

ChinaCNCzone

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Steel structure high precision 4th axis installation instructions -MACH3 USB



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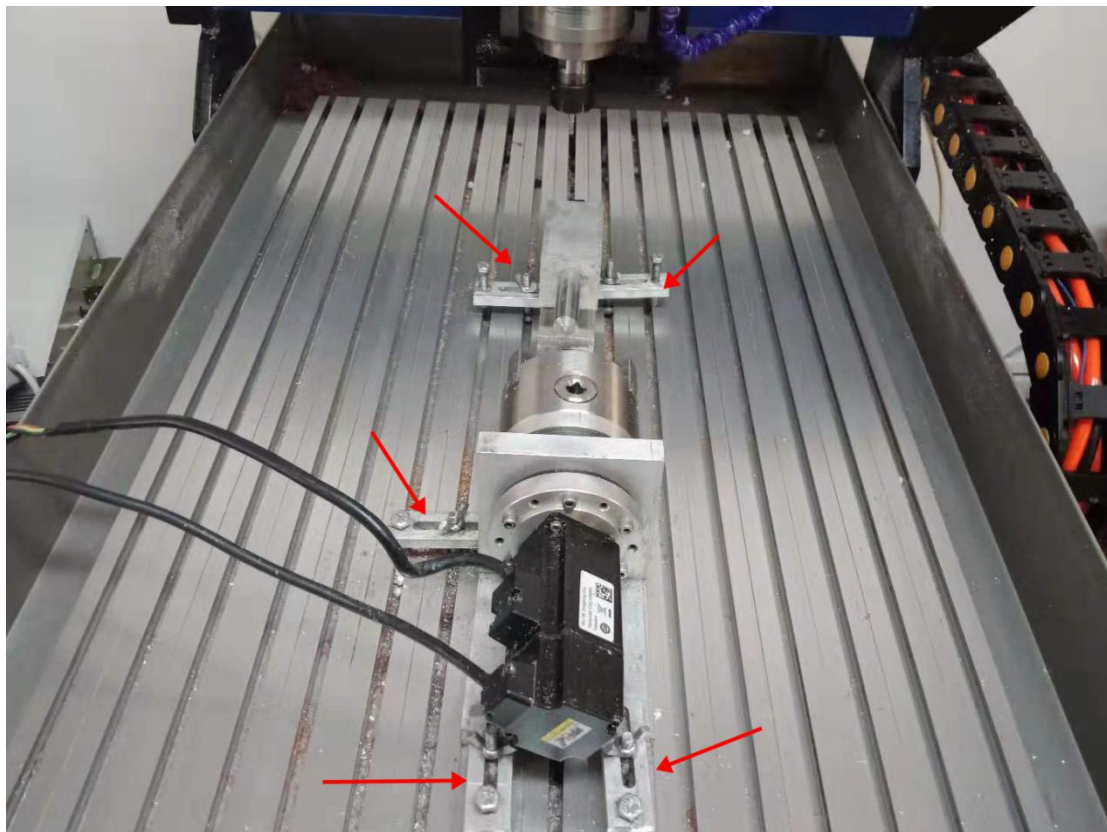
Website: www.chinacnczone.comwww.china-cncrouter.com

Step1 Install the 4th axis on the machine table

1 The 4th axis is shown below:



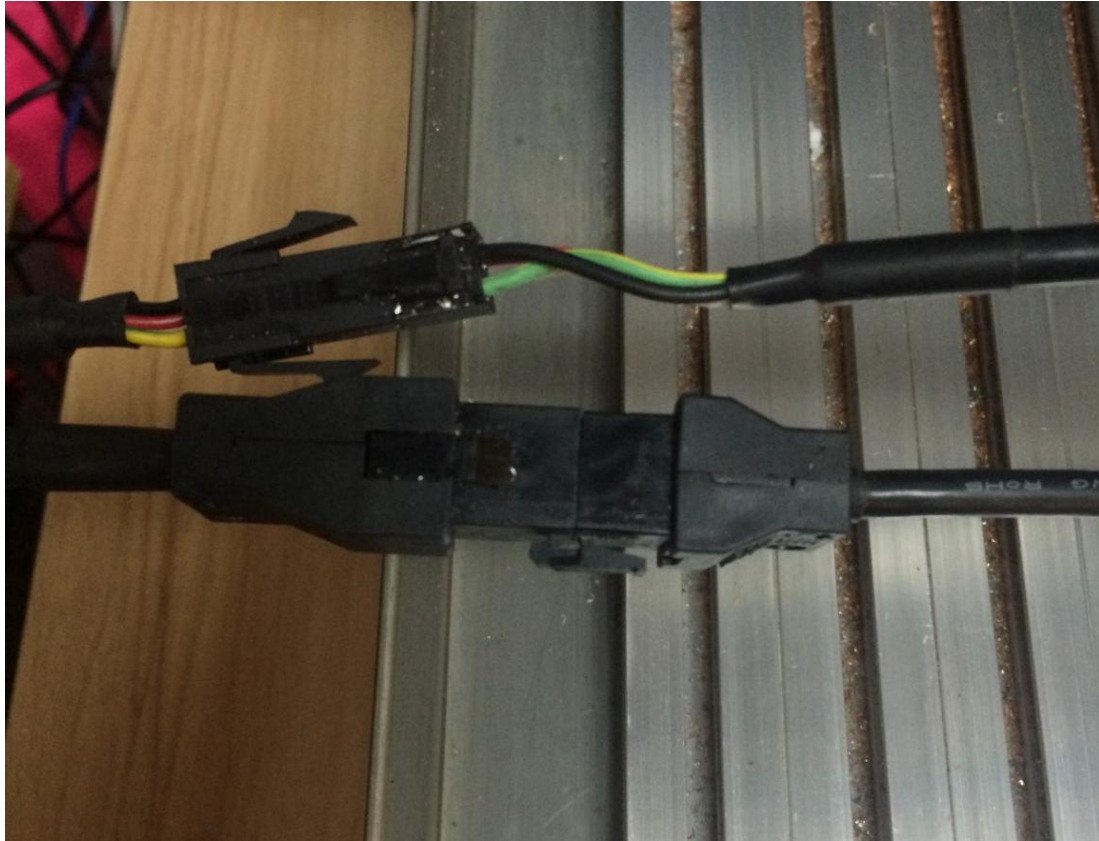
2 The 4th axis is fixed on the worktable with several clamps





3 Connect the two wires of the 4th axis to the interface of the controller





Step2 Mach3 installation and setting

1 Download MACH3

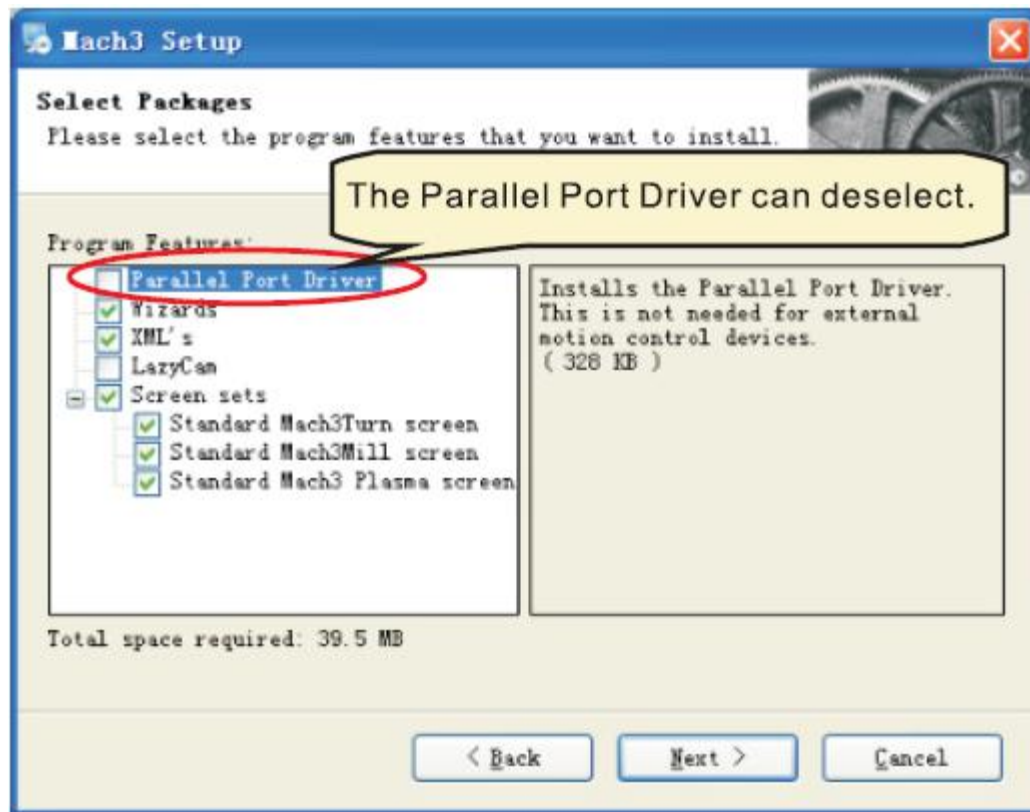
Download MACH3 from our official website

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

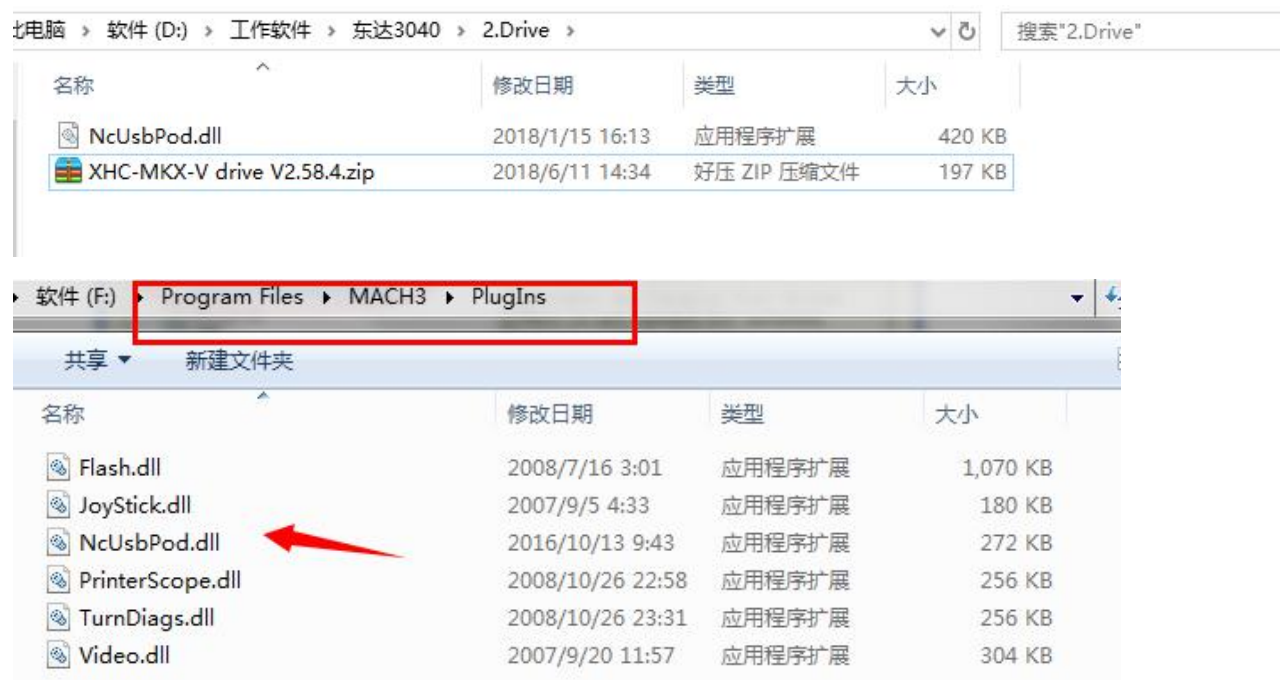
or get from the seller.

2 Install MACH3

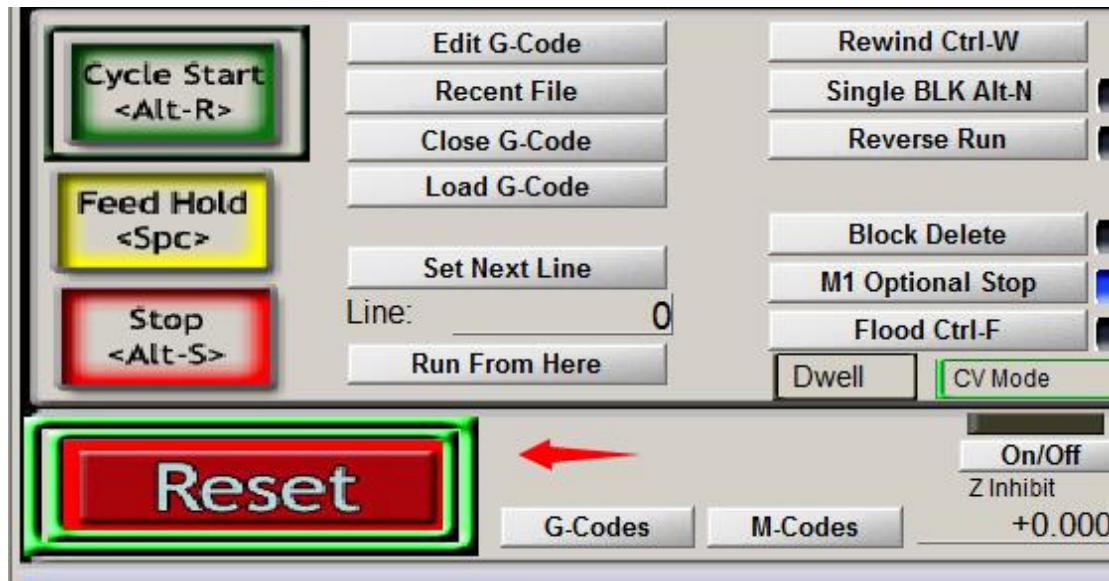
Do not choose parallel port driver



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.



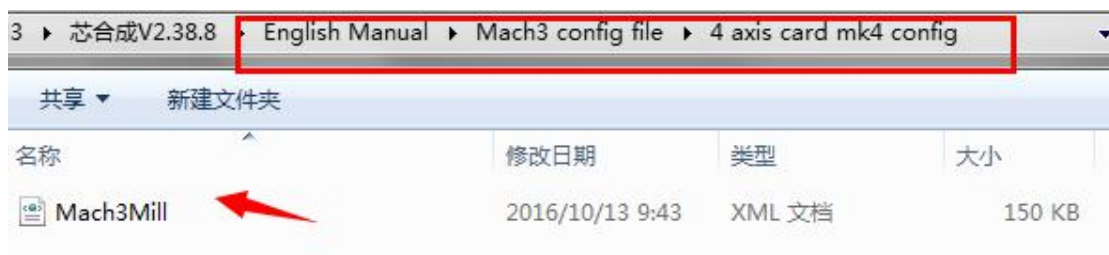
At last, click reset button to keep it green , let machine can normal work.



3 Mach3 software setting

Method 1:

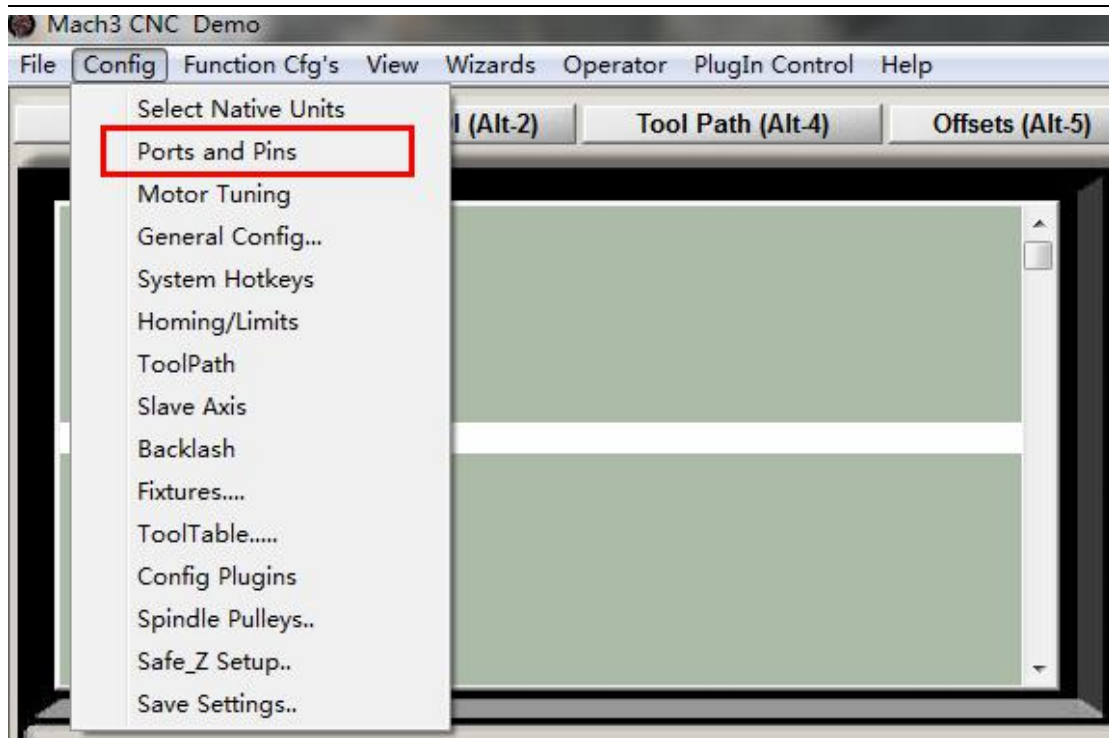
Copy [mach3mill.xml](#) from Setting file we gave to the filewhere Mach3 installed, The file is used to basic software setting .



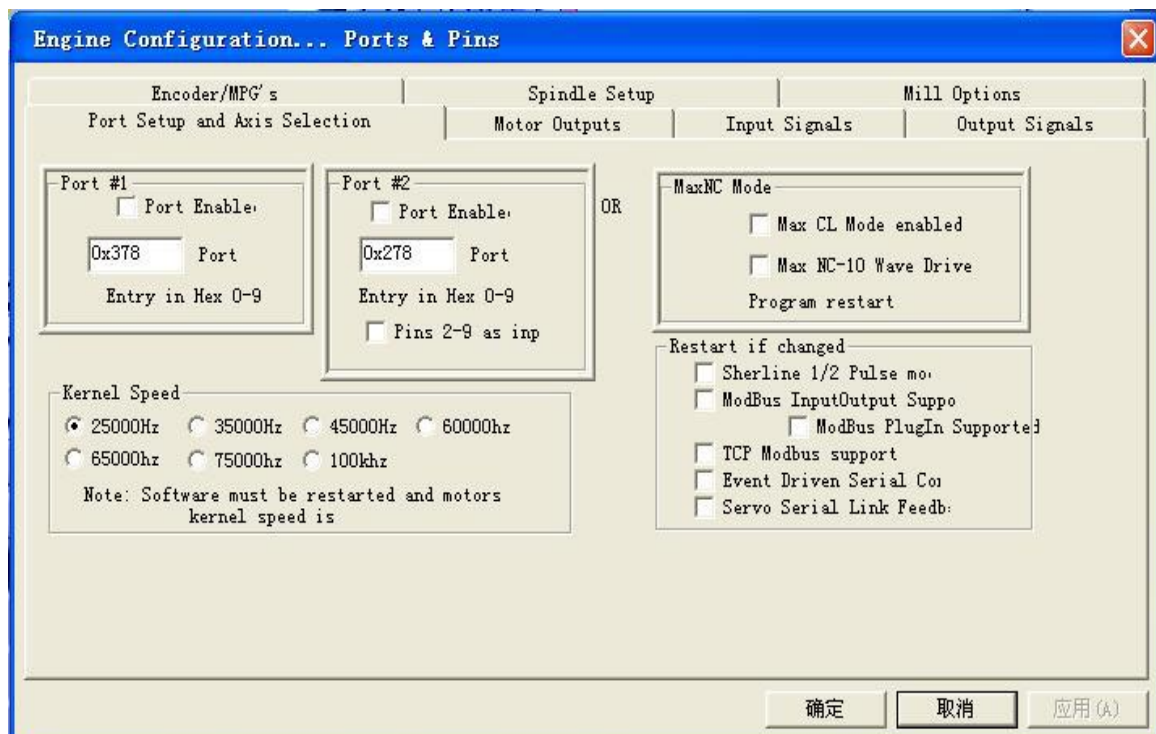
Then all setting will be done, machine ready to work.

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:



Engine Configuration... Ports & Pins

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 Low...	Step Lo...	Step Port	Dir Port
X Axis		2	6			1	1
Y Axis		3	7			1	1
Z Axis		4	8			1	1
A Axis		5	9			1	1
B Axis		10	11			0	0
C Axis		12	13			0	0
Spindle		0	0			0	0

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	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	
Z --		1	2			0	
Z Home		1	2			0	
A ++		1	0			0	

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

Automated Setup of Inputs

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		
Signal	Enabled	Port #	Pin Number	Active Low	Emulated	HotKey
C --		1	0			0
C Home		1	0			0
Input #1		1	0			0
Input #2		1	0			0
Input #3		1	0			0
Input #4		1	0			0
Probe		1	4			0
Index		1	0			0
Limit Ovrd		1	0			0
EStop		1	5			46

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

Automated Setup of Inputs

确定 取消 应用 (A)

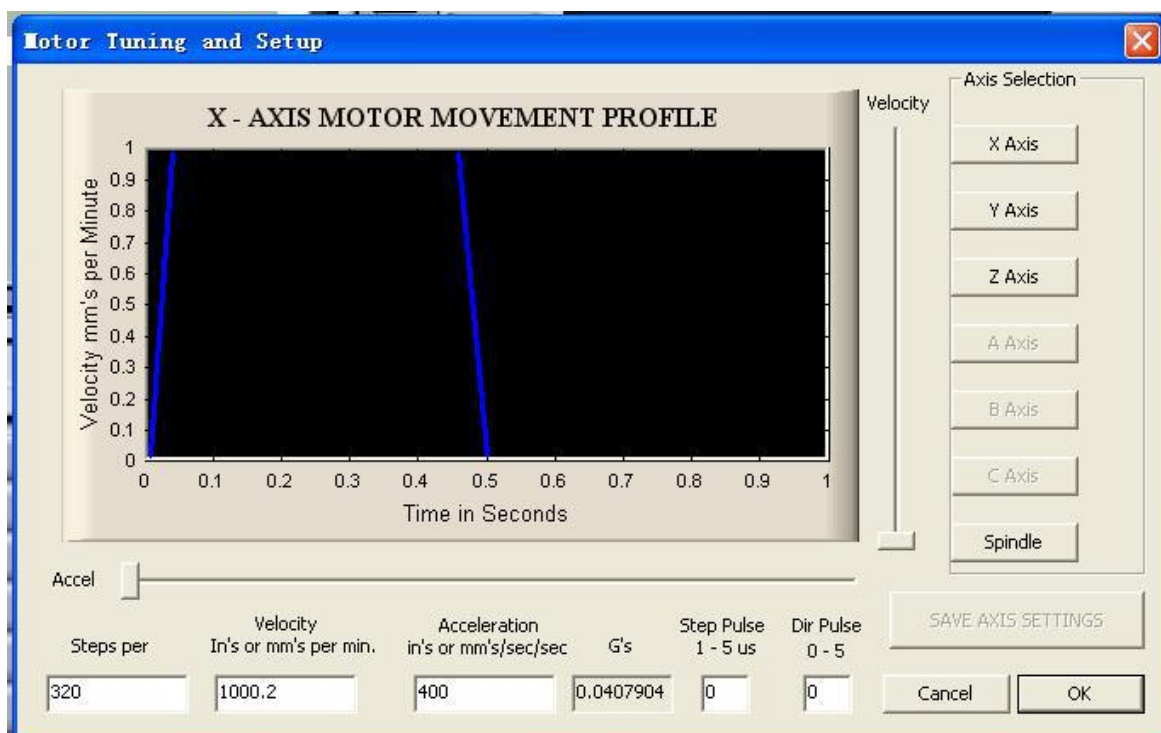
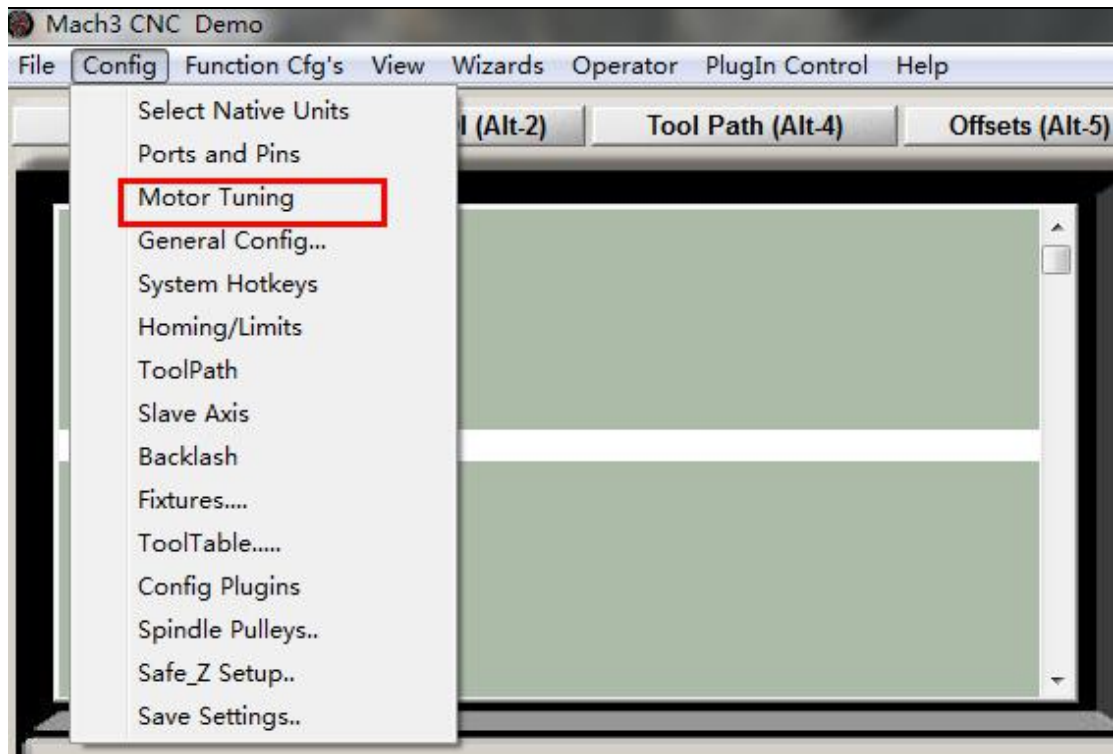
Engine Configuration... Ports & Pins

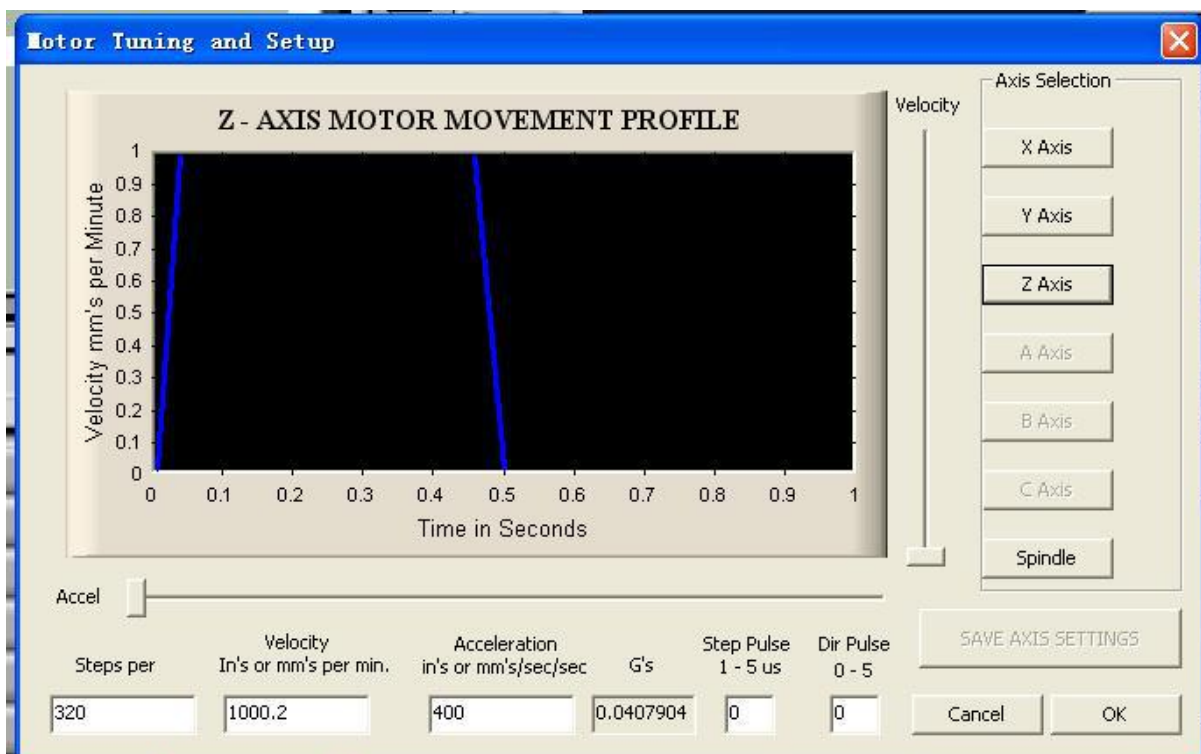
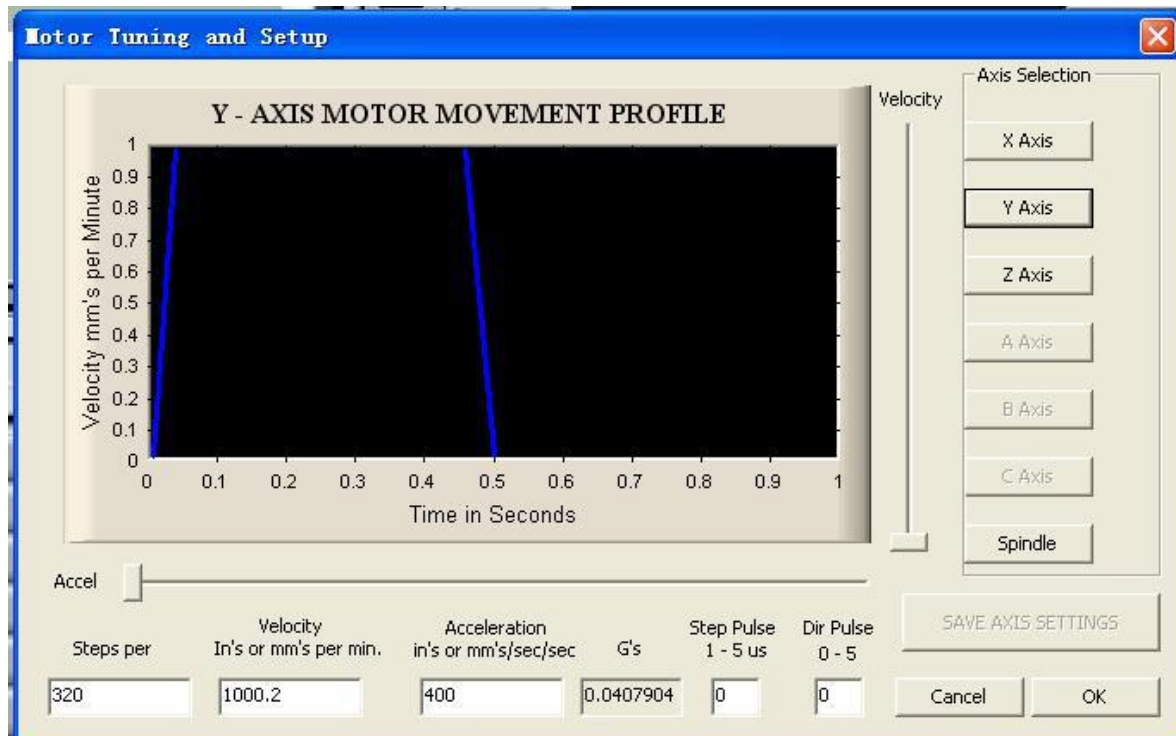
Encoder/MPG's		Spindle Setup		Mill Options	
Port Setup and Axis Selection		Motor Outputs		Input Signals	
Signal	Enabled	Port #	Pin Number	Active Low	Output Signals
Enable4		1	0		
Enable5		1	0		
Enable6		1	0		
Output #1		1	0		
Output #2		1	1		
Output #3		1	2		
Output #4		1	3		
Output #5		1	4		
Output #6		1	5		
Charge Pump		1	0		
Charge Pump2		1	0		

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

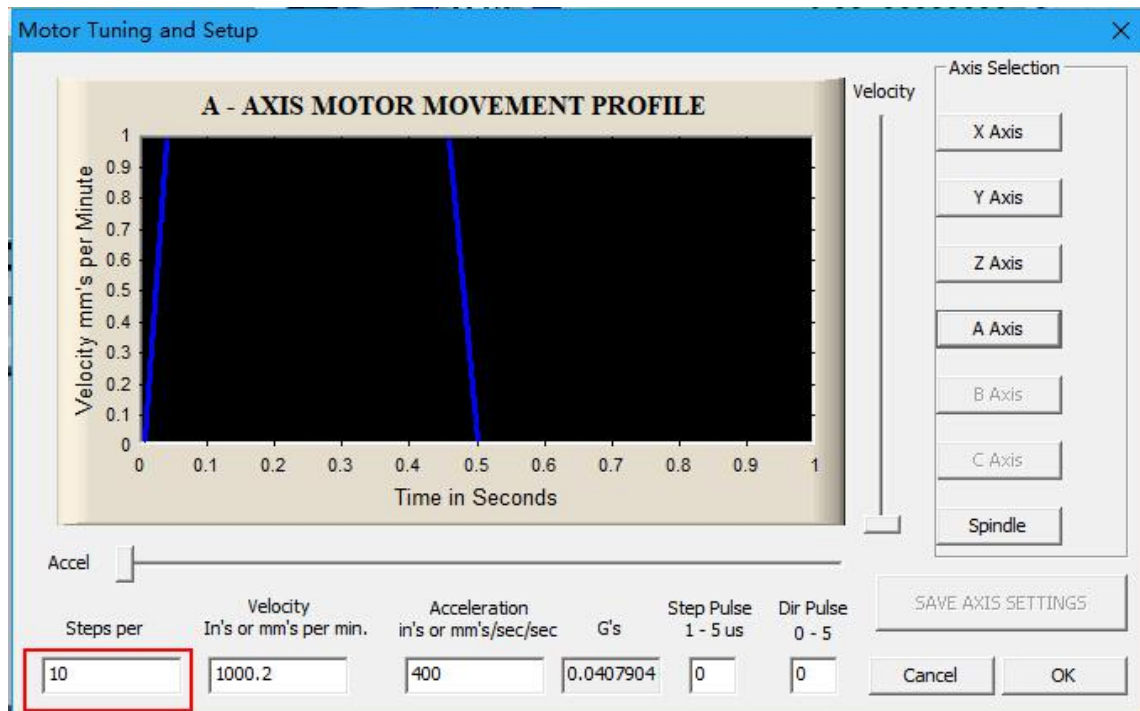
确定 取消 应用 (A)

Motor parameter settings, X Y Z Axis setting is completely same, **A Axis**
needs to change Settings

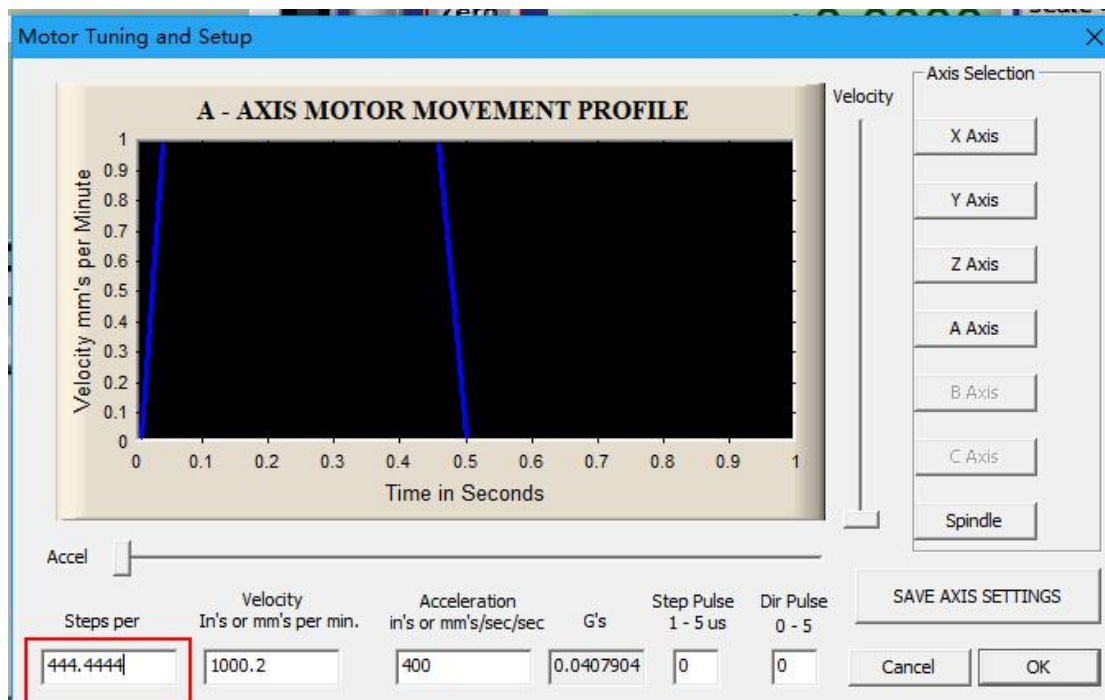




A axis before setting



Before setting



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 ++		2	1			0
X --		2	1			0
X Home		2	1			0
Y ++		2	2			0
Y --		2	2			0
Y Home		2	2			0
Z ++		2	3			0

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

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	Emulated	HotKey
Z ++		2	3			0
Z --		2	3			0
Z Home		2	3			0
A ++		0	0			0
A --		0	0			0
A Home		0	0			0
B ++		0	0			0

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

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	Emulated	HotKey
Input #3		0	0			0
Input #4		0	0			0
Probe		2	10			0
Index		0	0			0
Limit Ovrld		0	0			0
EStop		2	16			0
THC On		0	0			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)

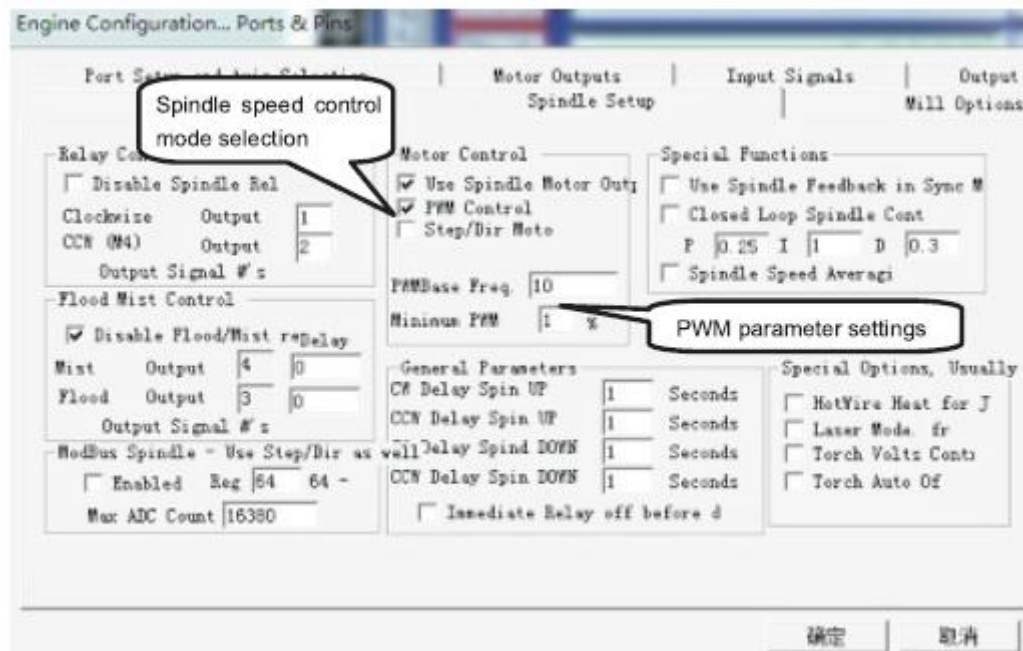
Engine Configuration... Ports & Pins

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		

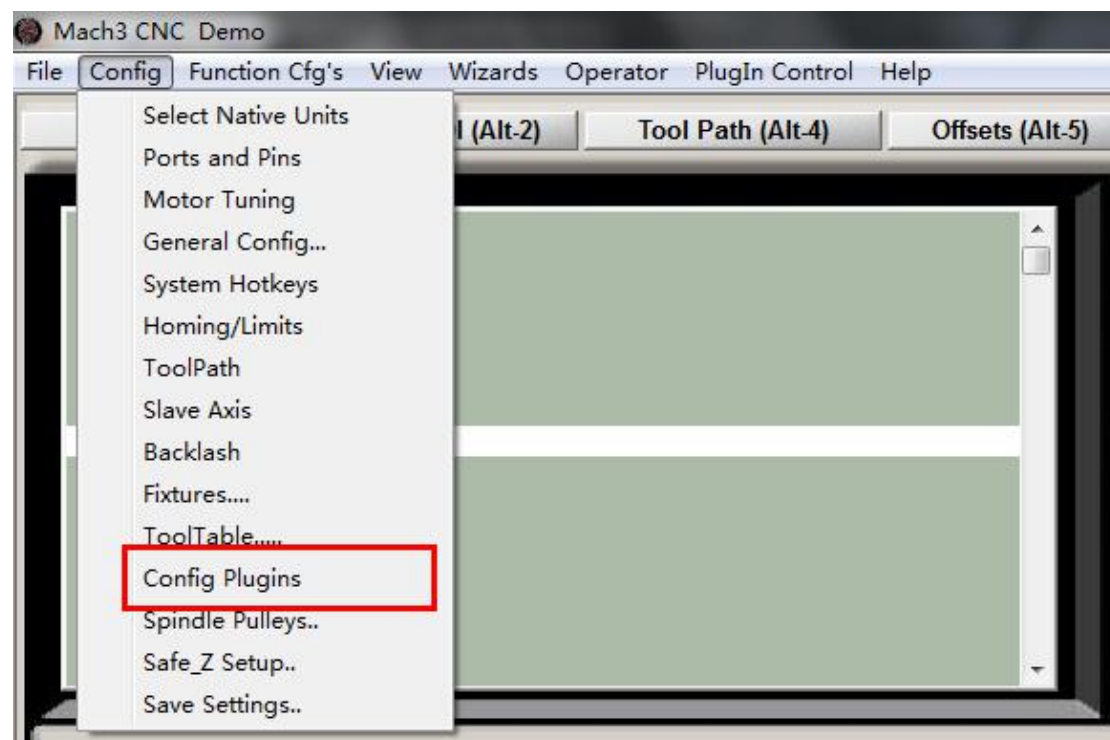
Pins 2 - 9 , 1, 14, 16, and 17 are output pins. No other pin

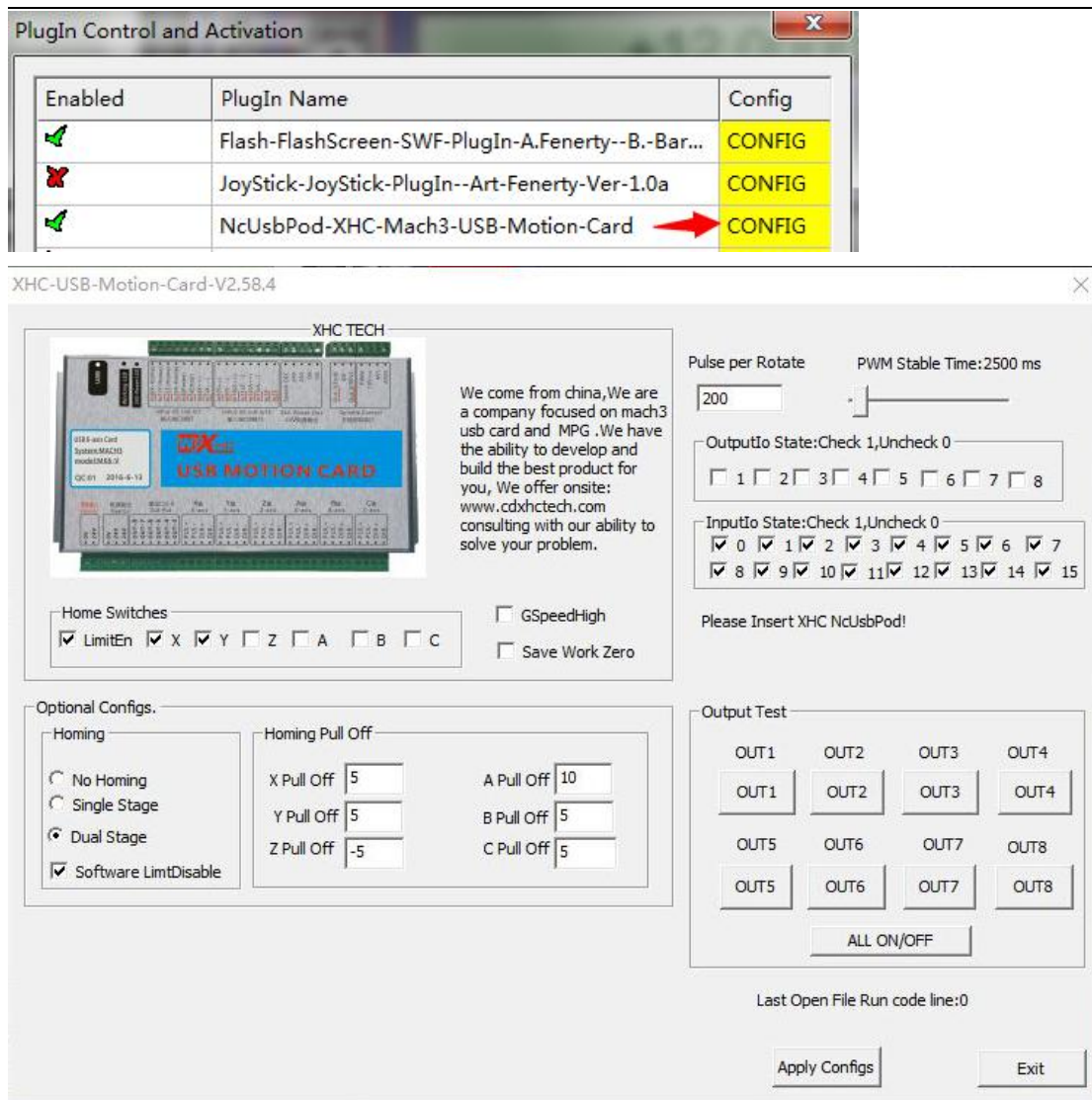
确定 取消 应用 (A)

Spindle speed control as below:



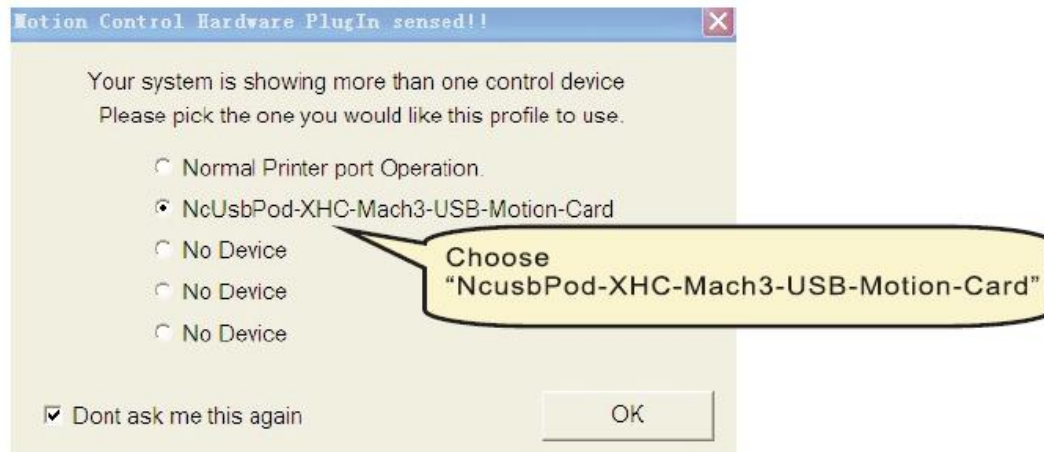
USB Motion control card configuration





At last , Open

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



All above , The MACH3 installation and setting is finished.

Detail

Maximum clamping diameter of three-jaw chuck is 60mm

