

FORMAX[®]

Cut-True 31A & 31H
Guillotine Cutters

PROGRAMMING MANUAL

PROGRAM MODULE OPERATOR MANUAL

***MITSUBISHI GOT 2000
(GS 2107 – 7")***

1.MACHINE START.

After turning the machine on the starting screen appears



- Press the green stat stopn button to engage the cutter control system
- Then press the green "**Press to calibrate**" button on the screen to start the calibration

During the calibration backgauge moves to the maximum back position, then moves forward till the moment when calibration sensor will be detected. When the calibration is finished on the screen appears the manual mode.

2.MANUAL MODE



Available functions:

2.1 ABSOLUTE MODE- AUTOMATICALLY MOVE TO INPUT DIMENSION



To input the required dimension press the dimension on screen and input value by keyboard. Confirm by pressing **ENT** button and press . The backgauge will move to requested position.

2.2 INCREMENTAL MODE- REPEATING SAME DIMENSION ON NEXT STEPS



To move the backgauge multiple times by the same dimension (forwards or backwards) input this dimension by pressing it on the screen.

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Use the virtual keyboard and confirm by pressing **ENT** and next by pressing button  the Backgauge will automatically move into given position.

It is possible to repeat the move by pressing . This process can be repeated multiple times.

2.3 MANUAL BACKGAUGE MOVEMENT

The backgauge can be moved manually forwards and backwards by pressing



2.4 PAPER EJECT



By pressing button the operator can safely remove the paper. The backgauge automatically move forwards by the given value and returns to the initial position.

2.5 AIR TABLE (31 H Only)



Pressing the button turns the air table on/off .

2.6 NUMERICAL KEYBOARD

press to expand the menu



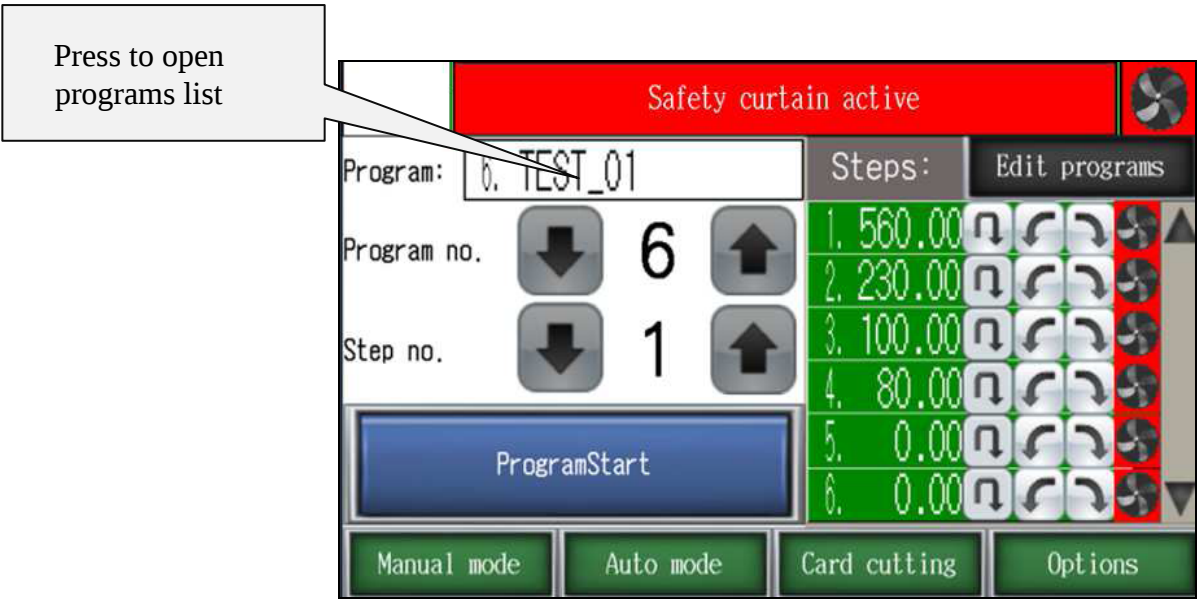


The program module includes a calculator function (multiplication, division, addition, and subtraction).

3. AUTO MODE- PROGRAMMING

This menu allows operators to select a program, edit and start program mode. 100 programs can be stored in memory, with up to 100 cuts (dimensions) in each program. For each step the operator can program eject, air and paper rotation left, right.

3.1 Program selection



Selecting the program to edit or start.

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A program can be selected from the list which appears on the screen after pressing program name. A program can be also selected by pressing the arrows or direct input of a program no.

Scrolling the program list can be done by pressing the arrows next to the list.

Selection of a program in this window allows the operator to check the dimensions in each step (with arrow buttons) as well as to see if options are on/off such as: eject , paper ream rotation  i air table blower .

3.2 Launching program from memory.

To launch the program please the requested program and press the **PROGRAM START** button on the screen.

After pressing, the backgauge moves to the dimension saved in step 1 and new screen appears:



After each cut the backgauge moves to the next step. When the last cut is made in selected program the backgauge automatically moves back to step 1 and program can be repeated.

It is possible to skip a step. Press the  button to move the backgauge to the next step without a cut. Press the  button to return backgauge to the previous step.

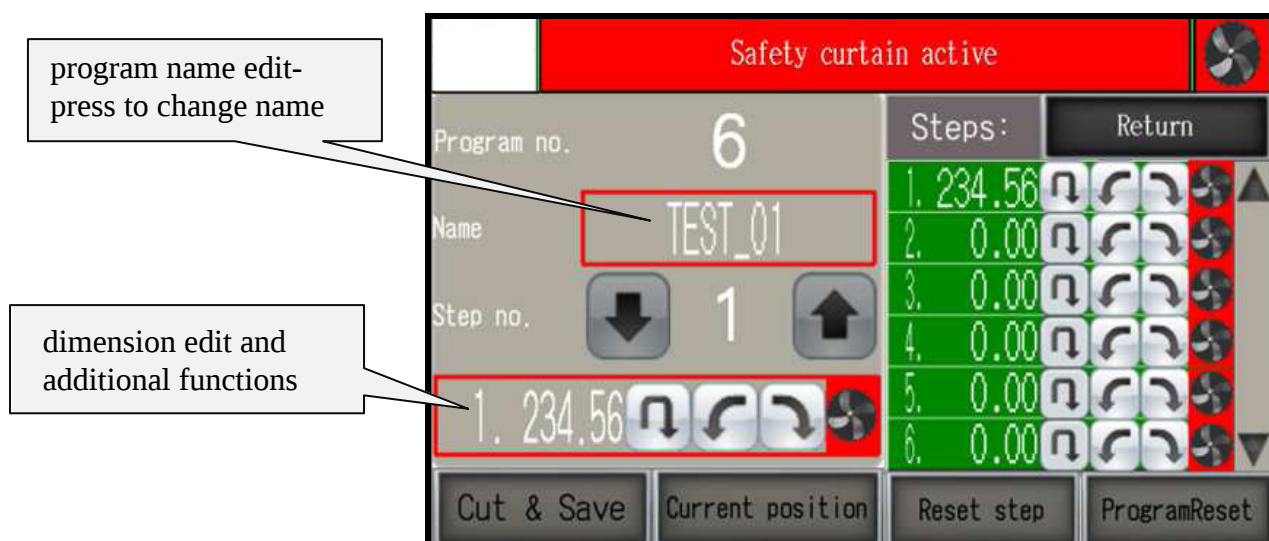
To stop the program press the **PROGRAM STOP** button.

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3.3 Program edit and saving.

By pressing the Program Edit button the operator can edit previously selected programs. Change cut dimensions , program name change, remove or add a step, and turning on/off eject  ,air table  and paper rotation  .

After selecting program no. press the **Program edit** button.



To input a new program name or change an existing name press on the "Name" window, this opens a keyboard screen which allows a name input.

After program name confirmation the cursor automatically appears on the steps list.

To input step cut dimensions or add: eject, air, rotation press the icons located in the left bottom corner (edit window)

Saving a program to memory is done by exiting program edition (button return)

Program reset - to delete all steps in the program

Step reset - to delete one (current) step

3.4 Cut & Save – This function allows operators to edit a program by making backagauge adjustments and cutting.

The backagauge cut position is automatically saved as a step.

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To exit the program edit mode press the "Return" button to return to the main menu.

4. CARD CUTTING- this program allows operators to make a sequence of cuts with the same distance (card size) by inputting the dimensions for the card size and gutter.



Start dimension -first cut dimension starting the card cutting sequence

Stripe (Card dimension) – cut size of the card

Gap (Gutter) – if a gutter used on the sheet enter the dimensions, if there is no gutter input the card size again.

NOTE! Remember to confirm each value by pressing ENT.

After dimension input and press **Program Start** the program starts automatically:



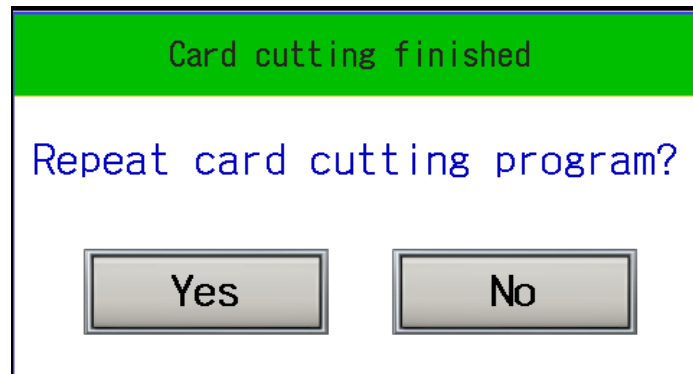
The backgauge moves to the starting dimension and moves after each cut automatically.

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It is possible to skip a cut step. Press the  button to move the backgauge to the next step without a cut. Press the  button to return the backgauge to the previous step.

Pressing **Program Stop** stops the card cutting program.

After each cycle when or the last stripe is too narrow to cut this text appears:



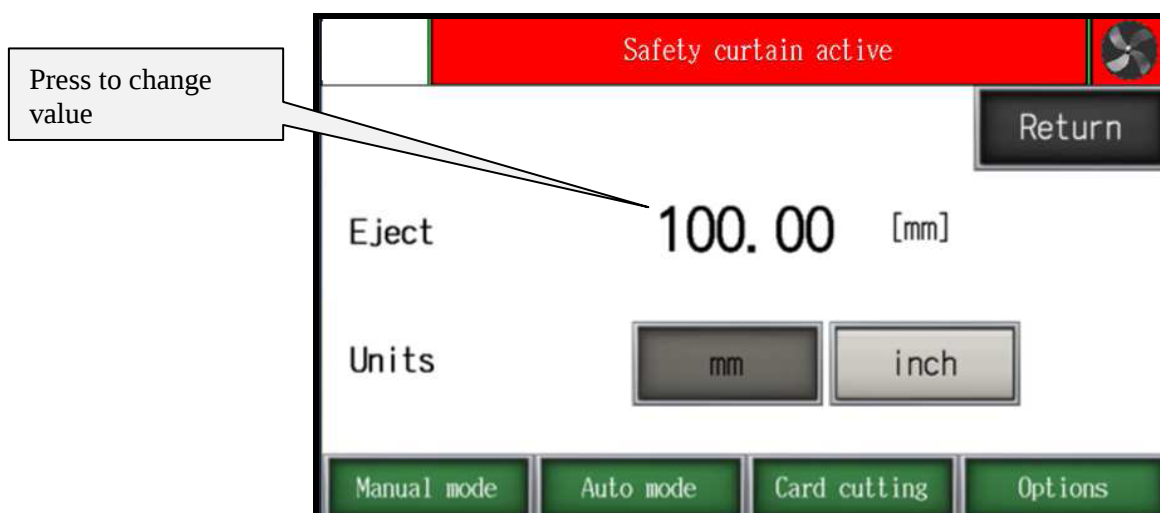
Pressing **YES** moves the backgauge automatically to the first cut dimension.

Pressing **NO** exits the program.

5. OPTIONS



5.1 Special functions



Eject can be set in mm or inches. It is the value by which the paper ream moves forward when eject is used. After eject the cycle backgauge returns to the previous position.

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5.2 Language– *to enter language selection menu*



5.3 Base correction – Base dimension corr.

allows for re-calibration without turning off the cutter use this option if the display dimension does not correspond to real, measured dimension.



When starting machine the operator should measure the paper cut and compare with the actual display indication. If both dimensions do not correspond to each other input the base correction.

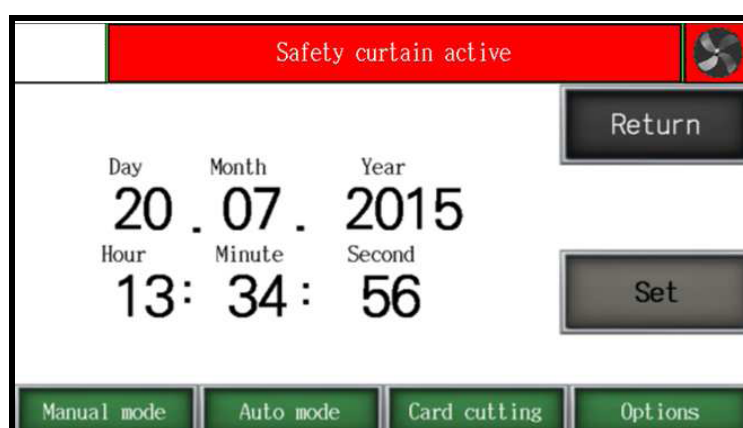
How to make base dimension adjustment:

- move backgauge into position ex.100.0 mm
- cut paper
- measure the size
- if measured size is ex. 103.7 mm operator should change dimension by increasing the value (difference between screen and real size) 3,7mm in this example.(ex. if dimension is 680,0 mm change into 683,7mm).
- if measured dimension is 98.4 mm, please make correction by decreasing the value (difference between screen and real size) by 1.6 mm.

(ex. if dimension of base is 680.0 mm change value to 678.4 mm).

After base dimension change press **Calibrate** button to save adjustment.

5.4 Date and time – date and time adjustment



5.5 Diagnostics



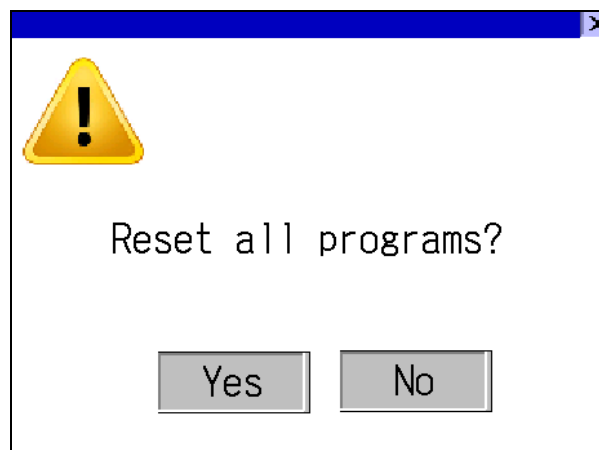
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Allows operator to check control system elements like : optical sensors, limit switches, buttons, micro swiches.

Back lighted button means that this element is active

5.6 Reset programs – program cancelling.

This options resets all saved programs.



5.7 Knife Change – to enter knife change mode press the *Knife change button*,



*After pressing, text on screen appears to confirm **Turn on knife change mode?***

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*Confirm and make a cut to put the knife into the lower position.
After knife change (please look into operator manual for procedure) press the **Knife change** button again,*



text appears **Turn off knife change mode?**



Press Yes and make a cut to exit knife change mode.

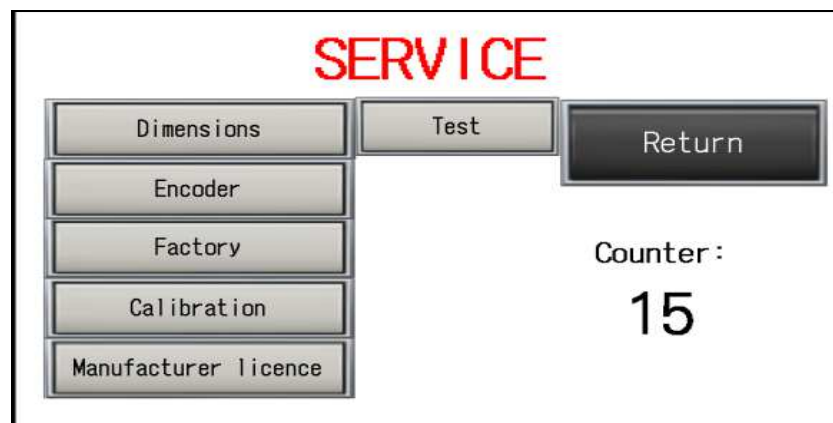
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5.8 Service – to enter service mode

Press **Service** button. Keyboard appears on screen to input service code XXXX and press **ENTER**.



NOTE! The code is for service information only



5.8.1 SERVICE- dimensions.

		Return	
Max inaccuracy		0.20	mm
Off move		0.28	mm
min dim.	1	60.00	mm
min dim.	2	30.00	mm
max dim.		710.00	mm
Move		8.00	mm
RH speed		50.00	hz
RL speed		9.00	hz

- **Max inaccuracy** –maximum value of dimension inaccuracy accepted by program module as correct value during program mode.

- **Off move** –distance before dimension when backgauge drive is off

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- **Min. dim. 1** – min. value for guillotine backgauge automatic move in program mode (with false clamp)
- **Min. dim.2** – min. value for guillotine backgauge automatic move in program mode (without false clamp)
- **Max. dim.** – max. value for guillotine backgauge automatic move in program mode
- **Move**– *distance where fast backgauge movement is off before reaching position (how long backgauge moves slowly into dimension)*
- **speed RH** – *frequency of backgauge speed move*
- **speed RL** – *frequency of backgauge speed move on the dimension*

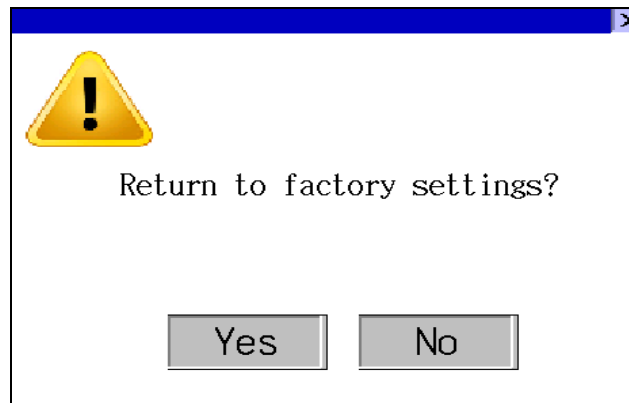
5.8.2 Service– Encoder

		Return
Screw rot.	5.00	mm/rot
Encoder type	600	pls/rot

- **screw rot.** – *mm by lead screw rotation (backgauge)*
- **encoder type** – *impulses per rotation of encoder*

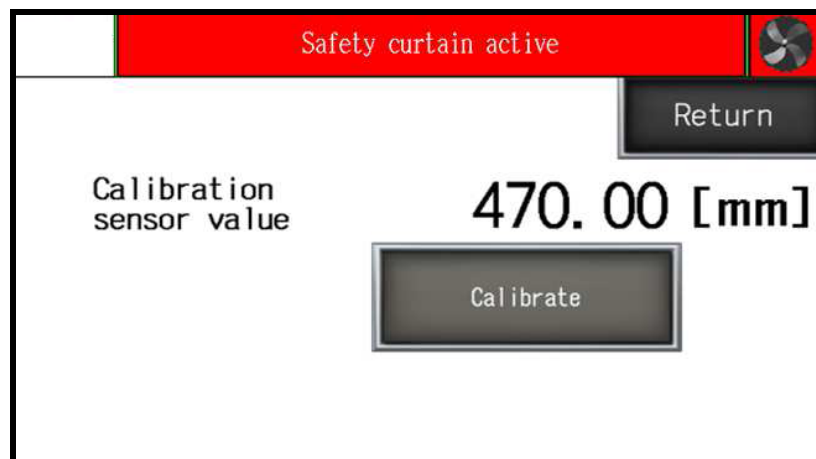
5.8.3 Service – Factory settings

All parameters in windows **Dimension and Encoder** can be cancelled by function **Factory settings** (but may need readjustment depending on equipment in the machine)



Press **Yes** to return to factory settings.

5.8.4 Service – Calibration



Calibration– allows to repeat calibration without machine turn off and dimension correction if needed. (see **5.3 Base correction**)

5.8.5 Service – Test

Czas cięcia	3	Czas docisku	2
Return delay	2	Czas odcięcia	1
Off move	0.28 mm		
Move	8.00 mm		
RH speed	50.00 hz		
RL speed	9.00 hz		
Position	210.00 [mm]	210.03 [mm]	
Incremental mode	50.000	Return ↓ ↑	

press and input value by keyboard

- **Off move** – distance before dimension when backgauge drive is off
- **Move** – distance where fast backgauge movement is off before reaching position (how long backgauge moves slowly into dimension)
- **speed RH** – frequency of backgauge speed move
- **speed RL** – frequency of backgauge speed move on the dimension

In table **Position** first dimension is actual dimension of paper, second is dimension close to actual