麦特自动化
MATE AUTOMATION

Groove & Chamfer Machine

MGB-12

Operation Manual

SUZHOU INDUSTRIAL PARK MATE AUTOMATION

TECHNOLOGY CO.,LTD

www.suzhoumate.com

Thanks for using our products. Before use, please read this menu carefully and keep it for future reference. Thanks for your understanding if there's any discrepancies between the manual and practical operation process due to technical update ceaselessly.

SUZHOU INDUSTRIAL PARK MATE AUTOMATION TECHNOLOGY CO.,LTD
ADD: BUILDING 15-1 PUTIAN PRIVATE INDUSTRIAL ZONE WEITING SIP JIANGSU 215122
TEL: 0086-512-6285 0086 FAX: 0086-512-6285 0087

Company brief

Suzhou Industrial Park Mate Automation Technology Co., Ltd. is a metallic gasket and equipment manufacturing and selling company. We are located in Suzhou - a city well known for its Chinese classic garden, south of Jiangsu Province, China. With our technology, we offer our customers very wide variety of metallic gasket equipments, such as

Spiral wound gasket winding machine;

Kammrofile machine;
Guide rings grooving machine;
Inner ring beveling machine;
Bend & weld machine;
Stamp marking machine;
as well as computer controlled compression tester.

Our concept is to provide our customers with one-stop service for all metallic gasket related products, parts, and equipment. We have successfully sold our products and equipment to customers in the Asia India USA Europe and South America.

We welcome all customers from abroad and home.

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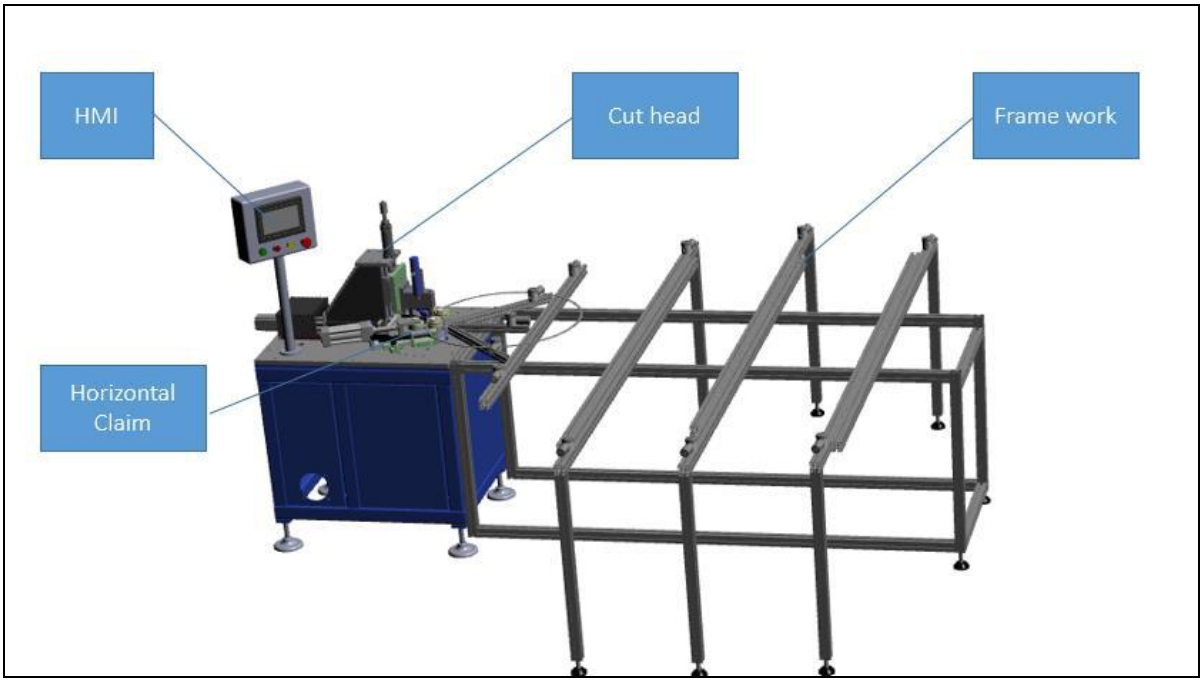
MGB-12 Groove & Chamfer Machine (Pic1)



Features of MGB-12

1. This machine special designed to do guide ring groove and inner ring chamfer work. Its work principle pretty much like a vertical lathe.

2. PLC programmed process control, make the job every easy, the operator only need to load ring, press the “Start” button, the machine will finish job, then the operator take off the finished one, and load a new one. All process control is pre-set in the PLC.

3. This machine built with standard cut tips, which is easy available anywhere in customers’ local market, with single cutter holder, so operator doesn’t need to change holder, if the cut tip wore out, operator just need to use a special tool to take off the tip and replace by a new one.

4. Built with Vortex cooling, machine doesn’t need cooling by water, it use the compressed air to cool down the tip during the processing, meanwhile the cooling air also helps blow out the swarf.

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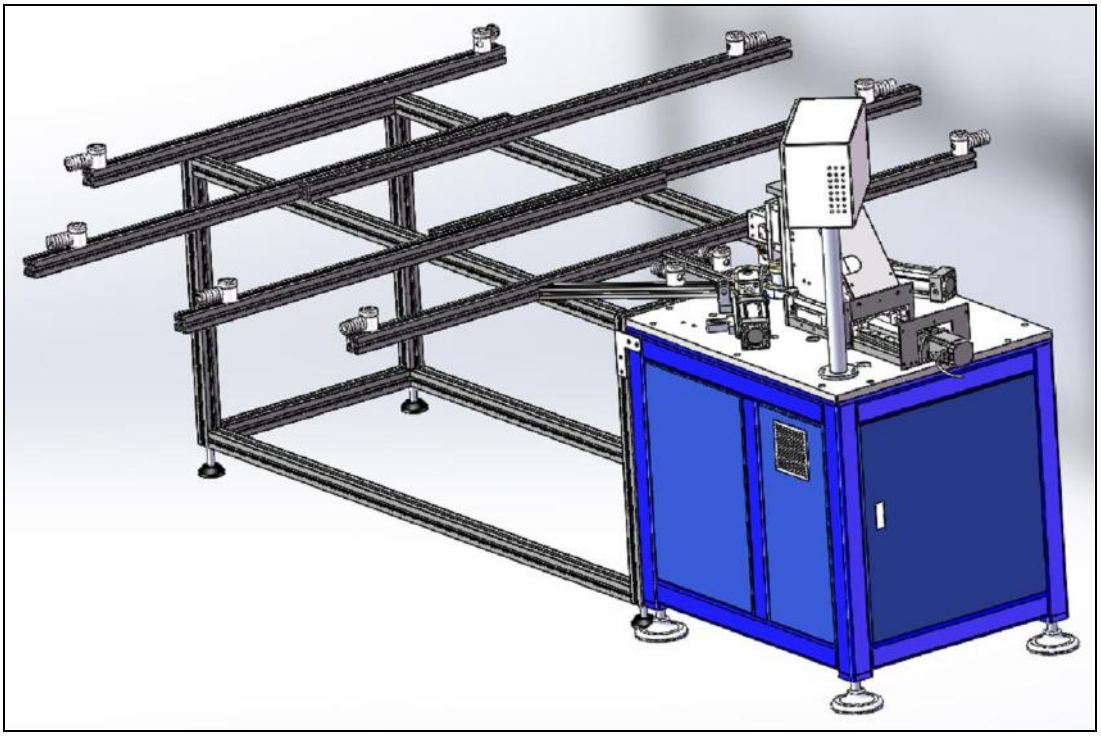
Machine Specification

Type	MGB-12
Profile	950*760*1500 mm
Max occupation	4600*3500 mm
Net weight	370 KG
Motor power	2.5 KW
Voltage	380V
Size scale	8"– 3500 mm
Thickness	2 – 5 mm
Flange width	5 - 50 mm
Line speed	5 mm/s
Material suited	CS/SS
Cooling	Vortex cooler
Air consumption	0.8L/minute

MGB-12 Machine Whole Picture



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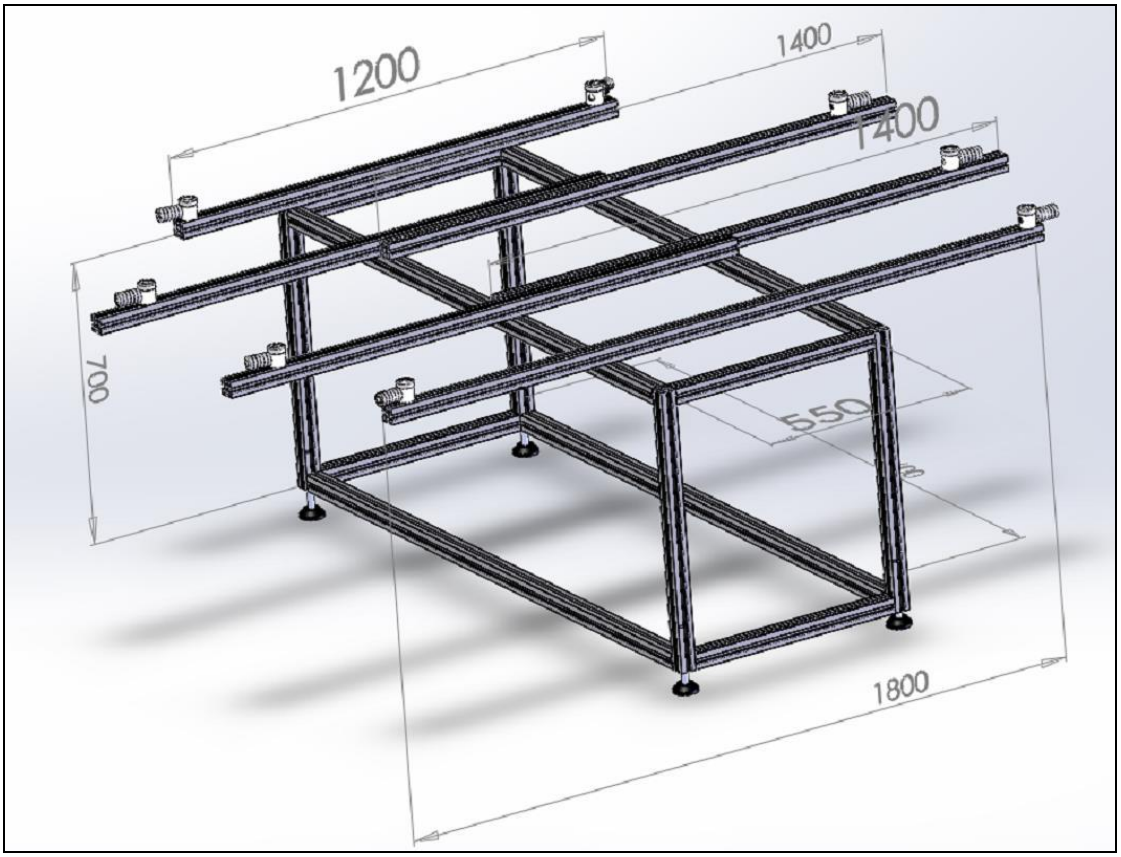
MGB-12 Machine Framework Drawing



Machine set up

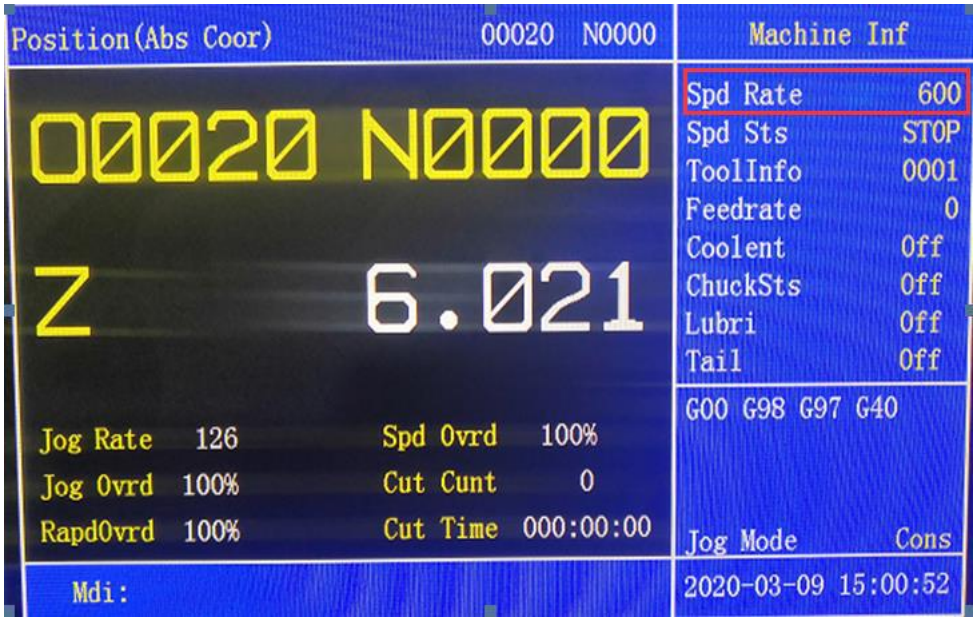
1. Connect cable to power. 380V single phase.
2. Connect air pipe to compressed air source.
3. Turn on power.

（Pic1）

4. Press 

keying 600 after “S”, shown as Pic1 below, then press 

it will show as following page (Pic2), speed set up.

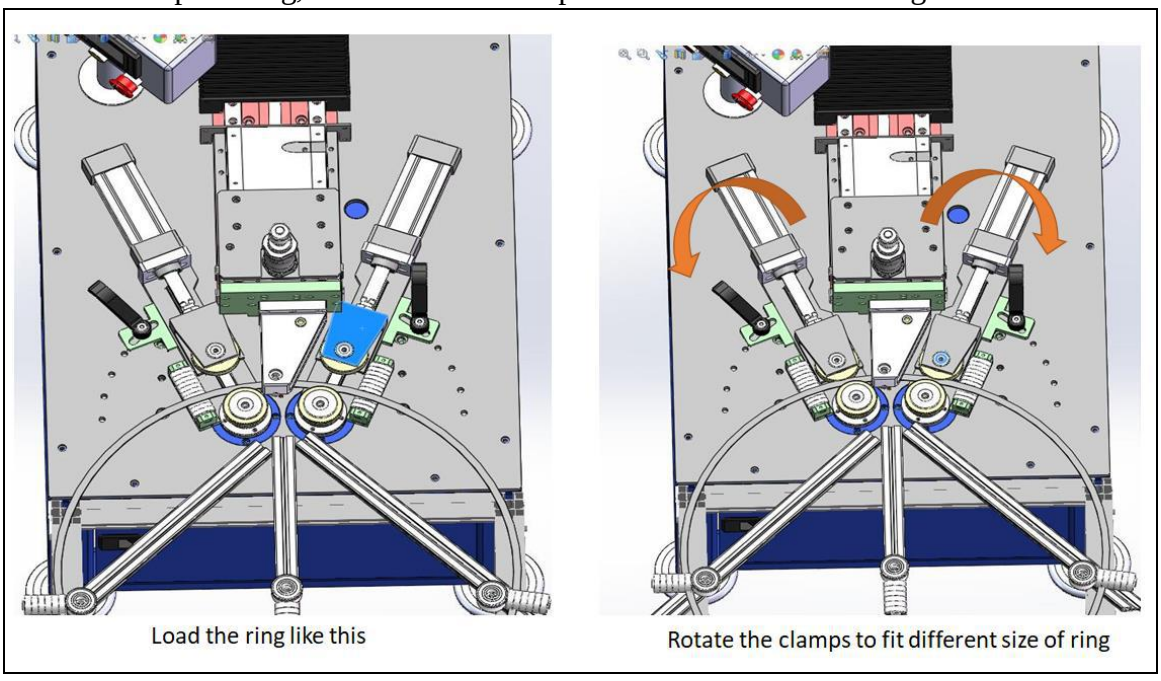


（Pic2）

How to set up initial position

Step1 Load the ring as shown (Pic 3), press 

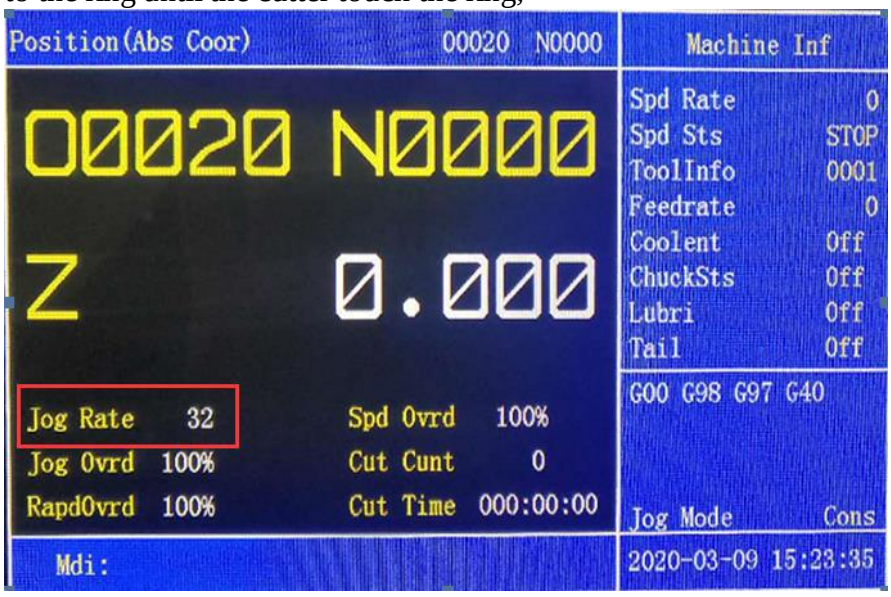
two horizontal press rollers move forward clamp the ring, rotate the two clamps to fit different size of rings.



(Pic3)

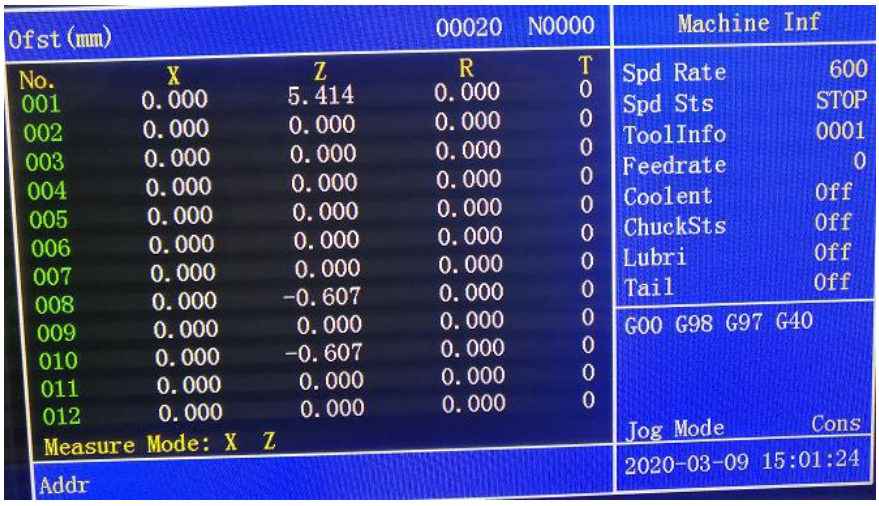
Step2 Press  move the cutter around 10 mm away from the ring edge, press  cutter moves down, press  again to move cutter close to the ring edge 2-5 mm.

Step3 Press  to turn the main shaft of the machine, then keep pressing  to reduce the jog rate to 32, like pic3 below, then press  to move cutter little by little to the ring until the cutter touch the ring;



(Pic4)

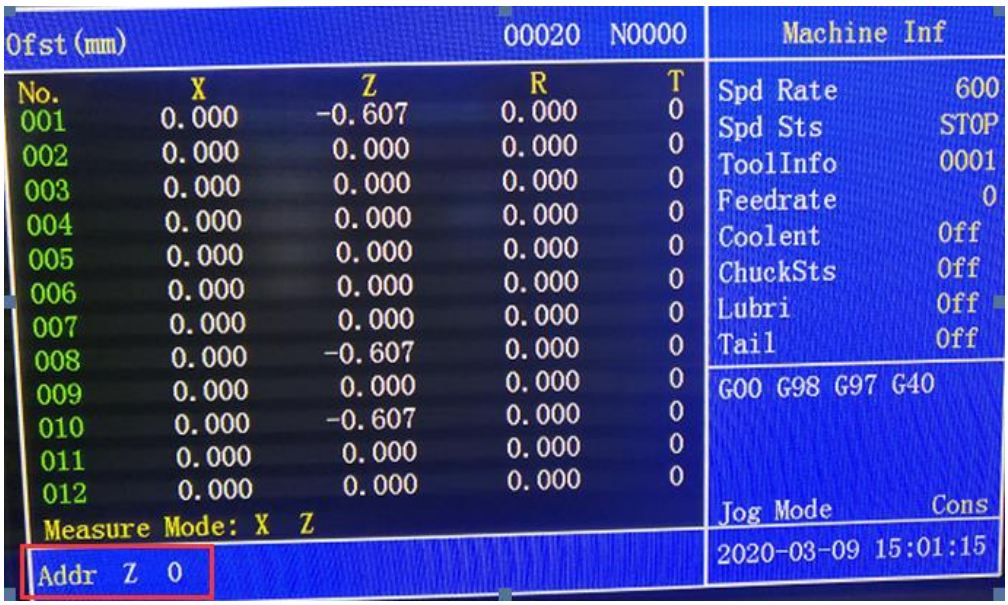
Step4 Press the  twice, you will see the pic5 below,



(Pic5)

Step5 key in Z value as “0”, and press 

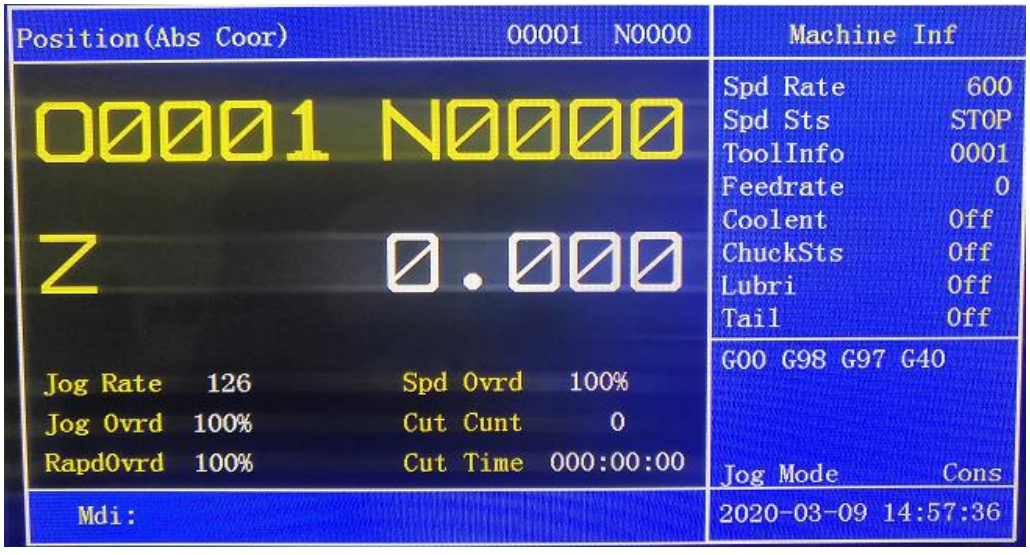
, you will see the below page shown as Pic6 below,



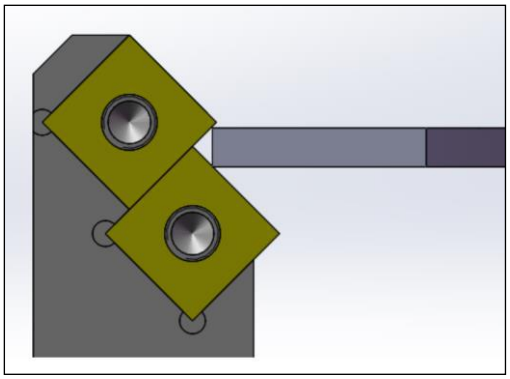
(Pic6)

Step5 Press 

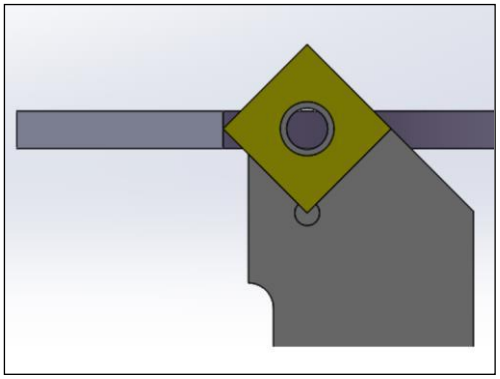
, it will back to the page as below shown Pic7, initial position set up, initial position is the start point where the cutter start processing. For chamfering, must make sure the valley of two cutters must be at the center of the ring cross-section, and for grooving, the single cutter tip must be at the center of ring cross-scetion. See the below pic7 and pic8. If not, change the length by adjusting the cyliender piston rod.



(Pic7)



(Pic8)



(Pic9)

Step6 After set up initial position for the cutter, you will need to press 

again to move the cutter away from the ring edge, normally 5 -10 mm as safe distance, then press 

to stop the main shaft turning, and press 

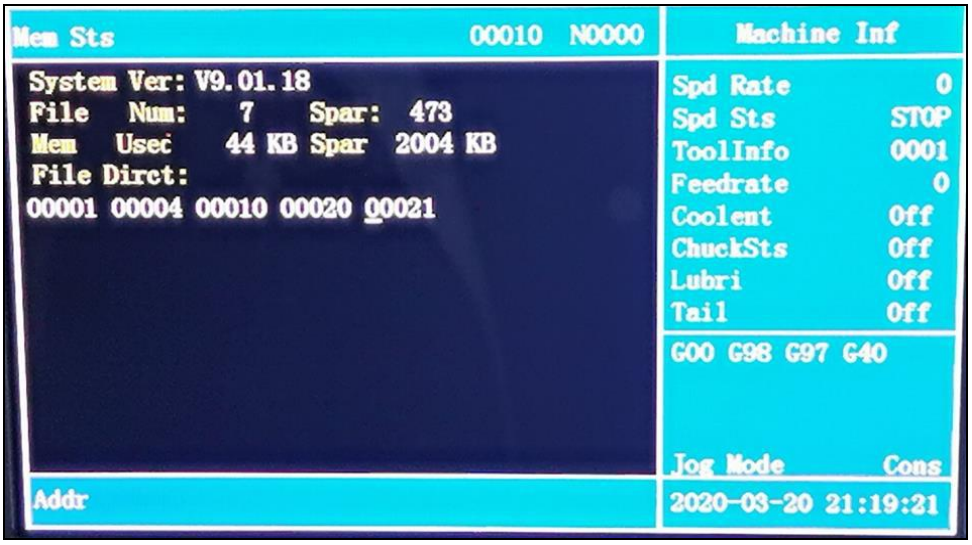
to move the cutter back to home position.

How to select the program

All programs for each different process are pre-intalled in the machine, the operator needs only pick up the right program when they need to process certain job.

Step1 Press the 

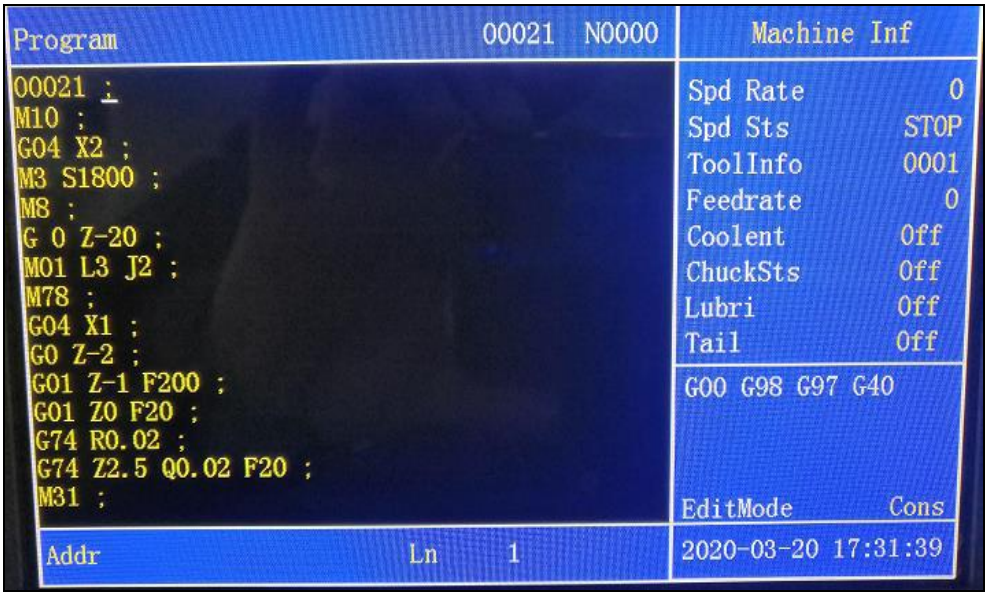
3 times, all programes will be displyed on this page. For this type of machine, we normally pre-installed two programs, one for grooving, one for chamfering. Press  and  bring the cursor to the right program you want as shown below, (Pic 10),



(Pic10)

Step 2 Press 

, it will show the below page (Pic11)



(Pic11)

Step3 After selecting the right program, press 

, entry auto mode, then press 

start work. (Pic 12)

(Pic12)

How to modify the program

Step1 Select the program, press 

to entry edit mode, use  move the cursor to position you want to change see pic11 and pic 12 below, O0010 is chamfering program, and O0021 is a chamfering program;

Step2 Keyin what you want to change, press 

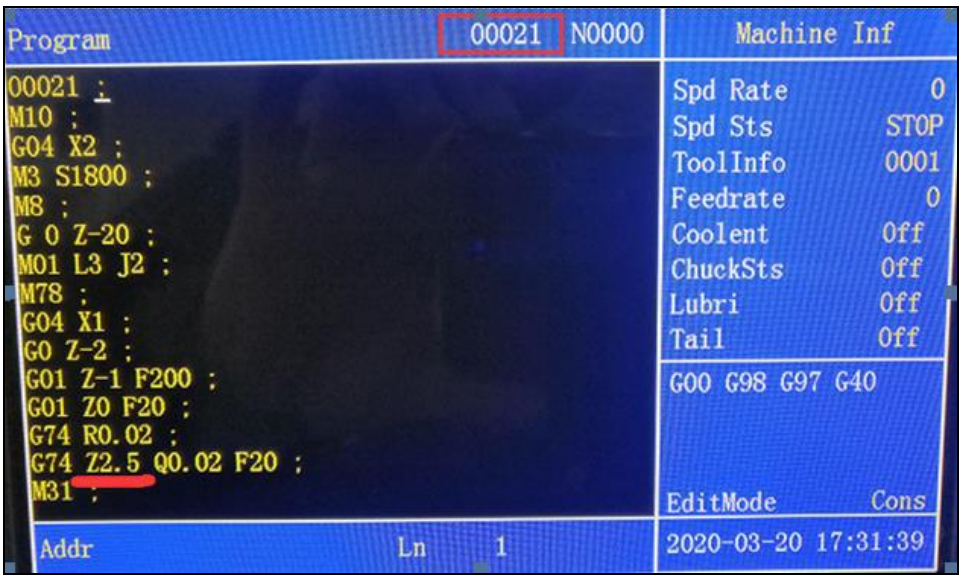
, change being made.

Step3 Bring the cursor to the top, and press 

, now you can press 

, entry auto mode, then press 

start work.



Example, O0021 is a chamfering program, Z2.5 means that chamfering depth is 2.5mm, if you want to make the cahmfering more, you can change 2.6 or you can change it to 2.4 if you want to make less chamfering.
Example 2, For grooving program, Z follow up a minus value like Z-1.3, it means grooving depth is 1.3mm, if you want to make the grooving deeper, you can change 1.4 or you can change it to 1.2 if you want to make grooving shallower;

For more information for Numerical Control System operation and programming, please refer to the 100Di Numerical Control System User Manual.

Common code definition

MGB-12 Groove & Chamfer machine main code definition		
Item	Code	Definition
1	M03	Drive motor on
2	M5	Drive motor off
3	M8	Air blow on
4	M9	Air blow off
5	M10	Clamp up
6	M11	Clamp release
7	M30	Process over
8	M31	Count
9	M98	Pick up sub-program
10	M99	Sub-program over
11	G0	Cutter move
12	G01	Linear interpolation
13	G04	Pause

Notice, the machine is designed cooling cutter by a vortex cooler, which can mounted to anywhere you want with its magnetic base, make sure the nose of pipe direct to cut position by moving the flexible air pipe.

Safe Instruction

1. Operator must ware glass to protect from welding spark, or strip.
2. When feed strip, especially filler material, make sure keep finger certain distance away from the press roller.
3. Operator must ware glove, don't pull strip with hand in any cases.
4. Don't open electronic box when electrician is absence.

END