3D printer

Resources

- hotend change
  - mount heatbreak and nozzle touching toghether and with **0.5mm gap** between head and nozzle
  - preheat hotend at ABS temp
  - fix nozzle with 1nm torque
- E3D V6 assembly
- temperature tower
  - set combing mode to off

z offset: subtract 0.25 to A4 paper without friction and without warm up

Printing tips

- Initial Layer Speed: 20mm/s
- Combing mode: not in skin
- Maximum Comb Distance with No Retract: 10mm
- Initial Layer Line Width: 140%

PETG:

- first layer: 250
- other layer: 240
- bed: 80

Anycubic 4max pro 2

- fan duct

Flsun Super Racer

todo

Ender3 v2

- bed 70
- head 225
- Retraction Distance: 6.5mm.
- Retraction Speed: 25mm/s.
- Maximum Retraction Count: 10.
- Minimum Extrusion Distance Window: 10mm.
- Combing Mode: ON and set to “Within Infill” (no stringing).
- fan 100% for details or fan 0% for stranght
- bltouch
- jyers firmware settings in octoprint

Geeetech A20

first layer speed
10mm/s

into start g-code
keep only first G28
as below

```
G28; auto home
G1 Z15 F300; linear move, 15mm vertical and set feedrate at 300
M107; turn fan off
G90 ; absolute positioning
M82 ; This command is used to override G91 and put the E axis into absolute
mode independent of the other axes.
G92 E0; set absolute position
M107 ; M107; turn fan off
G0 X10 Y20 F6000 ; move to X 10 mm Y 20 mm , feed rate 6000
G1 Z0.8 ; move Z to 0.8 mm [WHY MOVE VERTICALLY?]
G1 F300 X200 E40 ; push 40 mm of filament while moving at 300 mm/min to
position X=200
G1 F1200 Z2 ; move to position Z=2 at 1200 mm/min
G92 E0 ; set the  extruder position as the new zeros
```

fetch marlin code and checkout same branch release on Marlin.git and Configurations.git

apply this

patch

```
git clone https://github.com/MarlinFirmware/Marlin.git
#git clone https://github.com/Jyers/Marlin.git

cd Marlin
check out latest release branch, for example 2.0.9.2
git clone https://github.com/MarlinFirmware/Configurations.git
cd Configurations
check out latest release branch, for example 2.0.9.2
#git clone https://github.com/Jyers/Configurations.git

# copy Configuration.h and Configuration_adv.h from examples
cd ..
rsync -av Configurations/config/examples/Geeetech/A20/ Marlin/

code .
// select default shell to bash Terminal: Select Default Profile

// change MOTHERBOARD
#define MOTHERBOARD BOARD_GT2560_V4_A20



// enable bltouch if present
// comment PROBE_MANUALLY and decomment BLTOUCH
//#define PROBE_MANUALLY
#define BLTOUCH
#define Z_MIN_ENDSTOP_INVERTING false  // Set to true to invert the logic of
the endstop.
#define Z_MIN_PROBE_ENDSTOP_INVERTING false  // Set to true to invert the
logic of the probe.
#define Z_SAFE_HOMING

// temporary
#define X_BED_SIZE 200
#define Y_BED_SIZE 200
#define X_MIN_POS -10

// original plate 260x260
//#define X_BED_SIZE 255
//#define Y_BED_SIZE 255
//#define Y_MIN_POS -5
```

install marlin auto build extension

change vscode settings.json

javascript

```
{

    "terminal.integrated.defaultProfile.linux": "bash"
```

```
}
```

To upload firmware add a **custom FFF** (no geeetech A20 model) printer and use upload firmware menu

- z offset wizard
- pid tuning

Anycubic Predator

manual silicone 039

- recensione 1
- customizzazioni
- cura profile
  - rename predator_image.png.stl to predator_image.png

custom spare parts:

- enclosure
- Fan Duct
- sensor holder
- smoothers holder
- Filament Sensor Relocation

Marlin firmware predator

clone this repository

add to Marlin/Configuration.h

```
#define LCD_SCREEN_ROT_180
```

change

```
#define TEMP_SENSOR_0 11
```

decomment in Marlin/Configuration_adv.h

```
// Enable for M105 to include ADC values read from temperature sensors.
#define SHOW_TEMP_ADC_VALUES
```

build project

```
scp .pio/build/trigorilla_pro/firmware.bin root@octoprint:/root
```

remove jumper jp1 and change other jumper to USB video

getting info

```
stm32flash /dev/ttyUSB0

stm32flash 0.5

http://stm32flash.sourceforge.net/

Interface serial_posix: 57600 8E1
Version      : 0x22
Option 1     : 0x00
Option 2     : 0x00
Device ID    : 0x0414 (STM32F10xxx High-density)
- RAM        : 64KiB  (512b reserved by bootloader)
- Flash      : 512KiB (size first sector: 2x2048)
- Option RAM : 16b
- System RAM : 2KiB
```

make backup

```
stm32flash -r predator-original.bin /dev/ttyUSB0
```

write firmware

```
stm32flash -v -R -b 57600 -g 0x8000000 -w  firmware.bin /dev/ttyUSB0
```

platformio.ini

```
[env:trigorilla_pro]
platform      = ststm32
board         = genericSTM32F103ZE
build_flags   = !python Marlin/src/HAL/STM32F1/build_flags.py
```

Auto calibration

- configuration → delta calibration → auto → enter → wait → enter
- configuration → store

z offset

Disable software endstops (M211 S0), preheat and with motion z to grab paper: get deltaz (positive or negative, for example 0.3)

- configuration → runout sensors → off
- temperature → preheat PLA → preheat PLA
- motion → z

adjust probe z-offest adding deltaz:

- configuration → probe z-offest → =**z-offest+deltaz**

enable software endstops (M211 S1)

store settings

z babysteps

```
M290 Z0.25 ; move up 0.25mm on the Z axis
...
M500 ; store
```

PID autotune

start pid autotune at 220C and 8 cycles

```
M303 S220 C8
```

wait and store proposed values with M301

```
M301 P13.83 I0.76 D63.18
```

save settings

```
M500
```

Thermocouple tuning

Get actual extrusor thermocouple from Menu → About → Thermistors and from Configuration.h get actual thermistor_xx.h utilized

set hotend to 200C from control and check in terminal ADC value (138.06 in example)

```
Recv:  T:200.47 /200.00 (138.06) B:21.64 /0.00 (982.37) @:47 B@:0
```