

IMPORTANT IMPROVE FOR MIXING COLOR HOTEND

Fixed the strings (ooze) issue

Step 1: Upload the newest firmware to the control board

firmware HEX file and tools download

link: <https://www.jianguoyun.com/p/Dd00chMQyoP1BxiCo8IC>

Hex file download directory (find it at here: **Marlin\Marlin_1.1.8\Z9\Z9F**):

For default extruder: . \For Default Extruder\Z9F_V2_xx.hex

For Titan extruder: . \For Titan Extruder\Z9F_Titan_V2_xx.hex

PS : Both Z9S and Z9T can upgrade this firmware. If your machine is an older version, please contact with us.

Hex file download directory (find it at here: **Marlin\Marlin_1.1.8\Z8\Z8S\Z8S_M3\V3**):

For default extruder: . \For Default Extruder\Z8SM3_V3_xx.hex

NOTE: We strongly recommend that you upgrade your extruder to Titan extruder, which can effectively improve the hotend sticking (clog) issue. We will provide preferential service for customers to upgrade. Please contact our business personnel at the shop you purchased.

IMPORTANT IMPROVE FOR MIXING COLOR HOTEND

Fixed the strings (ooze) issue

Step 2: Modify the settings in slicing software

1. Add a “**M209 S1**” command on the start code
2. Enable Retraction and set the retraction distance to 8mm and retraction speed to 30mm/s

Repetier-HOST Cura Engine

The screenshot displays the Repetier-HOST Cura Engine interface. The 'G-Codes' tab is selected, showing a list of G-Code commands on the left and a text area with the default start code on the right. A red arrow points to the 'Start G-Code' button, and another red arrow points to the 'M209 S1; Firmware retraction' line in the code. The 'Extrusion' tab is also shown, with a red box highlighting the 'General Extruder Settings' section. In this section, 'Enable Retraction' is checked, and the 'Retraction Speed' is set to 30 [mm/s] and 'Retraction Distance' is set to 8 [mm].

Speed and Quality | **Structures** | **Extrusion** | **G-Codes** | **Advanced**

Start G-Code
End G-Code
Before Extruder Switch
After Extruder Switch

Create Default

You can add dynamic values, that get replaced during slicing.

Temperatures:
{TEMPO}, {TEMP1}
{BED}

```
; Default start code
G28 ; Home extruder
M209 S1; Firmware retraction
G1 Z15 F{Z_TRAVEL_SPEED}
M107 ; Turn off fan
G90 ; Absolute positioning
M82 ; Extruder in absolute mode
{IF_BED}M190 S{BED}
; Activate all used extruder
{IF_EXT0}M104 T0 S{TEMPO}
G92 E0 ; Reset extruder position
; Wait for all used extruders to :
{IF_EXT0}M109 T0 S{TEMPO}
```

Speed and Quality | **Structures** | **Extrusion** | **G-Codes** | **Advanced**

General Extruder Settings

☐ Spiralize Contour ☒ Enable Retraction

Retraction Speed: 30 [mm/s]

Retraction Distance: 8 [mm]

Minimum Travel before Retraction: 5 [mm]

Minimum Extrusion before Retraction: 0.5 [mm]

Z Hop: 0 [mm]

Cut off Object Bottom: 0 [mm]

Nozzle Diameter: 0.4 [mm or 0 = use value]

IMPORTANT IMPROVE FOR MIXING COLOR HOTEND

Fixed the strings (ooze) issue

Simplify 3D

The image shows the Simplify 3D software interface. At the top, a blue banner reads "Simplify 3D". Below it, a tabbed menu includes "Extruder", "Layer", "Additions", "Infill", "Support", "Temperature", "Cooling", "G-Code", "Scripts", "Speeds", "Other", and "Advanced". The "Scripts" tab is selected, and a red arrow points to it. Within the "Scripts" tab, sub-tabs include "Starting Script", "Layer Change Script", "Retraction Script", "Tool Change Script", and "Ending Script". The "Starting Script" sub-tab is active, displaying a list of G-code commands: `G28 ; home all axes`, `M209 S1`, `G1 Z5 F3000 ; lift`, `G1 X5 Y10 F1500 ; move to prime`, `G1 Z0.2 F3000 ; get ready to prime`, `G92 E0 ; reset extrusion distance`, `G1 Y150 E15 F600 ; prime nozzle`, and `G1 Y100 F5000 ; quick wipe`. A red arrow points to the `M209 S1` command. Below the script list, the "Extruder 1 Toolhead" settings are visible. On the left, an "Extruder List" shows "Extruder 1", "Extruder 2", and "Extruder 3". The main settings area for "Extruder 1 Toolhead" includes an "Overview" section with "Extruder Toolhead Index" set to "Tool 0", "Nozzle Diameter" at 0.40 mm, "Extrusion Multiplier" at 1.20, and "Extrusion Width" set to "Manual" at 0.40 mm. A "Retraction Control" section is highlighted with a red box, containing: ☒ Retraction, Retraction Distance at 8.00 mm, Extra Restart Distance at 0.15 mm, Retraction Vertical Lift at 0.00 mm, and Retraction Speed at 30.0 mm/s. Below this, "Coast at End" is unchecked with a Coasting Distance of 0.20 mm, and "Wipe Nozzle" is checked with a Wipe Distance of 5.00 mm.

Extruder Layer Additions Infill Support Temperature Cooling G-Code **Scripts** Speeds Other Advanced

Starting Script Layer Change Script Retraction Script Tool Change Script Ending Script

```
G28 ; home all axes
M209 S1
G1 Z5 F3000 ; lift
G1 X5 Y10 F1500 ; move to prime
G1 Z0.2 F3000 ; get ready to prime
G92 E0 ; reset extrusion distance
G1 Y150 E15 F600 ; prime nozzle
G1 Y100 F5000 ; quick wipe
```

Extruder Layer Additions Infill Support Temperature Cooling G-Code Scripts Speeds Other Advanced

Extruder List
(click item to edit settings)

- Extruder 1
- Extruder 2
- Extruder 3

Extruder 1 Toolhead

Overview

Extruder Toolhead Index: Tool 0

Nozzle Diameter: 0.40 mm

Extrusion Multiplier: 1.20

Extrusion Width: ☐ Auto ☒ Manual 0.40 mm

Retraction Control

<input checked="" type="checkbox"/> Retraction	Retraction Distance	8.00 mm
	Extra Restart Distance	0.15 mm
	Retraction Vertical Lift	0.00 mm
	Retraction Speed	30.0 mm/s
<input type="checkbox"/> Coast at End	Coasting Distance	0.20 mm
<input checked="" type="checkbox"/> Wipe Nozzle	Wipe Distance	5.00 mm

Add Extruder

IMPORTANT IMPROVE FOR MIXING COLOR HOTEND

Fixed the strings (ooze) issue

Step 3: Load the filaments to all the extruders and hotend channels,

PS1: You can load filaments into only two channels too. The more channels you load filaments, the effect if the better.

PS2: The channel without filaments shall be closed with hot end cleaning tool.

Step 4: To replace a new FAN duck, it will help to improve the strings issue too.

Fan duck stl file download link:

<https://www.jianguoyun.com/p/DcGaCzlQyoP1BxjpgvgC>