TM1600B User manual
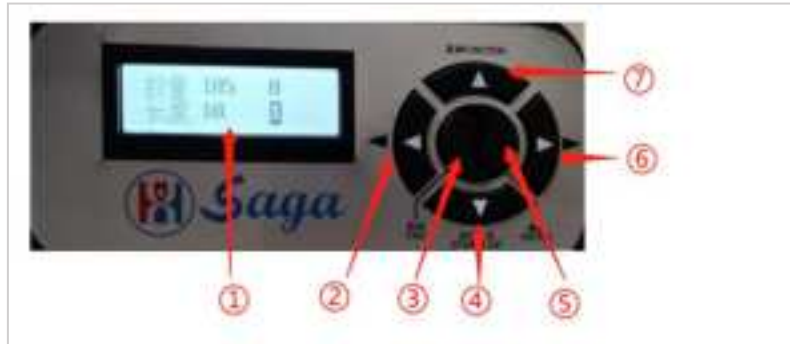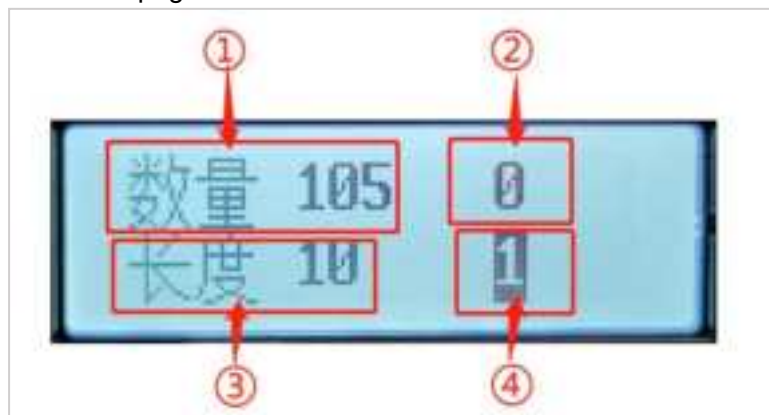
1、Introduction of display screen and key function:

● Introduction to the key use

graph 1

① display screen;
② left key;
③ cancellation key;
④ Down the key / start work / pause;
⑤ Confirm the key / continue to work;
⑥ right-hand button;
⑦ Upper key / menu.

Introduction to the ● main page

graph 2

① Quantity; the display value is the number of cut cuts;
② Actual number of cuts; real-time display of current cuts;
③ Length; fixed length cutting length set value;
④ Cut compensation value: when the cut size deviation occurs in the fixed length or automatic mode, adjust the value size through the left key or right key to compensate, adjust 1 step change of 0.25mm.

● Menu setting item introduction
Enter the Settings menu method: press the main page to enter the Settings menu

graph 3

Move function, press the left button to enter the paper, press the right button to return the paper, press the confirmation button, the direction of the car will move to cut the front end paper, for cutting the front end waste.

graph 4

Mode setting, there are two modes of fixed length and automatic, press the confirmation key to enter the adjustment state, and then press the key or the key to switch the fixed length and automatic.

Figure Figure 5, Figure Figure 6

The number of parts is the number of continuous cutting parts when the working mode is fixed, and then the cutting is stopped after setting the number of parts of the cutting knife. Press the confirmation key to enter the adjustment state, and then press the up key or down key to adjust the value size.

Note: When the working mode is automatic, the number of cuts is in the continuous working state and is not affected by this value

graph 7

Length setting is the cut length value when the working mode is set to set length. Press the confirmation key to enter the adjustment state, and then press the up key or down key to adjust the value size.

Note: When the working mode is automatic, the cutting length is the camera scan mark point parameter to cut, and is not affected by this value

graph 8

Speed setting, cutting speed slow adjustment, vertical knife is the paper direction speed, horizontal knife is the car direction cutting speed. Press the confirmation key to enter the adjustment state, and then press the upper key or the lower key to adjust the value size, the left key and the right keys to switch the vertical and horizontal knife values, the adjustment range is 1-5, the larger the value, the faster the speed.

graph 9

The interval setting, the fixed length mode is the interval length between two files, and the automatic mode is the normal cutting line position, refer to the example of Figure 10. Press the confirmation key to enter the adjustment state, then press the upper or lower key to adjust the value, adjust the value 0-18mm (0,2,4,6,8,10,12,14,16,18).
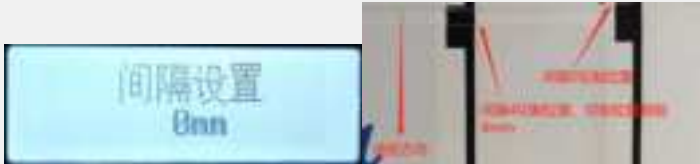
Figure Figure 10 and Figure Figure 11

Wide width setting, transverse cutting length of the car, the normal setting value is the maximum size of the machine, do not need to adjust. Press the confirmation key to enter the adjustment state, then press the upper key or lower key to adjust the value and adjust the value 0-18mm

graph 12

Sword reset, press the confirmation key and reset to the initial position.

Note: When the longitudinal knife is in the process of cutting material, the knife should be reset away from the cutting material, so as not to damage the material when the longitudinal knife is reset

graph 13

Firmware version, display the current firmware version number of the machine, press the confirm key to enter the adjustment state, then press up or down to see more machine information, camera firmware version, machine ID, hardware version, hardware ID and machine model.

Figure Figure 14, Figure Figure 15

Figure Figure 16, Figure Figure 17

Figure Figure 18, Figure 19
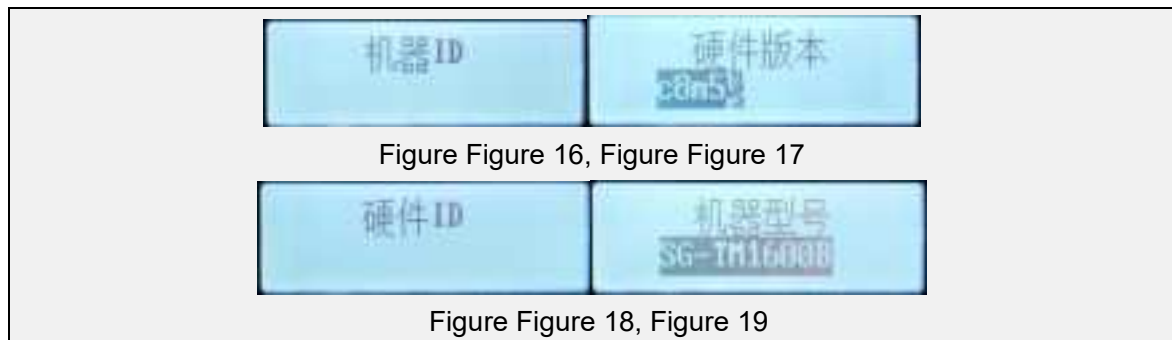
Fill light calibration, camera fill light brightness adjustment and identification line value. Press the confirmation button to enter the adjustment state, LV is the brightness ratio value of the fill light, the adjustment range is 0-50, the larger the value, the stronger the light brightness, the following 22 value is the camera reading the width of the line, the best reading value is closer to the actual value.

Figure Figure 20 and Figure Figure 21
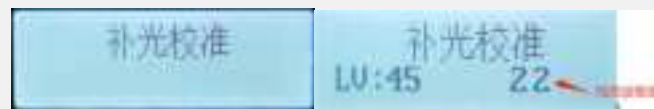
Restore the factory setting, and restore the adjustable parameter value in the set item to the system default value.

graph 22
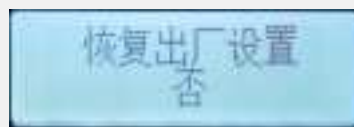
二、 **Workflow introduction:**

See the following flow chart for the machine workflow. When the working mode is fixed length and automatic, the steps of vertical cutting are different. In the automatic mode, the camera recognizes the marking line and works, and it needs to work with the camera.

```
                                    ┌─────────────────┐
                                    │                 │
                                    │      Start      │
                                    │                 │
                                    └────────┬────────┘
                                             │
                                             ▼
┌──────────────────┐            ┌──────────────────────────┐
│                  │            │ First check whether      │
│  Deal with       │◄── No ──── │ the cutting platform is  │
│  abnormal        │            │ normal,turn on the       │
│                  │            │ machine, check that      │
└──────────────────┘            │ weather the carriage will│
                                │ reset to the origin, and │
                                │ then shut down machine   │
                                └────────┬─────────────────┘
                                         │
                                        Yes
                                         │
                                         ▼
                                ┌──────────────────────────┐
                                │ Prepare before loading   │
                                │ paper: pinch roller handle│
                                │ and vertical blade handle │
                                │ lift                      │
                                └────────┬─────────────────┘
                                         │
                                         ▼
                                ┌──────────────────────────┐
                                │ Check and adjust the     │
                                │ paper after installation │
                                │ (put down the pinch      │
                                │ roller, whether the paper│
                                │ is tilted, adjust the reel│
                                │ resistance)              │
                                └──────────────────────────┘
```

```
                    ┌─────────────────┐
                    │   Turn on the   │
                    │     machine     │
                    └────────┬────────┘
                             │
                             ▼
                          ╱ Select ╲
                         ╱   the     ╲
                        ╲  working   ╱
                         ╲  mode    ╱
          ┌──────────────────┘   └──────────────────┐
          ▼                                          ▼
┌──────────────────┐                       ┌──────────────────┐
│ Fixed length mode│                       │    Auto mode     │
└────────┬─────────┘                       └────────┬─────────┘
         ▼                                           ▼
┌──────────────────┐                       ┌──────────────────┐
│ Set the number of│                       │ Set the cutting  │
│ cutting copies,  │                       │ speed and the    │
│ fixed length,    │                       │ interval length  │
│ cutting speed    │                       │                  │
│ and interval     │                       │                  │
│ length           │                       │                  │
└────────┬─────────┘                       └────────┬─────────┘
         ▼                                           ▼
┌──────────────────┐                       ┌──────────────────┐
│ Place the        │                       │ Press "Down" on  │
│ vertical blade   │                       │ the key to start │
│ at the split-cut │                       │ the machine and  │
│ position         │                       │ after that prompt│
│                  │                       │ the camera       │
│                  │                       │ calibration      │
└────────┬─────────┘                       └────────┬─────────┘
```

Adjust the compensation value on the home page	Press the Down button on the key to start the machine operation

```
Check weather the cut
length offset or not
         │
        No
         ▼
  ┌──────────────┐
  │ Go on to work│
  └──────────────┘
```

```
The correction camera
is, no automatically
adjust the position  ──NO──►  Check material
                               flatness, mark line
                               identity and
                               position
         │
         ▼
Place the vertical blade
at the split-cut position
         │
         ▼
Press "Down key" again
on the key to start the
machine operation
         │
         ▼
Whether the cut is offset  ──Yes──►  Adjust the compensation
         │                           value on the home page
         ▼
Go on to work
```

graph 23

三、 Notes and troubleshooting during work:

● When installing the paper, attention should be paid to the position of the longitudinal knife to avoid harm to the operator

graph 24

● Wear paper from the camera under the cardboard, to ensure that the paper is flat. With the marked line material, to ensure that the marking line is within the adjustable range of the camera. When the camera correction exceeds 15mm, the error will be reported: "Please shut down the position error". At this time, you need to shut down and adjust the paper.

Figure Figure 25 and Figure Figure 26

● When loading the paper, ensure that the sensor position is covered, otherwise it will indicate that the missing paper cannot work.

Figure Figure 27 and Figure Figure 28

● When the machine presses the "Down key", and presses the "Next key" again, the machine will pause, and "pause" appears on the display screen. Cancel the current work task can press "cancel key" to cancel the task, the car automatically return to the origin; in the machine pause state, need to continue the current work task, can press "confirm key" to continue the current work.

graph 29

4. Inspection items before the machine test for the cutting effect:

1, the camera preview effect check.

  Detection method: use the USB wiring harness to connect the camera and the computer, and open the camera function on the computer to view the camera preview interface.

Detection requirements: Figure 30 is the preview picture of the prototype camera. The preview effect of the test machine camera meets the following requirements: the preview picture is clear, the letters can be clearly seen, and the screen screen and the preview interface are shaken.
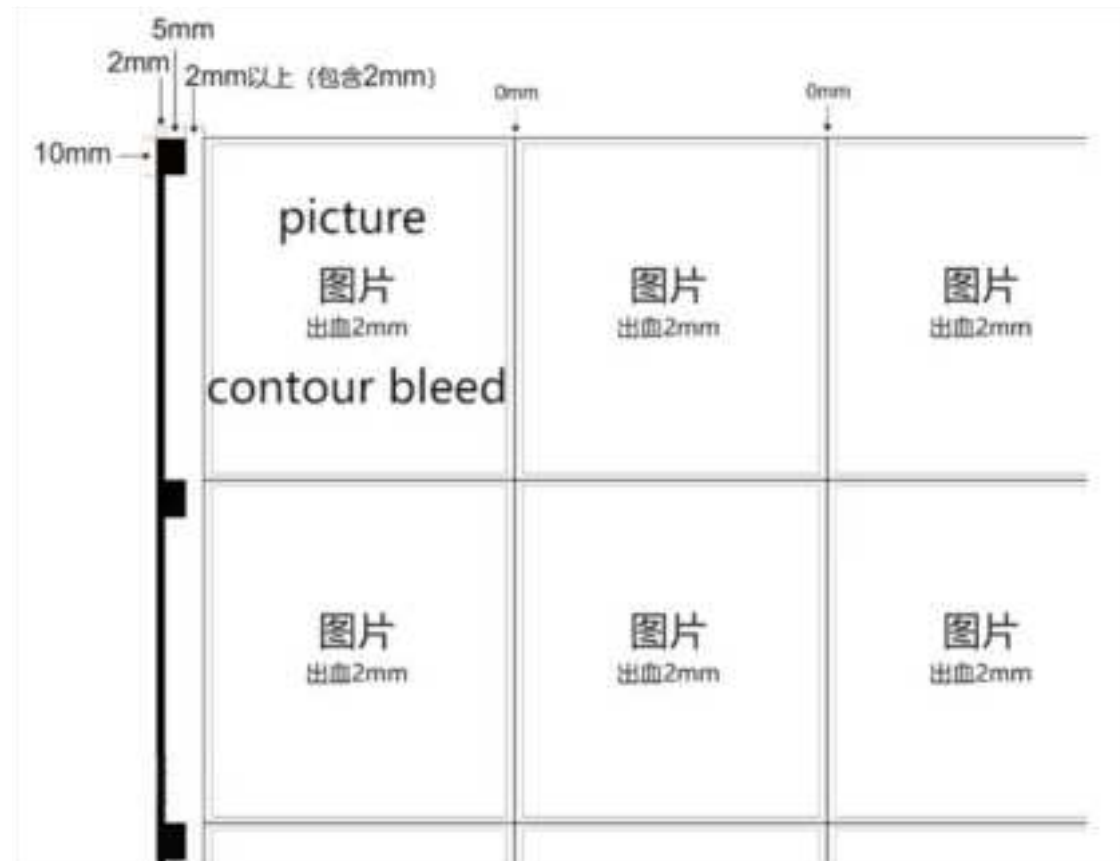

graph 30

2. Marker line value reading value confirmation

  Detection method: Enter the "light calibration" interface on the machine display, and put the printed material marking line on the camera preview board. According to Figure 31,22 is the line width read value, and the camera height is not adjusted.

Detection requirements: the reading range of line width is between 20-22, and there is no requirement for the intensity range of fill light. The printed material shall be printed according to the requirements of Figure 32, and the standard value of the marker line width is 2mm.

graph 31

5mm
2mm
2mm以上（包含2mm）
0mm
0mm
10mm

picture
图片
出血2mm

contour bleed

图片
出血2mm

图片
出血2mm

图片
出血2mm

图片
出血2mm

图片
出血2mm

graph 32