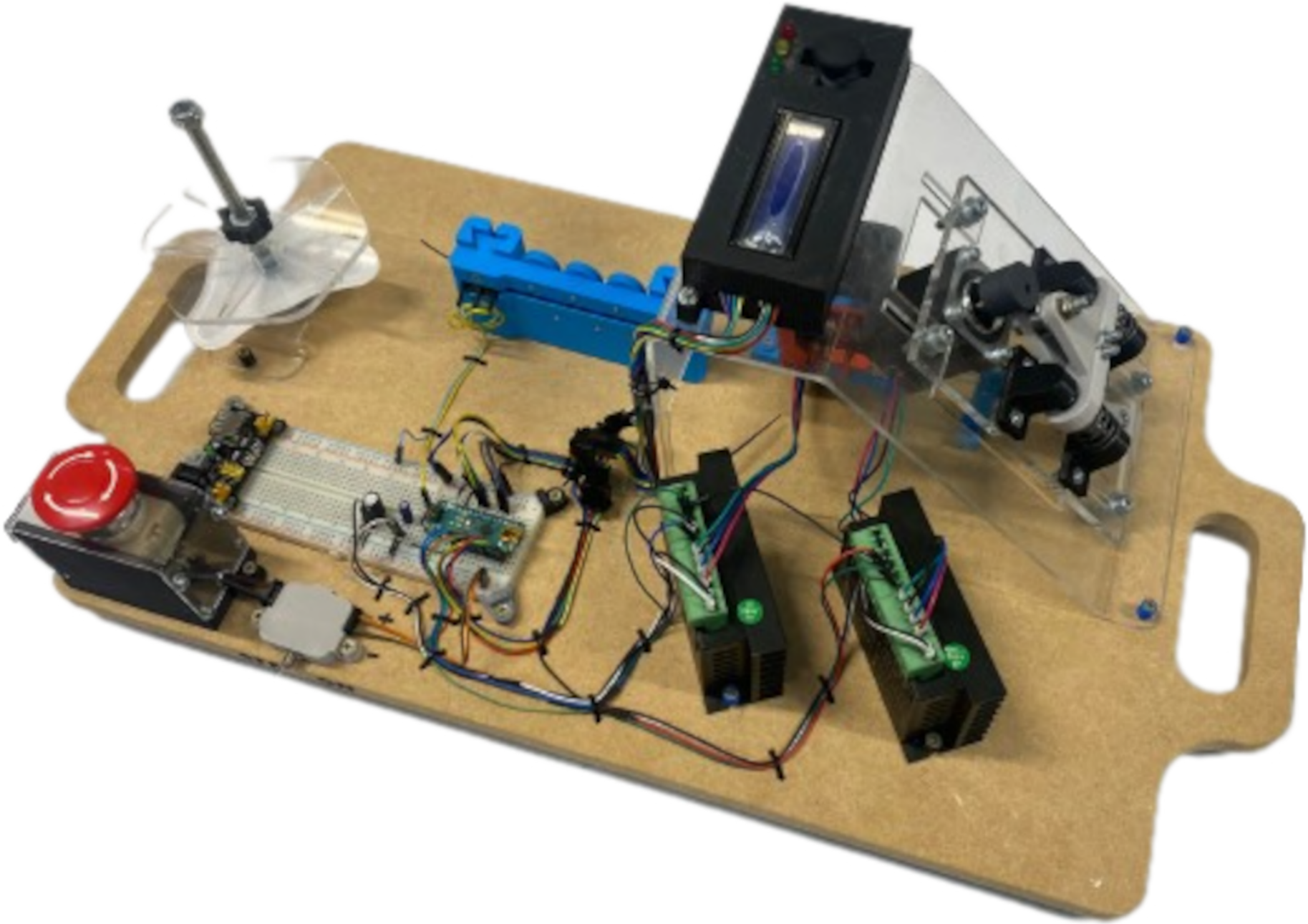
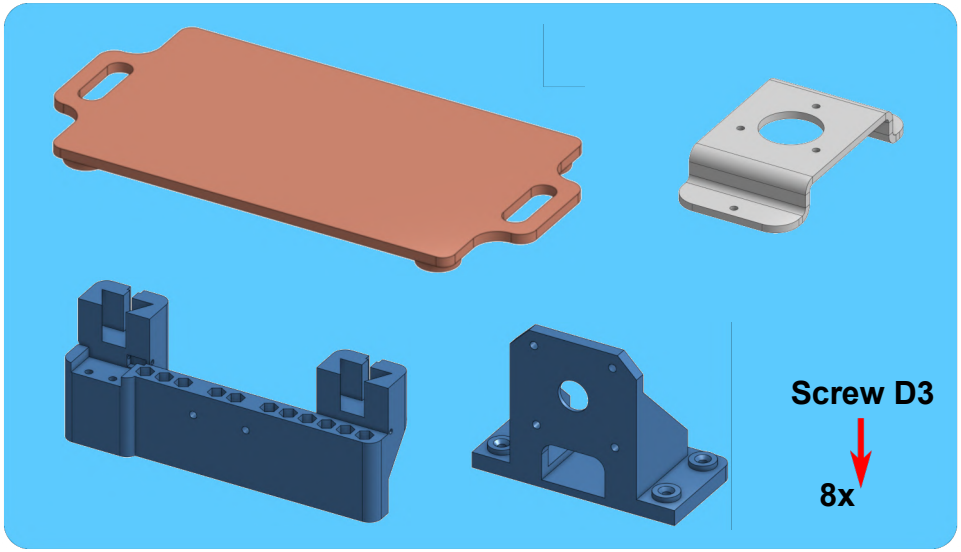
GRENOBLE INP UGA Génie industriel

# USER MANUAL

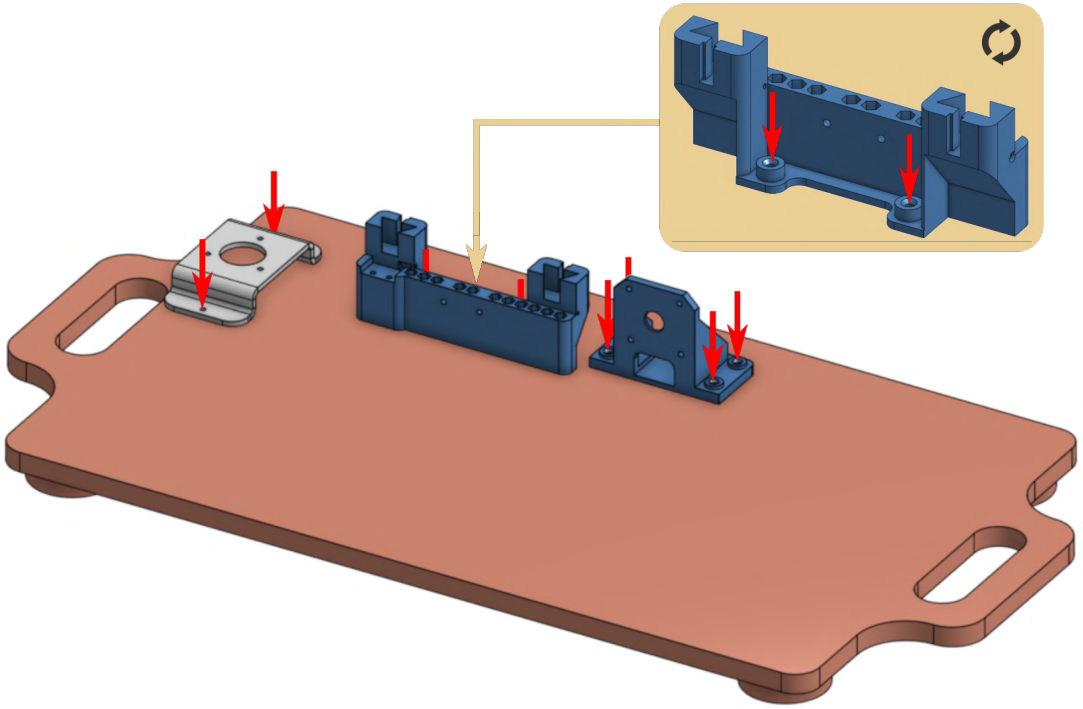
## *PDP 12 - Jumper Machine*

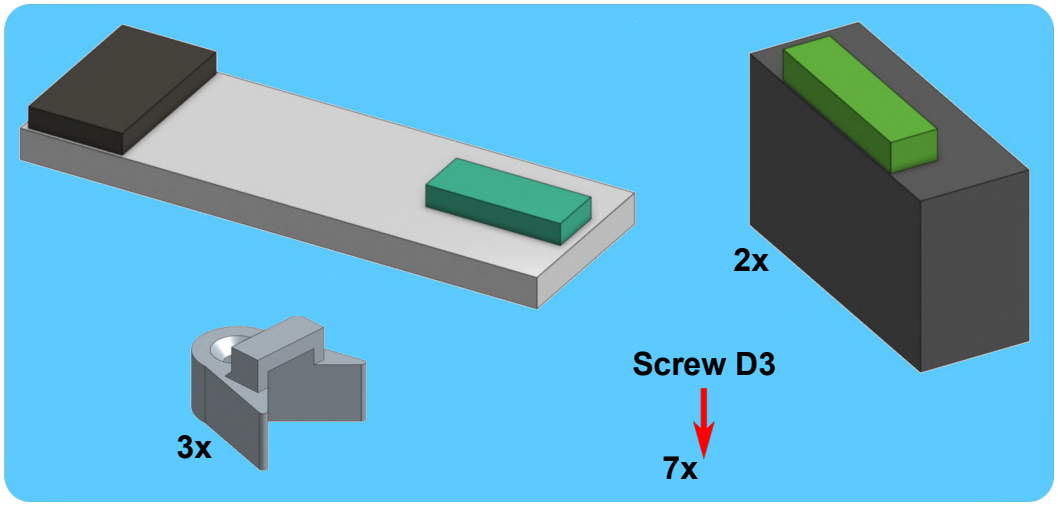
Florian BOULAY
Clara HEID
Virgile MARTY
Benoît VÉRAN
Bastien VINCENT



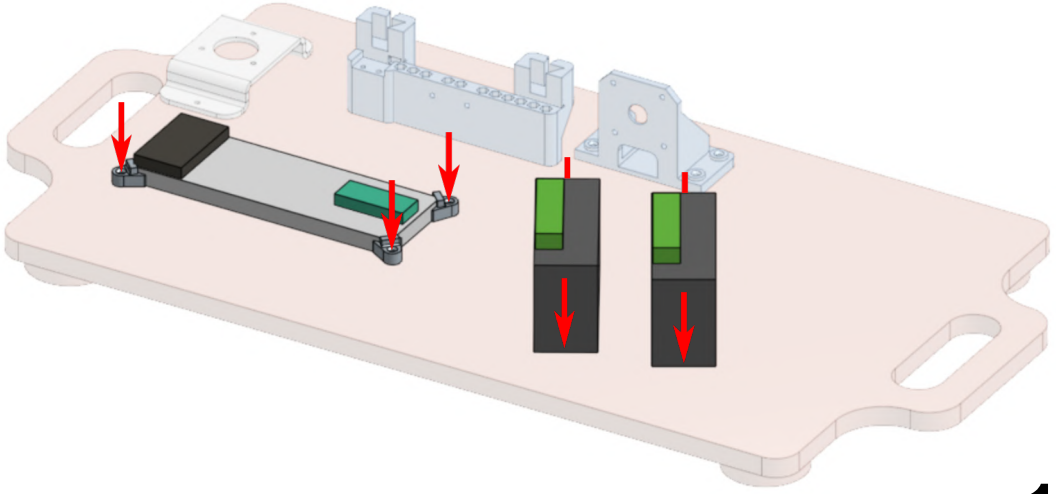


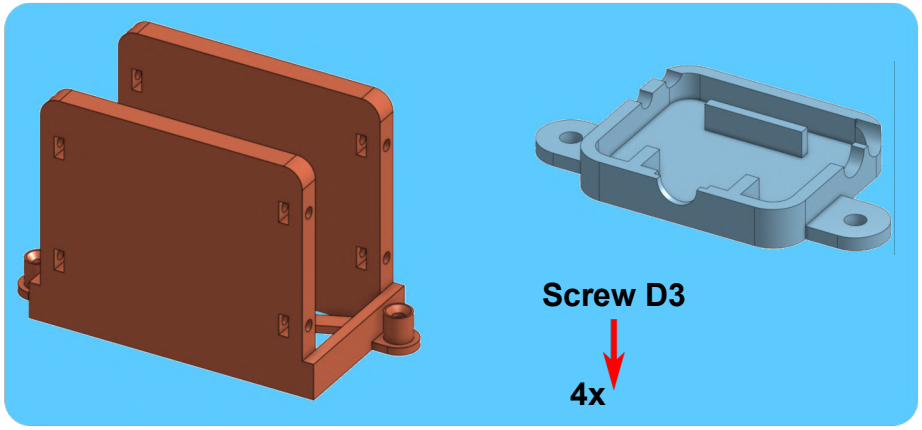

# 1



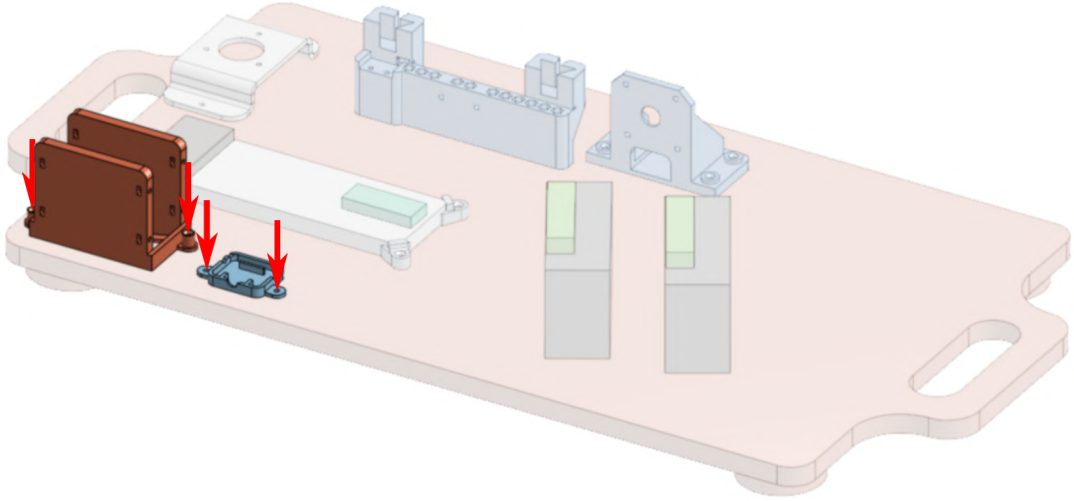


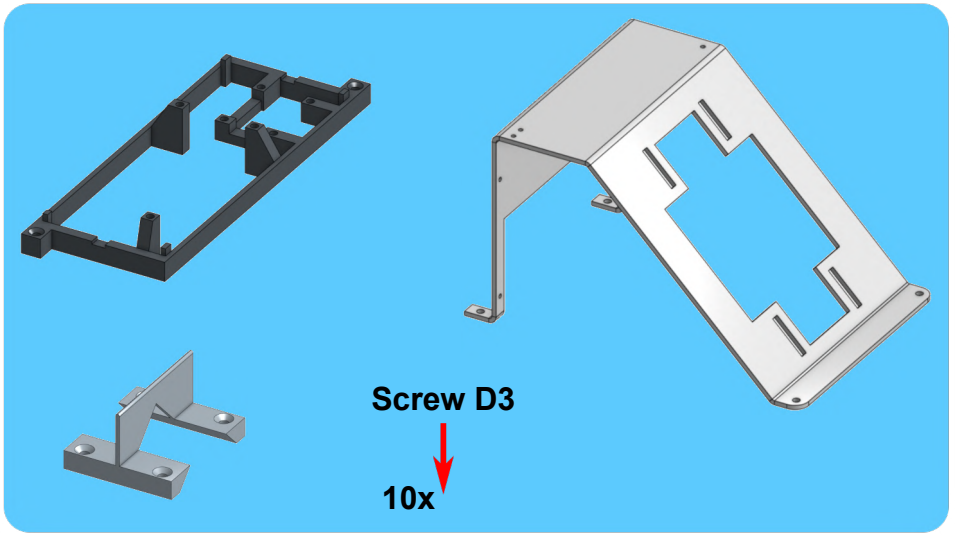

# 2



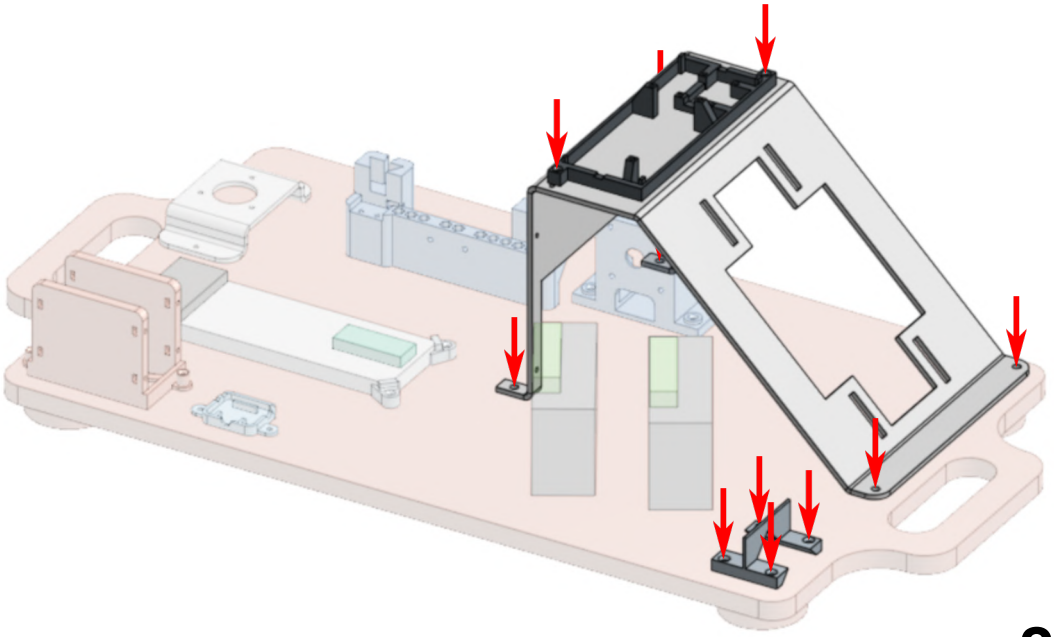


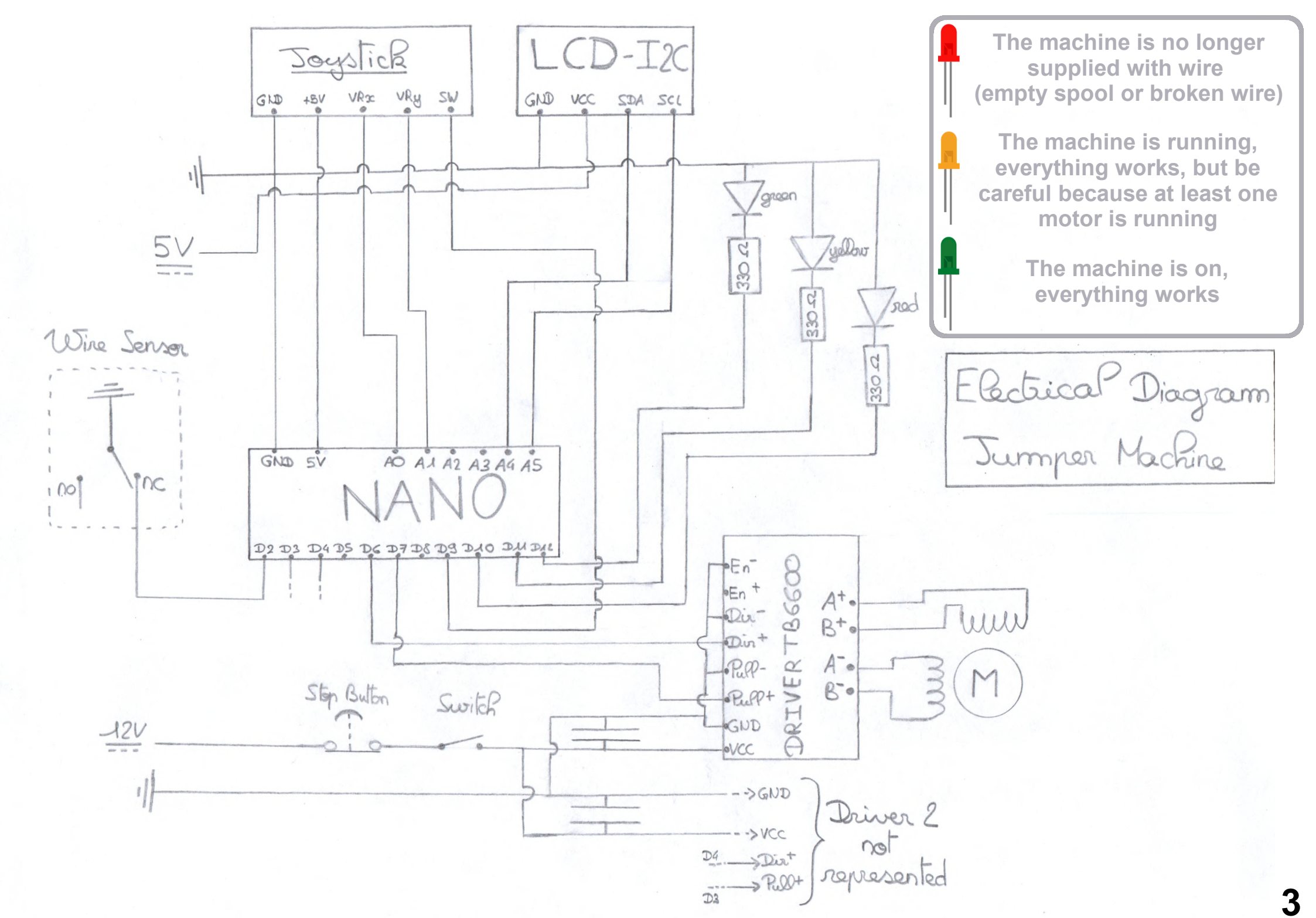

# 3

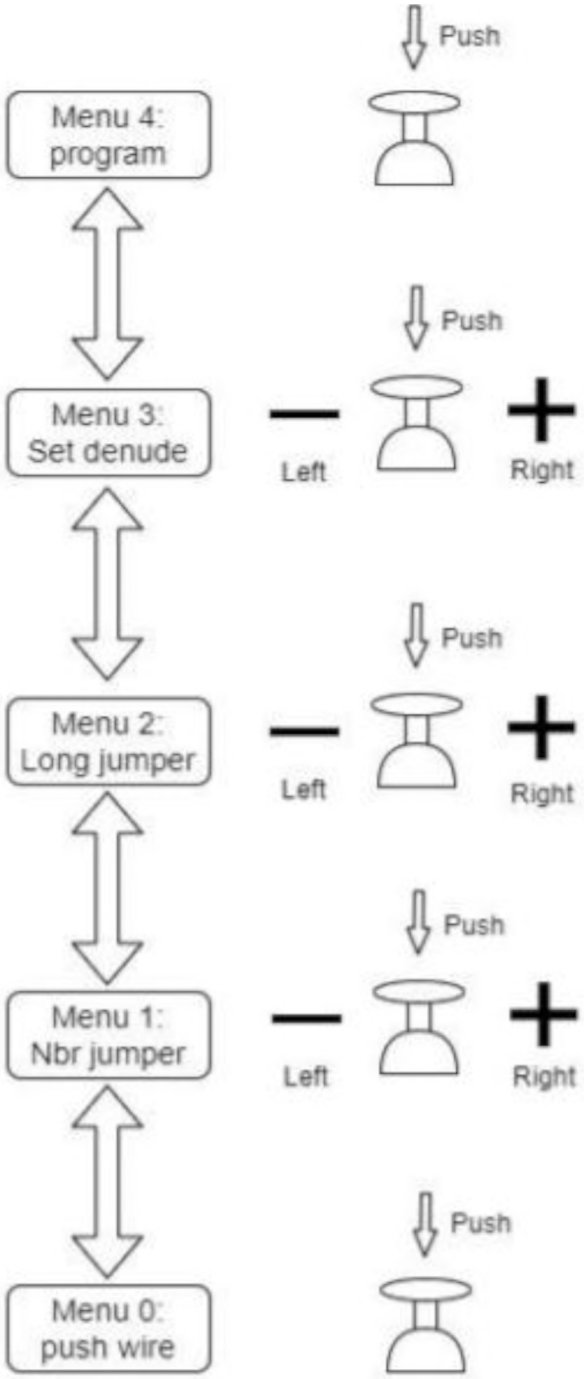




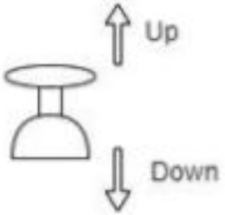

# 4




Joystick
GND +5V VRx VRy SW
LCD-I2C
GND VCC SDA SCL
5V
green
yellow
red
330 Ω
330 Ω
330 Ω
Wire Sensor
no
nc
GND 5V A0 A1 A2 A3 A4 A5
NANO
D2 D3 D4 D5 D6 D7 D8 D9 D10 D11 D12
En-
En+
Dir-
Dir+
PuPP-
PuPP+
GND
VCC
DRIVER TB6600
A+
B+
A-
B-
M
Stop Button
Switch
12V
->GND
->VCC
D4 -> Dir+
D3 -> Pul+
Driver 2 not represented
The machine is no longer supplied with wire (empty spool or broken wire)
The machine is running, everything works, but be careful because at least one motor is running
The machine is on, everything works
Electrical Diagram
Jumper Machine




Allow to change menu if the user is not executing a program or is changing values of a parameter.



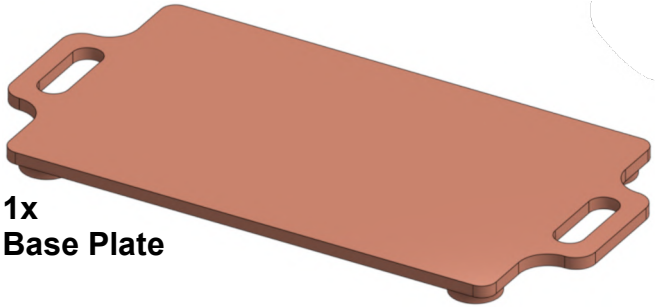

This menu will execute the program to cut and strip jumpers with all the parameters set in the other menus.

This menu allow to set manually the position of the blade for stripping, the more the joystick is moved in a direction, the more steps the stepper will do.
The push allow to enter and exit the changing mode.

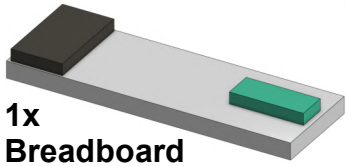
This menu allow to change the length of the jumpers by the numbers of pins it will cover, changing the number by an increment of 1 with the joystick from left to right, 3 being the minimum number and 20 the maximum.
The push allow to enter and exit the changing mode.

This menu allow to change the number of jumper the program will cut, changing the number by an increment of ten with the joystick from left to right, 1 being the minimum number.
The push allow to enter and exit the changing mode.

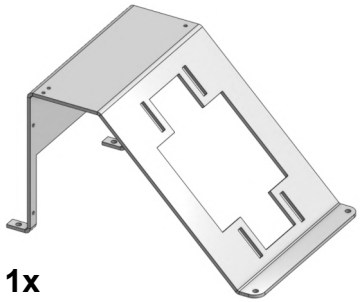
This menu allow to extrude the wire from the extruder to the blade with one push.



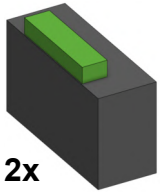
1x
Base Plate



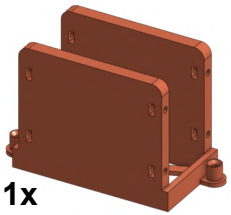
1x
Breadboard



1x
Cutting Support

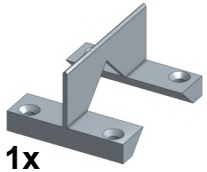


2x
Driver

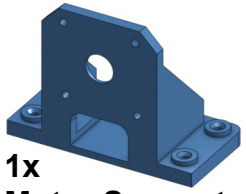


1x
Emergency Stop Button

1x
Human-Machine Interface

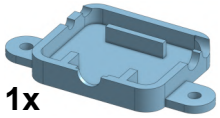


1x
Jumper Remover

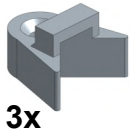


1x
Motor Support

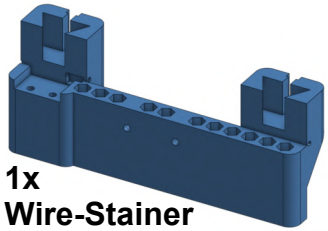
1x
Reel Support



1x
Switch



3x
Tie



1x
Wire-Stainer

29x
Screw D3

---

# ⚠ More Instructions ⚠

1) connect the **power cable** to the **arduino board**
2) connect the **5A power supply** to the **emergency stop button**
3) check that the **emergency stop button** is **up**
4) turn on the **arduino board**
5) turn on the **switch**