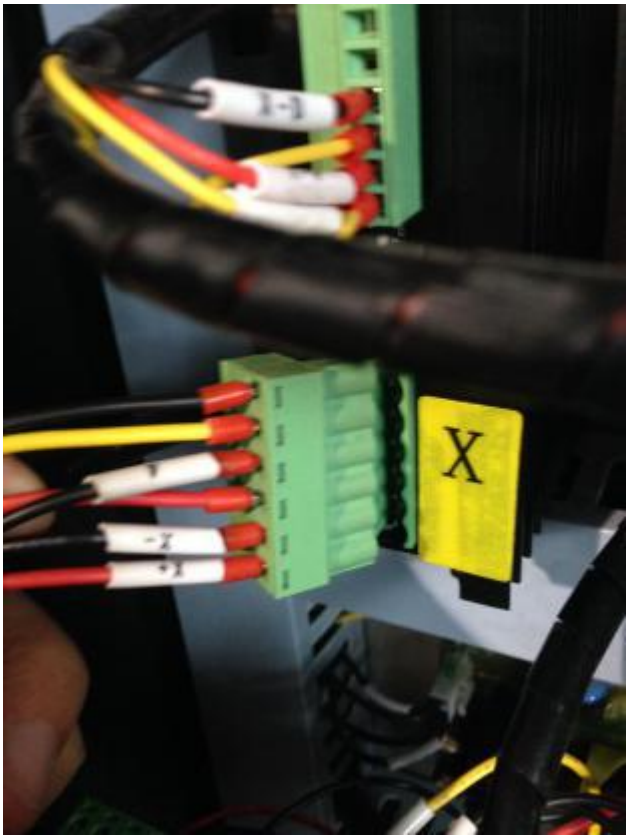
There are two conditions about when X,Y,Z axis move in the opposite direction or abnormally.

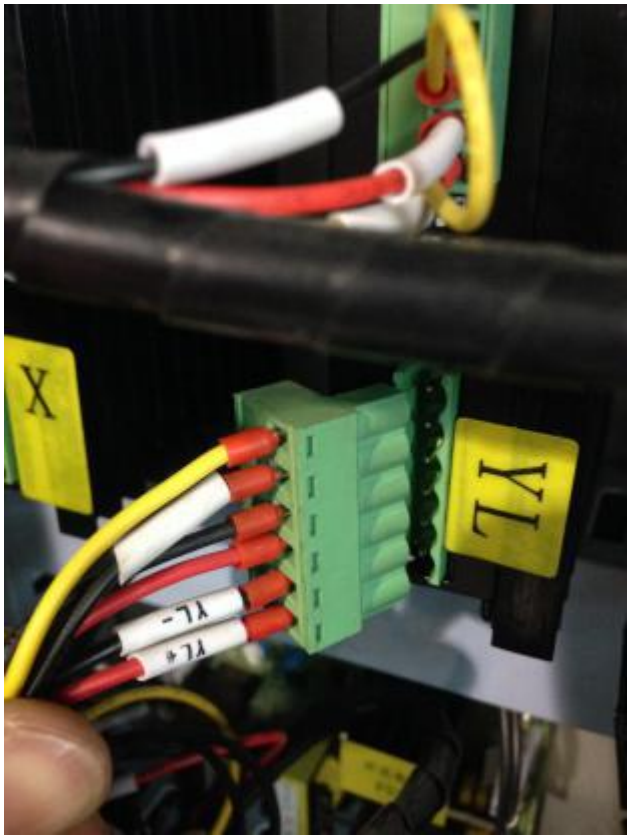
1, Operate the machine via Ncstudio control system or DSP handle, and press X+, X-, Y+, Y-, Z+, Z- to diagnose which axis moves abnormally.

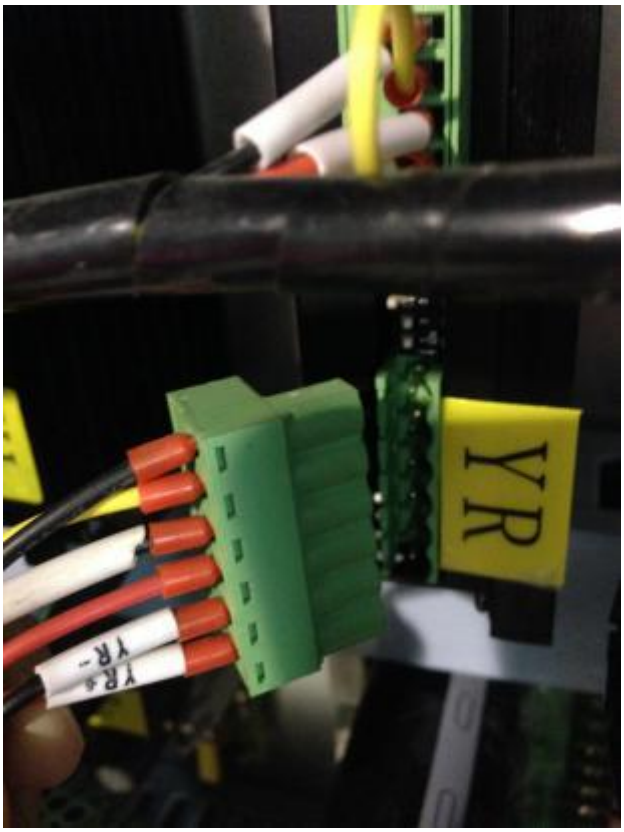
2, After finding the wrong Axis, then check if its driver works well. There are green light and red light on driver. Green light twinkling means that driver works well. Otherwise, driver cannot work. There are two situations:

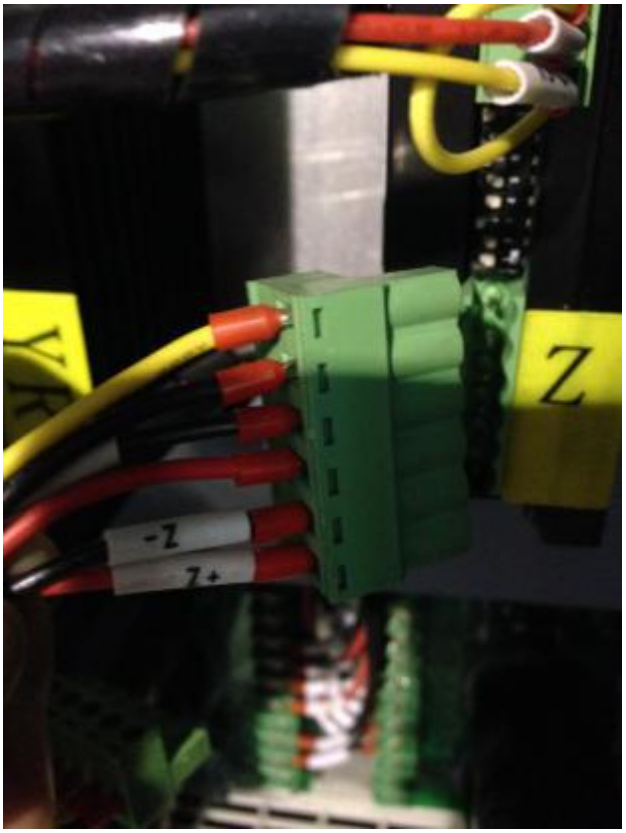
A: Both green light and red light on X,Y or Z axes' driver don't work, then the axis maybe moved in the opposite position. There are two reasons for this phenomena.

a) The driver is bad, check the {X+, X-}, {YL+, YL-},{YR+, YR-},{Z+, Z-} and see if the lines are changed.(Pictures below is correct, if your X+, X- wire is changed position, it will burn the driver.)









b) If these lines' position are not changed, then check the machine power supply by multimeter, there is current in the driver.

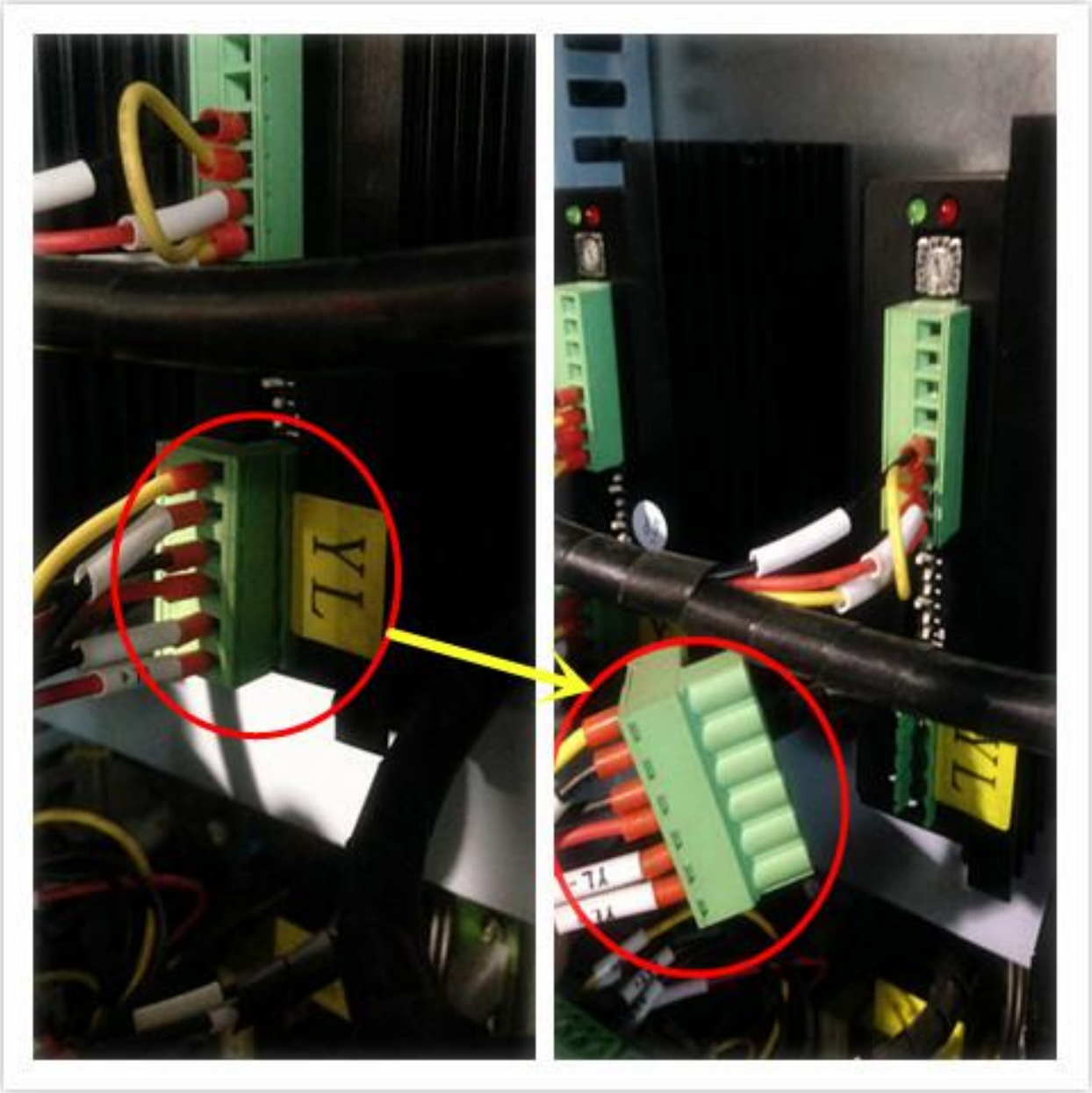
B. The driver's red light is twinkling. It means that driver is ok, but the signal line between driver and other electric parts has problems.

If problem is from Y axis, the checking procedure is different from X and Z axis. There are one step before a) and b) listed as below.

Because Y axis has two stepper motor, while X and Z axis has one stepper motor. If Y axis move abnormally, then maybe the two stepper motor are move in different manner.

Firstly, Pull out YL driver's down green connector with six lines and test the machine Y axis. If the Y axis move in correct direction, then the problem is

from YL driver, if it move in a reverse manner, the the problem is from YR driver.



After checking YL or YR driver don’t work, then follow a) and b) steps.

For X and Z axis, there are only a) and b) steps.

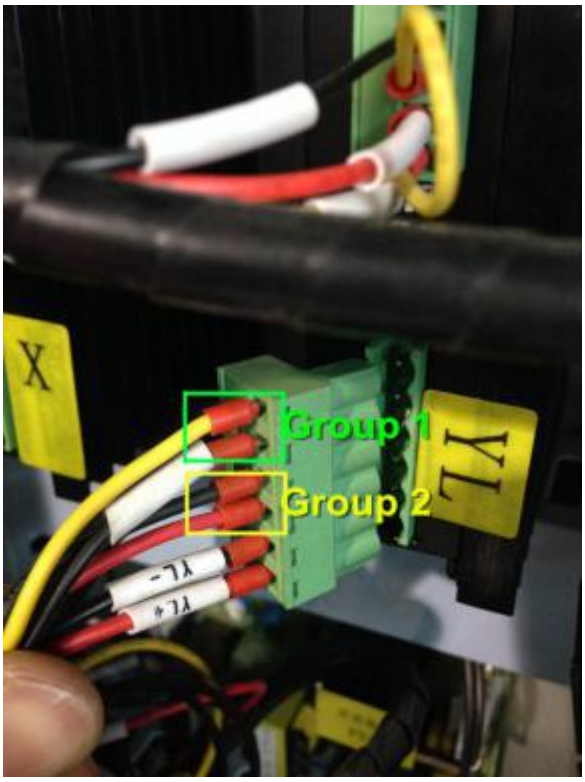
a>check if the signal line is loose or off its connector.

b>check if the signal line is connected correctly.

1)There are two groups of signal lines, each group includes positive hole line

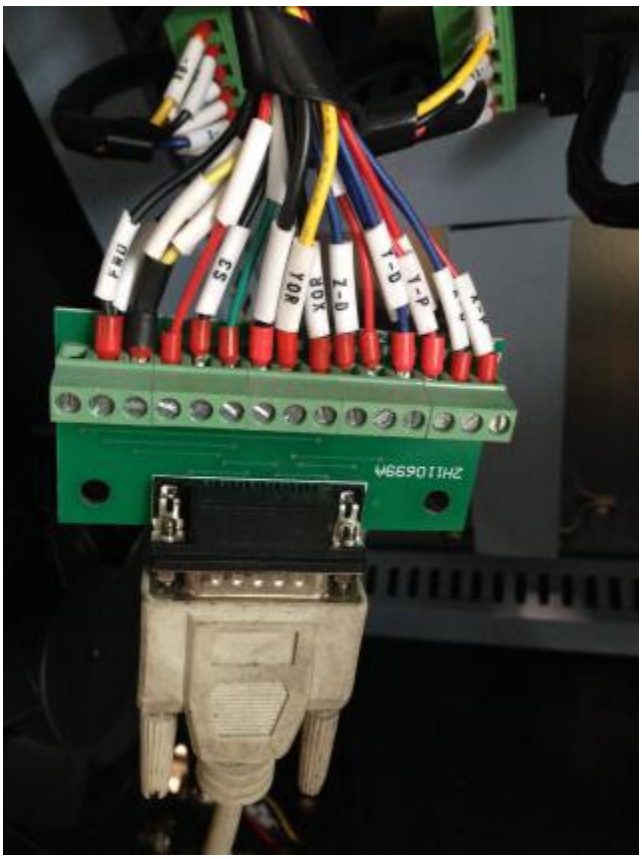
and negative hole line. Firstly, use multimeter to test if there is current through them.

Secondly, Change two lines's position of each group, if it cannot work, then change another group lines.

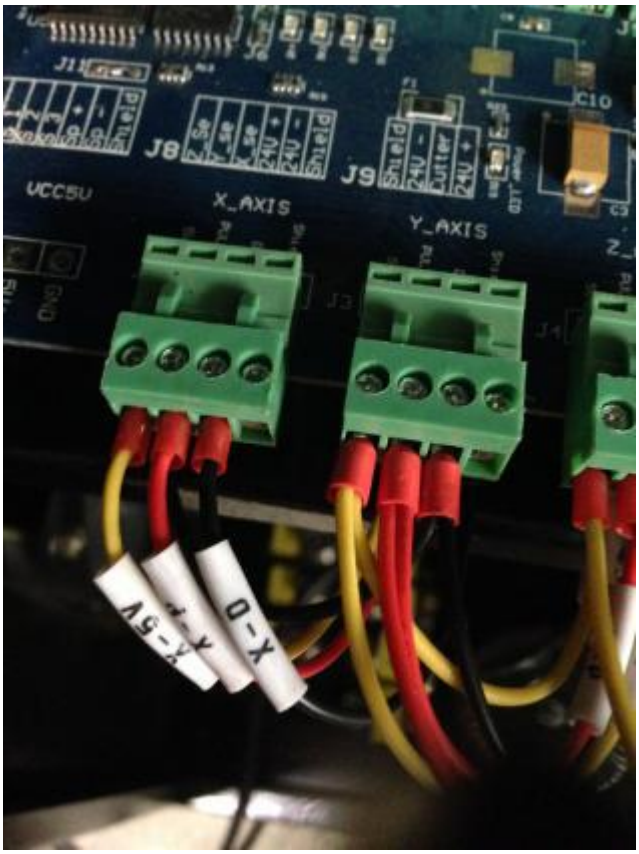


2)If this cannot work, then check the three cables X-D, X-P, X-5V's connection with control system's mainboard. There are wire number on it which is

matched with X-D, X-P, X-5V.



Ncstudio Mainboard in control box



DSP Handle Mainboard in control box