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Fighter joystick

Note: the Joystick is rotated CCW to fit on the 3D printed mount. Therefore the input in the X-axes is reversed

Make the following changes to the controls.ini

```
FIGHTER_ANALOG_ROLL    =    UI_INPUT_JOY0_AXIS0
FIGHTER_ANALOG_PITCH   =    UI_INPUT_JOY0_AXIS1
; un-comment the next line, if your joystick climbs when you want it to dive
MULTIPLY                =    -1.0
; comment the next line out, if your joystick does NOT twist
FIGHTER_ANALOG_YAW     =    UI_INPUT_JOY0_AXIS2
```

Description	Wire color	Arduino Pro Micro Pin	Extern connection
Joystick 1 Roll/pitch	Purple	Gnd	Gnd
	Blue	Vcc	+5V
Roll left/right	Green	A0	VRX
Pitch up/down	Yellow	A1	VRY
Request Docking (Push button 4)	orange	7	SW

Description	Wire color	Arduino Pro Micro Pin	Extern connection
Joystick 2 YAW	Purple	Gnd	Gnd
	Gray	Vcc	+5V
YAW Left/right	white	A2	VRY

Description	Wire color	Arduino Pro Micro Pin	Extern connection
Beam (Push button 0)		3	2nd pin to gnd
Boost (Push button 1)		4	2nd pin to gnd
Break (Push button 2)		5	2nd pin to gnd
Missile (Push button 3)		6	2nd pin to gnd



The code:

/*i have wrote the code, and everything works like a charm! thanks once again Matthew!
here is my code if anyone is interested in using it, or imporving it(bevause i know its not going to be good :P)

```
*****
*                               *
*           Artemis             *
*       Fighter joystick        *
*      modified By Rothestar    *
*   to work with my hardware design  *
* see my build blog at http://seosalle.dk *
*****

*/

#include "Joystick.h"

Joystick_ Joystick;

void setup() {

Joystick.begin();

Joystick.setXAxis(0);

Joystick.setYAxis(0);

Joystick.setZAxis(0);

pinMode(3, INPUT_PULLUP);//button 0 Beam

pinMode(4, INPUT_PULLUP);//button 1 Boost

pinMode(5, INPUT_PULLUP);//button 2 Brake

pinMode(6, INPUT_PULLUP);//button 3 Missiles

pinMode(7, INPUT_PULLUP);//button 4 Request Dock

pinMode(8, INPUT_PULLUP);

pinMode(9, INPUT_PULLUP);
```



```
pinMode(10, INPUT_PULLUP);

int lastButtonState = 0;

}

void loop() {

int button0Val =digitalRead(3);

int button1Val =digitalRead(4);

int button2Val =digitalRead(5);

int button3Val =digitalRead(6);

int button4Val =digitalRead(7);

int button5Val =digitalRead(8);

int button6Val =digitalRead(9);

//int button7Val =digitalRead(10);


int xAxis = analogRead(A1);//switch due to fact that the joystick is turned 90 degrees to fit into the
hardware design (original it should be A0).

int yAxis = analogRead(A0);//switch due to fact that the joystick is turned 90 degrees to fit into the
hardware design (original it should be A1).

int zAxis = analogRead(A2);

Joystick.setXAxis(xAxis);

Joystick.setYAxis(yAxis);

Joystick.setZAxis(zAxis);

Joystick.setButton(0, !button0Val);

Joystick.setButton(1, !button1Val);
```

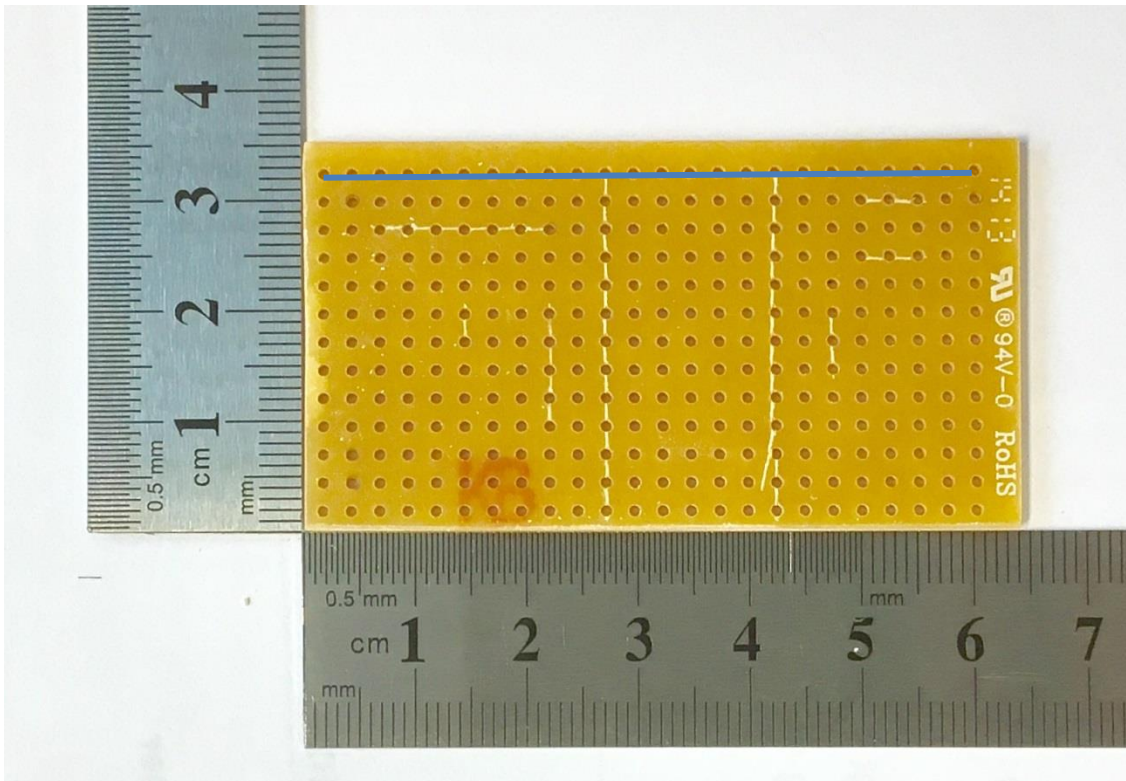


```
Joystick.setButton(2, !button2Val);  
Joystick.setButton(3, !button3Val);  
Joystick.setButton(4, !button4Val);  
Joystick.setButton(5, !button5Val);  
Joystick.setButton(6, !button6Val);  
//Joystick.setButton(7, !button7Val);  
}
```



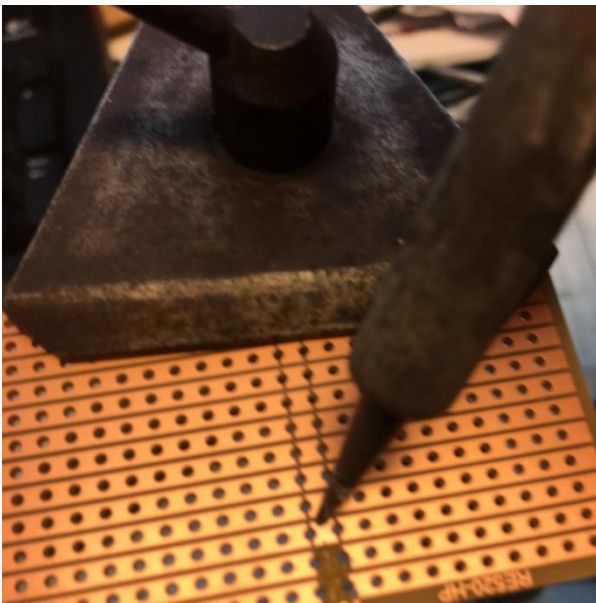
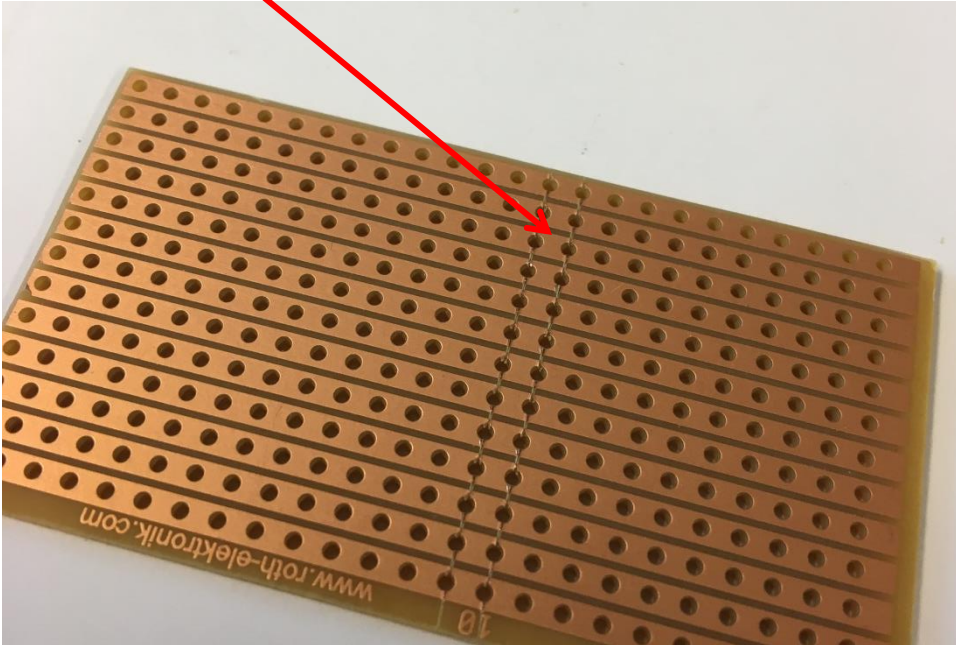
Build instructions:

Striped PCB rastersize 2,54 x 2,54mm

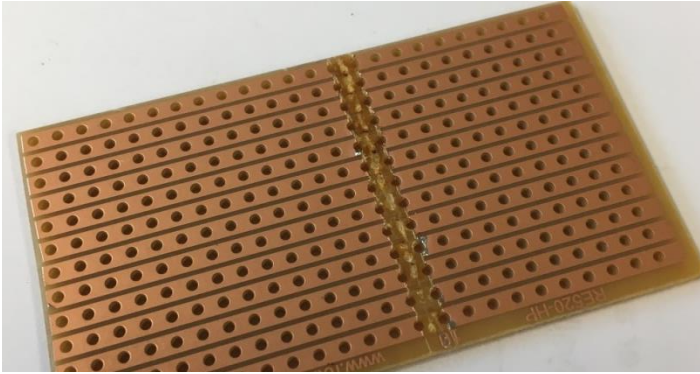




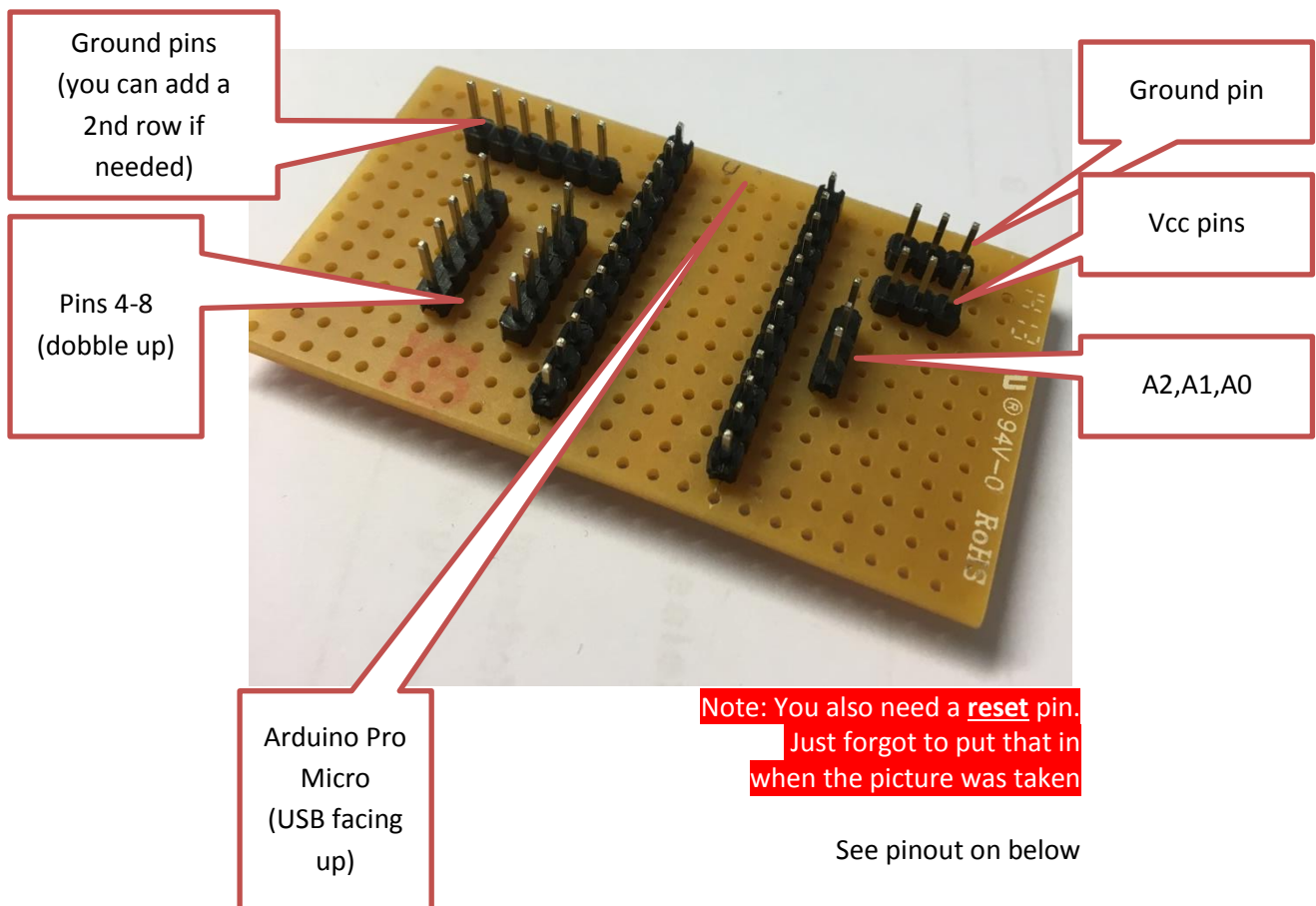
With a sharp knife cut two lines perpendicular to the stripes. This is done to separate the two sides of the Arduino Pro Micro:



With a hot soldering iron heat up the copper strip and it will come loose. That way you get a perfect visible separation of the two sides.

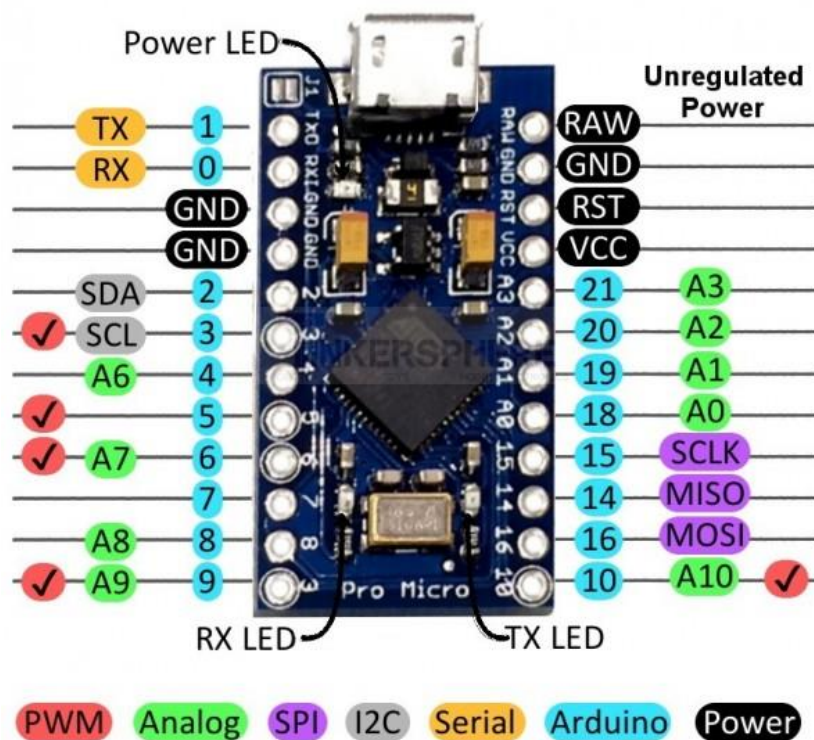


The finished result:



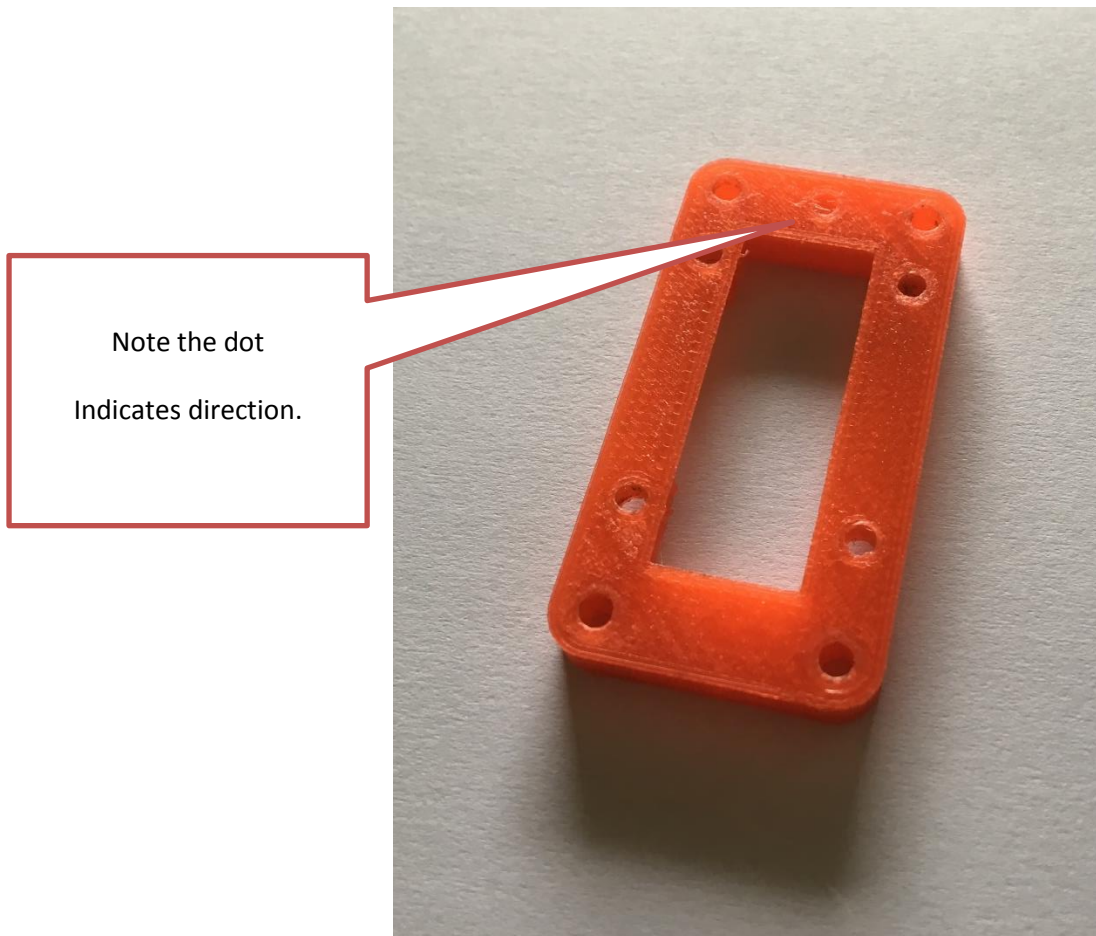


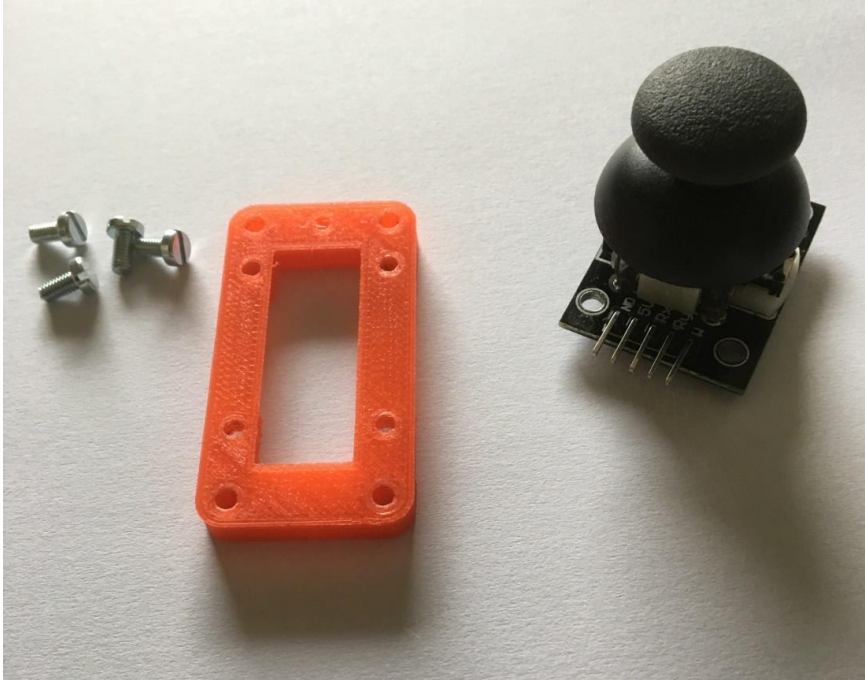
Arduino Pro Micro pinout:





Assembly of the joystick (up/down, roll left/right):



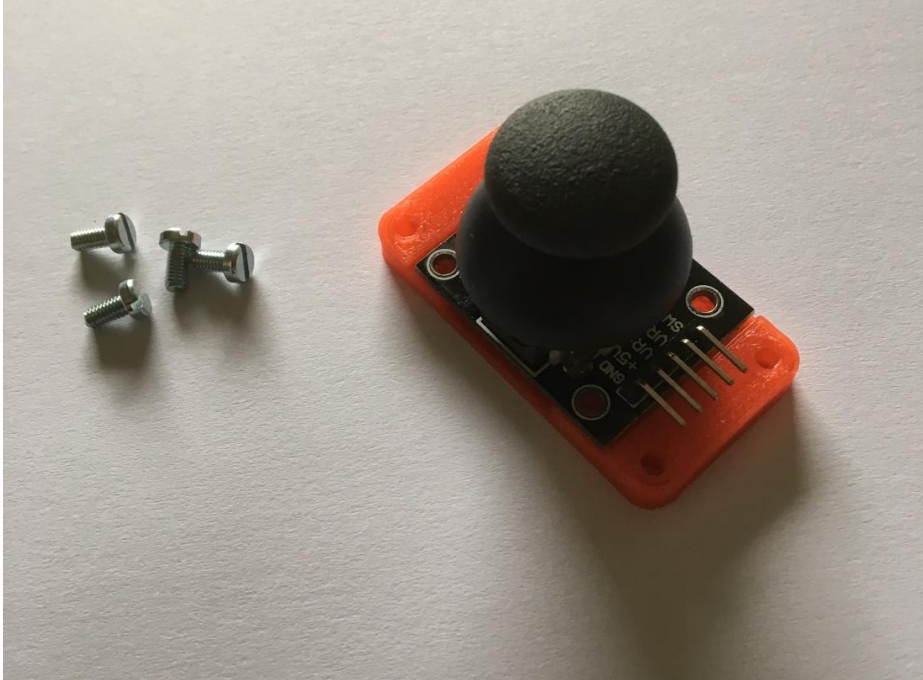


Items:

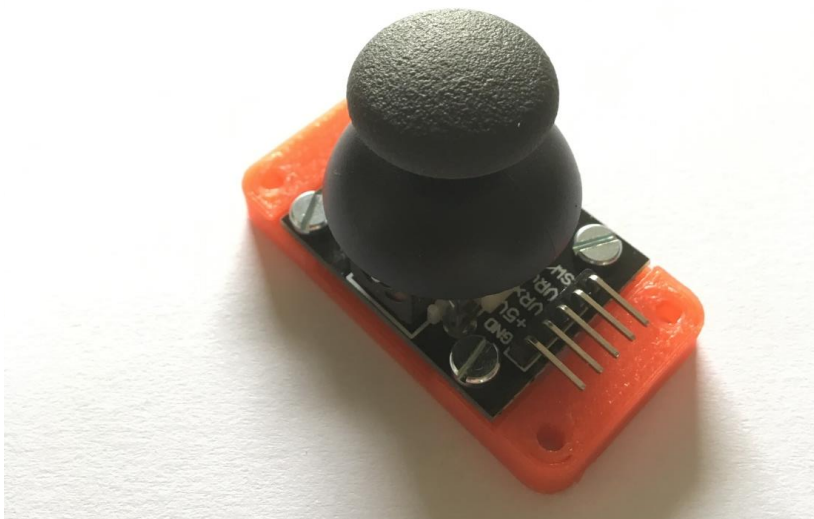
4 pcs. 3x5mm screws

1 pcs. Joystick

1 pcs. joystick bracket FINAL.stl

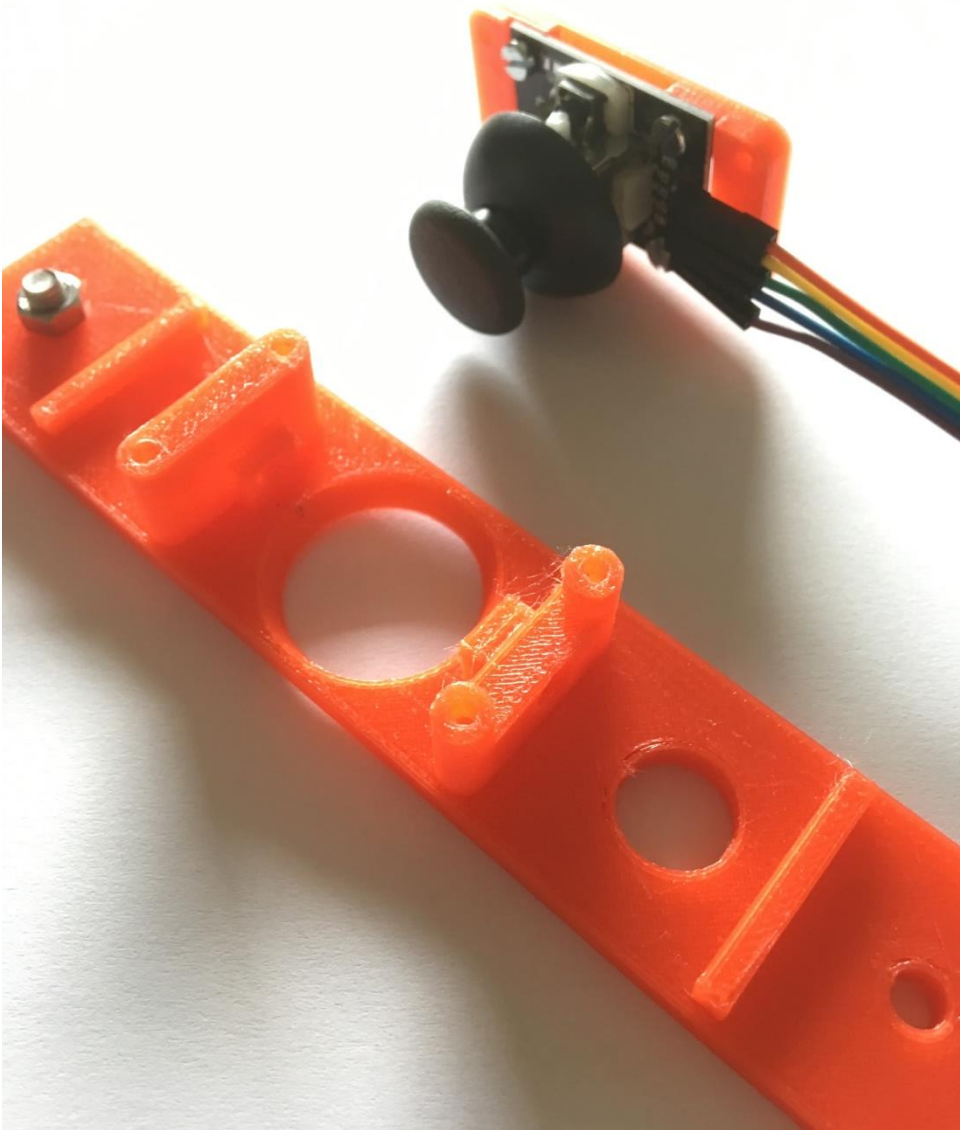


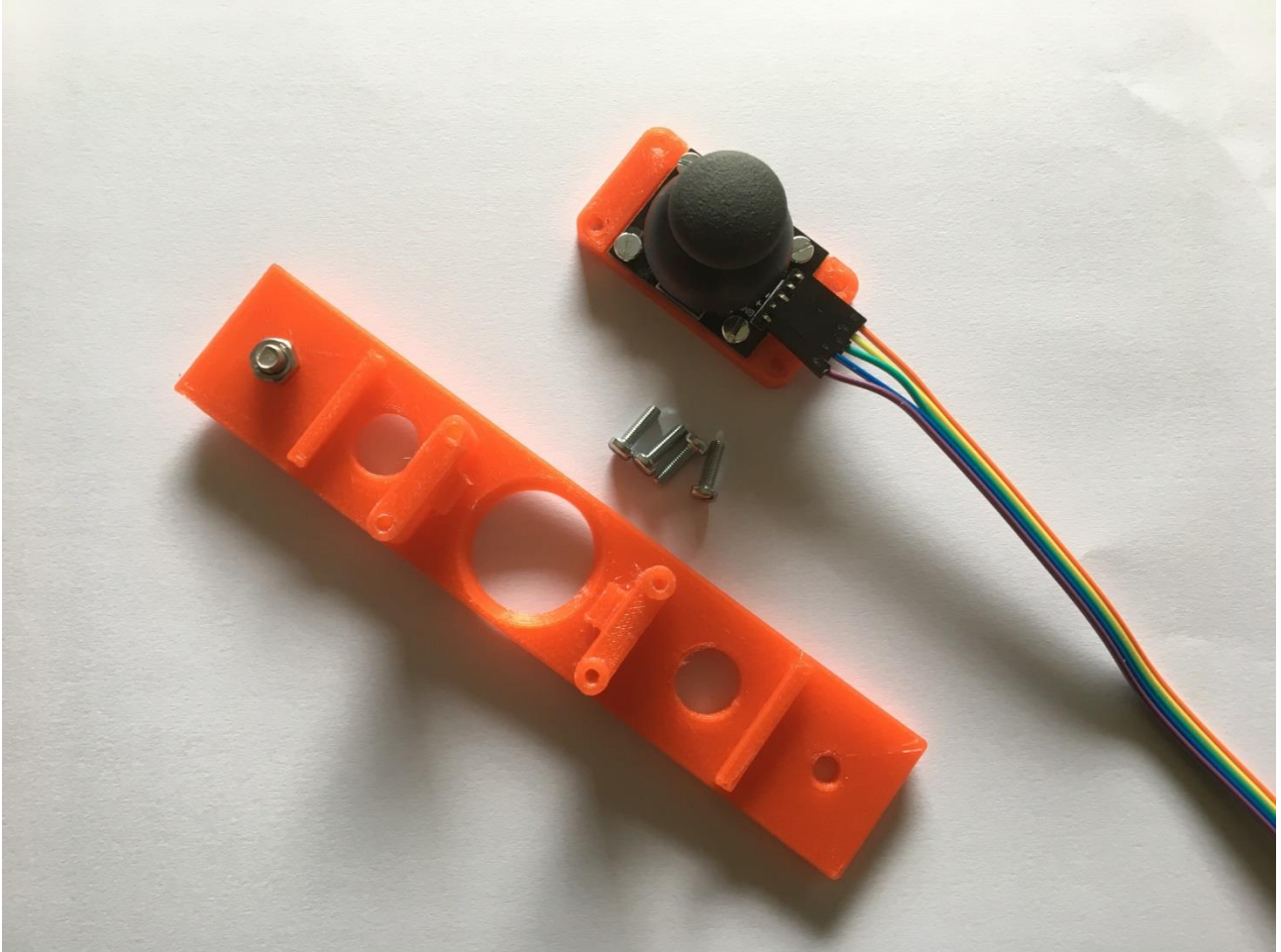
Flip the bracket the dot facing opposite of the header pins.





Connect female – female dupont jumper wires. Note color in the table first page.





Mount the joystick assembly to the strip.

Items:

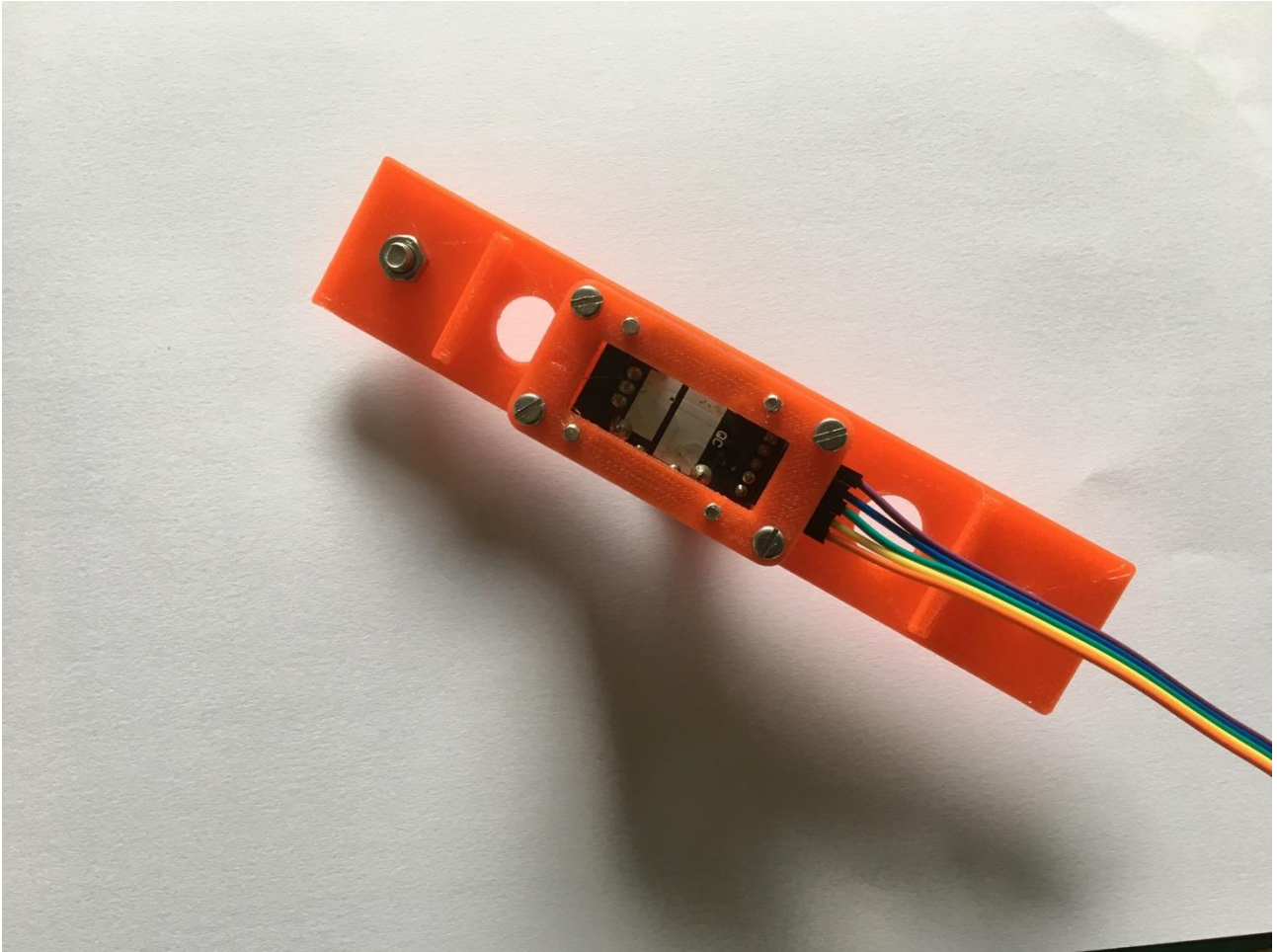
4 pcs. 3x10mm screws

1 pcs. Joystick assebley

1 pcs. Frame 1 joystick.stl



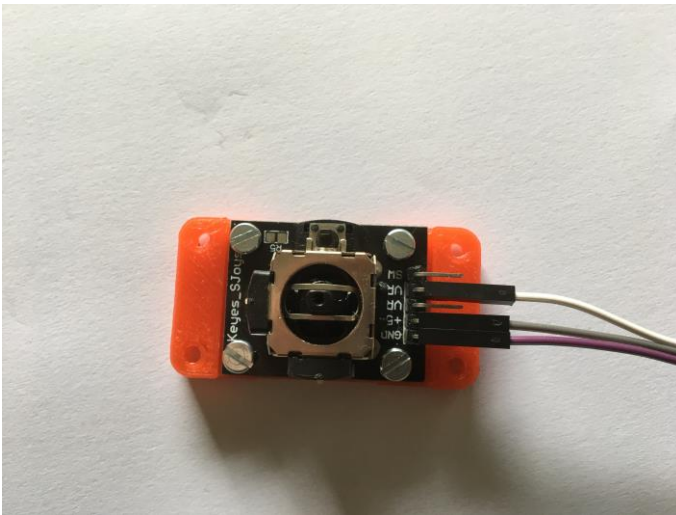
F



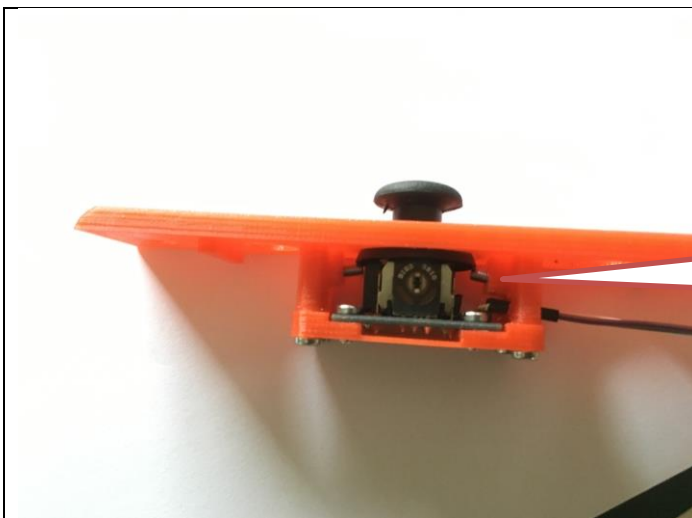
finished assebley.



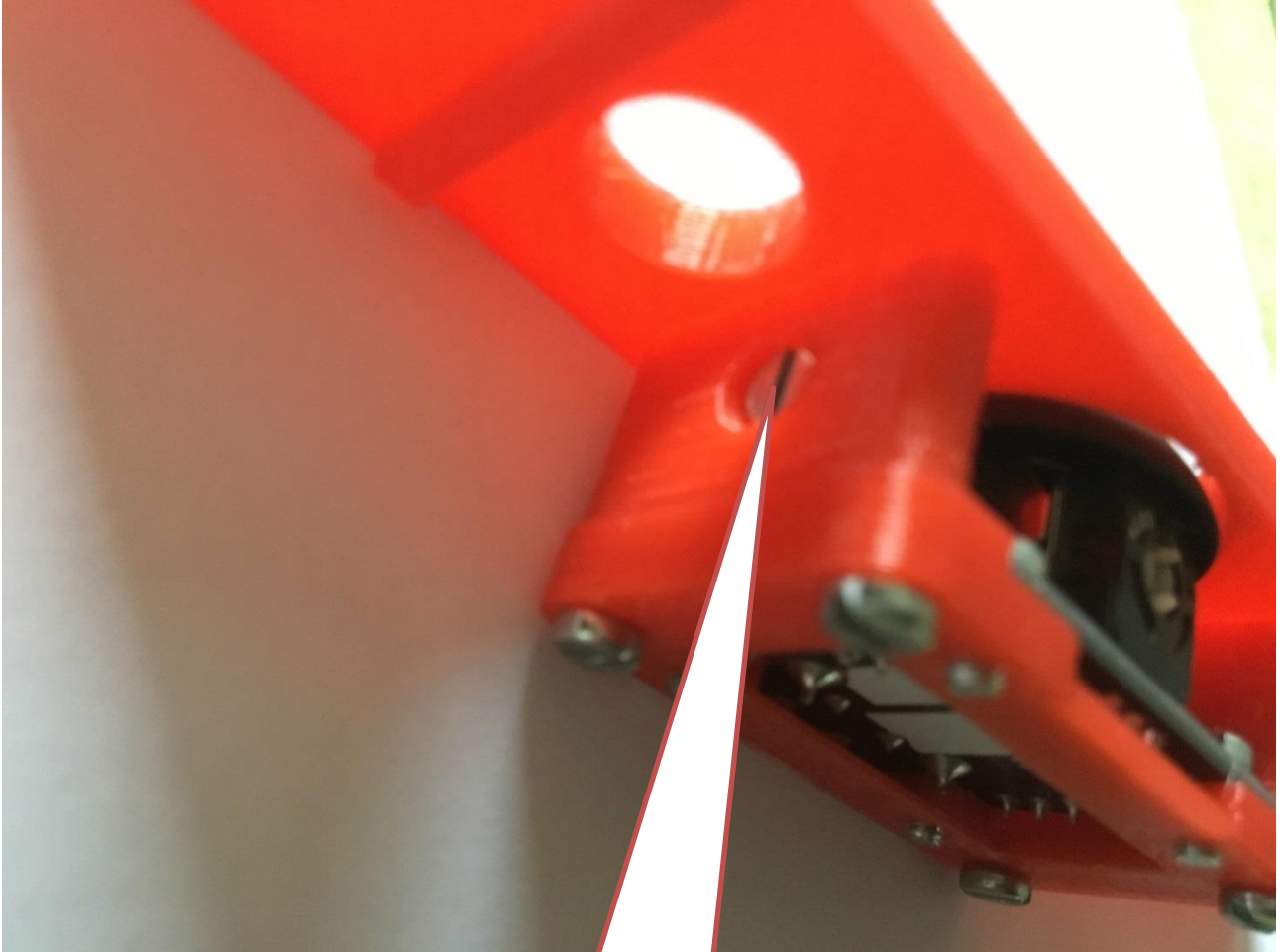
Assembly of the joystick (YAW left/right):



Same procedure
Note jumper wire color.



Note 2 pcs. 3x10mm screw to lock the joystick (no up/down



Note 2 pcs. 3x10mm screw to lock the joystick (no up/down



Links:

Rotary encode

<https://github.com/buxtronix/arduino/tree/master/libraries/Rotary>

more encoder

<http://www.buxtronix.net/2011/10/rotary-encoders-done-properly.html>

Jumper wires

http://www.ebay.com/itm/40PCS-Dupont-Wire-Jumper-Cables-10cm-Female-To-Female-1P-1P-For-Arduino/311660166123?ssPageName=STRK%3AMEBIDX%3AIT&_trksid=p2057872.m2749.l2649

Joystick

http://www.ebay.com/itm/5PCS-5Pin-JoyStick-Breakout-Module-Shield-PS2-Joystick-Game-Controller-AL/400797796174?ssPageName=STRK%3AMEBIDX%3AIT&_trksid=p2057872.m2749.l2649

Pushbutton:

http://www.ebay.com/itm/5PCS12mm-250V-3A-Red-Push-Button-Switch-PBS-11B-No-Self-Lock-ON-OFF-Lock/311576502410?ssPageName=STRK%3AMEBIDX%3AIT&_trksid=p2057872.m2749.l2649