



Book 20f3

OPERATOR'S MANUAL



SLIDING TABLE SAW MODEL: STS-16120CNC

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Display and Operation of Each Function of Home Page

Numerical value Positioning Operation

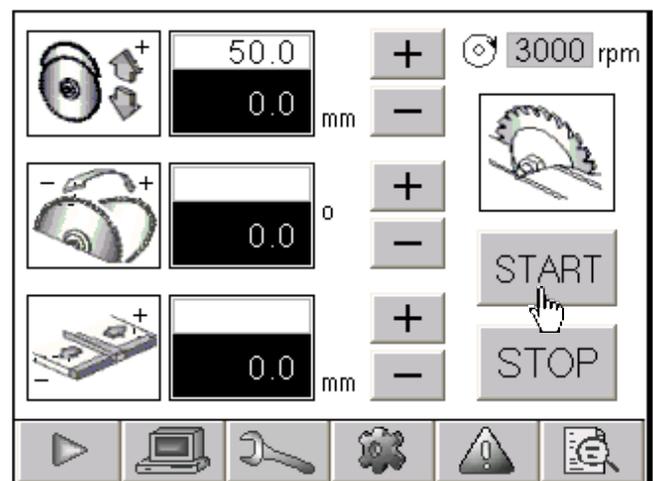
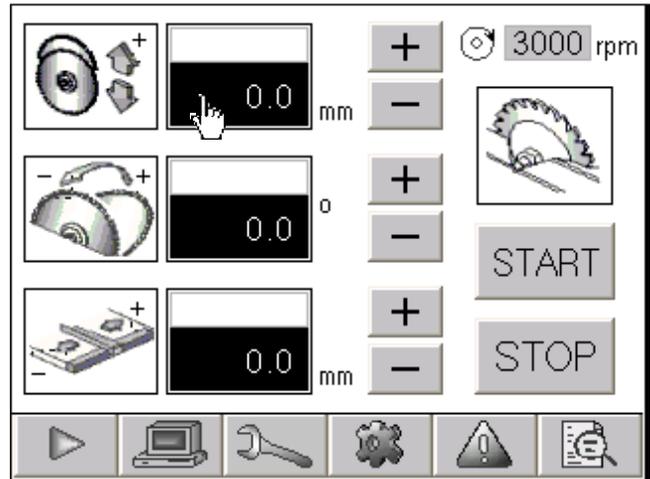
Ex: If main saw blade's present value is 0.0 and you want to rise main saw blade to 50.0, the operating way as follows:

Step 1: Push  key to make Numeric Keypad show up.

Step 2: Input 50, push  key to finish input. After input, system returns to home page automatically.

Step 3: The target value 50.0 will show on  key. Push  key to make the main saw blade rise to 50.

 **Note:**  key is for executing target value on  key and single axis or multi-axis can act simultaneously.





Micro-Motion Positioning Operation

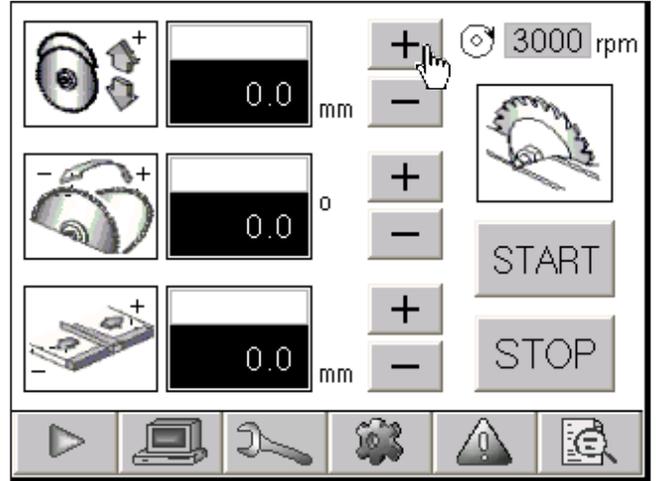
Ex: If main saw blade's present value is 0.0 and you want to rise the main saw blade to 30.0, the operating way as follows:

Step: Push  key until  key shows present value 30.0.



Note: When micro-motion

positioning movement is used,  key won't show any target value.



Scoring Saw Operation

Accuracy of the scoring saw movement of this system is 0.05mm (i.e. touch it and it moves 0.05mm. The adjustable range is +/- 1mm. The following is the scoring saw operation.

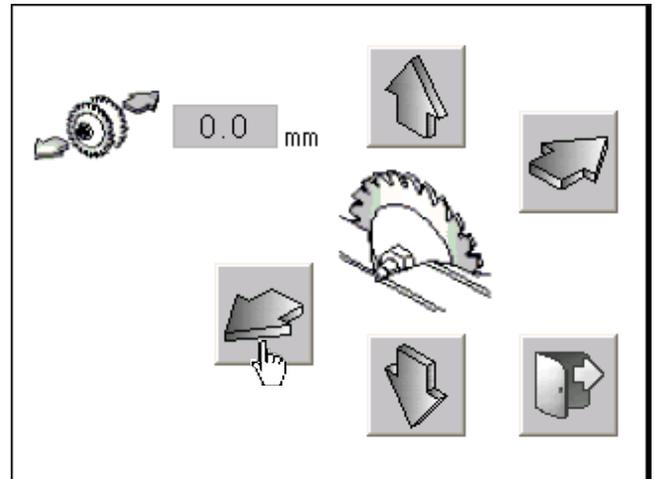
Remarks: Accuracy of UP/DOWN movement of scoring saw is 0.01mm (i.e. touch it and it moves 0.1mm) This system can memorize the last setting height of the scoring saw UP/DOWN movement even though the power is closed. The using way: Start the scoring saw, it will automatically rise to the last setting height. Stop the scoring saw, it will fall under the working table. It is an optional function.

Ex: The scoring saw scoring saw forward/ backward shows 0.0 and you want to move to scoring saw to -0.1, the operating way as follows:

Step : Push  key on home page to enter the scoring saw control page and then push  key until -0.1 shows on the left  0.10mm.



Note: Only touching  key or  key can make the scoring saw up or down.





Display of Motor RPM

Motor rpm is shown on the upper right corner  3000 rpm of the home page.



Note: *This system's RPM is only for display without setting function. If rpm needs to be changed, it is changed by changing the belt position.*



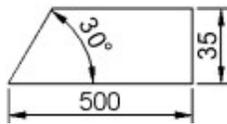
Function Page Operation



Processing Editing Operation

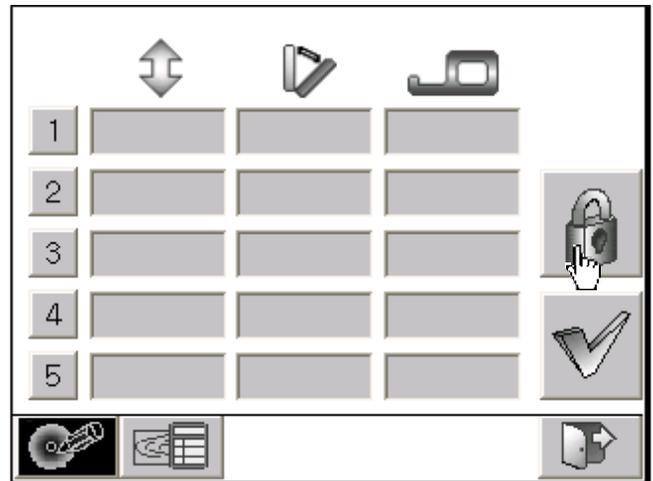


The processing edition is a temporarily processing group provided by this system without memory function. When power is off, the processing group will be cleared automatically. If you want to memorize the input group, please use program page operation.

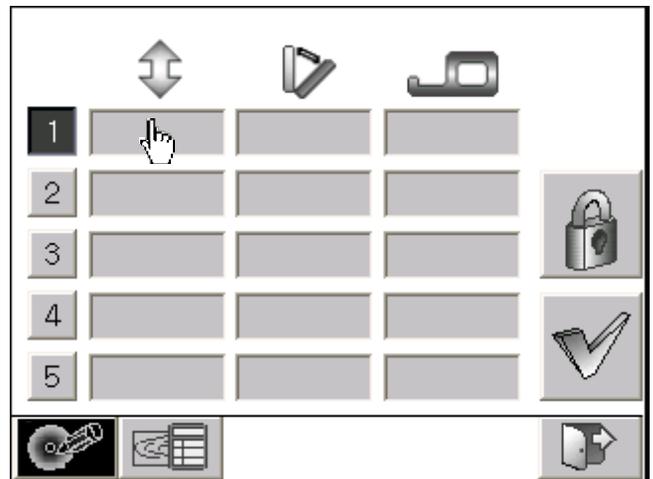


Ex: If you want to cut wooden board, please input the desired group. The operating way as follows:

Step 1: Push  key on home page to enter the processing editing page. Push  key to release lock.



Step 2: Push  key to select the desired input group. Push  key to make Numerical Keypad show up.

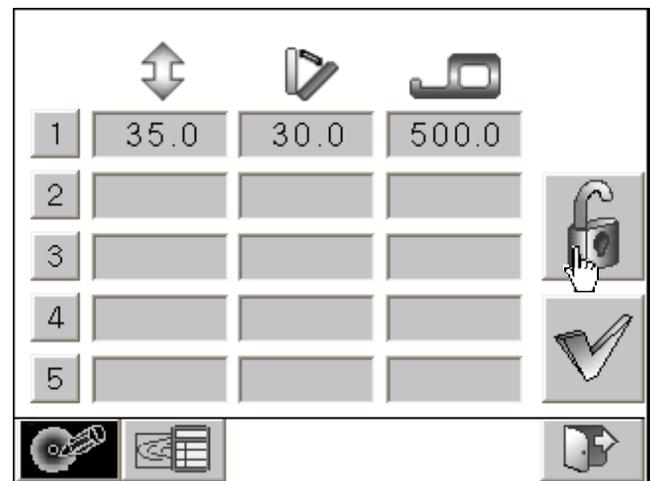




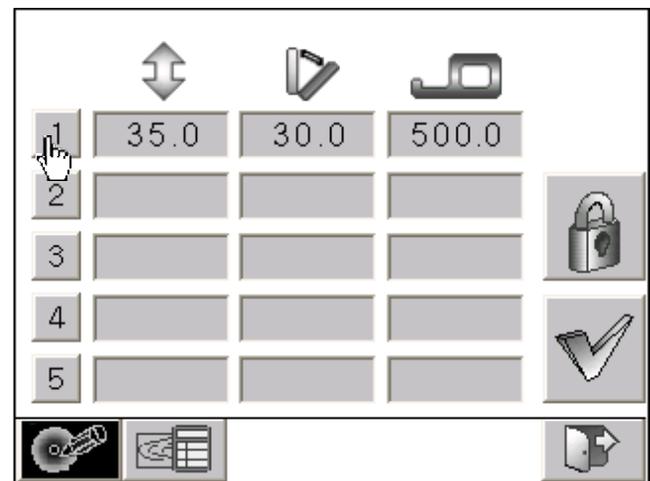
Step 3: Input 35, push  key to finish input. The value input way of the tilting angle and rip fence is the same.



Step 4: Push  key to save and lock system.

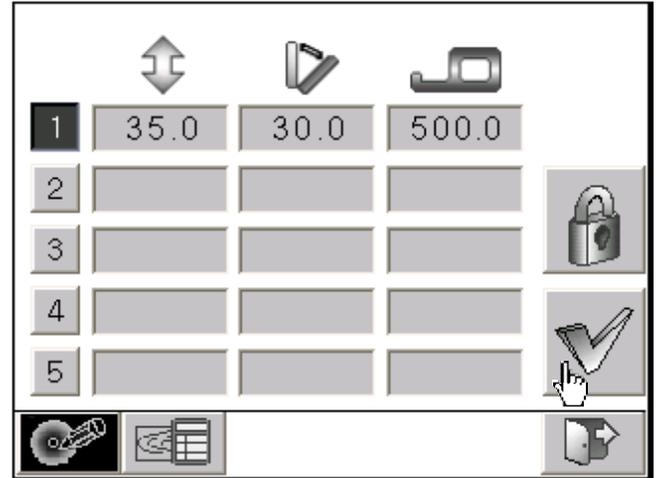


Step 5: Push  key to release lock.
Push  key to select processing group.



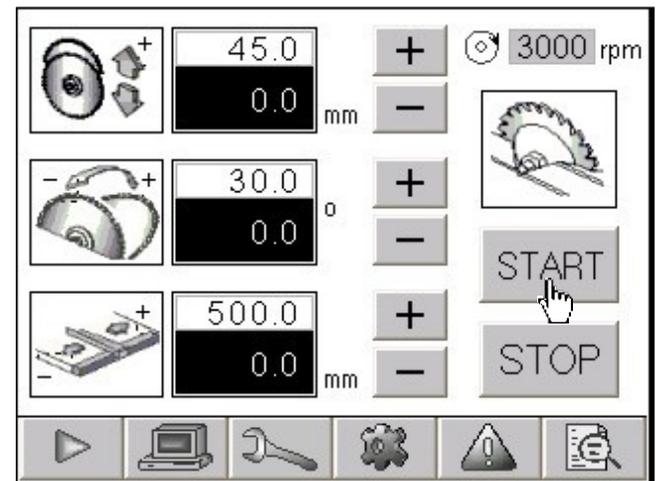


Step 6: Push  key to confirm all selected groups. After confirmation, system will return to home page automatically.



Note: When this system wants to select group key , you must first release lock and then can select. If lock is not released, group key  cannot be selected.

Step 7: After returning to home page, the numerical value is automatically saved into target value. Push  key to start action.

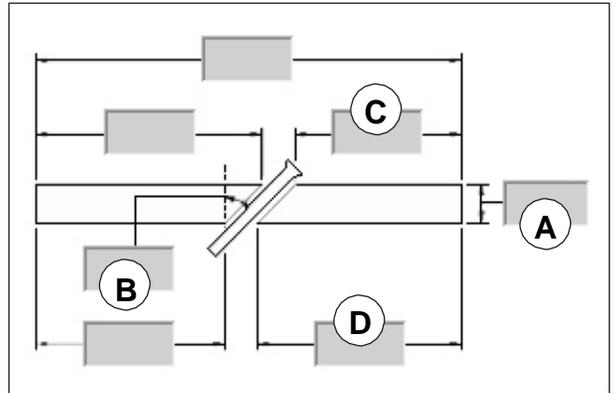




Dimension Calculation Operation

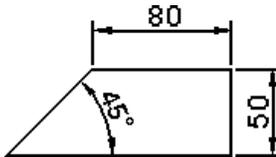
When dimension calculation function is used, the wooden board's height, angle and distance must be input. The height and angle as shown on A and B of the right drawing are the necessarily input numerical values. The calculating way as follows:

1. Input A, B and C to calculate D.
2. Input A, B and D to calculate C.



Note: A - D are machine's saved size.

Other sizes are for calculating and are not needed by machine.



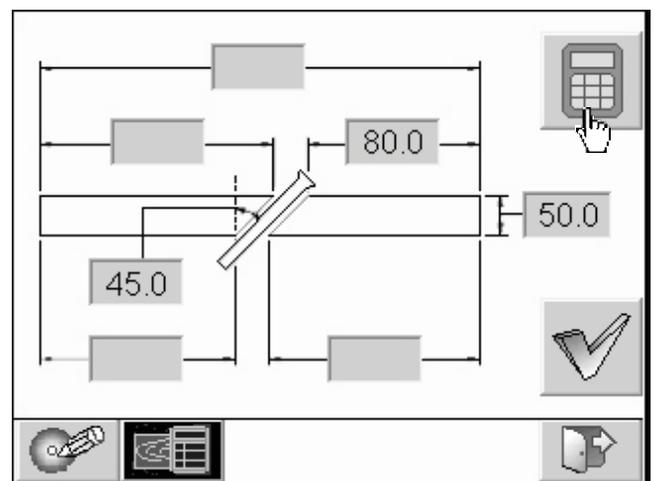
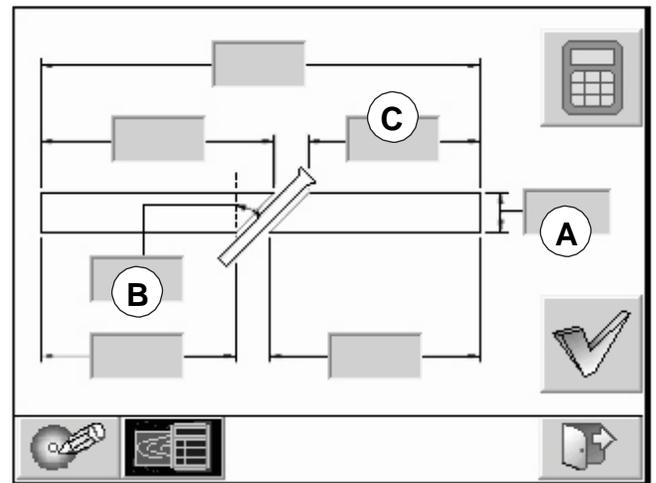
Ex 1: It's size. If you want to cut it into your calculated size, the operating way as follows:

Step 1: Push  key on home page to enter the processing editing page. Push  key to enter dimension calculation page and then input the known dimension. A=50, B=45, C=80.



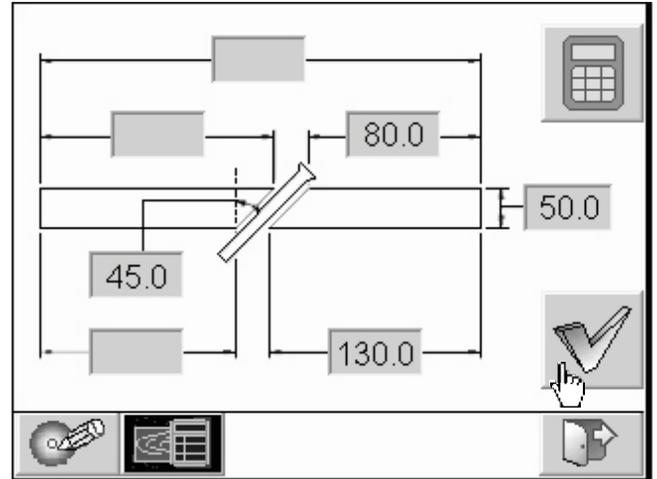
Note: For detailed numerical value input way, please refer to Step 2 and Step 3 of Processing Edit Operation.

Step 2: Push  key to start calculating. After finishing calculation, system will show the calculated value on the page.





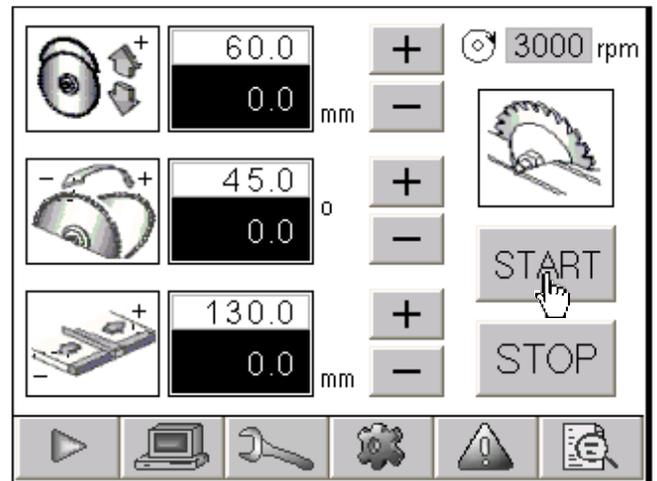
Step 3: Push  key to save the calculated result onto the target value of home page. Or push  key to return to home page but the calculated result will be cancelled and won't be saved into target value.



Step 4: Push  key to start action.



Note: For main saw blade's height setting, the pre-setting height is material height + cutting value 10mm. So, the target value of the main saw blade UP/DOWN mentioned in step 4 shows 60.0. If material height + cutting value exceed system's cutting height, system will show error data. At this time, you can input the cutting height by yourself. Such situation is not error of system.



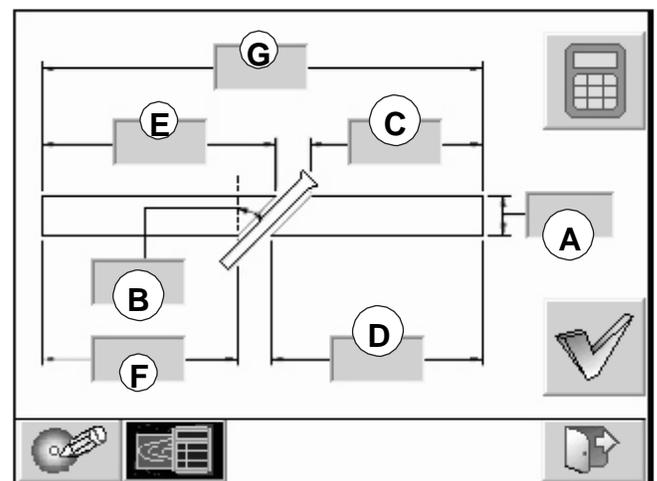
Ex 2: If the total length and the desired cutting size are known and you want to calculate the size of the remaining material, the operating way as follows:

Step 5: Input material height A, angle B, cutting size D and total length G.

Push  key to calculate the size of the remaining material E and F.



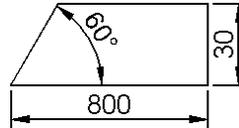
Note: For detailed operating way, please refer to Step 1 and Step 2 of Ex 1.

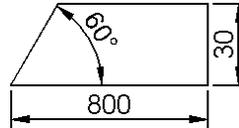




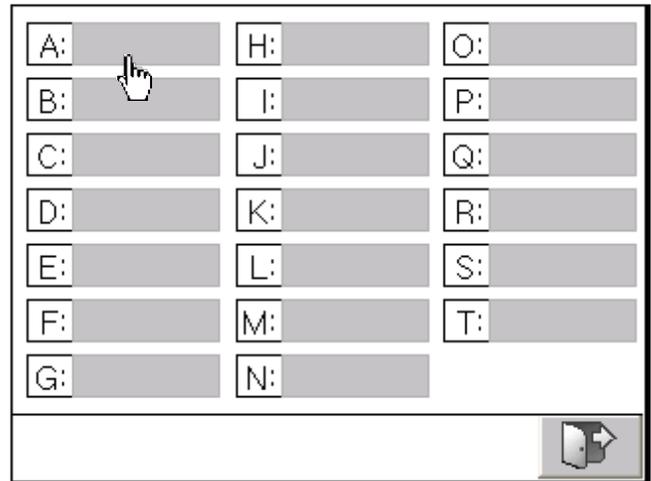
Program Page Operation

The page is a memory group function provided by this system. A~T stands for a code and each code can memorize 5 groups, so total 100 groups.

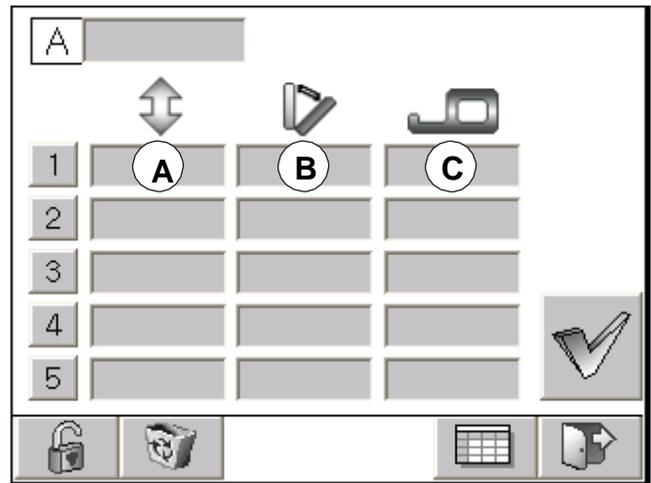


Ex: If you want to memorize one cutting size  on A area and select that group cutting size, the operating way as follows:

Step 1: Push  key on home page to enter the group listing page. Push  key to select A area.



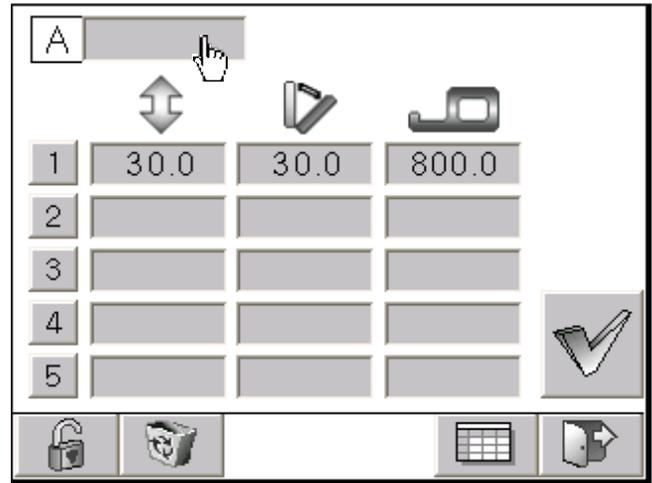
Step 2: Push  key to release lock, input the processing dimension A=30, B=30, C=800.



Note: For detailed value input way, please refer to Step 2 and Step 3 of Processing Edit Operation.



Step 3: Push  to number that group After selection, ASCII-KEY is shown up.



Step 4: Input the number to be classified, push  to finish input.

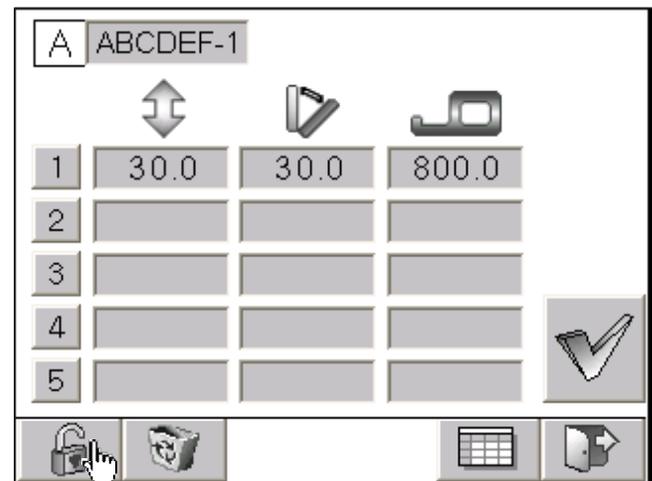


Note: The ASCII-KEY of this system can input signs. The following is explanation of each key.

-  : Sign shift key.
-  : Clear key.
-  : Return key.
-  : Finish key.



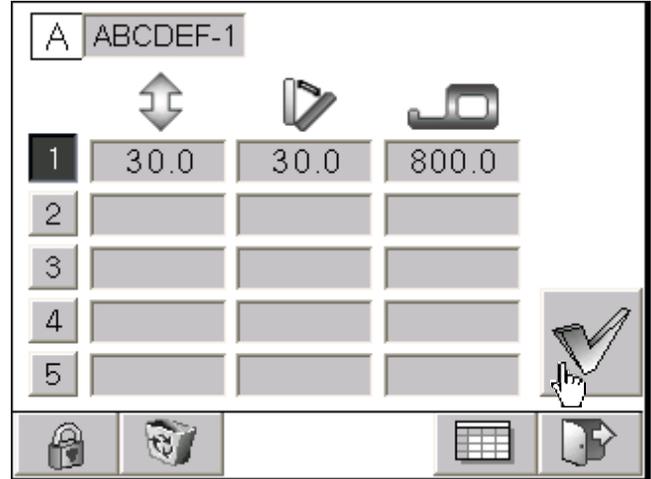
Step 5: Push  key to save and lock data.





Step 6: Push  key to release lock.

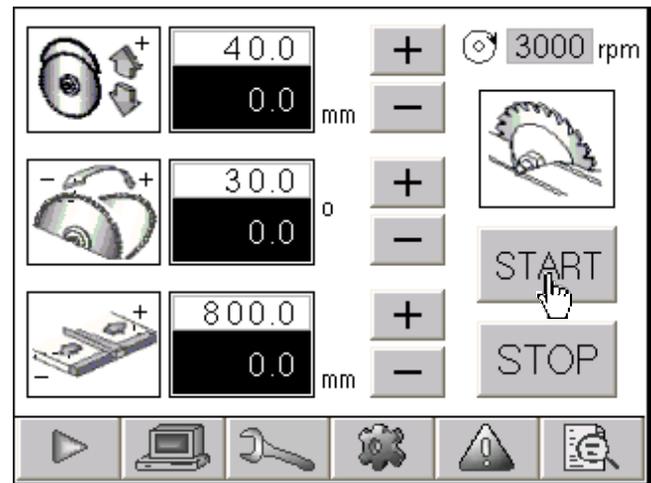
Push  key to select group and then push  key to confirm the selected group. After confirmation, the system will return to home page automatically.



Step 7: After returning to home page, the numerical value will be saved into the target value automatically. Push  key to start action.



Note: For main saw blade's height setting, the pre-setting height is material height + cutting value 10mm. So, the target value of the main saw blade UP/DOWN mentioned in step 4 shows 60.0. If material height + cutting value exceed system's cutting height, system will show error data. At this time, you can input the cutting height by yourself. Such situation is not error of system.



Note: When this system wants to select group , you must first release lock and then can select. If lock isn't release, group key  can't be selected.



Operation of setting page



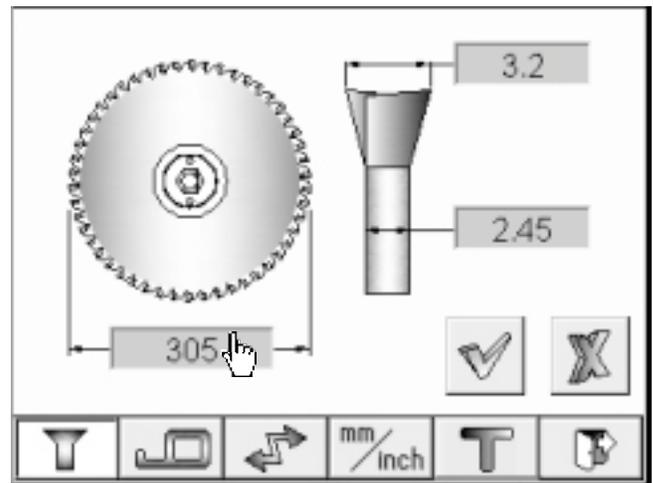
Operation of saw Blade Specification



The function is for changing saw blade specification.

Ex: If the present saw blade is 12" and you want to change it into 14", the operating way as follows:

Step 1: Push  key on home page to enter saw blade specification page. Push key to edit value.



Step 2: Input 14" saw blade's specification, push key to finish input. For the remaining value, the input way is the same.

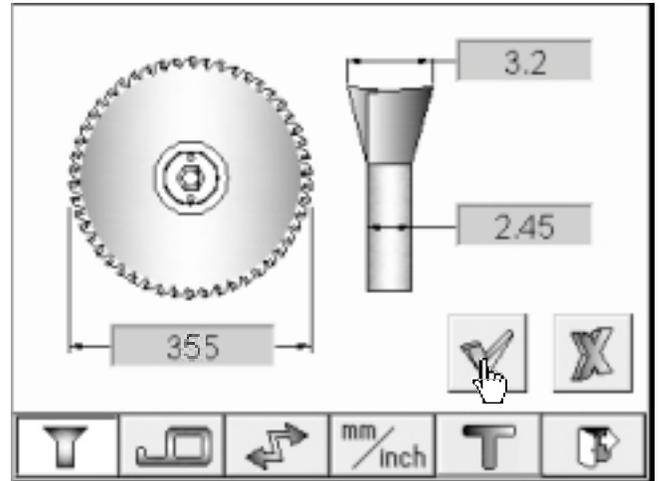




Step 3: Push  key to save, The setting is completed.



Note: After the specification of main saw blade is changed, the saw blade's height fence's position, saw blade's UP/DOWN +/- limit parameter will be meet the specification parameter of the present main saw blade.





Operation of Fence Size

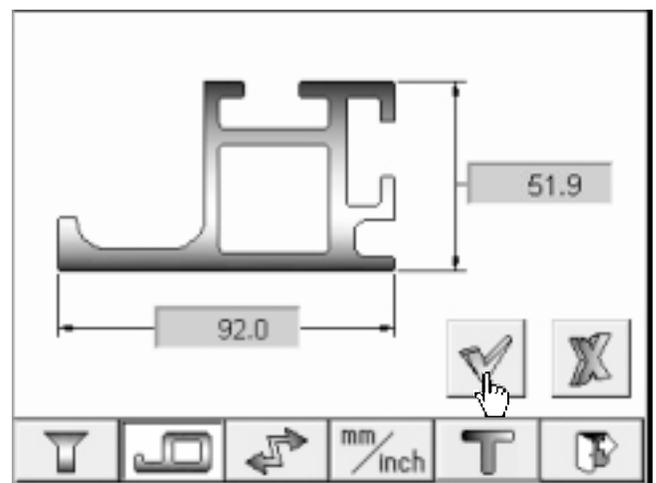
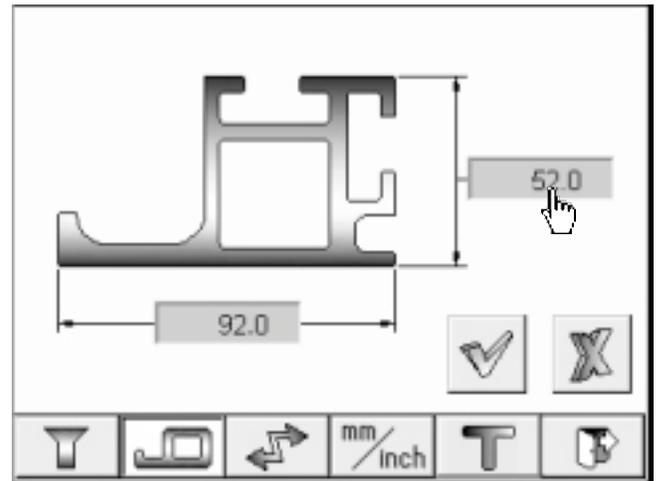
The function is for setting rip fence size.
Ex: If the present rip fence's size is set at 52, 92 but actually measured size is 51.9, 92 and you want to change the setting size, the operating way as follows:

Step 1: Push  key on home page, Push  key to enter fence size page. Push  key to change rip fence's size.

Step 2: Input the actually measured size, 51.9 and then push  key to finish input.

Step 3: Push  key to save. The setting is completed.

 **Note:** This setting will influence rip fence's position.





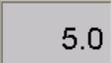
Operation of Position Correction

The function is for setting the present value of each shaft's position.

Ex: If the main saw blade shown on the page is 5 degree but actual angle is 0 degree, the operating way as follows:

Step 1: Push  key on home page.

Push  key to enter position correction page.

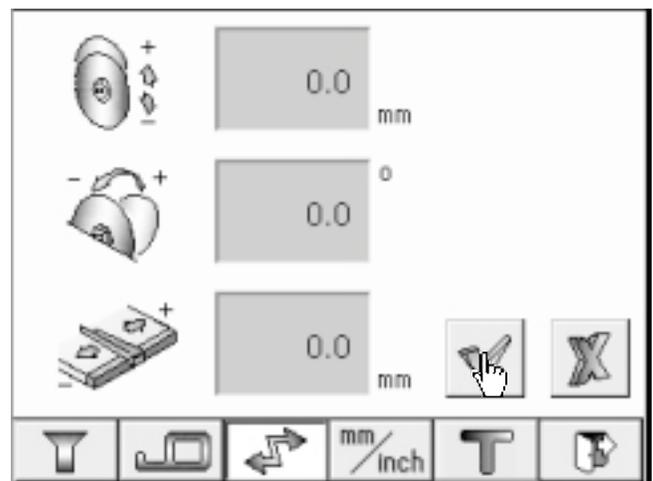
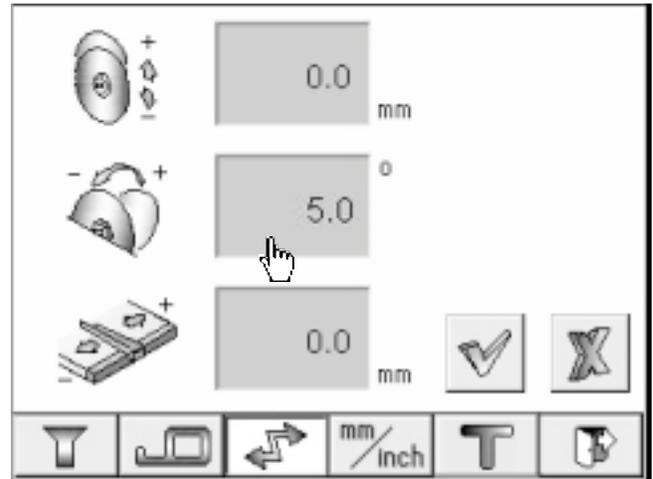
Push  key to change value of angle of main saw blade.

Step 2: Input actual angle, 0 degree and then push  key to finish input.

Step 3: Push  key to save. The setting is completed.



Note: The correction way of main saw blade UP/DOWN and rip fence is the same above mentioned way.





Operation of Unit Change



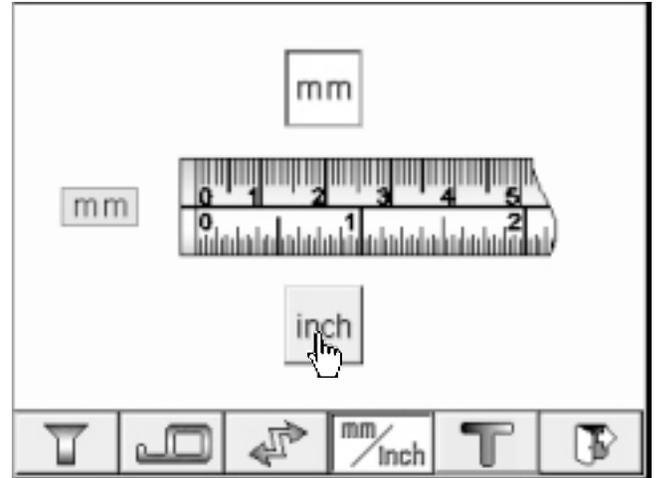
The function is for changing unit.

Ex: The pre-setting unit of this system is mm and you want to change it into inch, the operating way as follows:

Step: Push  key on home page.

Push  key to enter unit change page. Push

 key to change unit.



Operation of Language Change

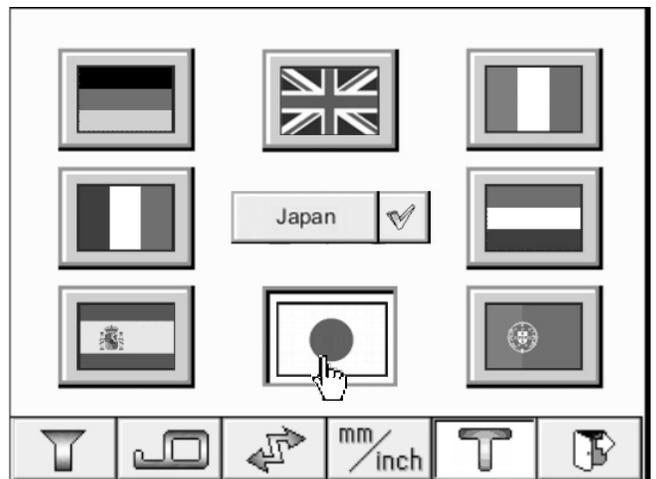


This function is for language change purpose. There are English, French, Germany, Italian, Dutch, Spanish, Portuguese and Japanese for change. EX: If the user wants to change the preset system language English into Japanese, the operation steps are as following:

Step 1: Press  button and then press  button.

Step 2: After entering the language change page, press  button to change into Japanese.

Step 3: Press  button for saving the change to complete the setting.



Note: The operation is the same as above for other language change. Please select the corresponding national flag for language desired.



Operation of System Page



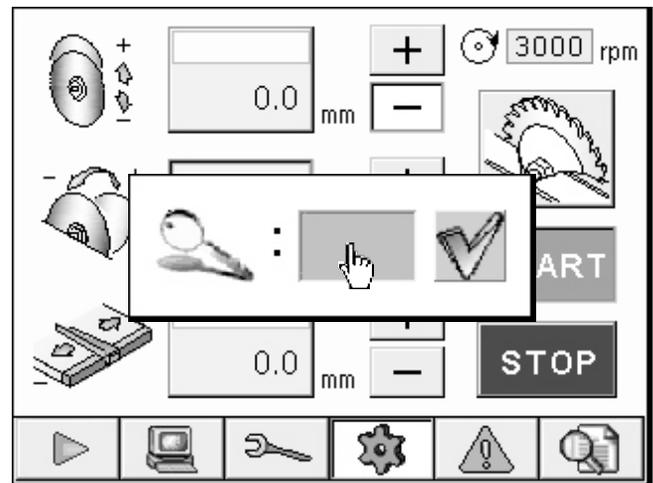
Operation of UP/DOWN Parameter



The function is for setting each parameter of main saw blade UP/DOWN such as +/- limit value, UP/DOWN parameter, deceleration distance.

Ex: If parameter of main saw blade UP/DOWN is 7900 and you want to change it into 7950, the operating way as follows:

Step 1: Push  key on home page to enter system operation page. At this time, the password input window is shown up. Push  key to let Numeric Keypad show up.



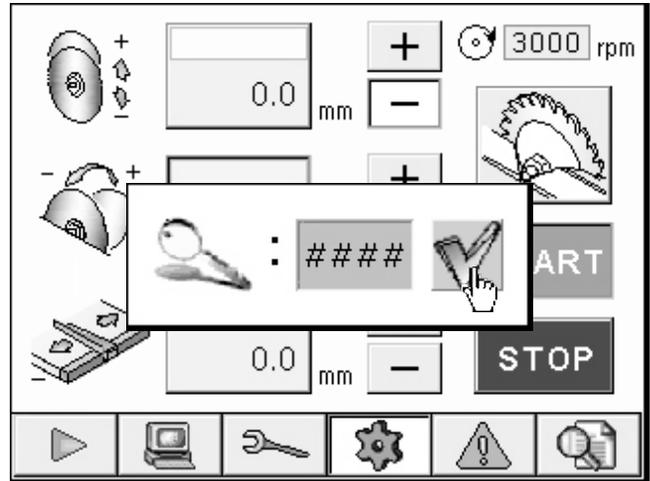
Step 2: Input the system password.

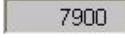
Push  key to finish input.

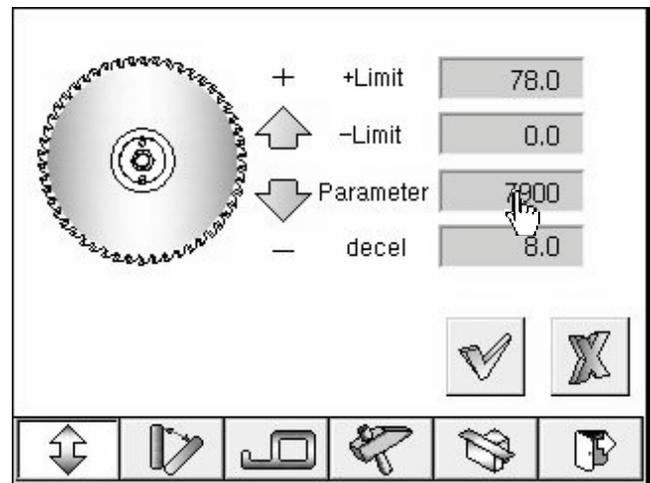




Step 3: Push  key for confirmation.



Step 4: Push  key to edit parameter value.



Step 5: Input parameter 7950. Push  key to finish input.





Step 6: Push  key to save. The setting is completed.

+	+Limit	78.0
↑	-Limit	0.0
↓	Parameter	7950
-	decel	8.0

 **Note:** The parameter changing way of tilting parameter, rip fence, main saw blade tilting rotary center correction parameter is the same as the Up/Down Parameter change.

Introduction to Tilting Parameter Page 

+	+Limit	46.0
-	-Limit	-0.3
	Parameter	2255
	decel	8.0

1. + Limit value.
2. - Limit value.
3. Parameter value.
4. Deceleration distance.



Introduction to Rip Fence Parameter Page



The interface for the Rip Fence parameter page includes a 3D diagram of a rip fence on a workpiece with '+' and '-' directional arrows. Below the diagram are five input fields: '+Limit' (1325.0), '-Limit' (10.0), 'Parameter' (1251), 'decel' (100.0), and 'Backlash' (0.28). A 'Safety area' field is set to 200.0. To the right of the 'Safety area' field are two buttons: a checkmark and an 'X'. At the bottom is a navigation bar with icons for home, back, forward, and other functions.

- 1. + Limit value.
- 2. - Limit value.
- 3. Parameter value.
- 4. Deceleration distance.
- 5. Backlash value
(Clear rip fence backlash setting value)
- 6. Safety area (protection value at saw blade cutting angle)

Introduction to Rotary Center correction Page



The interface for the Rotary Center correction parameter page features a diagram showing a vertical axis with a cutting tool tilted at 45° and 30°. Three input fields are present: the top one is 28.6, the middle one is 49.9, and the bottom one is 50.0. Below these fields are checkmark and 'X' buttons. A navigation bar is at the bottom.

- 1. 45° degree tilting correction value.
- 2. 30° degree tilting correction value.
- 3. Cutting height value.



Introduction to Machine Data Page

Model:	*****		
Date of production:	*****		
System password:	####		
Reconfirmed the (system) password:	####		
Observing password:	####		
Observing password re-confirmed:	####		
Timer of motor braked:	##.#		
Software version:	1234		
PLC error message:	1234		

1. Model.
2. Date of production.
3. System password.
4. Reconfirm the system password.
5. Observing password.
6. Observing password re-confirmed.
7. Timer of motor braked.
8. Software version.
9. PLC error message.



Note: If above setting values are freely changed, it results in reducing machine's accuracy and even seriously machine damaging.



Operation of Changing System Password

The following is the operating sequence of changing system password.
When you enter the machine data page, please refer to steps 1 ~ 3 of chapter 4-6-1.

Step 1: Push  key on system operation page to enter machine data page. Push system password to let the Numeric Keypad show up.

Step 2: Input the password you want to change.
Push key.

Step 3: Push Reconfirmed the system password key to make Numeric Keypad show up. Repeat Step 2 to change password, push  key to finish changing password.



Note: The changing way of the observing password is the same as above.

Model:	<input type="text" value="*****"/>	
Date of production:	<input type="text" value="*****"/>	
System password:	<input type="text" value="####"/>	
Reconfirmed the (system) password:	<input type="text" value="####"/>	
Observing password:	<input type="text" value="####"/>	
Observing password re-confirmed:	<input type="text" value="####"/>	
Timer of motor braked:	<input type="text" value="##.#"/>	
Software version:	<input type="text" value="1234"/>	
PLC error message:	<input type="text" value="1234"/>	

Model:	<input type="text" value="*****"/>	
Date of production:	<input type="text" value="*****"/>	
System password:	<input type="text" value="1 2 3 4"/>	
Reconfirmed the (system) password:	Max: 9999 Min: 0	
Observing password:	<input type="text" value="1"/> <input type="text" value="2"/> <input type="text" value="3"/> <input type="text" value="CLR"/>	
Observing password re-confirmed:	<input type="text" value="4"/> <input type="text" value="5"/> <input type="text" value="6"/> <input type="text" value="DEL"/>	
Timer of motor braked:	<input type="text" value="7"/> <input type="text" value="8"/> <input type="text" value="9"/> <input type="text" value="Enter"/>	
Software version:	<input type="text" value="+/-"/> <input type="text" value="0"/> <input type="text" value="."/>	
PLC error message:	<input type="text" value="Enter"/>	

Model:	<input type="text" value="*****"/>	
Date of production:	<input type="text" value="*****"/>	
System password:	<input type="text" value="1234"/>	
Reconfirmed the (system) password:	<input type="text" value="####"/>	
Observing password:	<input type="text" value="####"/>	
Observing password re-confirmed:	<input type="text" value="####"/>	
Timer of motor braked:	<input type="text" value="##.#"/>	
Software version:	<input type="text" value="1234"/>	
PLC error message:	<input type="text" value="1234"/>	



M-10-e CONTROLLER INTRODUCTION

- Magnetic measuring
- The battery life: 1 year
- Multifunction LCD display
- Resolution 5 μ m 、 10 μ m 、 100 μ m 、 1mm
- Max. gap: 2.5mm
- 5 absolute offset counters
- 4 programmable offset settings
- Programmable angular measurement
- Radial mode
- Programmable coefficient setting
- Low battery alarm
- Parameters stored in permanent memory
- Correct zero point
- Absolute/relative conversion
- Inch/mm conversion
- Fine adjustment
- Real time self-diagnose

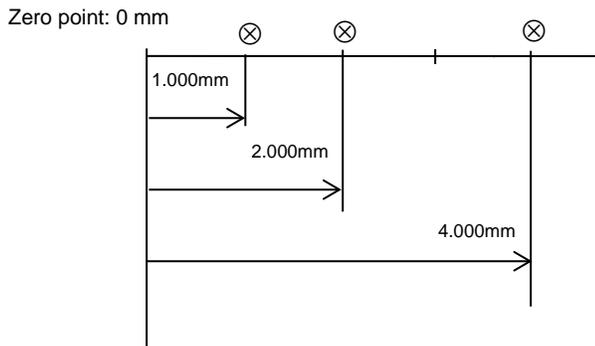
Specifications:

- 8 digits LCD display
- Batteries: AA 1.5 x 2
- Standard cable length: 3M
- Operate by 4 keys
- Operating speed: 6m/sec max
- Operating: temperature: 0~60 \square
- Storage temperature: -20~+70 \square
- Front (mm): 96w x 72h x 45d (include battery holder)
- Back (mm): 91.5w x 66h x 40d (include battery holder)
- Cut out(mm): 93w x 67h

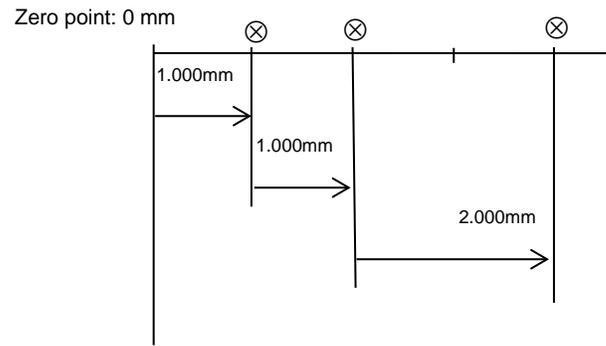


ABS/REL Definition

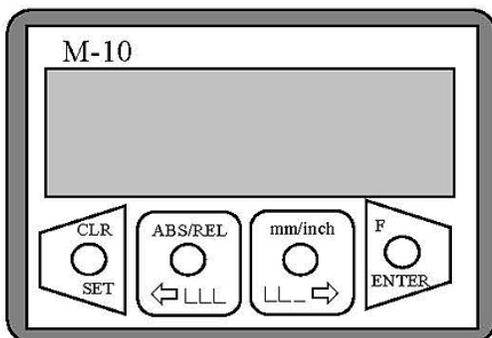
ABS (absolute)



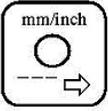
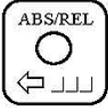
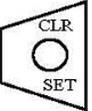
REL (incremental)



Front Panel and LCD Display

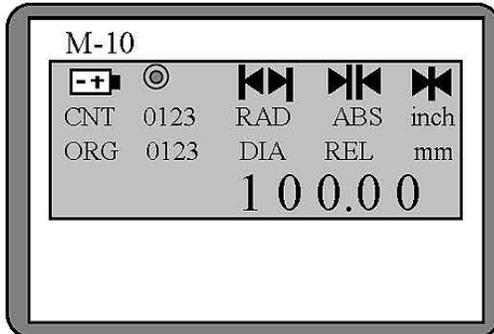


Keyboard:

-  When pressed, the symbol  appears on the display. (enter function mode)
-  Select mm/inch/deg
(deg = degree measurement)
-  Select ABS/REL
-  Clear only in REL mode



LCD display:



- Low battery
- Process angular measuring
- Increase gap between head and tape
- Decrease gap between head and tape
- F key pressed signal
(Enter parameter setting mode)
- CNT 0123 Current relative counter number
- RAD Angular mode
- ABS Absolute mode
- inch Inch mode
- ORG 0123 Current absolute counter number
- DIA Diameter function
- REL Relative measuring mode
- mm mm mode
- 100.00 Numeric display



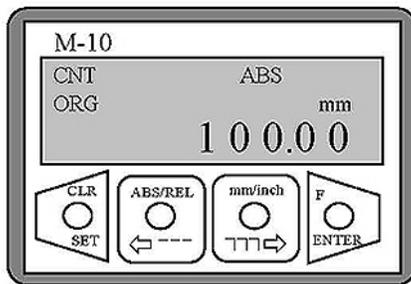
Load Datum Values (Only In ABS Mode)

A. Description

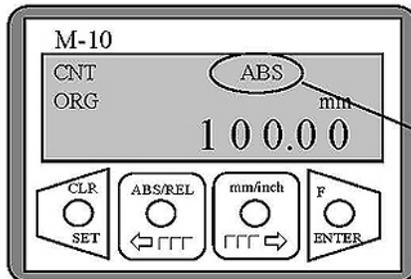
The real position in the device is referred to the distance between the machine table and the cutting edge of the tool-- in other words, the cutting edge of the tool defines the zero point of the machine. It is, however, difficult, or impossible to move the machine table to this point.

Preset value:

The current display position: 100.00mm, the real position: 200.00mm

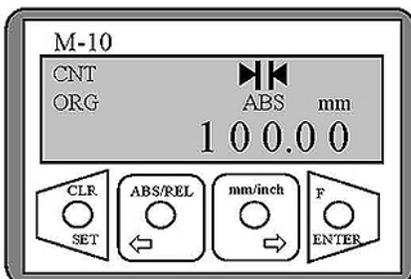


Current display: 100.00mm



Step 1. Press  to enter ABS mode.

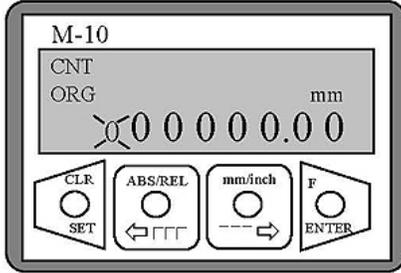
"ABS" will show on the display.



Step 2. Press and hold  till  show up and

press  immediately WITHOUT

releasing  to see the current original value.



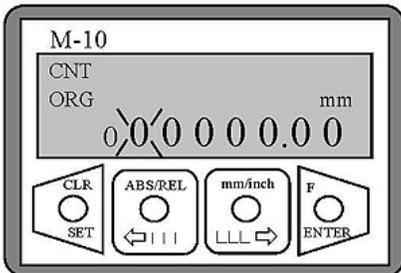
Step 3. When digit is blinking, you can press



to change the value by one each time

or select +/-.

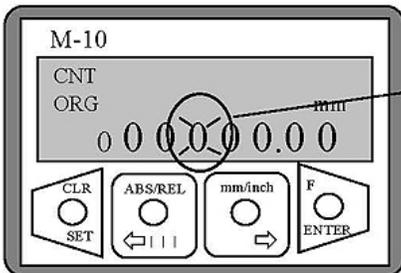
Press or to select / shift digit.



Step 4. Press



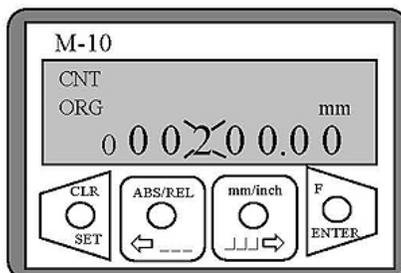
to shift right.



Step 5. Press



three times to this digit.



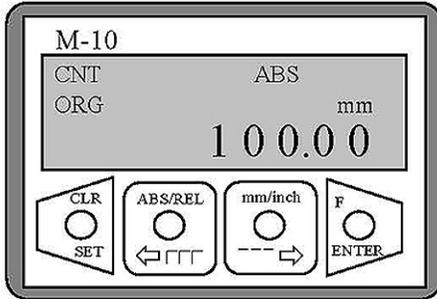
Step 6. Press



to set value.

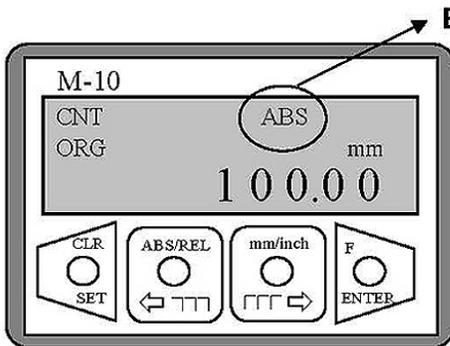
Ex: If you want to set 2 and press twice



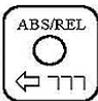


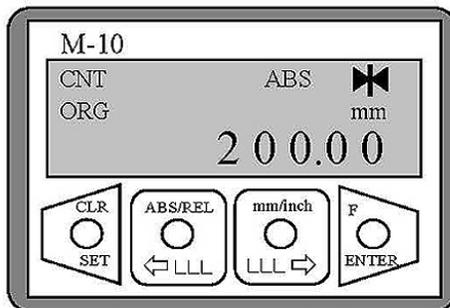
Step 7. Press  to complete and return to original setting.

B. Load Datum



Be sure in ABS mode.

Step 1. Press  to enter ABS mode.



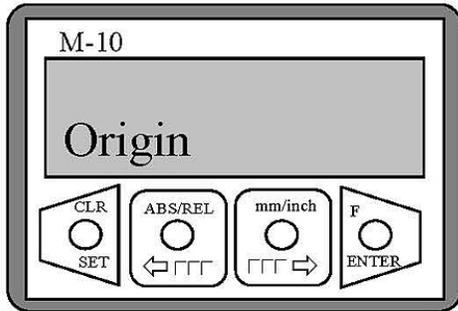
Step 2. Press and hold  till  shows up.

Press  immediately WITHOUT releasing .

You will see new datum on the display and complete.



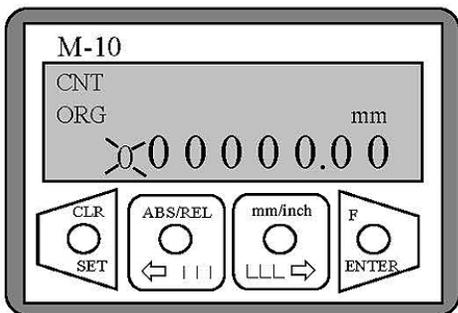
C. Troubleshooting



a. Display: " Origin "

Possible cause: Enter the parameter setting.

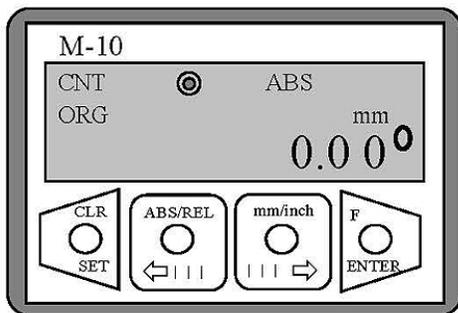
Excluding: Press  to exit.



b. Display: " 0 " or digit is blinking.

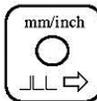
Possible cause: Enter the parameter setting.

Excluding: Press  and 



c. Display: " 0.00° "

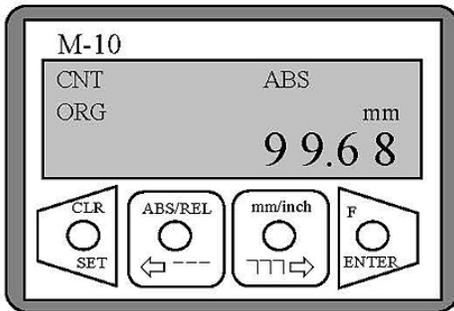
Possible cause: Enter angular mode.

Excluding: Press 



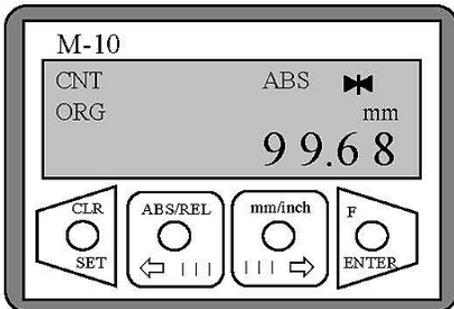
Select Counting Direction (+/-)

To select the counting direction according to the machine movement.

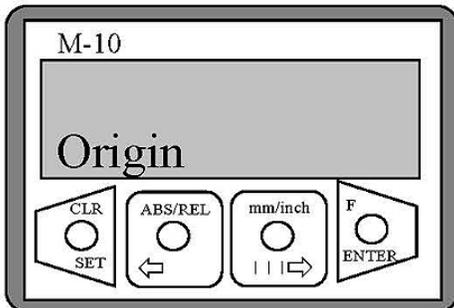


Steps:

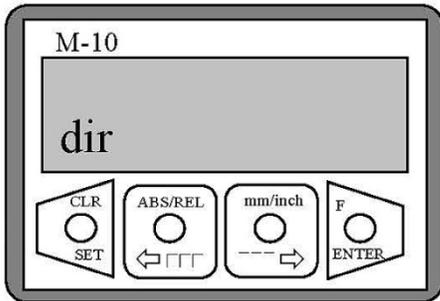
Current display: 99.68mm



Step 1. Press  and hold till  shows up to enter parameter setting. (after 5 seconds)



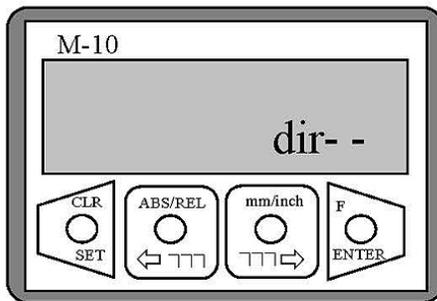
Display: "Origin"



Step 2. Press



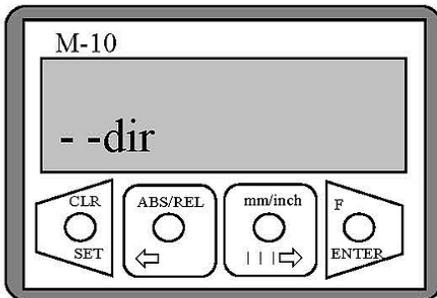
Display: dir



Step 3. Press



Display: current counting direction



Step 4. Press

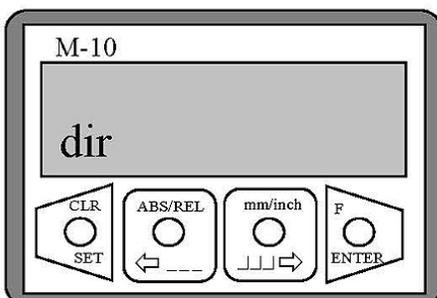


or

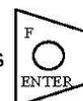


to select the

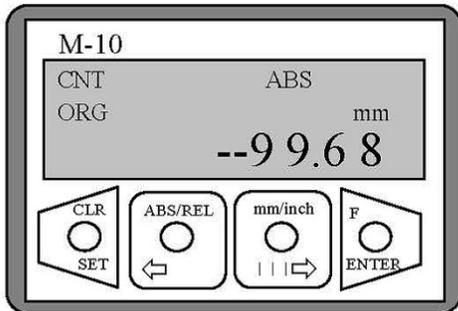
direction.

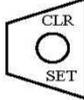


Step 5. Press



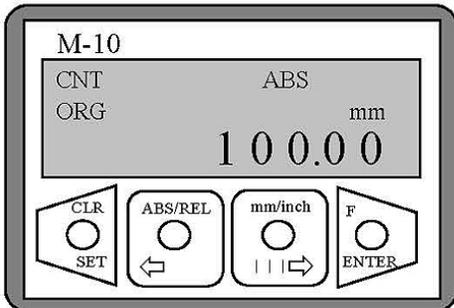
to complete setting.



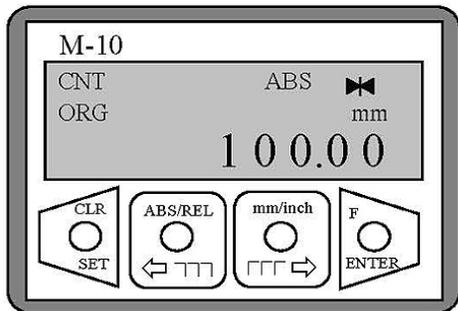
Step 6. Press  to exit.

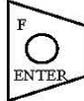
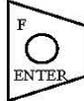
Display: New direction.

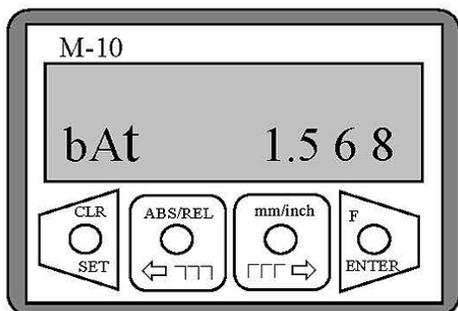
Set Device Resolution

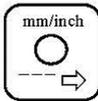


Steps:
Current display: 100.00mm

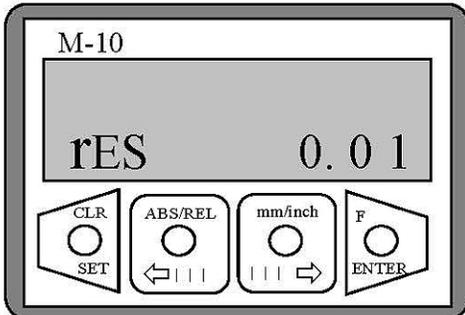


Step 1. Press and hold  till  shows up.

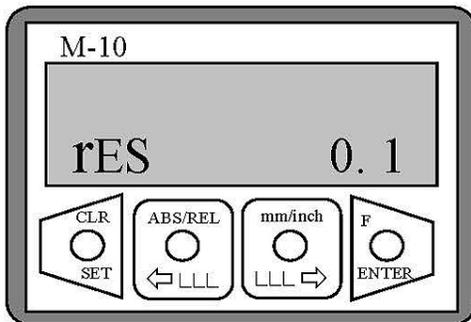


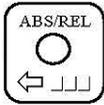
And press , you will see battery remaining consumption on the display.

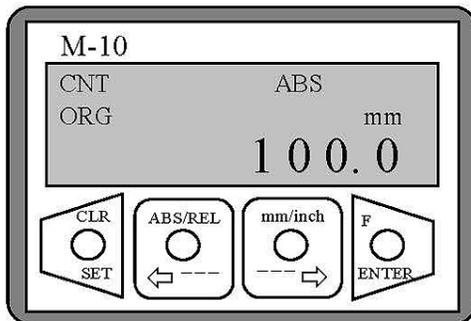
(It will auto-exit when bAt shows for 2 seconds.)



Step 2. Press  +  at the same time, it will show current setting "rES0.01mm".



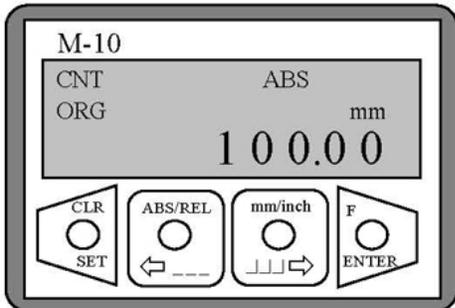
Step 3. Press  or  to select resolution.



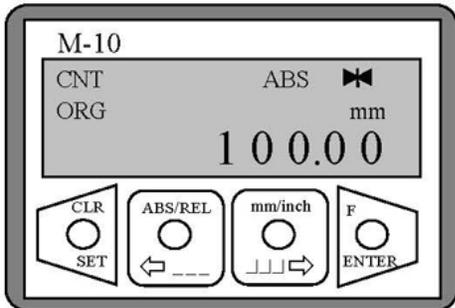
Step 4. Press  to exit.
Display: New setting.



Enable and Disable Specified Parameter

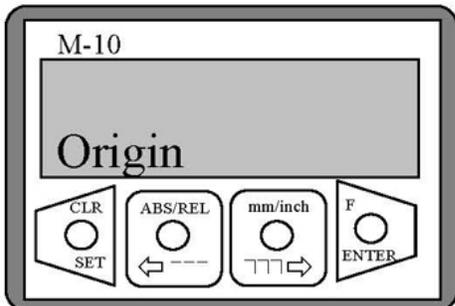


Current display: 100.00mm

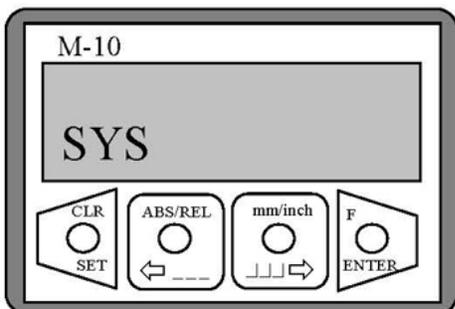


Step:

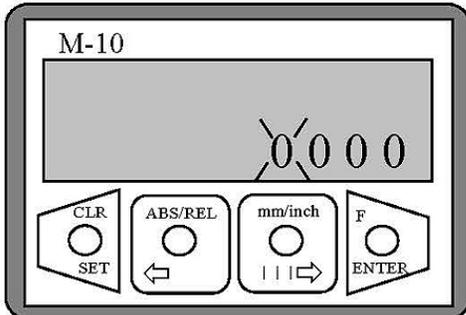
Step 1. Press and hold  till  is on the display.



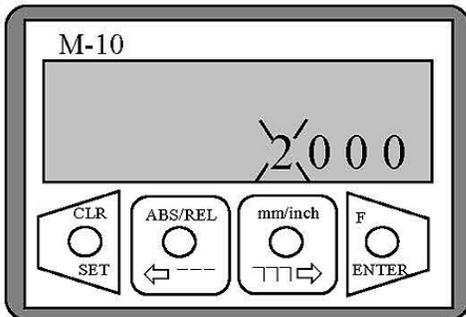
Display: origin

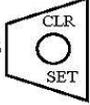


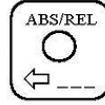
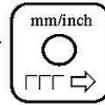
Step 2. Press  **twice** to show "SYS".

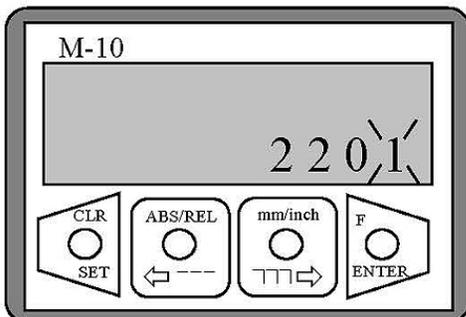


Step 3. Press  once to show "0000" and enter password "2201".

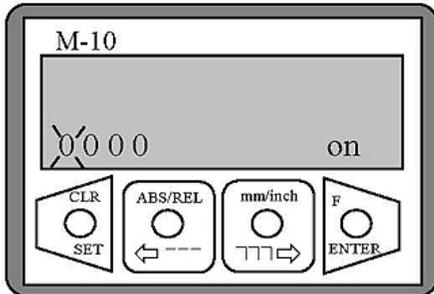


Step 4. Press  to Increase value by one each time.

Press  or  to select digit.



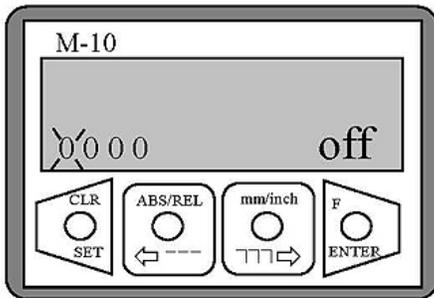
Display: 2201



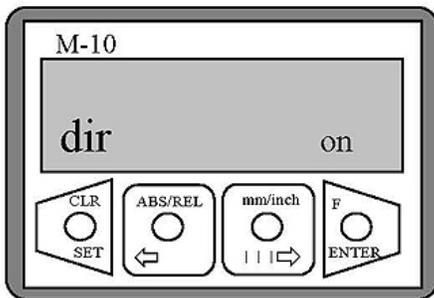
Step 5. Press  to set.

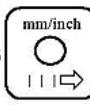


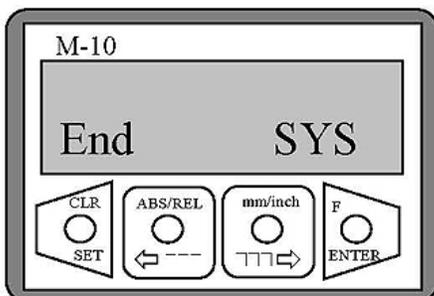
- None
- Enable or disable "mm/inch" key
- Enable or disable "ABS/REL" key
- Enable or disable "CLR/SET" key

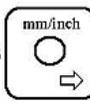


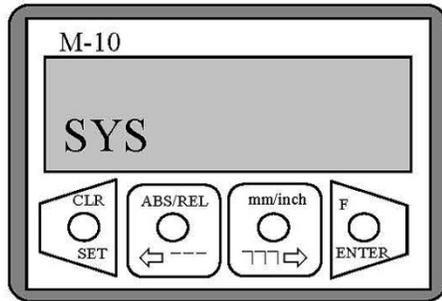
Step 6. Press  to switch on/off.



Step 7. Press  to select parameter function.

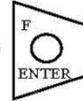


Step 8. Press  till display shows "End / SYS" to end this function.

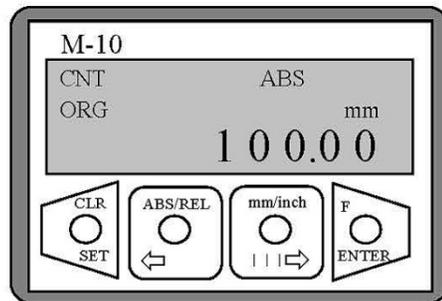


Display: "SYS"

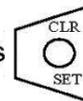
Step 9. Press



to complete.



Step 10. Press



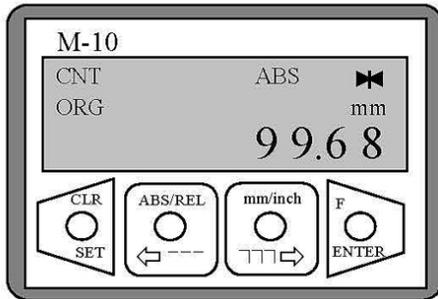
to exit.

Appendix A - Parameter

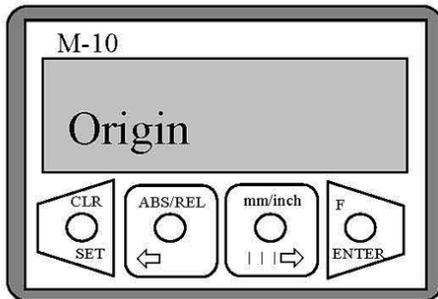
Parameter	Display	Description	Default	Remarks
1	Origin	Load datum value	0	
2	dir	Select counting direction(\pm)	dir - -	
3	Off SETS	Set tool diameter	0	
4	ANGULAR	Enter semi diameter value	0	
5	SCALING	Diameter / semi diameter	Ad	
6	Lin Corr	Linear correction	1.00000	
7	SETUP	Fine adjustment distance		
8	SYS	Enable/disable Parameter	0000	
9	REL	Software version		



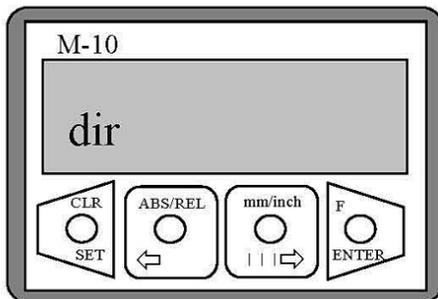
Parameter Setting



Step 1. Press and hold  till  shows up.



Display: Origin



Step 2. Press  to show "dir".

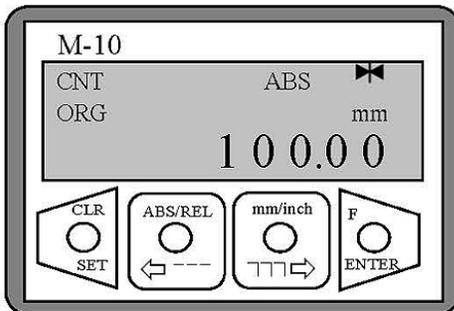
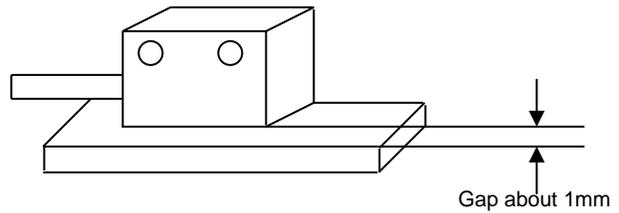
 Origin→dir----→SYS→rEL 



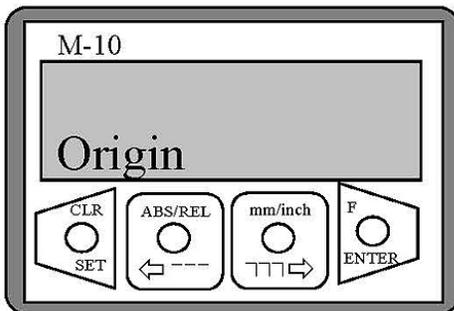
Appendix B - Calibration

A. For better accuracy, calibrate for the first time installation, or if the slider has been reinstalled.

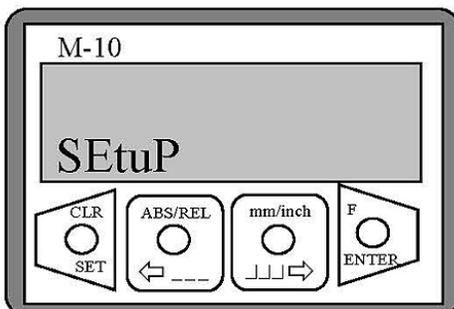
Gap: 1~2.5mm (Recommended: 1mm)

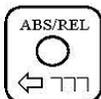


Step 1. Press  to enter parameter setting.

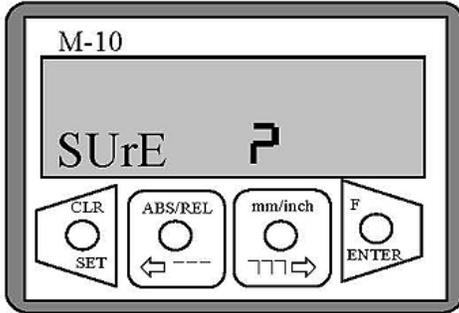


Display: origin



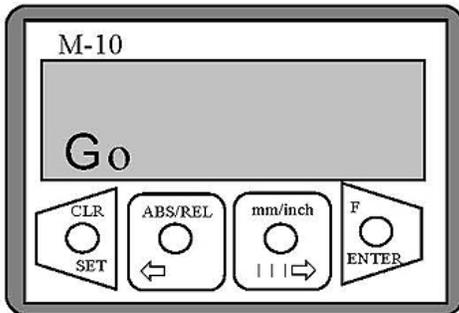
Step 2. And press  three times.

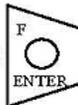
Display: SetuP



Step 3. And press 

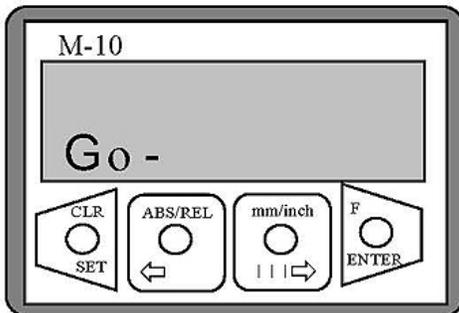
Display: SurE 



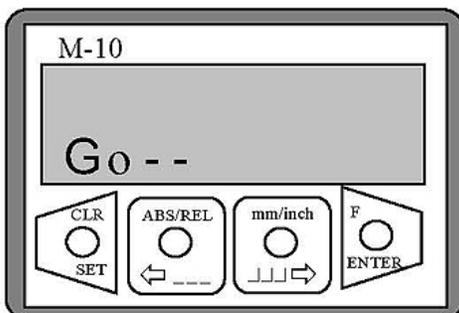
Step 4. To start: press 

To exit: press 

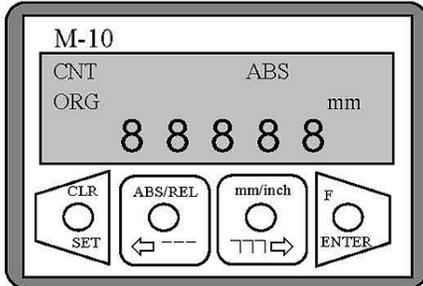
Display: GO



Step 5. Moving the slider at low speed.
(Required distance around 120mm)

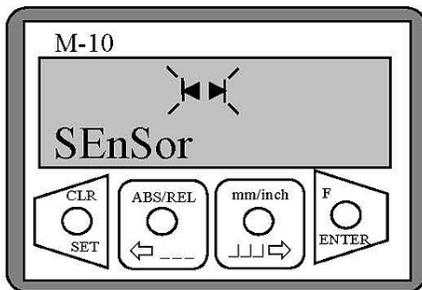


Display: Go-- (detecting)



When completed, all symbols and digits will blink and return to the operation display.

B. Troubleshooting

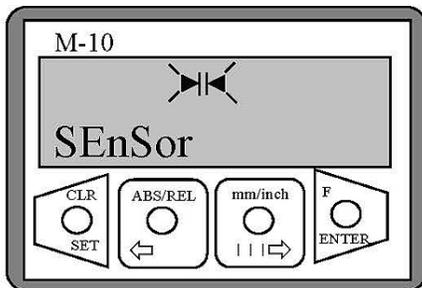


- a. Display: SEnSor and "◀▶"
Possible cause: The gap is too small.

Excluding: Increasing gap and press



twice and repeat step 5 to complete.

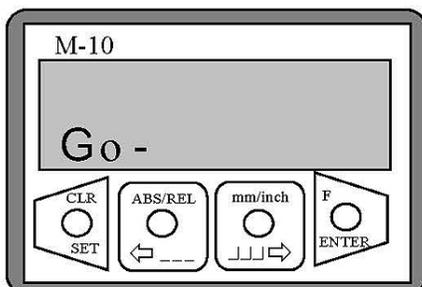


- b. Display: SEnSor and "▶◀"
Possible cause: The gap is too big.

Excluding: Decreasing gap and press



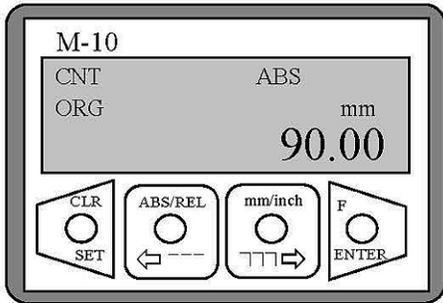
twice and repeat step 5 to complete.



- c. Display: show "Go / Go- / Go- -" steady
Possible cause: 1. Gap is too big.
2. The mounting surface is not flat.

Excluding: 1. Decreasing gap.

2. Make sure to install M-10 on a flat surface.



d. Press  to exit or end during calibration.



MAINTENANCE

⚠ WARNING: Make sure the electrical disconnect is **OFF** before working on the machine. Maintenance should be performed on a regular basis following proper safety precautions.

This table saw requires very little maintenance other than minor lubrication and cleaning. The following sections detail what will need to be done in order to assure continued operation of your saw. Proper maintenance can increase the life expectancy of your machine.

- Check daily for any unsafe conditions and fix immediately.
- Check that all nuts and bolts are properly tightened.
- On a weekly basis clean the machine and the area around it.
- Apply rust inhibitive lubricant to all non-painted surfaces.
- Inspect/test the ON/OFF switch before each use. Do not operate the saw with a damaged switch - replace a damaged switch immediately.
- Inspect the saw blade for damage or chipped teeth before each use. Replace a damaged or chipped blade immediately. Never operate the saw with a damaged or chipped blade.
- Keep the saw table clean and free of dust, pitch or glue. An occasional light coating of paste wax can be use to protect the cast-iron surface.
- Occasionally open the cabinet and brush off and vacuum out accumulated dust from inside the cabinet and on the blade tilting gears and on or around the motor.
- Periodically inspect the power cord for damage. To minimize the risk of electric shock or fire, never operate the saw with a damaged power cord. Replace a damaged power cord at the first sign of damage.
- To minimize airborne dust particles periodically inspect all dust collection fittings – re-tighten as needed.
- Check the drive belt for tightness. It should be snug but not overly tight.
- Use a mill file to remove any nicks or dings from the infeed or outfeed tables.
- Verify that the spreader/riving knife is aligned with the blade.

Cleaning

Cleaning the saw is relatively easy. Vacuum excess wood chips and sawdust, and wipe off the remaining dust with a dry cloth. If any resin has built up, use a resin dissolving cleaner to remove it.

After cleaning, treat all unpainted cast iron and steel with a non-staining lubricant.

Occasionally it will become necessary to clean the internal parts with more than a vacuum. To do this, remove the table top and clean the internal parts with resin/pitch dissolver or mineral spirits and a stiff wire brush or steel wool.

Make sure the internal workings are dry before using the saw again, so that wood dust will not accumulate. If any essential lubrication is removed during cleaning, re-lubricate those areas.



Lubrication

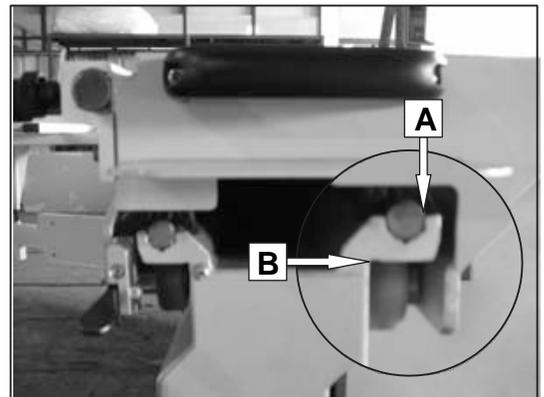
The table saw has sealed lubricated bearings in the motor housing and the arbor assembly, they will not require any additional lubrication. Use a wire brush to clean off the worm gears and trunnions and apply a white lithium grease to keep them lubricated.

It is essential to clean components before lubricating them because dust and chips build up on lubricated components and make them hard to move. Simply adding more grease to them will not yield smooth moving components.

ISO DIS-3498	Lubricating Cycle	Lubricating Way
XM2	6 months	Lubricate the machine
BRAND		
MOBIL	ESSO	SHELL
MOBILUX 2	BEACON 2	ALVANIA R2

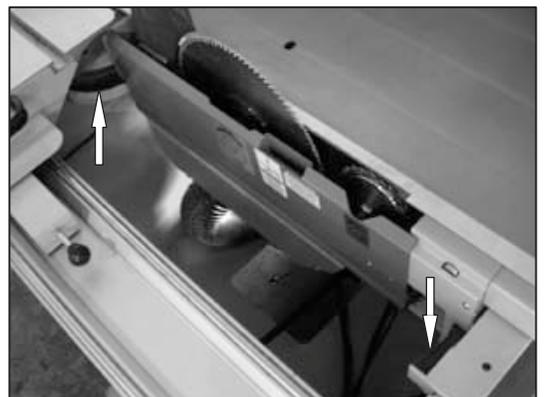
Sliding Table Maintenance

- Clean the contact surface (A) of upper slide base and lower slide base.
- Clean the contact surface (B) of lower slide base and the roller.
- Periodically clean above contact surfaces to keep long-term accuracy of machine.



Angle Slide Rail Maintenance

- Clean dust or wood chips on slide rail.
- After cleaning, apply the lubricating oil. Please refer to the following list to choose the lubricating oil.
- Periodically maintain above contact surfaces to keep long-term accuracy of machine.





TROUBLESHOOTING



WARNING: Disconnect machine from the power source before attempting any troubleshooting.

Table Troubleshooting

TROUBLE	CAUSE	GUIDE
No Display	1. Check if power or voltage is normal.	Input correct voltage.
	2. If power is correct, controller is damaged.	Send it to the factory for repair.
Display can show digit but the digit cannot be changed as per machine's size.	1. If encoder is used, please check if encoder runs together with the machine.	Check if the shaft connector of encoder and machine drops or is damaged. If yes, replace it or repair it.
	2. Check if A.B phase has DC12V or 0V change. Measure it with wattmeter.	If A.B phase doesn't change, please replace the encoder.
Push START button but machine doesn't act.	<ol style="list-style-type: none"> 1. No power. 2. Emergency STOP button is pushed. 3. Voltage is incorrect. 4. Unlock the safety guard. 	<ol style="list-style-type: none"> 1. Check power. 2. Reset Emergency STOP button. 3. Check voltage unit. 4. Fold down the orange guard.
Overheat	Overload isn't set or faulty.	Contact service person or factory.



Touch Screen Troubleshooting

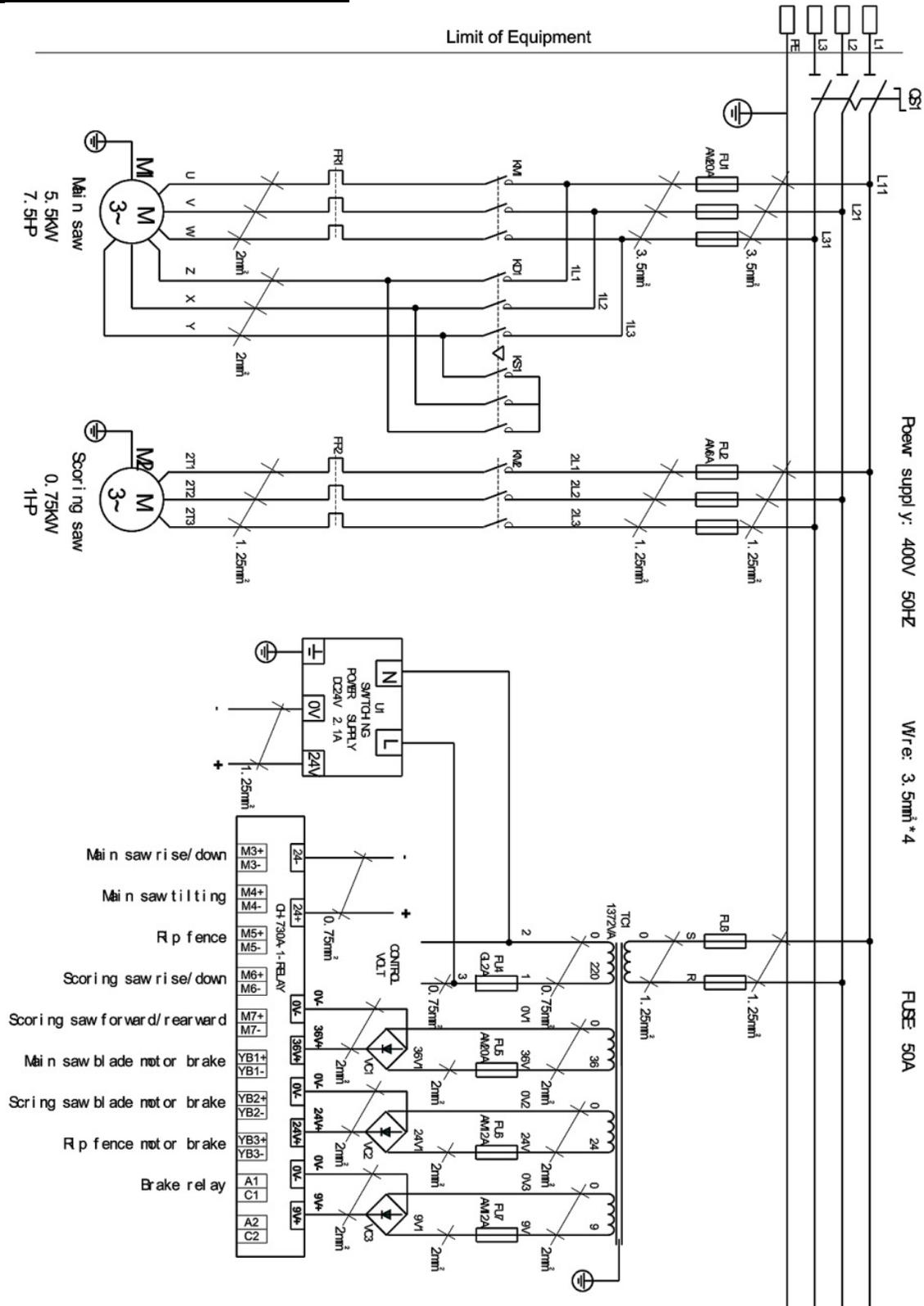
NO.	TROUBLE	ACTION
1	Error dimension statistics	Input correct numerical value
2	Rip fence paused	Safety bar is touched. Please release it and push START key again.
3	Rip fence moved into safety area	Push START key until rip fence reaches the position of the input value.
4	Rip fence do not load on the working table	Turn the rip fence over to the working table.
5	Main saw blade rise protective switch ON	Check if the main saw blade rise limit value setting and the sensor's position are correct.
6	Main saw blade down protective switch ON	Check if the main saw blade rise limit value setting and the sensor's position are correct.
7	Main saw blade titlt increase protective switch ON	Check if main saw blade tilt increase (+) limit value setting and the limit switch's position are correct.
8	Main saw blade titlt decrease protective switch ON	Check if main saw blade tilt decrease (-) limit value setting and the limit switch's position are correct.
9	Fence vertical movement protective switch ON	Check if fence (aluminum fence is vertically put)(+) limit value setting and the limit switch's position are correct.
10	Fence horizontal movement protective switch ON	Check if fence (aluminum fence is horizontally put)(-) limit value setting and the limit switch's position are correct.
11	Rip fence move increase protective switch ON	Check if fence (aluminum fence is horizontally put)(+) limit value setting and the limit switch's position are correct.
12	External safety switch or EMG stop did not switch to the correct place	Turn EMG switch to OFF. Release EMG switch.
13	Main saw blade did not move after START	Check if the encoder's wiring is correct and the relay runs normally.
14	Main saw blade did not elevator to the target position	Check if the input value exceeds the limit position, the limit parameter is correct and the saw blade's size is correct.
15	Main saw blade did not tilt after START	Act as No. 13.
16	Main saw blade did not tilt to the target position	Act as No. 14.



NO.	TROUBLE	ACTION
17	Rip fence did not move after START	Check if the encoder wiring is correct and the motor runs normally.
18	Rip fence did not move to the target position	Act as No. 14.
19	PLC-ERROR	1. Start the machine again to see if the trouble can be solved. 2. Enter the machine's data page to search PLC's error number and advise the factory.
20	The scoring saw cannot move up and down	Check if motor and wiring are normal.
21	Scoring saw blade cannot move back and forward	Check if motor and wiring are normal.
22	Scoring saw blade rise protective switch ON	Check if the moving position exceeds the moving range of the scoring saw blade.
23	Scoring saw blade down protective switch ON	Act as No. 22.
24	Error set up of the saw diameter	Input the correct diameter of the proper saw for machine.

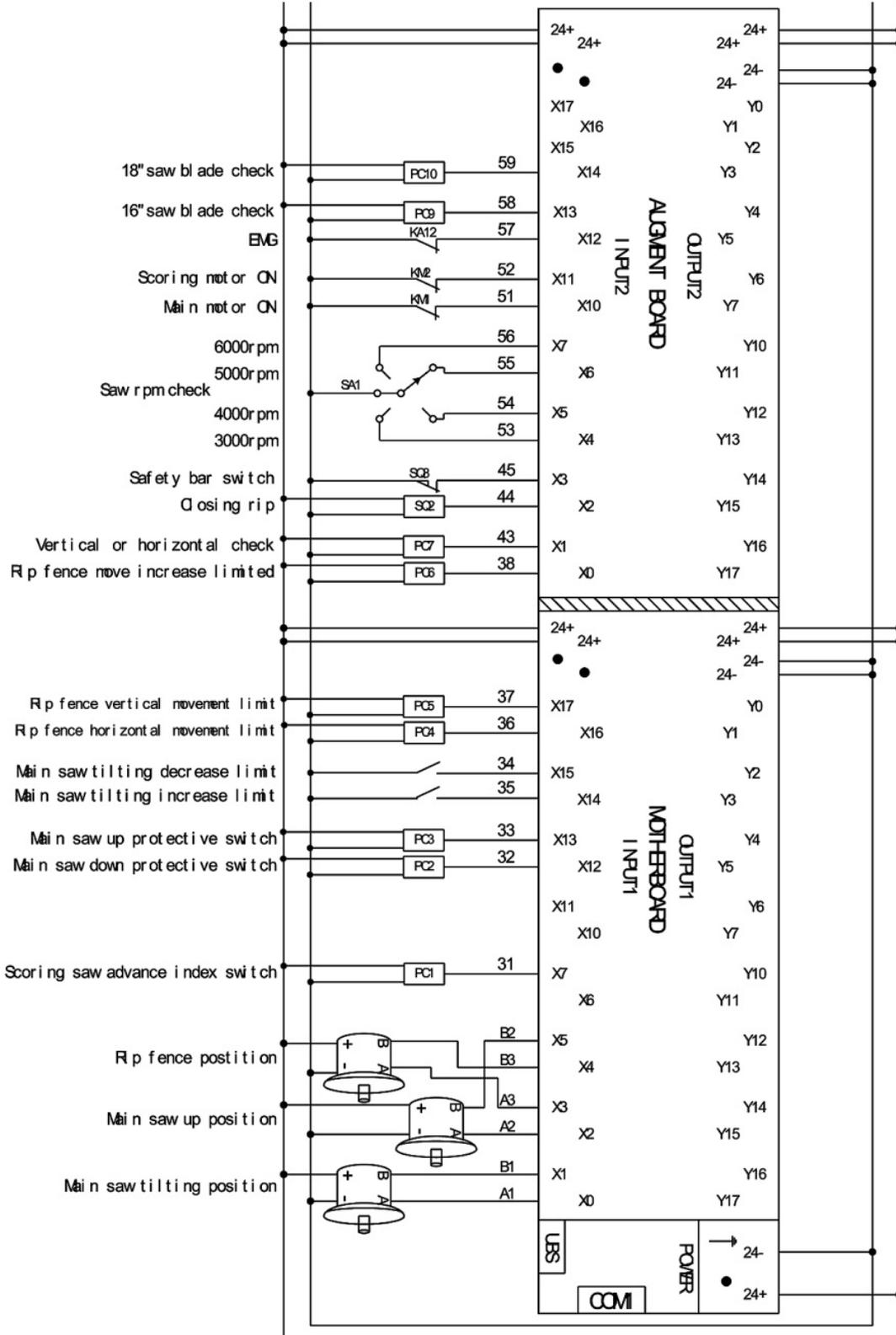


ELECTRICAL SCHEMATIC - 1



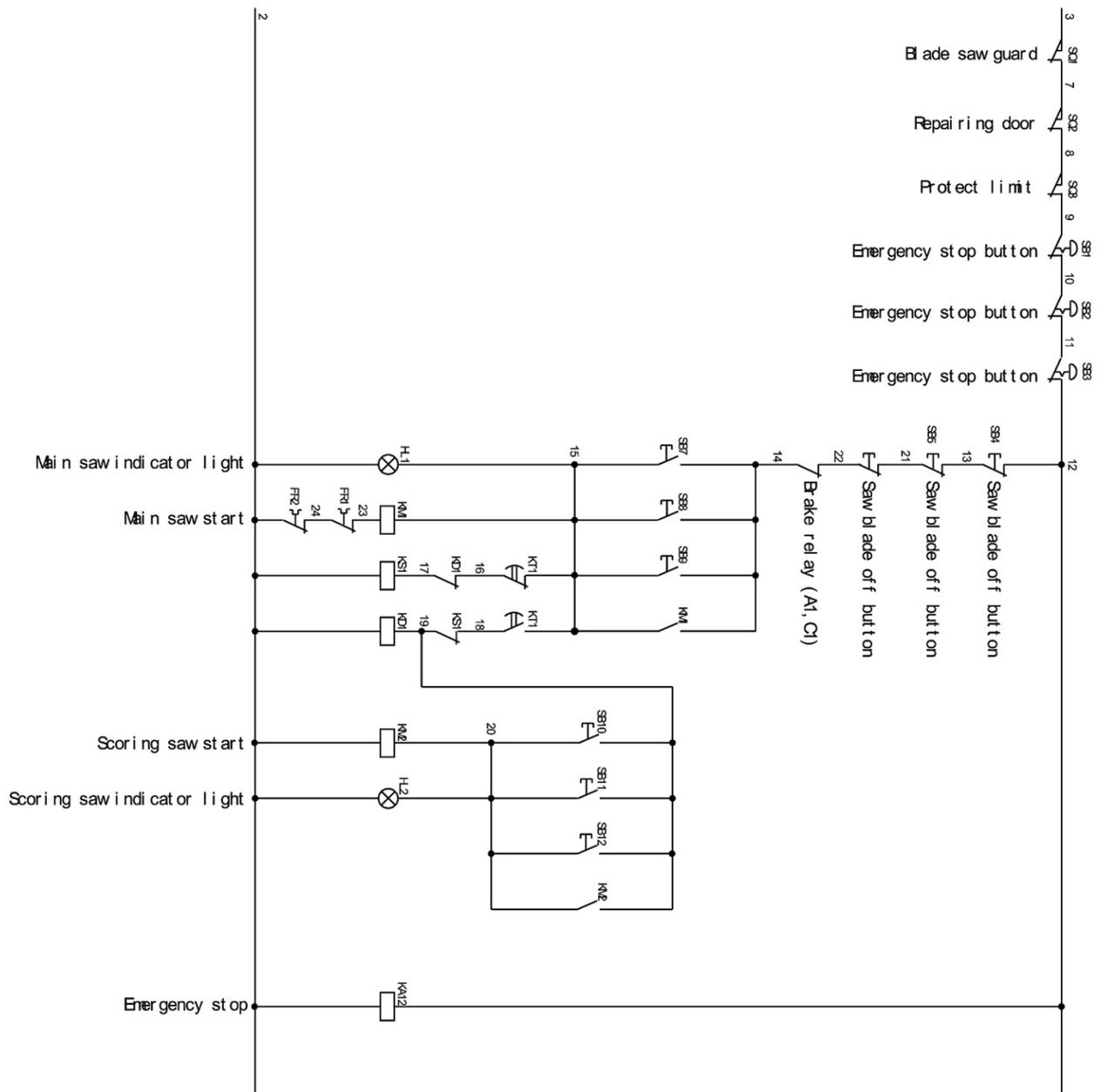


ELECTRICAL SCHEMATIC - 2





ELECTRICAL SCHEMATIC - 3





NOTES



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