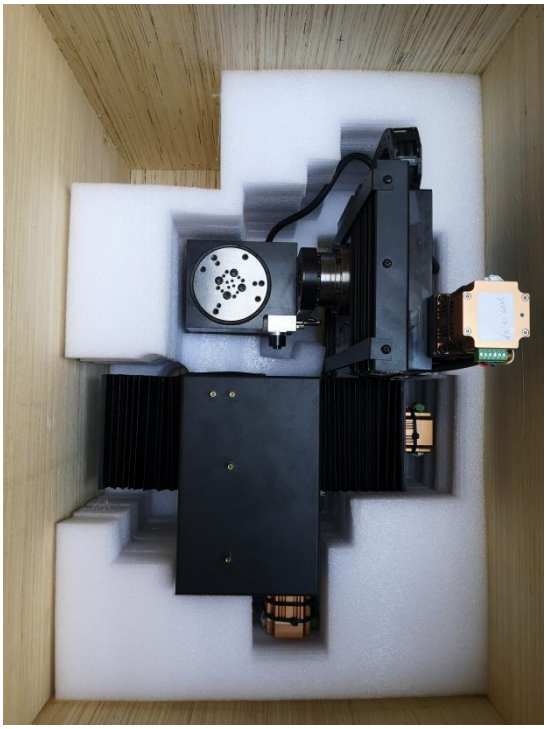
Desktop NC Operating Instructions 2022

catalogue

1. structure of equipment

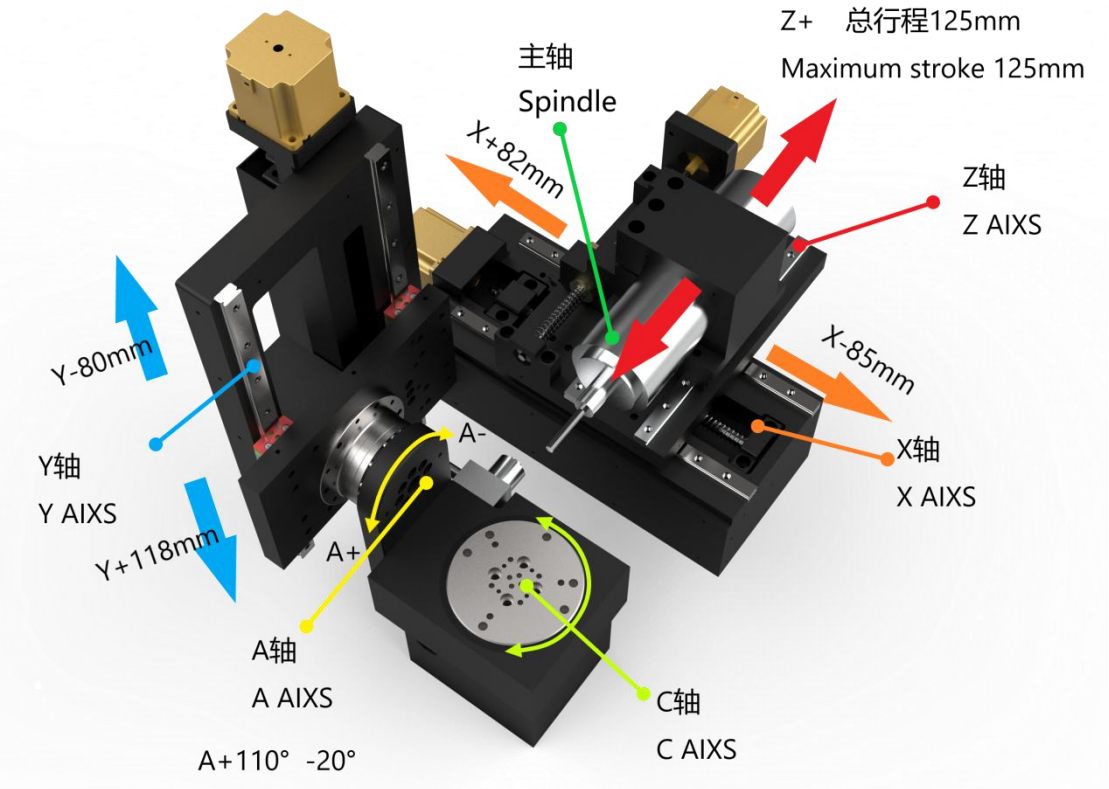
1.1 Unboxing, standard list of items

	The standard model takes off the buckle on the top of the wooden box to remove the top cover and lift it out of the equipment.Do not lift the rotary shaft part when carrying the machine, which may slide or damage the reducer.
	The sheet metal box model needs to remove the top and side boards to lift out of the equipment.

Standard accessories list

Serial number, N umber	name N,ame	quantity PCS	English Name
1	Complete Machine D esktop NC	1	Equipment D esktop NC
2	electric cabinet	1	Electric Cabinet
3	power line	1	P ower C able
4	USB data wire	1	USB C able
5	inner hexagon spanner	1	Allen Wrench
6	Self-determination platform clamp	1	Self-centering Vise
7	Spindle wrench	2	ER11 W rench
8	ER11 clamp cylinder	2	ER11 Collet
9	Test the tool	4	Test Tool
10	Electronic hand wheel	1	Electronic H andwheel
11	Test the generation of wood	4	T est Epoxy Tooling Board

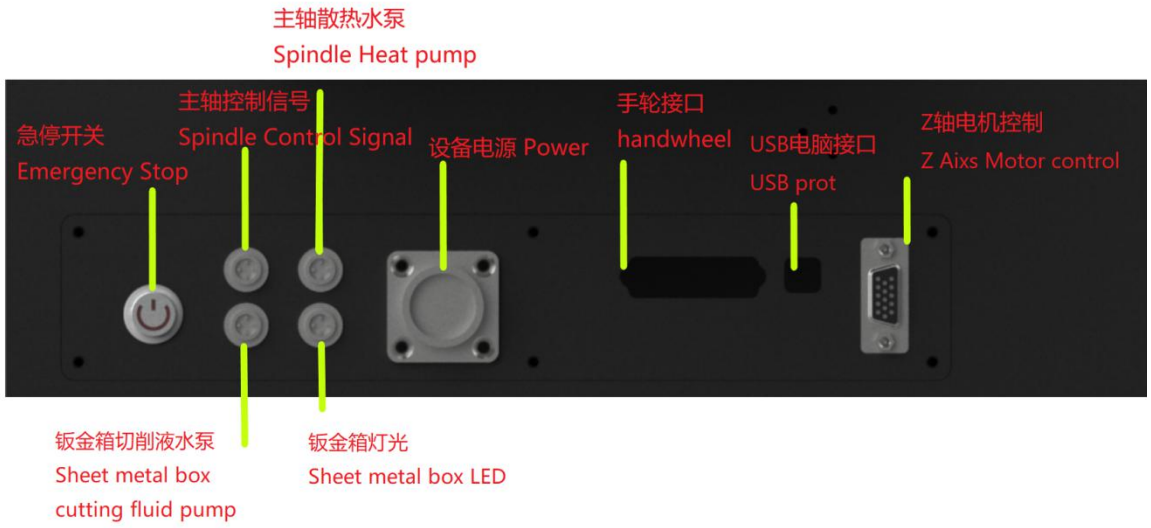
1.2 major structure



The equipment is mainly composed of five axes of X, Y, Z, A and C. The mechanical origin is the central intersection of the A C axis, and the positive direction of the Z axis is defined away from the main direction of the workpiece. The straight axis X and Y determine the top according to the right hand coordinate system, and the rotation axis A and C are judged according to the right hand spiral law. Among them, axis A is the equipment swing arm and the C axis is the clamped rotating table.

1.3 Interface profile

Host interface diagram



Interface diagram of electric control box

Equipment wiring order

1) Connect the three lines of the electric control box to the equipment:

The spindle control signal line, power cord, spindle drive line (silver) into the aviation plug at the rear end of the spindle

motor 

2) Connect the hand wheel interface on the equipment to the hand wheel and the usb interface to the computer through the data cable.

3) Connect the main power cord on the back of the electric control box, press the power main switch, and then press the green power switch on the front to start the equipment.

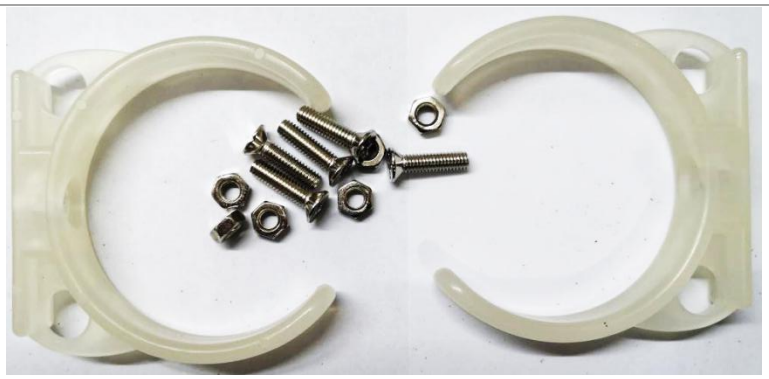
1.4 Assemble spindle water cooling system (sheet metal box customer without installation, installed built-in)

Note: Overseas customers cannot transport the liquid, the coolant needs to be purchased by themselves, they need 600ml of coolant, and the computer water coolant is recommended. Do not use tap water, easy to produce scale.

1) Secure the fan, footpad bracket to the heat drain

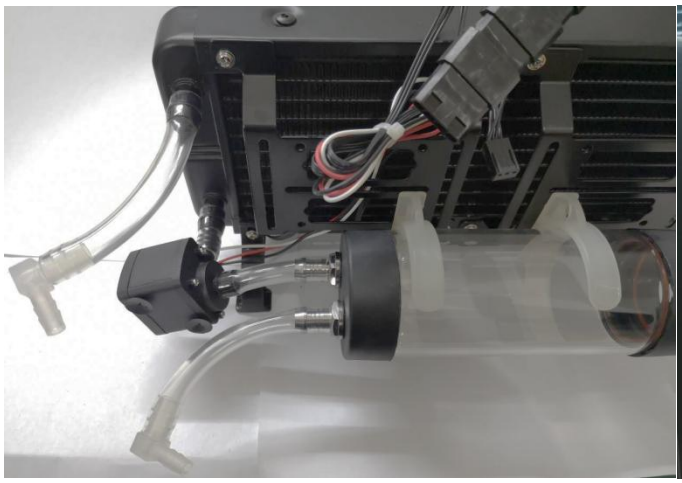
2) Install back support

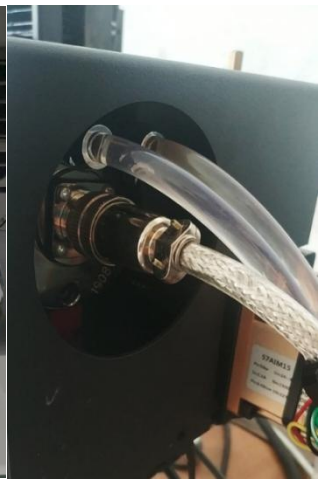
3) Install water cold water box



4） Install the water pipe to connect to the main shaft

The water-cooled joint uses 6-8 right-Angle rotary joint. Two water pipes are connected to the 6mm connector and the other at the back behind the spindle. Tighten the nut to confirm that coolant can be injected from the top of the water tank and powered on to test for leakage.

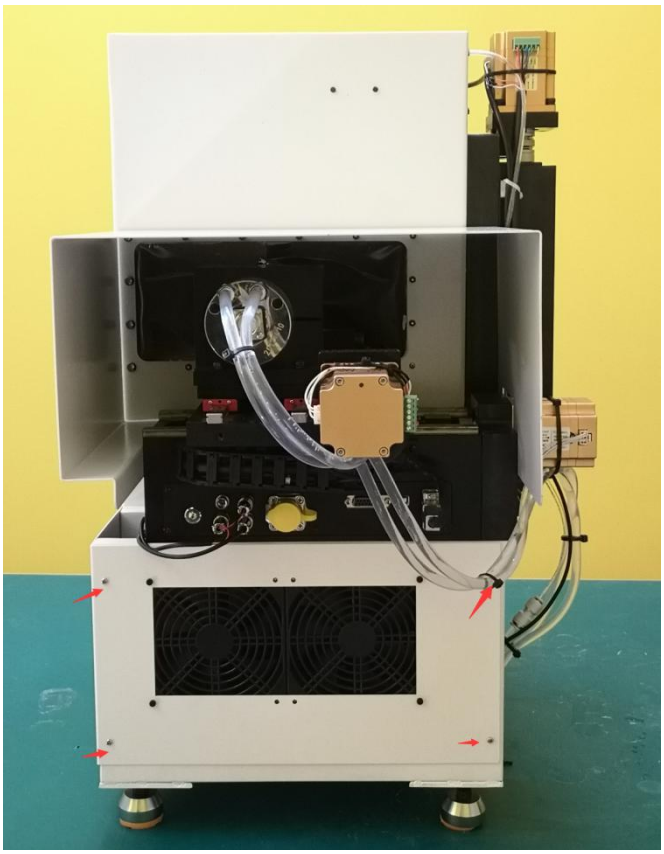




1.5 Introduction to the sheet metal box

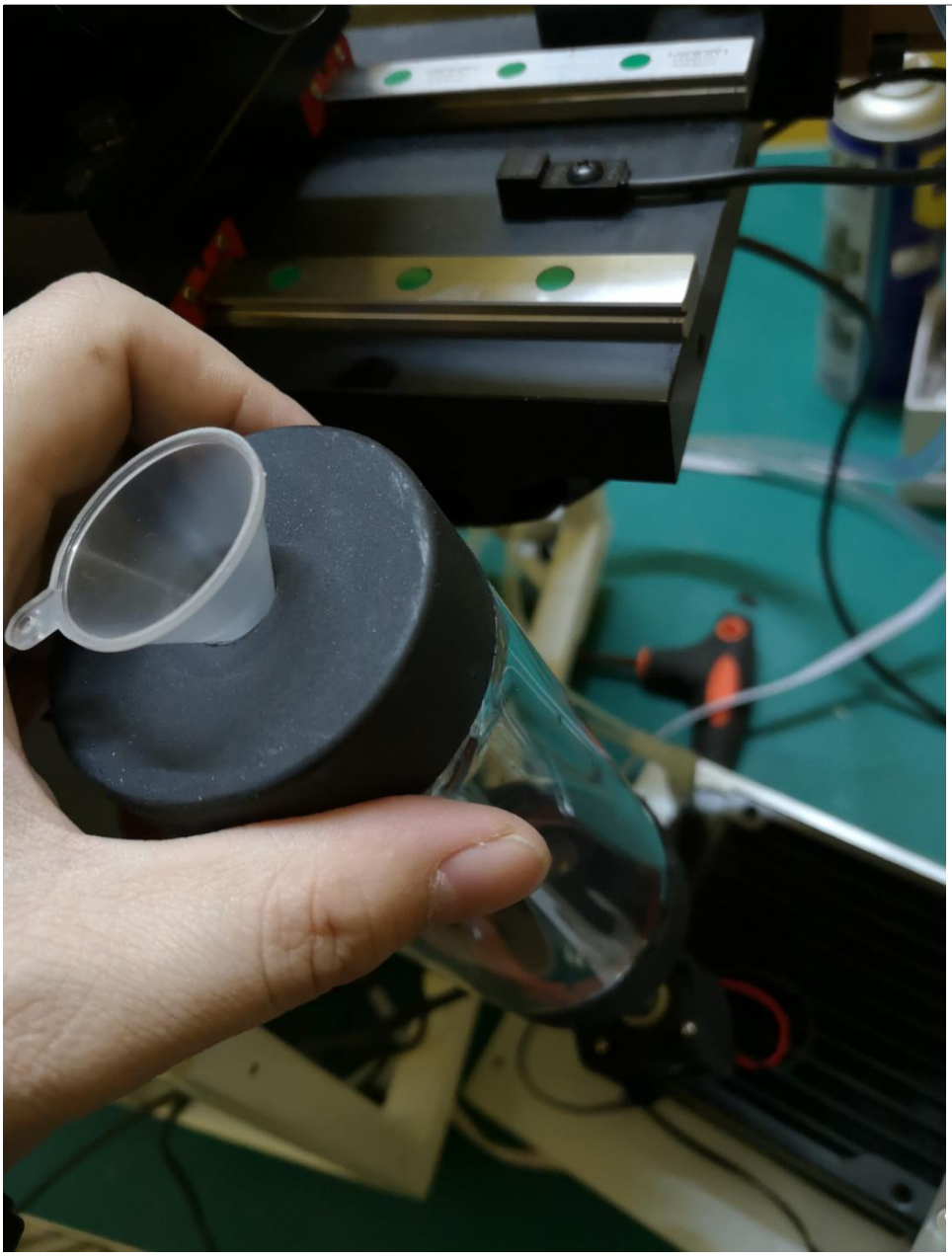
1. **Spindle water cooling liquid is added (domestic customers have been added before delivery. Because foreign customers need to transport liquid, they can use computer water coolant or vehicle water refrigerant, do not use tap water to avoid scale)**

1. Remove the 8 screws.You can take out the water-cooled drain part.

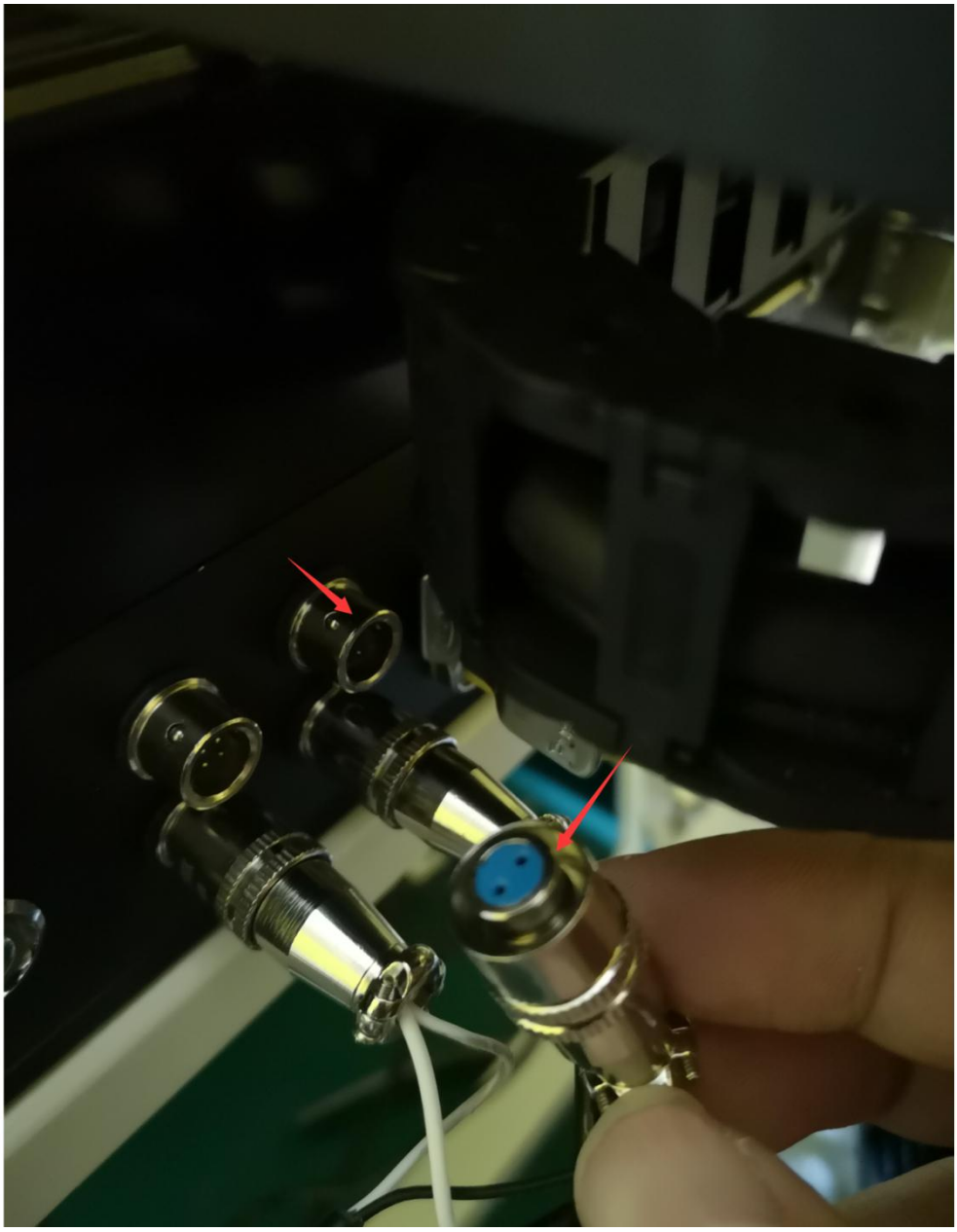


2. Remove the water tank.Pick up the tank by working up

3. Unscrew the one-word cap at the top of the water tank, and then add about 600ml of water coolant inside.Then tighten the one-word cap and install it back to the water tank.



4. Power the machine test, plug the 2-port interface on the side to see if the coolant starts to circulate.



5. Finally, install 8 screws for sheet metal.

2. Sheet metal box, need to pour into the cutting liquid (domestic customers will provide a bottle of 200ml cutting liquid, prohibited liquid overseas transportation, need to buy), a single use into a bottle of about 100ml then 1:15 (overseas customers reference their cutting liquid recommended proportion) around water into 1.5L water mix (do not use oil, or water as cutting liquid. Easy to cause the machine to rust or damage).

General cutting fluid can be determined whether to be replaced or supplemented according to the use situation.(Such as smelly smell or lack of too much)

Not in use for a long time or transportation also needs to discharge the cutting fluid first.

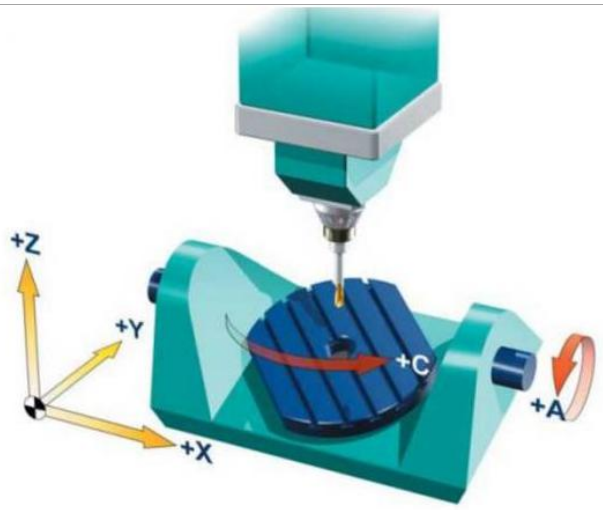
The machine is powered up, click the control software water cooling button to test whether the cutting fluid can be ejected.(The cutting liquid function can start and stop by clicking the water cooling button of the control software or add M08 at the start of the code)


五轴运动控制系统 For Pocket Nc
加载程序
参数设置
坐标系
刀具参数
测量刀长
保存程序
程序状态:0/0
G01 G17 G40 G49 G54 G69 G80
G90 G98 T01 H00 D00 S12000 F0
清 屏
三 维
俯 视
轴
机械坐标
工件坐标
相对坐标
剩余进给
RTCP-OFF
X 5.502 5.502 0.000 0.000 5.502
Y 19.454 19.454 0.000 0.000 19.454
Z -31.761 -31.761 0.000 0.000 -31.761
A 88.866 88.866 0.000 0.000 88.866
B 5.296 5.296 0.000 0.000 5.296
C -7.188 -7.188 0.000 0.000 -7.188
D 0.000 0.000 0.000 0.000 0.000
E 0.000 0.000 0.000 0.000 0.000
进给倍率 100.0%
主轴倍率 100.0%
已执行段:0
总程序段:0
已加工时间:00:00:00
预计需时间: 000:00
2021-01-30
16:25:23
I0输入
00 00 00 00
00 00 00 00
00 00 00 00
00 00 00 00
技术支持
系统报警: USB发送数据失败!
正转
反转
水冷
雾冷
05
06
07
08
复 位
自 动
手 动
手 轮
回 零
循环开始

2. Special term

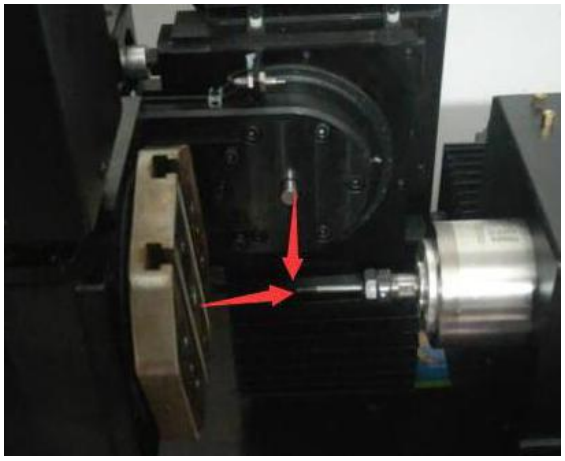
2.1 five-axis machine tool

Five-axis machine tool (5-Axis Machining) refers to a machine tool with two rotating axes on X, Y, Z and three common linear axles.



2.2 mechanical origin

The mechanical origin is the origin of the mechanical coordinate system. The relevant parameters set by the machinery factory are produced and stored in the control software, which is the fixed reference point inside the equipment.

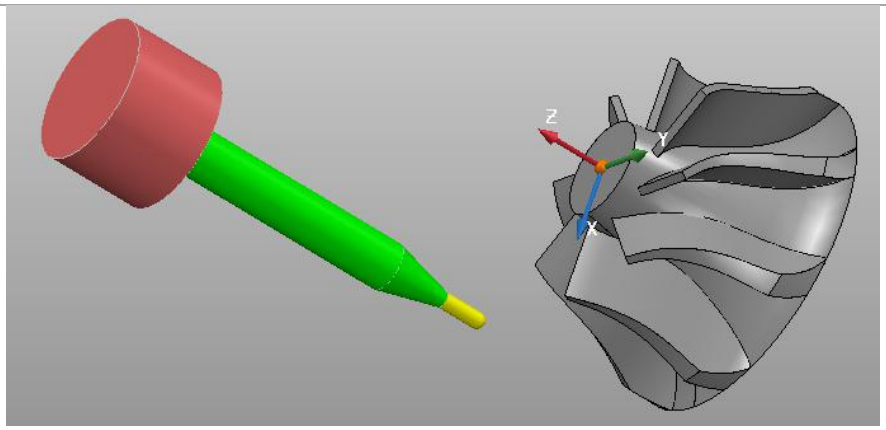


- The origin of the mechanical coordinate is actually the center of rotation of the equipment, namely the A C center intersection of the rotation axis
- The purpose of setting the mechanical coordinates is to let the control software acquire the rotation center position of the machine.
- XY mechanical origin of C countera is the center point (factory has been set, directly back to zero)

2.3 The origin of workpiece

The origin of the workpiece is set by the operator when processing the parts, which can be arbitrary, mainly considering easy programming and processing, i. e

The origin of the programming coordinates.



One-n face coordinates may be used during programming using C AM software. The final output post-processing selects an output coordinate, and the artifact origin is the position of this output coordinate. Generally, a coordinate system is established upward in the center Z direction of the top of the material as the output coordinate to achieve that the material is held with self-centering clamp or disk, the material is located in the center of the table, the mechanical coordinate XOYO and the artifact coordinate XOYO overlap, and there is no need to set the artifact XOYO to the material separately in the control software.

2.4 Mechanical Code Gcode

Mechanical code is the program code that can be recognized by the machine operation, and the CNC system adopts Gcode. G code is an instruction in numerical control program, which generally is called G instruction. Using G code can realize rapid positioning, inverse circular interpolation, smooth circular interpolation, middle point arc interpolation, radius programming and jump processing.

2.5 Numerical control processing process

CNC machining process can be divided into

1) The CAM software imports the part geometry model

2) Establish a blank

3) Establish a coordinate system

4) Plan the processing method and the tool selection according to the part requirements

5) Establish a tool

6) Generate the tool path

7) Establish the NC program, and post-processing the output G code

8) The implementation of processing

2.6 Post-processing of P ost-P rocess

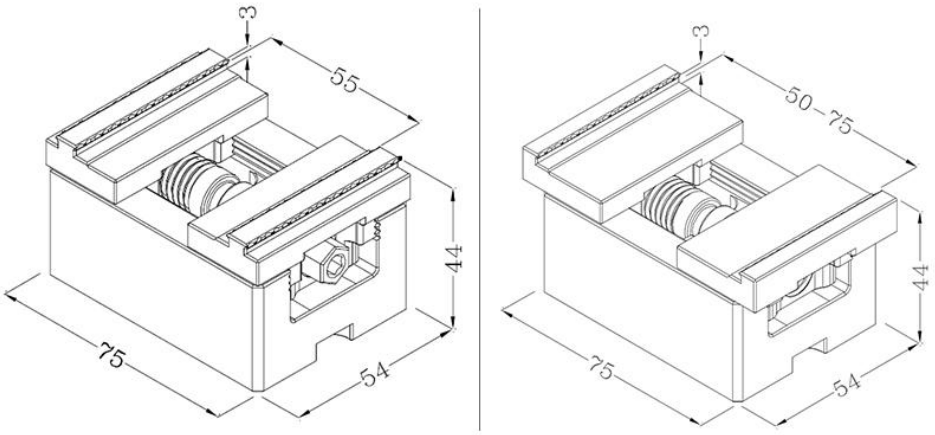
The NC tool path made by the C AM software can not be used directly, and must be converted into the G / M code recognized by the machine tool. Post-processor is to convert the N C tool path into G code, different device parameters are different, can not be universal. Powermilll, UG, Fusion360, Hsmworks postprocessing are

currently available for customer use.

3. Switch fixture

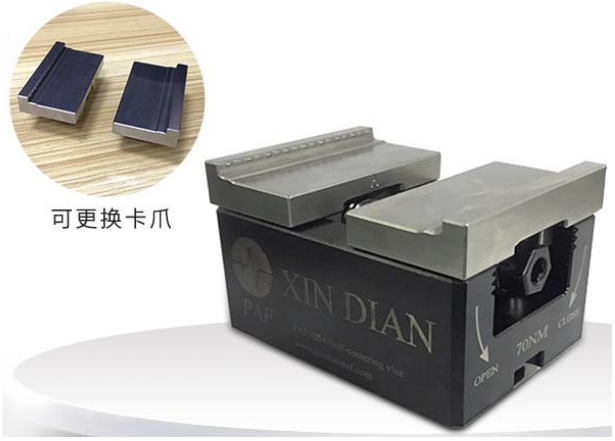
3.1 Standard fixture: self-centering platform clamp

The equipment is standard with self-centering pliers, which can hold materials within 8-55mm width. It can obtain different clamps according to the need, or 50-75mm clamps can be purchased.



Self-determination platform clamp

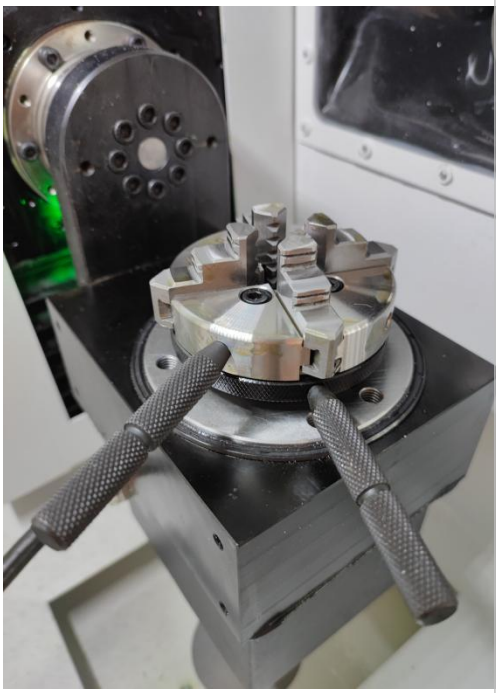
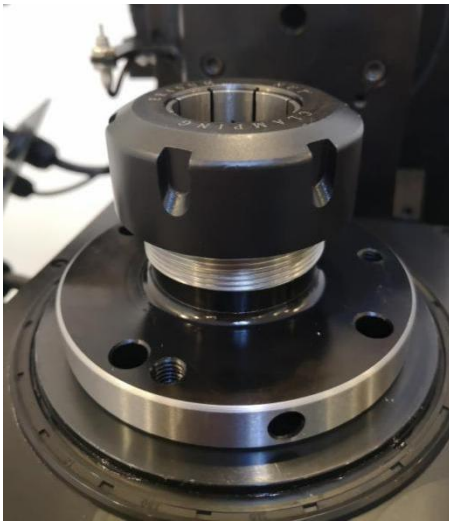
Replace the self-centering counter clamp of the counter-port clamp



3.2 Optional fixture

In addition to the standard self-centering platform clamp, customers can

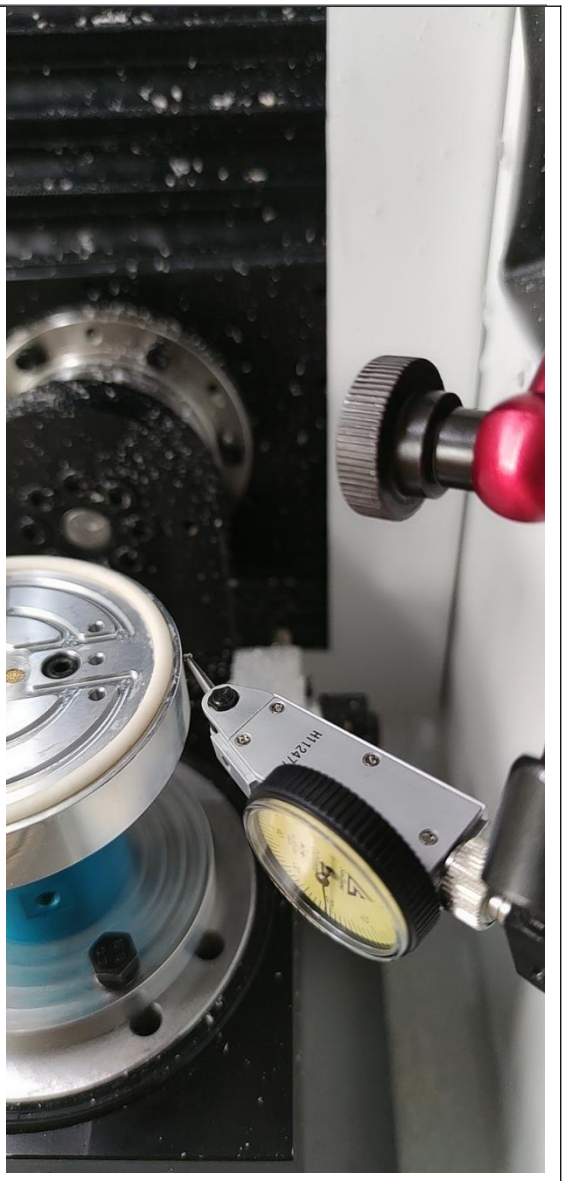
choose 80 disks, ER40, ER50 disks and other clamps.

80 Hand tight card plate	ER40, ER50 clamp plate
	
	

3.3 Rotary fixture replacement

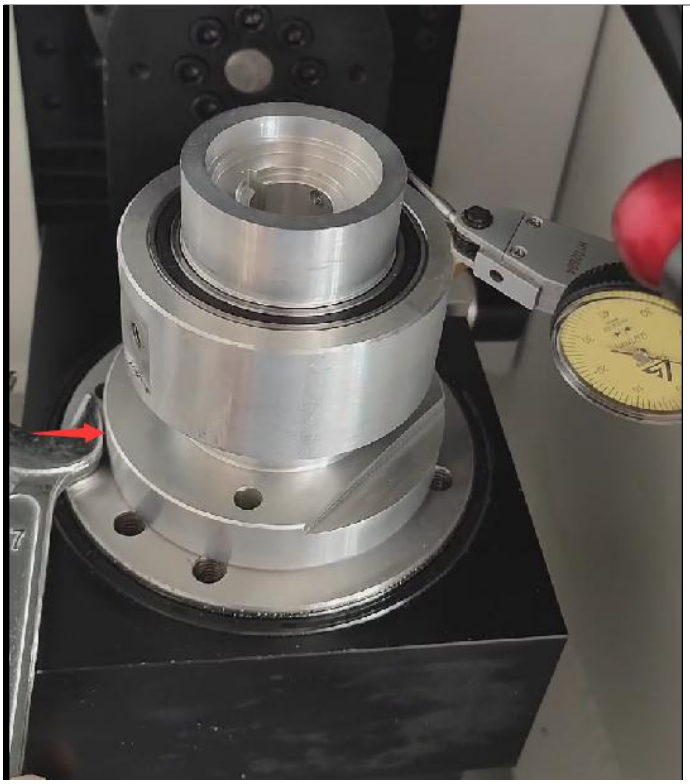
If it is a fixture required to ensure rotational concentricity, to be it in the center of the disk by beating the dial.

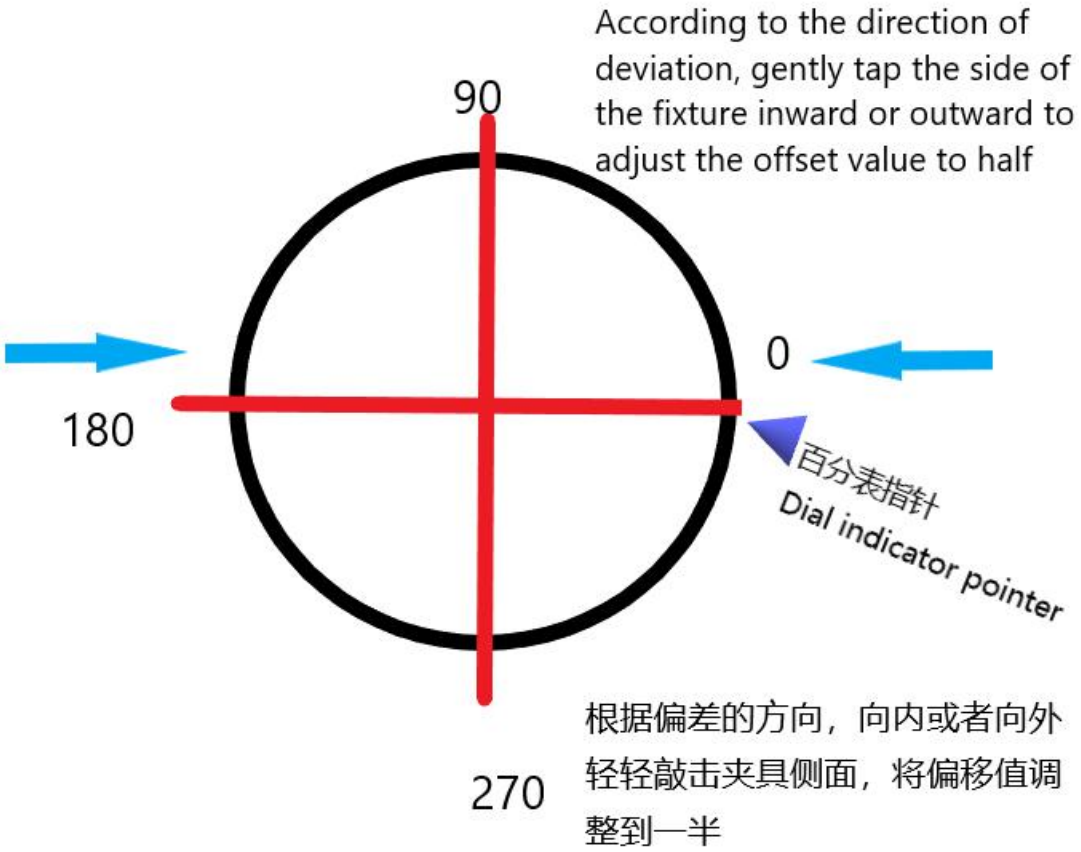
1. Turn the clamp fixing screw first, can not completely tighten, only need to tighten slightly, the screw elastic spacer has a light elastic force can press.
2. Turn the A-axis to 90 degrees.
3. Draw the percent meter on the spindle and hit the pointer in the middle of the side of the rotary fixture.Shake the C axis to 0, then the hand wheel moves the Z axis and adjust the gauge needle to 0.



4. Use a table to measure the deviation between the crosses of axis C.For example, adjust the error between 0-180 first.Measure the 0-180 deviation of 0.2mm, then reverse the side of the clamp in the black arrow until the pointer returns from 0.2 to 0.1.

5. Roughly adjust 0-180 within 0.03 beating, and then adjust the deviation of 90-270 degrees, and then then carefully adjust to 2 directions within 0.01~0.02.Then rotate a whole circle C to determine that the beat does not exceed the requirements (generally high requirements can be in 0.01, no special clamp itself is not 0.02 ~ particularly high requirements of 0.03 can be).





6. Then slowly tighten the clamping fixed screw, can not be a screw directly tightened, the screw layer to slowly tighten, such as each screw 2 times several times to the screw is completely tightened, and then rotate a C axis to see whether the beat has changed.If the beating indicates

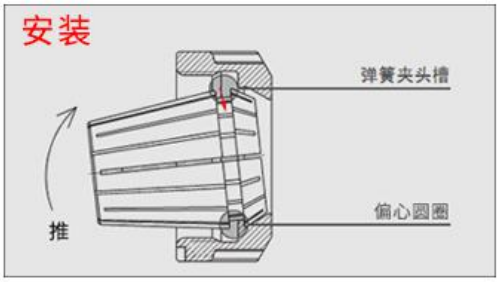
that the screw is affected during the tightening process, it needs to loosen again and tighten.

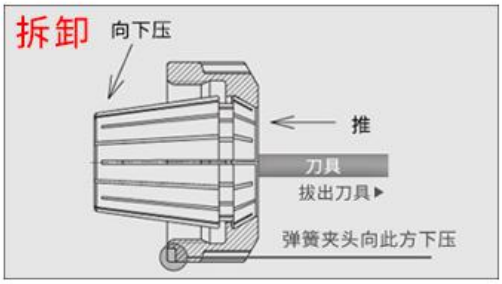
4. Tool clip & knife change

4.1 Holclip (tool fixture)

The device is ER11 and consists of clips and screws with a handle diameter of 1-8mm. Standard E R11-6, E R11-4, ER11-3.175 (1 / 8 ″) barrel clips with 6mm, 4mm, 3mm handles respectively..175

4.2 The loading and unloading mode of cylinder clamp





1：弹簧夹头的槽装入螺帽的偏心圆圈位置，按照箭头指示方向将弹簧夹头推入直至听到咔哒声，代表弹簧夹头到位

2：再将弹簧夹头装上刀具，务必到位

3：将螺帽装到刀柄上，再用扳手锁紧

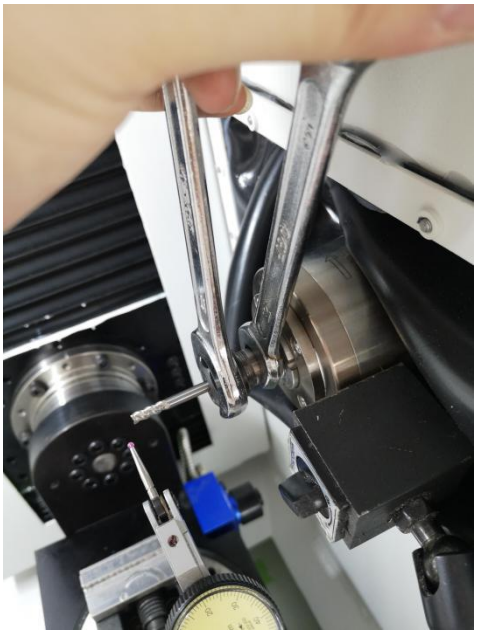
把螺帽从刀柄上旋下后，拨出刀具，从弹簧夹头的正面往里推并同时对着偏心圆圈底部向下压，斜推弹簧夹头，直至弹簧夹头和螺帽分解开。

4.3 Knife clamping

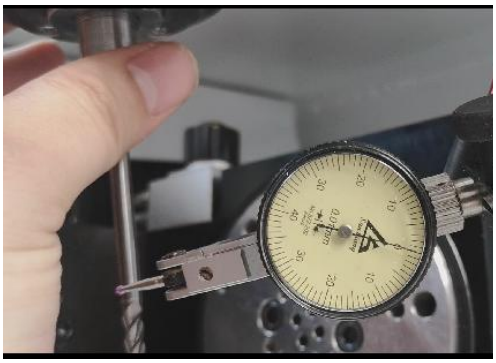
. 1 Press the clip into the ER 11 nut first

. 2. Plug into the tool (the holding length is generally 15mm, without being completely inserted, the extension length of the electronic tool shall be within 30 to 60 m m)

. 3 Check the cone and clamp in the spindle for dust, clean, and screw the nut on the spindle



. 4 Tighten the wrench



5. If there are accuracy requirements, turn the side of the percentage meter measuring tool by hand and detect the handle beating to ensure that the beating is within 0.01.If the beating is large, screw the nut and turn the tool at some angle before testing.Or consider using a higher precision clip.

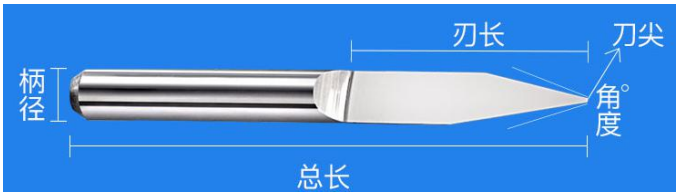
4.4 Cutting tool introduction

Standard equipped with 4mm handle diameter 0.2mm sharp knife, 4mm 6mm vertical milling knife, 4mm handle diameter R1 ball knife.

Types of knives	key	act on
Flat bottom, sharp knife		Enve fine relief surfaces or fine lines
end mill		Open the thick, or process the parts
The ball knife		Large plane ball knife processing is relatively large curved surface, and the sharp knife is not suitable for the hard material

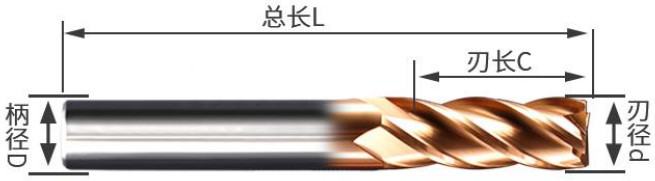
Tool Specifications & Application

1) Flat bottom sharp knife: applicable materials PVC, acrylic, resin, plastic, wood, etc



Specification: 4 * 15° * 0.2 * 39 (total length of handle diameter angle tip width)

2) Vertical milling tool: applicable to aluminum alloy, copper, steel, cast iron, etc



Specification: Tungsten steel vertical milling tool 3C * 4D * 50L (total length of blade blade long handle diameter)

3) Ball knife: ball head milling knife for tungsten, steel and aluminum, applicable to aluminum, aluminum alloy, copper, copper alloy, magnesium alloy and acrylic

Tungsten steel coated ball milling cutter, applicable steel parts, stainless steel, carbon steel, gray cast iron, etc

Specification: R 1 * 4 * * 4D * 50L * 2F (blade length blade)

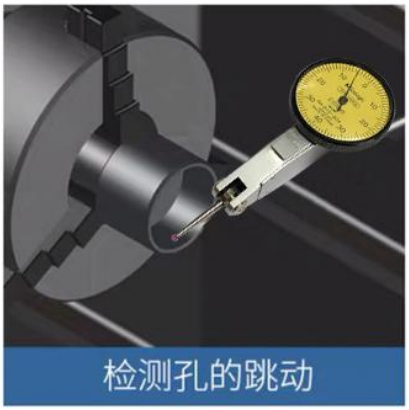
4.5 Processing parameters

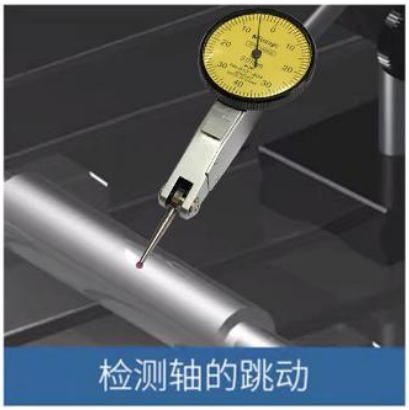
加工参数

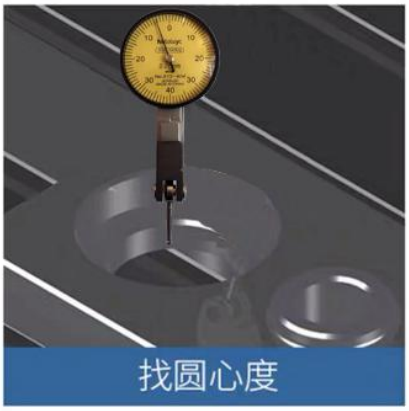
刀具	参数	行距	主轴转速	切削深度	切削速度
	材料				
		mm	rpm	mm	mm/s
	铝/铜	4	18000	0.2-0.3	2000
6mm立铣刀	塑料	4	12000	0.5	3000
	木头	4	12000	1	3000
	铝/铜	3	18000	0.2-0.3	2000
4mm立铣刀	塑料	3	12000	0.5	3000
	木头	3	12000	1	3000
	铝/铜	1.5	15000	0.15-0.2	1500
2mm立铣刀	塑料	1.5	10000	0.5	2000
	木头	1.5	10000	1	2000
	铝/铜	0.05	18000	0.2	2000
R1mm球刀	塑料	0.05	12000	0.3	3000
	木头	0.05	12000	0.3	3000
	铝/铜	0.05	18000	0.2	2000
0.2尖刀铣刀	塑料	0.05	12000	0.3-2	3000
	木头	0.05	12000	0.3-10	3000
	铝/铜		15000	0.5	500
2-5mm钻头	塑料		10000	1	500
	木头		10000	1	500
	铝/铜		15000	0.2	500
0.2-2钻头	塑料		15000	0.3	500
	木头		15000	0.3	500

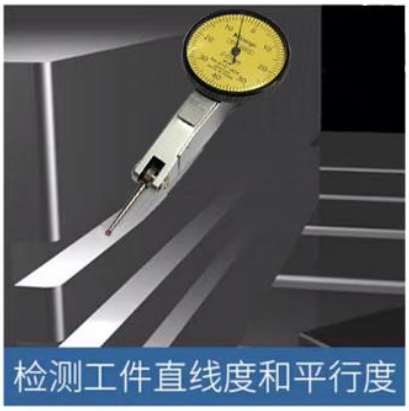
5. measure

5.1 Leverage is 100 percent, and a magnetic watchstand









The customer recommends installing an entry-level lever meter and magnetic seat (with minimum 200mm length) for installation adjustment of fixclamp, such as horizontal Angle of clamp, disc and concentricity of ER clamp.And the beating

inspection of the tool, etc.

5.2 vernier calipers

The customer suggested matching a cursor caliper, which is much easier to measure the blank size or otherwise.

6. Operating instructions of the handwheel

Axis selection button: X, Y, Z, 4 axis to A, 5 axis to C

Speed knob: select the shaft motion speed of 2% 10% 100% gear

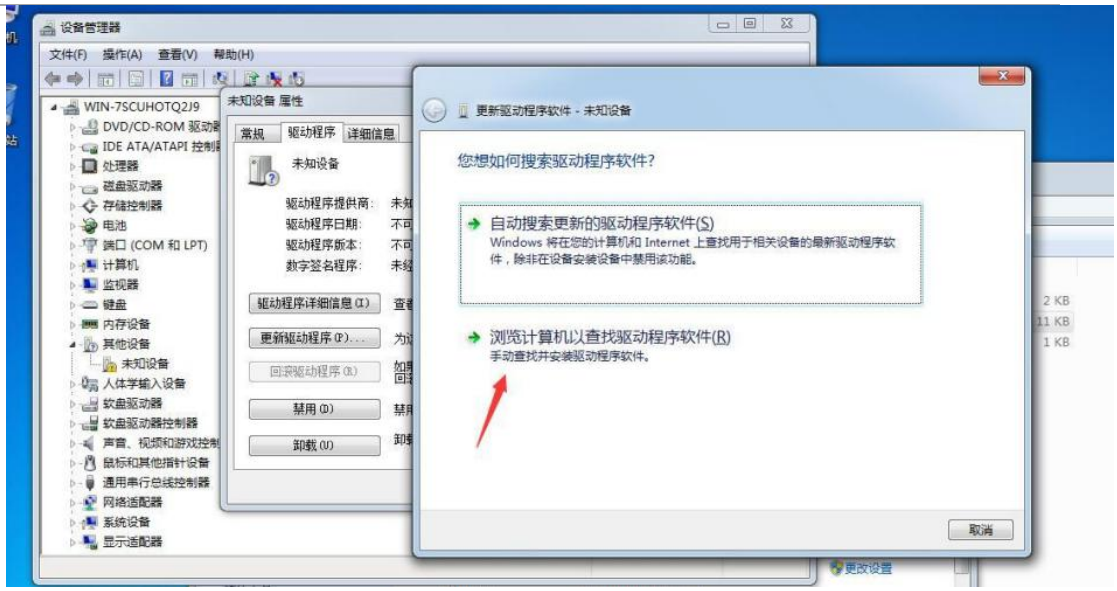
Hand pulse generator: that is, hand wheel, rotation control movement of each axis, need to be connected with control software, cannot be offline

7. Introduction to control software

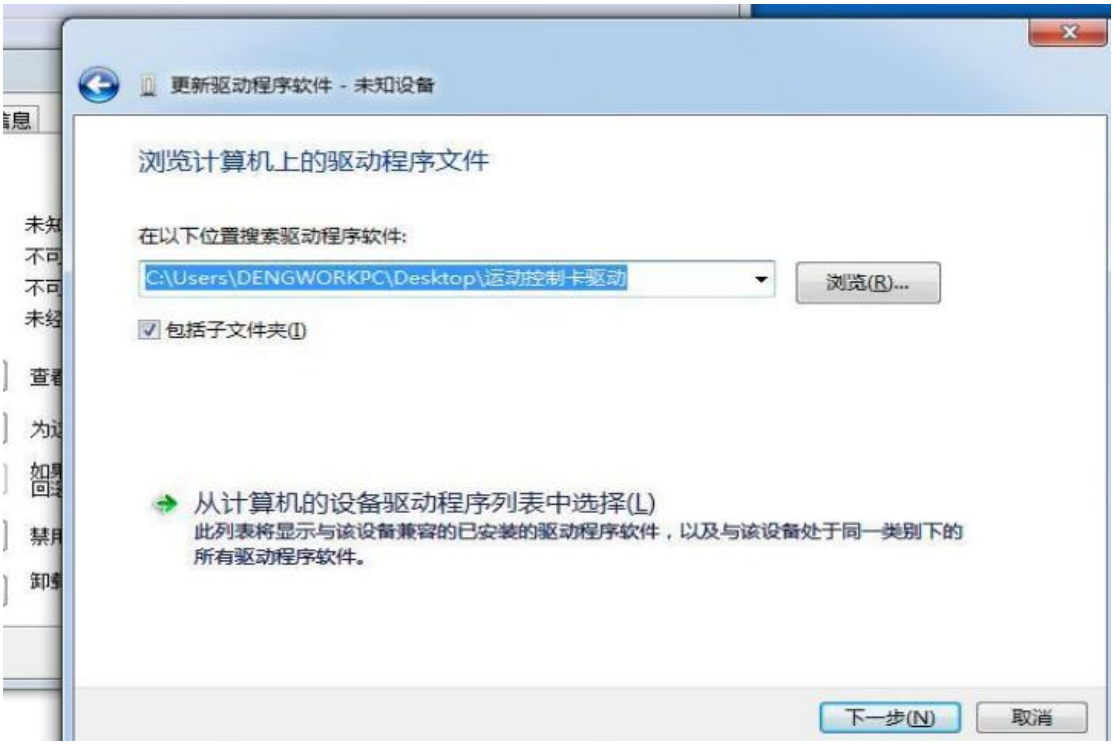
7.1 Installation of the control card driver

The control card supports 32-bit systems such as XP, WIN7, and WIN10

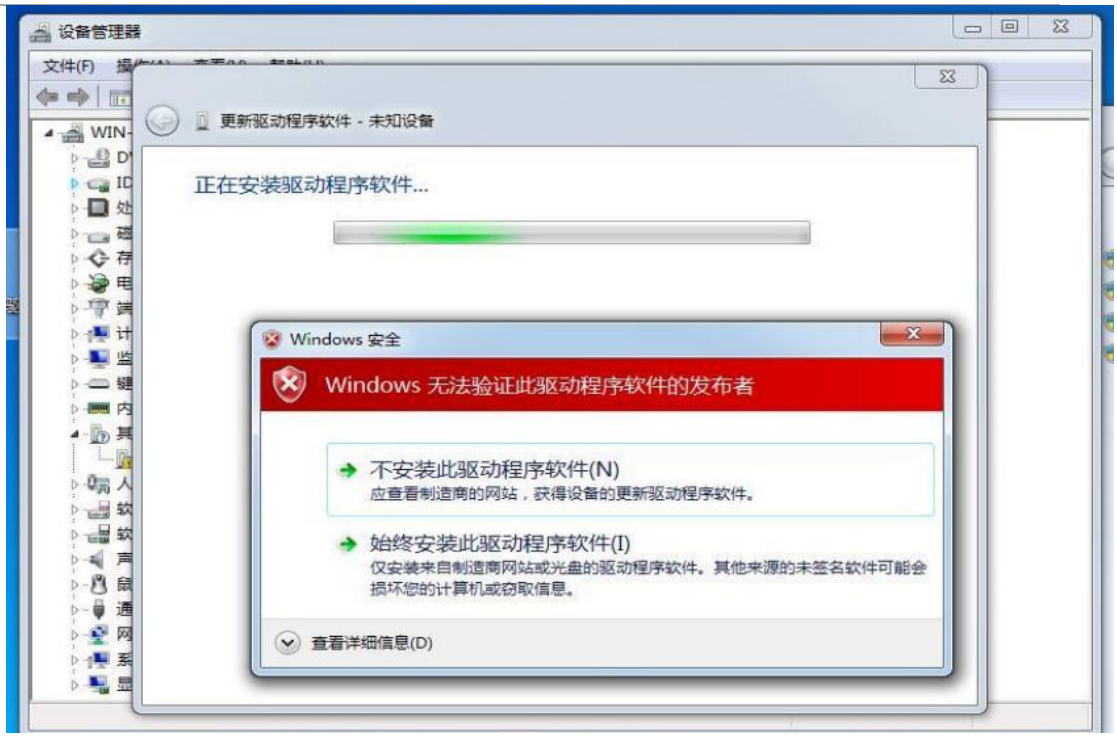
1) Insert the motion control card USB and power it up



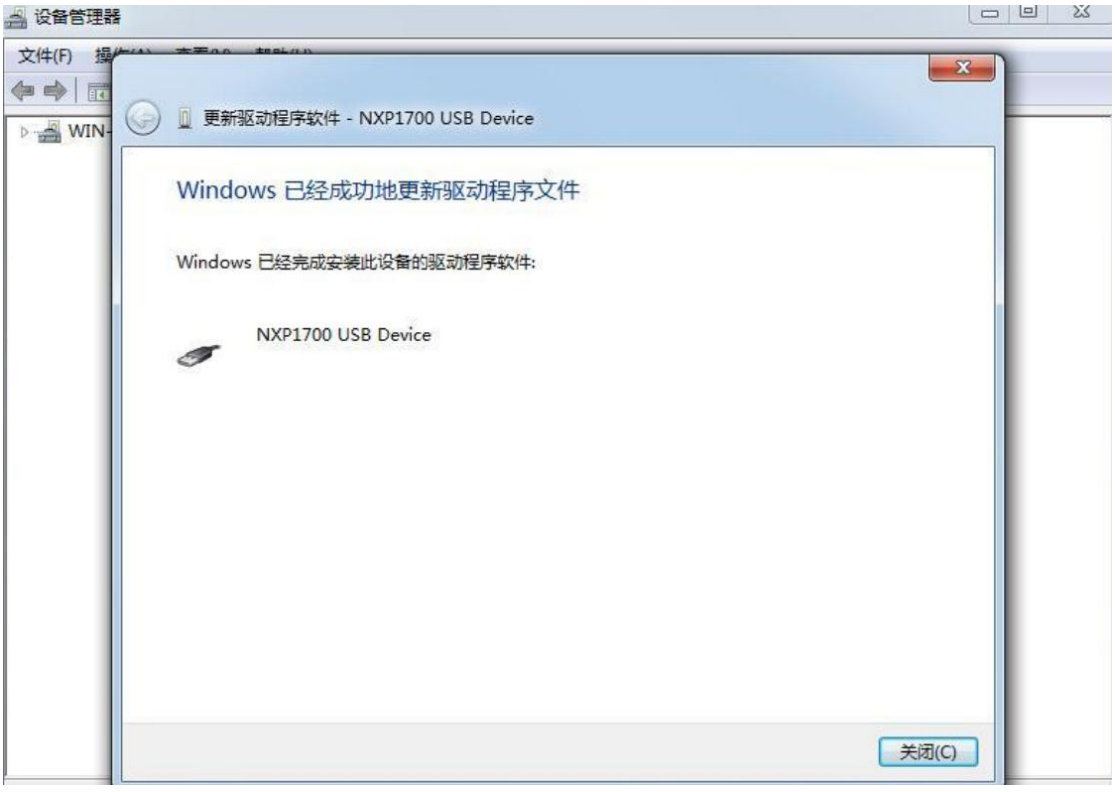
2) Locate the folder where the USB card driver is located



3) Always install this driver software (you need to disable the driver force signature during win10 installation)



4) The sports card can be used normally with the drive installed



7.2 Introduction to control software

1） Control software interface

2） Control the software shortcut key

N umber	F unction		H otkey	N umber	F unction	H otkey
order number	function		key mapping	order number	function	key mapping
1	Start / suspend	Start /Puase	F 5	11	X +	D
2	reset	R eset	F 6	12	X -	A
3	automatic mode	A utomatic mode	F 1	13	Y +	W
4	manual mode	Manual mode	F 2	14	Y -	S
5	Handwheel mode	H andwheel mode	F 3	15	Z +	Q
6	Back to zero mode	R eturn to Zero mode	F 4	16	Z -	Z
7	main shaft speed +	S pindle speed +	‘	17	A+	E
8	main shaft speed-	S pindle speed -	：	18	A -	C
9	feed rate +	F eed rate +	。	19	C +	G
10	feed rate-	F eed rate -	，	20	C -	F

3） The 4 modes for device control

- Automatic: Load the mode of code runs.
- Manual: operate the movement of the device axis through the keyboard in the point mode, that is, press the key position movement of the corresponding shaft and stop after release
- Hand wheel: the knob selects the corresponding shaft and shakes the hand wheel to control the movement.
- Return to zero: the equipment moves to zero switch position, click "back to zero" and press any movement key of the shaft

For example: the X-axis returns to zero.Press either A or D, stop the X-axis running to the zero switch position, and the control software automatically changes the X-axis mechanical coordinate to the origin coordinate value saved in the software (both the distance difference of the axis back to the zero point from the origin)

4） Mechanical coordinates & workpiece coordinates

The number of this axis with the mouse can be cleared, and the general mechanical coordinates cannot be cleared (the mechanical origin coordinates of each axis are set up the origin information through measurement before leaving the factory, and the mechanical coordinates of the software is prohibited). The specific use depends on the operation process.

The artifact coordinate is the output coordinate system selected after programming processing, which generally takes the top center of the blank as the output coordinate system. We default uses the self-contained fixture to ensure that the origin XYAC of the artifact coordinates is the same as the XYAC of the mechanical coordinates, so it is generally not necessary to set the central offset of the artifact coordinates separately.If the part is different, or requires offset clamping, you can measure the artifact coordinates of the zero XY after the part XY center.

5） corotation

Click to turn on or off spindle, automatically during code running; start "forward" in manual or wheel mode

6） reversal

Because our equipment is a non-servo spindle, there is no reversal function set.

7） hydrocooling

Customers with sheet metal box housing, code M08 to open and close cutting fluid.

8） Fog cold

There is no such function

9） The cycle begins

Either as a start key for running code or as a pause key

10） reset

Can stop, stop or press keyboard F6

11） Feed, spindle rate

You can drag the code, accelerate or lower, or click text to enter the value directly

8. operating process

8.1 matters need attention

1) Only clear up the Z-axis workpiece coordinates

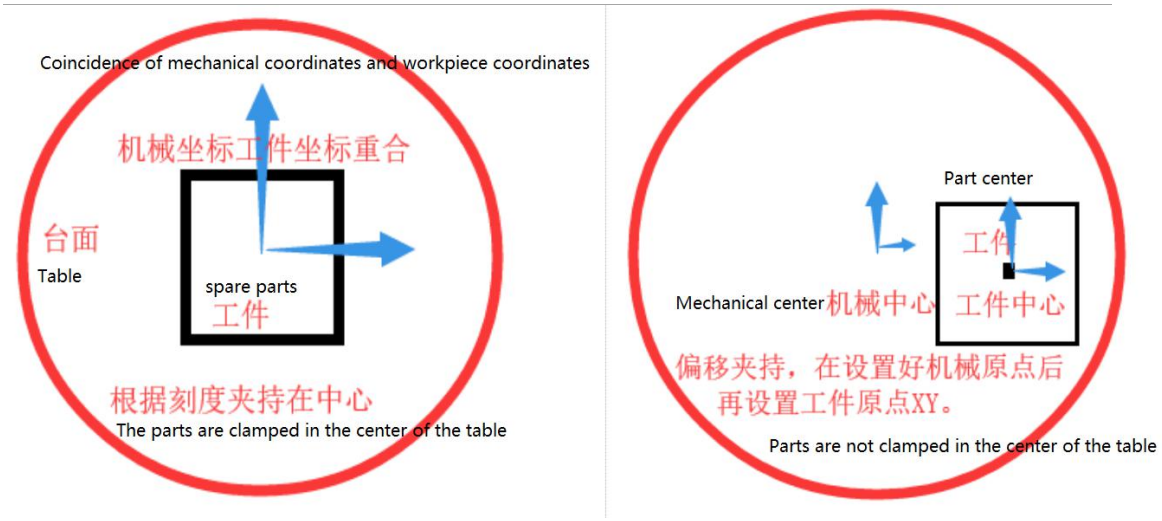
In the use of control software, the coordinates of Z-axis workparts vary according to the knife length and parts, and the knife needs to zero the origin of the workparts. After the other XYACZ axes are directly returned to zero, the hand wheel shakes back to the mechanical origin, so the mechanical origin of the XYACZ axis cannot be cleared, all set by the factory. If zero is cleared, the value saved in the system changes, unless you are ready to readjust the mechanical origin yourself

2) Do not turn the coupling and the servo motor screws

Do not loosen or remove the coupling screws and the servo motor screws unless necessary. Because the origin signal of each axis in the current version is the Z0 signal of the servo encoder, the Z0 position of their fixed screws is offset.

3) Blblank grip at the center of the fixture

In practice, for convenience, the parts are held in the center according to the scale on the fixture, so that the mechanical origin of XYAC can be the same as the workpiece origin, without setting another workpiece center, that is, when XYAC is in the mechanical coordinate 0, the corresponding workpiece coordinate is also 0. If you have to offset the grip, move the knife tip to the XY coordinates of the artifact center origin separately after returning to zero to the mechanical origin, or input the offset value into the control software coordinate system G54. It should be noted that the offset can only set the XY axis, can not set the coordinate offset of the AC axis rotation axis, which will cause operation error, we need to ensure that the AC axis machinery and work piece coordinates are consistent.



8.2 Profile description

The corresponding parameters of the machine are saved in the bin folder of the control software

The control software adopts the electronic knife parameters by default, and the electronic automatic knife steps are as follows.

1. After the equipment is activated, the XYZAC button returns to zero (return to Z first to avoid collision during the zero process, zero button order is Q, W, A, E, F). After the zero is completed, load the automatic knife code tool in the bin folder, and the tool will move above the opposite knife and start the knife, and automatically return after completion

2. After the electronic completion of the knife, shake A to the mechanical coordinate 0 [vertical state] through the hand wheel, and then move the tip of the knife to the blank surface, click the Z artifact coordinate value, zero the Z artifact coordinates, and finally load the code to run.

3. If you need to change the knife, after the rough machining program, replace the next knife, the Z axis need not return to zero (if the equipment has closed control software, Z need to return to zero and then load tool code, that is, every open the software is Z to return to zero and load tool), and then execute the above knife tool code, to realize automatic knife length. Then use the hand wheel to move the tool to a safe position, and load the finishing code to run. (Workpiece coordinates need no longer apply to the knife, because the workpiece coordinates of the same part are the same. The difference between mechanical Z and workpiece Z has been recorded for the first time, and after the mechanical Z is automatically modified to the knife for the second time, the workpiece Z will also automatically transform.)

8.3 operating process

1） Plug in the USB data cable to connect the device to the computer

2） Open the control software

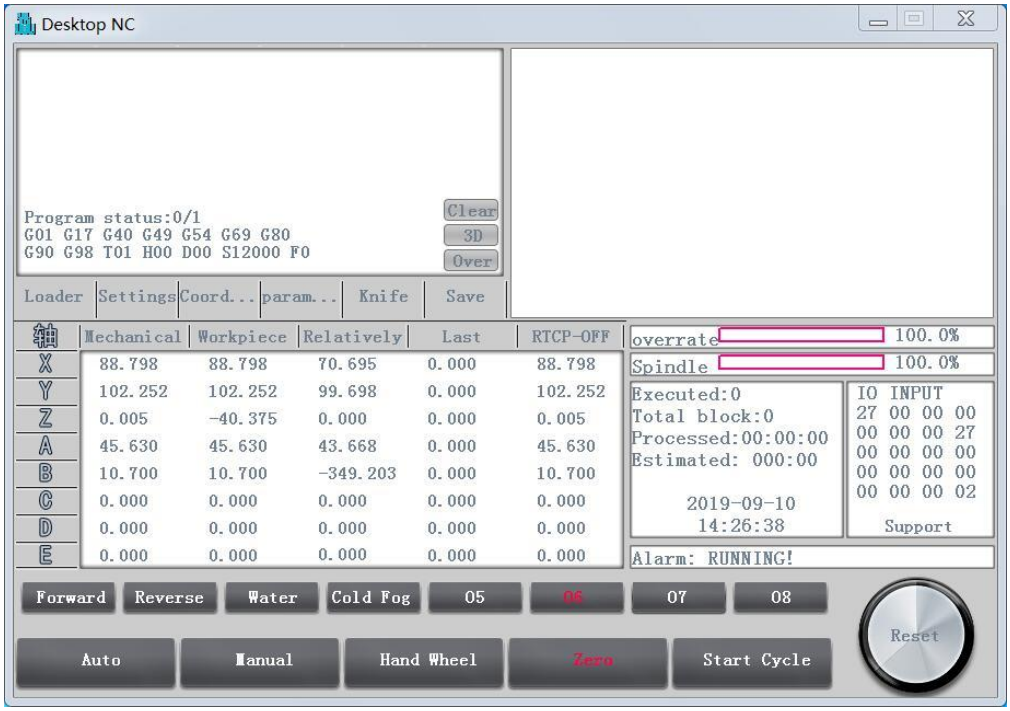
3) The equipment is powered-up

4) The five-axis should return to zero, zero Z and then zero XYAC to avoid spindle collision. The main axis should be in a vertical state before the A-axis returns to zero

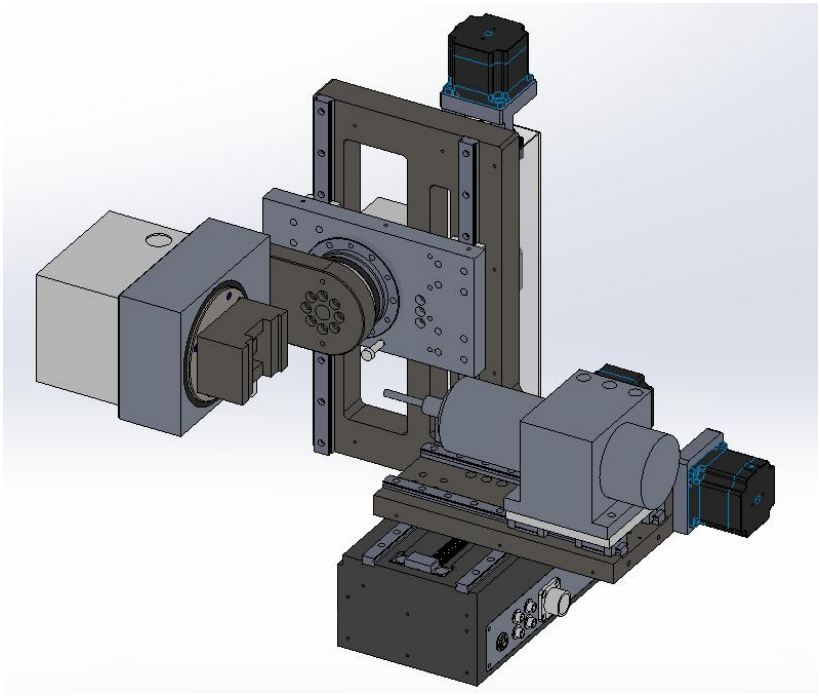
After selecting the zero mode, press the keyboard key position of each axis to return to zero. The zero key order is Q, W, A, E, F, and the zero direction is fixed. Among them, the A axis return to zero needs to ensure that the A is vertical before returning to zero, because the position of the A return to zero switch is in the 90° horizontal position. If it exceeds 90° and returns to zero, the switch can not be triggered and cause a collision.

After returning to zero, the control software will show the difference between the zero point and the mechanical origin of each axis, and use the hand wheel to shake all the XYAC back to the machine 0

Software status diagram before returning to zero



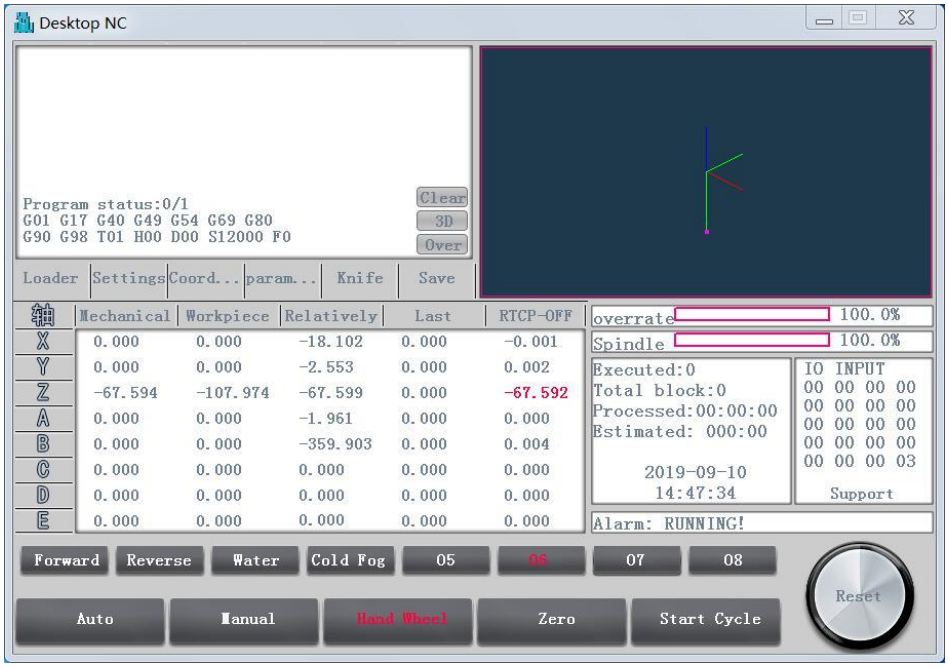
Device status diagram before the X YAC goes back to zero



For V3.5 model, X axis zero is about 70; Y axis zero is at the bottom of Y axis, about 110; Z axis is back to the switch position and stop, Z mechanical coordinate is 0; A axis is 90 degrees; C axis has no specific fixed value because the table installation may be different.

5) XYAC shakes the mechanical coordinate value of each axis to 0 through the hand wheel

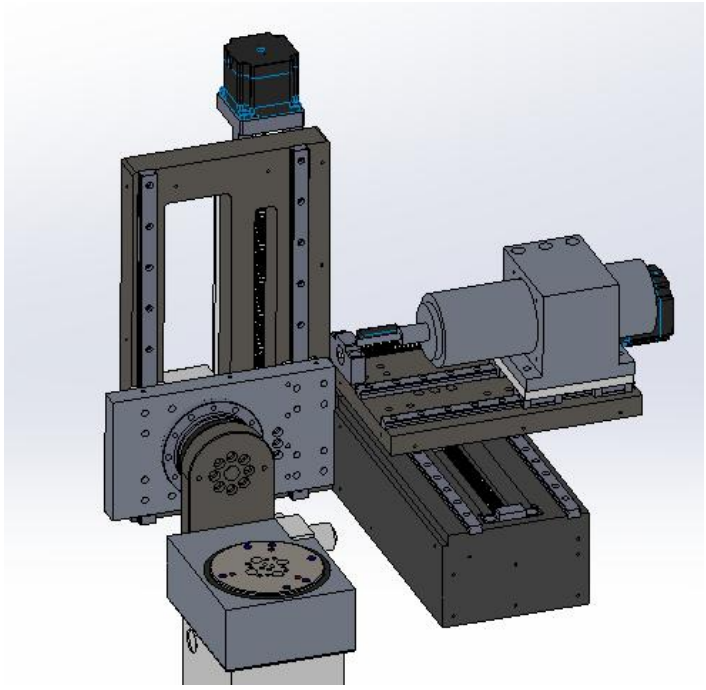
Status diagram of the control software after the return to zero



T ip: XYAC mechanical coordinates and workpiece coordinates are 0 at the moment,

the Z axis is not tube

Machine state diagram after X YAC return to zero



6) Load the automatic knife code and knife Z mechanical coordinates.

The code is the control tool inside the software bin folder, in automatic mode, load the code, and the loop can start

The code automatically moves the tip above the electronic knife for the knife.

T ip: The length of the tool clip into the nut is generally 15mm, which need not be completely inserted. In the current version of the electronic pair to the knife, the tool extension length needs to be within 30~60mm, and too long will hit the knife.

7) Z artifact coordinate to the knife

If A0 is vertical, move the knife tip to the top of the blank with the hand wheel, and zero the Z workpiece coordinates

Tool blank to zero picture Z artifact coordinates zero zero

8) Operate the hand wheel, Z backward and move the tool to the safe position of about 10mm above the part.

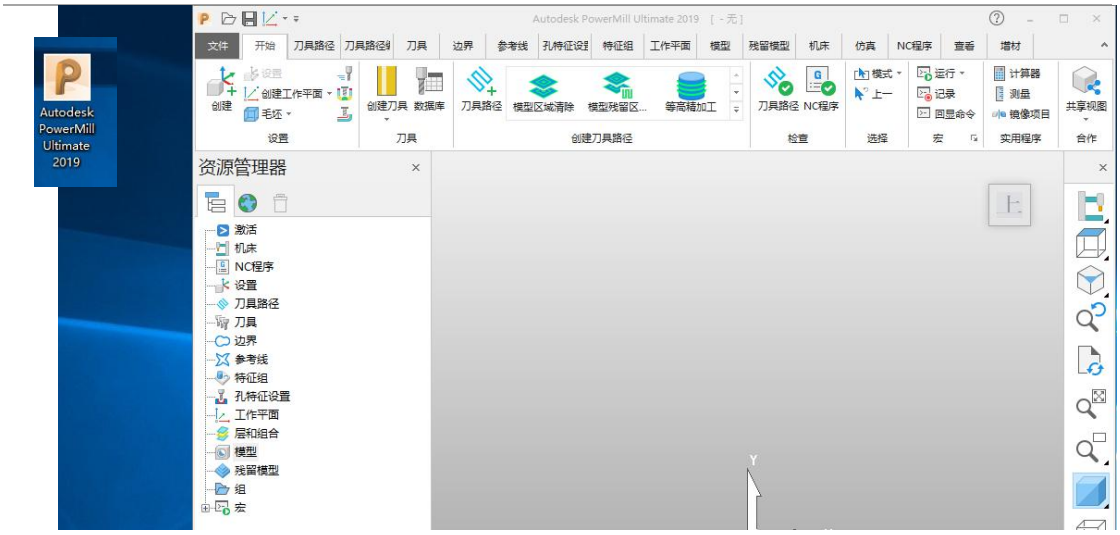
9) Load code, automatic mode, cycle start (if not skilled, the speed can be set at 10% gear in handwheel mode for code operation. With an error, or a possible collider, press the side emergency stop button or reset the control software)

9. CAM Software Introduction and Post-processing Application (Generate Gcode)

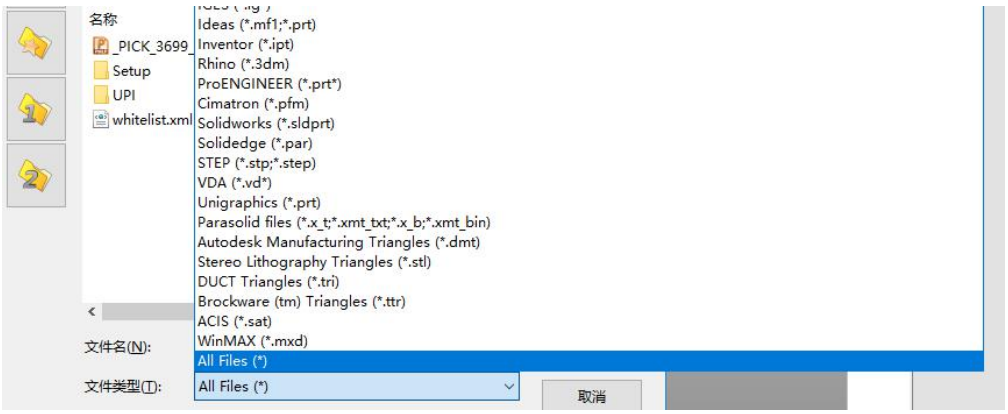
CAM software	brief introduction	recommendation rate	Post processing module
Power M ill	Professional high-speed and 5-axis processing software, the knife road strategy is relatively rich, can realize the processing of complex parts.	★★★★★	Manufacturing Post Processor
F usion360	Programming and drawing integration, the function is relatively simple and suitable for entry, the processing of complex parts may be more difficult to achieve, more than 3 + 2 strategy, the five-axis linkage function is less.	★★★★	Post Library

10. Example: P ower M ill Generates the N C program [G code]

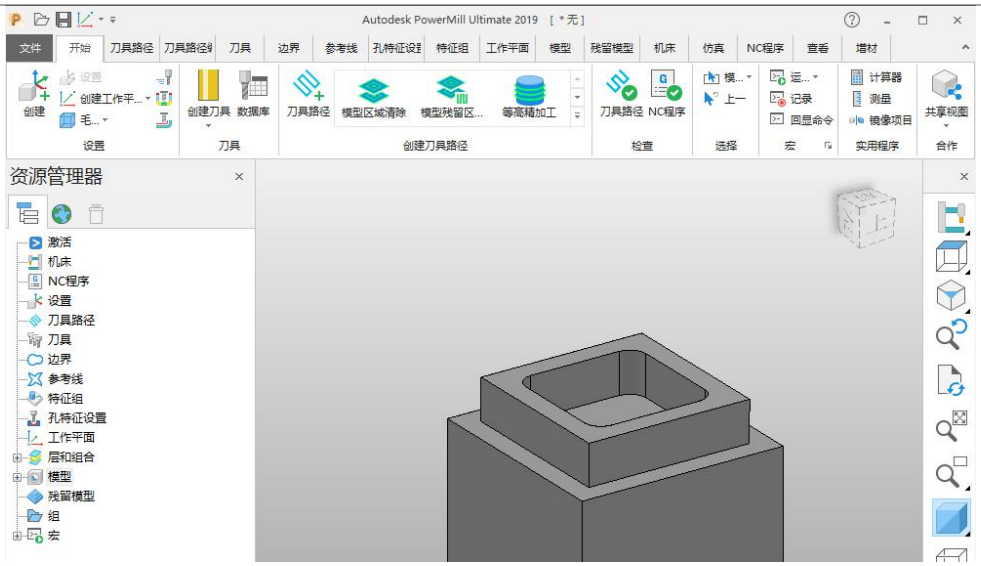
1) Open the Powermill software



2） Import part 3D file: support most file formats, direct import, without conversion

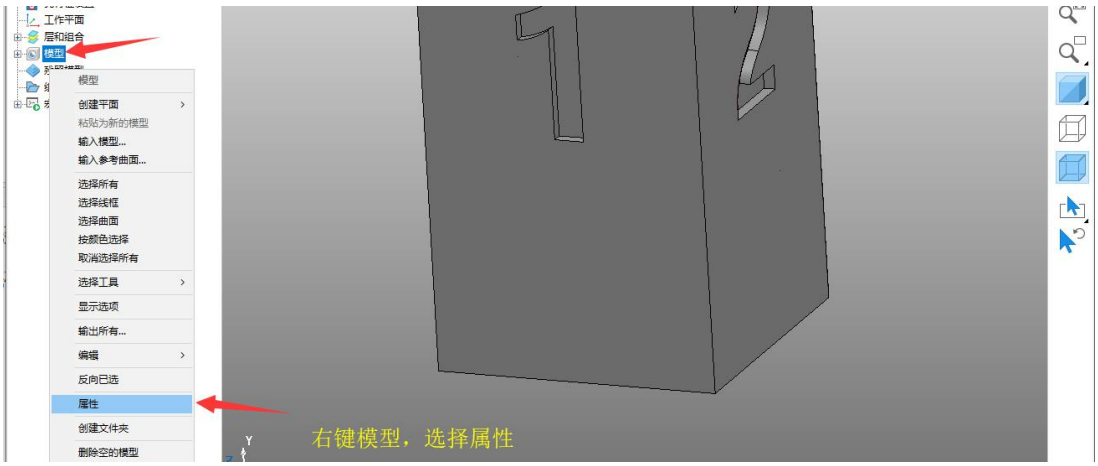


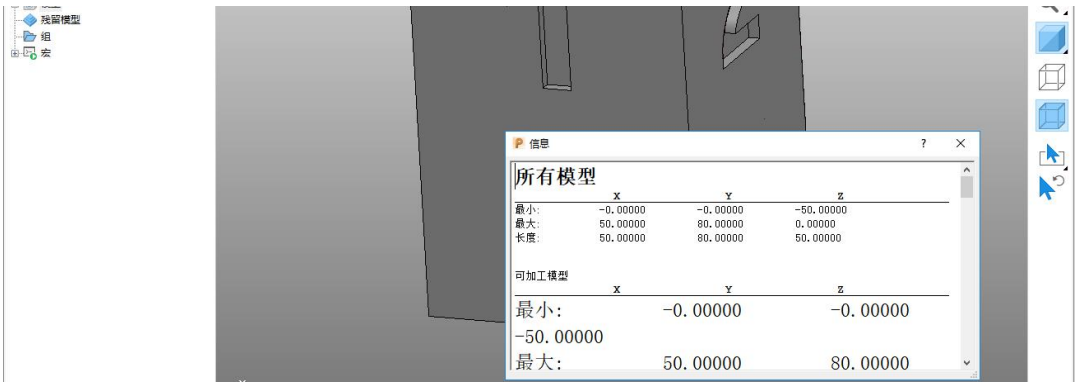
3） Establish blank



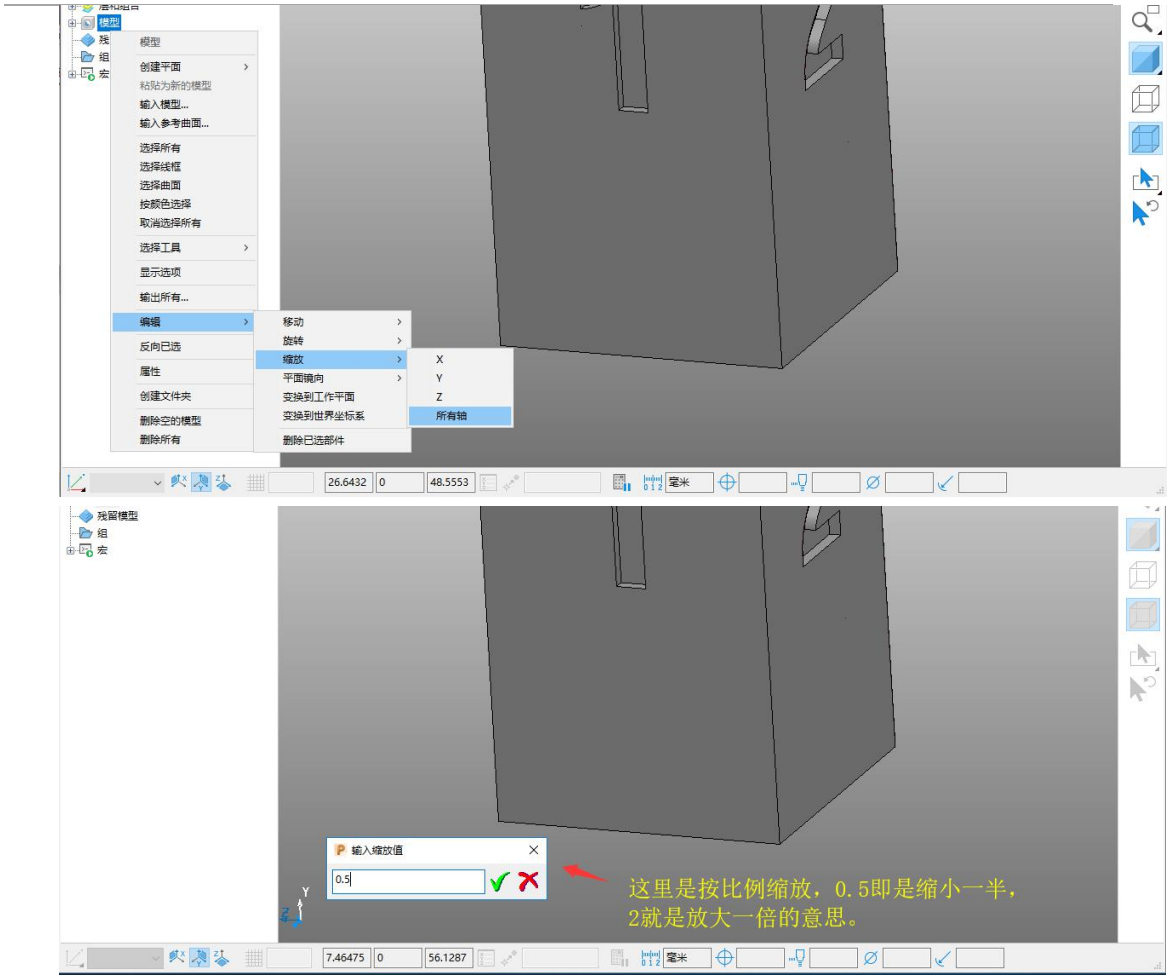
After importing the model, the blank is established to facilitate the subsequent establishment of the coordinate system and other operations.

Dimensions: First check whether the size of imported parts meet the requirements before establishing the blank.Generally, the model established by CAD software is the size in the drawing software; after the import of some 3D files such as STL circle drawings, scale the drawings according to the existing material size.

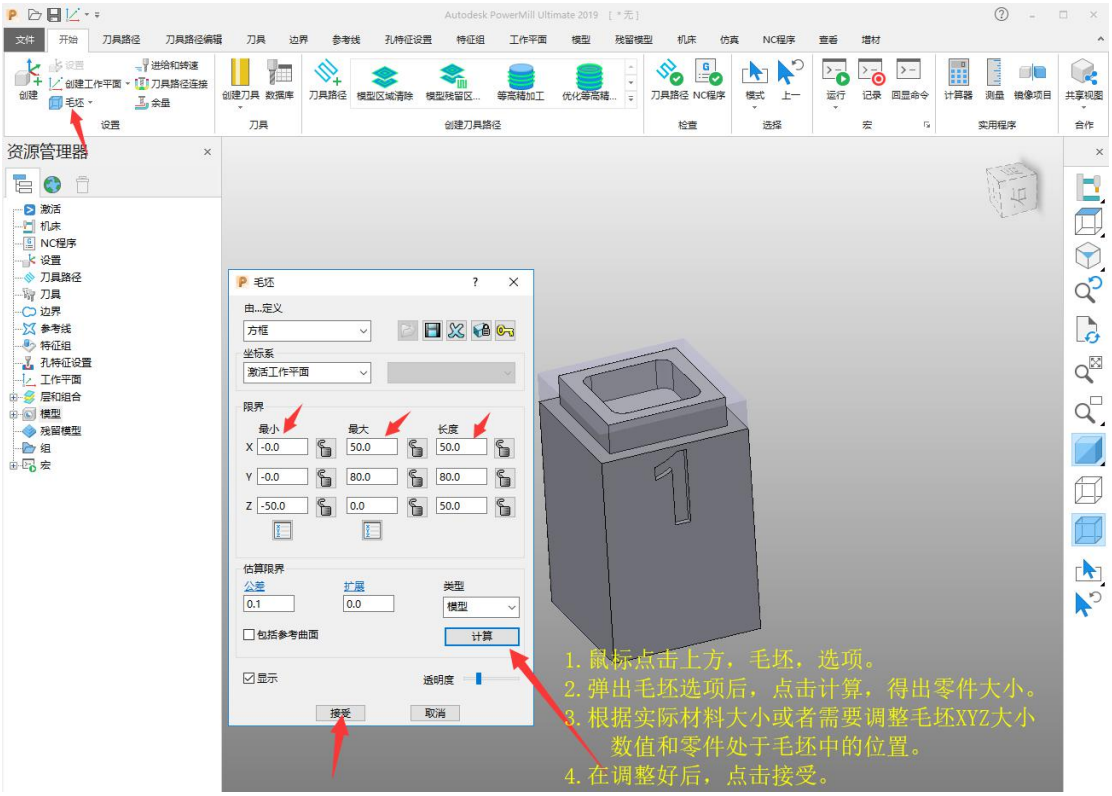




View the XYZ dimensions (in mm) of the model and can be scaled if required.

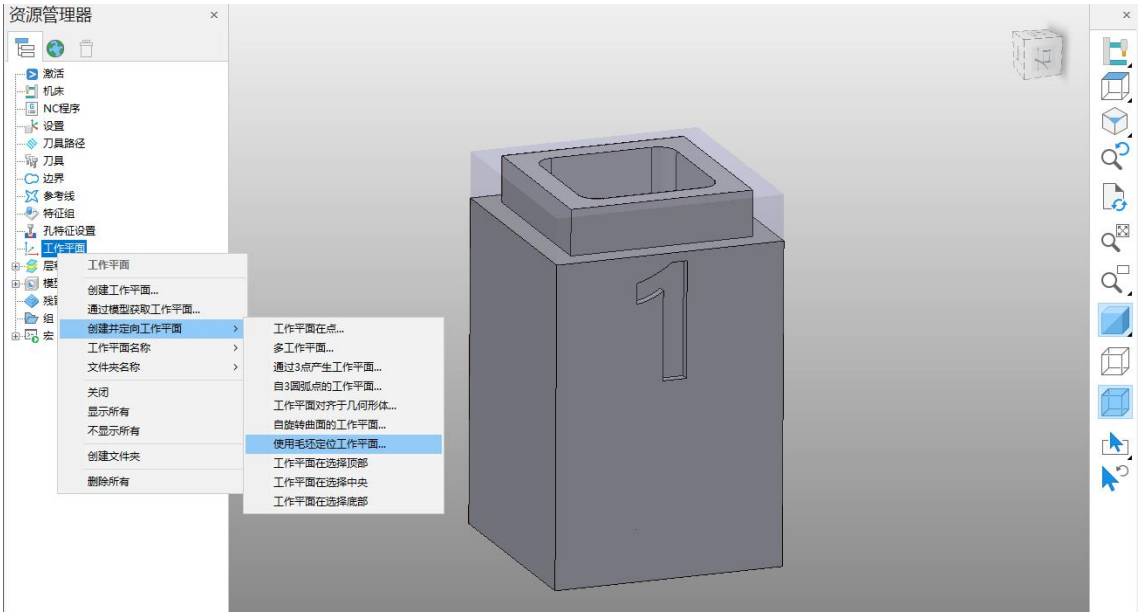


Start building a blank

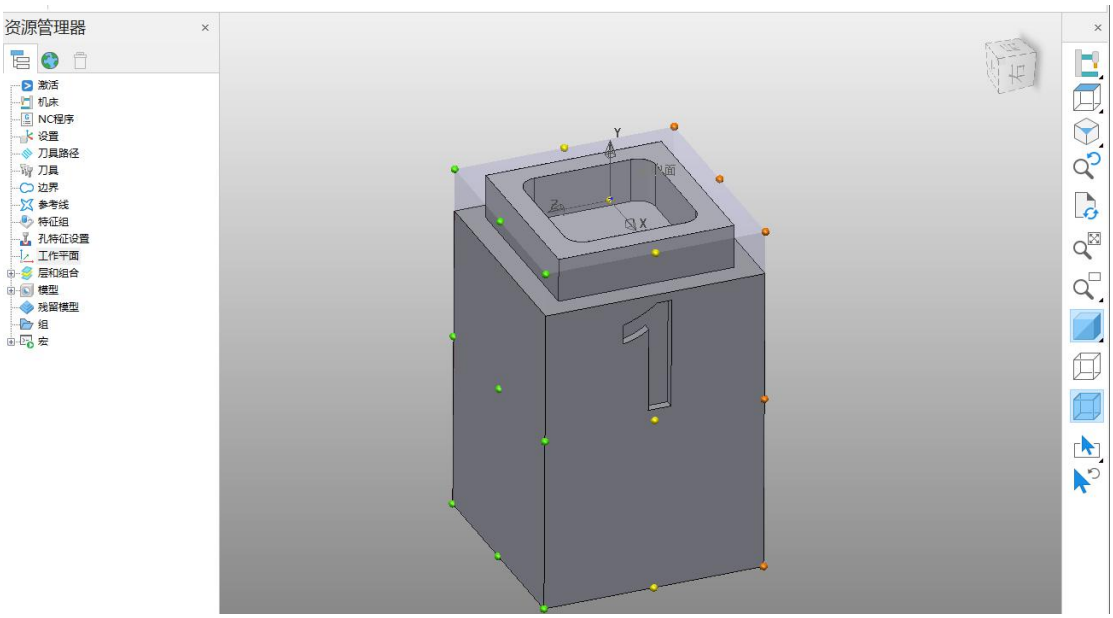


3) Establish the artifact coordinate system

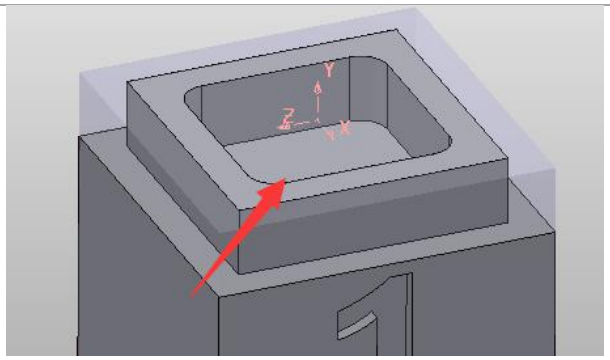
Establish the artifact coordinate system according to the blank.

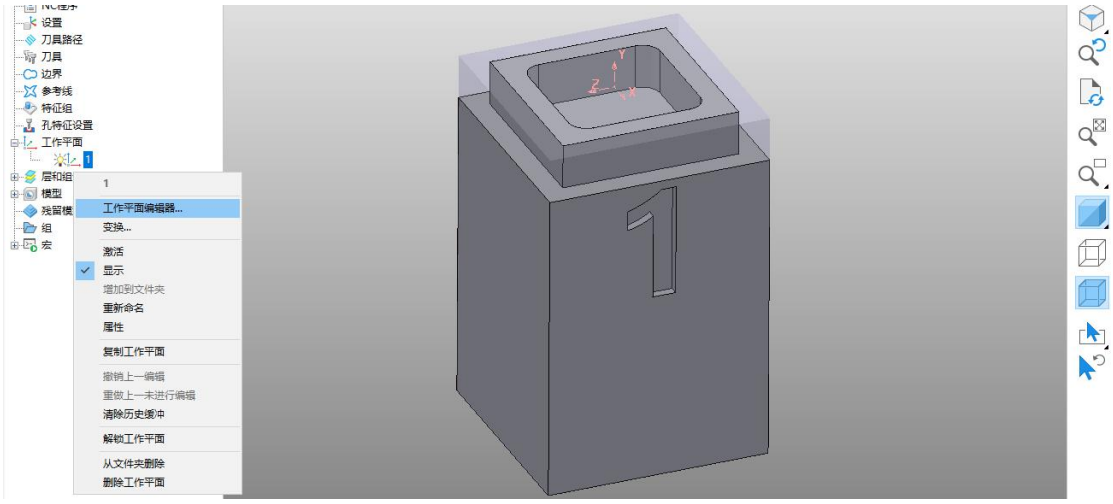


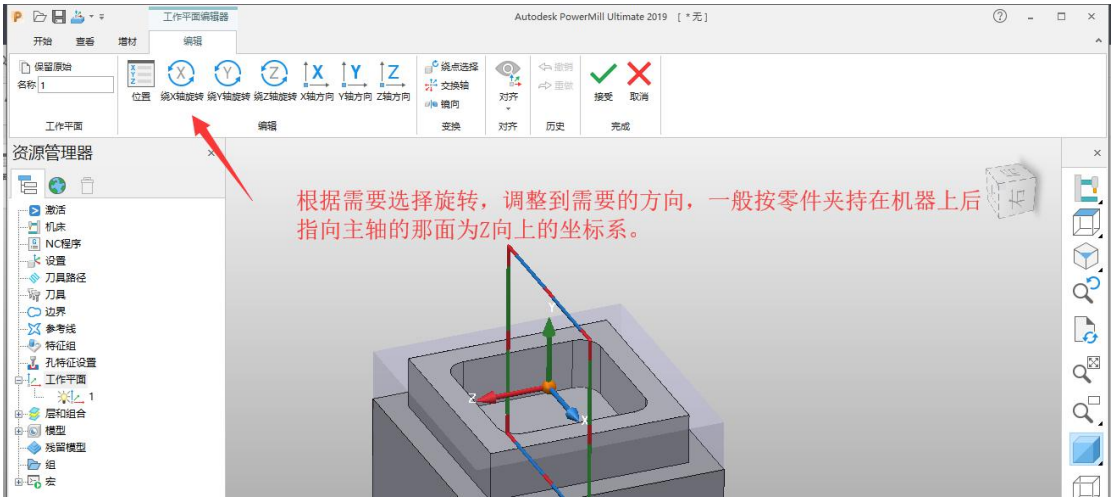
Select the point position of the coordinate system, usually in the center at the top of the blank.

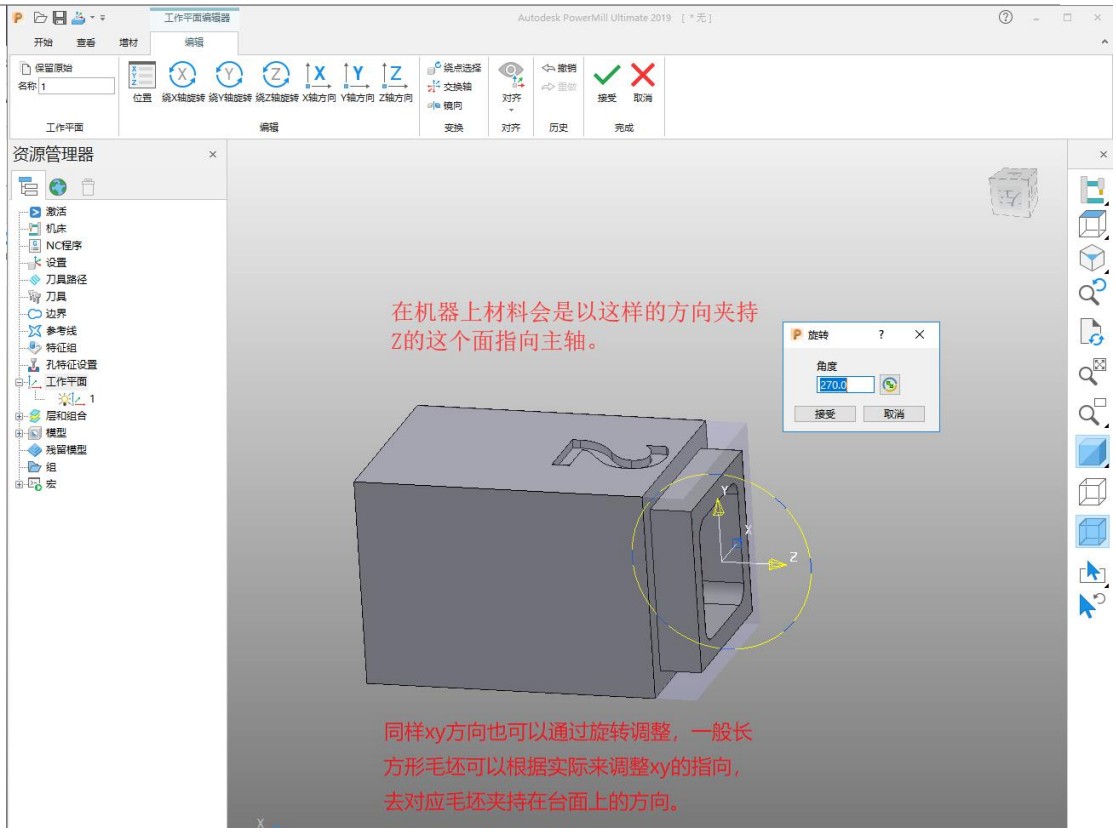


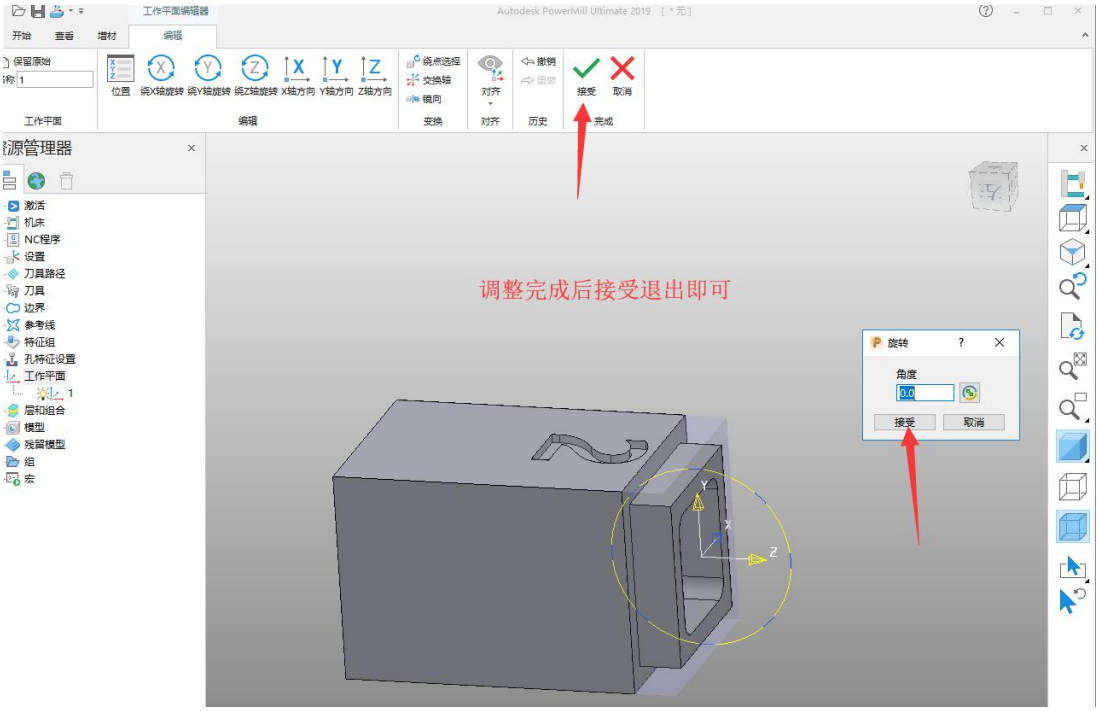
The automatically established coordinate system direction is different from the required coordinate direction, and it needs to be adjusted by rotating the coordinate system



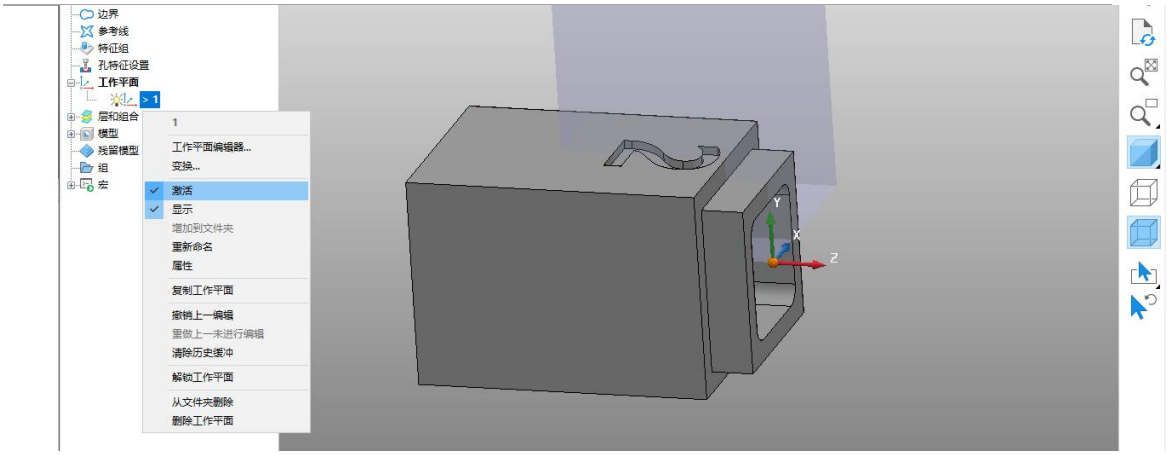

设置
刀具路径
刀具
边界
参考线
特征组
孔特征设置
工作平面
层和组合
模型
残留模型
组
宏
1
工作平面编辑器...
变换...
激活
显示
增加到文件夹
重新命名
属性
复制工作平面
撤销上一编辑
重做上一未进行编辑
清除历史缓冲
解锁工作平面
从文件夹删除
删除工作平面


工作平面编辑器
Autodesk PowerMill Ultimate 2019 [* 无]
开始
查看
增材
编辑
保留原始
名称 1
工作平面
位置
绕X轴旋转
绕Y轴旋转
绕Z轴旋转
X轴方向
Y轴方向
Z轴方向
编辑
选点选择
交换轴
镜向
变换
对齐
历史
接受
取消
完成
资源管理器
激活
机床
NC程序
设置
刀具路径
刀具
边界
参考线
特征组
孔特征设置
工作平面
层和组合
模型
残留模型
组
宏
根据需要选择旋转，调整到需要的方向，一般按零件夹持在机器上后
指向主轴的那面为Z向上的坐标系。

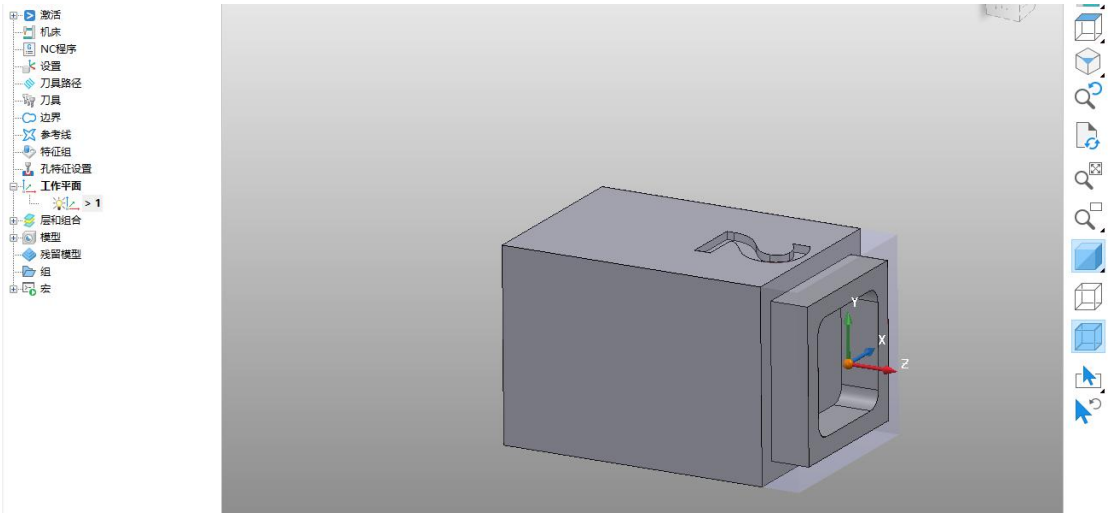




Activate the artifact coordinate system, the rest of the operation will be mainly the artifact coordinate system, so you need to activate the artifact coordinate system.

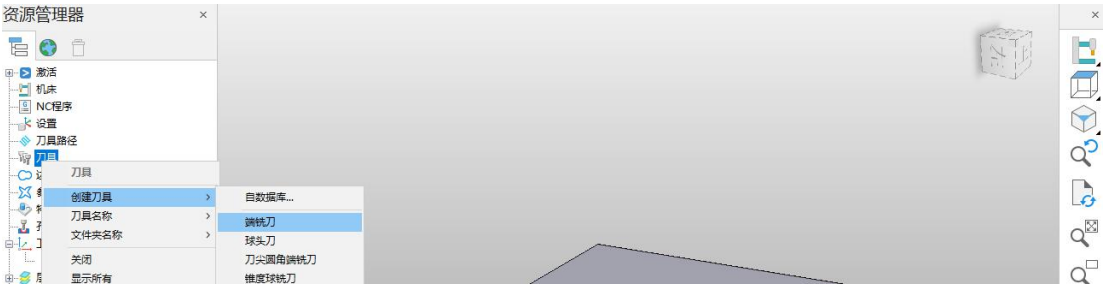


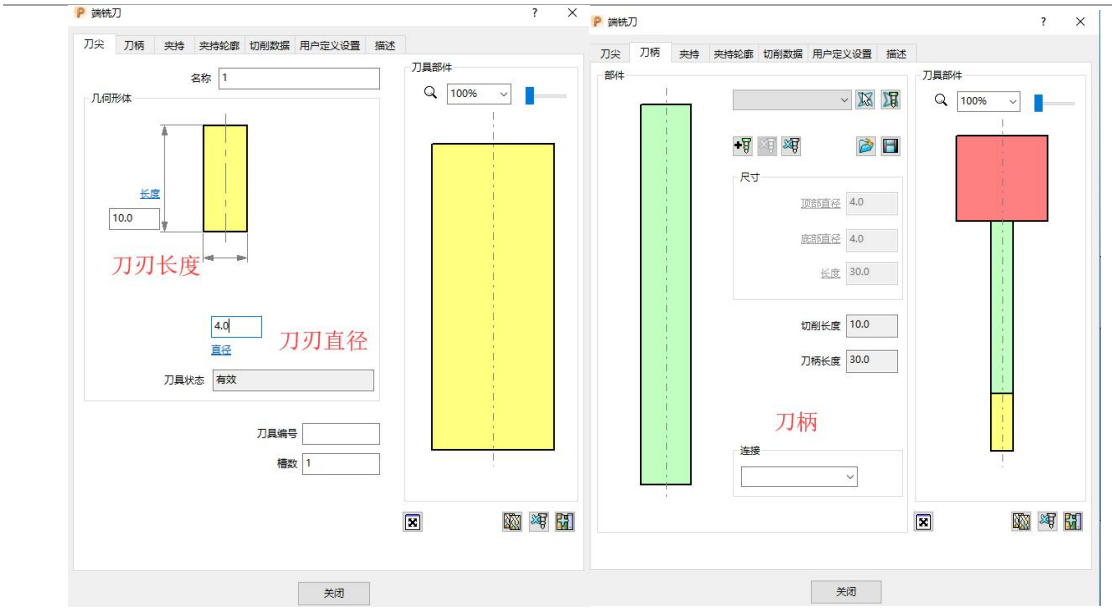
After activating the workpiece coordinate system, the blank needs to be recalculated and adjusted.

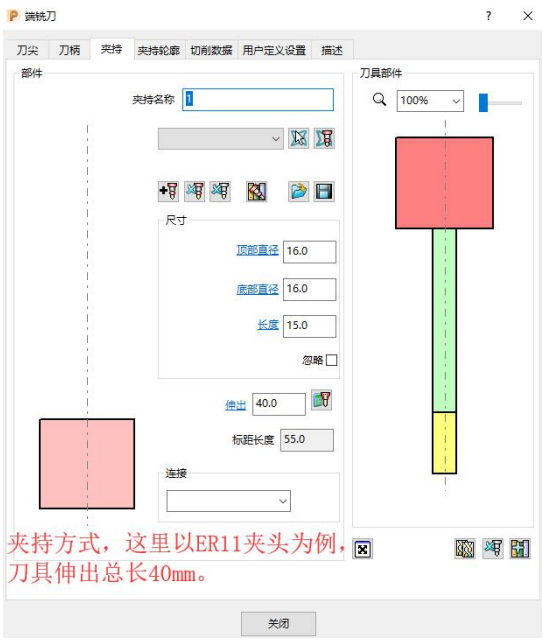


4) Generate the tool

Select the appropriate tool according to the part and establish the tool in the PM. If establish a 4mm handle thick 4mm blade thick, 10mm blade long end milling machine.





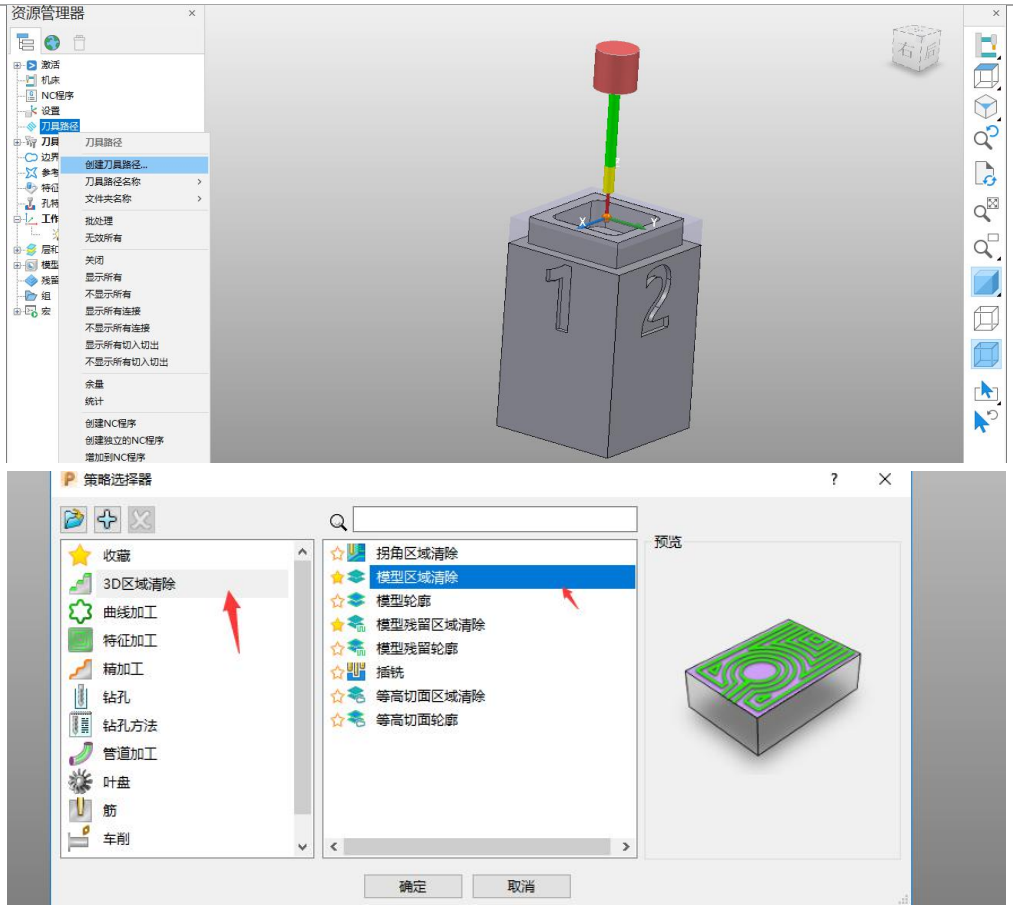


Establish a complete tool model consistent with the actual grip to facilitate subsequent simulated overcutting and collision inspection.

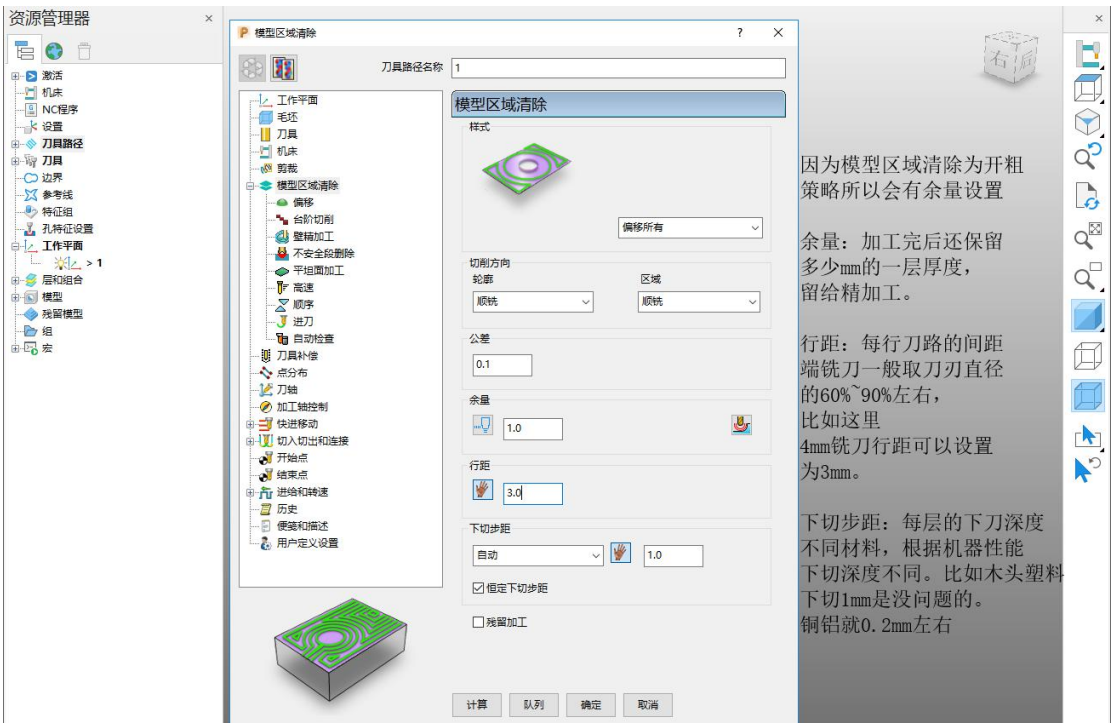
5) Select a processing policy

Powermill has up to dozens of strategies to meet different needs

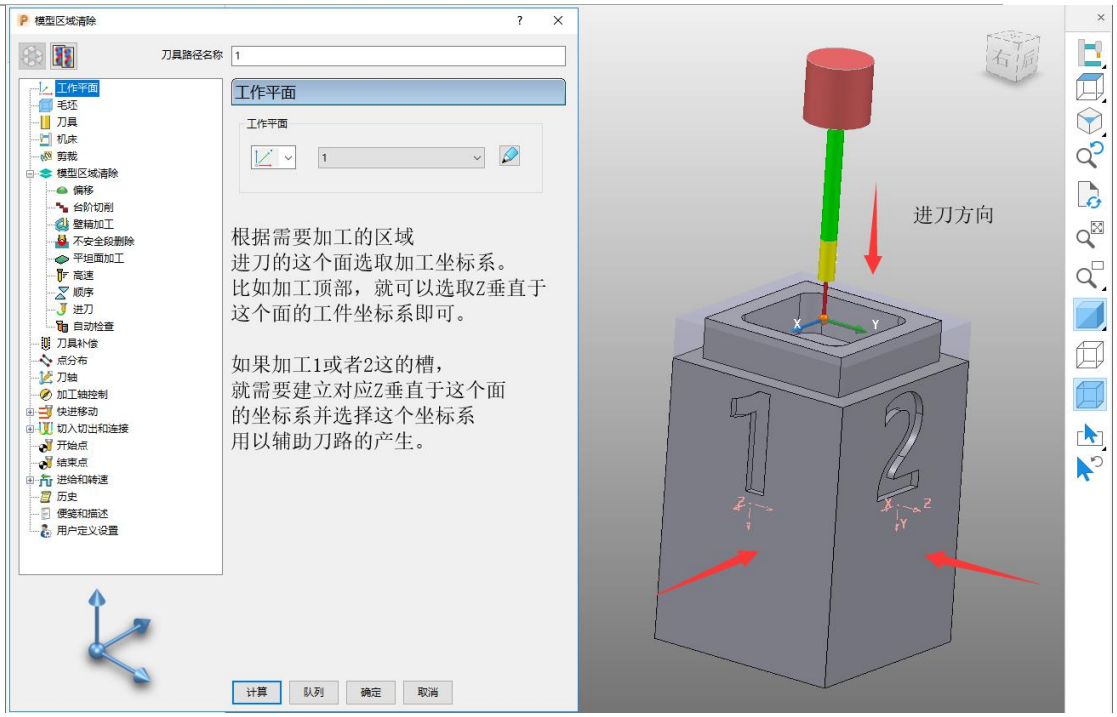
This case is a simple 3-axis processing model, with a common model area clearing strategy



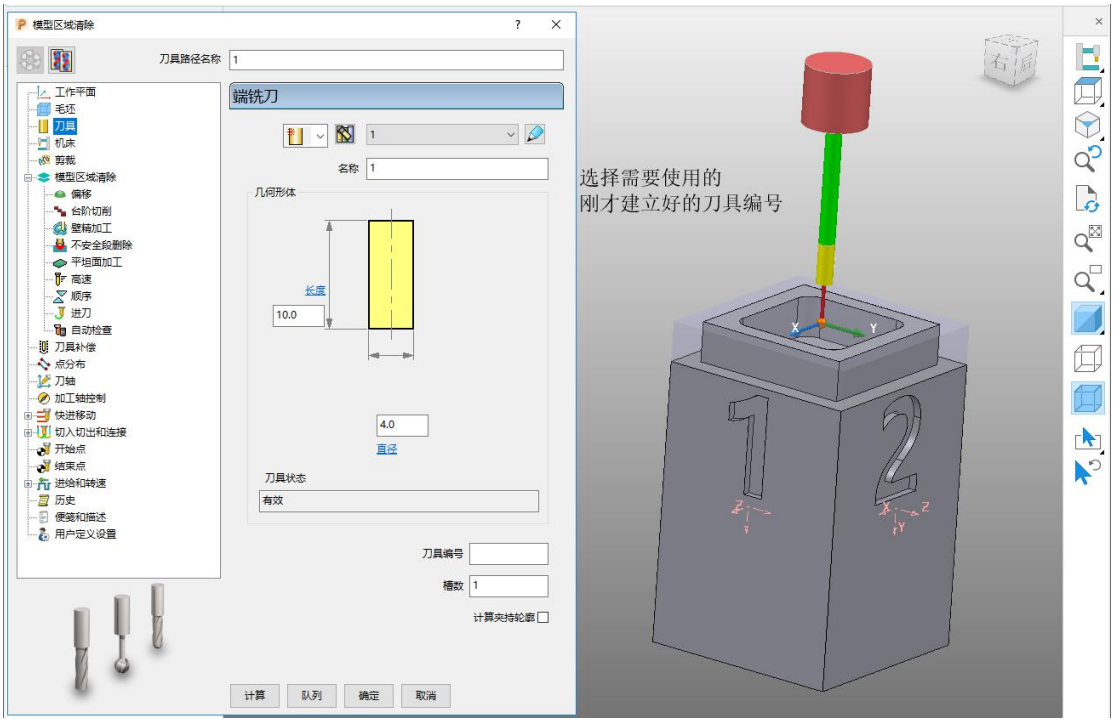
parameter setting



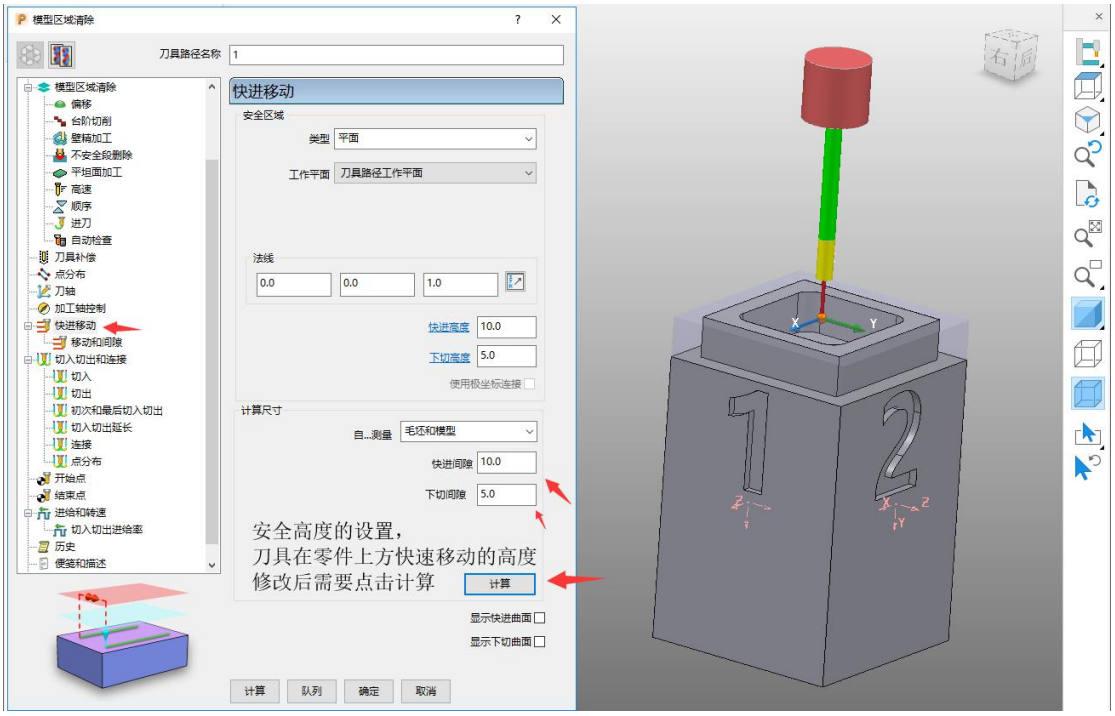
Processing coordinate system selection



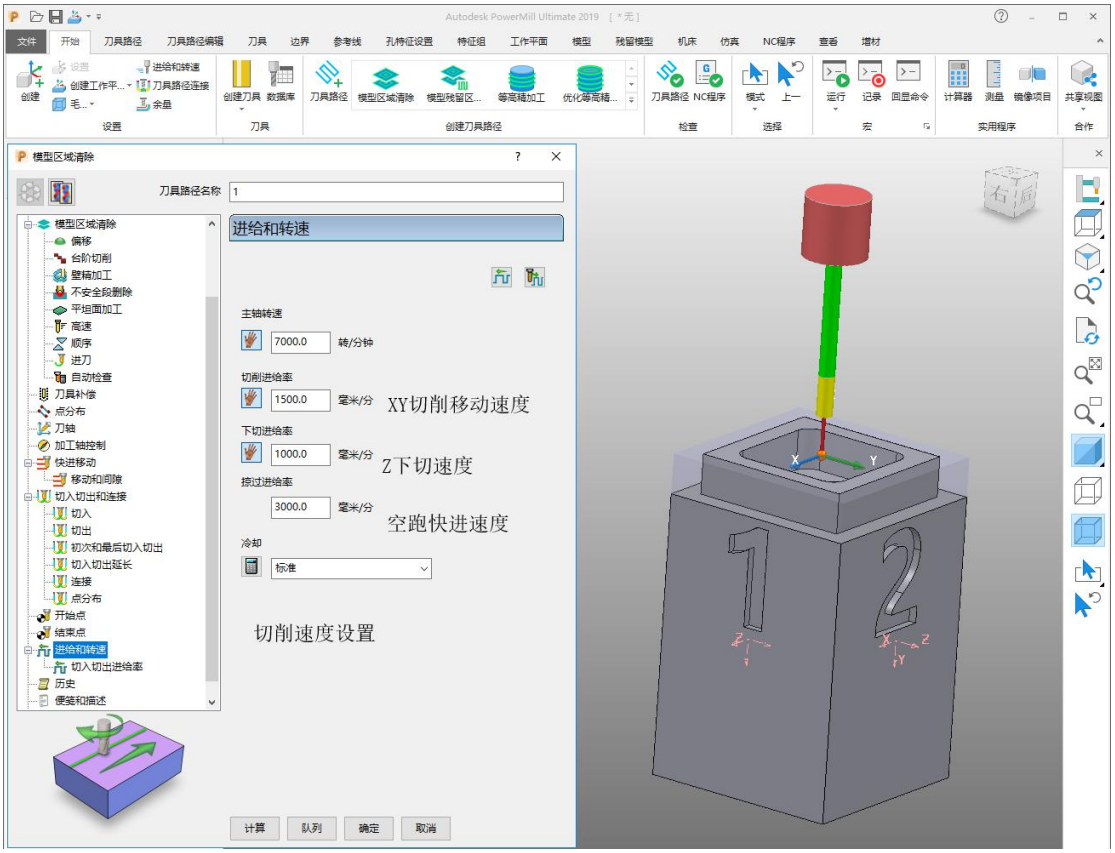
Tool selection



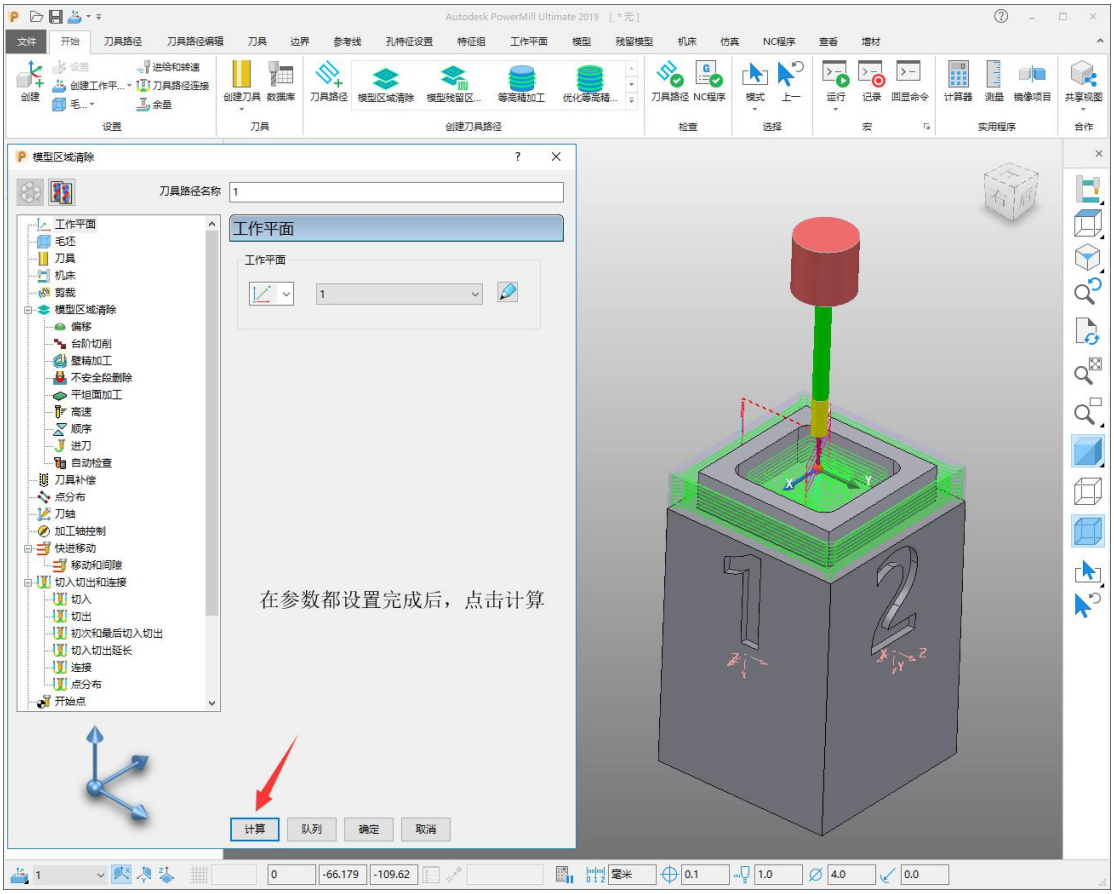
Security height setting



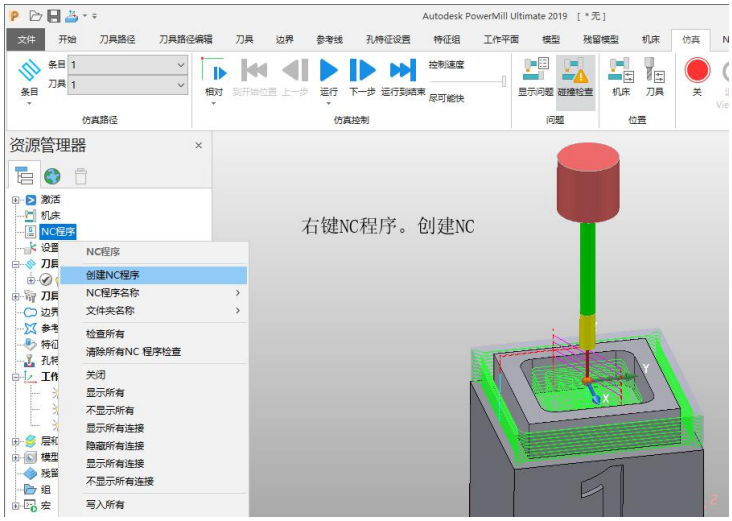
cutting speed



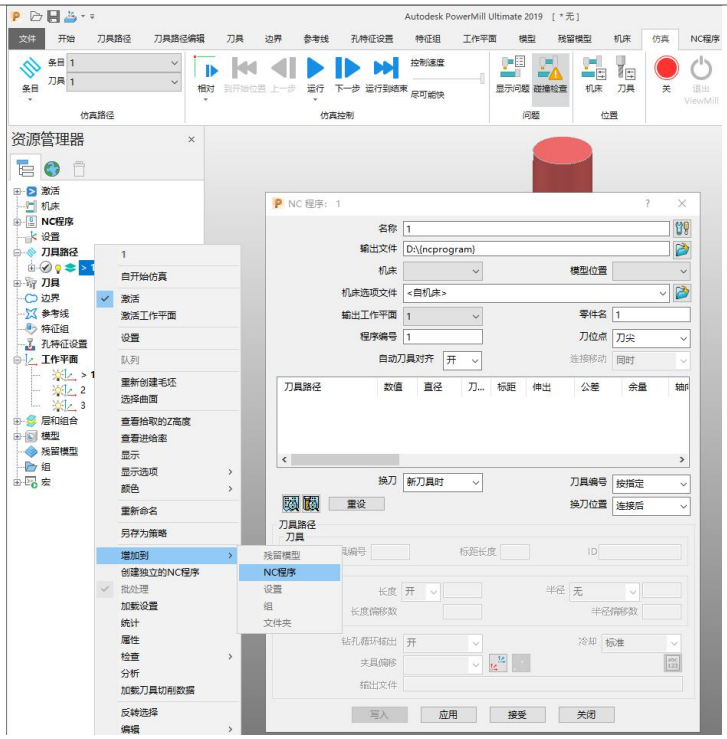
6） Calculate the knife road



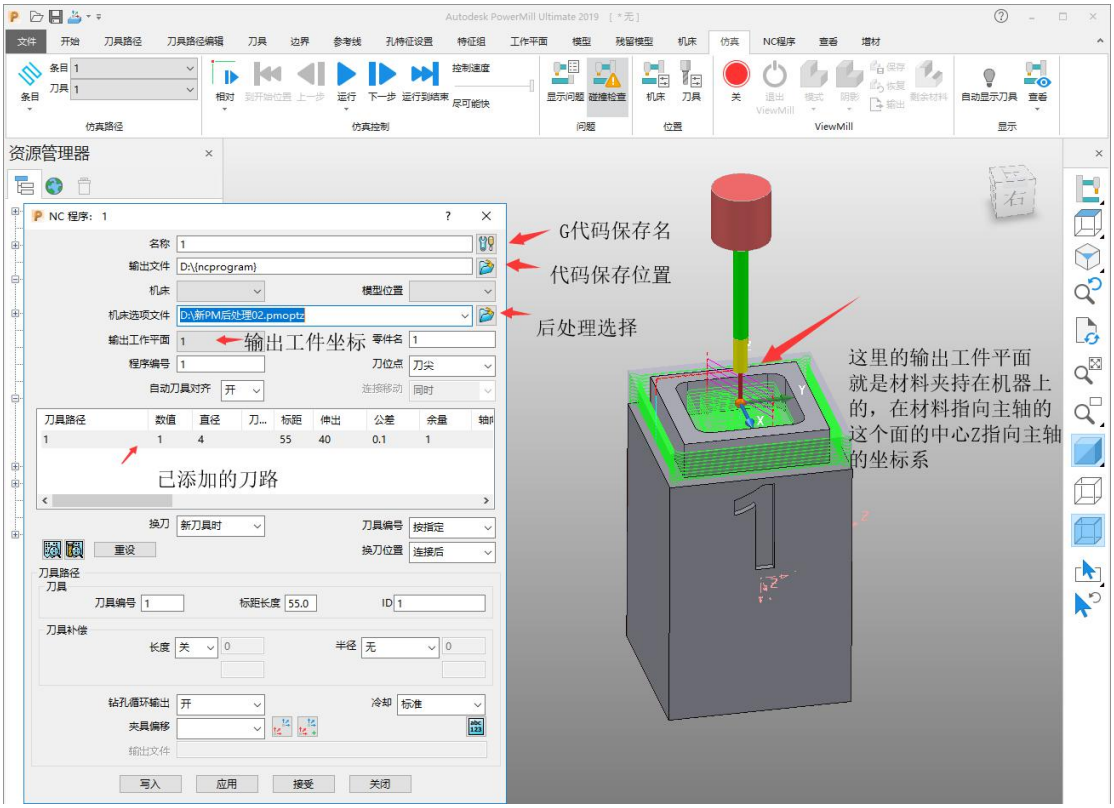
7） Establish the NC program



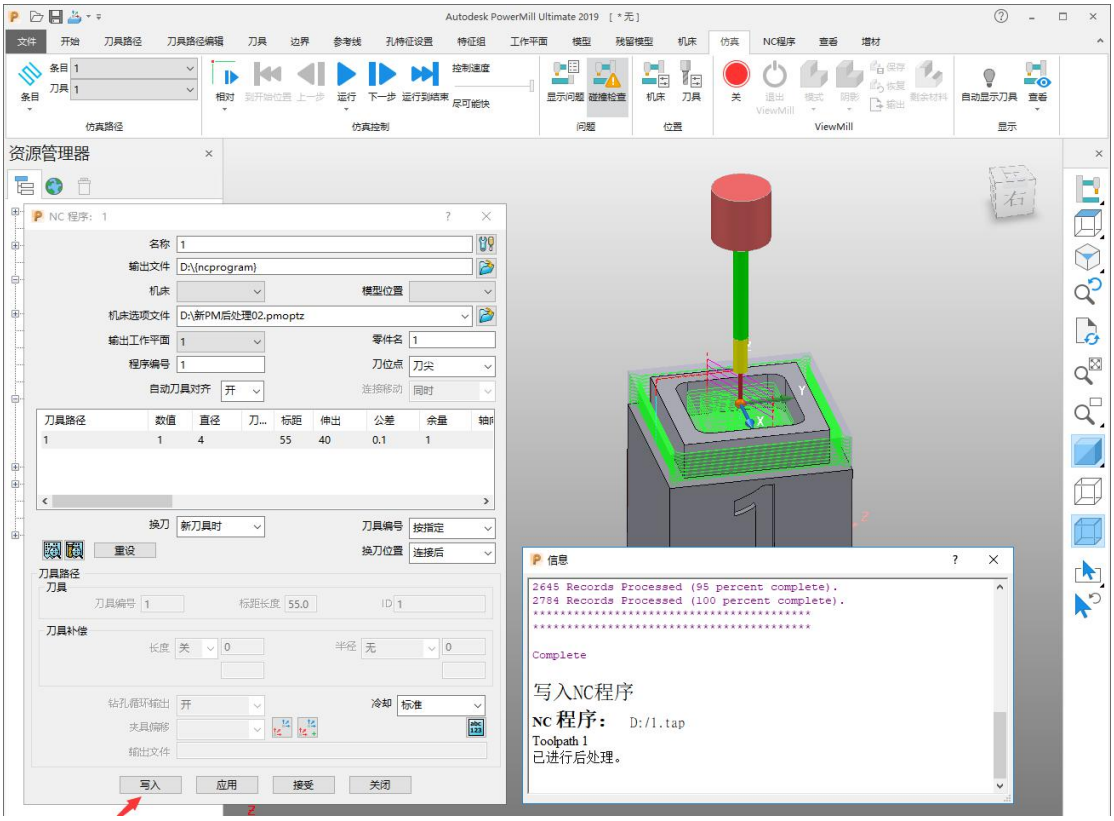
Add a knife path (generally, in the absence of knife change, multiple knives can be added to an NC in order for calculation. If multi-faceted processing, the safe position of the tool between each knife path should be adjusted according to the calculation simulation results to avoid hitting the knife during rotation)



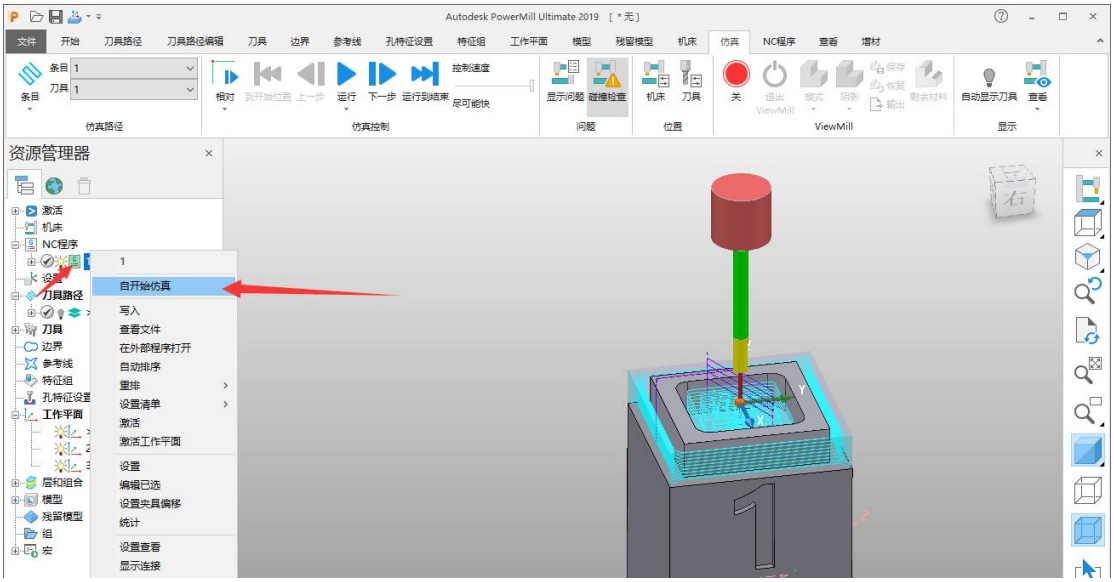
Settings, generally only modify the few options indicated by the arrow, other default

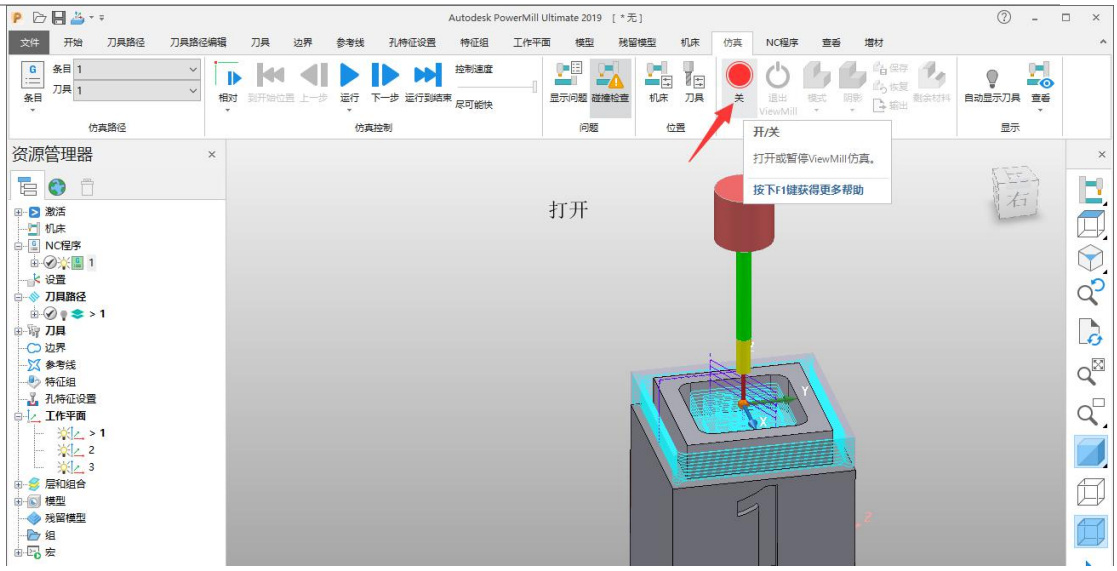


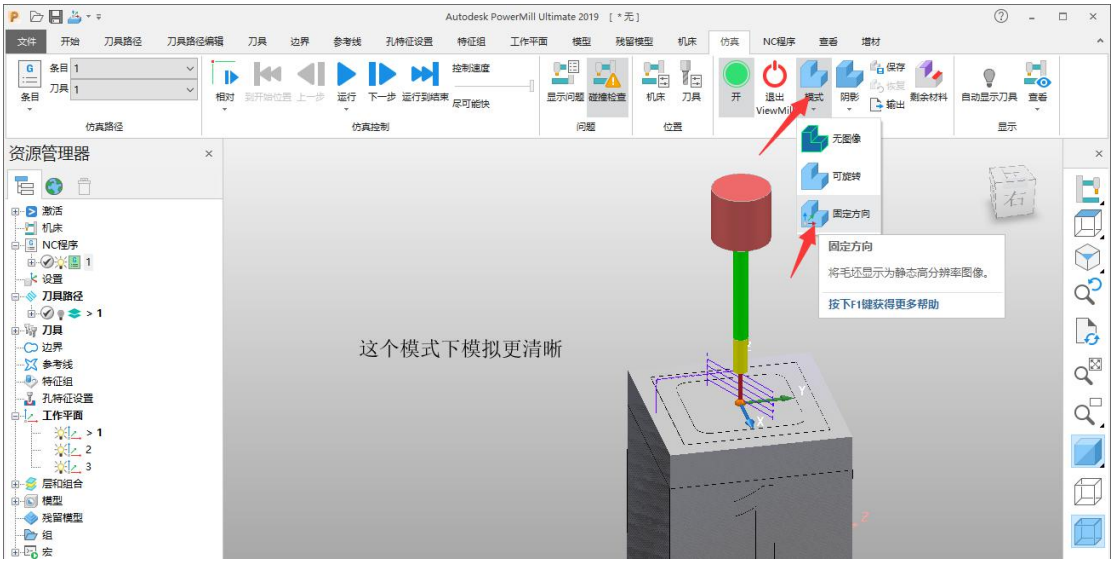
After the setting, write to post-processing output G code

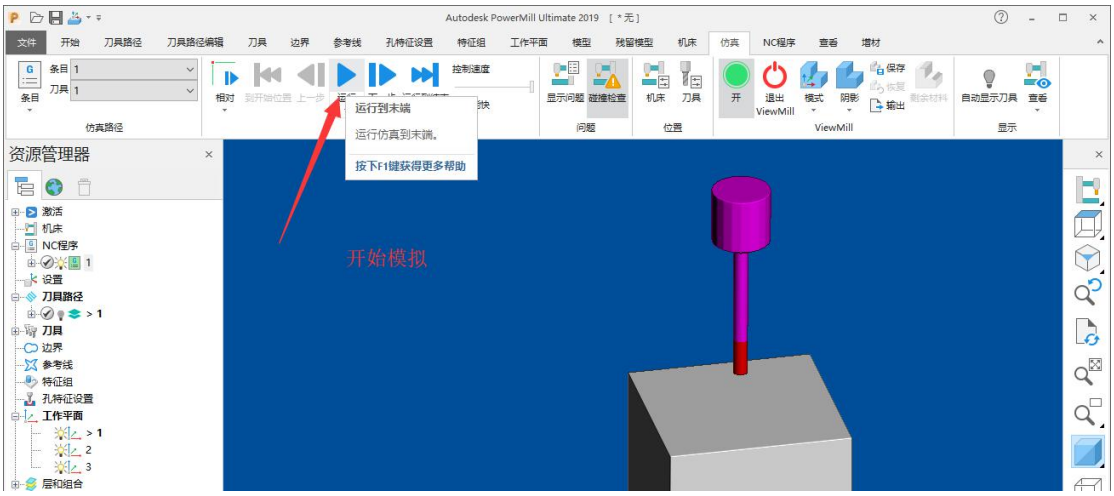


8） Simulation path (after the calculation, check for errors, overcutting, knife, or adjustment and optimization)

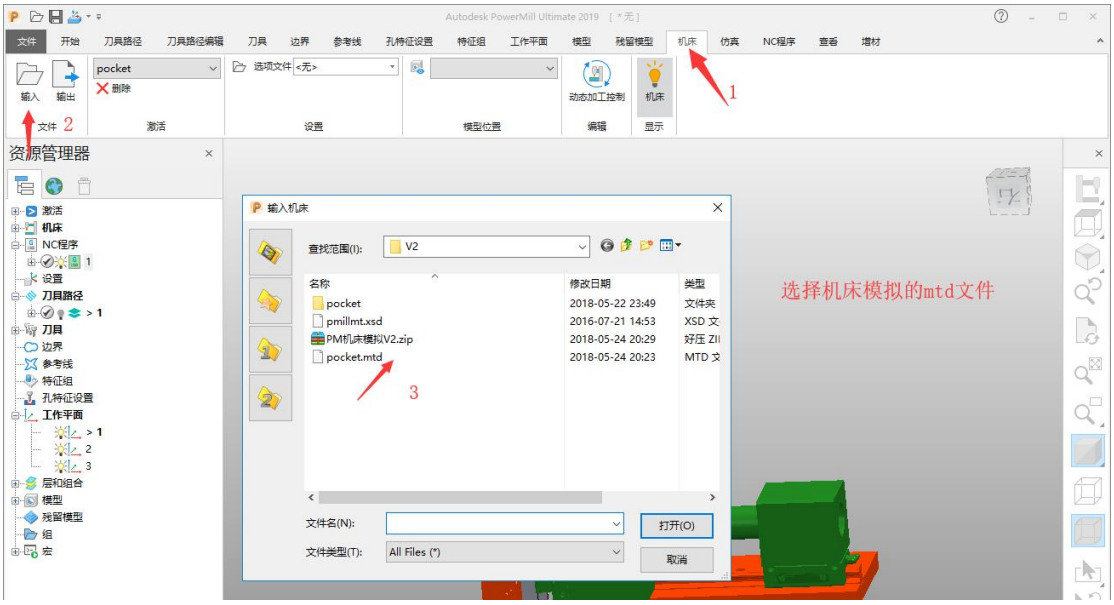


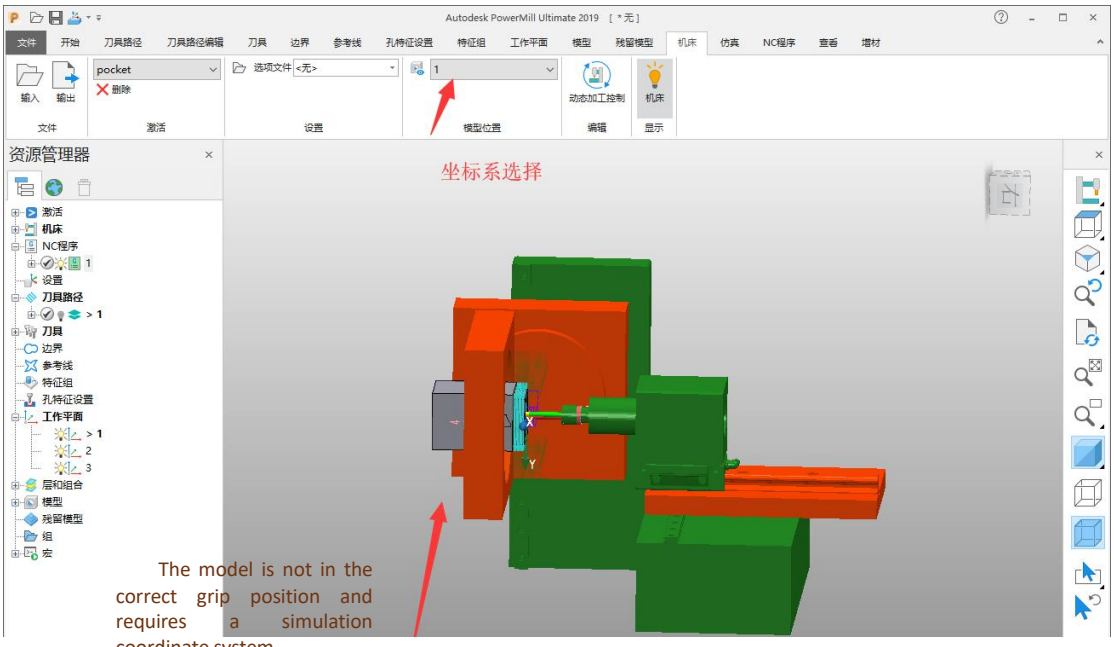

Autodesk PowerMill Ultimate 2019 [* 无]
开/关
打开或暂停ViewMill仿真。
按下F1键获得更多帮助
打开
资源管理器

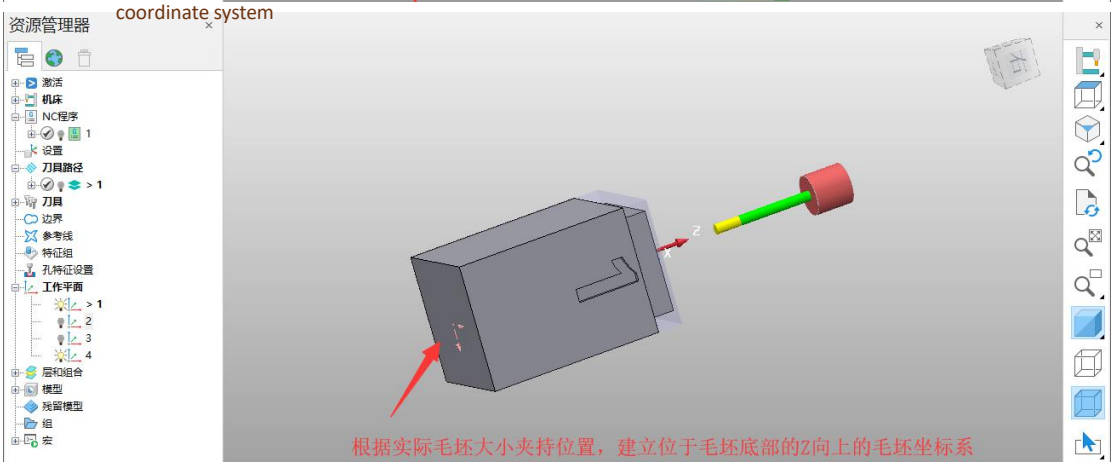

Autodesk PowerMill Ultimate 2019 [* 无]
无图像
可旋转
固定方向
固定方向
将毛坯显示为静态高分辨率图像。
按下F1键获得更多帮助
这个模式下模拟更清晰
资源管理器

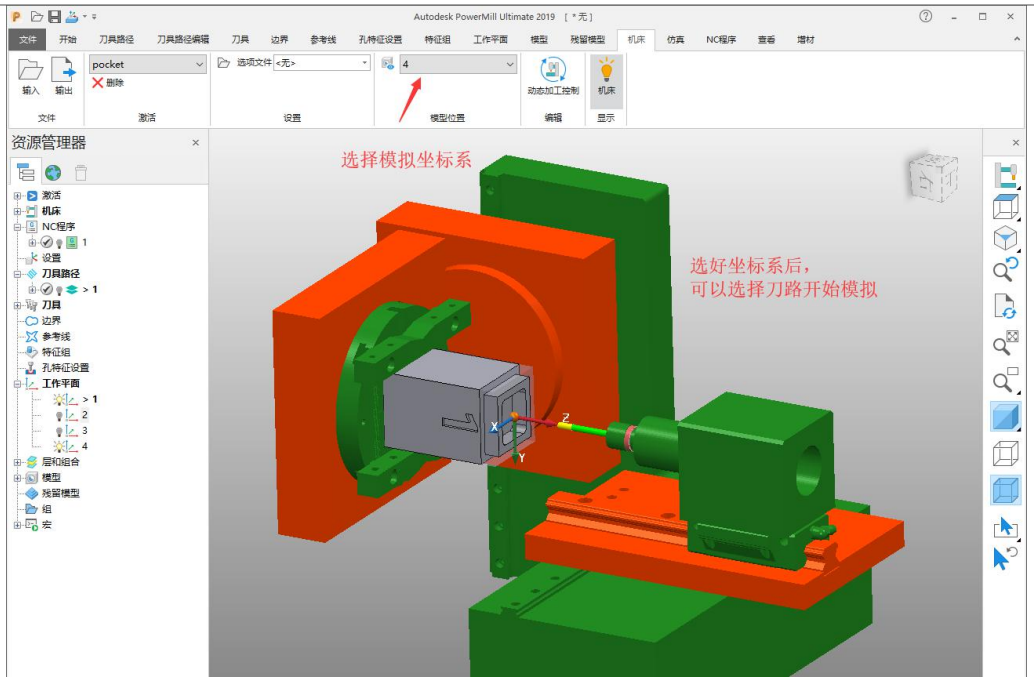

Autodesk PowerMill Ultimate 2019 [* 无]
运行到末端
运行仿真到末端。
按下F1键获得更多帮助
开始模拟
资源管理器

9） Machine tool simulation









10） Adjust the knife road

According to the results of the simulation, check whether there is an overcut, the collider, if it is necessary to adjust the blade path, change the appropriate strategy, or modify the start point end point coordinate position of the blade path, etc.

11）Outputs the NC program

The knife path is modified, after the simulation, can officially output NC program G code to the machine.

11. false alarm

11.1 Control software alarm

Hardware limit: generally because the shaft exceeds the stroke, or the motor blockage due to the alarm signal sent by the motor.

The power supply needs to restart the machine, and then click the software reset to remove, the hand wheel and then shake the shaft beyond the stroke alarm back to the safety position, and each shaft back to zero use.