D3D Universal - RAMPS Wiring
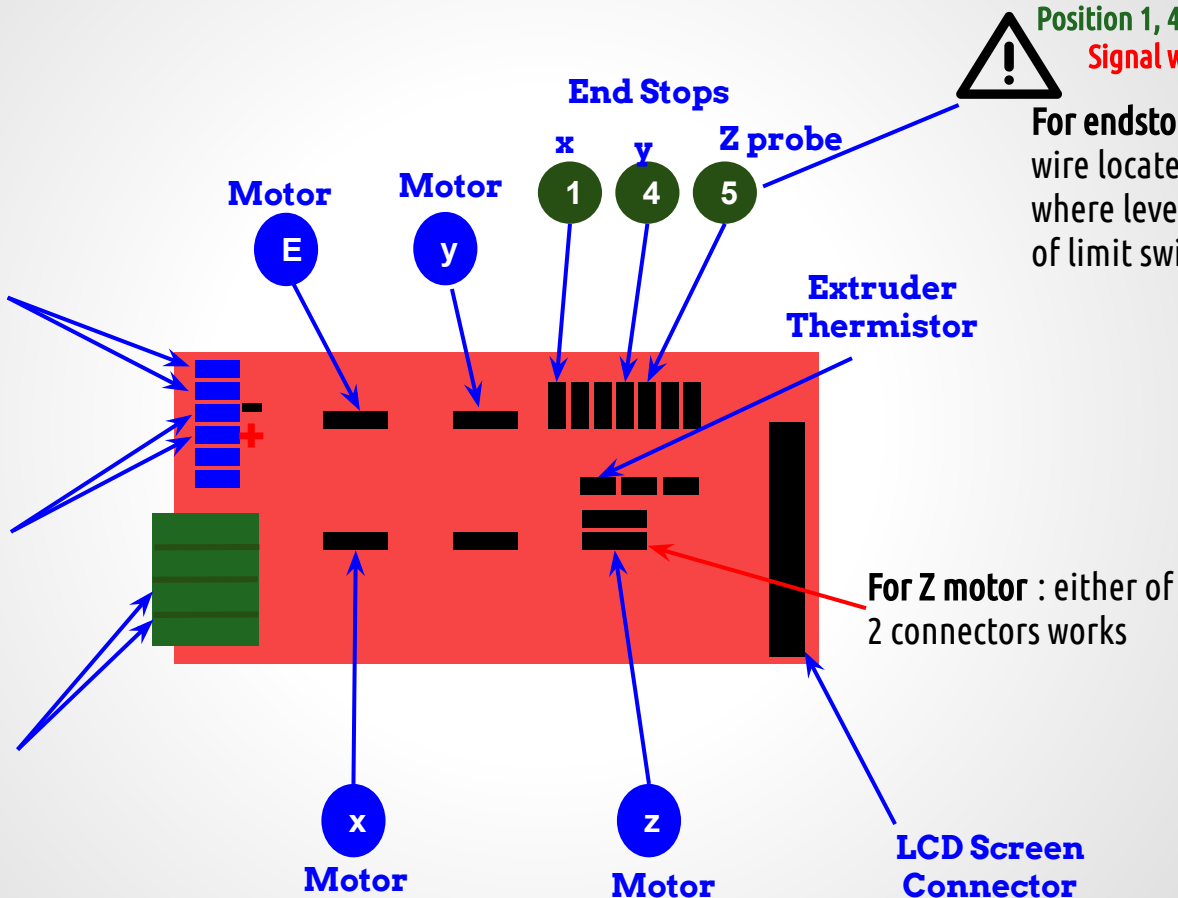
Position 1, 4, 5 from right.
Signal wire on top

For endstops: Signal wire is the wire located under the location where lever connects to the body of limit switch

End Stops

x y Z probe

1 4 5

Motor

E

Motor

y

Extruder

Extruder Thermistor

Polarity matters.
Extruder Blower

Polarity matters!

Power from Supply + Extruder Fan. Top 2 connections.

x

Motor

For Z motor : either of 2 connectors works

z

Motor

LCD Screen Connector

D3D Universal 1 - Controller Wiring
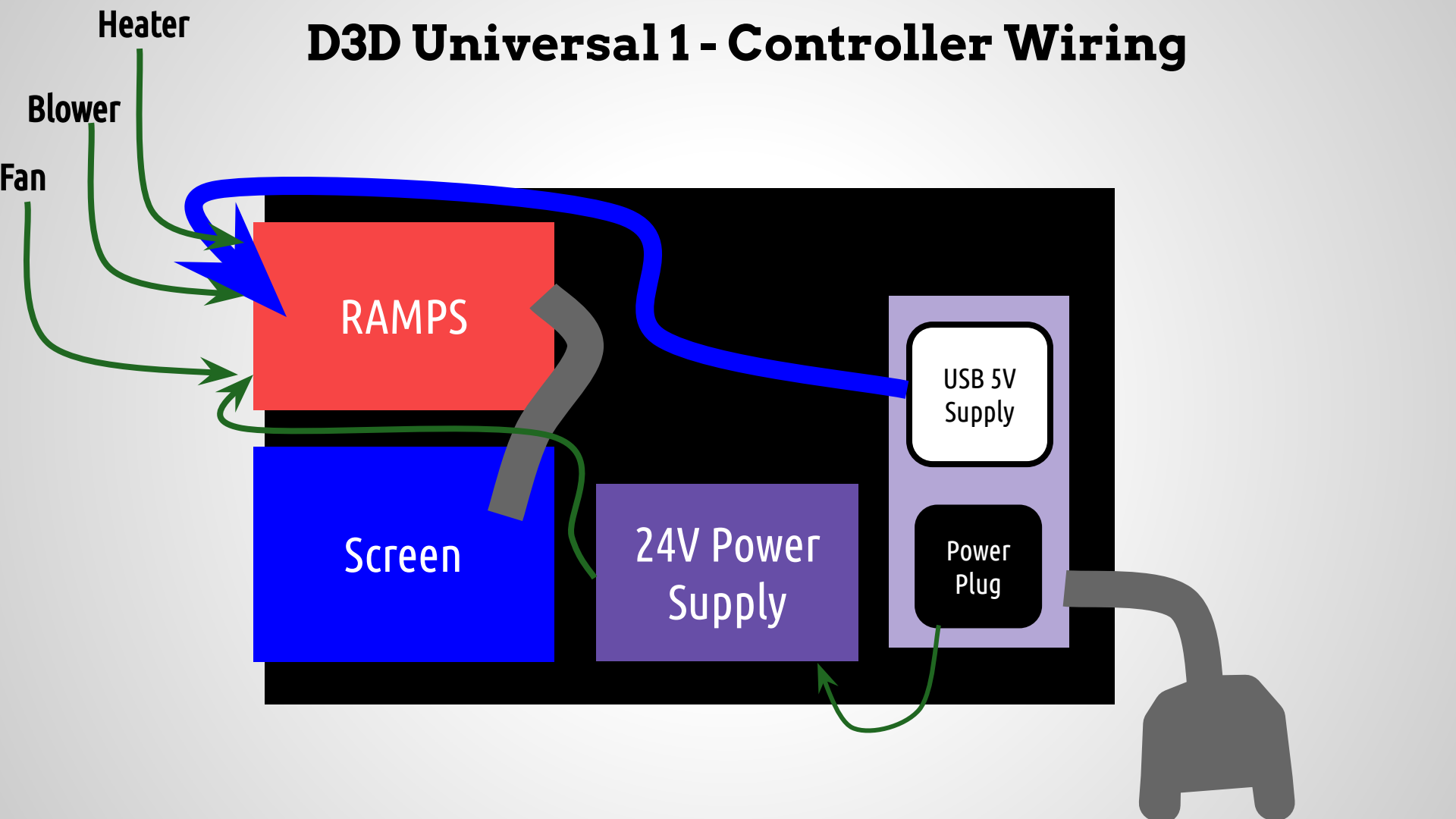
D3D Universal - Mounting on Base

1

Idler of Y axis mounted at upper left corner even with edge

Print Bed

Motor of Y axis mounted at lower left corner even with edge

Endstop location

Control Panel

Control panel even with edge

2

Y Axis

Z axis

X axis

Mount X axis to Z axis first. Move extruder to endstop. Z axis should be located such that the **lower right corner of print bed is right under extruder nozzle** tip.

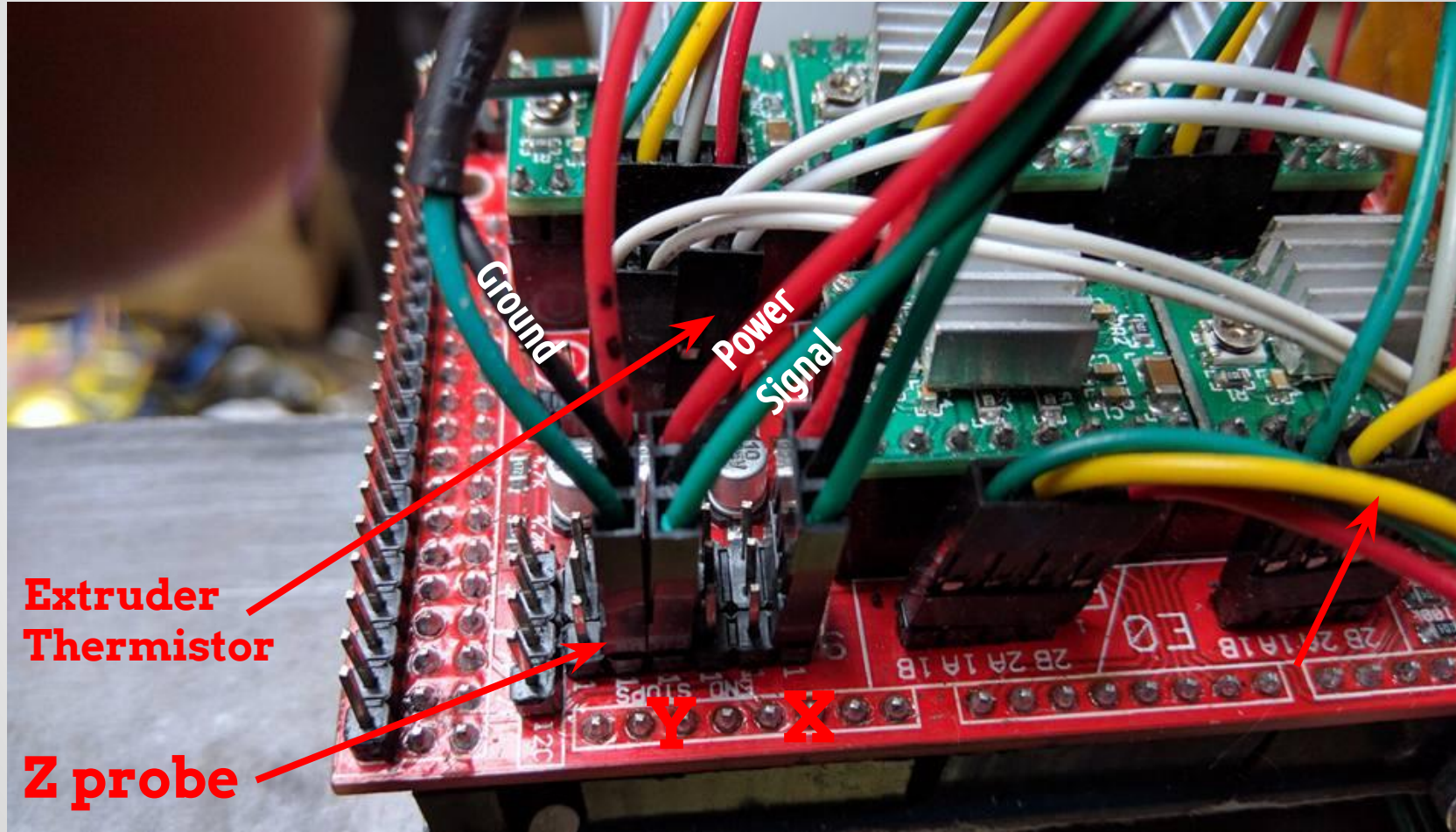# D3D Universal Stepper Wiring

- PHR-6 connector (white) connects to the stepper motor, and Dupont Connnector (black) connects on the board
- Order of wires must be the same on controller and on the stepper motor
  - Re-pin if you have to at the black end of the wire which plugs into the board, not at the PHR-6 side. To do this, lift the latch that holds the metal crimp using a needle, and pull out the wire. Push the latch back in to insert.


Z

X

Thermistor

Y

E

Endstops
(next page)

Extruder
Heater

D3D Endstop + Thermistor Wiring

Height Probe - 2017 Build

Endstop Plug

Take the 5V heigth sensor, and connect it to an endstop wire

1. Use heat shrink to wrap the wire
2. Connect the black wire of the height sensor to the green wire of the endstop plug
3. Connect the blue wire of the height sensor to the black wire of the endstop plug
4. Connect the brown wire of the height probe to the red wire of the endstop plug

Ground   **Power**

Signal
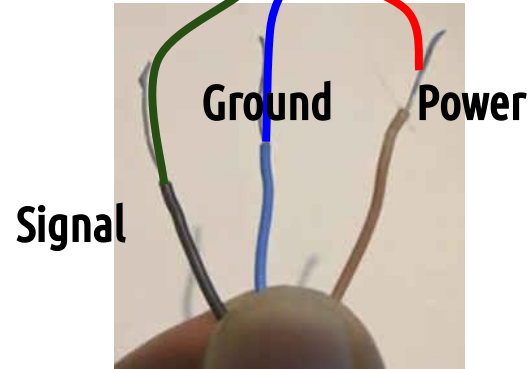
Height
Probe

Old Version

D3D Final Assembly - Orientation

See **Workshop Announcement**.

X motor is on left side facing the Y1 motor

Y1 motor is at Left Back Side, Y2 motor is at Right Back side

Belt peg on top on Y
Peg on bottom on X
Peg on right on Z

Left

Y1

Y2

Z Motor is at the top (not bottom as shown)

Back
Defined by location of Z axis

Front

Right
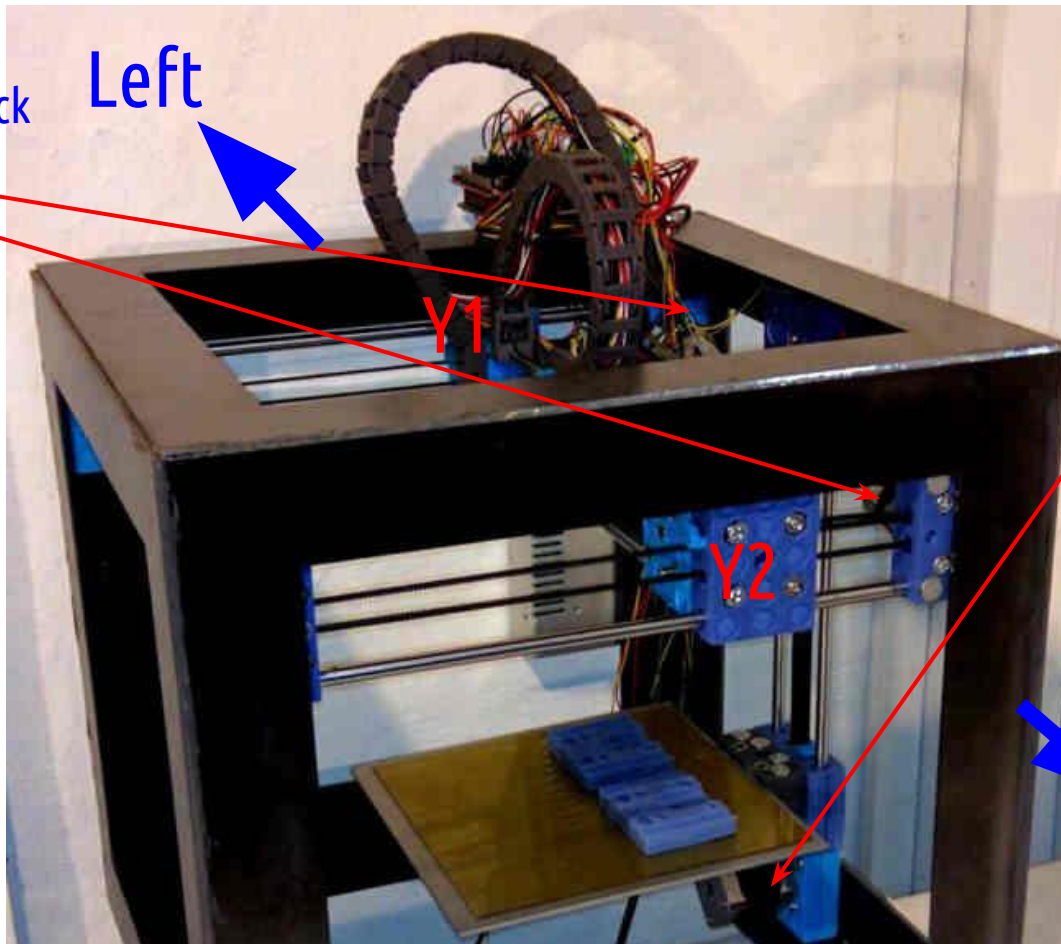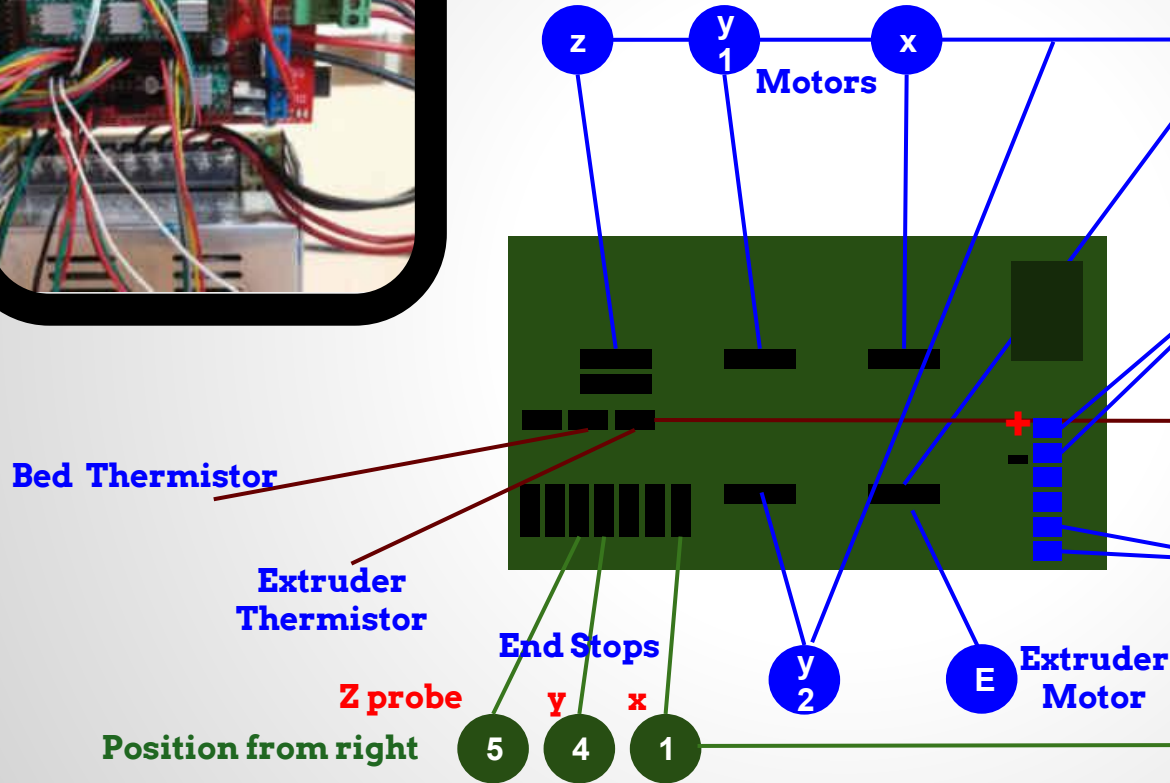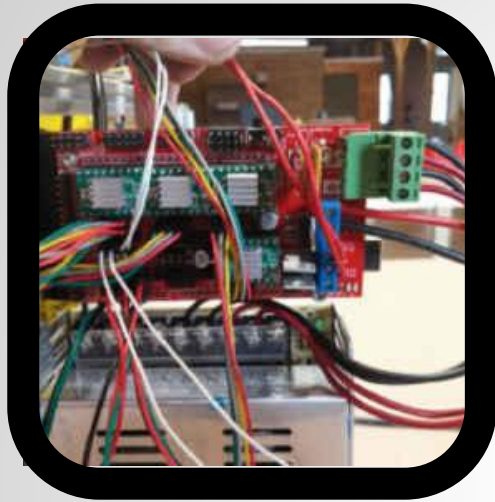
D3D Wiring

1b

1

5
Top 2: + and -
Heat Bed

2

4
Bottom 2
Extruder

3
position
1, 4, 5

Motors

z   y 1   x

Bed Thermistor

Extruder Thermistor

End Stops

Z probe   y   x

Position from right

5   4   1

y 2   E   Extruder Motor

D3D Stepper Wiring

- Follow this wiring convention exactly as shown for X,Y1,Y2,Z: Green-Blue-Black-Red wire order from left. Start with the [PHR-6 connector](#) on the stepper motor, and match the [Dupont Connnector](#) order (control board side of wire) to that.
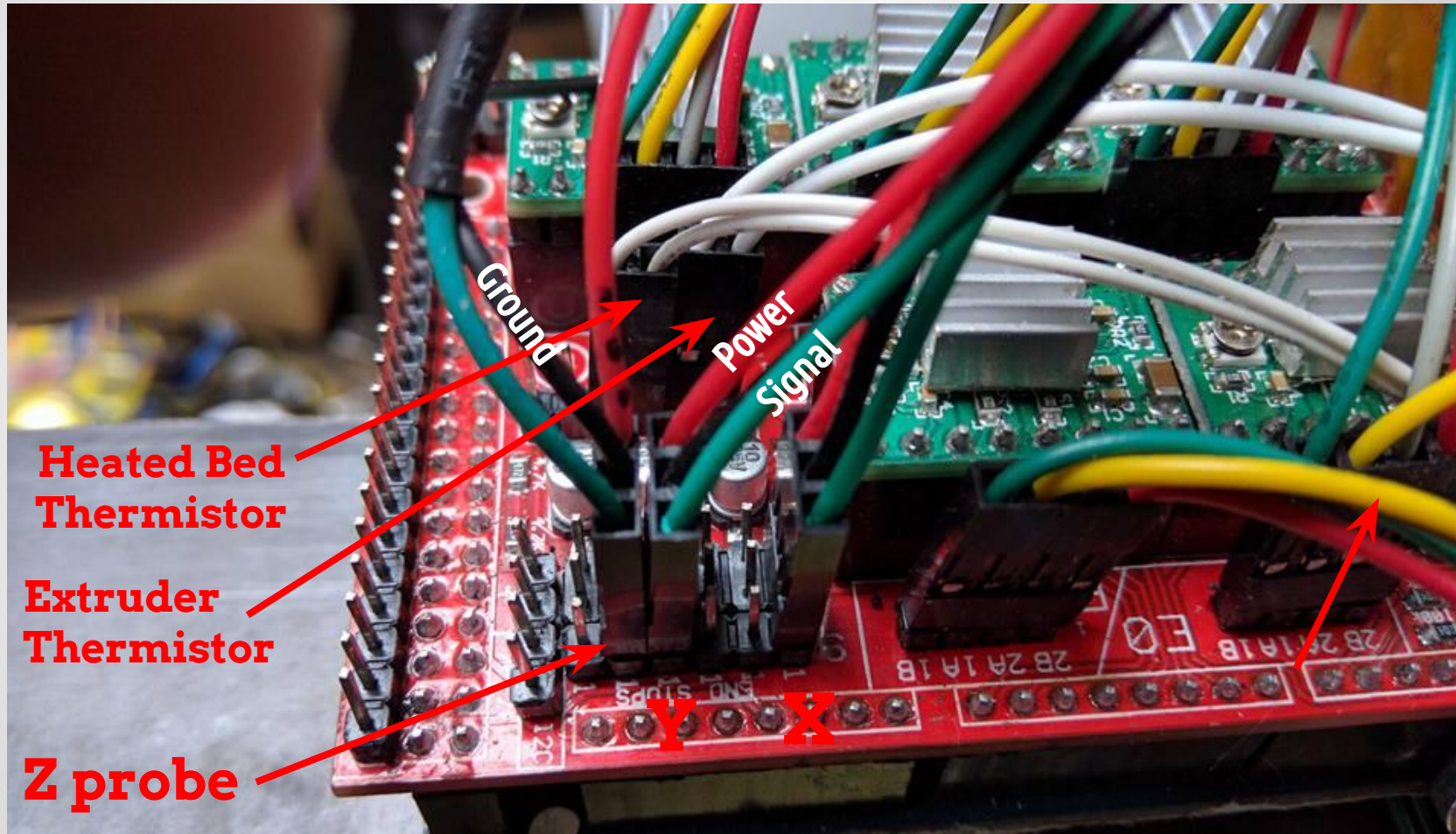- Extruder connector has Green-Black-Blue-Red wire order (different)
- PHR-6 connector is on the stepper motor side is Green-Blue-Black-Red (just like on all other steppers)
- Change pins if you have to at the black end of the wire which plugs into the board, not at the PHR-6 side. To do this, lift the latch that holds the metal crimp using a needle, and pull out the wire. Push the latch back in to insert another metal crimp.
- More c on [Facebook](#)

Note that in D3D v18.01 - the wiring shown will make the y motion go in the opposite direction.
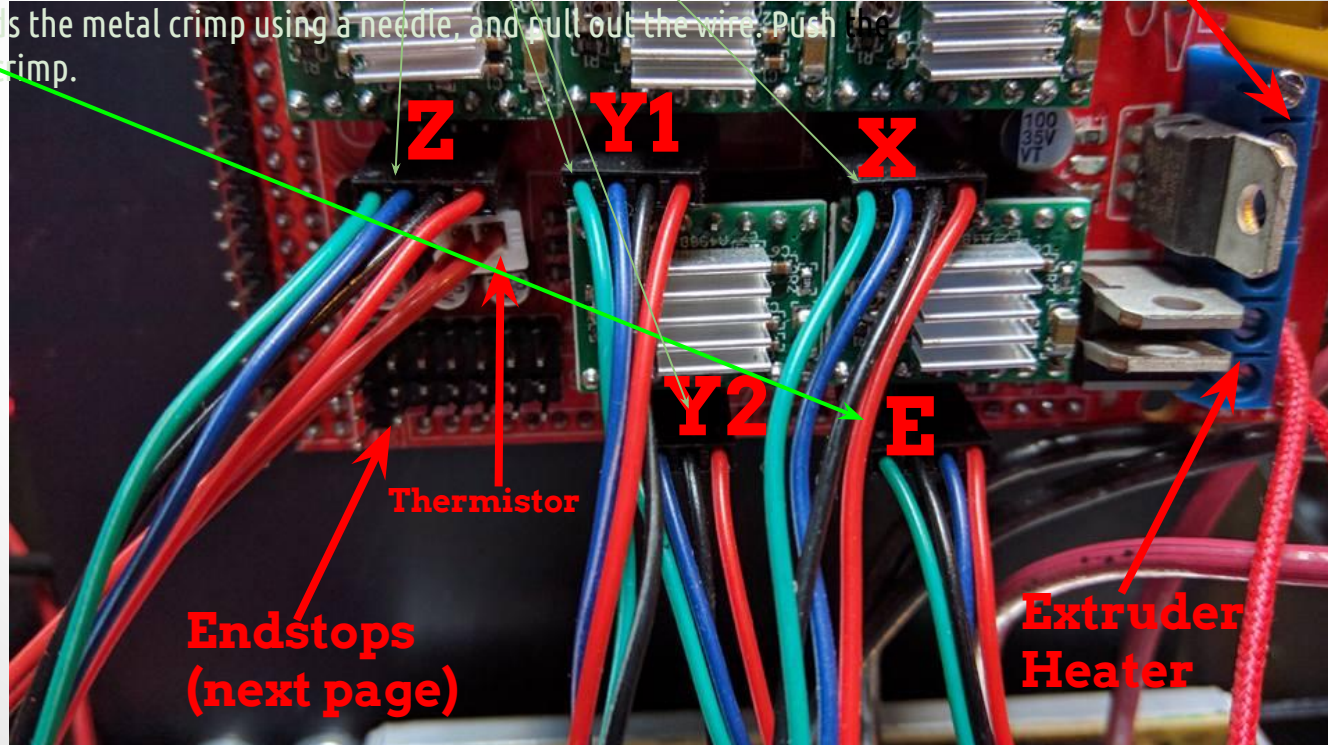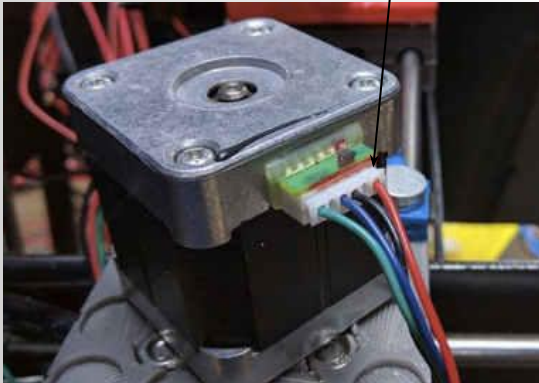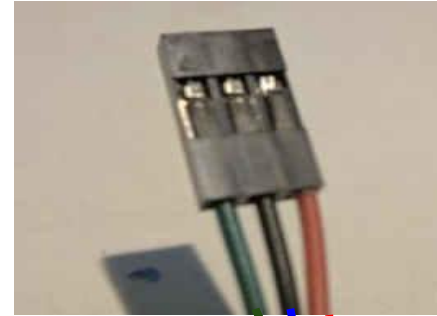
Heated Bed

Z

Y1

X

Thermistor

Y2

E

Endstops (next page)

Extruder Heater

D3D Endstop + Thermistor Wiring

Height Probe - 2017 Build

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Ground   **Power**

Signal
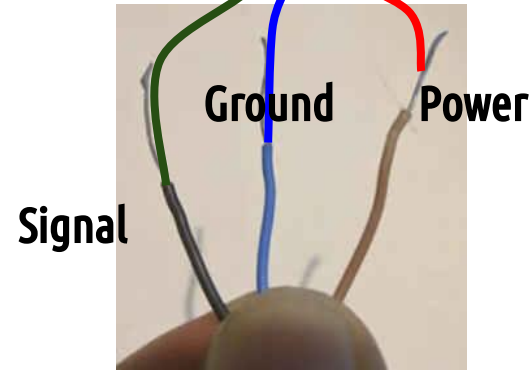
Height

Max current in devices connected to ramps 1.4

Component	Max current	Comments
Stepper Motor	1.5A	Per winding link So the 2Z axis motors max amps is 3 A
End stops		Directly connected to µC How many end stops? Link The wiring diagram doesn't correspont to the figure above
Thermistors	I=U/R=5/4.7k= 1.06mA	Considering thermistors part of link
HBP Heather	15A	link
Extruder Heaters	1A	

This will help to decide, how many component ends will be used to go into one CAT 5 wire, so that, we will not have more than 2A (max supported) current in a CAT 5 wire