Choose Language (Translated by google)


Auto mixing color operation manual

Manual change mixing rate on printing

When printing from SD card, you can change the color mixing ratio of the extruders at any time to change the filament color. The steps are as follows:

- Start to print a singel color gcode file from SD card.
- Wait until the print start to print the first layer, and then set on the LCD menu.
- **Tune>>Mixer>>Mix>>VTOOL: 0** set the Vtool to 0
- **Tune>>Mixer>>Mix>>Extruder1~4:** Adjust the percentage of extruder #1 to extruder #4, the range is 0 ~ 100.
- **Tune>>Mixer>>Mix>>Comit:** Redistribute the percentage of all extruders in proportion and send it to the current vtool. After setting up, on the ideal menu shows Current **VTOOL = 0**
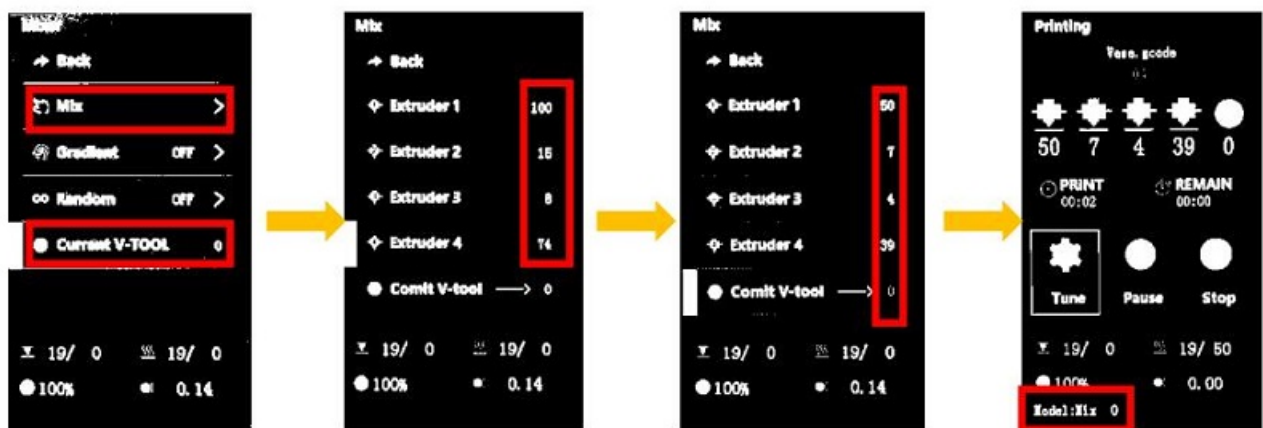
Gradient mixing printing

When printing from SD card, you can start a gradient mixing feature, to let the printer auto change the mixing ratio when printing height changed. The steps are as follows:

🎬Video tutorial

- Start to print a one color gcode file from SD card.
- Set the paremeters for auto gradient mix printing on the LCD menu when the printer start to to print the first layer.
- **Tune>>Mixer>>Gradient:OFF>>**
  - **Start Z:** set the start Z heigth(such as:0mm)
  - **End Z:** set the END Z heigth(such as:200mm)
  - **Start V-tool:** set the start VTOOL(such as:0)
  - **End V-tool:** set the end VTOOL(such as:1)
    After set **Start Z** isn't equal to **End Z**, and **Start V-tool** isn't equal to **End V-tool**, the LCD will shows **Gradient : ON**.
    📄 About how to set the mixing ratio of VTOOL, please refer to **here**.
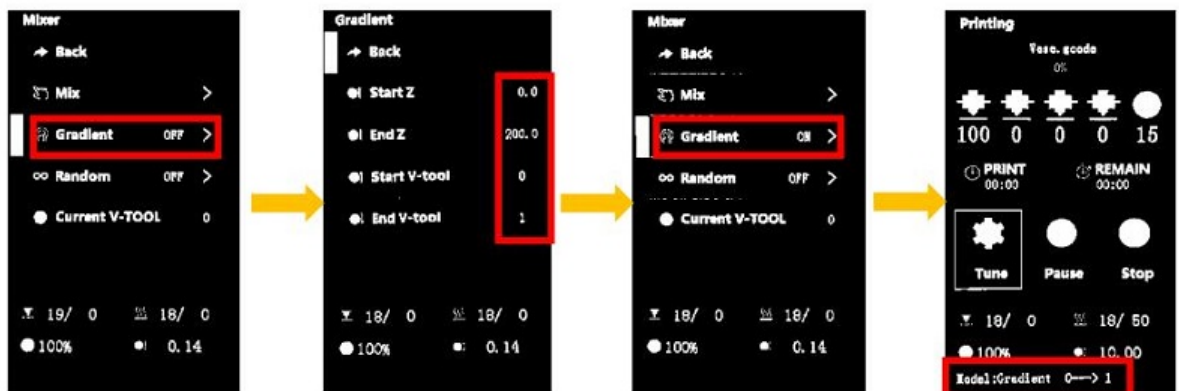
Realize gradient mixing by modifing gcode file

By adding a M166 command into the "Start G-code" of slicing software, and sliced the 3d model as single color, it can realize gradient mixing automatically when printing from SD card.

```
Descitpion of M166 command
M166: Start a gradient mix
S[bool] - Enable / disable gradients
A[float] - Starting Z for the gradient
Z[float] - Ending Z for the gradient.
I[index] - VTool to use as the starting mix.
J[index] - VTool to use as the ending mix.

For example: M166 S1 A0 Z200 I0 J1
S1->Enable gradient mix
A0->startZ is 0mm
Z200-> EndZ is 200mm
I0 -> Start VTool is 0
J1 -> End VTool is 1
```

Random mixing printing

When printing from SD card, you can start a gradient mixing feature, to let the printer auto change the mixing ratio when printing height changed. The steps are as follows:

Video tutorial

- Start to print a singel color gcode file from SD card.
- Wait until the print start to print, set on the LCD menu.
- **Tune>>Mixer>>Random Mix:>>**
  - **Start Z:** Set the start Z heigth(such as:0mm)
  - **End Z:** Set the end Z heigth(such as:200mm)

- **Height:** Set interval distance(such as:10mm), when printing heigth changed beyond this value, the mixing ratio be changed once.
- **Extruders:** Set the number of extruders participating in printing(1~4). ⚠️ When the "Extruders" is set to 1, all four extruders will participate in printing, but they doesn't mixing instead of the extruders is randomly selected one by one each time to print.
  After set Start Z isn't equal to the End Z, the LCD will shows **Random : ON**.

Realize random mixing by modifing gcode file

By adding a M167 command into the "Start G-code" of slicing software, and sliced the 3d model as single color, it can realize random mixing automatically when printing from SD card.

```
Descitpion of M167 command.
M167: Start a random mix.
S[bool] - Enable / disable random mix.
A[float] - Starting Z for the random.
Z[float] - Ending Z for the random.
H[float] - Minimum height of changing mixing rate.
E[int] - how many extruders used on random mixing.

For example: M167 S1 A0 Z100 H0.2 E3
S1->Enable Random mix
A0->start Z heigth is 0mm
Z100->End Z heigth is 100mm
H0.2->change color every 0.2mm
E3->3 extruders (Extruder #1 to Extruder #3) will be used to mix
```

How to set mixing ratio of virtual extruder

We can set the mixing ratio of each virtual extruder by LCD control panel or adding command in the "Start G-code" of slicing software. ⚠️If a printing from SD card is finished or abort, the machine will automatically reset mixing ratio of all virtual extruders to default.

Set mixing ratio by LCD control panel

Steps:

- **Control>>Mixer>>Mix>>VTOOL: x** Choose the virtual extruder number which you need to set(x is from 0 to 15)
- **Control>>Mixer>>Mix>>Extruder1~4:** Adjust the percentage of extruder #1 to extruder #4, the range is 0 ~ 100.
- **Control>>Mixer>>Mix>>Comit:** Redistribute the percentage of all extruders in proportion and save it to the virtual extruder x.

Set mixing ratio by adding command

We can also add M163 and M164 command into the "Start G-code" of slicing software, to set the mixing ratio of the virtual extruder. Commands list as below:

```
M163 S0 Px      ; set the mix ratio of actual extruder #1, "x" is from 0 to 100
M163 S1 Py      ; set the mix ratio of actual extruder #2, "y" is from 0 to 100
M163 S2 Pz      ; set the mix ratio of actual extruder #3, "z" is from 0 to 100
M163 S3 Pn      ; set the mix ratio of actual extruder #4, "n" is from 0 to 100
M164 Sm         ; save the mix ratio of extruders to the "VTOOLm", "m" is from 0
to 16

For example, you added the below commands into the "Start G-code" of slicing
software
M163 S0 P10
M163 S1 P20
M163 S2 P30
M163 S3 P40
M164 S4

After that, the VTOOL4 has been set mix ratio "E1:E2:E3:E4 = 10:20:30:40". When
using VTOOL4, 4 actual extruders will feed
filaments in a ratio of 10:20:30:40.
```