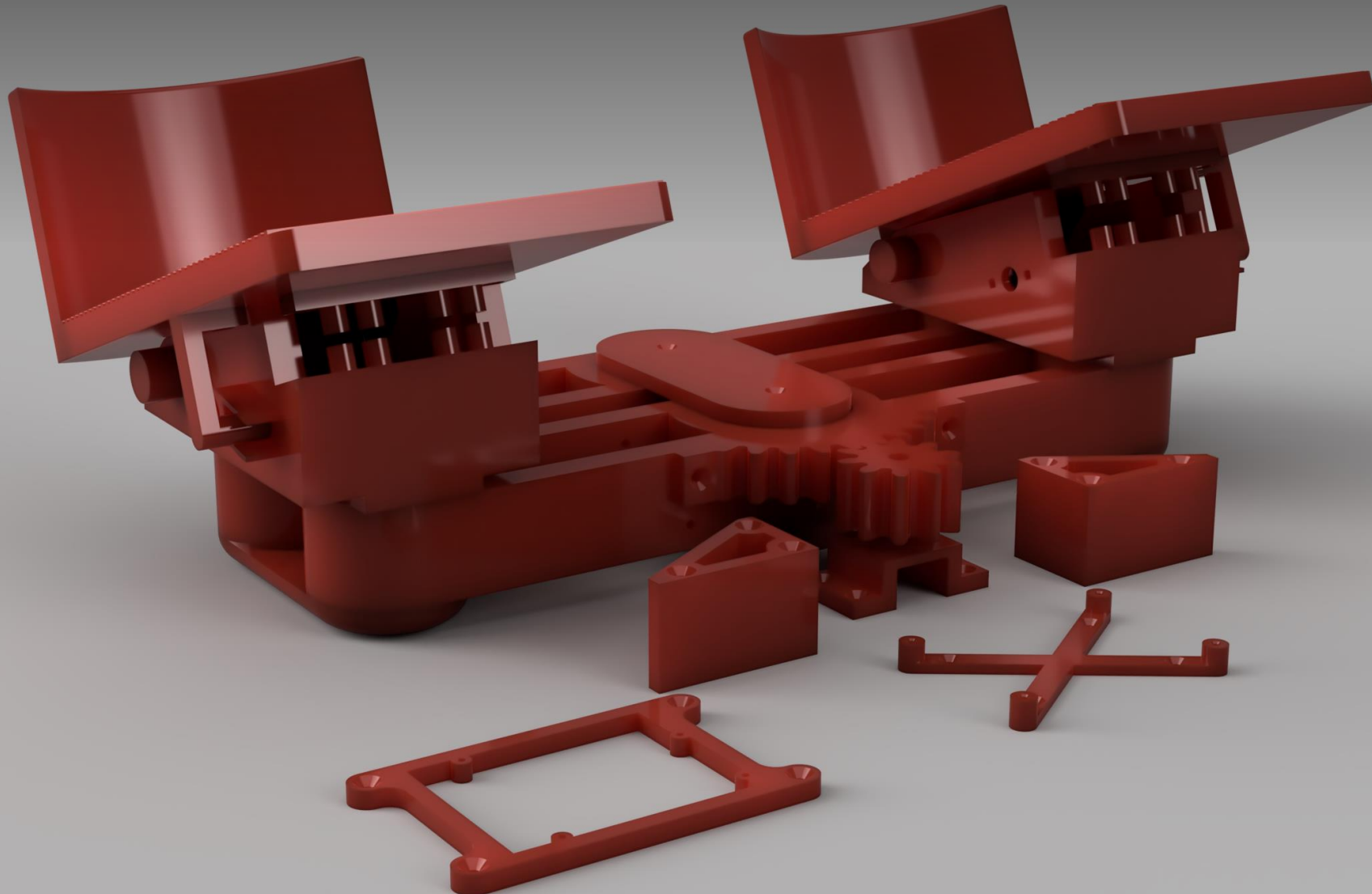


FLIGHT SIMULATOR PEDAL (RUDDER & BRAKE)

BY DANILO VILARDI

rev2021



Material list and assembly video link

Print STL files:

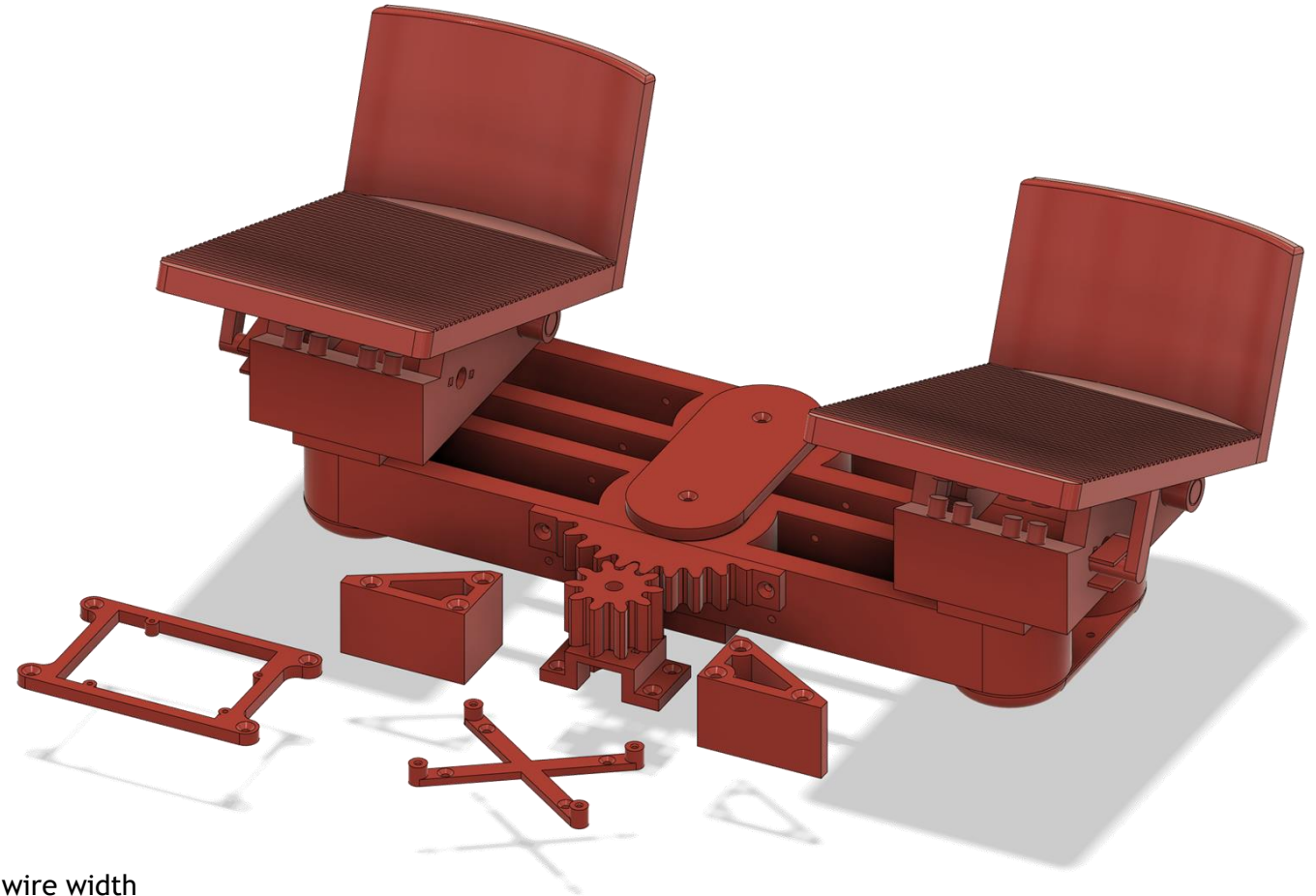
- 1 x Arduino Mount
- 2 x Brake Axis Pin
- 2 x Brake Axis Pin Cap
- 2 x Brake Potentiometer Fork
- 1 x Central Pins
- 1 x Central Pins Cap
- 2 x Limiter
- 2 x Pedal Base Main Body
- 2 x Pedal Base Pins
- 2 x Pedal Base Pins Cap
- 2 x Pedal Heel
- 2 x Pedal Hold
- 2 x Pedal Main Body
- 2 x Pedal Potentiometer Lever
- 2 x Pedal Spring Mount
- 1 x Phenolite Holder (optional, to better manage the wires)
- 4 x Rotation Bar
- 1 x Yaw Gear
- 1 x Yaw Pot Gear
- 1 x Yaw Potentiometer Support

Additional items:

- 3 x B10K potentiometers
- Wires
- MDF plate (15 x 300 x 400 mm / 5/8" x 10" x 12")
- M3 self drilling screws
 - M3 x 12mm, M3 x 16mm, M3 x 25 mm, M3 x 40 mm
- 5 cm x 7 cm phenolite plate (optional, to better manage the wires)
- Springs
 - 8x Compression Springs
 - 35 mm extended, 7 mm compressed, 9 mm outer diam, 1 mm wire width
 - 2x Extension Springs
 - 24 mm compressed, 7 mm outer diam, 1 mm wire width

Assembly:

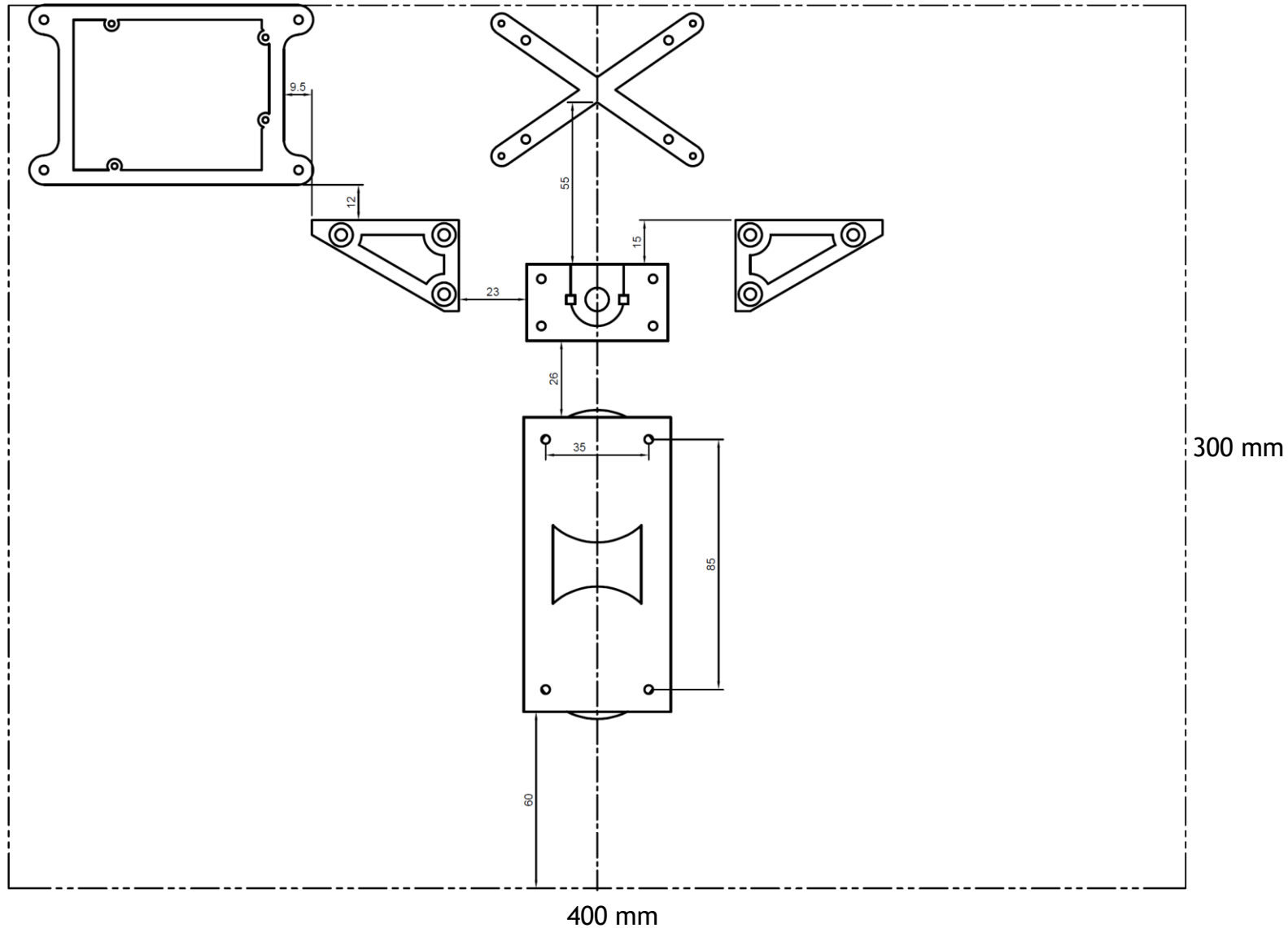
<https://youtu.be/B3WRmVOTyvY>



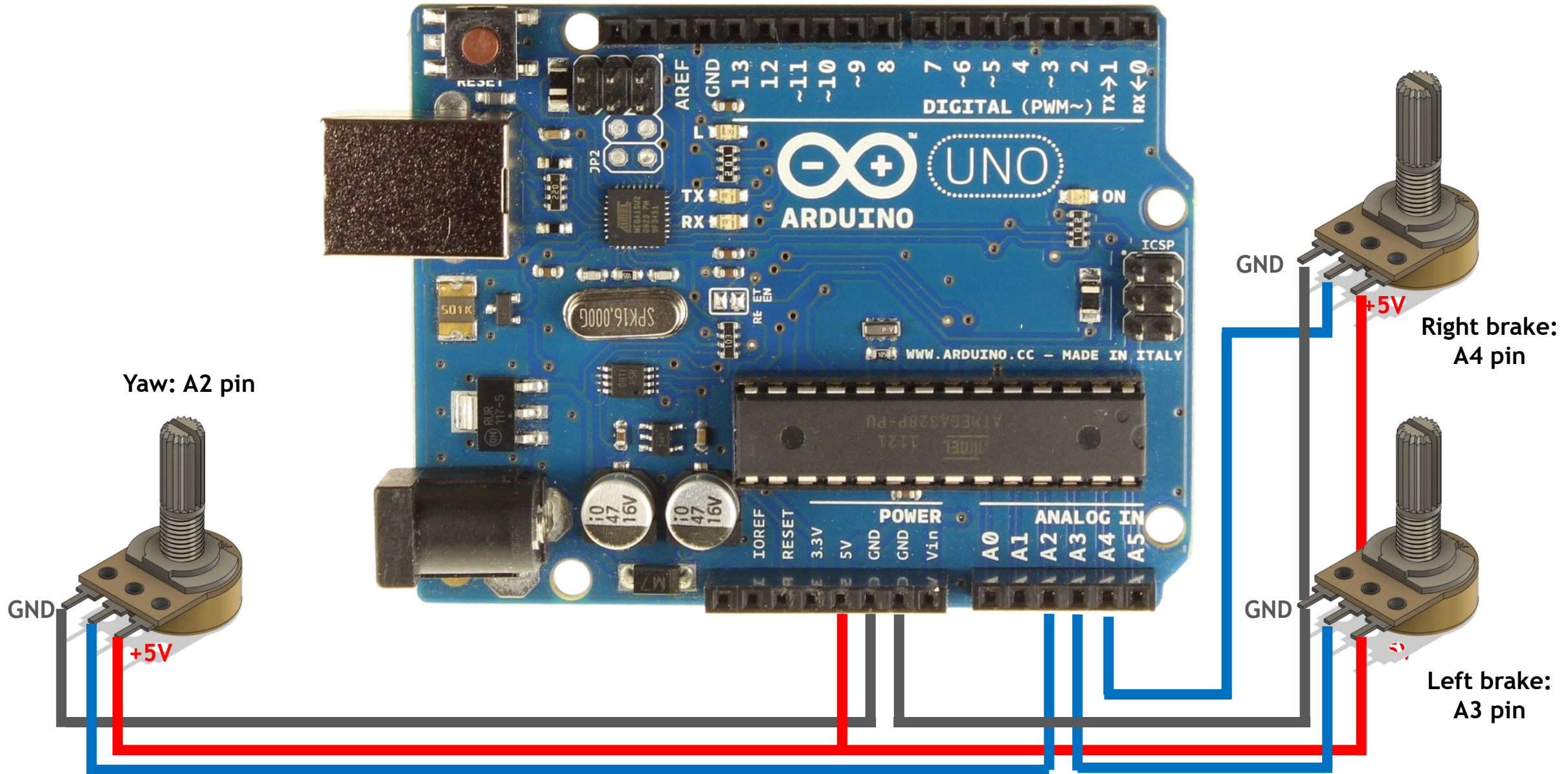
MDF plate hole distribution

Instructions:

- Get a MDF plate of at least 15 x 300 x 400 mm
- Draw a center line to be used as the axis line
- Use the printed parts and the distance reference on the image to mark the holes using a pencil
- Note: distances are in mm

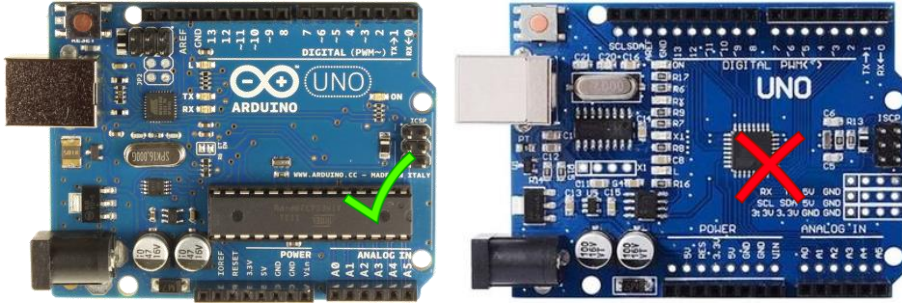


WIRING SCHEME USING B10K POTENTIOMETERS

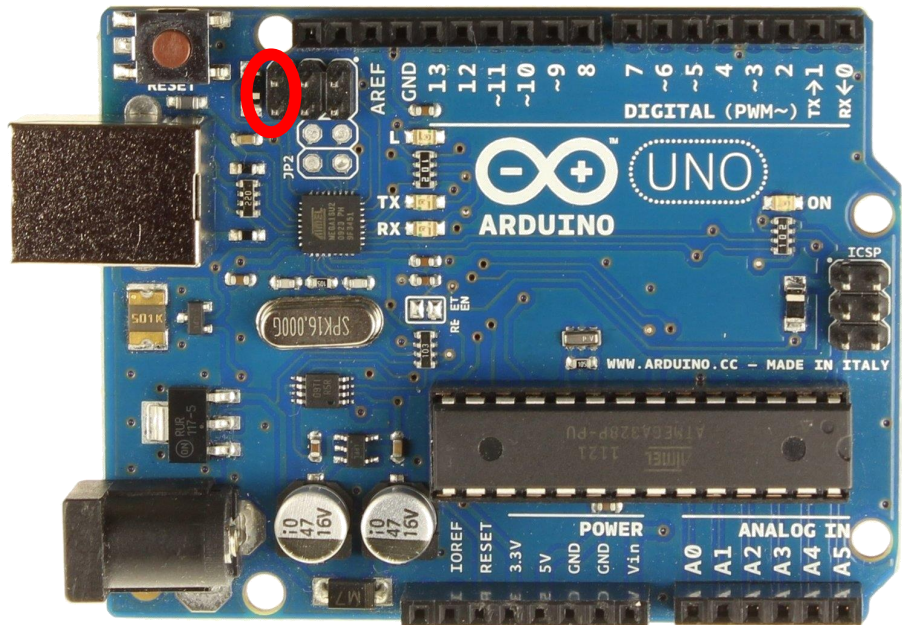


CONVERTING ARDUINO INTO A GAME CONTROLLER

1 - Make sure your Arduino has an Atmel chip



2 - Check if your Arduino has *DFU mode pins*



Download and install the Arduino Software

<https://www.arduino.cc/en/software>

Download and install FLIP (including JRE)

<https://www.microchip.com/Developmenttools/ProductDetails/FLIP>

Download UnoJoy and unpack it

<https://github.com/AlanChatham/UnoJoy>

<https://www.mediafire.com/file/2e1jgt2nra2g6q1/UnoJoy.rar/file>

Connect your arduino to your PC via USB

Open the Arduino software and load the attached “PedalJoy2021” code into your arduino

“Short” the 2 DFU pins with a metal piece (key, screw, etc)

Navigate to \UnoJoy\UnoJoy-master\UnoJoy and load ***TurnIntoAJoystick.bat******

Disconnect and connect the USB cable. Windows should now recognize as a joystick

Open window’s native game controller manager and calibrate it

***if an error message appears (*AtLibUsbDfu.dll not found*), there’s a quick fix on this video: <https://www.youtube.com/watch?v=KQ9BjKjGnlc>