TENSION TYPE COMPUTERIZED METERING COUNTER DEVICE

OPERATION MANUAL

CE e

MODEL : TC 3

ENGLISH

Contents

1. Installation

TC3-U   Upper Feeder

Untangling Device

TK Device

TC device

Touch Panel

Bracket

Servo Motor

Fabric Sensor

Control Box

Speed Control Unit

Motor rod

Knee Switch

TC3-B   Down Feeder

TC3-S Side Feeder

1-1. Connections of control box

⚠ CAUTION

1. Only the authorized technicians are allowed to conduct the cable connections.
2. Always turn the power off and unplug the power cord before conducting or checking the connections.

Power source 220V/60Hz

DC12V

Servo motor

Synchronizer

Touch panel

Speed control unit

Knee switch

Indicator

TC device

toe lifter

Untangling Devic

Filter regulator and solenoid valve

Cutter switch

Fabric sensor

3
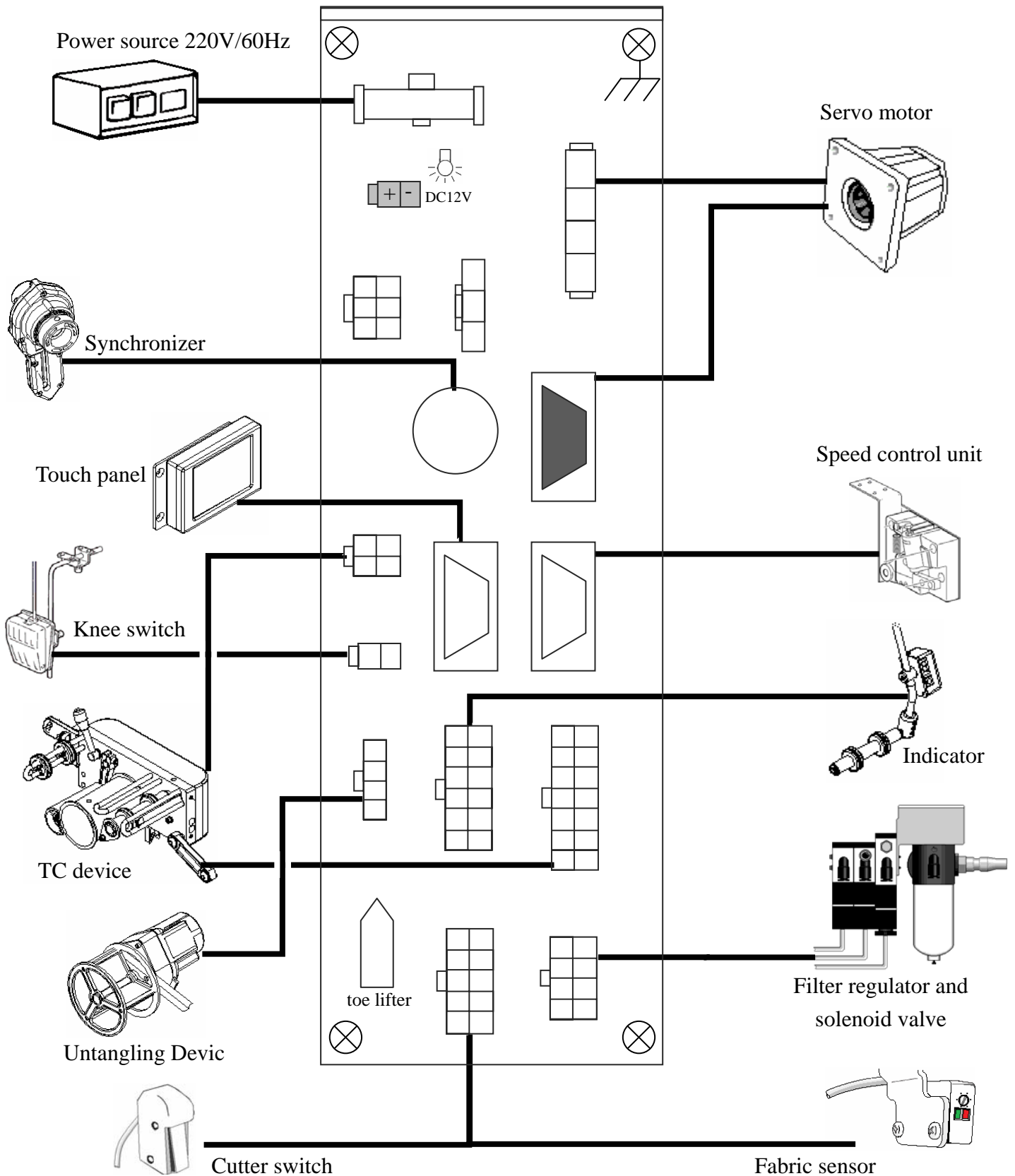
1-2. Connector diagram

X4—OPTION

1	+5V	+5V
2	TK SENSOR	TK SENSOR
3	0V	0V
4	M SENSOR	M SENSOR
5	+12V	+12V
6	TK SW.	TK SW.
7	0V	0V
8	SAFETY SW	TK SAF. SW.
9	+24V	+24V
10	AFL	AFL

X5—AC MOTOR

1	P1
2	P2
3	P2_C
4	EARTH

X6—OUTPUT2

1	+24V	+24V
2	---	---
3	MC_OPEN	MC_OPEN

KNEE SW.

1	0V	0V
2	INF	KNEE SW.

XB—STEPPING MOTOR

1		A
2		B
3		C
4		D
5		E
6		---

X7—DC MOTOR

1	---	---
2	---	---
3	DC-A	DC-A
4	DC-B	DC-B

TENSION SW.

1	+5V
2	TENSION SW.
3	0V

DC+12V LAMP

1	0V	0V
2	+12V	+12V

X1—LOAC CELL

1	+12V
2	SPI_SDO
3	SPI_SCK
4	SPI_SDI
5	SPI_CSN
6	0V
7	---
8	+12V
9	HALL_SDA
10	POS1
11	POS2
12	HALL_SCL
13	0V
14	---

X2—OUTPUT1

1	ASL	ASL
2	NCL	NCL
3	ML_OUT	TK S. B
4	MP_OUT	TK S. A
5	+24V	+24V
6	+24V	+24V
7	+24V	+24V
8	+24V	+24V

X3—SEVEN SEGMENT

1	+5V	+5V
2		SEG A
3		SEG B
4		SEG C
5		SEG D
6		SEG E
7		SEG F
8		SEG G
9		SEG H
10	IN2	切換段數開關
11	0V	0V
12	0V	0V

ENCODER

1	+5V
2	UP
3	DOWN
4	A PHASE
5	B PHASE
6	R
7	S
8	T
9	0V

OPERATION BOX

1	+12V
2	---
3	T1out
4	R1in
5	---
6	---
7	T2out
8	R2in
9	0V

SYNCHRONIZER

1	---
2	+5V
3	DOWN
4	0V
5	NO SYNC.
6	---
7	UP
8	ENC

LEVER

1	+12V
2	START
3	VC
4	FRONT
5	VC1
6	BACK
7	KNEE SW.
8	TM
9	0V

AC POWER IN

DC12V LAMP

MOTOR

TENSION SW.

XB

SYNCHRONIZER

ENCODER

X7

LEVER

KNEE SW.

OPERATION BOX

X5

X3

X1

X4

X2

XB

2.Adjustments

2-1.Adjusting the feeding shift of tape

If the auxiliary roller is not parallel to the driven roller, the tape will be misaligned to the right or the left. To correct the misalignment, loosen screw A on the roller shaft, and turn the roller shaft screw B until the tape feeds straight and aligns perfectly.

TC device

load cell

Handler of
auxiliary roller

Driven Roller

Roller Shaft Screw B

Auxiliary Roller

Auxiliary Roller

Auxiliary Roller

Driven Roller

Driven Roller

Driven Roller
Roller Shaft
Screw A

Roller Shaft
Screw B
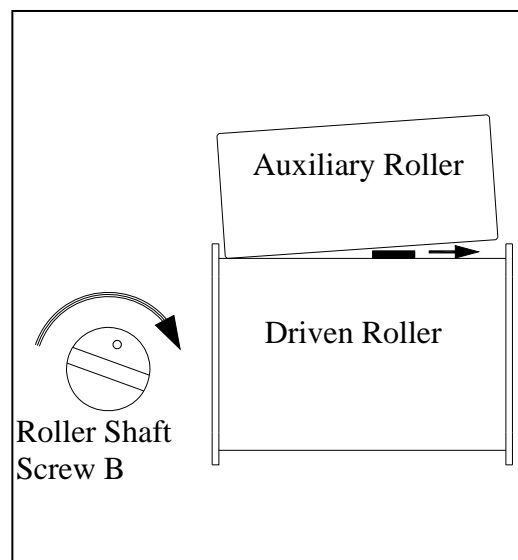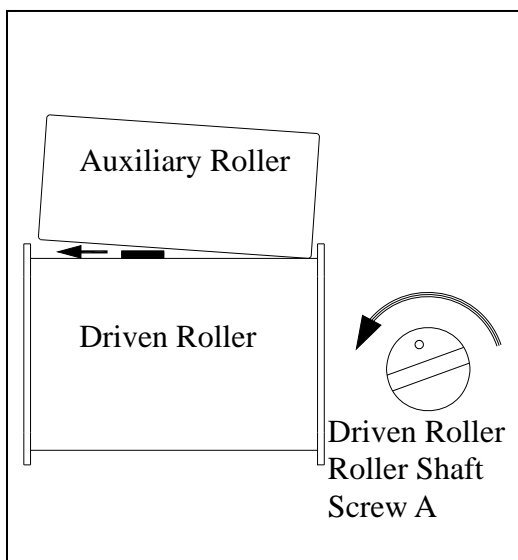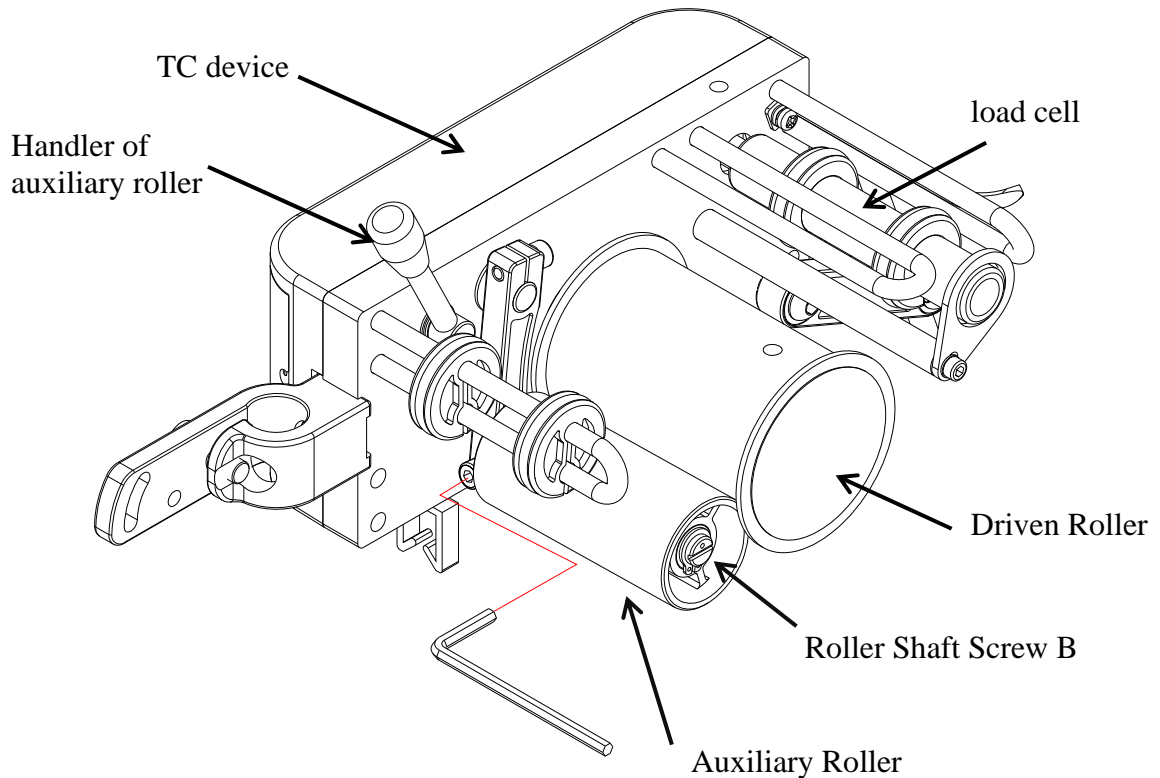
2-2.Adjusting the sensitivity of sensor

⚠ CAUTION

1. The tape cutter could be activated unexpectedly and it could be dangerous; therefore, no sewing work is allowed before an authorized technician finishes the sensitivity adjustment of fabric sensor.
2. The sensitivity of fabric sensor can only be conducted during the system power ON.
   Safety precaution must be taken to avoid the accident caused by the machine running unexpectedly.
3. Malfunction may occur when the reflector on the top surface of the needle plate is not clean.
   Ensure to keep the reflector clean.
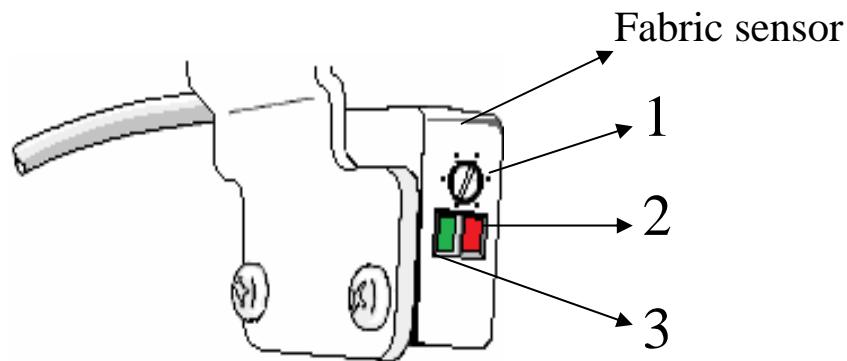
Fabric sensor
1
2
3

1. Turn the sensitivity adjustment Dial 1 of fabric sensor fully counterclockwise.
2. Turn the sensitivity adjustment Dial 1 clockwise slowly until both Light 1(red) and Light 2(green) are on.
3. Place a fabric under the fabric sensor, and check if Light 3(green) is still on while Light 2(red) is off. If Light 2(red) is on, turn the sensitivity adjustment Dial 1 counterclockwise slowly until Light 2(red) turns off.

3.Boot page

Main software Ver. xxx.yyy
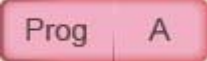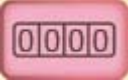
Touch panel　Ver. xxx

1.　Main software Ver. xxx.yyy

Displays the current operating software version.

2.　Touch panel　Ver. xxx

Displays the software version of the touch panel.

4. Sewing operation mode

4-1. Sewing mode

Icon	Description
	Lock key at left side menu: 1. Press to lock menu. 2. Press then key in a correct password to unlock. 3. Functions on the left side menu are prohibited when it is locked.
	Press to pull down menu on the left/right side(please refer to 4-3)
	Fabric detected indication (No function without sensor), LED on: detected, LED off: not detected.

| Icon	Description
Prog A	Press to change the sewing program no. Maximum of 9 sewing programs. A ~ I.
000	stitch number: Press to copy the current display stitch number to the stitch field of the working sewing step.
0000	Piece counter, press and hold for 3 seconds to reset the counter. (to display or hide the piece counter please refer to 4.3)
≑ 987	Free to change tension control: ≑ with tension control, ≑ free tension control. The tension-free value is displayed below the key. Press the Tension-free key for 2 seconds to adjust the tension-free value.
∧ ∨	Step selector, press to move the selection bar.
Step	Step number: 1. Displays the Step number. 2. Press to activate TK setting, to set the stitch number of tape cut at start and end (please refer to 4-2 Step9)
Sen.	Press to adjust sensitivity. (please refer to 4-2)
Stitch	Press to set the stitches of current step. (please refer to 4-2)
Ten.	Press to adjust the tension range. (please refer to 4-2)
Mode	Press to select Sewing mode. (please refer to 4-2)

4-2. Step data setting

Step 1. Press Prog   A to edit the Program A~I.

Step 2. The selection bar displays on the Step 1. Press Ten. to pop up the keyboard.

Step 3. Enter the required tension value. Then press the ⏎ to save the value and to close the keyboard.

Note: 1. Tension values range from 1 to 999. The smaller the value, the tighter the tension.

2. Press <Free> to set the free tension value.

Step 4. If the tape vibrates, press Sen. to set the sensitivity of the tape.
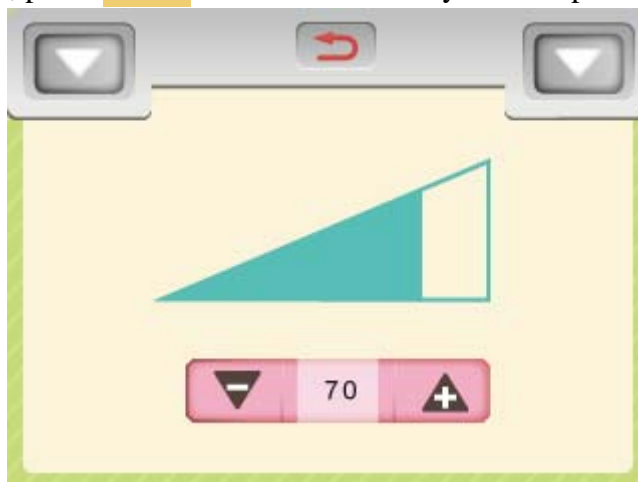
Step 5. Reduce the value of the sensitivity until the vibration disappears. Then press ↩ to return to the sewing mode.

NOTE: As long as the vibration of tape disappears, the larger the value of sensitivity, the more accurate the control of tension.

Step 6. Press Mode to select Sewing mode A, M, As, Aa or END.
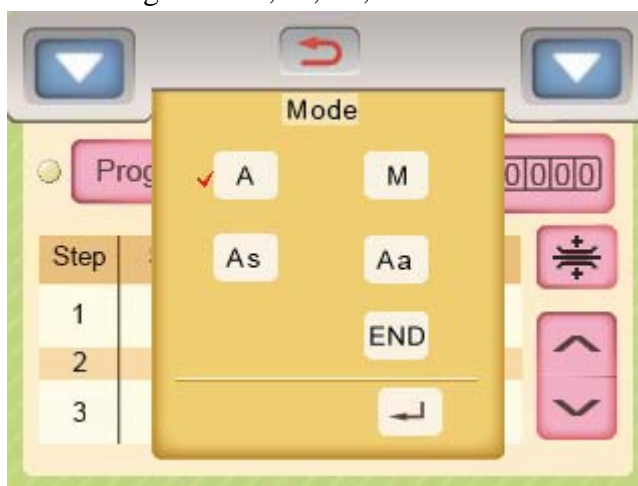
NOTE:

6-1.Sewing mode selection:

A (automatic): The sewing steps of programs will run automatically and the stitches of steps will be completed sequentially as settings.

M (manual): The sewing steps of programs will run manually by an external Step change switch.

As (automatic2): The stitch counter of sewing steps will not count up unless a fabric is detected.

Aa (automatic sewing mode): The stitches of steps and programs will run automatically and the stitch counter of sewing steps will not count up unless a fabric is detected.

END (ending mode): Ends the current sewing program and prohibits sewing

stitches in this step.

6-2. Setting the END mode in Step 1 is not allowed.
6-3. Press ↵ to save the settings and back to the Sewing mode.
6-4. Press ↩ to cancel the settings and back to the Sewing mode.

Step 7. The number of stitches must be entered when the sewing mode A, As or Aa is selected. Please press Stitch to pop up the keyboard.

Step 8. Enter the required the number of stitches, press Stop to display the number of stitches and additional 's' that machine stops immediately when the setting stitches are completed and the next sewing Step can start to run by toeing down the pedal unless the pedal returns to neutral position in advance.
Press ↵ to return to the Sewing mode.

Step 9. Press the number of Step to enter TK settings.
NOTE: The function is valid only for the sewing machine equipped with TK device.

Description of setting:
1. Set the number of stitches for the front TK, the rear TK, and the rear Stop respectively.
Example:
⌘F Front TK: Cut the tape after 10 stitches sewed on the fabric tape.

10

R✄ **Rear TK:** Cut the tape after the sensor detected the fabric tape and 15 stitches sewed on it.

R s **Rear Stop:** Stop the machine after the sensor detected the fabric tape and 15 stitches sewed on it.

The setting page:
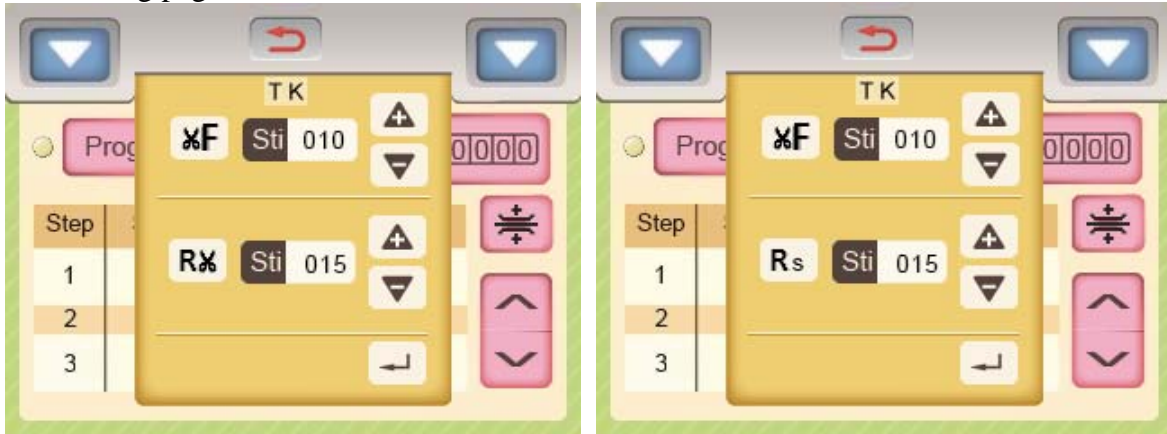
2. ✄ shows in front of Step number when Front TK mode is selected. It appears in back of Step number when Rear TK mode is chosen. 'S' appears in back of Step number when Rear Stop mode is set.

| Step	Sen.	Stitch	Ten.	Mode	
✄1	70		800	M	Front tape cutter
2✄	70	80	700	A	Rear tape cutter
✄3 s	70		800	M	Front tape cutter & Rear Stop function engaged

Step 10. Set all settings of Steps required for the corresponding Program (A~I) according to the instruction described in the procedure Step 1-9; finally, set the last Step as END mode.
　　　　Example:
　　　　　Step 1: Sensitivity:70, Tension:800, Mode:M
　　　　　Step 2: Sensitivity:70, Stitches:80, Tension:700, Mode:A
　　　　　Step 3: Mode:END
　　　　　Setting data as shown:

Step	Sen.	Stitch	Ten.	Mode
1	70		800	M
2	70	80	700	A
3				END

Step 11. The maximum number of Steps in one Program (A~I) is 8. In case of 13 Steps designed, the Step 9 in Program A allows you to continue the Steps to the next Program (Program B) by setting the Step 9 in Program A with the data "goto B" as shown below.
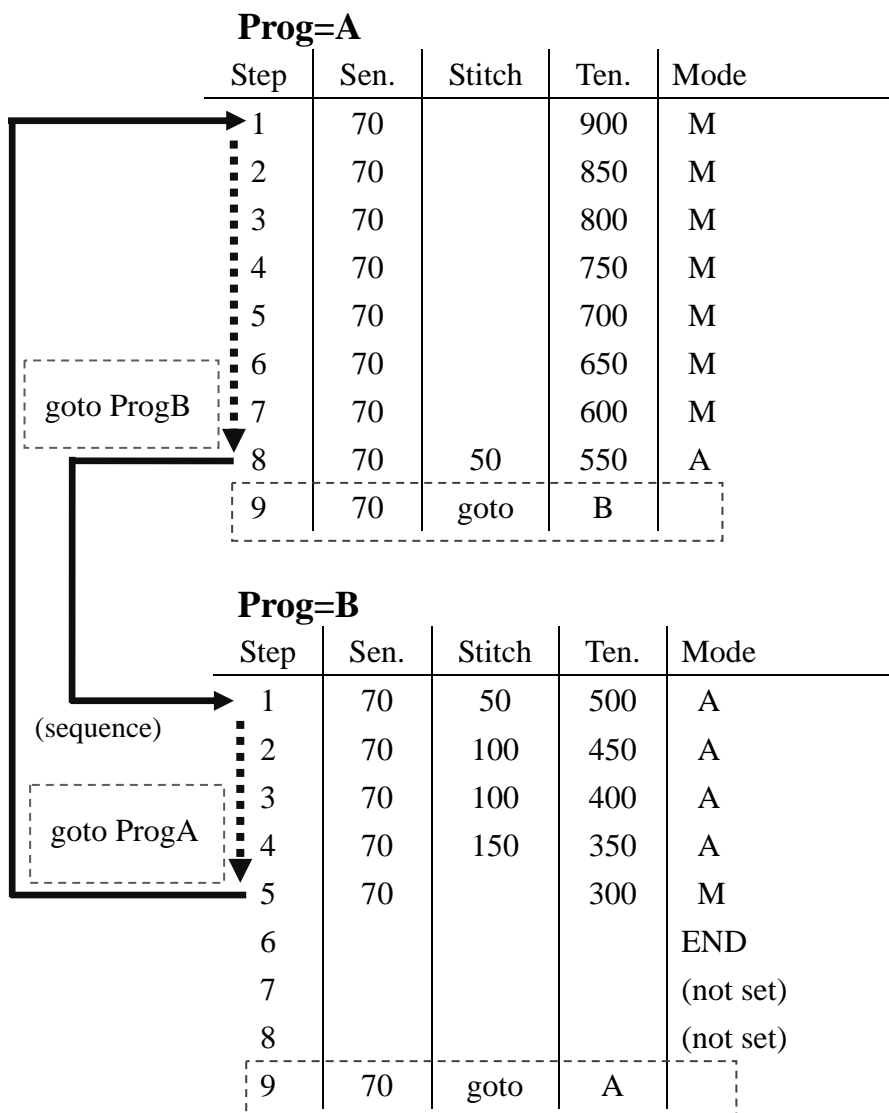
The system allows you to design a maximum number of 27 Steps in total for a specific project.

Example:

step 1: Sensitivity:70, Tension:900, Mode:M
step 2: Sensitivity:70, Tension:850, Mode:M
step 3: Sensitivity:70, Tension:800, Mode:M
step 4: Sensitivity:70, Tension:750, Mode:M
step 5: Sensitivity:70, Tension:700, Mode:M
step 6: Sensitivity:70, Tension:650, Mode:M
step 7: Sensitivity:70, Tension:600, Mode:M
step 8: Sensitivity:70, Stitches:50, Tension:550, Mode:A
step 9: Sensitivity:70, Stitches:50, Tension:500, Mode:A
step 10: Sensitivity:70, Stitches:100, Tension:450, Mode:A
step 11: Sensitivity:70, Stitches:100, Tension:400, Mode:A
step 12: Sensitivity:70, Stitches:150, Tension:350, Mode:A
step 13: Sensitivity:70, Tension:300, Mode:M

Setting data in Program A and B as shown:

Prog=A

Step	Sen.	Stitch	Ten.	Mode
1	70		900	M
2	70		850	M
3	70		800	M
4	70		750	M
5	70		700	M
6	70		650	M
7	70		600	M
8	70	50	550	A
9	70	goto	B	

goto ProgB

Prog=B

Step	Sen.	Stitch	Ten.	Mode
1	70	50	500	A
2	70	100	450	A
3	70	100	400	A
4	70	150	350	A
5	70		300	M
6				END
7				(not set)
8				(not set)
9	70	goto	A	

(sequence)

goto ProgA

12

4-3. Left side menu and right side menu

Left side menu	
	Press to pull down the left side menu
	Press to enter the parameter setting mode
	Press to enter the testing mode
	USB upload/download

Right side menu	
	Press to pull down right side menu
	Start/stop the tape feeding device
	Press to display/hide the piece counter.
	Group selection

NOTE: You can use left side menu when is shown.

4-3-1. Start/stop the tape feeding:

Start: Stops tension control and untangling device for tape insertion or maintenance.

Stop: Start tension control and untangling device.

4-3-2. Display/hide the piece counter.

4-3-3. Group selection:

There are 9 selectable groups. Each group consists of 9 Programs (A~I) and each Program allows you to design 8 steps. Group selection page is shown as below.

Group selection page:

Return to the Sewing mode without changing Group number.

Group number

Number select key

Save the Group number selected and return to the Sewing mode.

NO.1

1
2
3

Group structure:

Group1	→	Program A	→	Step1
		Program B ・・・		Step2
		Program C ・・・		Step3
		Program D ・・・		Step4
		Program E ・・・		Step5
		Program F ・・・		Step6
		Program G ・・・		Step7
		Program H ・・・		Step8
		Program I ・・・		goto A~I

Group2 ・・・

・
・
・
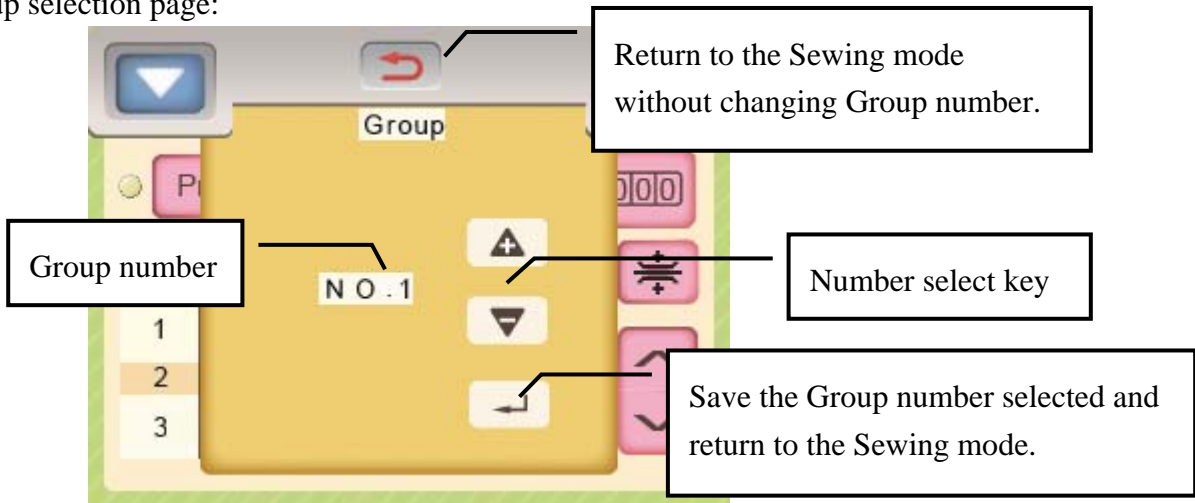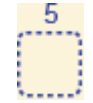
Group 9 ・・・
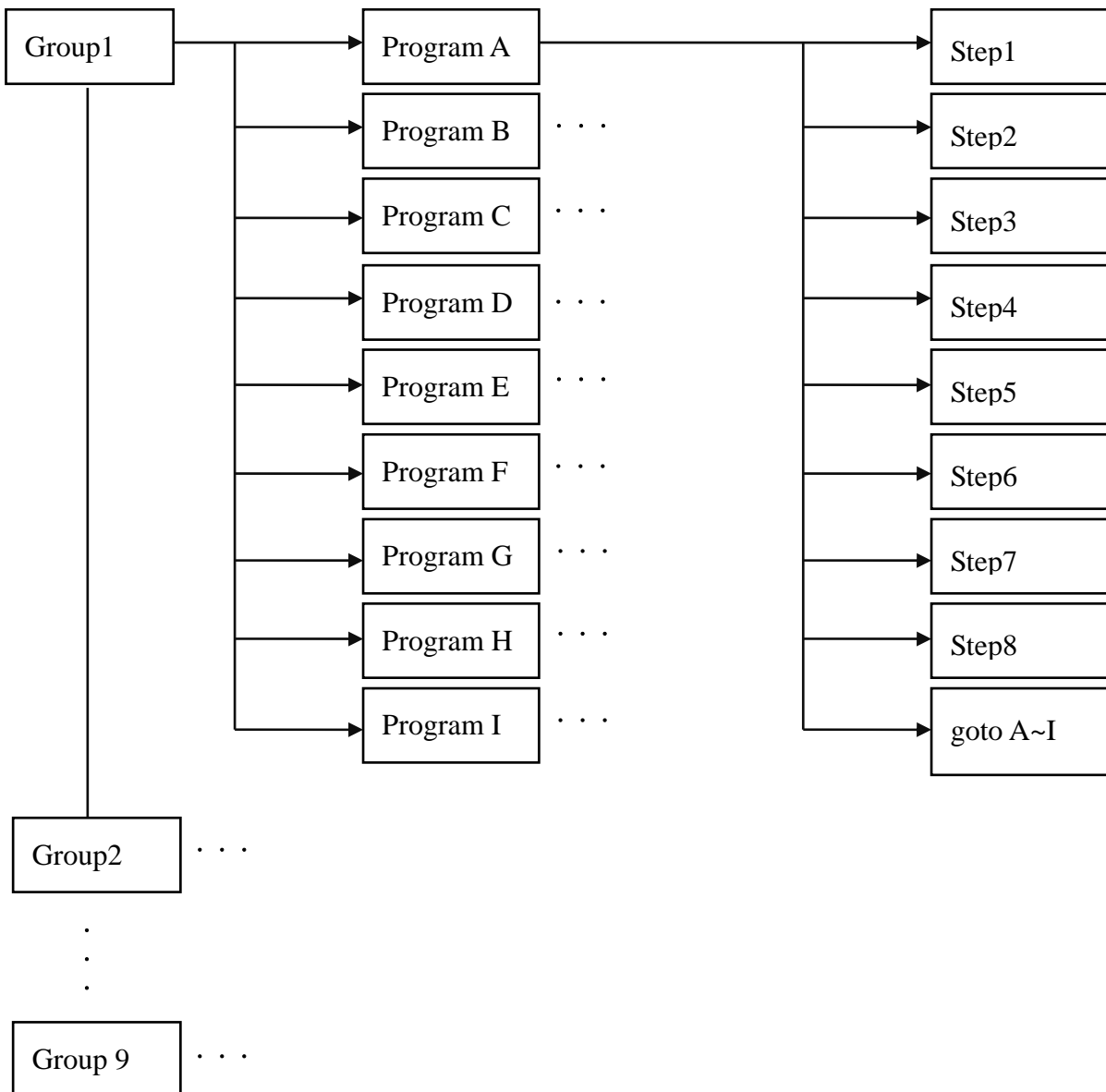
5. Testing mode

Press ⚒ at left side menu to enter the Testing mode, the following menu is shown.
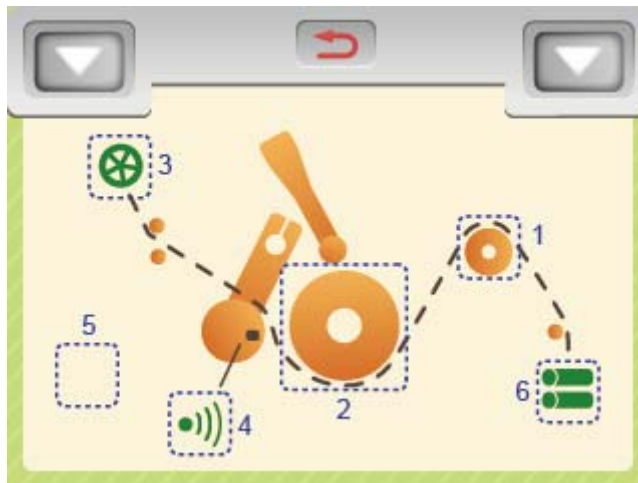
Icon	Description	Icon	Description
1	Reserved.	4	Tape thickness detector settings.
2	Driven Roller test.	5	Reserved.
3	Untangling device settings.	6	Accessory test.

5-1. Driven roller test

Press ⊙ to enter the driven roller test menu as shown below.

Caution: Ensure that no tape is on the driven roller.

Step 1. Press [icon] and the driven roller will run clockwise for 2 seconds.

Step 2. Press [icon] and the driven roller will run counterclockwise for 2 seconds.

5-2. Untangling device setting mode

Press [icon] to enter the untangling setting mode. There are 3 possible sub modes in this mode.

5-2-1. Off mode: Untangling device stops working.
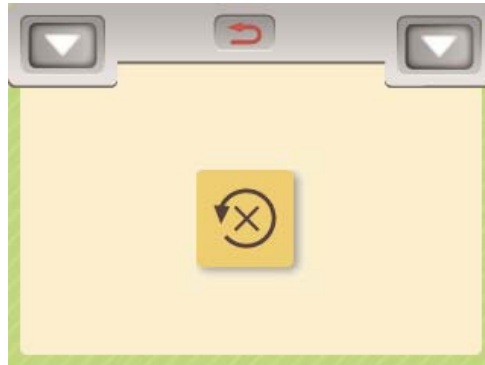
5-2-2. Synchronous mod: The driven roller rotates synchronously with the untangling device.
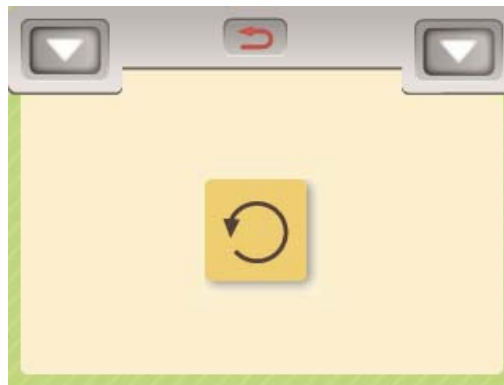
5-2-3. Intermittent mode: Press On/OFF to pop up the keyboard, then enter the seconds for ON/OFF the untangling device.

Seconds for ON ⟶ [ON 2]

Seconds for OFF ⟶ [OFF 5]
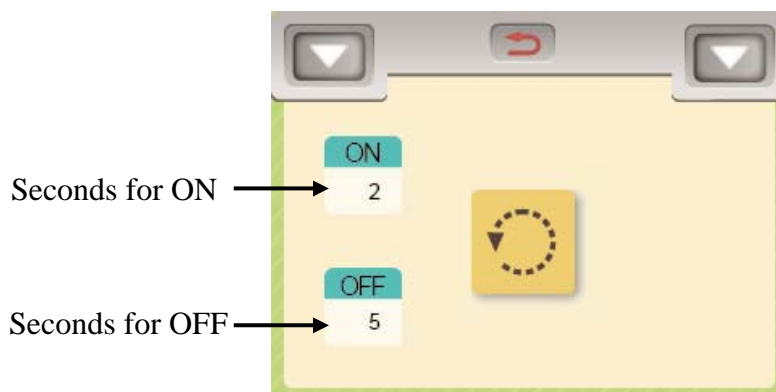
5-3. Thickness detecting mode

Press 4 to enter the Thickness detecting mode.

Display tape tickness		Open/close the tape thickness detection
Tape thickness value		Tape thickness sensor calibration
Tape thickness setting shortcut		Tape thickness adjustment
Maximum thickness of tape (percentage)		Tape thickness upper limit (percentage) adjustment
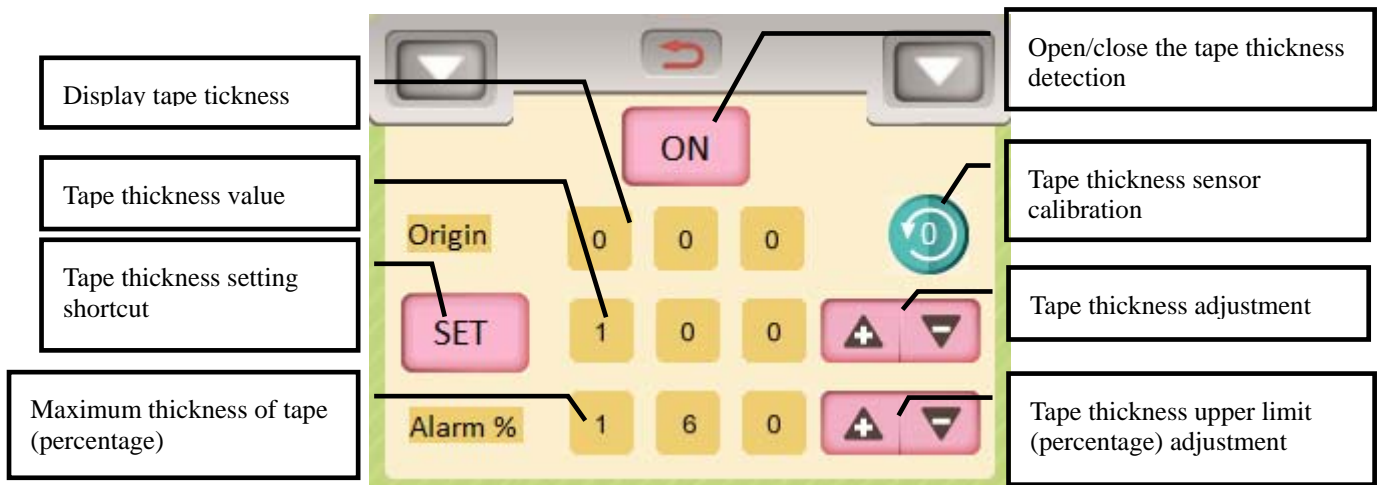
The setting steps are as follows:

Step 1. Press ON .

Step 2. Remove any tape from the driven roller and the auxiliary roller, then close the auxiliary roller handler. The value of thickness (Origin) should read between -5~+5. If the value of thickness is incorrect, refer to Step 3 for performing the calibration of thickness detecting sensor.

Step 3. Press <Tape thickness sensor calibration>, menu shows. "N074:tape thickness sensor calibration OK". The value of thickness should read between -5~+5.

Step 4. Place the tape over the driven roller and the auxiliary roller to get the value of tape thickness.

Step 5. Press SET to copy the tape thickness to SET □□□ .

Step 6. The alarm setting can be set to a maximum thickness of 200% and the system alarm "E075" alerts when the thickness of tape exceeds the maximum setting.

5-4. Accessory test

Press 6 to enter the Accessory test mode for the optional device.

Description of Accessory test:

5-4-1.   Reserved

5-4-2.   Reserved

5-4-3.   Reserved

5-4-4.   Reserved

5-4-5.   External switch and state display.

   Used for an external switch activation status display.

Display	Description
	No external switch in use
K N	Used for an external knee switch activation status display
E X	Used for external Step change switch activation status display
S F	Presser foot lifter switch activation status display used at pedal toeing down.
S B	Presser foot lifter switch activation status display used at pedal heeling down.
TKS	TK safety switch activation status display.
REL	Free tension switch activated status display.

5-4-6.   Reserved

5-4-7.   TK device test mode:

   Press the key, rear cutter will cut the tape. (The function requires TK device installed.)

6.Parameter setting mode

⚠ CAUTION Only authorized technicians are allowed to set the following parameters.

Press ⚙ to enter the parameter setting mode.

NO	Parameter	Preset value	Range	Description
5	Free Tension func	norm	norm / tf	norm: Normal mode tf: TF device mode
6	TF feed timing	160	100~2500	TF feed time (ms)
7	TF speed	50	1~100	TF feed speed, 1:Slowest, 100:Fastest
8	TF sens	70	1~99	TF sensor sensitivity, 1:Most insensitive, 99:Most sensitive.
10	overload func	Off	Off / On	Load cell overload protection.
11	overload alarm	150%	120%~200%	Alarm is activated if overload occurs on the load cell.
16	buzzer on-off	On	Off / On	Buzzer switch.
18	restore default	nop	nop / run	Refer to 6-1 to restore default setting.
19	lcd auto pwr off	off	off / logo /dark	off: Disable logo: LCD remains on for one minute, then shuts off. dark: LCD remains on for one minute, then shows logo.
20	lcd brightness	99	0~99	To set the brightness of the LCD.
24	TK blow on time	600	100~2500	Timing setting for blowing tape after TK is activated(ms) (note.1)
25	TK blow on sti.	5	0~255	Stitch setting for blowing tape when start to sew (note.1) NOTE: Blowing tape is activated every stitch when the value set as 255.
26	TK on time	100	100~2500	Time setting for TK device (ms) (note.1)
28	TK sw func	tk	off/tk/step /rele/mct/toe	TK switch function(optional): off: Disable rele: Free tension tk: Activate TK device (note.1) mct: Reserved step: Change to next step toe: Reserved
29	free tape tension	987	1~999	Tension setting when in the tension-free mode.
30	Knee sw func	step	off/tk/step /rele/mct/toe	Knee switch function(optional): off: Disable rele: Free tension tk: Activate TK device (note.1) mct: Reserved step: Change to next section toe: Reserved
31	Ext key func	step	off/tk/step /rele/mct/toe	External switch function: off: Disable rele: Free tension tk: Activate TK device (note.1) mct: Reserved step: Change to next section toe: Reserved
33	NCL on sti	5	0~98, all	Stitches for NCL on; all: Full time activation.
34	NCL off sti	25	0~99	Stitch for NCL stop.

NO	Parameter	Preset value	Range	Description
36	ASL s-on sti	0	0~99	Stitches for ASL while the sensor detect the fabric front.
37	ASL s-off sti	0	0~99	Stitches for ASL while the fabric tail left the sensor.
43	pedal emg stop func	On	Off / On	Pedal heeling down for emergency stop in automatic sewing mode.
44	TK end cutter stop	onup	off/on/onup	End stop at TK rear tape cut: off: sewing machine does not stop after tape rear cut. on: sewing machine stops after rear tape cut. onup: sewing machine stops after rear tape cut and needle up.
45	sewing counter	0	0~9999	Counter setting.
46	synchronizer	inst	noth / inst	Synchronizer(optional), noth: With sync., inst: Without sync.
54	fabric protection	off	off/s/m/sm	Fabric protection switch: off: Disable. s: TK device is prohibited to act when the sensor detects fabric(note.1) m: TK device is prohibited to act when servo motor is running sm: Comprises both functions of s and m.
57	fabric sensor type	L.ON	off/L.ON /D.ON	Sensor type setting(optional): off: Disable D.ON: Dark-ON mode L.ON: Light-ON mode
58	mesh counter	0	0~99	Mesh width setting (unit: stitch)

Note 1: The function requires TK device installed.

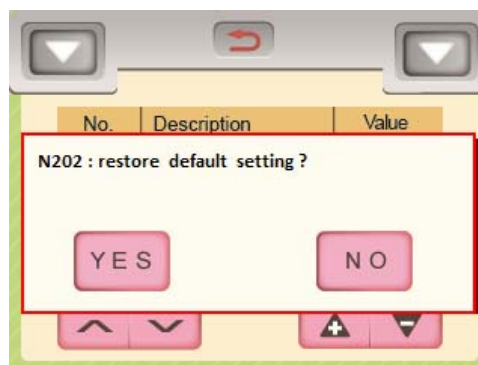## 6-1.Restore default setting

The procedure to restore default settings is described as follows:

Step 1. Press 🔧 at left menu to enter restore default setting page.
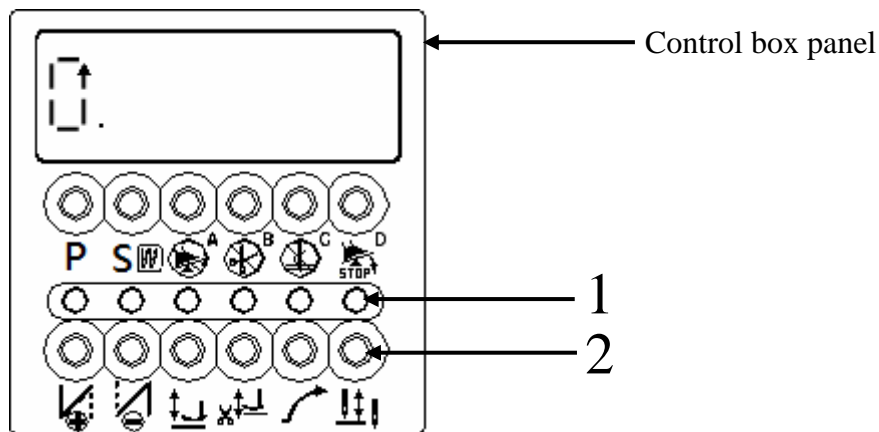
Step 2. Shift the selection bar to 18.

Step 3. Press '+' to pop up the following dialog box menu.

Step 4. Press "YES", then a prompt code shows "N099:Please reboot".

Step 5. Turn the power OFF then ON, the default settings are restored.

6-2.Setting needle Up/Down position at machine stop

Control box panel

[Setting instruction]

Needle stops at Down position: Press Button 2 and ensure that Light 1 is OFF.

Needle stops at Up position: Press Button 2 and ensure that Light 1 is ON.

7. USB upload/download

Press at left side menu to enter USB upload/download page.

Icon	Description

	Press to select upload or download.
	  Upload: Upload the parameter or Program data from USB flash drive to MCU.
	  Download: Download the parameter or Program data from MCU to USB flash drive.

	Parameter data: Press this key, then a check mark will appear with it. The Upload/Download action includes parameter data.

Icon	Description
🧵	Group data: Press this key, then a check mark will appear with it. The Upload/Download action includes the data of 9 selectable groups.
↵	Press to start Upload/Download.
↰	Return to the Sewing mode menu.

7-1. Download:

The procedure to download the parameter and Program data from MCU to USB flash drive is described as follows:

Step 1. Select download mode.

Step 2. Plug a USB flash drive to Control box and make a beep.

Step 3. Press ✱ to check mark and to enable the download of parameter settings.

Step 4. Press 🧵 1 ~ 9 to check mark and to enable the download data of 9 selectable groups. The menu is shown as below.
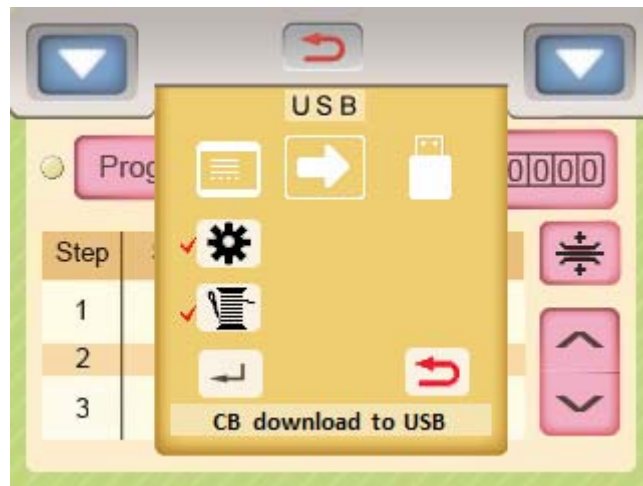
Step 5. Press ↵ to pop up the dialog box menu as shown. Press "YES" to download the parameter settings and Program data from MCU to the USB flash drive. The parameter file "TCPARAME.TCD" and the Program data file "TCPROCES.TCD" will be stored in the root directory of the USB flash drive.
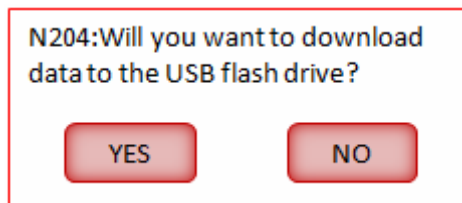
Step 6. The following prompt message shown on the menu indicates the completion of Download operation.

N045:Control box params download to USB OK.

N047:Control box sewing data download to USB OK.

NOTE: If The parameter file "TCPARAME.TCD" and the Program data file "TCPROCES.TCD" exist in the root directory of the USB flash drive before Download operation, "TCPARAME.TCD" will be saved as "TCPARME.BA1" and "TCPROCES.TCD" will be saved as "TCPROCES.BA1". Next, the new Download operation can proceed.

7-2. Upload:

The procedure to upload the parameter and Program data from USB flash drive to MCU is described as follows:

Step 1. Select Upload mode.

Step 2. Plug a USB flash drive to Control box and make a beep.

Step 3. Touch ✱ to check mark and to enable the upload of parameter settings..

Step 4. Touch 📖 to check mark and to enable the upload data of 9 selectable groups. The menu is shown as below.
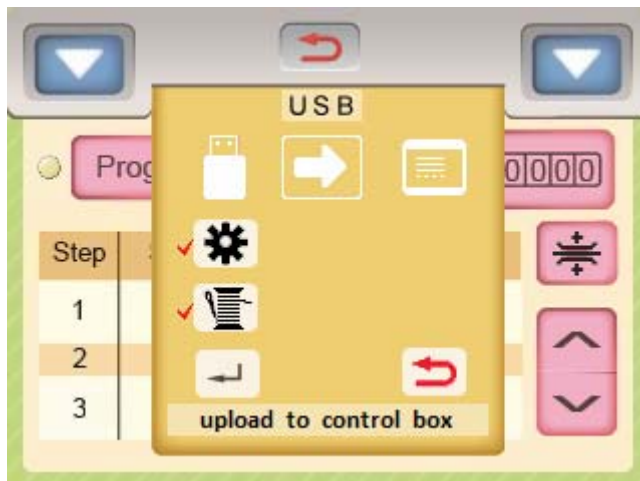
Step 5. Press ↵ to pop up the dialog box menu as shown. Press "YES" to upload the parameter settings and Program data from the USB flash drive to MCU. The parameter file "TCPARAME.TCD" and the Program data file "TCPROCES.TCD" stored in the root directory of the USB flash drive will be uploaded to MCU.
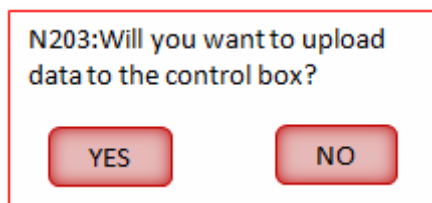
Step 6. The following prompt message shown on the menu indicates the completion of upload operation.

N044:USB params Upload to control box OK.Please reboot.

N046:USB sewing data upload to control box OK.please reboot.

NOTE: ✱ disappears automatically if the parameter file "TCPARAME.TCD" is not in the root directory of the USB flash drive; similarly, 📖 disappears automatically if the parameter file "TCPROCES.TCD" is not in the root directory of the USB flash drive.

8.Operation instruction

Example 1: Single step program with the tension value 700.
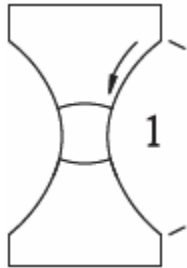
Tension value=700

The procedure is illustrated as follows:
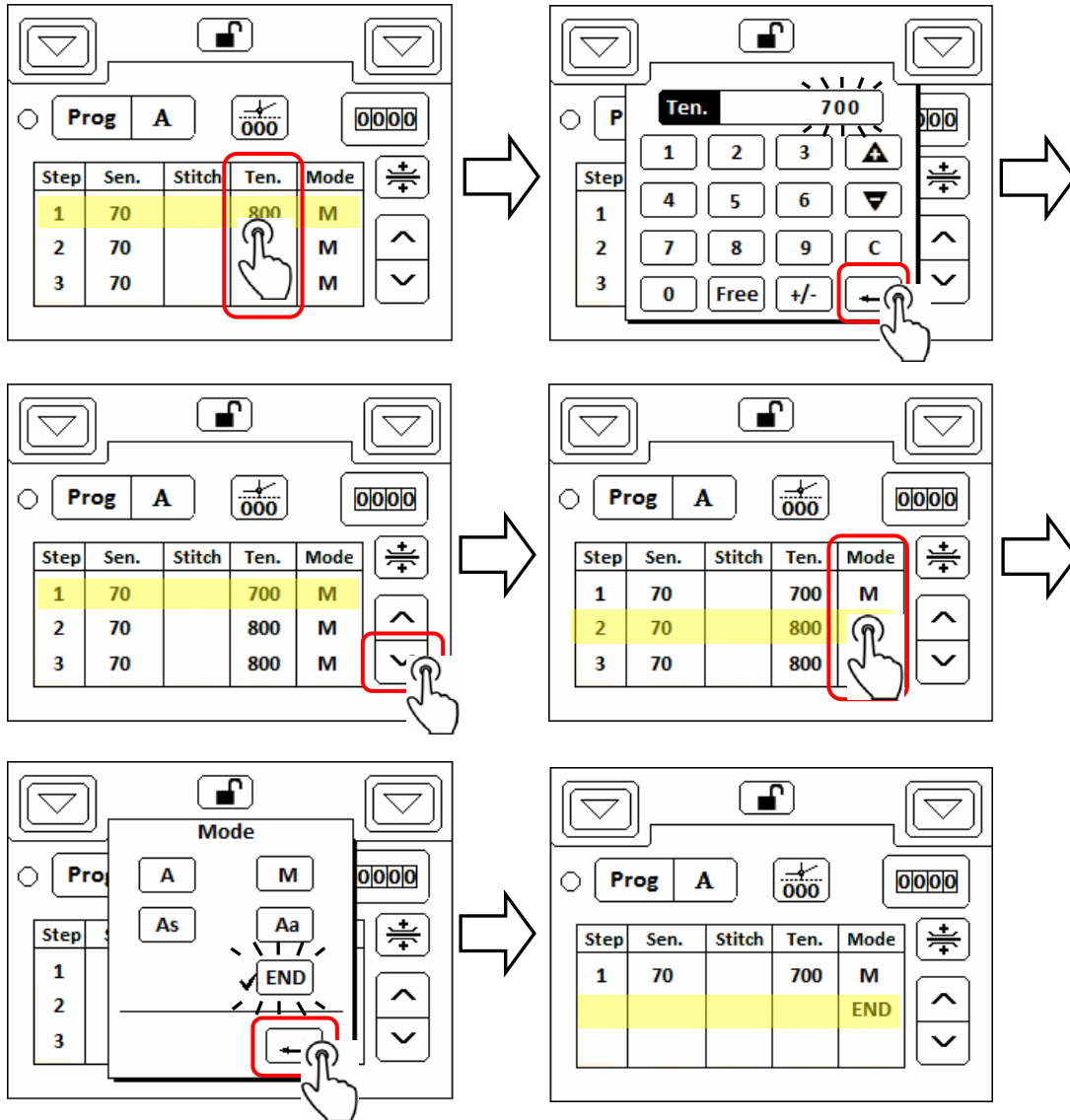
Comparison of tension values adjusted:

A small tension value   A large tension value
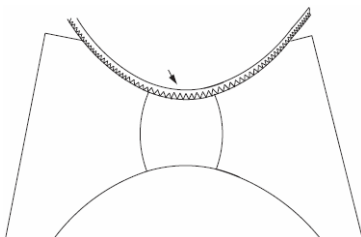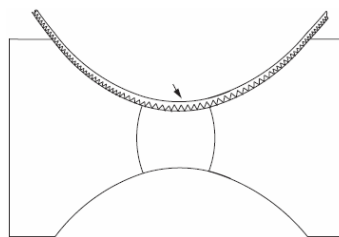
Example 2: Program of 2 steps changed automatically with the tension values and stitches set as shown.
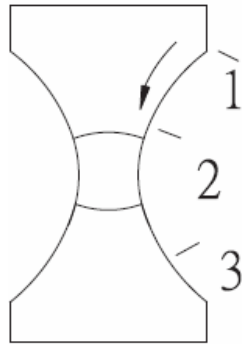
1   Tension value=700, stitch=100

2   Tension value=600, stitch=120

3   Tension value=800

The procedure is illustrated as follows:
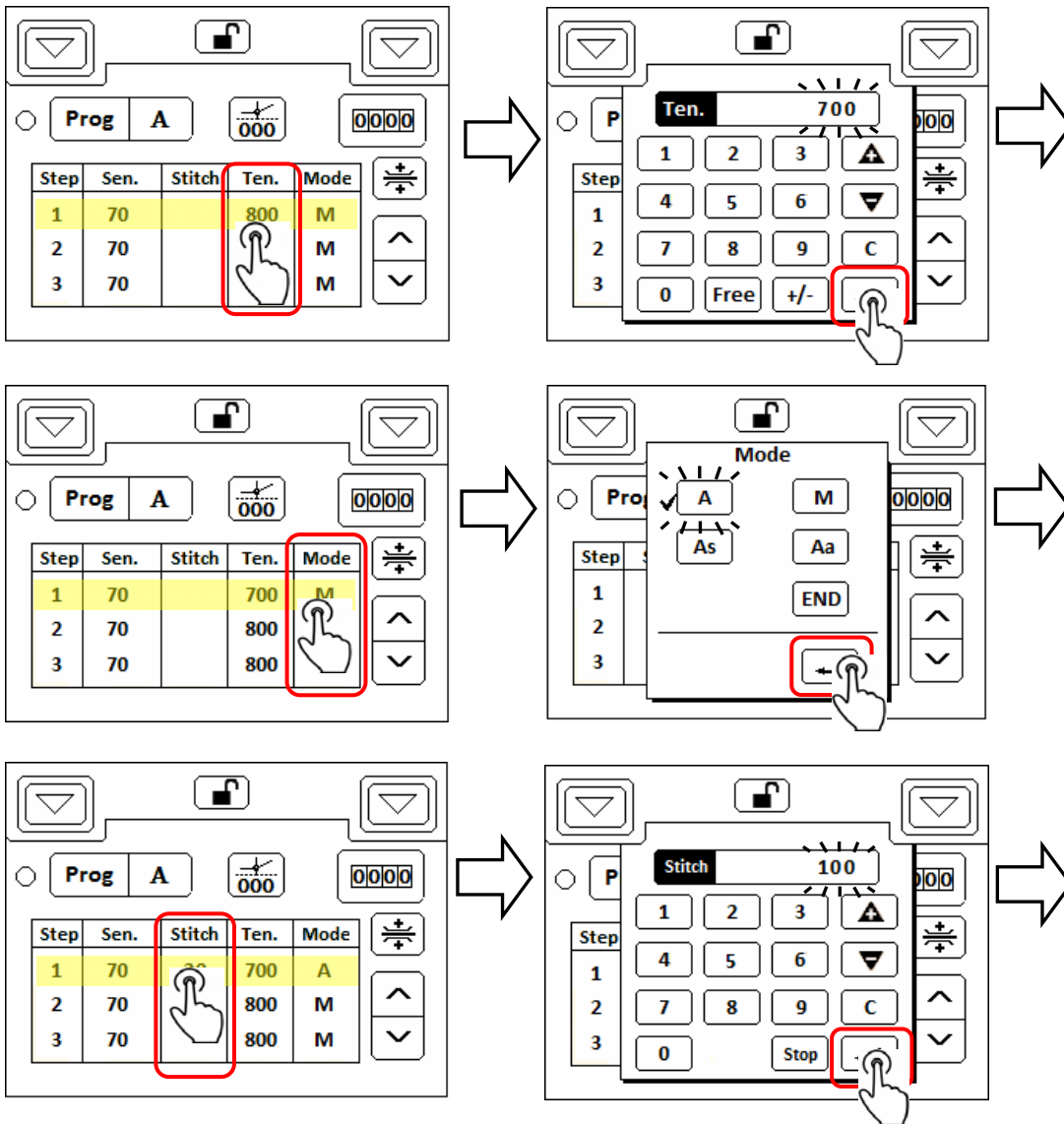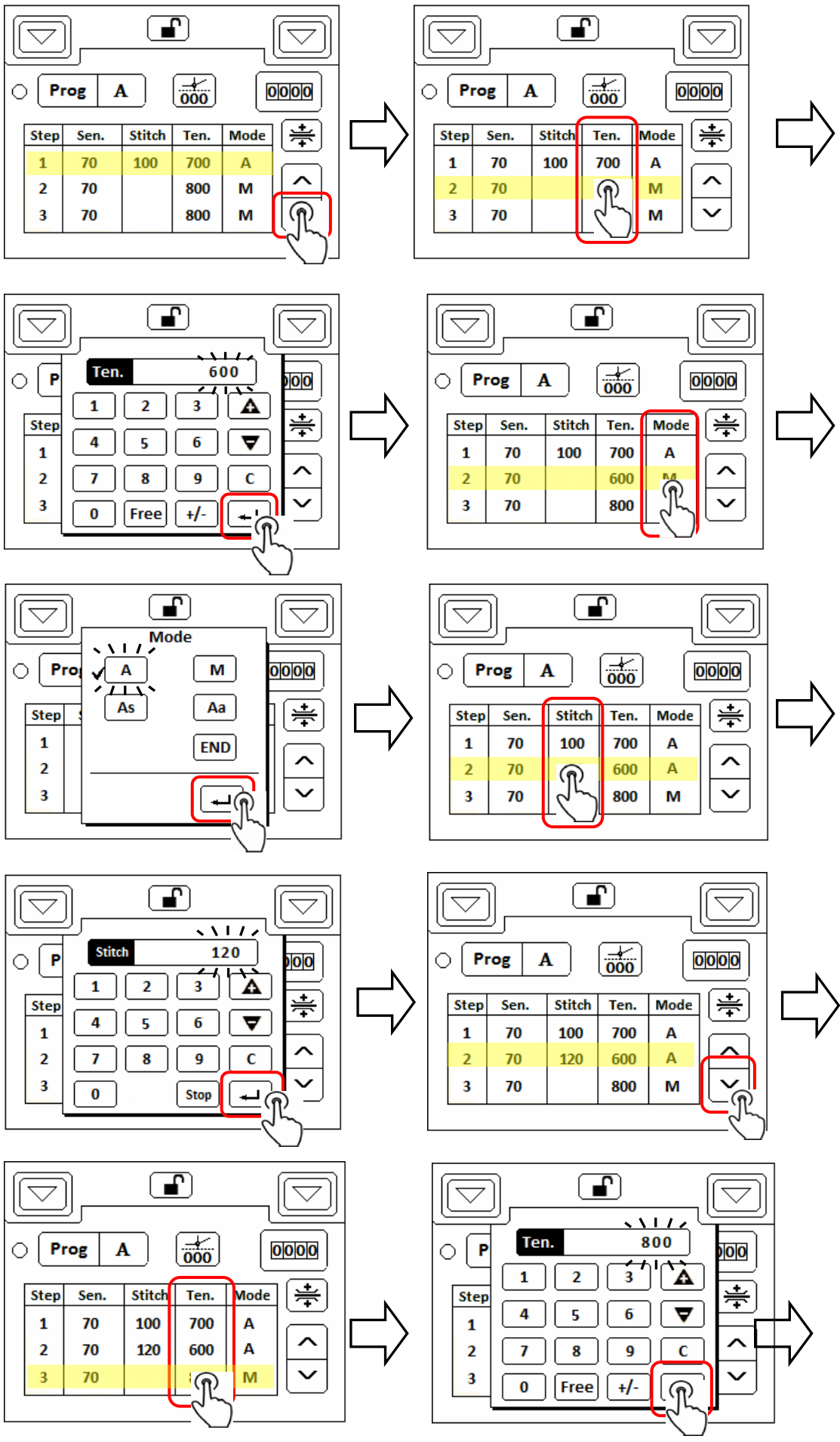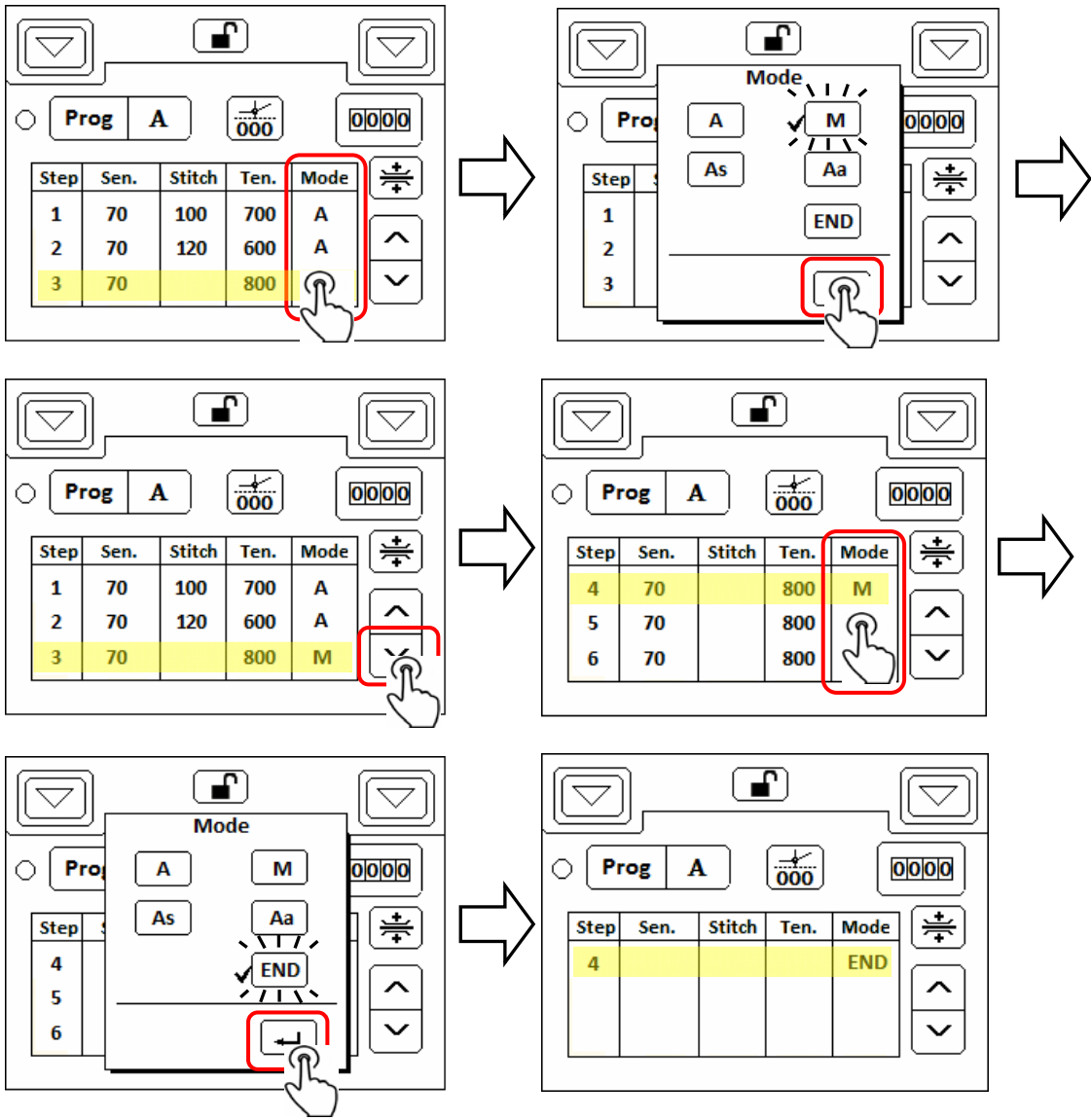
Example 3: Program of 3 steps is designed as shown.

1 Free tension, 50 stitches, then stop automatically.

2 Tension value 700, 150 stitches, the stitch counter of sewing steps starts to count up when a fabric is detected.

3 Free tension, 50 stitches, perform a rear tape cut automatically.

The procedure is illustrated as follows:

Screen 1

Prog A | 000 | 0000

Step	Sen.	Stitch	Ten.	Mode
1	70	50 s	995	A
2	70		800	M
3	70		800	M

Screen 2

Prog A | 000 | 0000

Step	Sen.	Stitch	Ten.	Mode
1	70	50 s	995	A
2	70			M
3	70			M

Screen 3

Ten. 700

1	2	3	▲
4	5	6	▼
7	8	9	C
0	Free	+/-	↵

Screen 4

Prog A | 000 | 0000

Step	Sen.	Stitch	Ten.	Mode
1	70	50 s	995	A
2	70		700	
3	70		800	

Screen 5

Mode

A	M
As	Aa
END	

Screen 6

Prog A | 000 | 0000

Step	Sen.	Stitch	Ten.	Mode
1	70	50 s	995	A
2	70		700	As
3	70		800	M

Screen 7

Stitch 150

1	2	3	▲
4	5	6	▼
7	8	9	C
0		Stop	↵

Screen 8

Prog A | 000 | 0000

Step	Sen.	Stitch	Ten.	Mode
1	70	50 s	995	A
2	70	150	700	As
3	70		800	M

Screen 9

Prog A | 000 | 0000

Step	Sen.	Stitch	Ten.	Mode
1	70	50 s	995	A
2	70	150	700	As
3	70		800	M

Screen 10

Ten. 995

1	2	3	▲
4	5	6	▼
7	8	9	C
0	Free ①	+/-	↵ ②

Screen 1 — Prog A

Step	Sen.	Stitch	Ten.	Mode
1	70	50 s	995	A
2	70	150	700	As
3	70		995	M

Screen 2 — TK / OFF / R✂ / Sti 50

Screen 3 — Prog A

Step	Sen.	Stitch	Ten.	Mode
1	70	50 s	995	A
2	70	150	700	As
3 ✂	70		995	M

Screen 4 — Prog A

Step	Sen.	Stitch	Ten.	Mode
4	70		800	M
5	70		800	
6	70		800	

Screen 5 — Mode: A, M, As, Aa, END

Screen 6 — Prog A

Step	Sen.	Stitch	Ten.	Mode
4				END

9. Prompt code and error code

9-1. Prompt code

Prompt codes are Arabic numerals with a character 'N' at the beginning. There are used to prompt user the next action to do or the feedback message from the previous action.

Code	Prompt message	Description
N044	USB params Upload to control box OK.Please reboot.	USB parameters upload to control box is successful .
N045	Control box params download to USB OK	Control box parameters download to USB is successful.
N046	USB sewing data upload to control box OK.please reboot.	USB Program data upload to control box is successful.
N047	Control box sewing data download to USB OK	Control box Program data download to USB is successful.
N064	Load cell calibration OK	Load cell 0kg calibration is successful.
N065	Load cell calibration OK	Load cell 1.8kgs calibration is successful. Please remove the 1.8kgs weight.
N066	Pls remove tape and weights on the load cell then press any key...	Please remove the fabric and weights on the load cell, then press any key.
N067	Pls hang 1.8KG of weights on the load cell then press any key…	Please hang the1.8 kg weight onto the load cell.
N074	tape thickness sensor calibration OK	Tape thickness sensor calibration is successful.
N076	Pls remove tape on the auxiliary roller and handle bar back to original position then press any key...	Please remove any tape on the auxiliary roller and handler back to original position, and then press any key…
N098	Save parameters ok	Restoring the default setting is successful.
N099	Please reboot	Turn the power OFF, then turn it ON.
N200	Reset system? all params will be lost	Confirm message for "Reset".
N201	Power Off	Power off.
N202	restore default setting?	Confirm message for "restore". Press "YES" to restore the default value.
N203	Will you want to upload data to the control box?	Confirm message for "upload". Press "YES" to upload.
N204	Will you want to download data to the USB flash drive?	Confirm message for "download". Press "YES" to download.
N205	Auxiliary roller handle is opened	Auxiliary roller handler is opened.

9-2. Error code

Error codes are Arabic numerals with a character 'E' at the beginning. There are used to alert user the system malfunctions occur. Further actions should be taken to conduct the troubleshooting.

Code	Error and failure	Troubleshooting
E040	USB params upload to control box failure	USB parameter upload to control box is failed. 1. Unplug and replug the USB flash drive.. 2. Use a new USB flash drive. 3. Check if the parameter file "TCPARAME.TCD" is damaged.
E041	Control box params download to USB failure	Control box parameter download to USB is failed. 1. Unplug and replug the USB flash drive. 2. Check if the storage capacity of USB flash drive is insufficient. 3. Use a new USB flash drive.
E042	USB sewing data upload to control box failure	USB Program data upload to control box is failed. 1. Unplug and replug the USB flash drive. 2. Use a new USB flash drive. 3. Check if the Program data file "TCPROCES.TCD" is damaged.
E043	Control box sewing data download to USB failure	Control box Program data download to USB is failed. 1. Unplug and replug the USB flash drive. 2. Check if the storage capacity of USB flash drive is insufficient. 3. Use a new USB flash drive.
E050	memory read error	Ask a qualified technician.
E051	memory write error	Ask a qualified technician.
E052	Calibration value read error	Check the cable connection between Control box and Tension device.
E053	Calibration value write error	Check the cable connection between Control box and Tension device.
E060	Load cell calibration fail	Check the cable connection between Control box and Tension device.
E061	Load cell calibration fail	Load cell free calibration failed. 1. Check the cable connection between Control box and Tension device.. 2. Remove the tape on load cell.
E062	Load cell calibration fail	Load cell 1.8kg calibration failed. 1. Check the cable connection between Control box and Tension device.. 2. Hang the 1.8Kg weight on load cell.. 3. Ensure no mechanical obstacle of load cell movement.
E063	Read tension fail	Check the cable connection between Control box and Tension device.
E071	tape thickness sensor calibration fail	1. Check the cable connection between Control box and Tension device. 2. Remove the tape on the auxiliary roller. 3. Close the handler of untangling device.
E073	Read tape thickness fail	Check the cable connection between Control box and Tension device.
E075	Detect abnormal thickness of the tape	1. Ensure that the tape is properly winding around the Driven and Auxiliary roller. 2. Check if a correct value is set (refer to 5-4.)

32

Code	Error and failure	Troubleshooting
E077	Load cell overload warning	1. Ensure that the tape is properly winding around the Driven and Auxiliary roller. 2. Increase the setting value of parameter 11.
E100	TP and MB link fail	Check the cable connection between Control box and Touch panel.