User manual

Directory

1	Introduction	1
	11 Safety	1
	1–2 Maintenance	4
2	Fast Start	7
	2-1 Product details	7
	2-2 Operation	9
	$23~$ Hints and Tips $~\dots$	14
	2-4 Contacting Artisman	15
	2-5 Warranty	16
3	Controller and the Keypad	17
	31 Introduction	17
	3-2 Conception	17
	3-3 E-Stop	
	3–4 Hot Keys	24
4	Artisman Job Center Software	
	4–1 Artisman Job Center	
	4-2 AJC Specifications	30
	4–3 Setting And Operation	31
	4-4 Example	38
	$45~$ Hints and tips \ldots	42
5	Artisman Glossary	43

1 Introduction

a) Safety

Your Responsibilities

As the user of the Artisman routing system it is your responsibility to follow all safety procedures.

Personal Safety Precautions

Any person who operates or does any maintenance on this equipment should be aware that safety procedures are an important part of the everyday job. Know how the equipment functions and respect the machinery. Make sure anyone working on or around the equipment understands and, more importantly, follows all safety precautions. Sudden movement, loud noises, horseplay, etc. must be avoided, as such distractions may result in unsafe conditions.

Accidents can happen that result in serious personal injury if clothing or other articles become entangled in the cutter or other moving parts. The following suggestions, if followed, will reduce the chance of having this type of accident.



 \cdot Always wear approved eye and hearing protection when operating the routing system.





Restrain long hair with a cap or net. Avoid wearing neckties and scarves.

Avoid wearing hanging jewelry.

Wear gloves only when handling sharp or hot parts.

Never operate this or any other equipment if affected by alcohol, drugs, or any other substance or condition that may decrease judgment or alertness.

Observe and follow all safety signs.

Do not place your hands on the tabletop while the spindle is turned on.

When doing maintenance or other work on the machine always lock out the incoming power supply.

Work Area Safety

It is important to always keep the work area clean. Oil, debris, or water on the floor can cause unsafe conditions. Be sure all work areas are free of hazardous obstructions. Return tools and other equipment to their proper storage place when finished using them.

Cutter Safety

Cutting tools are very sharp and should be handled accordingly. Inspect tools before using and discard any defective tools. Failure to properly handle tooling can result in serious injury.

Installation Safety

An electrician must read and understand the electrical schematics prior to connecting the machine to the local power system. Connecting the wrong voltage power will void the warranty. Place all switches in the off position before connecting power. Always lock the main disconnect switch in the off position if the machine is left unattended. When the machine is installed, be sure that all motors rotate in the correct direction.

b) Maintenance

i · The Overall Maintenance

The Artisman routing system will provide years of productive service if it is maintained properly. There is daily, weekly, monthly, quarterly, and yearly maintenance required. The maintenance schedule is based on a 40-hour work week. Artisman, recommends that any routing system used in excess of 40 hours a week should adjust the following schedule accordingly.

Daily

Each day the Artisman routing system should be cleaned off. All chips should be blown or vacuumed off the machine. The rack area should be paid close attention to. Chip build-up in the rack can cause stalling problems. Systems with Lead Screw Z-axis should lubricated the screw with a non-aerosol, silicon based lubricant. Do not use WD-40 on the Z-axis screw for lubrication. Using anything other than what is recommended, premature wear of the Z-axis screw is immanent. With BALL SCREW systems, oil or lithium grease is acceptable.

Weekly

Each week the routing system should be cleaned thoroughly. The filter on the control box should be vacuumed. Any build up in the racks or rails should be blown out. The filter or filters on the vacuum hold down systems should be removed and cleaned. All oil levels (if applicable) in the vacuum hold down system should be checked and filled if needed. On MG Series routing systems the Y-axis Ball Screw should also be lubricated with oil or lithium grease. MT series routing systems will need to follow this procedure for the X-axis screw as well.

Some older routing systems use a Lead Screw on the X and Y-axis. These systems should be lubricated with a non-aerosol, silicon based lubricant. Using anything other than what is recommended may lead to premature wear of the lead screw.

Monthly

In addition to the daily and weekly cleaning, once a month the racks, Y-axis and Z-axis screws should be cleaned with a scrub brush and degreaser. Once the racks are clean, apply a bead of the lithiumbased grease. With the Y-axis and Z-axis screws, follow the lubricating procedures mention previously. Some routing systems will need to follow this procedure for the X-axis screw as well.

3

Bi-Monthly

Grease all the linear bearing cars at least twice a month. Jogging the machine while applying slight pressure in the opposite direction will do two things. First this helps force the grease into the bearing cars. Second and most important the grease will be incorporated throughout all of the bearings.

Quarterly

Every three months remove the X and Y-axis covers. Inspect the transmission or gearboxes for wear. Ensure that the pinion is engaged all the way into the rack by loosening the mounting bolts of the transmission or gearbox and pushing the assembly up. Check the tabletop bolts to ensure they are all tight.

Annually

Along with the standard maintenance performed on the Artisman routing system, the electrical cabinet should not be forgotten. Turn power off before opening the cabinet. Once the cabinet is open, vacuum out any debris that may have entered the cabinet. DO NOT USE COMPRESSED AIR. This action may cause unwanted particles to short out some of the electrical components.

Artisman, recommends that the belts on all transmissions be replaced every other year. Lead Screw Z-nuts should also be replaced at the same time.

Date	Ву	Maintenance Performed

Artisman Maintenance Log

1	
1	
1	
1	
1	
1	

ii \cdot Maintain Partly

Spindle Motors

Artisman will warranty its spindle motors for a period of 9 months from the time of shipment. At any time, misuse or abuse of the spindle motor will not be accepted as defective and warranty will be void. After the initial 9 months, Artisman will warrant the spindle to be free from defects for a period of 9 months. Spindle bearings are not covered during this 9-month period.

c) System Diagram

Artisman 3D CNC System consists of two parts and 3D processing machine tool.

COMPONENTS OF ARTISMAN CNC MACHINE



·Computer

The Computer is used to run CAD/CAM carving software, such as WENTAI carving software, and connect the stand-alone control box.

•3D Processing Machine Tool Working Area



d) Fast Start



i · Step 1: Turn On Power

Press the switch control on red power key, the touch screen for CNC machine tools and machine

electricity.

ii · Step 2: Find Home

Initialized on the electric control system after operation, the machine tool spindle automatic search for origin of machine, machine startup after 30 seconds to complete.



iii · Step 3: Insert Cutter

Put the required type of clamping tool into the clip to ensure tools stable.





iv · Step 4: Set User Home

Press these button to set the tool center in the initial position of the surface of the material.



Press these home button, The keyboard displayed as follow:



X+000.00Y+000.00 Z+000.00A+000.00 P2.00 T010FF H00 [ONLINE]->联机 After that, press the enter button to save the home.

L

Tips : 1.Use the menu item to adjust the speed if necessary.

- 2.When the point moves down to 3-5 mm to material surface location, it is recommended to use points to move up and down keys.
- 3.Save the origin number can be set for any number of $1 \sim 9$.

v · Step 5: Online

Processing the origin (origin) user setting finished, after online, input processing files immediately processing



vi \cdot Step 6: Open The AJC

列表	*ART842	2 (76215886) @ 192.168.5.150:808	8		- 5
状态					
	0.000	E:\CADM\JOBS		FHE 6225(2000x800)	作业总数: 17
	0.000	○内営働(控制器) ○ SO-1	(控制器) 〇	U盘 (拉金)(器)	
	0.000		1		
4	29.991	更新列表 导入作业 •	更新作业	下发作业 機能作业	启动作业 · 预洗器 · G代码 · · · · · · · · · · · · · · · · · · ·
	9.995	作业路经	作业大小	作业日期	4日合田(
	9.995	6225(2000-900)	271750	2012-06-08 11:20	全体電量(mm): [X:0, Y:0, 2:-1.5] - [X:2000, Y:000, 2:30], Length=23055[mm], Tags=567 ムCC:800 T2:0.0.0.0
- 3	10.001	6203(2000x800)	72746	2013-06-08 11:34	
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		02-032-8-4 测试图	151188	2013-06-08 11:05	
		02-032中间花 2013	77208	2013-06-08 11:03	
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		page#1	19270	2013-06-07 16:20	
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					20#1#if(mm): 2000 ~ 200 ~ 21 F
		🙆 主页 🔕 作业管理 🕥	記録はない		

vii · Step 7: Import processing job

🕢 导入优化 👩 导入指令 🗐 导入变换 👩 输出刀具设置 👩 输出参数
☑ 允许修改优化参数
◎ 切割模式 ◎ 浮雕模式 ◎ 自定义模式 ◎ 无优化
☑ 入刀降速,距离 20 mm 限速(mm/s) 20 ☑ 仅限于首次入刀降速
☑ 允许圆弧营换尖角,允许偏离误差 0.200 mm 最小掉头半径 0.05 mm
倒角角度范围(度) 1 ~ 135 (0 - 180)
☑ XY平面 ☑ Y2平面 ☑ ZX平面 ☑ 空间折线
☑ 允许碎线合并,最大容差 0.005 mm 角度不小于 150 度
合并长度小于 0.005 mm 分段
法向加速度 800 法向加速度最小值 200 参考半径(mm) 2
选择导入文件 C: /Users/123/Desktop/龙凤星祥 乔氏2// 被图 550-236.nc 但在然秋 值 H
作业名称 八號图 550-236≠3
16 16:39:35 开始导入路径 C-Users/123/Desktop/龙凤呈祥 齐氏2/U 蜿图 550-236.nc 16 16:39:34 数据优化开始

viii · Step 8: Issued by the job

Click the keys issued by homework, pop up the following dialog

载保存选项	
© SD-₩	
◎ U盘	确认
◎ 内置盘	
◎ 不保存,联机加工	
改名另存 6225(2000x800).cf	

Click OK.

e) Hints and Tips

Understanding the system and learning the keypad functions will be a real key to using your cutting system in an efficient and productive manner. Read the following tips and use them to your advantage.

TIP1 Safety

Safety glasses and Hearing protection should be worn at all times while operating the machine.

TIP2 Testing

When testing new processes or when learning new functions of the machine, use the following 2 procedures.

- 1. Insert a pen into the end of the spindle and run the file on a piece of paper.Disable the spindle or the pen will spin. 将
- Set an imaginary surface above the material high enough that the spindle will still move up and down but never come in contact with the material.

TIP3 Maintain your Machine

- The Artisman routing system will produce consistent, accurate work as long as it is maintained. Maintenance for this system is easy, yet it should not be overlooked. Please
- Keep it clean. Using a Shop Vac and compressed air, remove the build up of chips and dust on the system daily. Pay special attention to the gear rack and bearing rails.
- Grease all of the bearings at least twice a month. This is based off an 8 hour work day. Grease the bearings more often if the hours are more than 8 hours.

g) Warranty

Warranty Registration List

周 项 目	每日	每周	每月	季度
清理台面	\checkmark			
清理导轨	\checkmark			
检查风扇是否干净	\checkmark			
X、Y、Z轴轴承加润滑油		\checkmark		
直线导轨加润滑油		\checkmark		
丝杠和光杠加润滑油		\checkmark		
检查控制器连线		\checkmark		
水冷却,水循环是否流畅		\checkmark		
清理控制箱内部			\checkmark	
检查所有电缆连接			\checkmark	
检查 X、Y、Z 三个方向电 机、电机轴的固定螺丝是 否松动			\checkmark	
检查系统是否接地(大地)			\checkmark	
检查和校验 X、Y、Z 轴齿 轮或链条				\checkmark
重新润滑前清理齿条、清 理驱动板				\checkmark
清洁母板和连接接口 (ISA 接口)				\checkmark

2 Controller and the Keypad

a) Introduction

All operations to Artisman CNC machine are controlled by the keypad. VIII keyboard control system is divided into network and machine physical keyboard.

A B C D	.作业 .刀具 .用户 .ATCi	文件 操作 设置 设置		
Fn	0≒0	Z=0	MENU	ONLINE
(F1)	<u> I</u>	ØŢ	ESC	L
ATC	UP			(+)
	HOME	(Y+	HOME	→ Y-
t	DOWN	(Z		\bigcirc
			XYZ	

Network keyboard, on a computer simulation of a physical keyboard, through the LAN, in the VIII Artisman "motion control" in the AJC,real-time display of synchronization with a physical keyboard.

b) Conception



For get more details about the keypad, you must know keywords: Artiaman some Coordinate apply Descartes Right-handed Coordinate. Seeing it from the side ourselves,like the following picture, The forward direction of X axis is our body's forward direction, the Y axis is our left. the Z axis is our above. Extending your hand, with the thumb, index and medius pose together vertically, ection, the index turns to the Y axis, the medius turns to Z axis.

Home : Since Artisman CNC machine is the real 3D numerical controlled equipment, home means the tool bit in the

spindle, i.e. the position of X=0, Y=0, Z=0.

Physical Home: A home set by the factory, and it's fixed and can't be changed.

User Home : The other name is Processing Home, which is set in the process and can be at any position on the material. Once it was set, processing will start there. Artisman CNC machine can save nine user homes at most.

Online : When the LCD of CNC controller displays "ONLINE", it means the CNC control system is ready for receiving processing data from computer.

Offline : All the other modes of the CNC controller are offline. Artisman CNC machine (V/VI) has 18 states of offline. We call the one displayed on the first LCD is "offline mode" which displays the position, and the others are menus named No.1 menu, No.2 menu, ...No. 17 menu.

Offline Mode: What displays during offline is as follows (the unit is mm)

When power is on, the LCD will display this first.

X+000.00Y+000.00 Z+000.00A+000.00 P2.00 T010FF H00 [ONLINE]->联机

c) E-Stop



Only use this in case of emergency. Pressing the E-STOP button will cut power to everything but the control board of the machine. The control board will go into emergency stop mode. Once the Emergency Stop button is pushed all of the job setup information is lost.

Note 1: The power to the inverter is cut when the E-STOP button is pushed. This will cause the spindle to coast to a stop, which can take several minutes.

Note 2: The E-STOP button must be pulled out when the main power switch is turned on.

d) Hot Keys



X+000.00Y+000.00 Z+020.00 P=0.05 T:01关闭 原点:00 [ONLINE]->联机				
Fn	0≒0	Ø Z=0	MENU	ONLINE
F1	۵1 ۱	ØŢ	ESC	L
ATC				(+)
	HOME	(Y+	HOME	→ Y→
1	DOWN	Z	\mathbf{x}	\bigcirc
			XYZ	





Set the controller with a computer connection status is "online" or "offline". In a CNC controller for "online" when push down this button, the CNC controller by the "online" into "offline", according to the menu by the online menu "" into the main offline interface menu display. In the "offline" status, all the Settings control panel keys to take effect, can be set by the function of the control panel keys of engraving parameters. Under the "offline" interface of offline push down this button, the CNC controller by "offline" into "online". Under the online state, the computer can drive the numerical control machine processing.

When the SD is available, press the online button and menu button, choosing the processing files to realize off-line operation.



IENU



CNC controller under the "offline" interface, press this button, you can switch setup CNC machine different parameters in the menu. Under "online", it can be to choose the processing file on SD card.

3.Setting User Home :

Under the "offline" interface, press this button, the current of the spindle blade of horizontal position set to X axis and Y axis of the process of origin of the "users". When processing will use this as the X-axis, Y axis starting location for actual processing.

4.Setting Surface Home :

Under the "offline" interface, press this button, the current of the spindle blade of horizontal position set to X axis and Y axis of the process of origin of the "users". When processing will use this as the X-axis, Y axis starting location for actual processing.



Under the "main offline interface", push down this button, the numerical control machine processing spindle to the right, call it X + direction. Light touch and then loosen the button for the inching button and move distance for P.



Under the "main offline interface", push down this button, the numerical control machine processing spindle moves to the left, call it X - direction. Light touch and then loosen the button for the inching button and move distance for P.

7. The Forward Key On Axis-Y :

Under the "main offline interface", push down this button, the numerical control machine processing spindle forward movement, called + Y direction. Light touch and then loosen the button for the inching button and move distance for P.

8. The Backward Key On Axis-Y :

Under the "main offline interface", push down this button, the numerical control machine processing spindle backward, called the Y direction. Light touch and then loosen the button for the inching button and move distance for P.

9. The Upward Key On Axis-Z :

Under the "main offline interface", push down this button, the numerical control machine processing spindle moving up, called the

* Z direction. The Z axis is positive upward. Light touch and then loosen the button for the inching button and move distance for P.

In the offline state function setting options "menu", push down this button, you can switch setup CNC machine different Settings menu screen (decreasing) from the current menu.



Under the "main offline interface", push down this button, the

the Z direction. The Z axis negative downward. Light touch and then loosen the button for the inching button and move distance for P.

In the offline state function setting options "menu", push down this button, you can switch setup CNC machine different Settings menu screen (sequentially from the current menu).



The Enter key, also called Enter key, under the offline parameter modification, push down this button, save the current modification parameter, the modified parameters are stored in the numerical control equipment, even if turn off the power supply, the next time the setting of parameters is still valid after the reboot. In suspended state, press the "confirm" button, the CNC machine from the position of the suspension to continue processing.

Under the online state, press the/button, can be repeated processing, can press the confirm button to repeat again for processing.



During on-line operation, use the keyboard to select files in the SD card, press the/button, then start processing the selected file.





Any setting under the menu in the offline state, push down this button, the end of the parameter changes (change the parameters of the currently valid, when the power is turned off, switch on again, the setting of parameters is not memory), menu to return to the main offline interface menu.

Under the "pause" status, press the "cancel" button, you can cancel the current operation.

Under the "pause" status, press the "cancel" button, you can cancel the current operation.

During on-line operation, use the keyboard to select files in the SD card, press the "cancel" button to return to the superior menu

Under the "main Offline Interface", press "Cancel" button, you can switch to the A-axis, in this state, you can adjust to A-

axis by UP and DOWN key

13. The Cutter Falling Key :

Under the "offline" interface, press this button, machining spindle into the current set of Z axis zero, namely the origin of the surface.

In modifying "mobile" to the user to specify coordinates the coordinates, to move the cursor to the right



14. The Cutting tool rotation/stop Key :

Under the "offline" interface, press this button, the spindle tool if it is to stop state began to rotate, if it is rotating stop rotating; In inverter control mode in the RS - 485 state, push down this button, the popup inverter control menu.



Under the "main offline interface", push down this button, the prompt show "origin number: input", after enter the origin number (1 to 9), the processing the origin position, also showed "are to the origin X", where X represents the origin of Numbers. In the automatic tool change machine, input 10-99 can be set for rapid tool, and tool, fixed blade length, and so on a series of operations. Under the "main Offline Interface", press and hold more than three seconds, the machine will find home automatically.

At this point if I press the "on line" button again, the tool performs actions, enter ONLINE (ONLINE), coordinate system's origin is the origin of the "users" at this time.



You press this button in the offline state, you can direct return to "main offline interface from arbitrary Under the online state, you interface interface; can press this key to offline.



17.Machine Home :

CNC controller under the "main offline interface", push down this button, the numerical control machines automatically find the origin position.



18. The Point Moves Upward Key On Axis-Z :

Under the "offline" interface, press this button once, the processing cutting tool at a fixed interval moving up one time. Interval size can be in a CNC controller "C6. The dynamic step length" in the Settings. This feature is useful when precise adjustment point location. Inching movement step away from the default value is 0.1 mm.

Inching step shortcuts for keyboard/pause key, under the condition of "offline" interface, you can press the pause key can quickly adjust the dynamic step length, dynamic value displayed as Pxx keyboard corresponding points (including 0.05, 0.1, 0.05, 1, 2 five value cycle changes).

In machining process, after the suspension, push down this button can increase the speed of the Z axis.



19. The Point Moves DownwardKey On Axis-Z(Z 轴点动向下):

Under the "offline" interface, press this button once, the processing cutting tool at a fixed interval moves down one more time. Interval size can be in a CNC controller "C6. The dynamic step length" in the Settings. This feature is useful when precise adjustment point location. Inching movement step away from the default value is 0.1 mm.

Inching step shortcuts for keyboard/pause key, under the condition of "offline" interface, you can press the pause key can quickly adjust the dynamic step length, dynamic value displayed as Pxx keyboard corresponding points (including 0.05, 0.1, 0.05, 1, 2 five value cycle changes).



In machining process, after the suspension, push down this button can increase the speed of the Z axis

20. The Spindle Function Key :

Press this button can be directly into the control system is the first "D3. Target tools" menu item, using ATC system manual switching when the main shaft conveniently.



In the offline state "set menu", push down this button, modify the corresponding parameters, the numerical value increase. Revised and press the "confirm" key or "cancel" button, choose whether to save the changes of parameters, and returns the current menu offline menu.

Under the "offline" interface, press the "+" button, enter the "mobile speed (Move speed) set status".

In the working process of the "online", first press the/online/pause "key", when the tool spindle stop, press the "+" button /, can increase the processing speed.



22. The Reducing Key :

In the offline state "set menu", push down this button, modify the corresponding parameters, the numerical reduction. Revised and



press the "confirm" key or "cancel" button, choose whether to save $^{\space{25}}$

menu.

Under the "offline", press the "-" key to "processing speed (Cut speed) set status".

In the working process of the "online", first press the key of online/offline /, when the tool spindle stop, press the "-" key /, can reduce the speed of processing.



23. Dust hood control Key :

In "offline" interface, press this button, directly into the dust hood contro menu, used to control the dust hood, convenient in operation.

Z=0

24. Surface Test Key :

Under the "offline" interface, press this button, go directly to "B1. The surface of the test, used knife machine, automatic test can automatically determine the position processing on the surface of the material origin, the origin of the automatic determination of the Z axis.



25. Move to the specified coordinates :

Under the "offline" interface, press this button, according to the prompt for X, Y, Z values, press the "confirm" key, then processing spindle moved to the specified coordinates. Press /, / key at this time, the origin will be reset, press the "confirm" key to prompt for the origin, a (a is $1 \sim 18$), are just set the coordinates of the location is the origin of a (a is $1 \sim 18$).





Push down this button can be directly into the "B3. Calibration tool long" ATC menu, press the UP/DOWM to switch.



Press this button you can pause at any location, or cancel the current operation. For your safety, we work in some fixed process do not cancel processing, such as tool change process, the online process.

the changes of parameters, and returns the current menu offline

If nc equipment is under processing, push down this button, the CNC machine will temporarily stop processing, carried aloft and spindle, spindle stop, pause after the screen display is as follows



Press the "confirm" button, the numerical control machines continue to start from the suspension of processing. If found the problem hope to cancel the carving, press the "cancel" button (ESC) can stop processing, numerical control machine spindle automatic return the origin. Cancel after carving, will not be able to restore data, have to start again. In an operation is completed, if under the online state, press the "confirm" button, this assignment can be repeated processing, again press the "confirm" button can be repeatedly processing

Tips: Need engraving "pause", please press the "on line" don't let go, until the CNC machine stops after carving again let go.



Hints and Tips

To introduce the following keyboard with the second function of the independent small keyboard control cabinet. Instructions are as follows:

1.Menu Key :

The function key to "File" button, "online" in the state of connection with SD card, press this key for File management, processing and processing of files stored in the SD card.



The second function keys for the "Backspace" key, the second function keys are the same as the first function keys, details please see 16 "cancel" button.

The second function keys for the "Save" key, the second function keys are the same as the first function keys, details please see 16 "enter" button.



The second function keys for the "Num" button. Increase in order to facilitate users to display, digital direct input mode, press the key Num way, can directly by digital input.

Notes: The second function keys for the "Num" button. Increase in order to facilitate users to display, digital direct input mode, press the key Num way, can directly by digital input.

3 Artisman Job Center Software

a) Artisman Job Center

AJC8 (Artisman Job center Software VIII), is based on the Atisman control Center(ACC), according to the requirements of CADM

software, oriented to the philosophy of customer experience as the Center, according to the characteristics of the Windows8 interface development and become a new generation of software. Not only AJC as drawing software and hardware connection of the bridge ,but also shoulder the glorious mission of optimization of the original code.

b) AJC Specifications

AJC- Centered on the customer experience of plate type software, Processor after subversion of traditional ideas, perfect show wisdom craftsmen.

Characteristics are as follows

- Artisman VIII automatic search the local area network controller, no need to set the device drivers;
- Automatic configuration AJC equipment parameters, shall not be obliged to choose device type;
- Job management support a local file, U disk, SD card output;
- Support path optimizing output and various options, import the homework after the output at any time;
- Motion control (network Keypad) can replace physical keyboard

in real time, convenient control and display;

- Service mode, upgrading system software can directly configuration controller;
- Support product library CADM output, enter a serial number and size;
- Real-time display user coordinate system, the origin and machine status;

c) Setting And Operation

i · AJC homepage



ii · AJC Job management interface



(**1**)**Title Bar:** Display control information such as name, version number, customer service telephone

🛐 铭龙 VIII 作业中心(AJC) V2.19(2013-01-12) (客服: 400-6633-808)

们 铭龙 VIII 作业中心(AJC) V2.19(2013-01-12) (客服: 400-6633-808)

(2) Machine List: Display this segment all equipment and

machines can be connected in the network address, the user can

choose according to need corresponding connection machine.

机器列表	ART9334 (CCA86A56) @ 192.168.15.54:8088
机器列表	ART9334 (CCA86A56) @ 192 168 15 54:8088

(3) State transition network button: Used to connect and

disconnect the current device status.



(**4**)**Machine condition monitoring area:** Can real-time display the machine motion, spindle coordinate, the origin, CPU usage,

机器	状态	
х		
Y		1
z		
ох		
OY		
oz		1
CPU		Î

(**5**) **Online / offline. Moving/stopped showing key:** ONLINE/OFFLINE button switch can be used to monitor/ONLINE OFFLINE, STOPPED/MOVING key can monitor/switch machine or stop the current movement state.



(**6**) **Section of the display area:** Operation processing, realtime display

11 / 2402: 2402 to the current operation of the total number, 11

for the processing of the segment number.

(7) Service mode switch button: The state of the switch for

entry and exit service mode.



(8) Job Management Area: Including the import operation processing parameters set to update, operation to check the delete, Path is simulated, and other functions.

更新列表	导入作业	更新作业 下	主作业 网络作业	循作业数据	启动作业	● 州四田 ○ c代政 ○ (現成走刀)
和新校		作业大小	作业日期		4.5	素単(mm): 020-001 - 220-02499 994 - 2516-116 - 2101 ength=13393(mm) Tagg=2
-008 97 52	11£2 (500-500)	38076	2013-01-15 12:00		TW	ACC:800 T4:000
2-016 3Plan	neR#1	57418	2013-01-15 11:48			
2-016 3Plan	neR	754	2013-01-15 11:32			
2-015 3Plan	ne-g03	754	2013-01-15 11:32			
2-014 3Plar	ne-g02	754	2013-01-15 11:32			
2-013 正方	形内外圆(xe	2010	2013-01-15 11:31			
2-012 正方	形内切器(xe	5 1028	2013-01-15 11:31			
2-011 四朝	同心图3(D20	0 3838	2013-01-15 11:31			
2-010 圆弹	同心图2(D30	0 4953	2013-01-15 11:31			
2-009 圆弧	同心图1 (D10	0 5198	2013-01-15 11:31			
2-008 因第	编移45角度图		2013-01-15 11:30			
2-007 碎线	同心图 (020-	D 299180	2013-01-15 11:30			
2-006 角度	偏移圆3(050	0 16368	2013-01-15 11:30			
2-005 角度	编移图2(D40	0 3520	2013-01-15 11:30			
2-004 角度	(编移图1 (D47	5 10844	2013-01-15 11:29			
2-003 多西	组合(627-63	0) 7653	2013-01-15 11:28			
2-002 三个	相切图 (X604	P 1300	2013-01-15 11:28			
4-001 波浪	板#2	9082270	2013-01-15 11:16			
100 million 100	T (LIE VOAL	Y., 82400	2013-01-15 10:40			

Job management area include: job processing way, the name of the current work, Path to the simulation, Update set of processing parameters, Job list and preview and so on.

In Job Settings, check and include: Update List, Import fi le, Update operation, Issued file, delete file, To view job data and start job, etc.

• **Update the list:** Equivalent to the refresh function, on the whole list is refreshed.

 Import the file: Operation of the import Settings, Its f or Cut Mode、Embossment Mode、Custom Mode、Ori ginal Mode, Four patterns for parameter setting.(Such as check on ⁽⁾允许修改优化参数</sup>, Rounded rectangle box will p op up as shown in fig the parameter Settings, etc)

① 加工路径导入					×
	子人指令 🕙 与人愛	换┃◀┛ 输出/〕其设盘	1 🛃 綱出診教		
口允许修改优化	(都教)				
 切割模式 	◎ 浮雕模式	◎ 自定义模式	◎ 无优化		
				-	
选择导入又[F] C:1	Users\123\Desktop\P	友本门氏友本门改	(2013.04.15) \C-005\C-005.svg	保存参数	导入并增加作业
作业名称					



更新列表	导入作业	更新作业	下发作业	删除作业	看作业数据	启动作业	
a.导入作业 *导入优化 *导入指令 *导入变换 *输出刀具 *输出参数	② と: 。 愛 置	「第343号入 第3人代化(● 第入預令) 常本 ● 英寸 薬金杵値解性 器公点3 主触想和良わ。提解時間 そかっ 2、他73基度 10 PG_動写家度 -1	 (1) 写入支持 (1) 切込業 (1) 切込業 (1) 切込業 (2) 総対業 (2) 総対業 (2) 総対業 (2) 総対業 (2) 総対 (3) (2) 総対 (3) (2) 総対 (3) (2) 総対 (4) (2) 総対 (5) (2) (2) (2) (2) (2) (2) (5) (2) (2) (2) (2) (5) (2) (2) (2) (2) (5) (2) (2) (2) (5) (2) (2) (2) (5) (2) (2) (2) (5) (2) (2) (6) (2) (2) (7) (2) <l< th=""><th>は7月段度 (3) 46比較 (411 111 111 111 111 111 111 11</th><th>表 接住協会过意 方江建度指令 5 方江建度指令 F 方江達度指令 F 方江達度 方 前令</th><th>ž</th><th></th></l<>	は7月段度 (3) 46比較 (411 111 111 111 111 111 111 11	表 接住協会过意 方江建度指令 5 方江建度指令 F 方江達度指令 F 方江達度 方 前令	ž	
		唱入文件】 C:\Users\12 让名称	3ipeskop)民发木门民发	览木门改(2013.04.15)	\C-005\C-005.evg	保存部数	导入并增加作业

导入作业导入优化	: 0	THERA LARE O SARE	0(9).RH 0 8	171A-102 0 %3591	#)		-
导入指令 导入变换 输出刀具设 输出参数		AND DAM	Binel 0 Binel	8997 78	<u>e</u>	•	1
		W入立体 D名称	illustus PR#17PS	(市门政 (2013-04-15)	K-601K-605.04	sten	SANGHOS

• **Update file**: Alter the existing file parameters in the job list.

	 修改作业参数 		of the second se		-	
c.更新作业:	输出刀具设置 数认刀具参数 数认刀具参数	2 🕢 输出部数		in the second		
*输出刀具 设置	空走速度 加工速度 入刀速度	240 (mm/s) 80 (mm/s) 10 (mm/s)	启动連度 10 加速度 100 主轴转速 1500	(mm/s) 0 (mm/s^2) 10 rpm		
*输出参数	作业刀具名 13 11 12 文	· 3 1 2 双击需更	2年連度 加工連度 240. 80. 240. 80. 240. 80. 240. 80. 改的参数	 入7連携 主紙 10. 1500 10. 1500 10. 1500 10. 1500 10. 1500 可进行更改 	2 73, R (q8)	全部采用左上方型认刀具参 采用下方途中的参数组 另存参数组 翻译参加 已存参数组 [2
	导入结束后,原	他路径中所有刀	具均在上述列表中, 资	2击直接修改		
	原始結径文件	E:\CADM\Cache\		保存参数 更新作业		

COLUMN AND A	• • • • • • • • • •	2							
更和作品	• 🚳 \$12.778 i	0 WEDR 62 (0) WERN							
論出刀目	已期推力	E 1497627 m.							
设置	经最初始终	(28409a/5-14.0x.54.24.54.9400) (28409a/5-14.0x.54.24.54.9400)							
	MIGROG	8		COMPARE: PC	\$41;54;241;92;403()				
論出参数	Cause.	1012510-7508	L000 mm						
	TRAN	- (25							
	- Andrease								
	的新行用	和新任书 · · · · · · · · · · · · · · · · · · ·							
	DTHER	DTREES							

- Issued file: Choose the file sent to the controller directly on line processing, and will be processing operations issued to the SD card.
- **Delete file:** The list to delete the selected assignments. (hold down the shift or CTRL key to select more than one assignment file)

a. 1-3	发作业 :					
	下數保存透现					
	SD-#. 6	(余賀県空福: 39)	48668 K32 TT			
	OUR	100-200 al. 10	-		10.1	
	の内害母				649 1	* SE
	T 7.00 TH	THAT HOT				
	1 10.17	ACOULL J				
	2005	3-016 Blavel #1				
	改名另存	2-016 3PlaneR#1	Lef			
e.Bil	改名另存 (注4)(注4)(注4)	2-016 3PlaneR #1	Lef 作品に中心(AJC)			
e.删	改名另存	96226 VIII	Lef 物態中心(AJC)	Las		
e.删 按住:	改名另存 除作业:	2-016 3PlaneR #1	にす 作品(中心(A)C) 2016 3Plat	orfusk veR#1	_	
e.删 按住: 或cti	读名另存 除作业: shift	96276 VIII	に付 物設中心(AJC) 即時前除本3 2-016 3Plan 現地吗?	orinsia neR#1	>	
e.删 按住: 量删	读名另存 除作业: shift 信可批 除	461.001	にす 作品(中心(AJC) 2-016 3Plan (記録9号 7	Britsk heR#1	>	

- **Check the job data:** View the job current job processing data.
- Start work: When working directly with the computer

processing in the SD card, Used to start the work.

Can 7348		SCONTFIL	PATE	UUIP///PII		ARRONAT
g.启云	加作业:					
	铭龙 VIII 作业中	P/让(AJC)				×
	(2) ED	\$启动控制器上的	的作业: S/1-025	5 螺旋线(n90).cf, 继续吗?	
				是(Y)	否(N)	

(9) Control Configuration

导入 xis 配置	另存 >>= 配置	接收課題	发送配置	恢复出厂	9 2	配置比较	志力们に副身の
)文本资源) 刀库参数) IO映射关系	 ○ 菜单风格 ○ 逻辑刀具映射 ○ 各袖参数 	 菜单项定义 全部物理刀具 支頻器注摘配 	 系統参数列 支援器型号 	あ 参数			
系:i杂创:#bID	系统参数类型	00 25 (E11	系统创教长度	治務値	最小值	最大值	
1097	double	length	8	0.	0.	3072000	
8098	dire dale	length	8	0.	0.	1536000.	
9999	double.	length	8	0.	0.	512000.	
\$100	double	length	8	0.	0,	3072000.	
101	double	length	8	0.	0.	1536000.	
102	double	length	8	0.	0,	512000.	
4103	double	arc	8	0.	0,	6,283185	
910-9	double	length	8	39546.	0.	3072000.	
105	double	length	8	57021.	0.	1536000.	
106	double	length	8	13748.	0.	512000.	
\$107	double	length	8	1.	0.	3072000.	
108	double	length	8	0.	0.	1536000.	
109	double	length	8	4800.	0.	512000.	
4110	double	arc	8	0.	0.	6.283185	
4111	double	length	8	0.	0.	3072000.	
\$112	double	length	a	0.	0.	1536000.	
4113	double	length	8	0.	0.	512000.	
4114	double	length	8	0.	0.	3072000.	
\$115	double	length	8	0.	0.	1536000.	
\$116	double	length	8	0.	0,	512000.	
4117	double	arc	8	0.	0.	6.283185	
4118	double	length	8	0.	0.	3072000.	
119	double	length	8	0.	0.	1536000.	
4120	double	length	8	0.	0,	512000.	

(10) Upgrade Firmware

选择:	和如文件			
1				
	78+0	WALKING	11400045	
	小銀小庫	71397182	1-3022395	
	這根控制器后,;;	才可以进行升级。升级国件将在	拉下一次上电时生效	
	自動有效制	66673754 (18522581	12) : 2013-0+-30	
	8.00		2.8	

(11) Diagnostic Log(诊断日志)

(Muket		+TH0== \$7(4)	ALDIAADT	1
101012	30100125	打开口志又件	天间设备口运	J
注意:设备日志仅	用于问题诊断,只有	有在连接的状态下才1	能激活・正常作业时间	斯关闭日志功
15 15:34:49 [192.1	68. 15.51] (33)Max E	th Recv=4079 us, Poll	-458 us	
15 15:34:59 [192.1	68.15.54] (31)Max E	th Recv=3933 us, Poll	=5 us	
15 15:34:59 [192.1	68.15.51] (33)Max E	th Recv=4079 us, Poll	=448 us	
15 15:35:09 [192.1	68.15.54] (31)Max E	th Recv=3934 us, Pol	=5 us	
15 15:35:09 [192.1	68.15.51) (33)Max E	th Recv=4078 us, Pol	-4/1 US	
15 15:35:19 [192.1	68, 15, 511 (33)Max F	th Recy=4077 us. Poll	m478 135	
15 15:35:29 [192.1	68, 15, 54] (31)Max E	th Recy=3934 us, Poll	=Sus	
15 15:35:29 [192.1	68.15.51] (33)Max E	th Recv=4079 us, Poll	=463 us	
15 15:35:39 [192.1	68.15.51] (33)Max E	th Recv=4078 us, Poll	=462 us	
15 15:35:39 [192.1	68.15.54] (32)Max E	th Recv=3932 us, Poll	= 18 us	
15 15:35:49 [192.1	68.15.51] (33)Max E	th Recv=4080 us, Poll	=449 us	
15 15:35:49 [192.1	69 15 541 (31)Max E	th Recv=3938 us, Pol	=5 US	
15 15:36:00 [192.1	68, 15, 511 (33)Max E	th Recy=4075 us. Poll	= 970 us	
15 15:36:09 [192.1	68, 15, 511 (33)Max E	th Recv=4078 us, Poll	=469 us	
15 15:36:09 [192.1	68.15.54] (32)Max E	th Recv=3936 us, Poll	=14 us	
15 15:36:19 [192.1	68.15.54] (31)Max E	th Recv=3935 us, Poll	=5 us	
15 15:36:19 [192.1	68.15.51] (33)Max E	th Recv=4076 us, Poll	=462 us	
15 15:36:30 [192.1	68.15.51] (33)Max E	th Recv=4070 us, Pol	-401 us	
15 15:36:30 [192.1	68 15 54] (32)May E	th Recy=3932 us, Pol	= 18	
15 15:36:39 [192.1	68, 15, 511 (33) Max F	th Recy=4078 us, Poll	= 449 1/5	
15 15:36:50 [192.1	68.15.51] (33)Max E	th Recv=4078 us, Poll	=462 us	
15 15:36:50 [192.1	68.15.54] (31)Max E	th Recv=3934 us, Poll	=5 us	
15 15:37:00 [192.1	68.15.54] (31)Max E	th Recv=3926 us, Poll	=5 us	
15 15:37:00 [192.1	68.15.51] (33)Max E	th Recv=4075 us, Poll	=469 us	
15 15:37:10 [192.1	68.15.51] (33)Max E	th Recv=4078 us, Pol	=462 us	
15 15:37:10 [192.1	68.15.54 (32)Max E	th Recv=3932 us, Poll	= 18 us	
15 15:37:20 [192.1	68 15 511 (33)May F	th Recy=4080 us Poll	= 5 05	
15 15:37:30 [192.1	68, 15, 54] (31)Max E	th Recy=3933 us, Poll	=5 us	
15 15:37:30 [192.1	68.15.51] (33)Max E	th Recy=4076 us, Poll	=469 us	
15 15:37:40 [192.1	68.15.51] (33)Max E	th Recv=4079 us, Poll	=468 us	
15 15:37:40 [192.1	68.15.54] (31)Max E	th Recv=3934 us, Poll	=5 us	
15 15:37:50 [192.1	68.15.51] (33)Max E	th Recv=4079 us, Poll	=469 us	
15 15:38:00 [192.1	68.15.51J (33)Max E	th Recv=4077 us, Poll	= 961 US	
15 15:36:10 [192.1	00.13.341 (31)Max E	unrecv=3931 us, Poll	= 5 US	

iii · Example 操作实例

(1) First, open the work center, the "machine list"

连接

automatically search all machines within the local area network

(LAN), Choose to operate the machine, click _________.And

then, click 导入作业 🕨

As shown in the fig below;

A file named "7-003 菊花 (X46-Y60)" job import AJC process:

机器列表 *ART769	5 (BE2AD37F) @ 192.168.5.10	12:8088			▼ 连接
机器状态 X	 ● E:\CADM\JOBS ○ 内置盘(控制器) 	选中的作 SD卡(控制器)	= 业 7-003 菊花(X4 ∪盘(控制器)	5-Y60)	作业总数: 2
z	更新列表 导入作业	▶ 更新作业	下发作业	除作业	启动作业 💿 预览图 🔘 G代码
OX	作业路径	作业大小	作业日期	Я	Z:-0.1] - [X:46.444, Y:60, Z:10], Leng
OF OZ	7-003 匊花(X46- 8-002 综合测试2	Y6 53016 (92588	2013-06-06 14:0 2013-06-06 13:3	9 7	ACC:800 11:200,200,10,10,15000
CPU					
脱机态					
停止态					
段号					
服务模式					~
		m			
	① 主页 ② 作业管理 ①	🕢 运动控制			

(2) The processing path in their import dialog, Including "cutting mode" and "embossment mode" "custom" mode "Raw Mode" four patterns, according to the actual processing and click on the corresponding processing mode, the following select ④切割模式

加工路径导入	-ma		10000		×
🗿 导入优化 👩 导入	指令 👩 导入变:	换 🚺 输出刀具设置	🕢 输出参数		
🔲 允许修改优化参	数				
 切割模式 	◎ 浮雕模式	◎ 自定义模式	◎ 无优化		
选择导入文件 C:\Us	ers\123\Desktop\草	腰1.nc		保存参数	导入并增加作业
作业名称				PART BARA	

Notes: Item can be checked // 允许修改优化参数, to set the current model parameters.

🕢 导入优化 🗐 导入指令 🗐 导入变换 🗐 输出刀具设置 🦪 输出参数
⑦ 允许修改优化参数
◎ 切謝模式 ◎ 浮雕模式 ◎ 自定义模式 ◎ 无优化
□入刀降速,距离 20 mm 限速(mm/s) 20 ⑦ 仅限于首次入刀降速
☑ 允许圆弧替换尖角,允许偏离误差 0.200 mm 最小掉头半径 0.05 mm
倒角角度范围(度) 1 135 (0-180)
☑ XY平面 ☑ Y2平面 ☑ ZX平面 □ 空间折线
☑ 允许碎线合并,最大容差 0.005 mm 角度不小于 150 度
合并长度小于 0.005 mm 分段
法向加速度 800 法向加速度最小值 200 参考半径(mm) 2
选择导入文件 C:\Users\123\Desktop\7-003 期花(X46-Y60).nc 保存参数 导入并增加作业

(3) Click the import file, find the file named "7-003 $\,$ $\,$ $\,$ $\,$ $\,$ $\,$ $\,$ $\,$ (X46-Y60) $\,$

", open the file.

🕢 加工路径导入		×	
🕢 导入优化 👩 导入指令 例 导入变换	④ 輸出刀具设置 ④ 輸出参数		
1 允许修改优化参数	🚯 打开		×
◎ 切割模式 💿 浮雕模式	○○ < ■ 桌面 >	▼ 49 搜索 桌面	Q
	组织 ▼ 新建文件夹		
	 ☆ 收藏夹 ▲ 近回门图 文件夹 		*
	■ 桌面 益國木门改2 ③ 最近访问的位置 ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓		
	■ 桌面 文件夹		
	 □ 厚 ● 暴风影视库 ● 祝娘 ● 祝娘 ● 祝娘 		Е
	 ■ 武档 □ 武档 □ 武雷下载 	0)	-
选择导入文件 C: Users \123 \Desktop \草語 作业名称	文件名(N): 7-003	 ✓ All Files (*.nc;*.gc;*.plt;* 打开(O) ▼ 	.svg;*. ▼ 取消
			2

(4) According to the processing operation need to set up "import" and "import directive transformation", "output tool Settings" item. As shown in the figure below;

)加工路径导入			August of			— 2
🗿 导入优化 🚳 🗟	₿入指令 ┃ ⑦ 号入	度换 🚮 输出刀具设置 🌔	3 輸出参数			
ABC DBR	ABC VBC	2 显示 x	Y # (•	
X复制次数 1 Y复制次数 1	位移(mm) 位移(mm)	0				
Z复制次数 1 □ 技门谈路径号入 ×1<×<×2为正可 门板区域 (× 0,0	位移(mm) (x <x1 为门的左侧<br="">面, x>x2 为右侧面) 1,y1) - (x2,y2) 0,0</x1>	0 đũ,				
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允许透传未知的G指令

① 允许遗传未知的 M 指令

□ 允许 M03/M04/M05 主轴指令
 □ 允许 M07/M08/M09 冷却指令

保存参数

导入并增加作业

Z 抬刀高度 10 mm

mm

选择导入文件 C:\Users\123\Desktop\7-003 菊花(X46-Y60).nc

HPGL 刻写深度 -1

作业名称

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Finished my homework "7-003 菊花(X46-Y60)" import operations center all process of AJC.

iv · Hints and tips 提示和技巧

(1) The import job, the machine is not connected, the job according to the last job import machine imports, at the same time has the following prompt dialog box pops up, select "yes" operating import job, choose "no", leave the import.



(2) Import parameters Settings, considering the actual machining operations, such as: processing speed, and starting speed, etc.

(3) Import the SVG file , please check whether they have been inserted encryption dog of CADM software

4 Artisman Glossary

AXIS

A direction in a coordinate system, X, Y, and Z. On tangential knife system there is a fourth axis, Theta.

AXIS MOTOR

A motor that causes motion in a particular axis.

BEARING CAR

Also known as a bearing truck. The bearing on which an axis moves

along a rail. There are 2 bearing cars for each rail.

BEARING RAIL

The rail that the bearing cars ride on. There are 2 rails for each axis.

BITE SIZE

Used in multipass, the depth of each pass.

CLIMB CUT

A direction the cutter moves along a cut to produce a climbing motion. For a closed contour it is clockwise on the outside of the cut and counter clockwise on the inside of the cut.

COLLET WRENCH

Wrench used to loosen or tighten the cover nut on a spindle or tool holder.

COMPRESSION CUTTER

A spiral up/down cutter. This cutter is a spiral up at the bottom and spiral down at the top. Used for high feeds in wood and laminates.

CONICAL CUTTE

The operating system of the controller. Contains all of the low-level chamfering.

CONVENTIONAL CUT

The opposite cut of a climb cut. For a closed counter clockwise on the outside of the cut, and clockwise on the inside.

CUT CONDITIONS

Changes the motion parameters of the routing system to the most efficient condition for standard cutting or engraving

CUT DEPTH

A function that sets the depth of cut. The Z0-axis distance the end of the cutter will go below the surface of the material during a cut.

CUT SPEED

A hot key function that sets the speed of cut.

EMERGENCY STOP

The red mushroom button used to remove power from the machine except for the controller board and limit switches.

FIRMWARE

commands and is the first level of controller software.

GANTRY

The mechanical part of the routing system that moves the spindle from the front to the rear of the table. Also known as the bridge.

GCODE

Machine code language with G and M codes that the controller can use to execute motion commands.

GEARBOX

Drive system on Pro series using gear reduction to produce rotation of the pinion.

The operating system of the controller. Contains all of the low-level

HARD HOME POSITION

The home position determined by the location of the targets and limit switches, typically the front right side of the table.

AMHC MODE

For multiple head machines , just like ATC.

HOT KEYS

One touch keys on the keypad that performs controller functions.

HPGL

Machine code language that the system executes as a file.HPGL

EXCEL FILE

a excel file to configure machine parameters . .

AJC

Artisman Job center Software, a uility program used to communicate between the controller and the host PC.

KERF

The spacing between parts. Must be larger than the tool diameter.

KEYPAD

The part of the pendant that contains the LCD and Hot Key buttons.

LINEAR TOOL CHANGER

Tool changing system with the tool holders lined up along one axis. This is the most common tool changer for the 5, 7series.

MISTING NOZZLE

The tip of the flex hose on the misting system.

MISTING UNIT

Unit that rides of the back of the carriage assembly that provides misting lubrication for cutting metal. There are 2 versions, automatic and manual.

MULTIPLE PASSES

Cutting through material by repeating the contour at different depths, going deeper each time by the bite size.

MULTIPLE SPINDLES

More than one spindle or routing head.

O FLUTE

Type of cutter that has a half moon geometry from the end view.

PARK

Used to place the spindle at the farthest point away from the material for loading and unloading.

PAUSE

Yellow button on Keypad, puts the controller into Pause mode.

PRESSURE FOOT

An attachment for the spindle that helps hold down material and remove chips that have been cut.

Type of cutter that only has one cutting edge.

SOFT HOME

One of 9 home positions that the user can store to be recalled at a later time.

RACK AND PINION

System of transferring movement from the rotation of the motors to the linear movement of the system by way of gears.

ROTARY TOOL CHANGER

Tool changing system with the tool holders held on a rotating turret. Used on the PRO series.

SERVO DRIVE

Servo amplifier used to move the SERVOMOTORS.

SERVOMOTOR

Axis motor on a servo system.

SIDE COVER

Covers on the each end of the gantry covering the X-axis motor and limit switches.

SINGLE FLUTE

SLEW

A movement of the system that is not a cutting move. It is a move above the material at maximum speed.

SOFT HOME POSITION

Any set home position, set by pressing the set home hot key, used as the origin for executing programs.

SPINDLE

The rotating motor that holds the cutting tool.

SOFT HOME

One of 9 home positions that the user can store to be recalled at a later time.

RACK AND PINION

System of transferring movement from the rotation of the motors to the linear movement of the system by way of gears.

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Any set home position, set by pressing the set home hot key, used as the origin for executing programs.

SPINDLE

The rotating motor that holds the cutting tool.

SPINDLE PLATE

The plate that mounts the spindle to the Z-carriage plate.

SPINDLE SPEED

The speed that the spindle is rotating, in RPMs.