

Ender Club

StickTOOstick

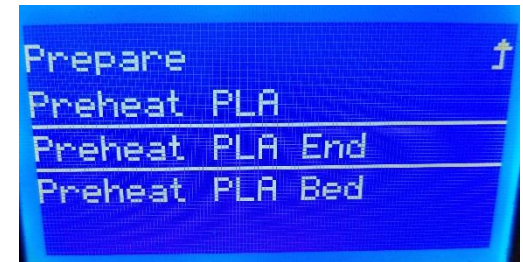
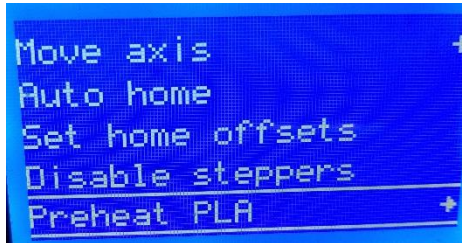
Workflow

September 2020

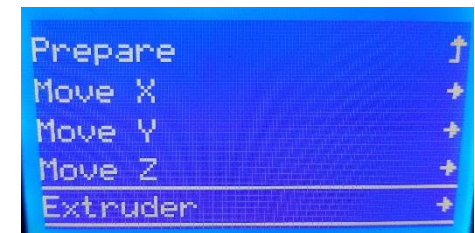
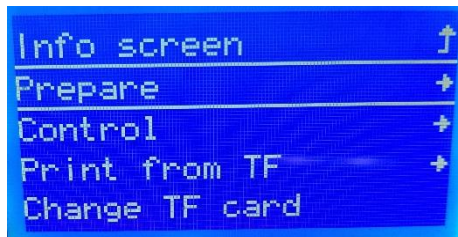


1. Feeding Issues (Notch and Crack)

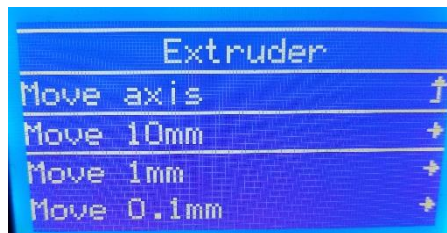
Heat Up Extruder



Move Axis for Extruder



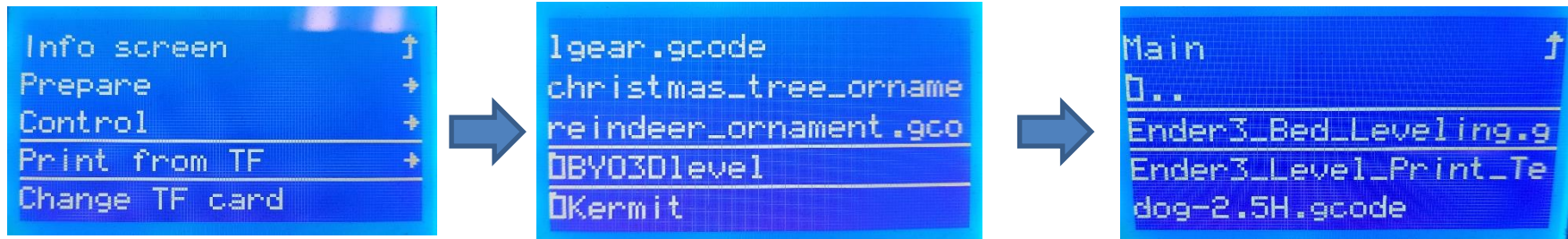
Set distance and extrude



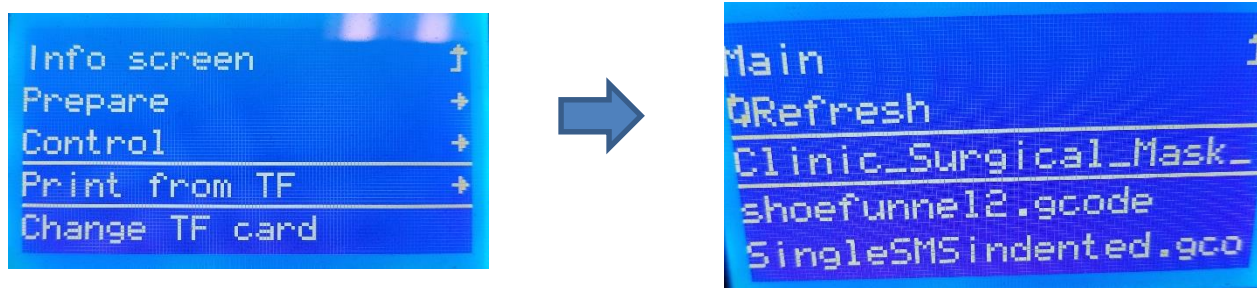


2. Bed Clean (alcohol wipe)

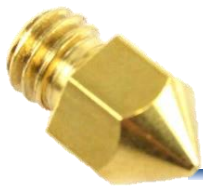
3. Bed Level (Run Ender 3 Level test)



4. Test Print (Use Surgical Mask Strap)



5. Removal (Glass versus metal-backed Polymer)



Start Print and follow instructions

PRINT PAUSED

Press button to
heat nozzle.

Nozzle: E1 61/205

BEEPS here →

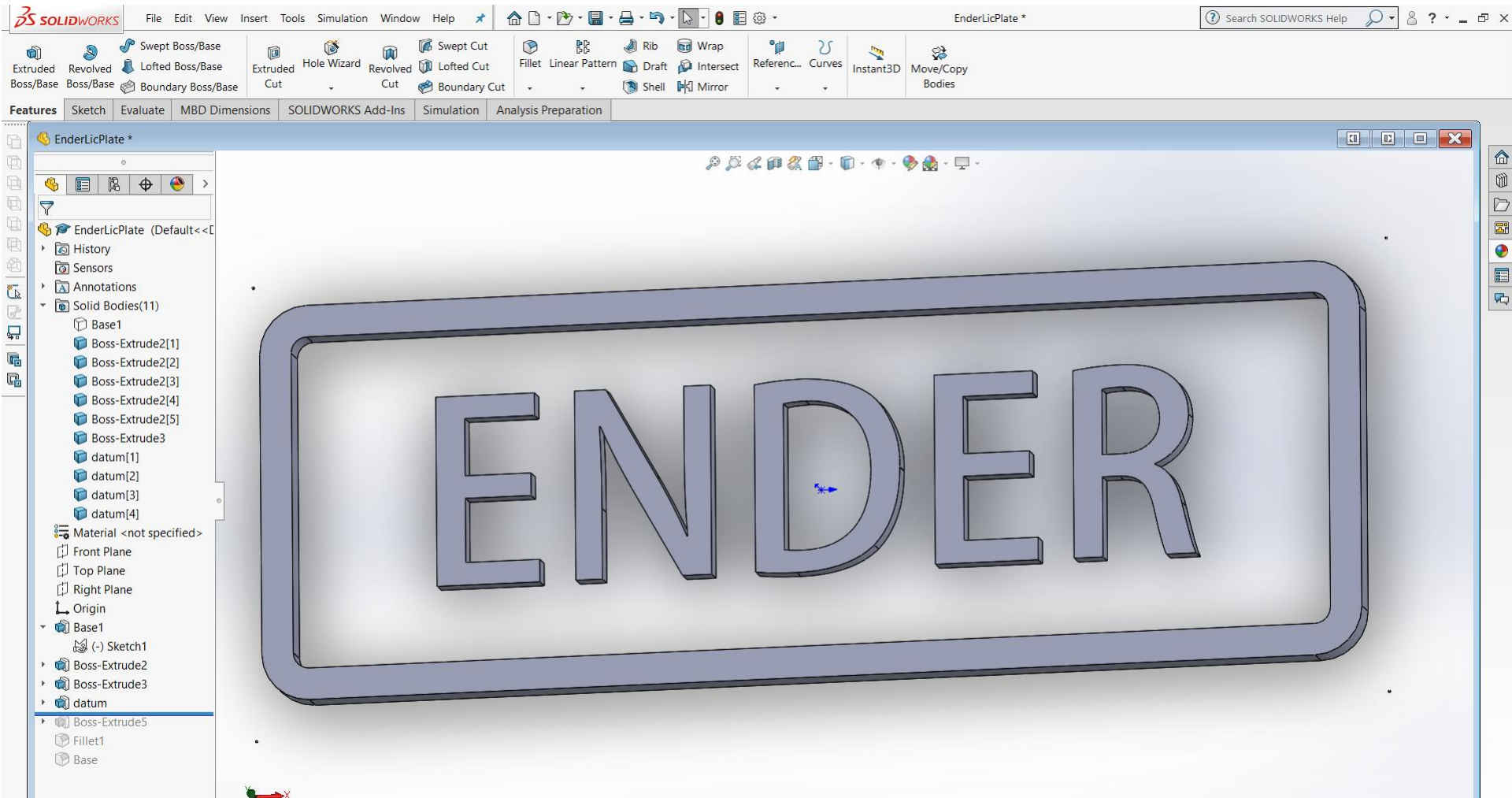
PRINT PAUSED

Insert filament
and press button
to continue...

Nozzle: E1 204/205

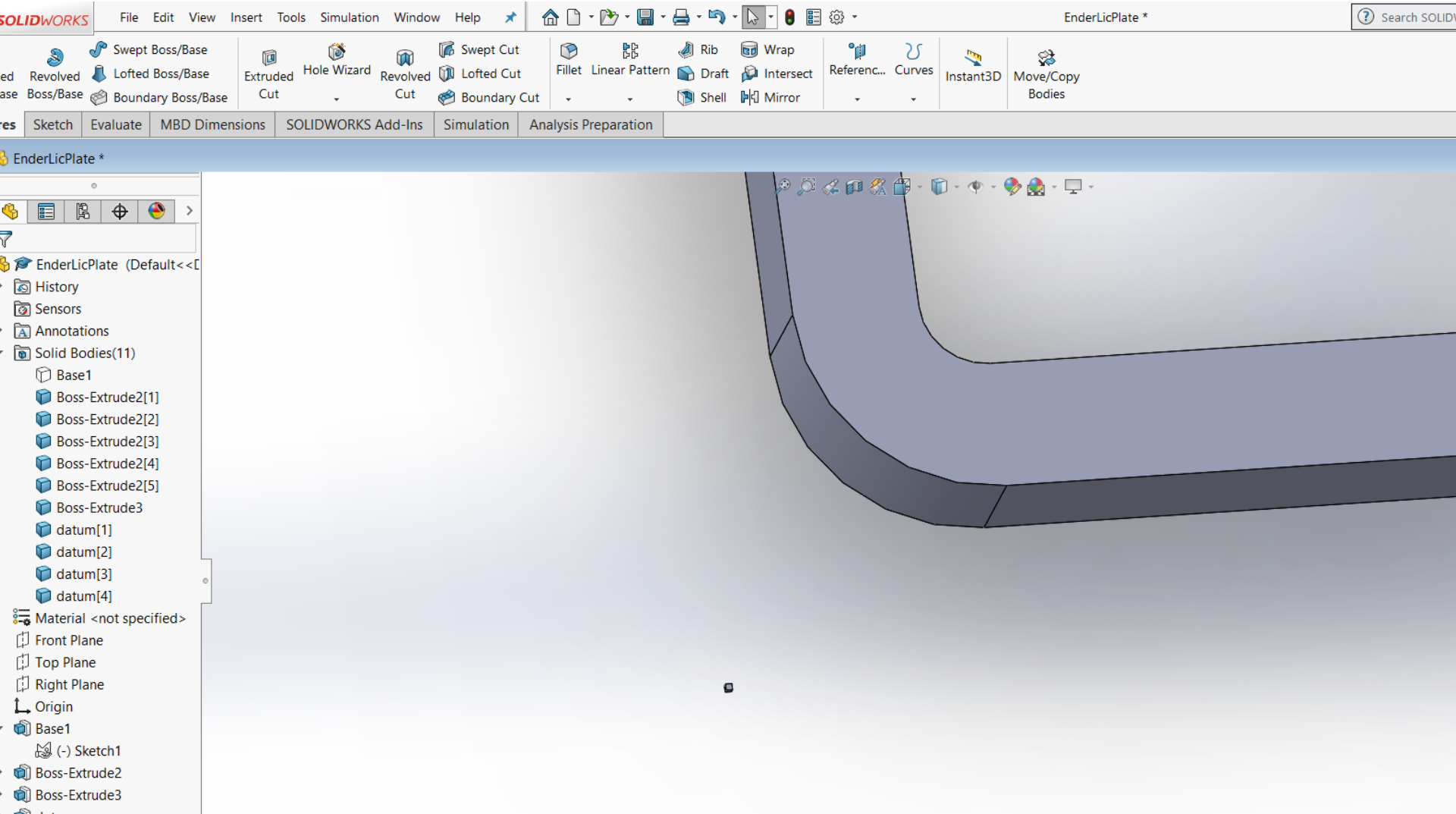


Use datum points for easy alignment





Use datum points for easy alignment





TWO PARTS INTO CURA

timaker Cura

Edit View Settings Extensions Preferences Help

ura

PREPARE PREVIEW MONITOR

Marketplace Sign in

Creativity Ender-3

Generic PLA
0.4mm Nozzle

Standard Quality 0.2mm 10% Off Off

Object list

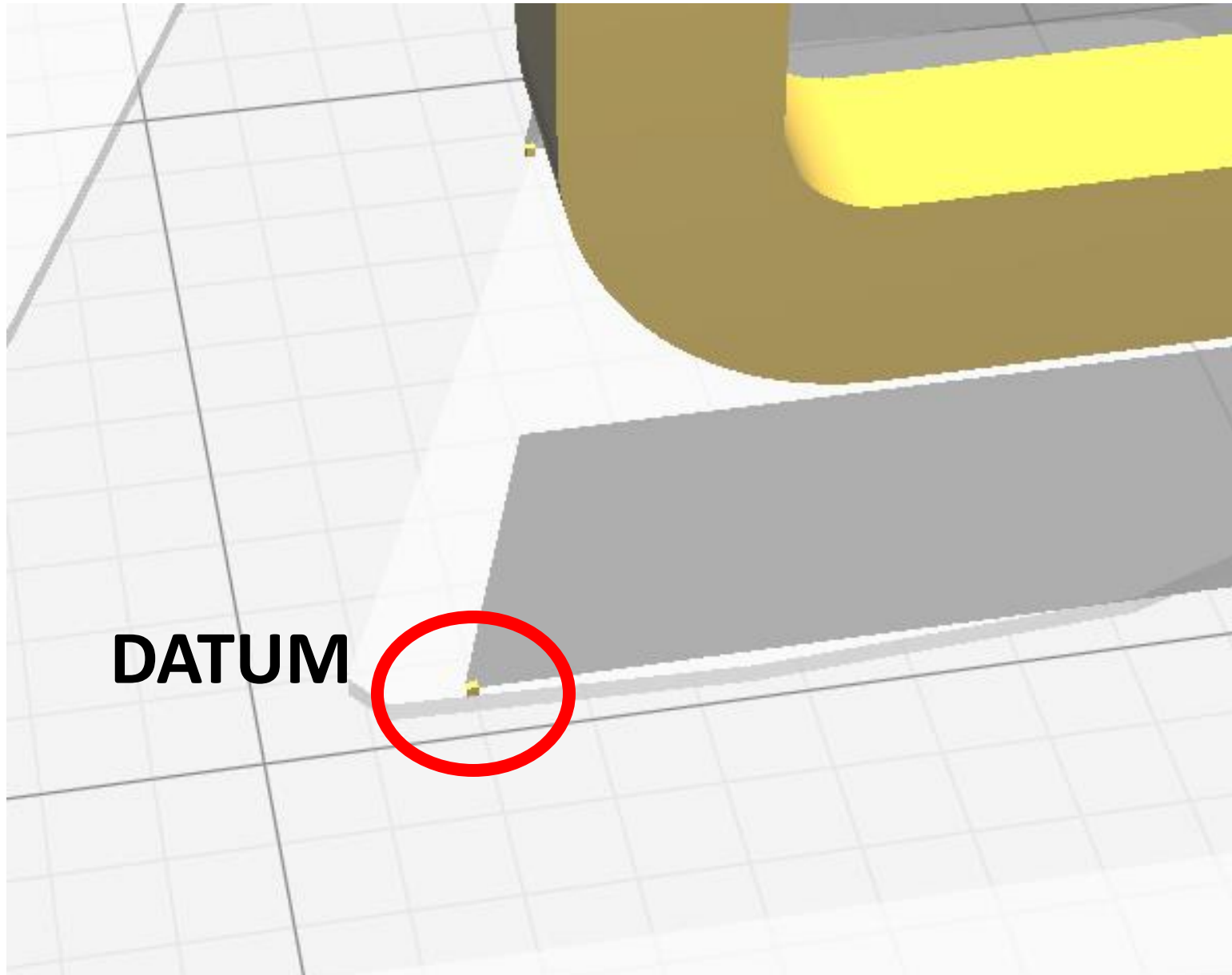
- CE3_EnderLicPlateB2
72.0 x 10.4 x 28.8 mm

Slice

12:34 PM
3/13/2020



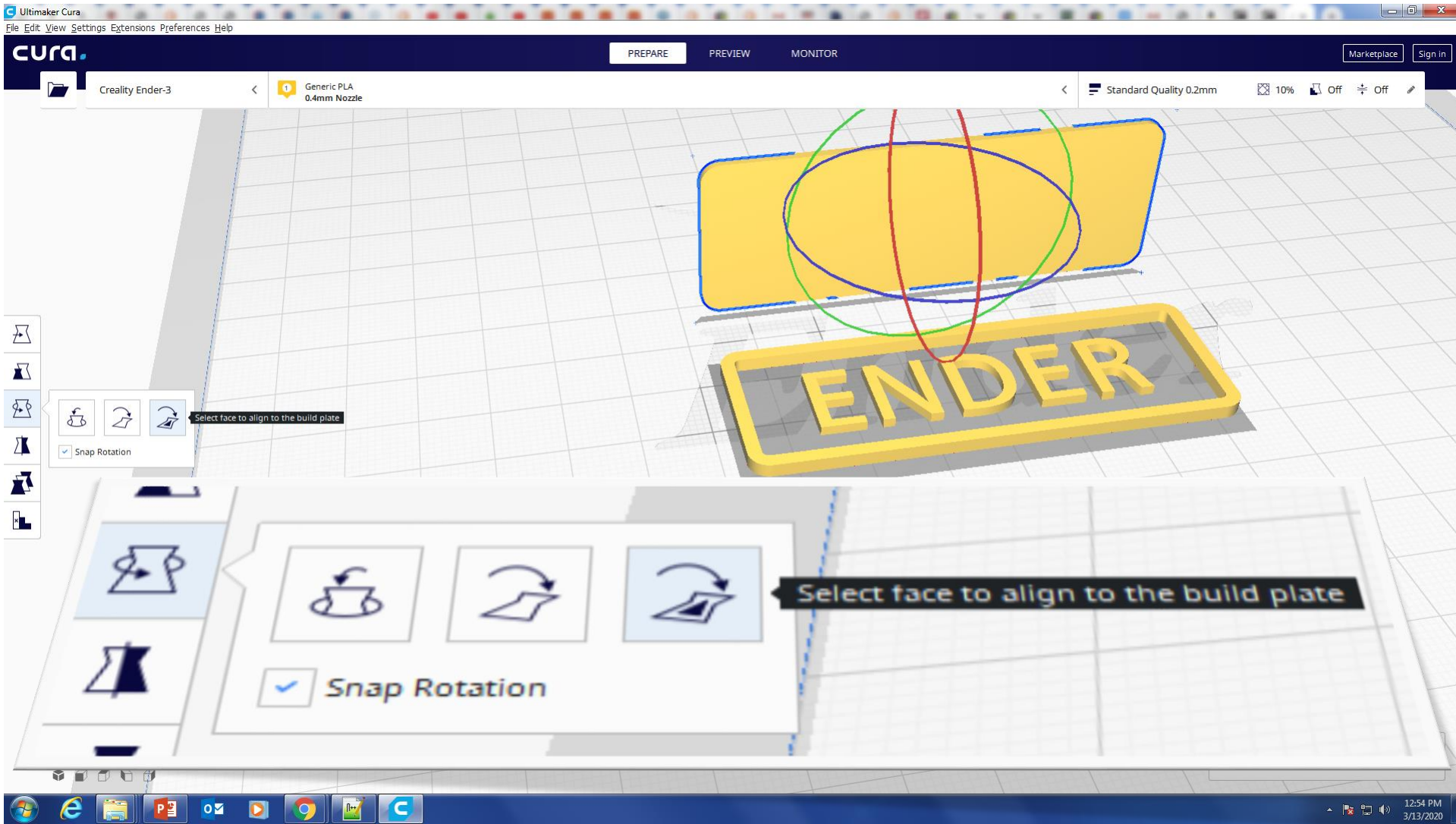
ALIGN PARTS IN CURA



DATUM



Select face to align to the build plate



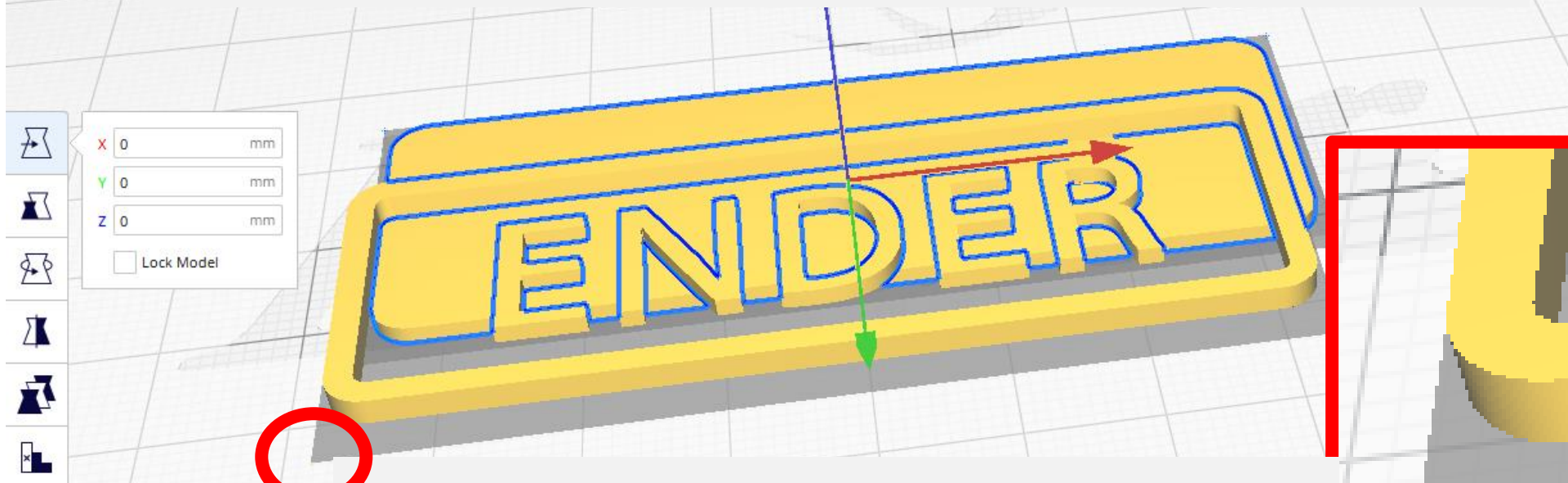
The screenshot displays the Ultimaker Cura software interface. The top menu bar includes 'File', 'Edit', 'View', 'Settings', 'Extensions', 'Preferences', and 'Help'. The main toolbar has tabs for 'PREPARE', 'PREVIEW', and 'MONITOR'. The interface shows a 3D model of a yellow part being aligned to a build plate. A callout box points to the 'Select face to align to the build plate' option in the context menu. The context menu also includes 'Snap Rotation' and 'Snap Rotation' (checked).



ALIGN TO EACH OTHER



EASY to translate location to 0,0,0



NOTE shadow of datum:



ALIGN TO EACH OTHER



Creality Ender-3



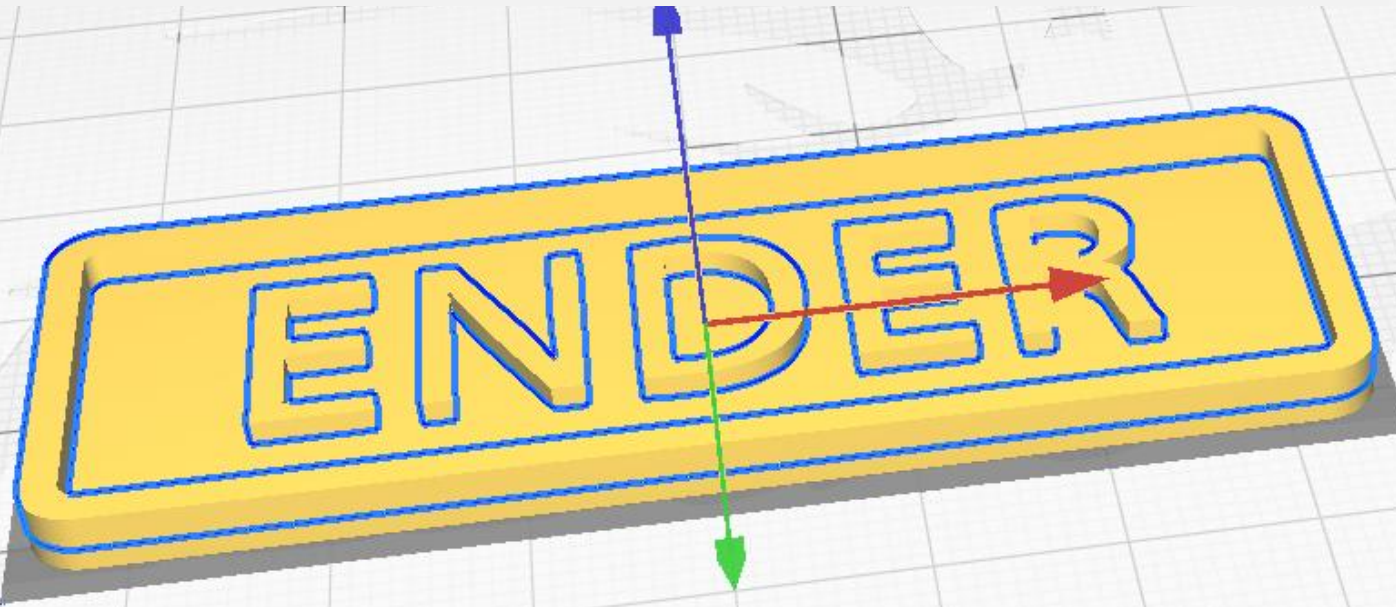
1 Generic PLA
0.4mm Nozzle

EASY to translate location to 0,0,0

Navigation icons: Home, Rotate, Zoom, etc.

x	0	mm
y	d	mm
z	0	mm

Lock Model





SLICE & Establish switchover layer

PREPARE

PREVIEW

MONITOR

Marketplace

Sign in

Material Color

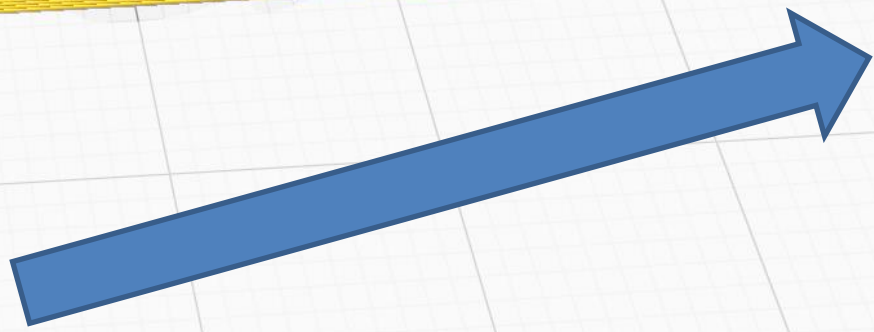
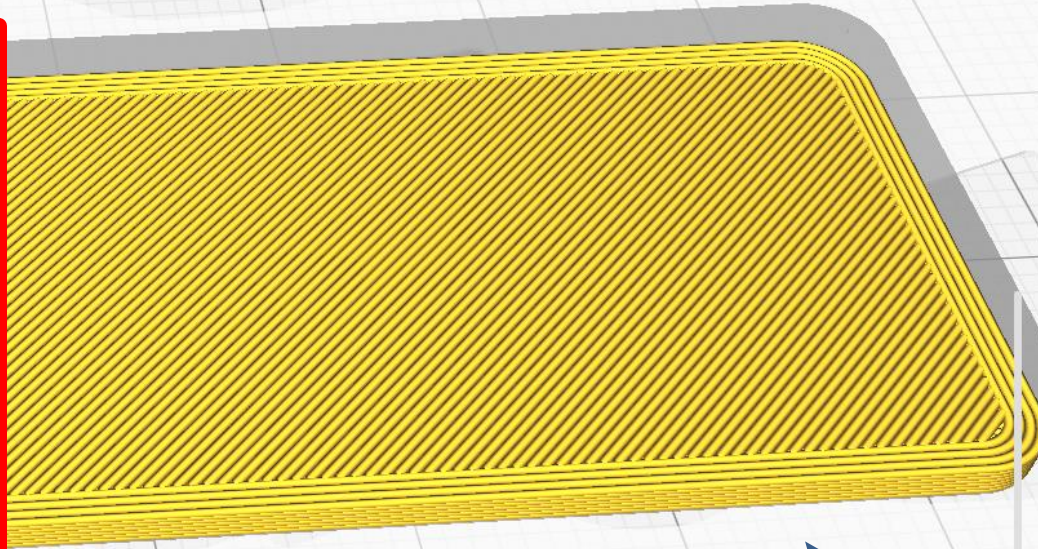
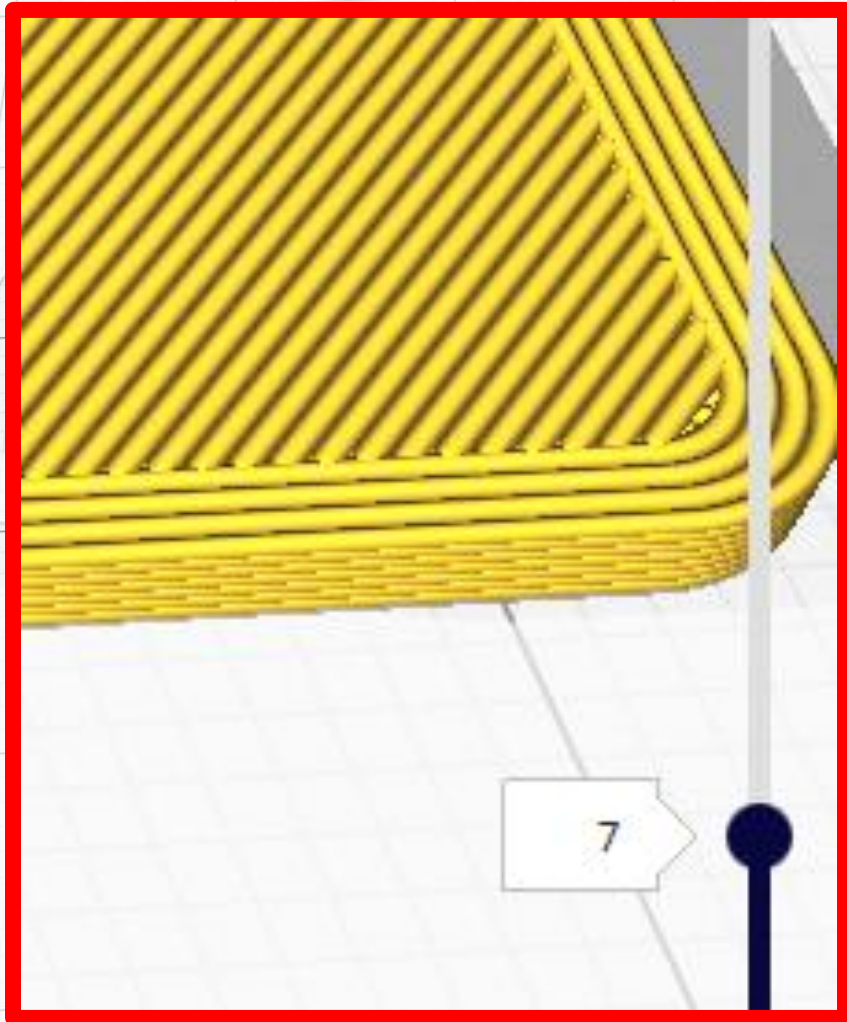


Standard Quality 0.2mm

10%

Off

Off



35 minutes

4g · 1.46m

Save to File



SAVE GCODE TO a FILE

7

35 minutes

4g · 1.46m

Save to File



**NOTE 1st file at
Layer 0**

```
39 G1 F2700 E-5
40 ;LAYER_COUNT:17
41 ;LAYER:0 ←
42 M107
43 ;MESH:EnderLicPlateB2.STL ←
44 G0 F6000 X82.572 Y121.5 Z0.2
45 ;TYPE:WALL-INNER
46 G1 F2700 E0
47 G1 F1200 X77.902 Y121.497 E0.15532
48 G1 X77.824 Y121.491 E0.15793
```



OPEN GCODE WITH TEXT EDITOR

```
920 G0 F9000 X143.198 Y120.882
921 G0 X142.197 Y121.491
922 ;TIME_ELAPSED:1200.153682
923 ;LAYER:6
924 ;TYPE:WALL-INNER
925 ;MESH:EnderLicPlateB2.STL
926 G1 F1500 X142.123 Y121.496 E873.339
927 G1 X141.973 Y121.5 E873.34422
928 G1 X78.033 Y121.5 E875.47088
929 G1 X77.789 Y121.49 E875.479
930 G1 X77.719 Y121.48 E875.48135
9 ;TIME_ELAPSED:1389.288239
0 ;LAYER:7
1 ;TYPE:WALL-INNER
2 ;MESH:EnderLicPlate.STL
3 G1 F2700 E1018.89357
4 G1 F1500 X81.201 Y121.51 E1020.80932
5 G1 X77.993 Y121.508 E1020.91602
6 G1 X77.894 Y121.507 E1020.91931
7 G1 X77.865 Y121.505 E1020.92028
```

**NOTE file
change
between
layers**

**NOTE CURA
has 1st layer=0**



Insert M600 code in g-code file



[G0-G1: Linear Move](#)
[G2-G3: Arc or Circle Move](#)
[G17-G18: CNC Workspace Planes](#)
[G38.2-G38.3: Probe target](#)
[G54-G55: Workspace Coordinate System](#)
[M0-M1: Unconditional stop](#)
[M18-M84: Disable steppers](#)
[M43 T: Toggle Pins](#)

M600 - Filament Change

↩ 1:1.0

☑ Automatically change filament

ADVANCED_PAUSE_FEATURE



Description

The `M600` command initiates the filament change procedure. The basic procedure will move the print head away from the print, eject the filament, wait for new filament to be inserted and the user to confirm, load and prime the filament, and continue with the print. `M600` may be initiated automatically if a filament runout sensor is installed.

Notes

Requires `ADVANCED_PAUSE_FEATURE`.

The settings for this command can be found in `Configuration.h`. At this time `M600` requires an LCD controller.

Usage

[B<beeps>] [E<pos>] [L<pos>] [T<index>] [U<pos>] [X<pos>] [Y<pos>] [Z<pos>]

Parameters

[B<beeps>] Number of beeps to alert user of filament change (default `FILAMENT_CHANGE_ALERT_BEEPS`)

[E<pos>] Retract before moving to change position (negative, default `PAUSE_PARK_RETRACT_LENGTH`)

[L<pos>] Load length, longer for bowden (negative)

[T<index>] Target extruder

[U<pos>] Amount of retraction for unload (negative)

[X<pos>] X position for filament change

[Y<pos>] Y position for filament change

[Z<pos>] Z relative lift for filament change position

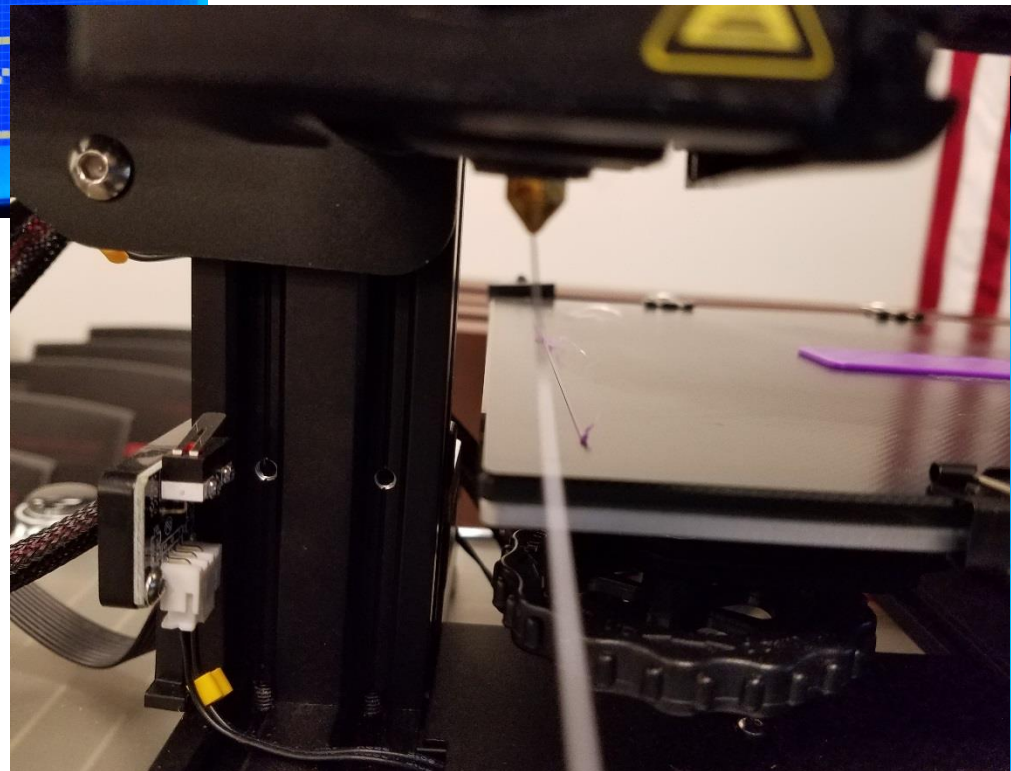
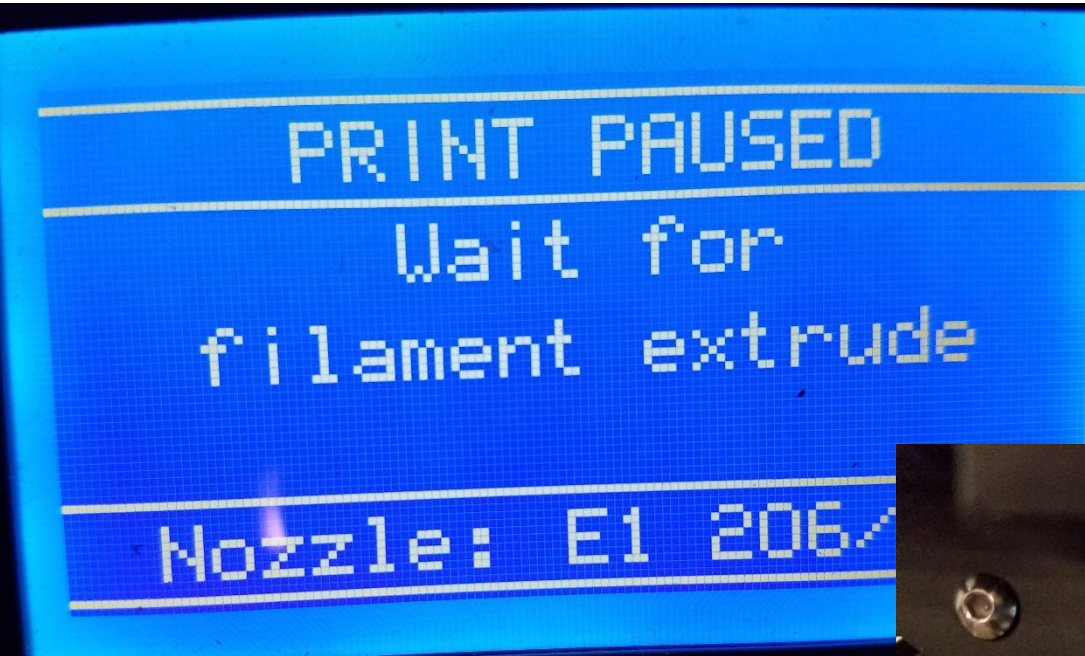


Insert M600 code in g-code file

```
4614 G0 F9000 X77.919 Y121.685
4615 G1 F2700 E1013.89357
4616 ;MESH:NONMESH
4617 G0 F300 X77.919 Y121.685 Z1.6
4618 G0 F9000 X138.8 Y121.509
4619 ;
4620 ;==ENDER CLUB CLINIC ==
4621 ;Switch over filament raise to 1 inch position
4622 M600 B3 Z25 ; Do filament change at Z:+25 from current, beep 3 times
4623 ;=== =====
4624 ;
4625 ;TIME_ELAPSED:1389.288239
4626 ;LAYER:7
4627 ;TYPE:WALL-INNER
4628 ;MESH:EnderLicPlate.STL
4629 G1 F2700 E1018.89357
4630 G1 F1500 X81.201 Y121.51 E1020.80932
4631 G1 X77.919 Y121.509 F1020.91602
```

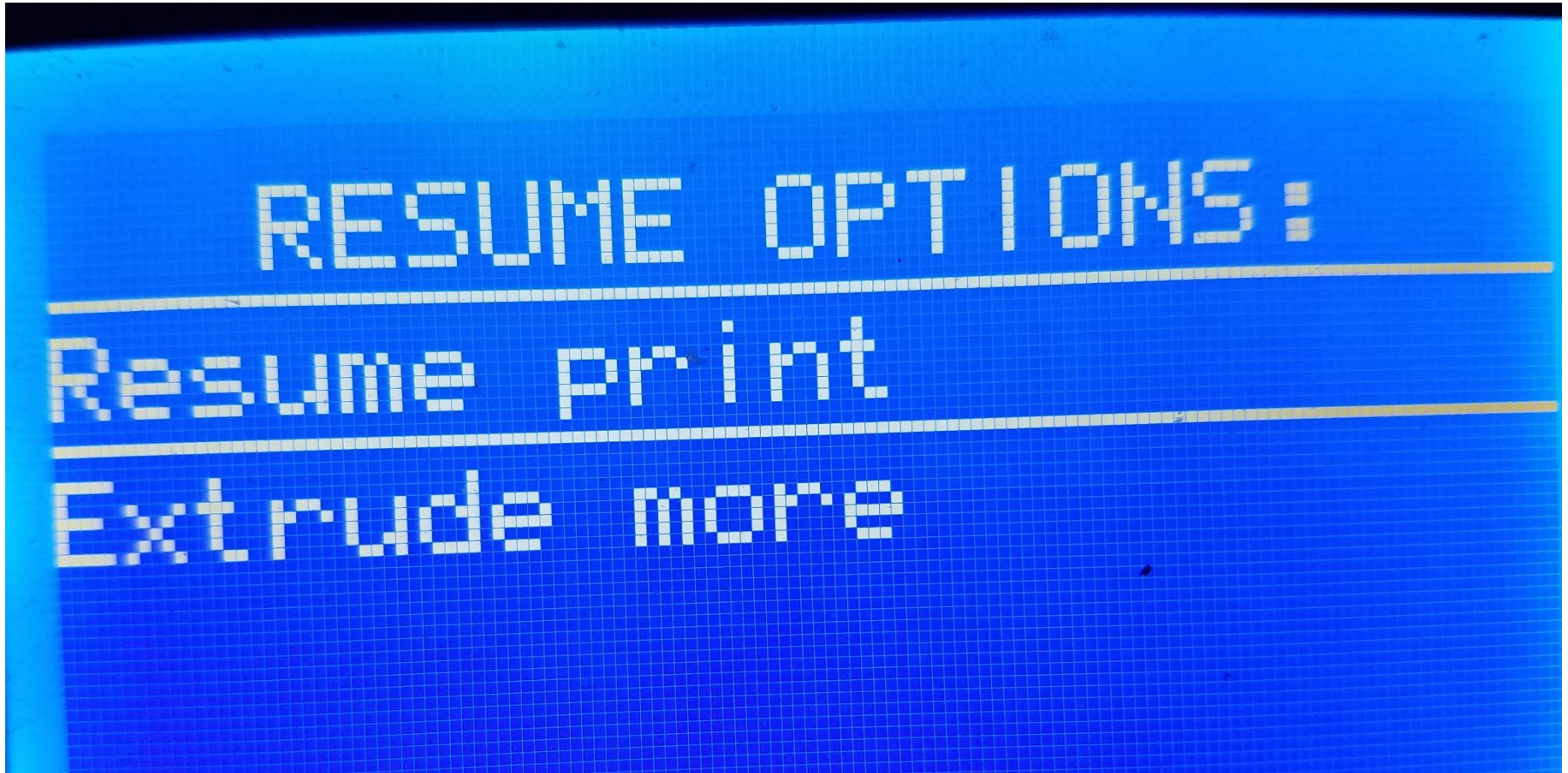


Start Print and follow instructions





Start Print and follow instructions



**IF you need more filament feed
you have the option!**



Inkscape Keyboard Layout v0.48

esc	Exit dialog/setting	F7 ,	D	Dopper toggle	4	Zoom to drawing	[,]	*Rotate left/right	
F1 ,	S	Selector	Shft + F7 ,	U	Bucket	5	Zoom to page	I	Show/Hide guides
spacebar		Selector toggle	F8 ,	T	Text	6	Zoom to p' Width	H	Flip - horizontal
Ctrl + F1 ,	G	Gradient	F9 ,	I	Spiral	- , +	Zoom in/out	V	Flip - vertical
F2 ,	N	Edit Node	Shft + F9 ,	*	Star	backspace	Delete selection	< , >	*Scale add/subtract
Shft + F2 ,	W	Tweak	F10		Menus	!	Selection invert	< , ^ , v , >	*Move object/nodes
F3 ,	Z	Zoom	F11		Full Screen	#	Show/Hide grid		
F4 ,	R	Rectangle	Shft + F11		Full screen canvas	%	Snapping toggle		
Shft + F4 ,	X	3D Box	F12		Show/Hide dialogs	tab , Shft + tab	Select next/prev.		*Transform keys work alone (steps)
F5 ,	E	Ellipse	~ , .		Previous Zoom	A	Spray		and in combination with SAC.
F6 ,	P	Pencil	1		Zoom 100%	Q	Quick Zoom	Shft+_	
Shft + F6 ,	B	Bezier	2		Zoom 50%	>Selection	Zoom to selection	Alt+_	
Ctrl + F6 ,	C	Calligraphy	3		Zoom to selection	spacebar	Stamp w/dragging	Ctrl+_	





0.2M 9T



0.2M41T Brass Gear 0.2 Modulus 41 Teeth T=41 DIY Accessories 0.2M 41T
Half shaft 1.58MM + 2MM Dia.8.6mm *FD043

