

ChinaCNCzone

Engrave your colorful life !

6040 3axis Steel Structure 2200W CNC Machine -MACH3 USB version



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Part 1 Assembling

Tools and spare parts needed during assembly:



Packing list

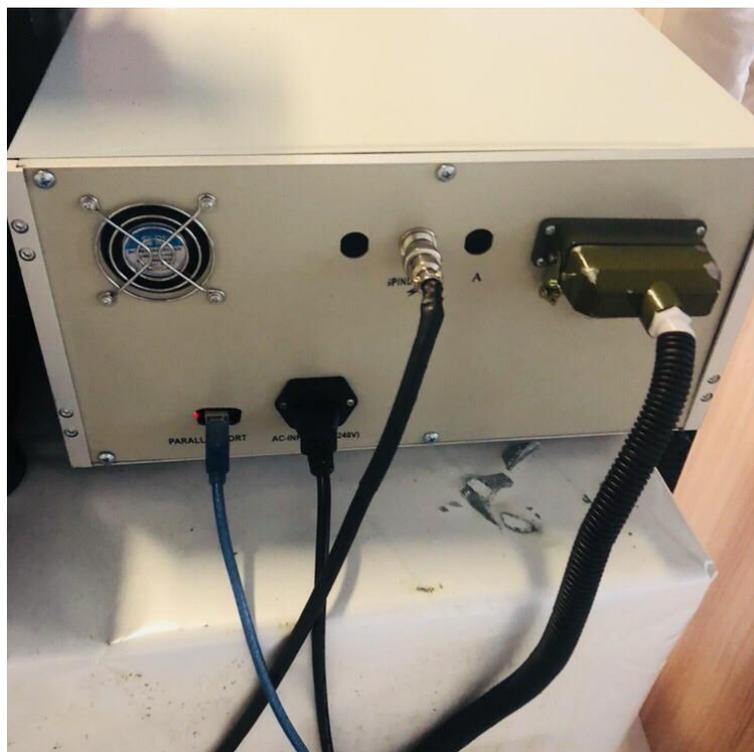
- 1 water pump* 2
- 2 water pump fixed feet * 8
- 3 Water pump inlet * 2
- 4 clamp tool * 6
- 5 Power Cable * 1
- 6 USB connect cable * 1
- 7 Spanner * 2
- 8 water sink outlet pipe * 1
- 9 Engraving bits * 5
 - 4F*6*6*19*63mm White steel bit * 1
 - 4F*6*6*15*50mm Tungsten steel milling bit * 1
 - 3.175*20°*0.1 * 1
 - 3.175*20°*0.2 * 1
 - 3.175*20°*0.3 * 1
- 10 Water box*2



1. Open the wooden box you received as below:

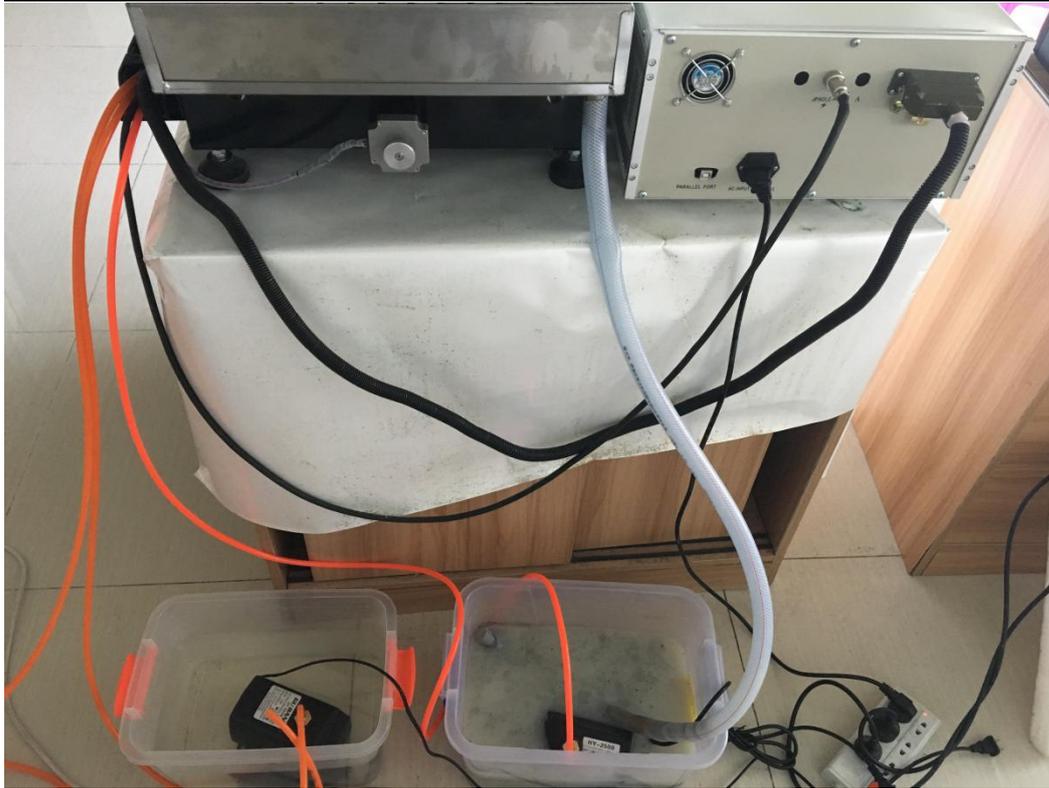


2. Controller box connection. Connect all lines from machine to controller box one by one; USB cable another side connect to computer.



3. Last step ,Water pump connection. Connect pipes between water pump and spindle. One pump for spindle, another for bits cooling.





Part 2 Mach3 installation and setting

1 Download MACH3

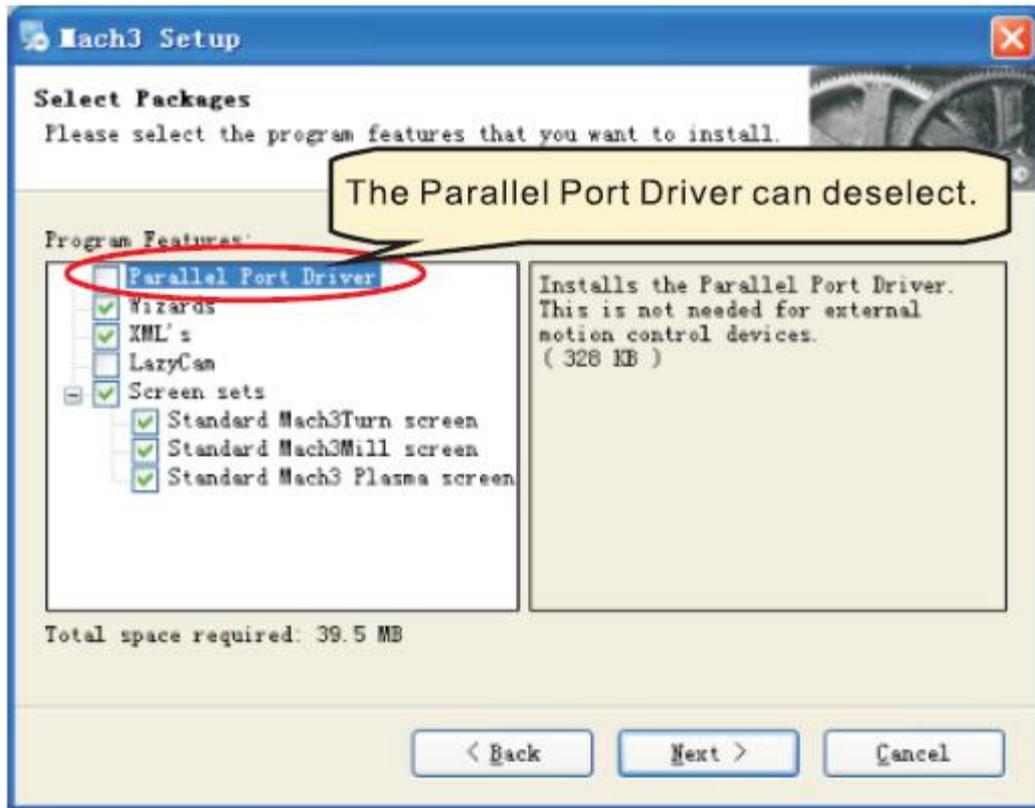
Download MACH3 from our official website

www.china-cncrouter.com or you can directly install MACH3 from CD,

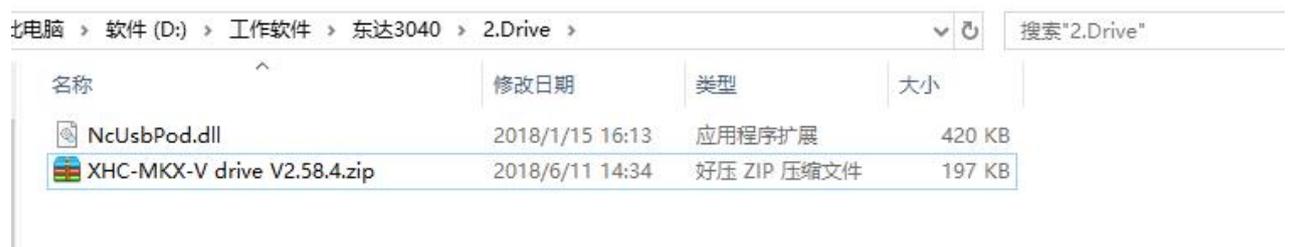
or get from the seller.

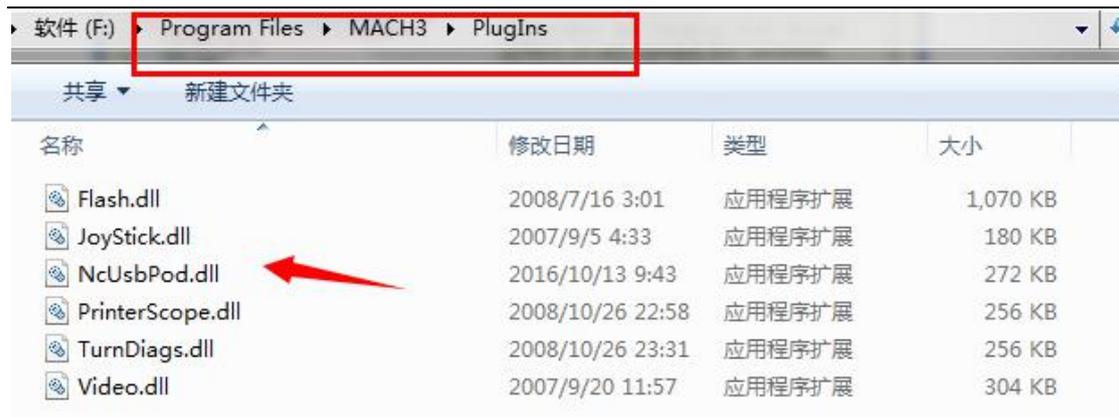
2 Install MACH3

Do not choose parallel port driver

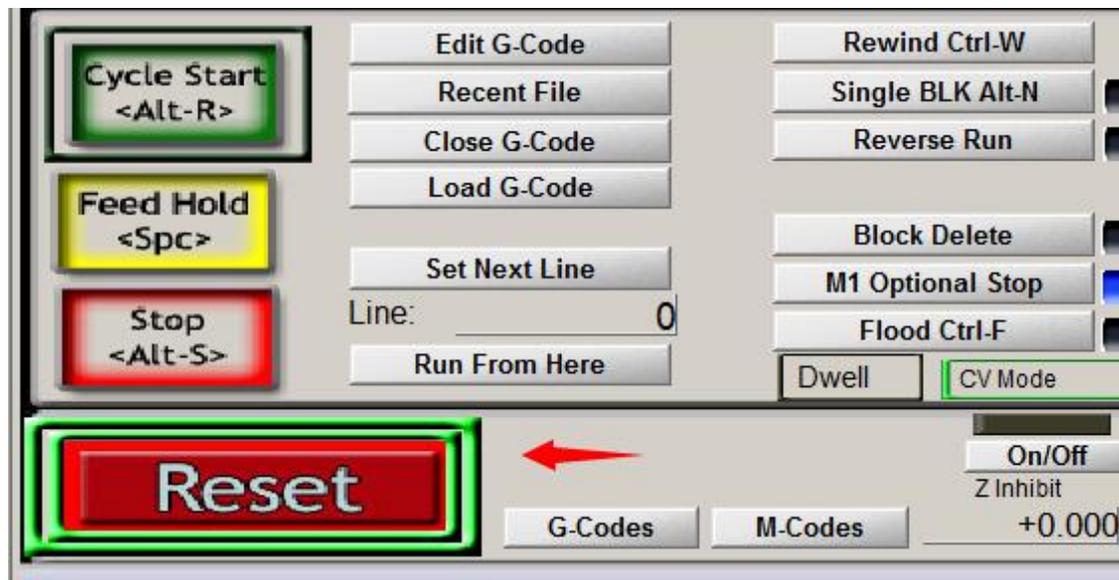


After installation finished ,Connect USB cable between controller box and computer. Copy [NcUsbPod.dll](#) from USB card driver file to [MAC3/PlugIns](#) file .This file to enable USB motion card.





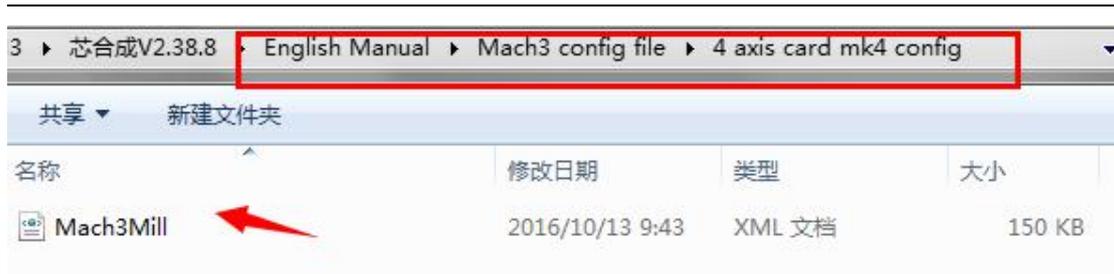
At last, click reset button to keep it green , let machine can normal work.



3 Mach3 software setting

Method 1:

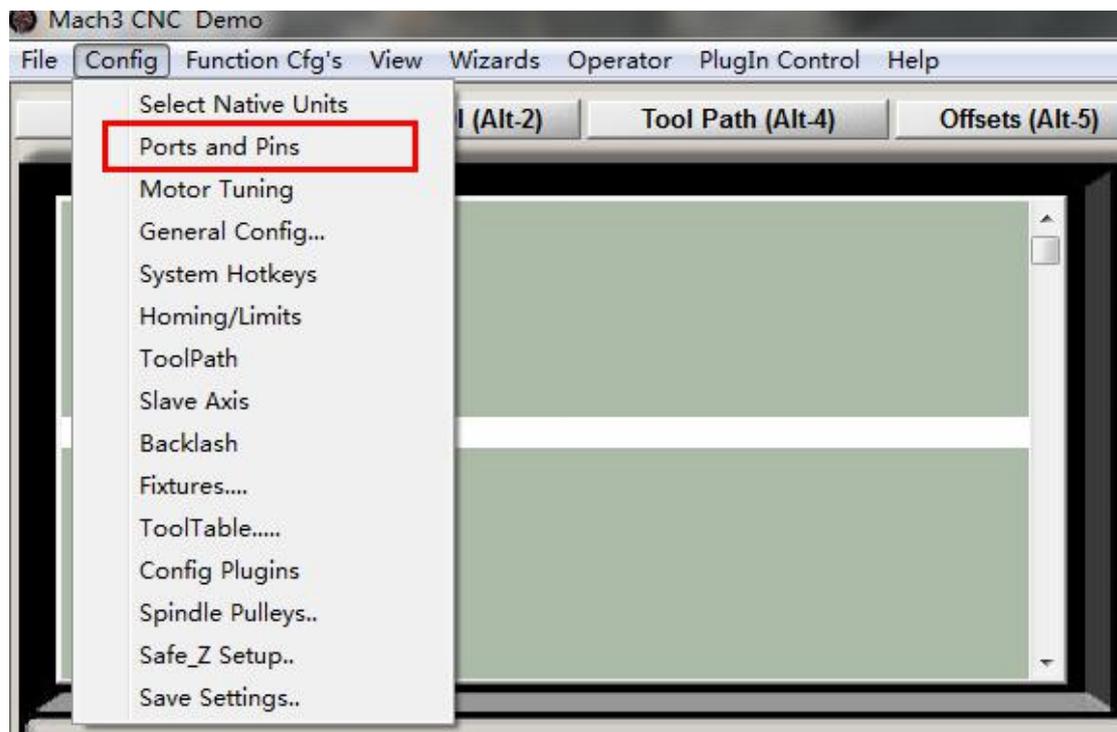
Copy [mach3mill.xml](#) from Setting file we gave to the filewhere Mach3 installed, The file is used to basic software setting .



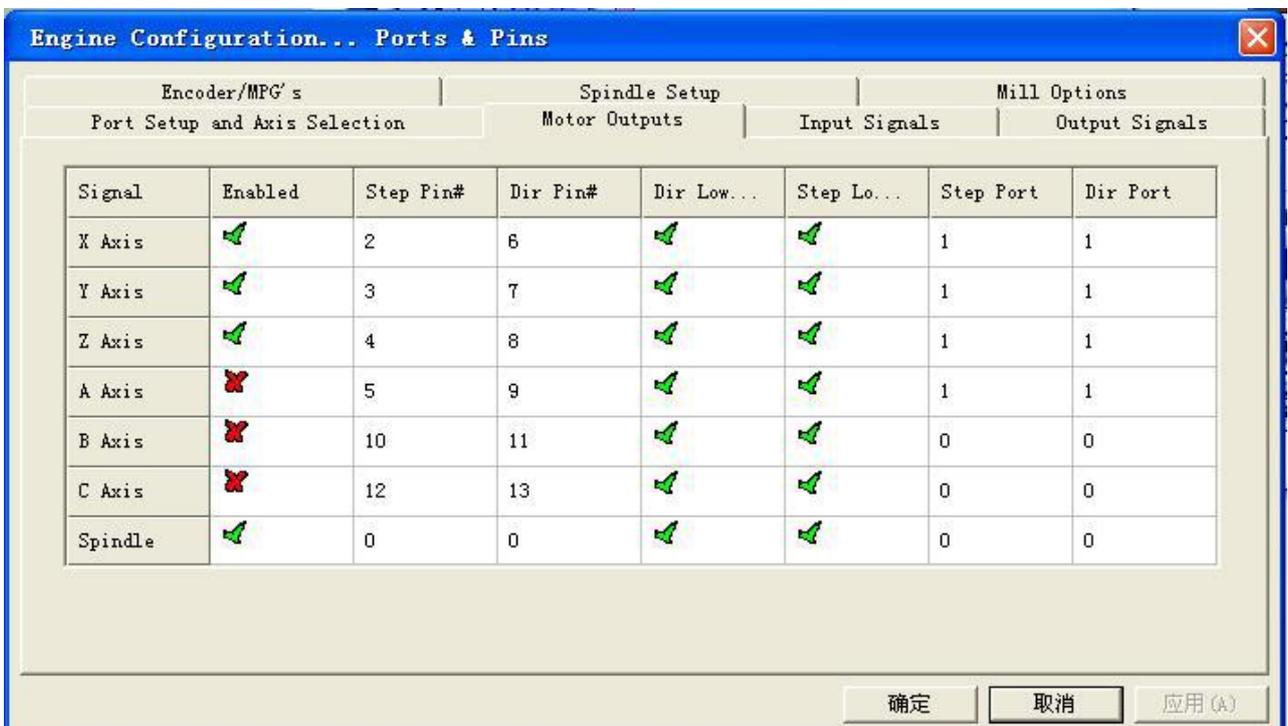
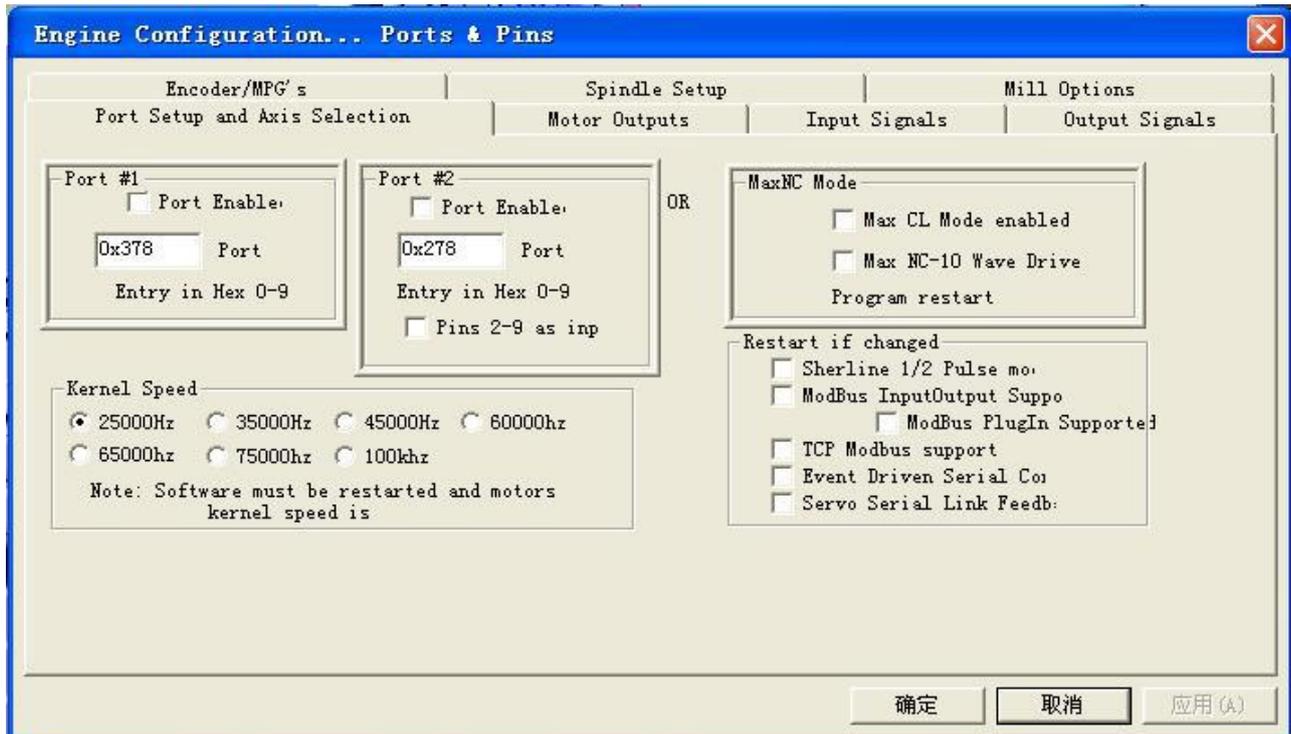
Then all setting will be done, machine ready to work.

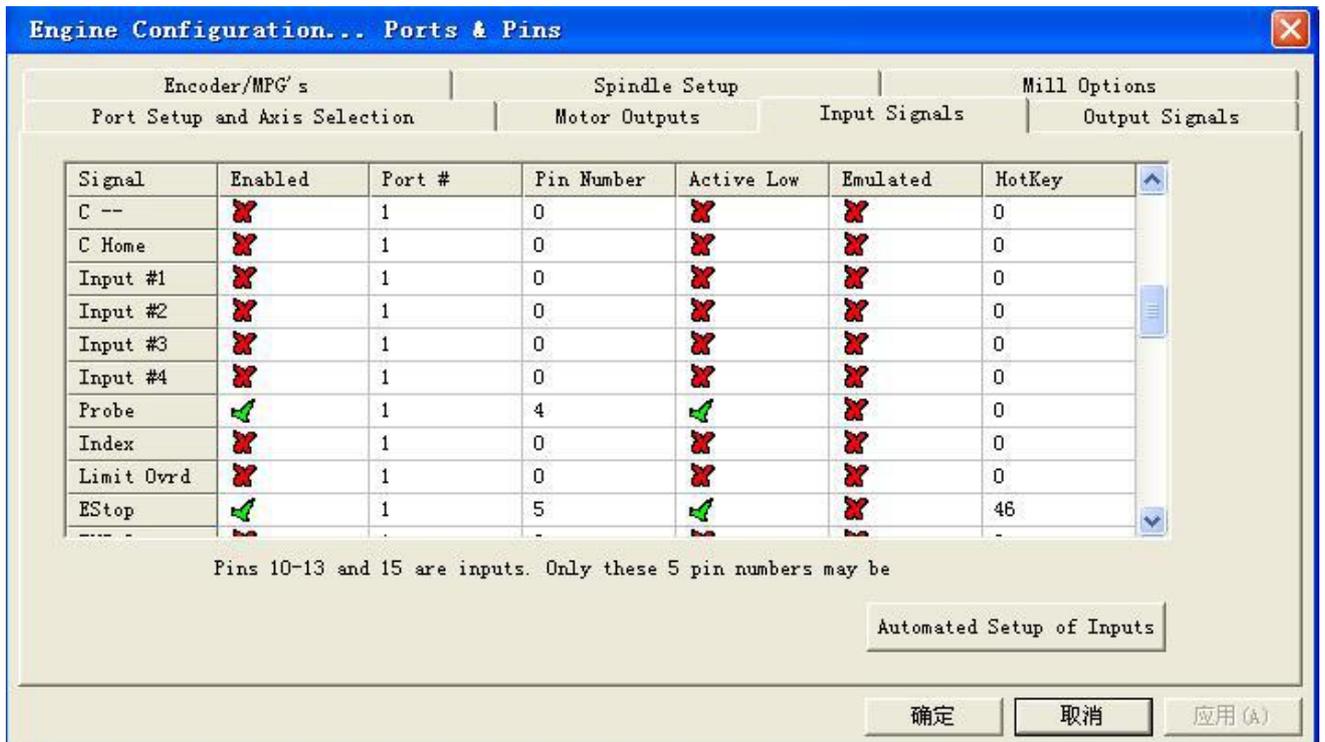
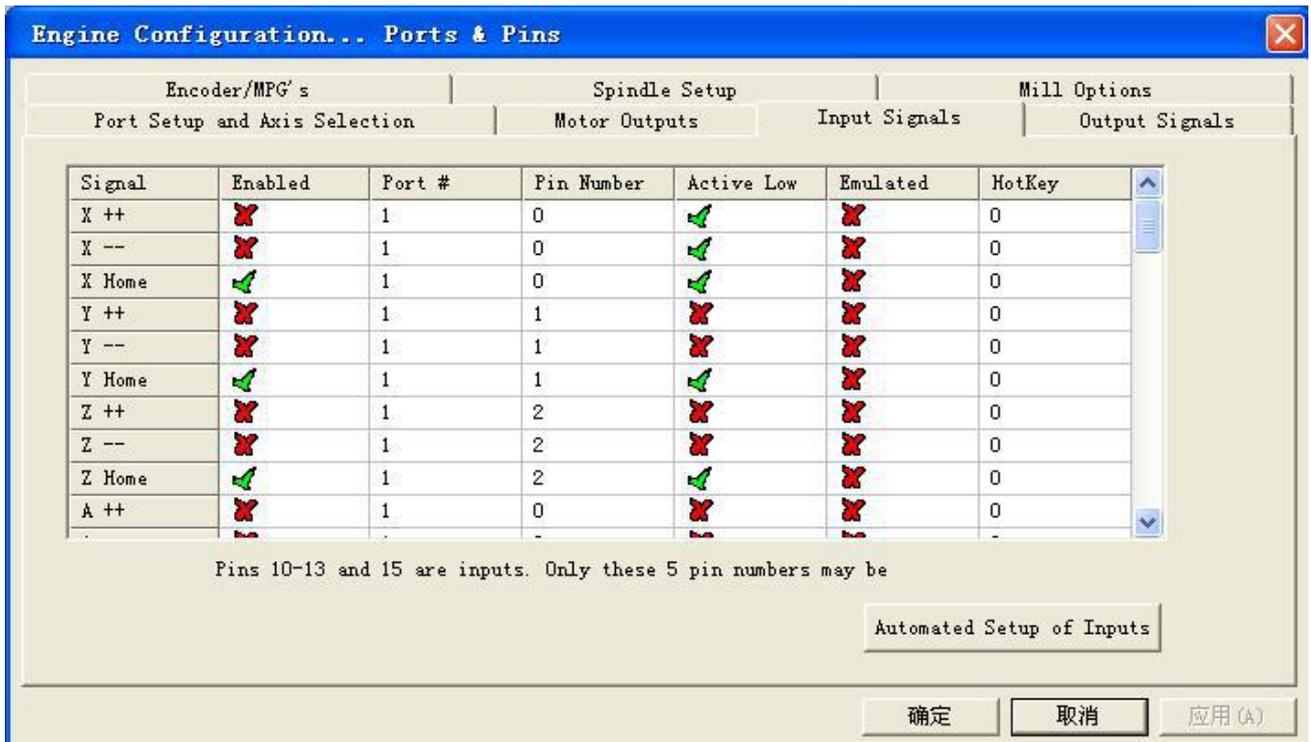
Method 2: manually setting step by step:

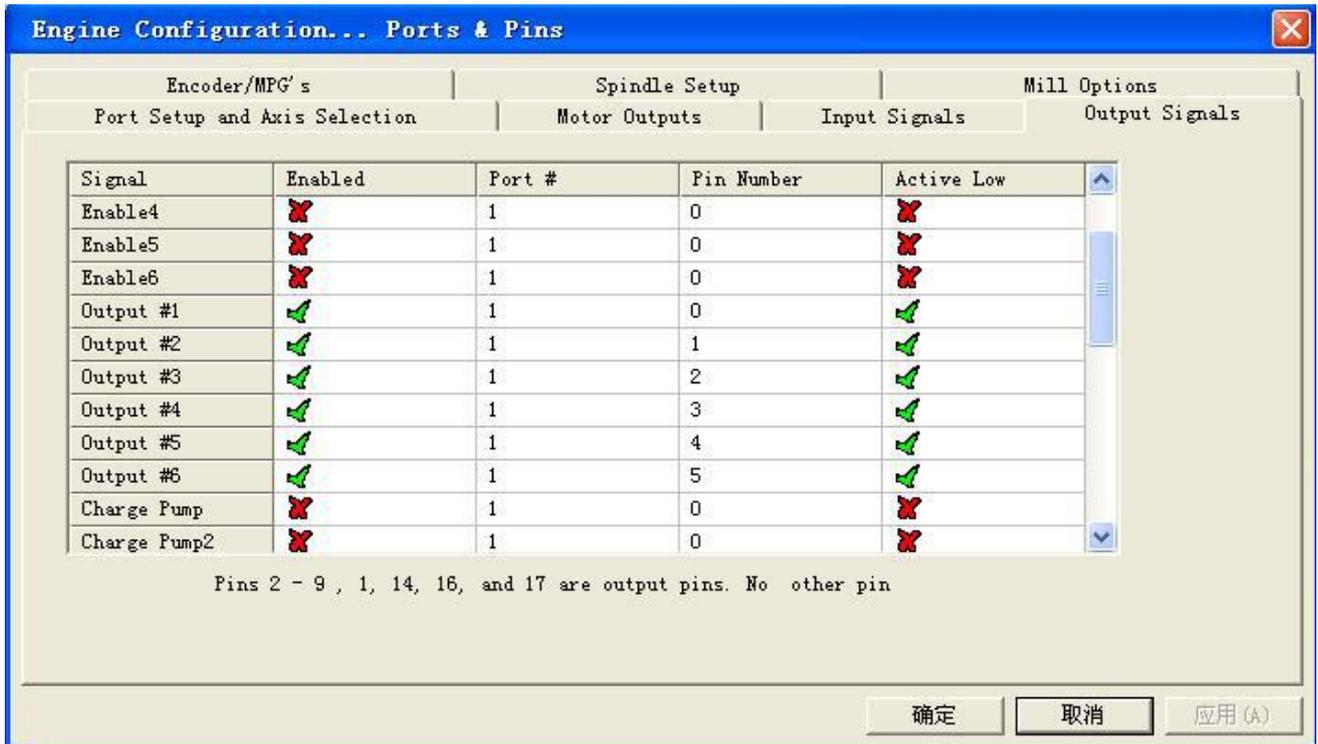
First, X Y Z A Axis output configuration as below, select config, Ports and pins .



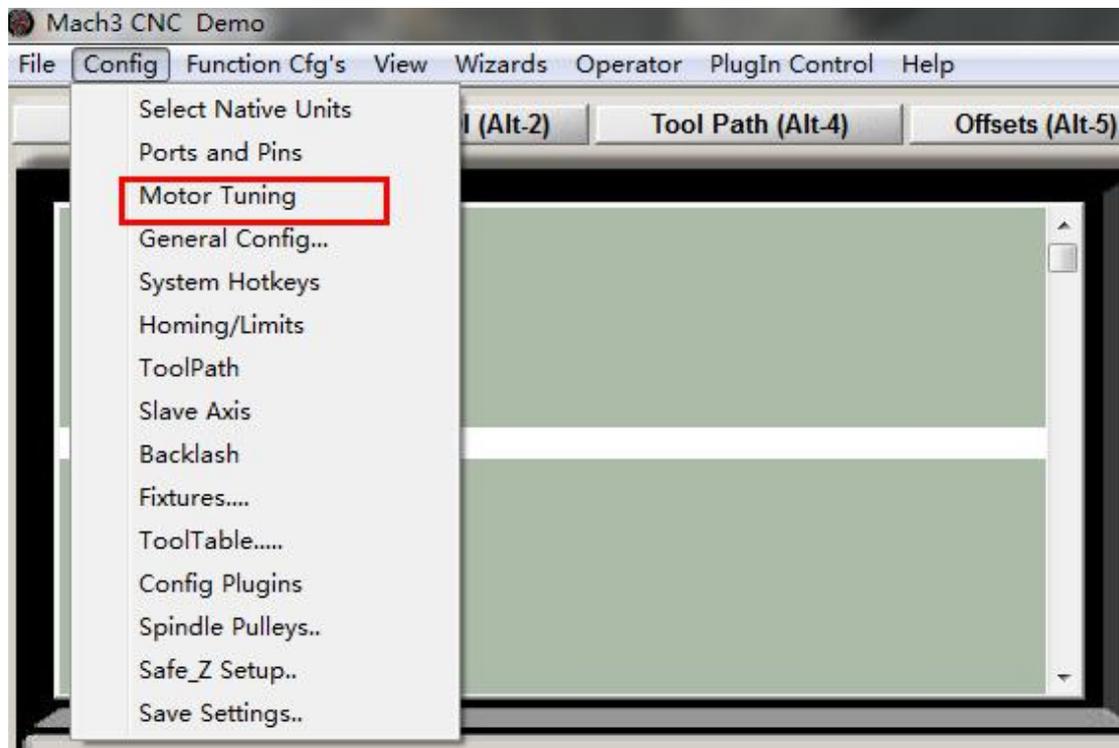
Then ,make all setting as below:

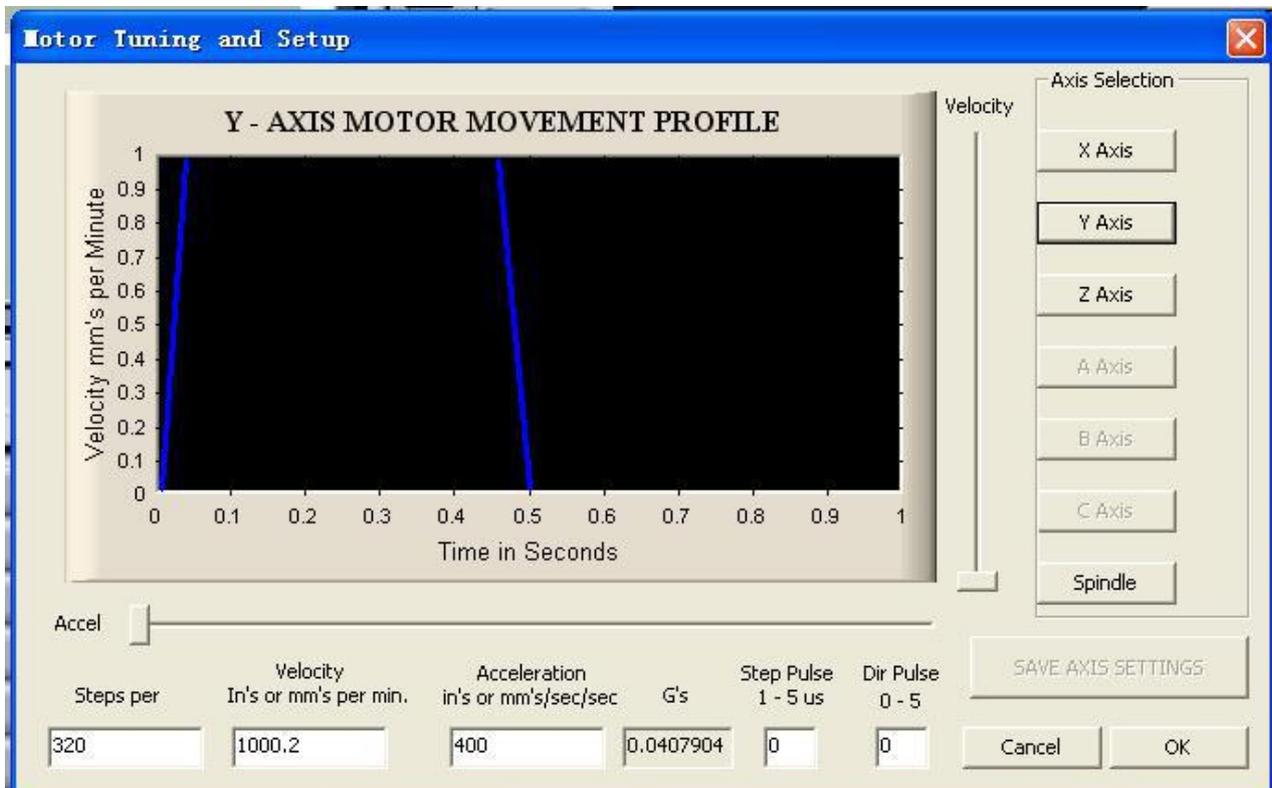
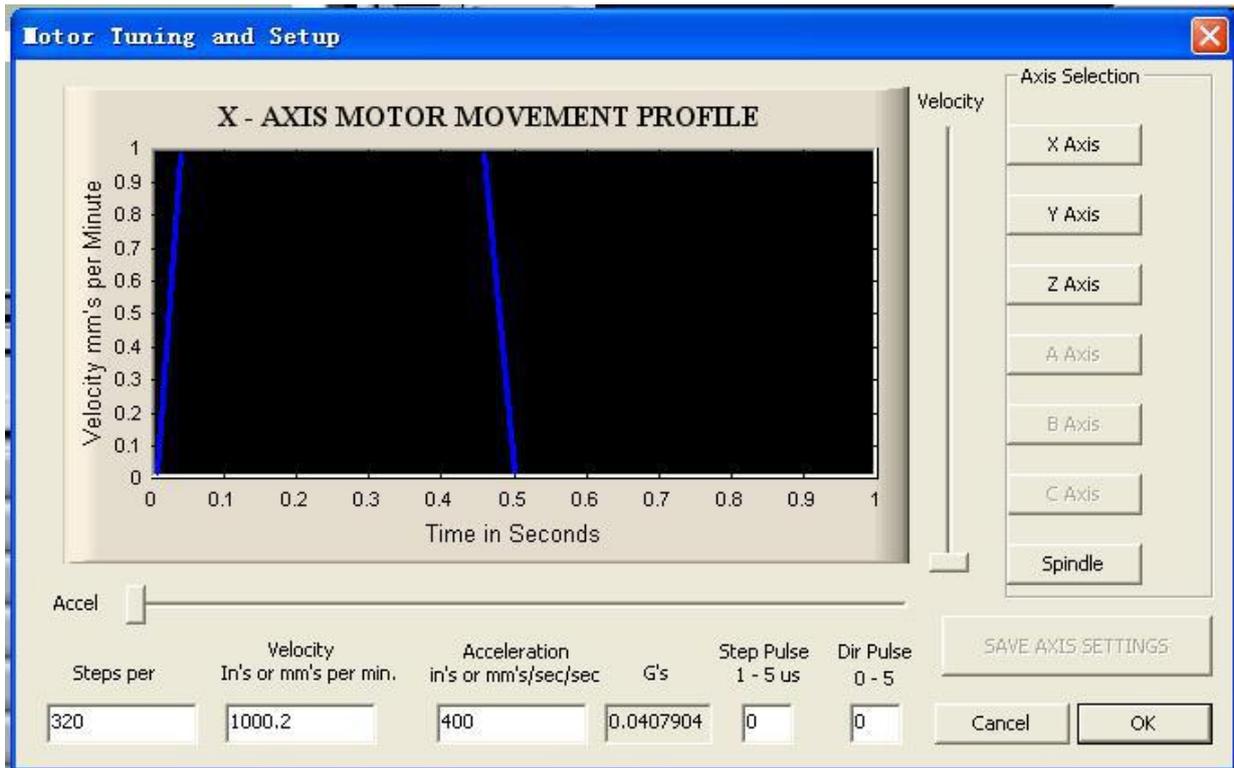


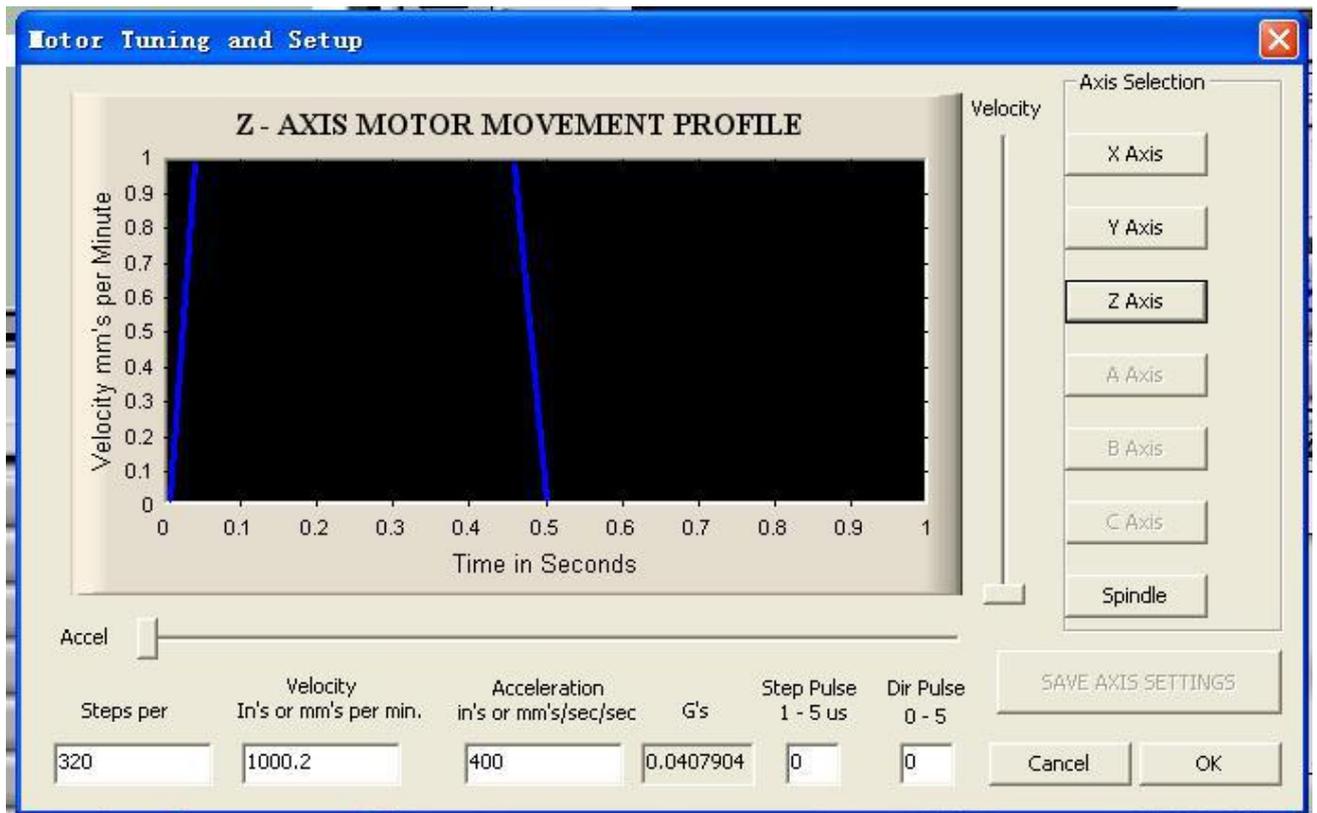




Motor parameter settings, X Y Z Axis setting is completely same







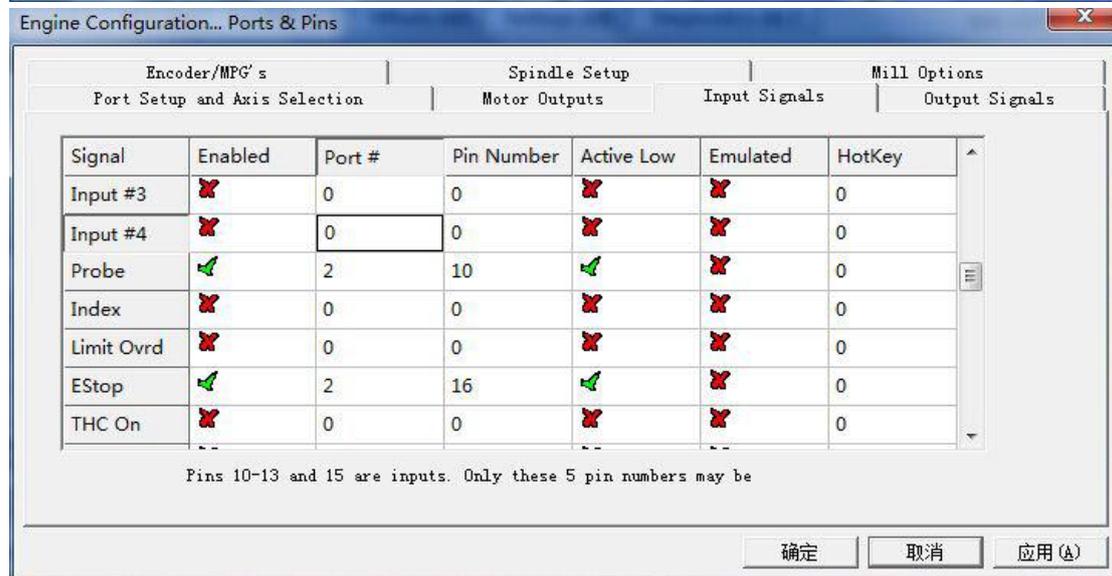
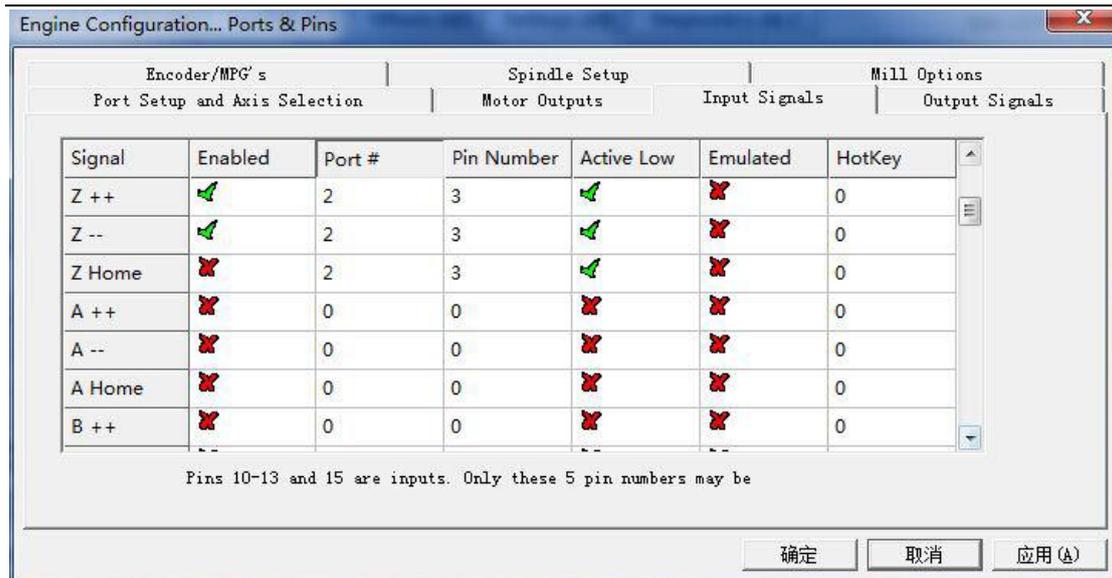
Input Signals for mechanical limit, Estop , Probe , Noted:The machine did not support Motor Home/Soft limit , So no need to set.

Engine Configuration... Ports & Pins

Encoder/MPG's		Spindle Setup			Mill Options	
Port Setup and Axis Selection		Motor Outputs		Input Signals		Output Signals
Signal	Enabled	Port #	Pin Number	Active Low	Emulated	HotKey
X ++	<input checked="" type="checkbox"/>	2	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0
X --	<input checked="" type="checkbox"/>	2	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0
X Home	<input checked="" type="checkbox"/>	2	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0
Y ++	<input checked="" type="checkbox"/>	2	2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0
Y --	<input checked="" type="checkbox"/>	2	2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0
Y Home	<input checked="" type="checkbox"/>	2	2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0
Z ++	<input checked="" type="checkbox"/>	2	3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0

Pins 10-13 and 15 are inputs. Only these 5 pin numbers may be

确定 取消 应用(A)



Output Signals:

Engine Configuration... Ports & Pins

Encoder/MPG's		Spindle Setup		Mill Options
Port Setup and Axis Selection		Motor Outputs	Input Signals	Output Signals
Signal	Enabled	Port #	Pin Number	Active Low
Digit Trig		2	0	
Enable1		2	16	
Enable2		2	15	
Enable3		2	13	
Enable4		2	14	
Enable5		2	13	
Enable6		2	0	
Output #1		2	16	

Pins 2 - 9 , 1, 14, 16, and 17 are output pins. No other pin

确定 取消 应用(A)

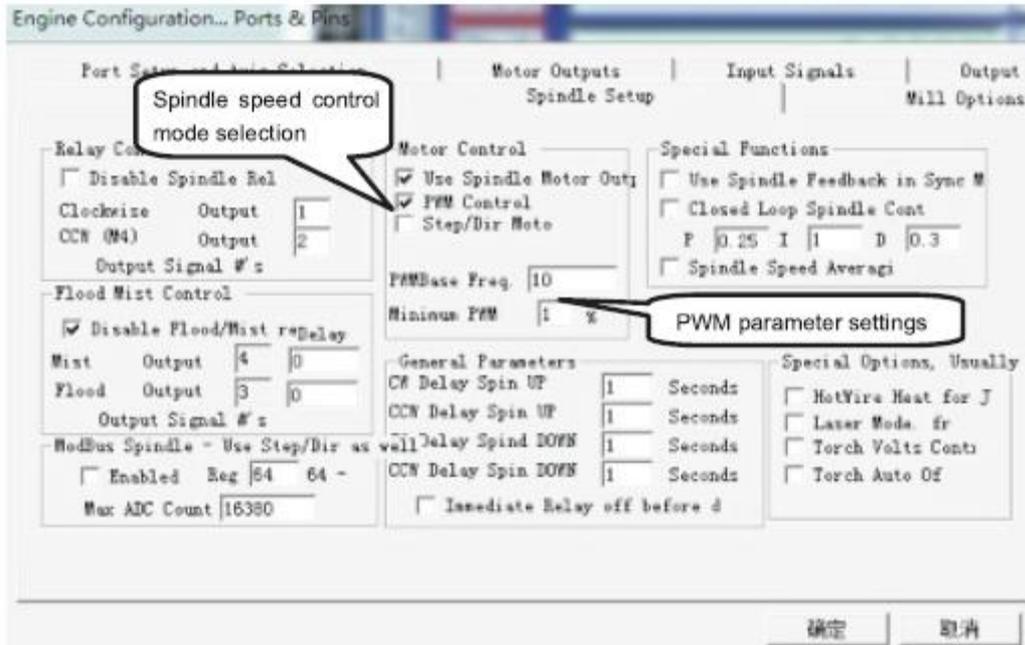
Engine Configuration... Ports & Pins

Encoder/MPG's		Spindle Setup		Mill Options
Port Setup and Axis Selection		Motor Outputs	Input Signals	Output Signals
Signal	Enabled	Port #	Pin Number	Active Low
Enable4		2	14	
Enable5		2	0	
Enable6		2	0	
Output #1		2	0	
Output #2		2	0	
Output #3		2	0	
Output #4		2	0	
Output #5		2	0	

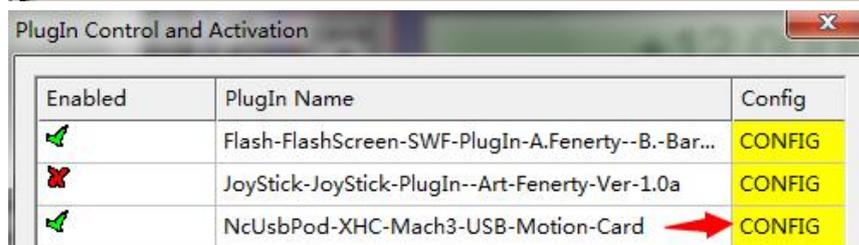
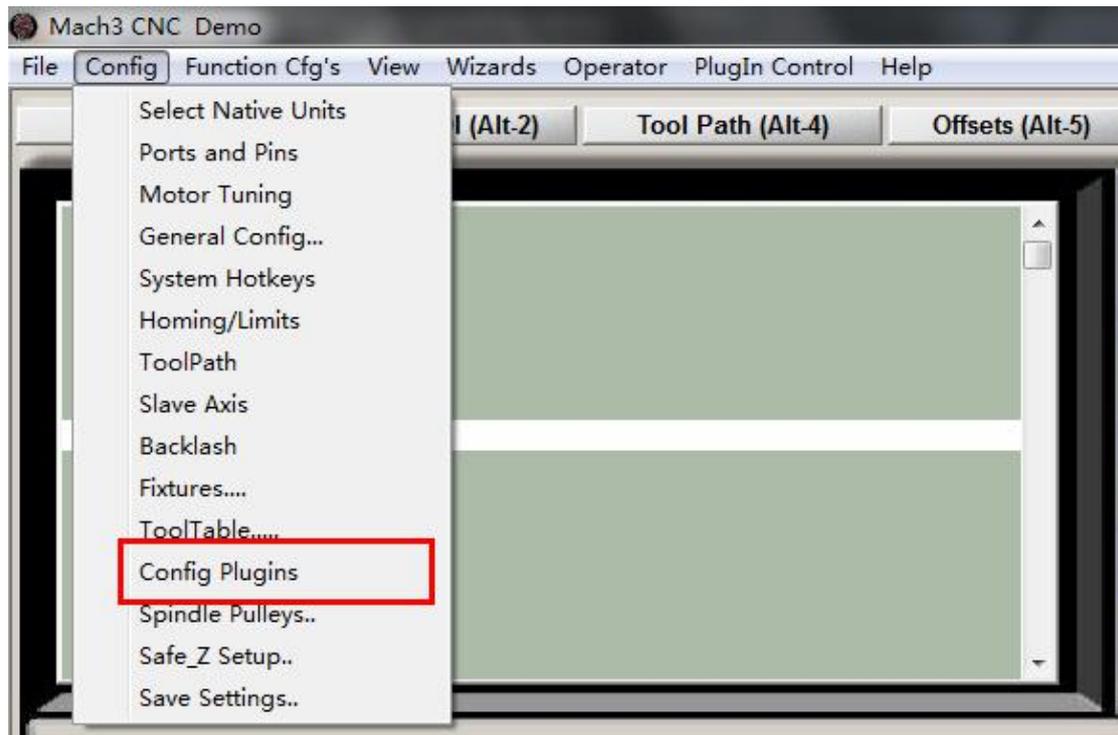
Pins 2 - 9 , 1, 14, 16, and 17 are output pins. No other pin

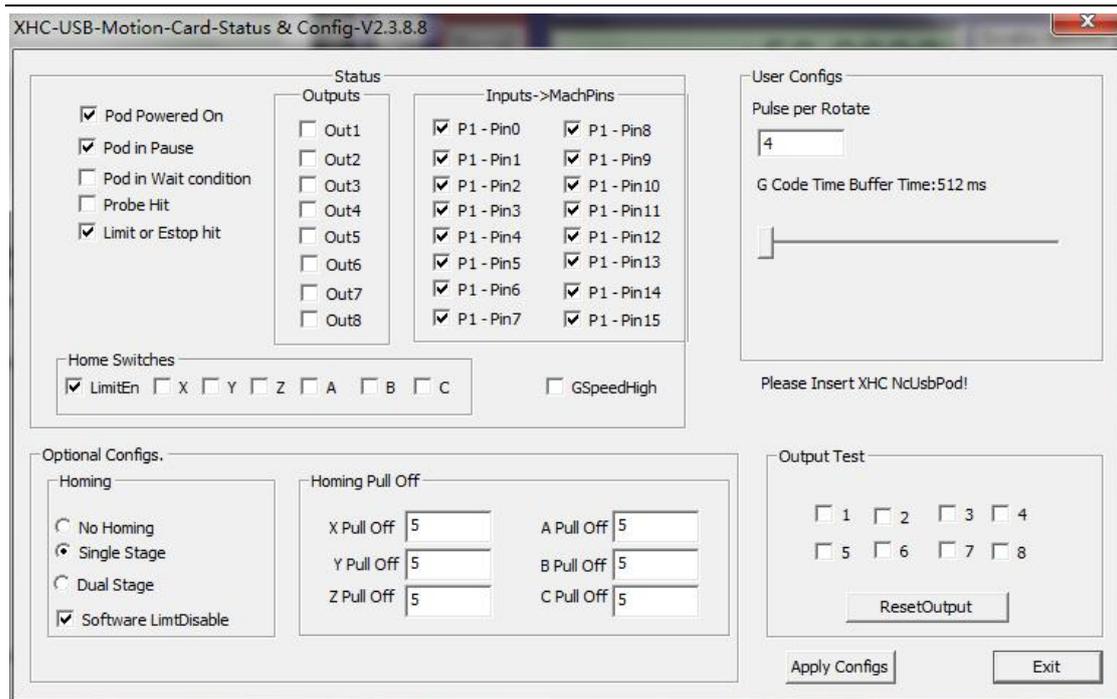
确定 取消 应用(A)

Spindle speed control as below:



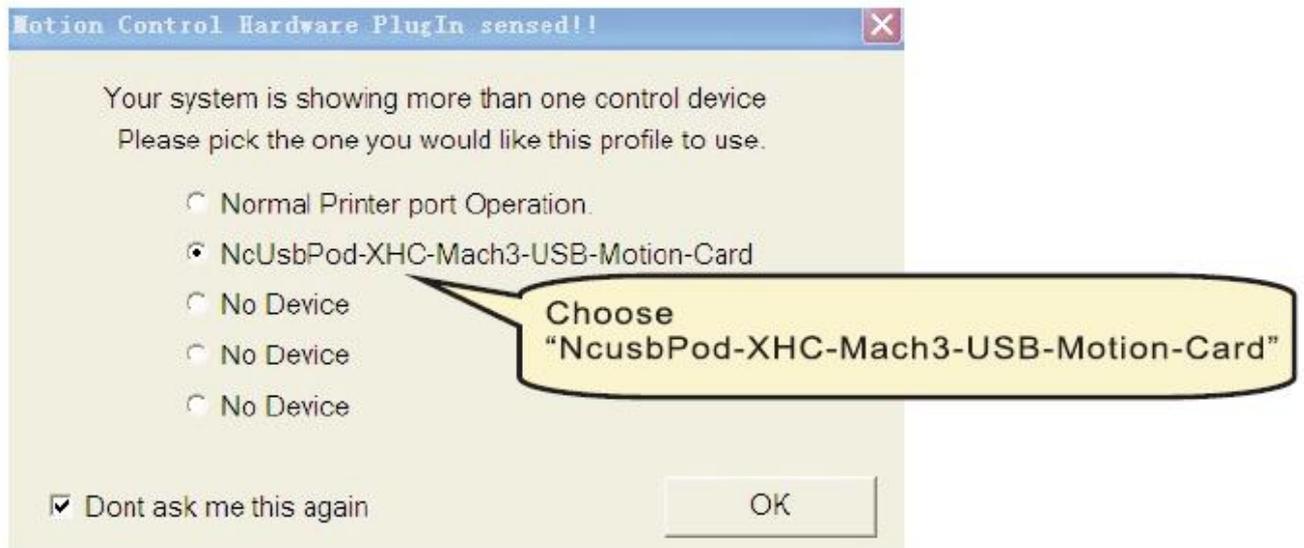
USB Motion control card configuration





At last , Open

software ,Choose"NcUsbPod-XHC-Mach3-USB-Motion-Card",andChoose "Don't ask me this again"



All above , The MACH3 installation and setting is finished.

Part 3 FAQ

1. The Axis moving direction is wrong

Which Axis goes wrong direction , you change that Axis below DirLow active setting ,If home moving way reverse ,change Active low from to ,or change from to .

Encoder/MPG's		Spindle Setup		Mill Options			
Port Setup and Axis Selection		Motor Outputs		Input Signals		Output Signals	
Signal	Enabled	Step Pin#	Dir Pin#	Dir LowAc...	Step Low ...	Step Port	Dir Port
X Axis	<input checked="" type="checkbox"/>	2	6	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1	1
Y Axis	<input checked="" type="checkbox"/>	3	7	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1	1
Z Axis	<input checked="" type="checkbox"/>	4	8	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1	1
A Axis	<input checked="" type="checkbox"/>	5	9	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1	1

2. USB motion card can be found by MACH3

Make sure USB cable connection is good ,make sure VFD has ground and input power of VFD has electrical filter to isolate noise.

3. How to ref all home

Firstly enable X Home ,Y Home ,Z Home , and confirm setting is correct.

Engine Configuration... Ports & Pins

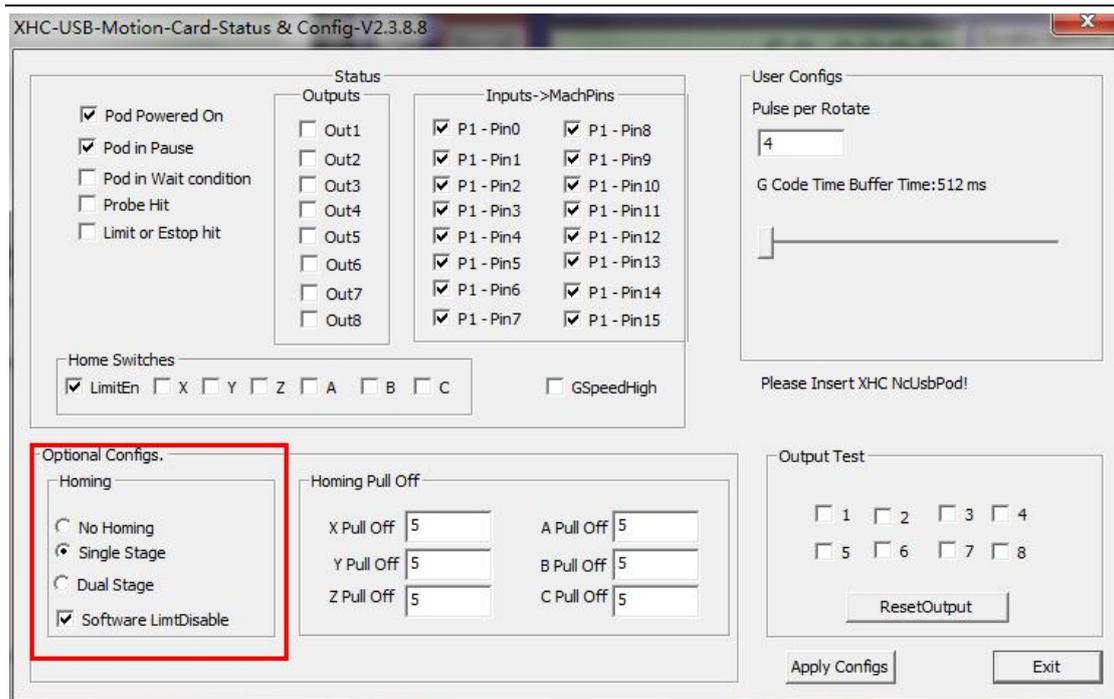
Encoder/MPG's		Spindle Setup		Mill Options		
Port Setup and Axis Selection		Motor Outputs		Input Signals		
Signal	Enabled	Port #	Pin Number	Active Low	Emulated	HotKey
X ++		1	0			0
X --		1	0			0
X Home		1	0			0
Y ++		1	1			0
Y --		1	1			0
Y Home		1	1			0
Z ++		1	2			0

Engine Configuration... Ports & Pins

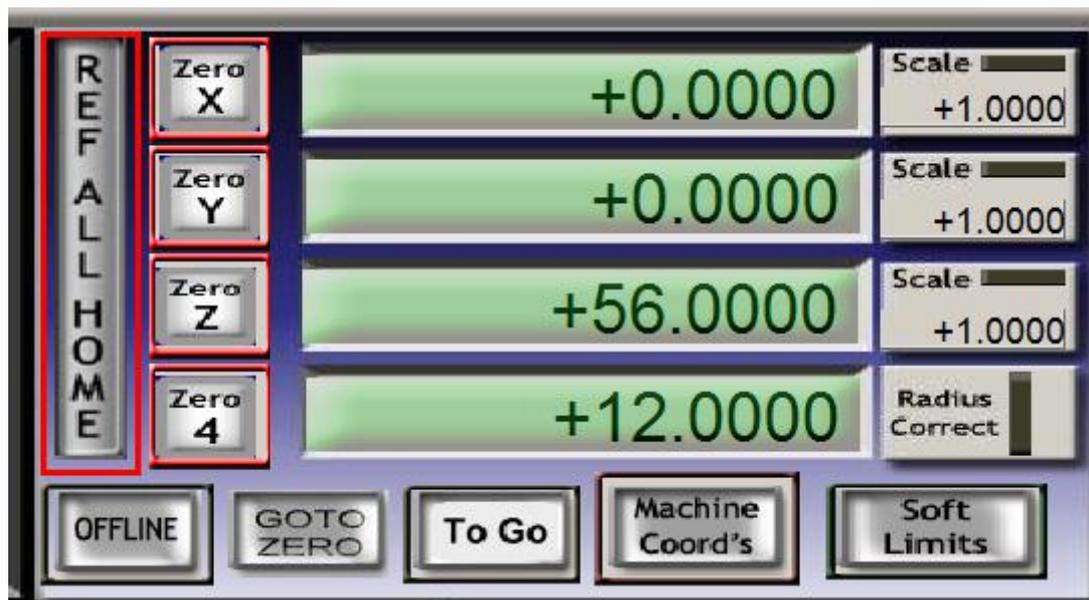
Encoder/MPG's		Spindle Setup		Mill Options		
Port Setup and Axis Selection		Motor Outputs		Input Signals		
Signal	Enabled	Port #	Pin Number	Active Low	Emulated	HotKey
X Home		1	0			0
Y ++		1	1			0
Y --		1	1			0
Y Home		1	1			0
Z ++		1	2			0
Z --		1	2			0
Z Home		1	2			0

Pins 10-13 and 15 are inputs. Only these 5 pin numbers may be

Secondly ,Confirm plugin setting correct ,especially ,Choose single stage



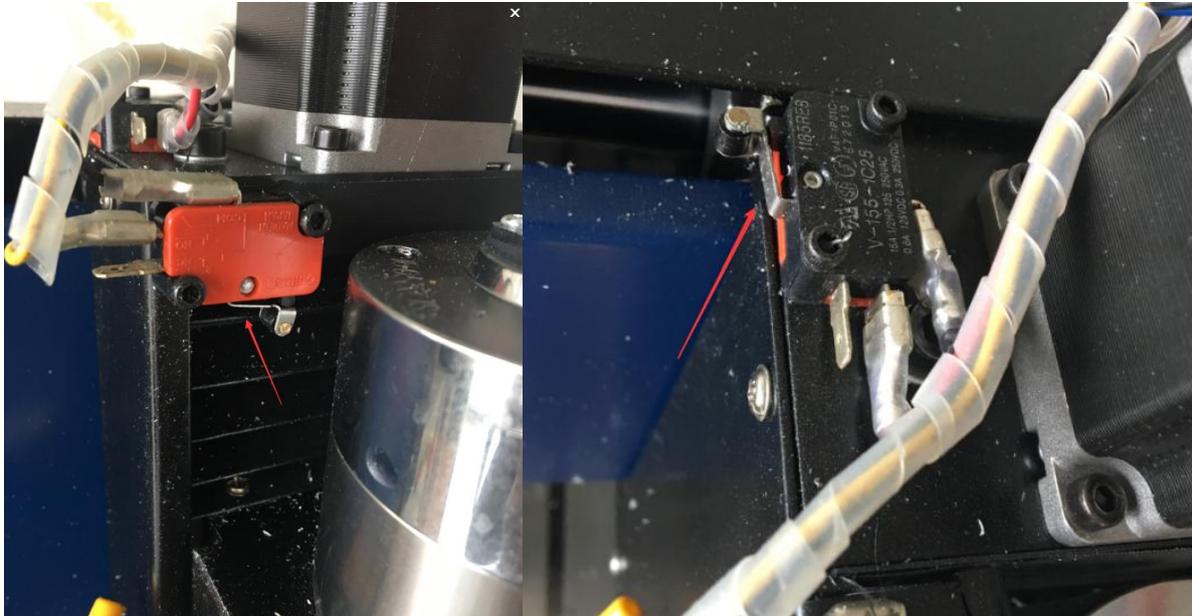
At last ,click ref all home button in MACH3.



4. Manual reset limit switch

All X Y Z has 2 limited switch . Once the Axis touch below limit switch ,Machine will stop work ,and reset button will get red in controller box . Then Manually Moving axis away from limit switch(switch off

machine, easy to move) , press reset to make sure to get green at last
restart machine to work .



5 How to active MACH3

if MACH3 software said limited version , Please copy Mach1lic to
MACH3 file

