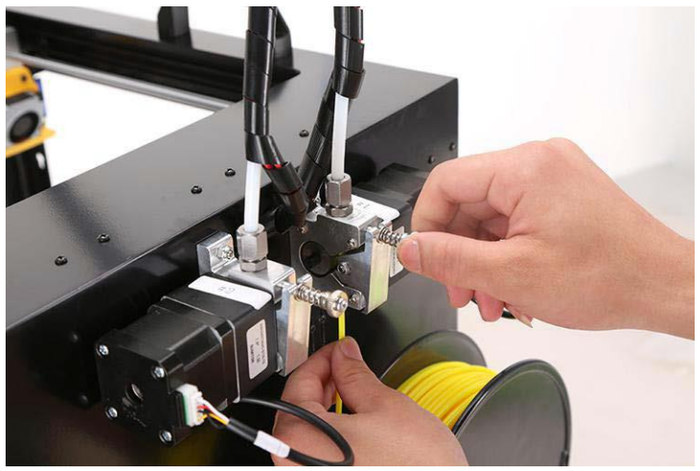
3. Feed the end of the spooled filament into the filament guide tube until it emerges from the nozzle. Feed gently.

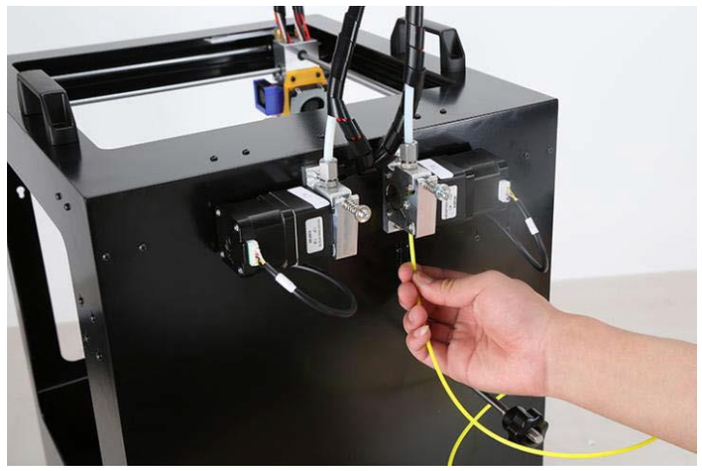
4. Tighten the spring-loaded screw to fix the filament with the clamp, making it not too loose or too tight.

Caution:

1. *Ensure the clamp is not too tight or too loose, otherwise, filament feeding will have problem causing failure prints.*
2. *After feeding successfully, check if filament has twining and knotting to ensure filament feeding smoothly.*
3. *Lubricate the XY axis and sliding blocks to avoid motion stuck.*

Unloading Filament





1. Preheat the nozzle:
Prepare → Preheat PLA → Preheat PLA 1

2. Wait for nozzle to reach filament preheat temperature.

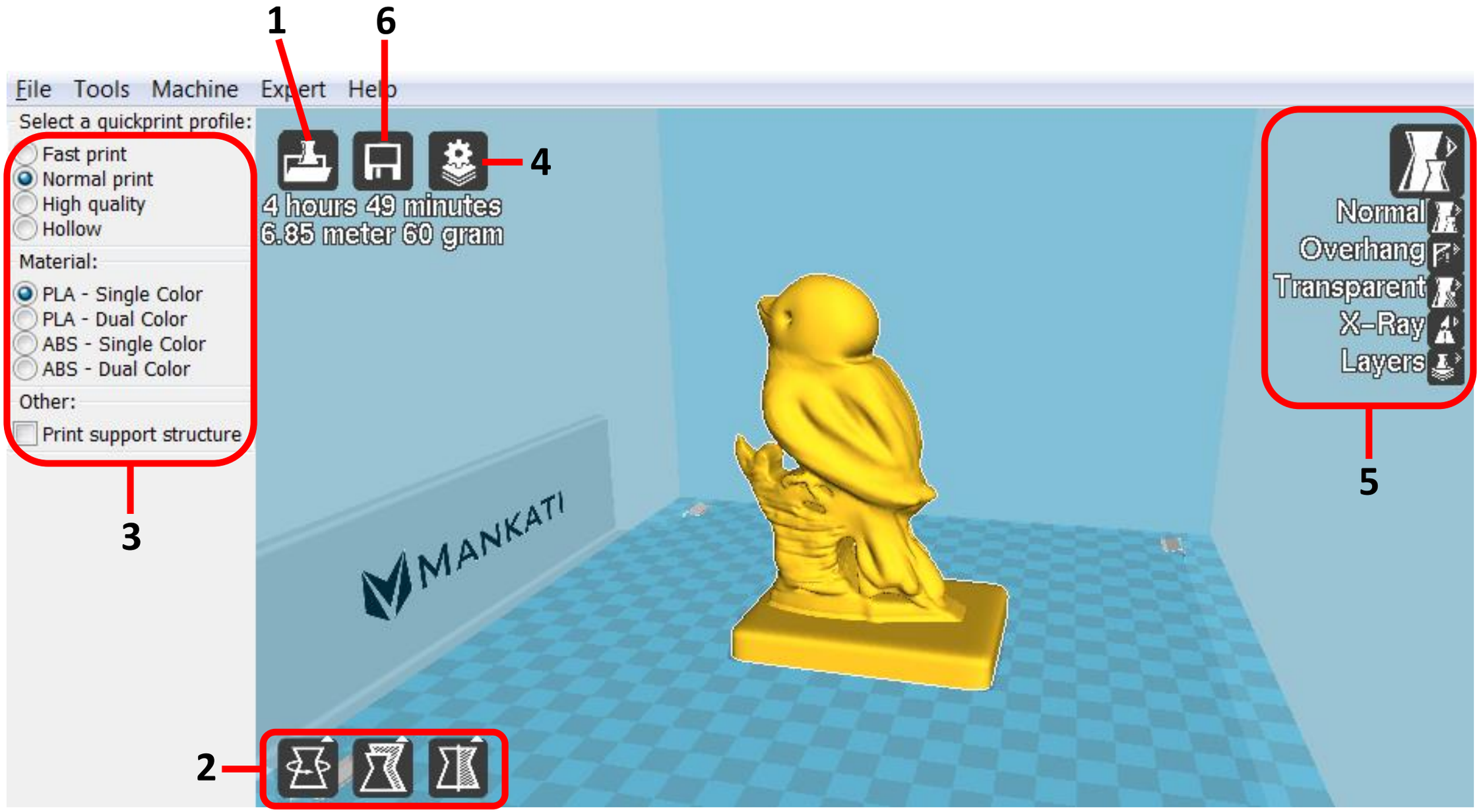
3. Loosen the spring-loaded screw.

4. Pull the filament out in the direction perpendicular to the feeder motor hardly and quickly.

Note:

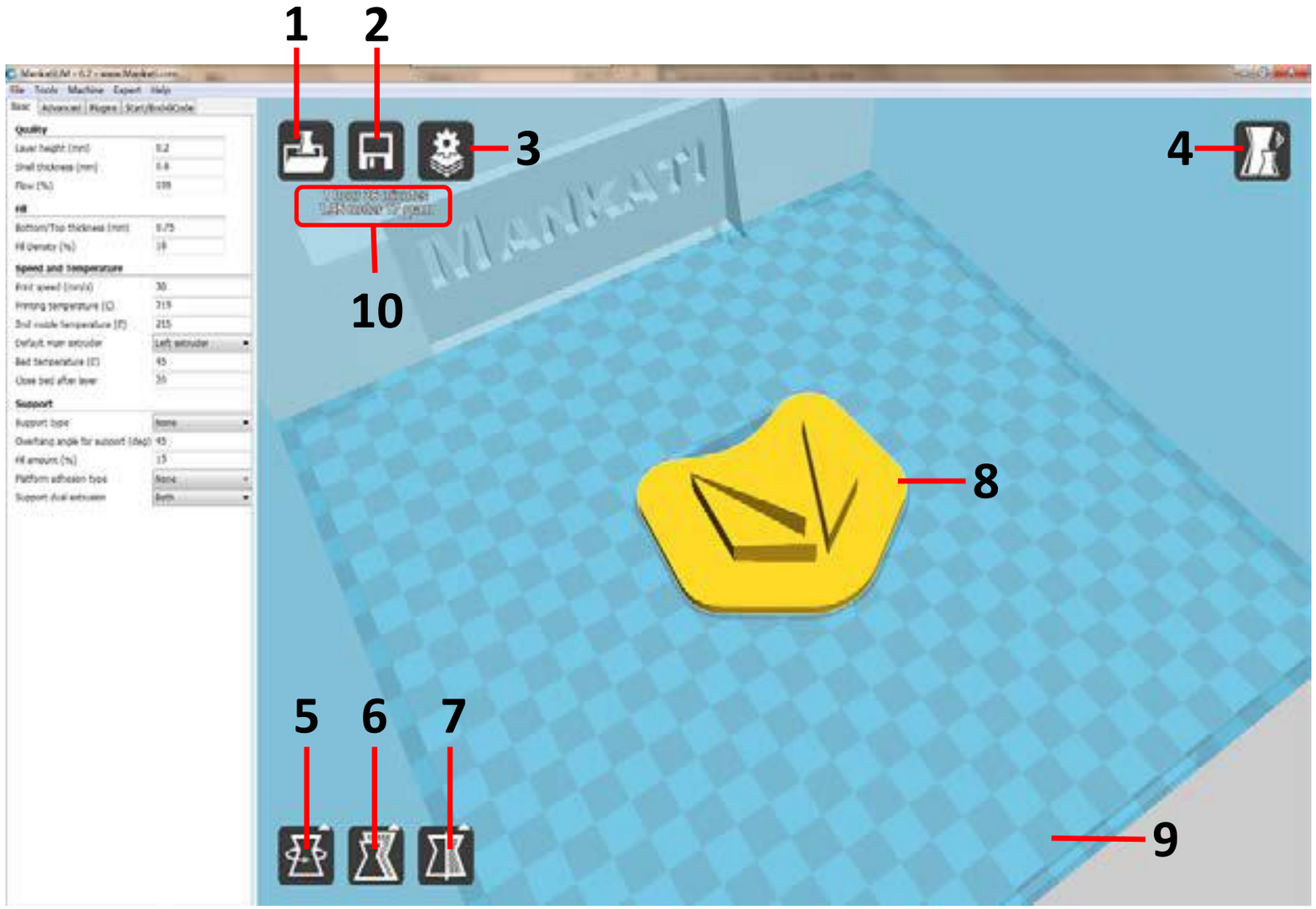
1. *If the filament is stuck, please find solution in troubleshooting chapter.*
2. *If your machine stops working for a long time, please switch off the printer to avoid the filament carbonized, which will cause the nozzle clogged.*
3. *Clean the dust on the build plate, that will extend the lifetime of the kapton tape.*

6-Steps to slice your model



1) Load your model (.stl)
2) Orientate the loaded model
3) Select the 3D-printing profile
4) Slice the model & view printing information
5) View the sliced model
6) Save the sliced model file (.gcode) to a SD card.

Slicing Software Interface



1. **Load** a model (.stl)
2. **Save** Toolpath
3. **Slice** the model
4. **View** mode
5. **Roate** a model
6. **Scale** a model
7. **Mirror** a model
8. **Printed Model**
9. **BuildPlate**
10. **Print Info**

A. Name: MankatiUM v6.50
B. Build Size: *260x260x300*mm
C. Filament Size: Dia 3mm
D. Filament Type: PLA/ABS/PVA

Slicer Settings

File Tools Machine Expert Help

Basic | Advanced | Plugins | Start/End-GCode

Quality

Layer height (mm)	0.2
Shell thickness (mm)	0.8
Enable retraction	☑

Fill

Bottom/Top thickness (mm)	0.6
Fill Density (%)	18

Speed and Temperature

Print speed (mm/s)	45
Printing temperature (C)	210
2nd nozzle temperature (C)	0
Default main extruder	0
Bed temperature (C)	45

Support

Support type	None
Platform adhesion type	None
Support dual extrusion	Both

Dual extrusion

Wipe&prime tower	☐
Ooze shield	☐

Filament

Diameter (mm)	3
Diameter2 (mm)	3
Flow (%)	100.0

Basic

File Tools Machine Expert Help

Basic | Advanced | Plugins | Start/End-GCode

Machine

Nozzle size (mm)	0.4

Retraction

Speed (mm/s)	80.0
Distance (mm)	10.0
Dual extrusion switch amount (mm)	19.5

Quality

Initial layer thickness (mm)	0.25
Initial layer line width (%)	100
Cut off object bottom (mm)	0.0
Dual extrusion overlap (mm)	0.1

Speed

Travel speed (mm/s)	70.0
Bottom layer speed (mm/s)	30
Infill speed (mm/s)	45
Top/bottom speed (mm/s)	45
Outer shell speed (mm/s)	45
Inner shell speed (mm/s)	45

Cool

Minimal layer time (sec)	5
Enable cooling fan	☑

Advance