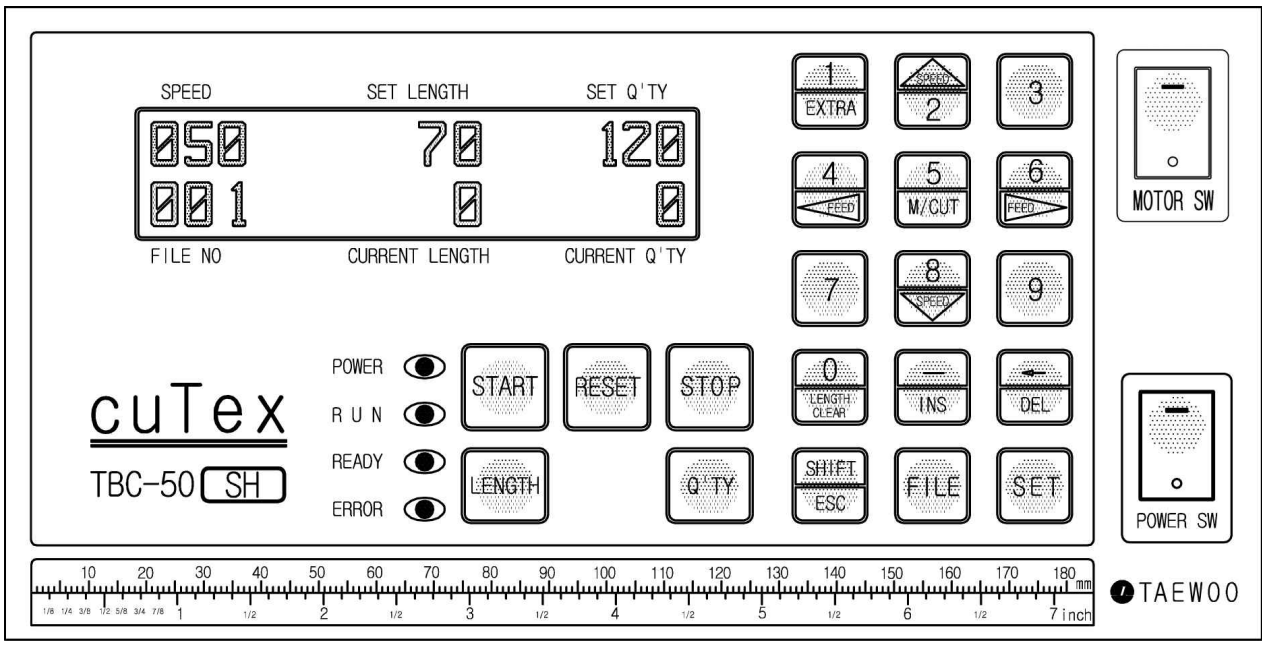
cuTex®

AUTOMATIC WOVEN LABEL CUTTER

TBC-50SH

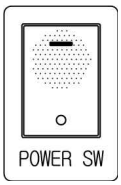
TAEWOO CO., LTD

How to operate TBC-50SH



1. An example (Cutting length : 70mm, Cutting quantity : 120 pcs)

▷ Turn on the POWER SW.



▷ Set the temperature.(It is normally used at 250°~350℃. About 5 minutes after turn-on & set it, it will be reached to set-temperature. (For more detail, refer to the appended "How to use temperature Controller KX4")

※ Caution : When a work is over, set the temperature at zero and turn the cooling fan 10 minutes or so and power off.

▷ Set cutting length 70mm. (Press the following buttons in order.)

☞ [LENGTH] ⇒ [7] ⇒ [0 LENGTH CLEAR] ⇒ [SET]

※ Button "0" has a double functions of "0" and eraising current length.

▷ Set cutting quantity 120 PCs.

☞ [Q'TY] ⇒ [1 EXTRA] ⇒ [SPEED 2] ⇒ [0 LENGTH CLEAR] ⇒ [SET]

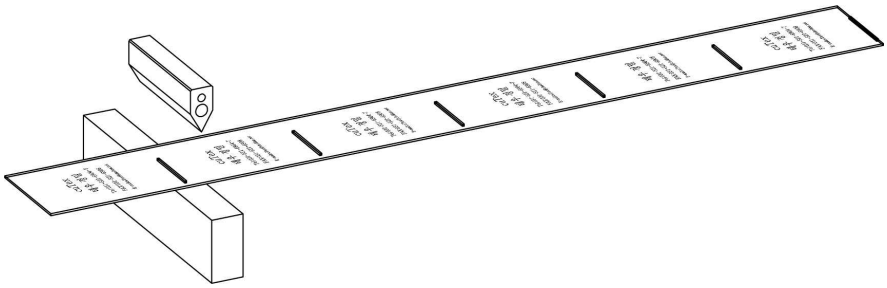
▷ Set function.(Sensor cutting : "1", Normal cutting : "0")

☞ Sensor cutting : FILE ⇒ 1 EXTRA ⇒ SET

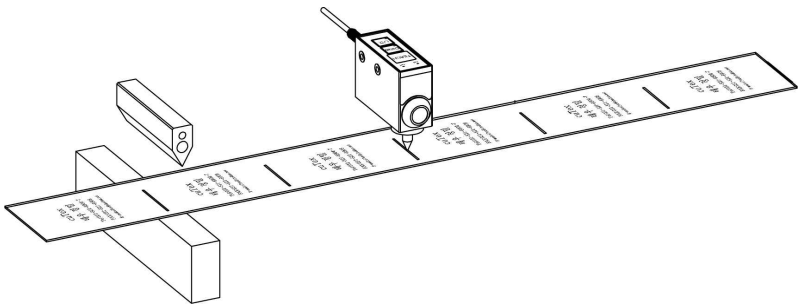
☞ Normal cutting : FILE ⇒ 0 LENGTH CLEAR ⇒ SET

▷ Running of knife-front roller
Turn on MOTOR SW to prevent cut materials from clinging to the knife blade.

▷ Locate the cutting line of label on the lower knife blade.
(This step must go ahead of sensor adjustment.)



▷ Sensor Adjustment
Light sensor-beam on sensing point of label.
(Refer to "How to use sensor" of next page.)



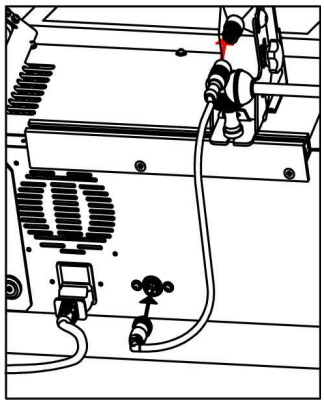
▷ Press START button.

☞ START

※ Troubles in cutting,
- **Check if you adjust sensor after locating cutting line of label on the knife blade.**
- **Move the sensor forwards or backwards.**
- **Check sensitivity & height of the sensor.**

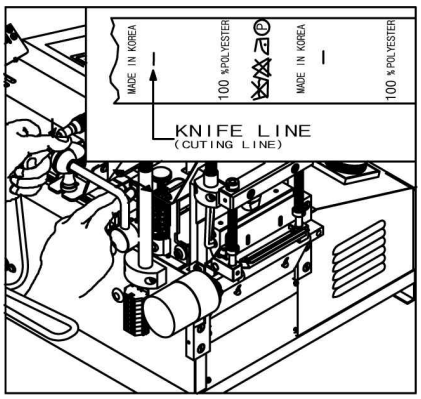
How to use sensor TL46-W

① Mount the sensor on the guide-rail and connect the jack of sensor into the connector of machine downside.

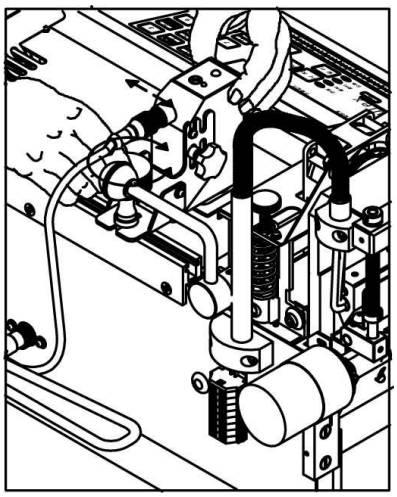


★② Locate the cutting line of label on the lower knife blade precisely & move the sensor close to the knife.

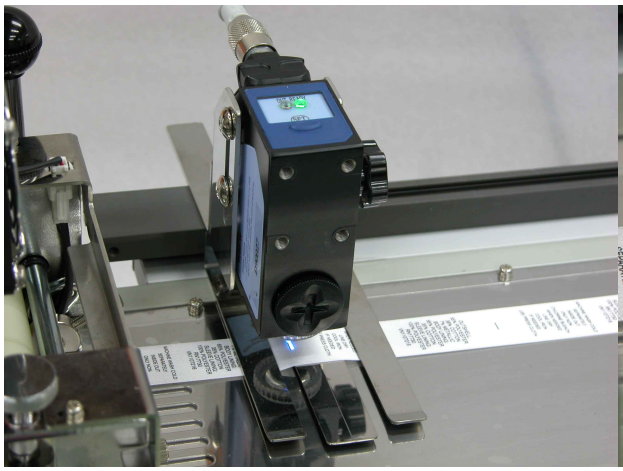
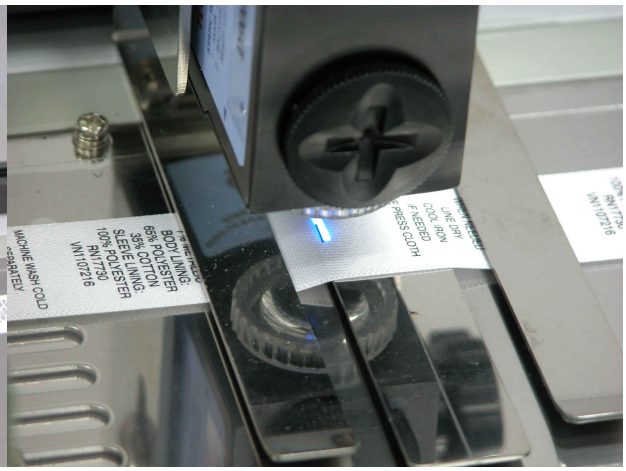
(This step is essential just before fix the location of sensor.)

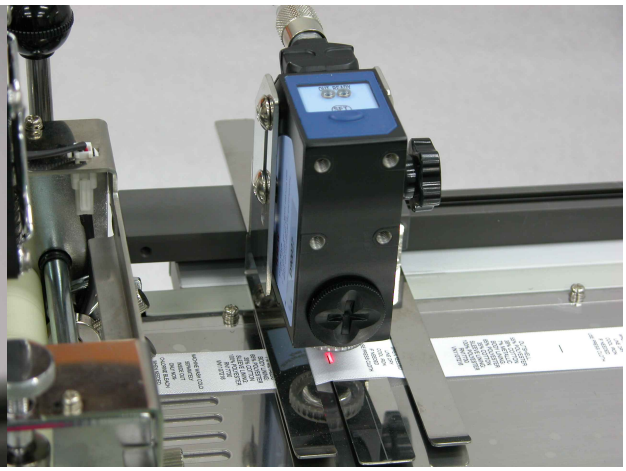


③ Adjust the sensor with guide-control bolt for lightening the beam on the center of marking point.

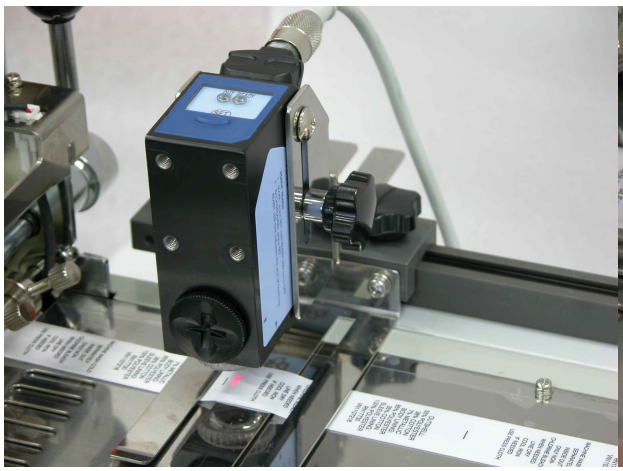
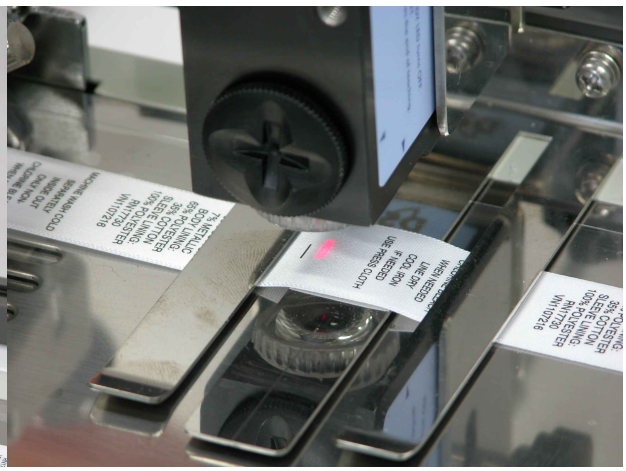


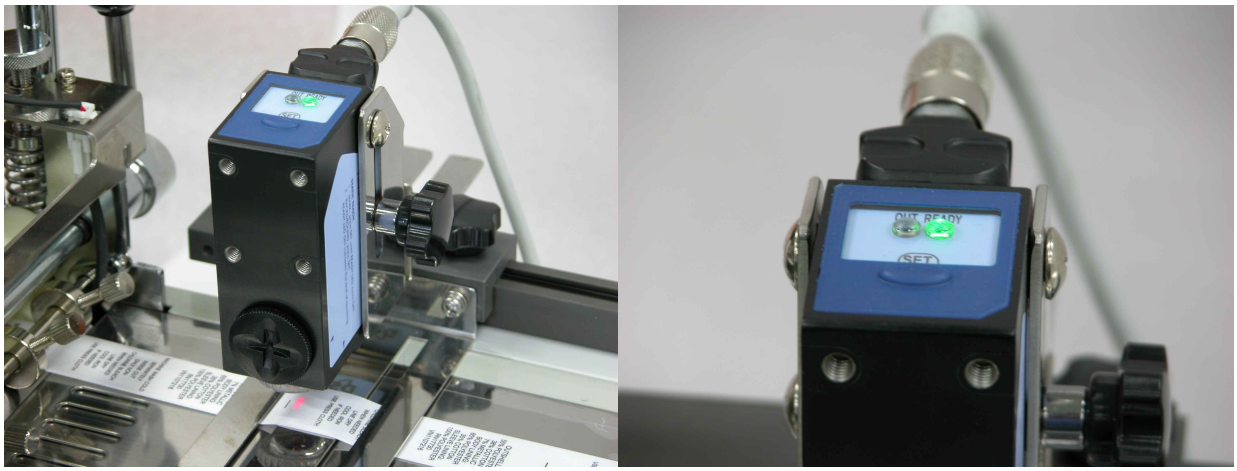
★④ **Move the light spot over the mark (cutting line or figure, letters)** and then press SET button.

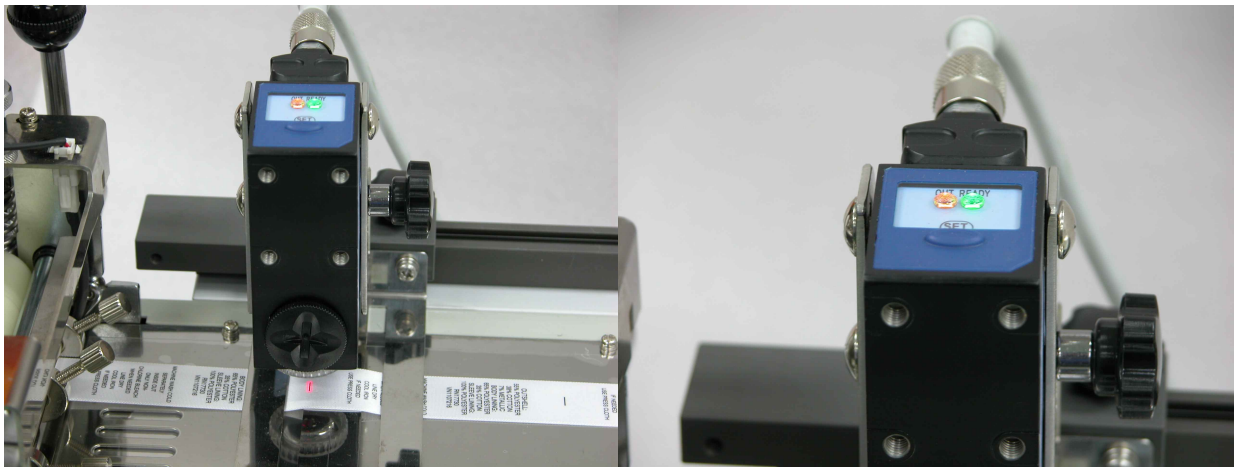



⑤ **Move the light spot on the background (blank, not printed area) and then press "SET" button again.**



⑥By moving sensor, make sensor light indicate cutting mark again.



If you did it correctly, when you make sensor light indicate cutting line, the "out" lamp is on.

(Caution)

※ In the case of objects with reflective or shiny surface, tilt sensor by 10° to 15° relative to surface.

2. Key functions

FILE : Function for label cutting

0 / LENGTH CLEAR : Current length on display will be back to “0” at a stop.

RESET : All of current length and current q‘ty on display will be back to "0".

5 / M/CUT : Moving knife only.

① to cut the material for test.
② to take out the material jammed between knife blades.
③ for balancing of knife blades in exchange.

1 / EXTRA : Cutting additional one.

SHIFT / ESC : Restoring to normal condition in ERROR(red LED) and inputting parameter or program.

4 / FEED 6 / FEED : to move the roller manually for mounting the material on the machine or for feeding it forwards or backwards.

SPEED / 2 — Speed up (The current speed appears on the left-upside of LCD display with "%". Normal speed : 50%, Maximum speed : 100%)

*** Speed up & down is possible in any time(operation or stop) and set-speed will not be changed even though you press RESET button or power off & on.**

8 / SPEED — Speed up (The current speed appears on the left-upside of LCD display with "%". Normal speed : 50%, Maximum speed : 0%)

*** Speed up & down is possible in any time(operation or stop) and set-speed will not be changed even though you press RESET button or power off & on.**

– / INS : to insert new program between programs inputted already in time of program-input.

: to delete the wrong program in time of program-input. (All things of the STEP will be deleted.)

: to prevent the cutted material from clinging to the knife blade.
(This switch is installed to Model TBC-50H, TBC-50SH, TBC-50HX only.)

3. Specification

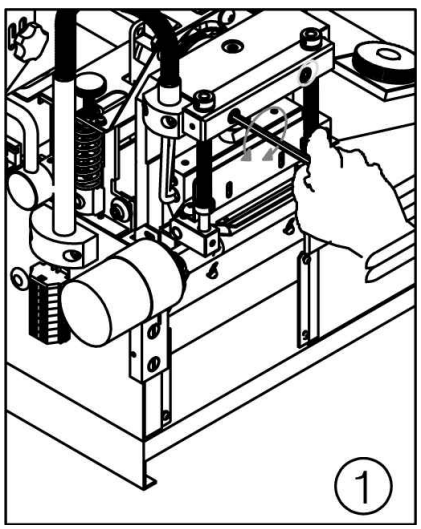
Model Name	Main Cutting Materials	Cutting Knife	Power Supply	Max. Cutting Width	Range of Cutting Length	Cutting Q'ty/min. (Length: 50mm)	Machine Size (Net Weight)	Packing Size (Gross weight)
TBC-50SH (Label cutter)	Woven label	Hot	AC110/220V 50/60Hz	90mm	15mm~ 300M	120～140 cuts	820×370×380 (21.3kgs)	530×470×420 (25.6kgs)

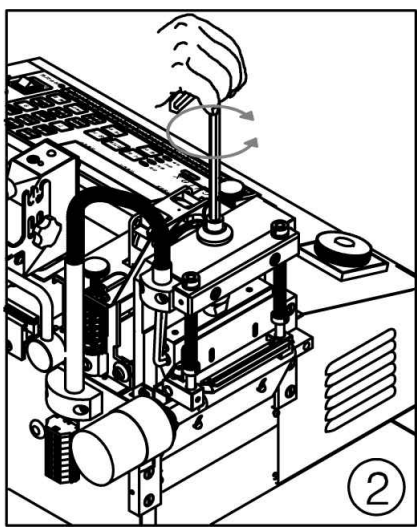
4. Caution for use

- Before use, please confirm the voltage and make ground(earth) connection.
- Do not access hands or any object close to the working knife. (for safety)
- When the knife blade becomes dull, please use it after grinding with the grinding machine. (Please do not let the unskilled person grind manually or install the knife blade.)

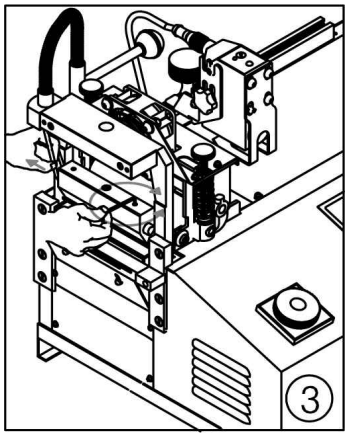
EXCHANGE OF KNIFE

① First of all, move up the upper knife to top level and power off and take off the presser of upper knife after unscrewing 2 bolts by 4mm-wrench.
② Take off the upper knife frame by 6mm-wrench.

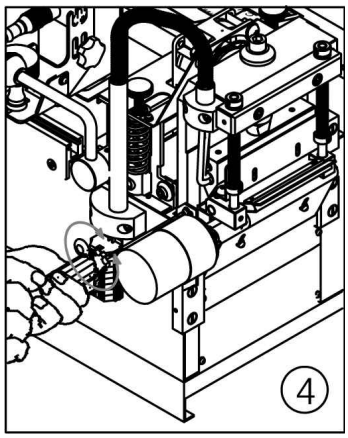


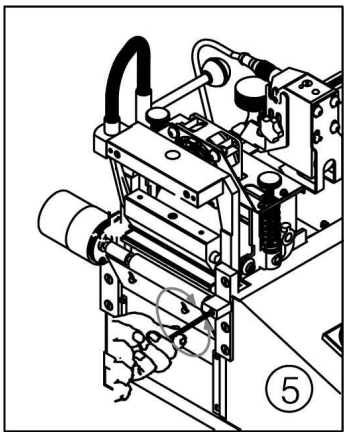


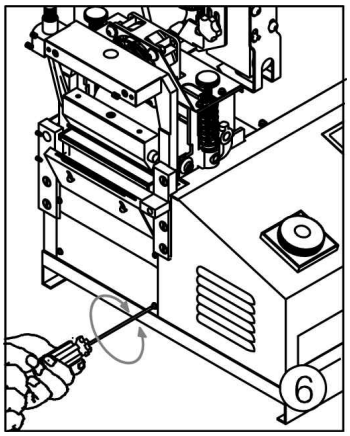
③ Take off the heater after unscrewing the fixing bolt by 4~5mm-wrench.
(Install new upper knife and assemble it again vice versa.)

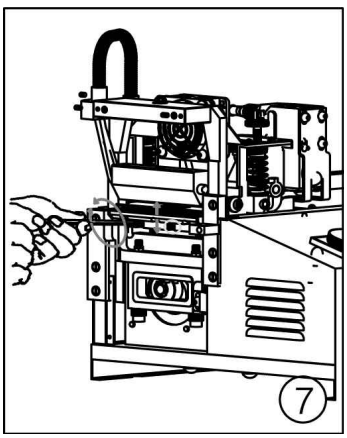


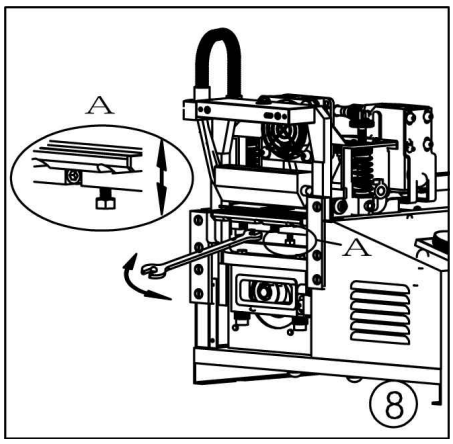
④ If necessary to exchange the lower knife plate, unscrew bolts of the front feeding motor.
⑤ Unscrew bolts of the front feeding roller and take off the motor & the roller.
⑥ Take off the cap by unscrewing bolts.
⑦ Unscrew 3 fixing bolts by 7mm-spanner and take off the lower knife plate.
⑧ If no cutting or one sided cutting, make the upper knife contacted to the lower knife plate and check the level between upper knife & lower knife plate and power off & adjust gap or pressure by 7mm-spanner. (Clockwise turn of spanner makes the lower knife plate up, anti-clockwise turn makes it down.)





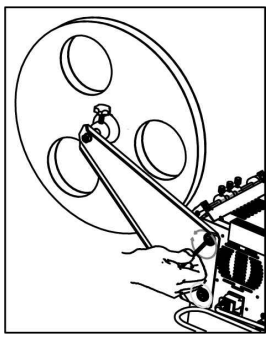






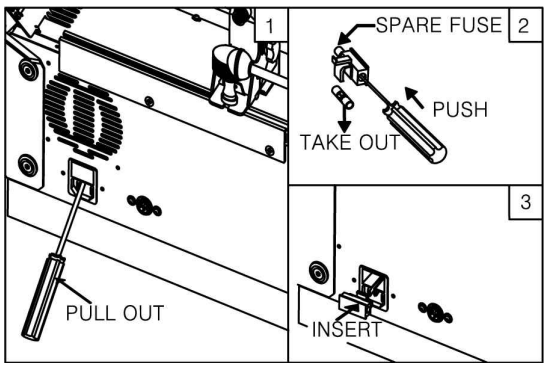
Mount of roll

Fix the roll triangle by 4mm-wrench.



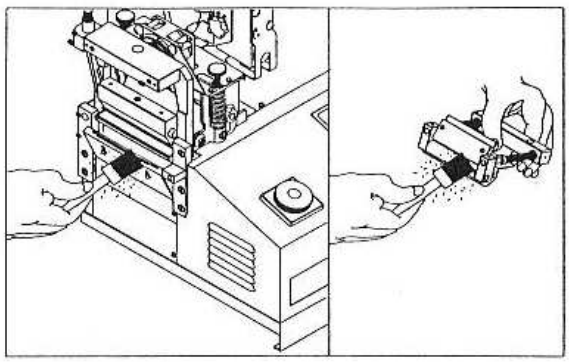
Exchange of fuse

Take off the power plug and exchange as picture.

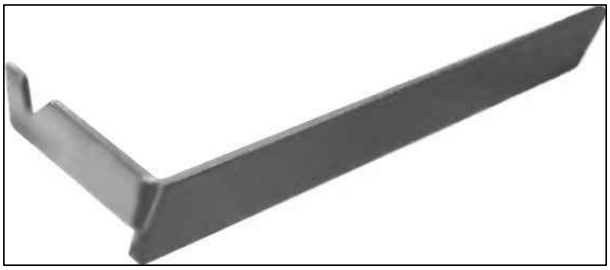


Cleaning of anti-static brush

If anti-static device does not work, clean the anti-static brush by other brush.

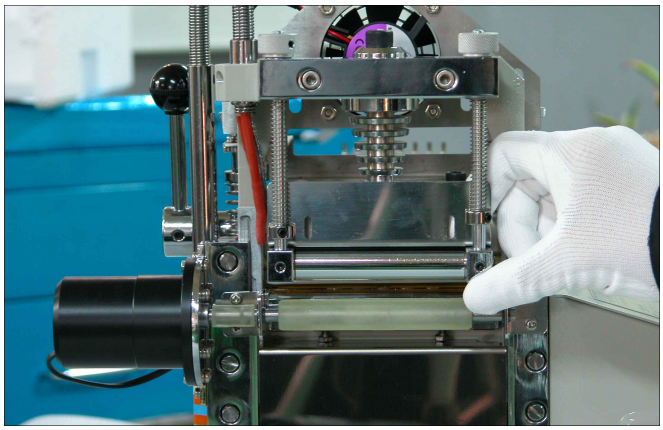


How to use cleaning device

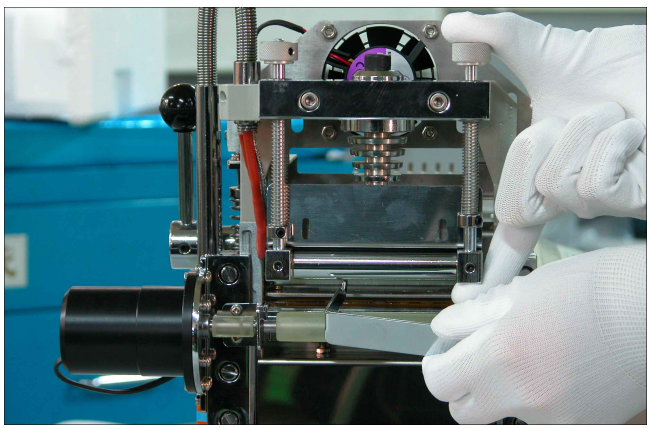


At first, Please set knife's temperature to 250℃~300℃ degree
And, wait until it reaches set temperature.
Please turn off machine,
before cleaning the knife blade.

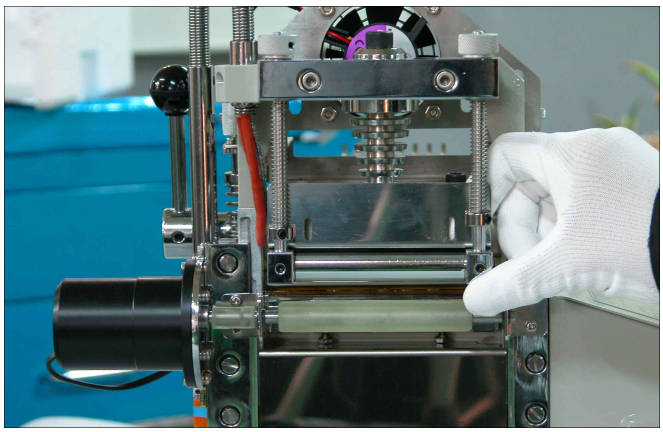
1. Please raise up the pressing roller set.



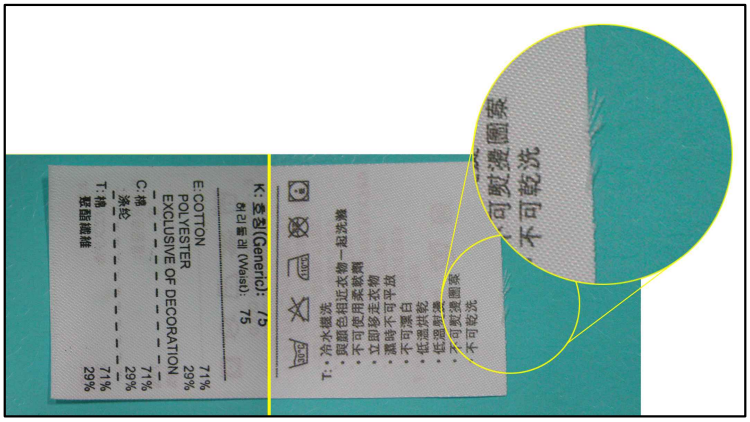
2. Scrape dregs off.



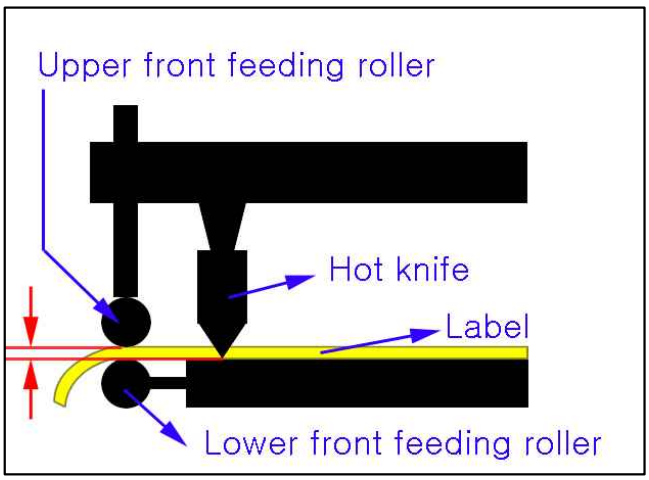
3. After cleaning, please set pressing roller back.

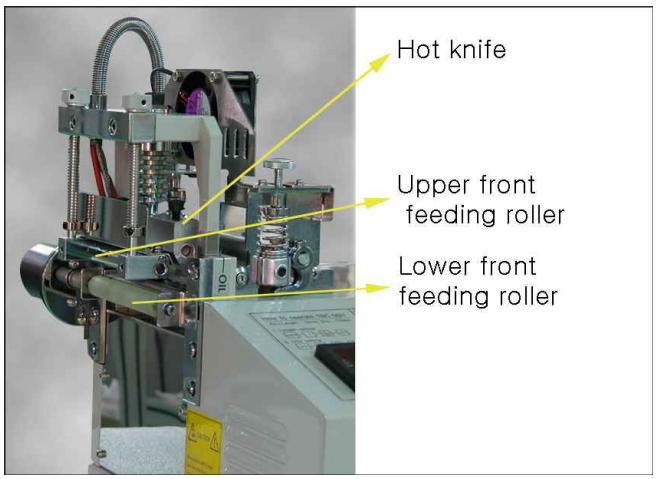


How to solve hairy-label problem



Sometimes you can see a label, one side is sealed well, but the other side is not sealed well.
Just like left image.
This problem is caused by the wrong height of the front feeding (upper) roller.
Here we'll call "pressing roller" "upper front feeding roller".



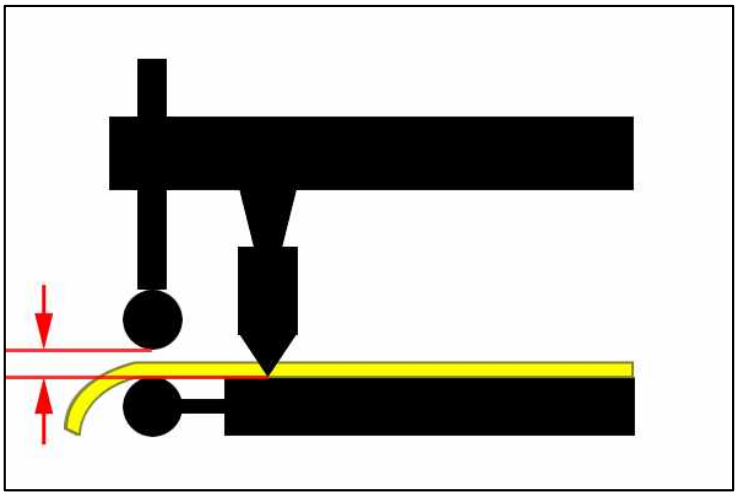


The left-above image shows the ideal height, between upper front feeding roller and hot knife.

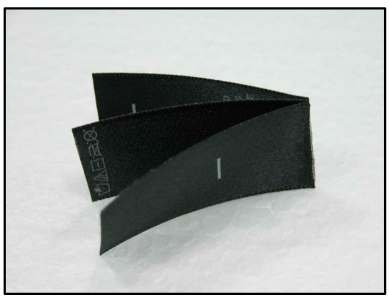
When the hot knife moved down completely, the gab between upper front feeding roller and lower front feeding roller should be the same with thickness of label. In this case, the label can have proper time to be sealed and then be pulled out well.

Next page, you can see some problems caused by wrong height of upper front feeding roller.
If it is higher than hot knife, the material won't be pulled out, so cut labels would stick to hot knife.
And the upper front feeding roller is lower than hot knife, the front feeding roller will pull out the label before the label is sealed well.
So the other side will be hairy.

Case 1. The front feeding roller is higher than hot-knife.

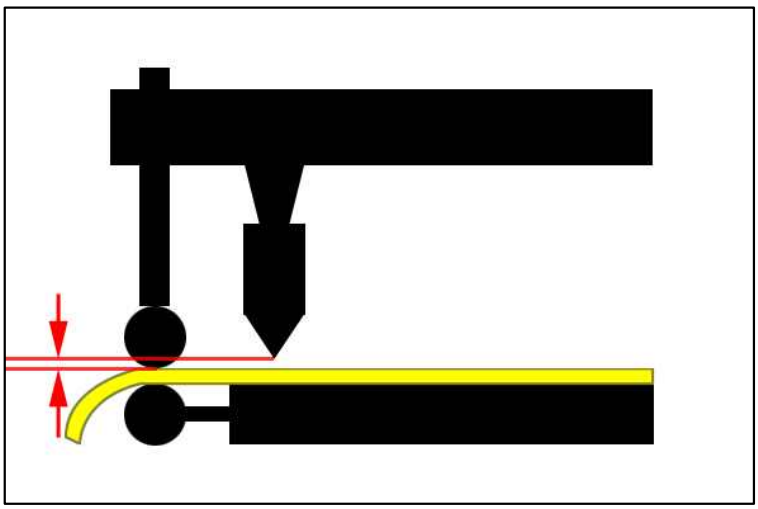


As you can see left image, the upper front feeding roller is higher than hot-knife.
In this case, the label can't be pulled out. So the label will stick to hot knife.
And you can see the labels as blow image.



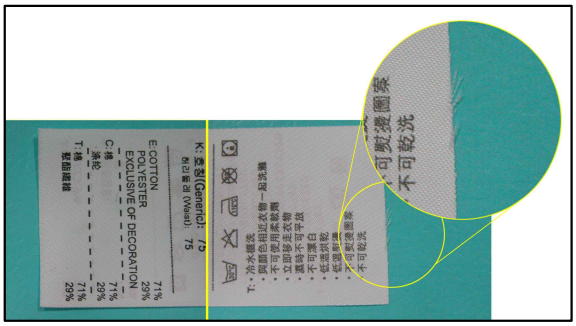
You can also see left image, when you turned off the front feeding roller switch.

Case 2. The front feeding roller is lower than the hot-knife.

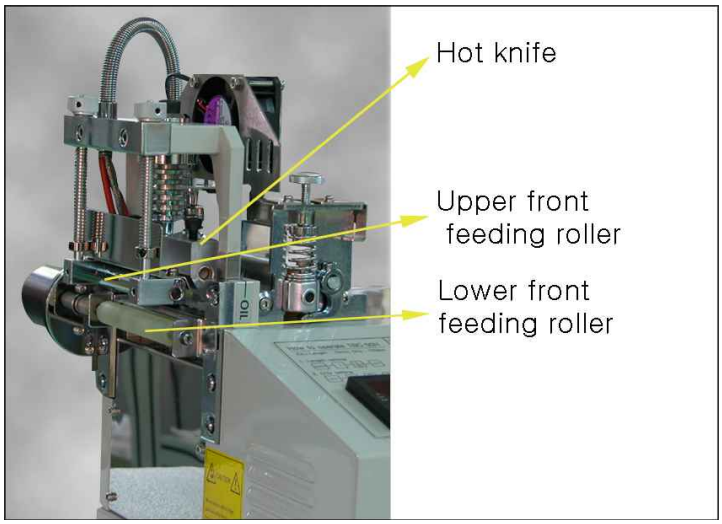


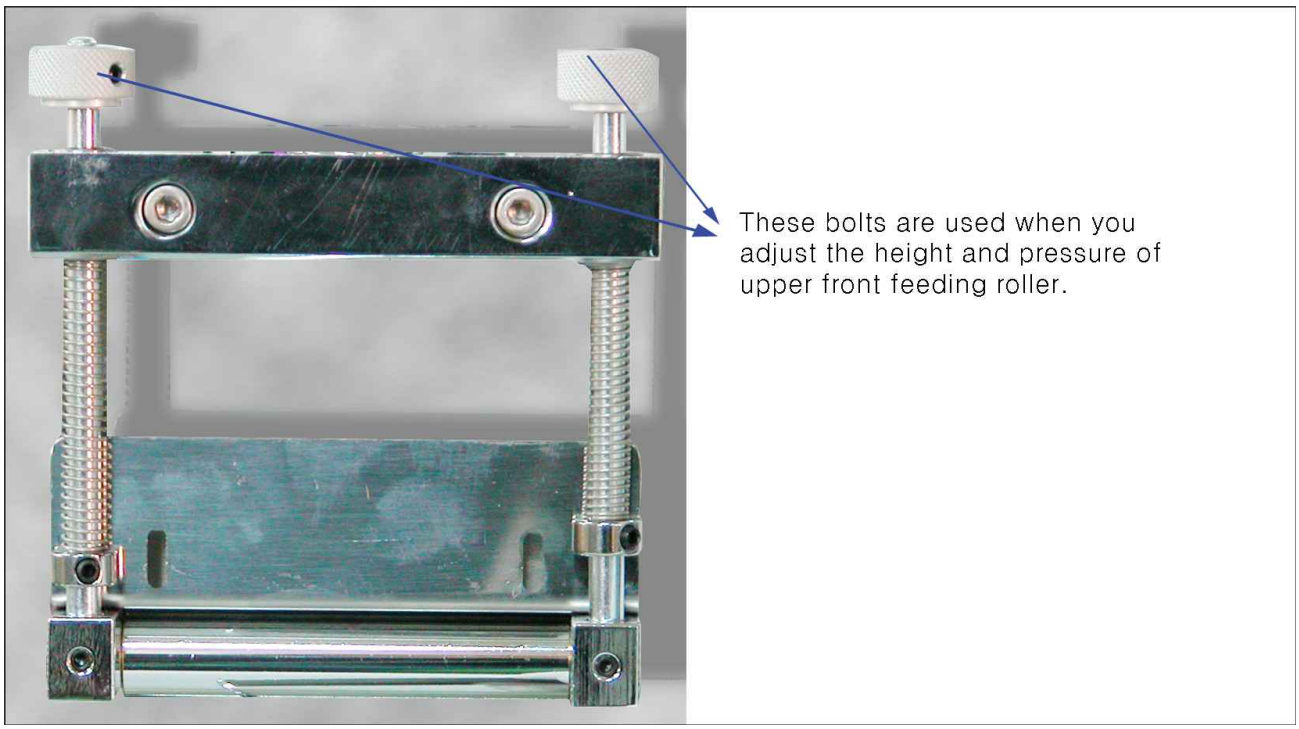
As you can see left image, the upper front feeding roller is lower than hot-knife.
In this case, the front feeding roller pulled out the label before the label is sealed well.
So the one side is sealed well and the other side is hairy, just like below image.

The next page, you can see how to adjust the height of upper front feeding roller.



Please set proper height of upper front feeding roller, refer to below images.

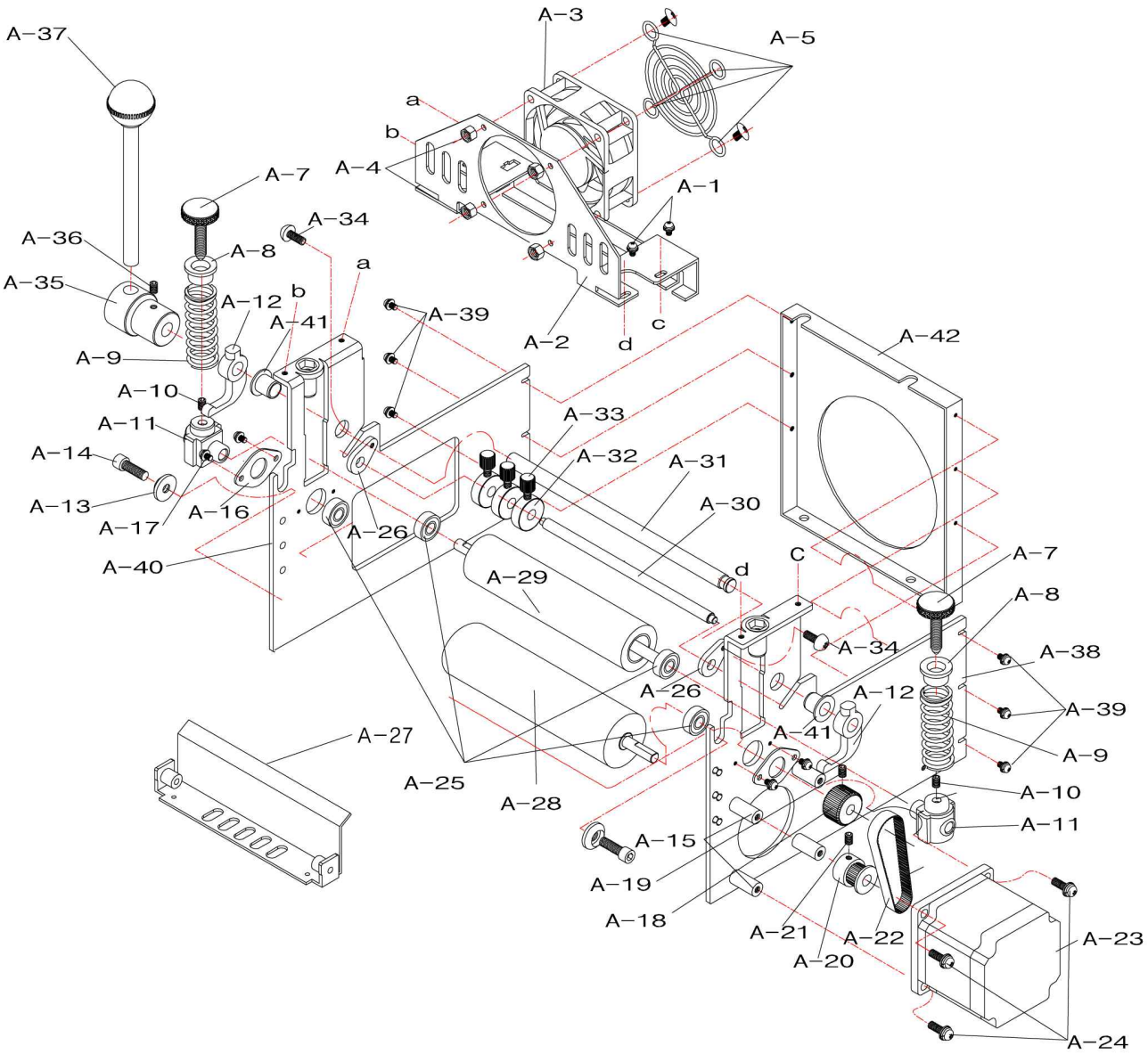




If you need any further information, please contact us at any time.

Mail : cutex@chol.com

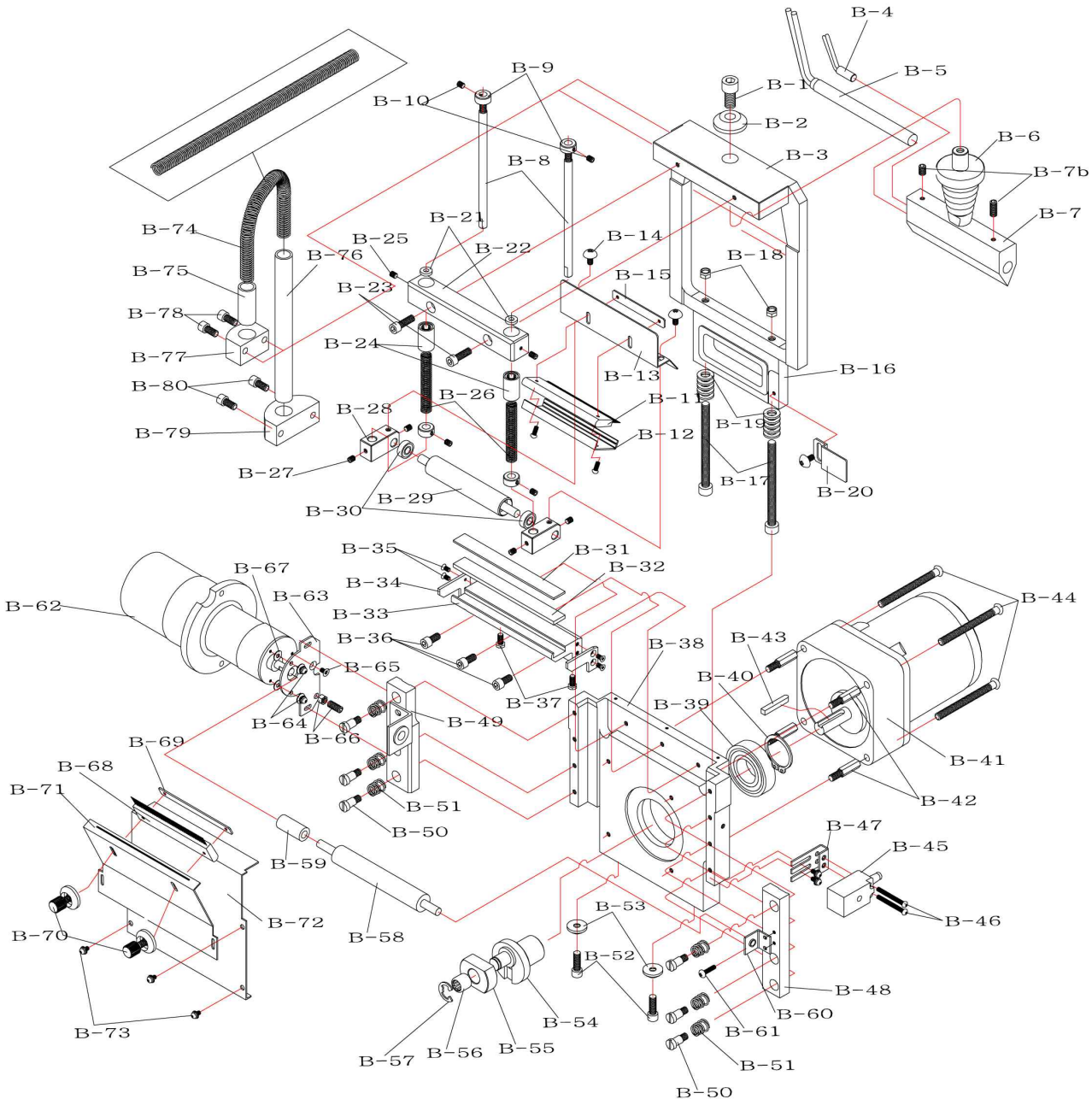
TBC-50SH Part Drawing A (Feeding part)



TBC-50SH Part List A (Feeding part)

Part No.	Description	Part No.	Description
A-1	Clamping Bolt(M3×5L)	A-23	Stepping Motor
A-2	Upper Cap of Cooling Fan	A-24	Clamping Bolt(M4×13L)
A-3	Cooling Fan(Small)	A-25	Ball Bearing(#696)
A-4	Check Nut(M4)	A-26	Guide-clamping Bracket
A-5	Clamping Bolt(M4×10L)	A-27	Stopper
A-6	Safety-grill of Cooling Fan	A-28	Lower Roller
A-7	Pressure-control Bolt	A-29	Upper Roller
A-8	Pressure-control Spring Cover	A-30	Front-guide Pin
A-9	Pressure-control Spring	A-31	Lever Shaft
A-10	Detent Screw(M4×6L)	A-32	Guide Ring
A-11	Slide Block of Upper Roller	A-33	Knob Bolt of Guide Ring
A-12	Slide Lever	A-34	Round Screw(M4×5L)
A-13	Clamping Washer	A-35	Lever Bracket
A-14	Wrench Bolt(M4×14L)	A-36	Clamping Bolt(M5×5L)
A-15	Tie Bar of Stepping Motor	A-37	Lever
A-16	Bearing Cover	A-38	Right Roller Bracket
A-17	Clamping Bolt(M3×5L)	A-39	Clamping Bolt(M3×5L)
A-18	Feed-timing Gear(MXL30T)	A-40	Left Roller Bracket
A-19	Detent Screw(M4×6L)	A-41	Oilless
A-20	Drive-timing Gear(MXL20T)	A-42	Space Plate of Roller Bracket
A-21	Detent Screw(M3×6L)		
A-22	Timing Belt(MXL75)		

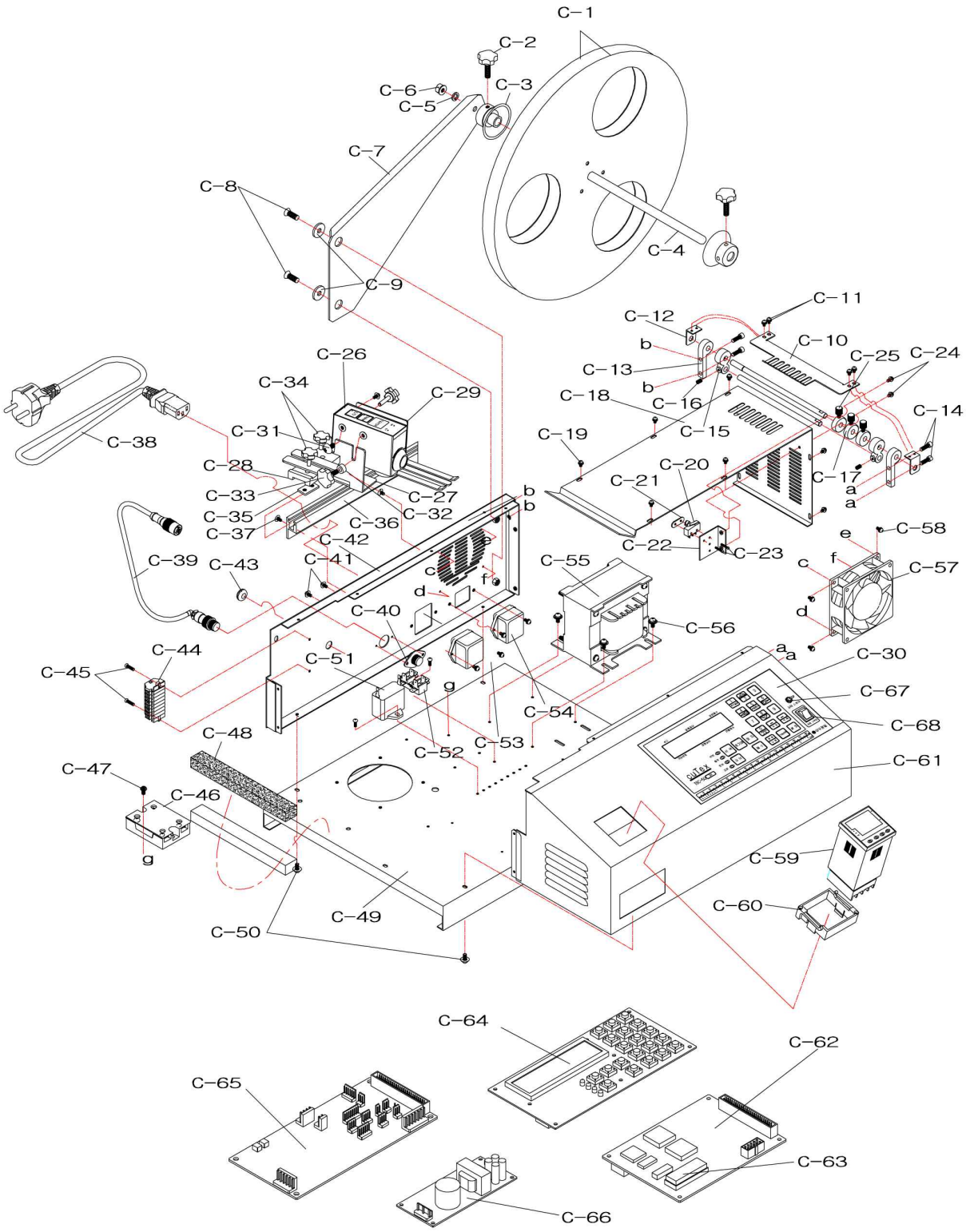
TBC-50SH Part Drawing B (Cutting part)



TBC-50SH Part List B (Cutting part)

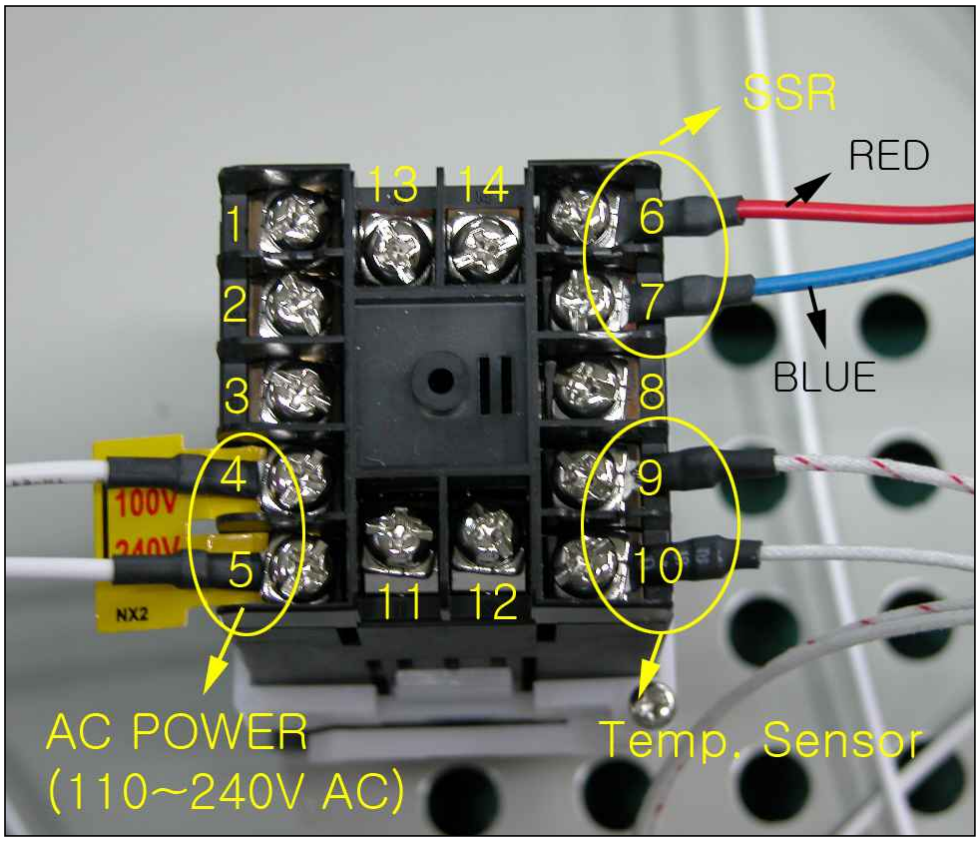
Part No.	Description	Part No.	Description
B-1	Clamping Bolt(M8×15L)	B-41	Motor+Reduction Gear
B-2	Neck Washer of Hot-knife Bracket	B-42	Motor Supporter
B-3	Upper Knife Case	B-43	Motor Key
B-4	Heat Sensor	B-44	Clamping Bolt(M5×42L)
B-5	Heater	B-45	Counting Sensor
B-6	Hot-Knife Bracket	B-46	Clamping Bolt(M3×18L)
B-7	Hot-Knife	B-47	Clamping Bracket
B-7b	Detent Screw(M5×5L)	B-48	Right Pressure Plate
B-8	Vertical Axle	B-49	Left Pressure Plate
B-9	Shaft Ring	B-50	Clamping Bolt of Pressure Plate
B-10	Detent Screw(M4×4L)	B-51	Pressure Spring
B-11	Anti-static Brush	B-52	Wrench Bolt(M5×15L)
B-12	Brush Cap	B-53	Neck Washer
B-13	Pressing Plate Cover	B-54	Crank Bundle
B-14	Clamping Bolt(M4×6L)	B-55	Cam
B-15	Control-plate Nut	B-56	Niddle Bearing
B-16	Slide Ram	B-57	E-Ring
B-17	Clamping Bolt(M6×80L)	B-58	Front Feeding Roller
B-18	Check Nut(M6)	B-59	Front Feeding Sub-roller
B-19	Flat-head Washer Spring	B-60	Roller Shaft Bracket
B-20	Counting-sensor Bracket	B-61	Clamping Bolt(M3×12L)
B-21	Shaft Rubber-bushing	B-62	DC Motor
B-22	LM Guide	B-63	DC Motor Bracket
B-23	Wrench Bolt(M5×20L)	B-64	Clamping Bolt(M3×4L)
B-24	LM Bearing	B-65	Flat-head Bolt(M3×4L)
B-25	Detent Screw(M4×6L)	B-66	Vertical Control Nut
B-26	Verical Axle Ring	B-67	Flat Washer
B-27	Detent Screw(M4×6L)	B-68	Anti-static Brush
B-28	Roller-clamping Bracket	B-69	Plate-nut of Height-control
B-29	Pressing Roller	B-70	Height-control Bolt
B-30	Ball Bearing(#686)	B-71	Front Bracket
B-31	Heating Plate	B-72	Front Cover
B-32	Silicon Plate	B-73	Clamping Bolt(M3×5L)
B-33	Heating Plate Bracket	B-74	Heater Wiring Spring
B-34	Bracket Side Cover	B-75	Heater Wiring Pipe(1)
B-35	Flat-head Bolt(M3×8L)	B-76	Heater Wiring Pipe(2)
B-36	Wrench Bolt(M5×15L)	B-77	Upper Pipe Bracket
B-37	Hexagon-head Bolt(M4×8L)	B-78	Wrench Bolt(M4×15L)
B-38	Lower Knife Case	B-79	Lower Pipe Bracket
B-39	Ball Bearing(#6004)	B-80	Wrench Bolt(M4×15L)
B-40	Snap Ring		

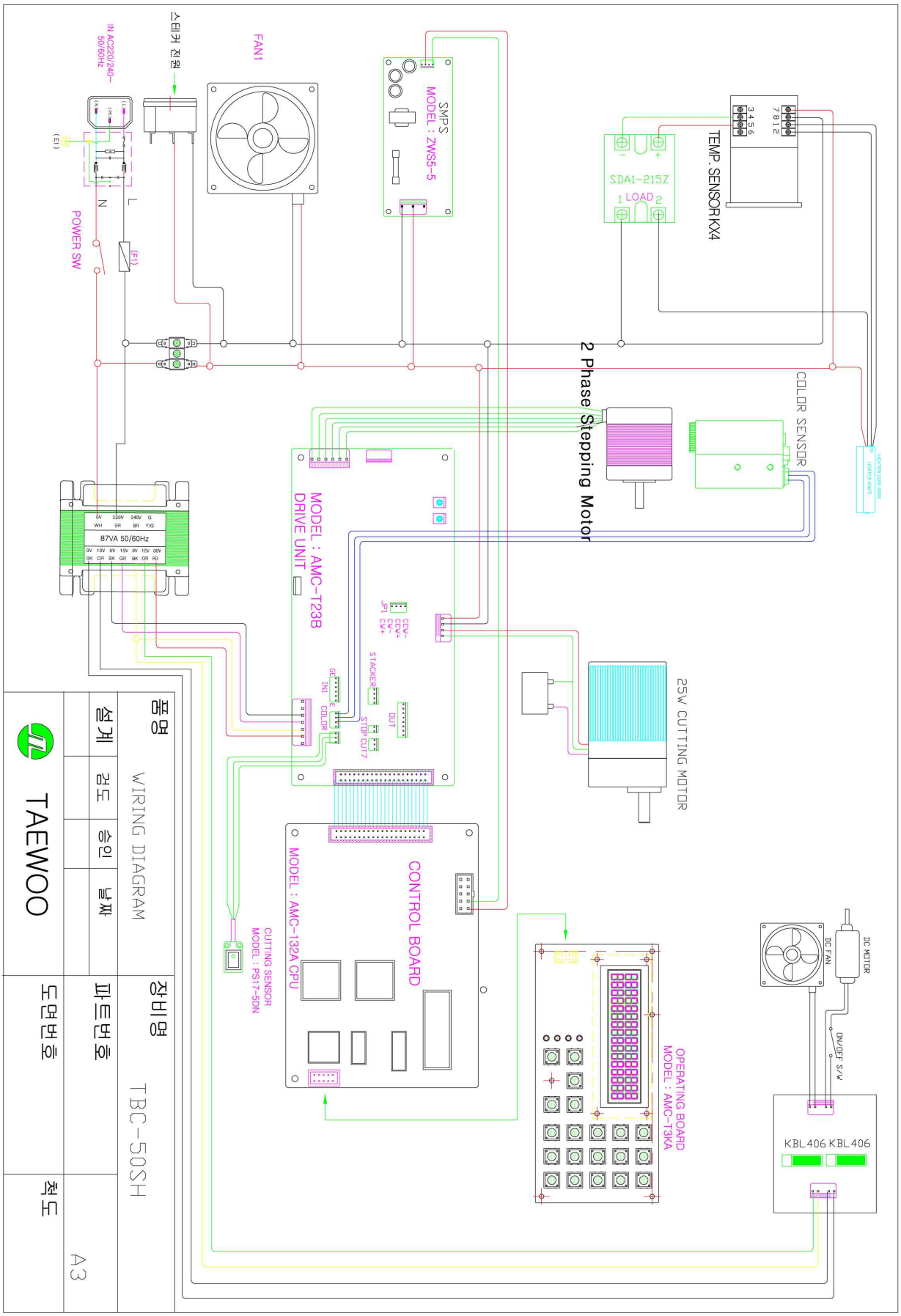
TBC-50SH Part Drawing C (Other part)



TBC-50SH Part List C (Other part)

Part No.	Description	Part No.	Description
C-1	Roll-hanger Wheel	C-35	Plate-nut of Sensor Guide
C-2	Clamping Bolt of Holder	C-36	Sensor Guide
C-3	Holder	C-37	Flat-head Bolt(M4×10L)
C-4	Roll-hanger Shaft	C-38	Power Cord
C-5	Roll-hanger Shaft Washer	C-39	Sensor-connector
C-6	Check Nut(M6)	C-40	Sensor-connector Bracket
C-7	Roll Hanger	C-41	Clamping Bolt(M3×5L)
C-8	Flat-head Bolt(M6×16L)	C-42	Left Cover
C-9	Neck Washer of Roll-hanger	C-43	Rubber Bushing
C-10	Existence Detector	C-44	Separated Terminal
C-11	Clamping Bolt(M3×5L)	C-45	Clamping Bolt(M3×6L)
C-12	Clamping Bolt	C-46	SSR(Solid State Relay)
C-13	Rear Guide-pin Bracket	C-47	Clamping Bolt(M4×8L)
C-14	Wrench Bolt(M4×15L)	C-48	Sponge
C-15	Rear Tension-guide Block	C-49	Base
C-16	Detent Screw(M4×6L)	C-50	Clamping Bolt(M4×8L)
C-17	Guide Ring	C-51	Condenser
C-18	Upper Guide Plate	C-52	Terminal
C-19	Clamping Bolt(M3×5L)	C-53	AC Connector(IN-PUT)
C-20	Micro Limit Switch	C-54	AC Connector(OUT-PUT)
C-21	Plate Nut	C-55	Transformer
C-22	Limit Switch Bracket	C-56	Clamping Bolt(M4)
C-23	Clamping Bolt(M2×10L)	C-57	Cooling Fan(Large)
C-24	Clamping Bolt(M3×5L)	C-58	Clamping Bolt(M3×6L)
C-25	Knob Bolt	C-59	Temperature-controller
C-26	Sensor	C-60	Temperature-controller Socket
C-27	Sensor Bracket	C-61	Control Cover
C-28	Sensor Fixing Bracket	C-62	Control Circuit Board(MB)
C-29	Front Bracket of Sensor	C-63	ROM
C-30	Urethane Panel	C-64	Operation Circuit Board(OP)
C-31	Height-control Bolt of Sensor	C-65	Drive Circuit Board(DR)
C-32	Liner	C-66	SMPS(Power Supply,SP)
C-33	Height-control Knob of Sensor	C-67	Toggle Switch
C-34	Position-control Knob of Sensor	C-68	Power Switch


SSR
RED
BLUE
13
14
1
2
3
4
5
6
7
8
9
10
11
12
100V
NX2
AC POWER
(110~240V AC)
Temp. Sensor


스테커 전원
FAN1
IN AC220/240~ 50/60Hz
POWER SW
SMPS MODEL : ZWS5-5
SDA1-215Z
1 LOAD 2
TEMP. SENSOR KX4
2 Phase Stepping Motor
COLOR SENSOR
87VA 50/60Hz
MODEL : AMC-T23B DRIVE UNIT
25W CUTTING MOTOR
MODEL : AMC-132A CPU
CONTROL BOARD
CUTTING SENSOR MODEL : PS17-5DN
OPERATING BOARD MODEL : AMC-T3KA
DC FAN
DC MOTOR
ON/OFF S/W
KBL406 KBL406
TAEWOO
품명 WIRING DIAGRAM
설계
검도
승인
날짜
장비명 TBC-50SH
파트번호
도면번호
척도 A3

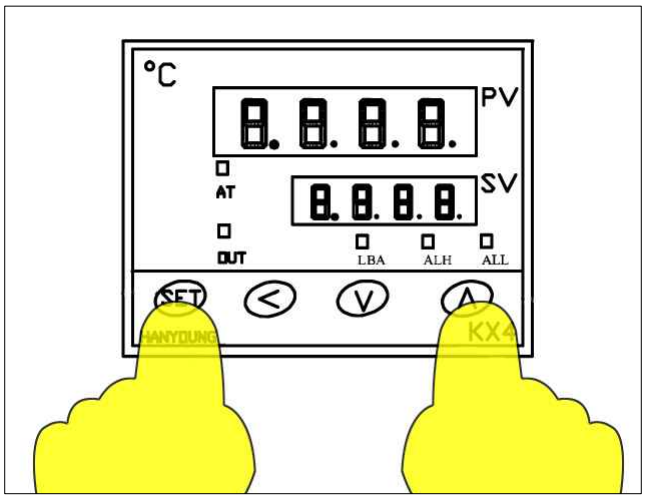
HOW TO DO AUTO-TUNING

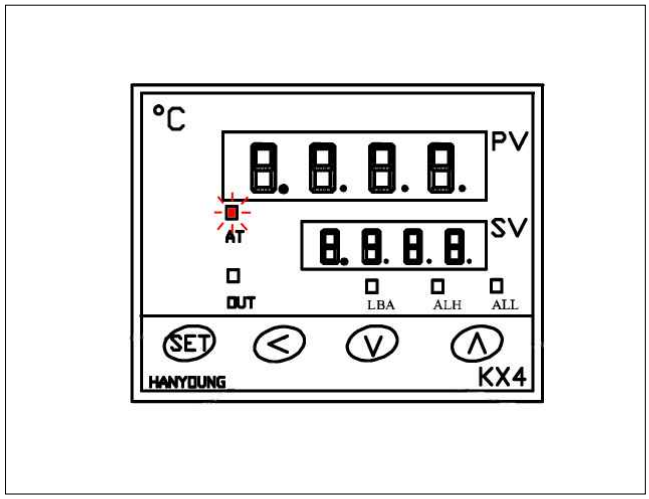
After changing a part or parts (temp. sensor or heater or temp. controller), you can experience that there are much temperature-deviation between set temperature(SV) and present temperature(PV).
In this case, by auto-tuning, you can reduce temperature-deviation between SV and PV.

Please do follow steps for auto-tuning.

- Referring manual, please set your common temperature. (ex, 300℃)

- After PV's reaching set temperature, press "SET" and "∧" simultaneously.
(referring to below image(left))
If so, with AT lamp blinks, auto-tuning begins.



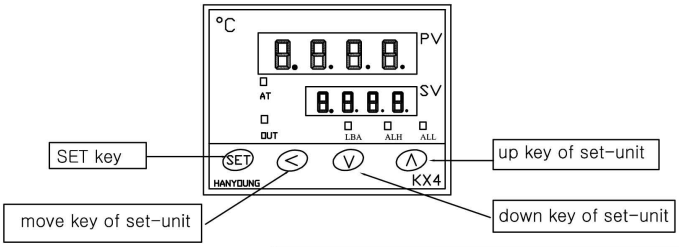


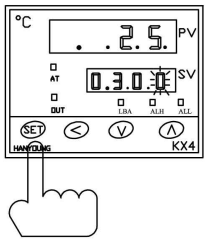
- After finishing auto-tuning, AT lamp will turn off.

- While auto-tuning, if you want to stop auto-tuning, plesae press "SET" and "∧" simultaneously. If so, AT lamp turns off and auto-tuning stops.

- If you change SV (set temperature) during auto-tuning, auto-tuning stops and temp. controller will use previous parameter.

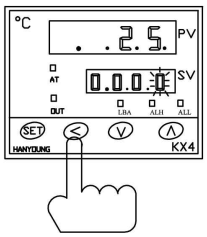
(How to use Temperature Controller KX4)



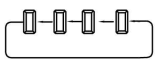


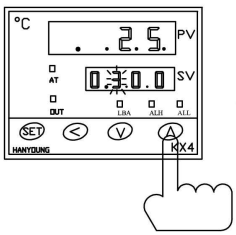
When you power on the controller, PV shows current room temperature and SV shows set temperature.
Recommendation is 250℃～350℃.
After turn-on & set, within 10 minutes, it reaches to set temperature.

① You can enter set mode by pressing (SET) key, you may see one cipher blinks. It means it can be changed.

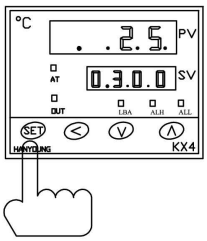


② By pressing (<) key, you can move between numbers of four ciphers. as follows.





③ Set desirous temperature by pressing (∧) and (∨) keys.(i.e :300℃).
Set-temperature will be increased by (∧) key and it will decreased by (∨) key.



④ After finshing setting, press (SET) key once more. Then, it stops blinking. And the controller will return to auto-tuning mode.

⚠ CAUTION
At beginning, when you power on, there will be some variation in temperature. But it will be automatically reached to the set temperature soon.

Trouble-shooting of TBC-50 series

No	Troubles		Appicable model	Causes & Measures
1	No power supply		All models	- Check if electric cord is connected well. - Check if the fuse blows out or not.
2	Power is on, but no work	Feeding roller doesn't work.	All models	- Check if there is inserted any alien substance in roller. - If current length on display is changed, exchange drive board. - If current length on display is not changed, exchange Control board(MB).
		Knife doesn't work.	All models	- Check if pressure plates of upper knife are too much fastened or not.
		LCD display doesn't work.	All models	- After opening the cover, check the connetion. (especially between Operation & MB board)
		All functions don't work	Al models	- Check if auto-stop device lies down. If any, raise it up.
3	Material is not cut.		Hot cutter (H, LH, SH, HX)	- Check if temperature goes up to set-degree. - Check if knife blades are even(parallel).
4	Material is cut onesidedly.		All models	- Check if blades are damaged or weared. - After making both knives close each other by M/CUT button and check if they are even or not. (If they are not even, adjust them by bolts)
5	Cut-length is different from set-length.		All models	- Test cutting after loosening material from the reel by hand or attaching feeding device.
6	It cuts before the cutting line of labels.		Label cutter (S, SH)	- Move the sensor towards knife side as long as the difference by pushing.
7	It cuts after the cutting line of labels.		Label cutter (S, SH)	- Move the sensor towards counter-knife side as long as the difference by pushing.
8	ERROR on LCD & LED	ERROR CODE [064] >Sensor check Er	Label cutter (S, SH)	- Trouble in Mark sensor → · Check if the sensor is connected well or not. · Check if the sensor is adjusted well or not. (FILE NO 001) · Check if it is label problem or not.
		ERROR CODE [065] >CUT I/O Error!	All models	- Trouble in cutting motor or cutting sensor → · Upper knife moves 1~3 sec. and ERROR on display. Check the connection of cutting sensor. If not, exchange the cutting sensor. · Upper knife doesn't move and ERROR on display. Exchange the cutting motor or drive board.
		STOP INPUT !! CHECK STOP INP!	All models	- Auto stop device is pressed down or shortage. → raise up the device and check shortage.
		(C)ACORD CTRL-OP AMC-T3KA VER1.7D	All models	- Bad connected ROM → Press ROM by hand or connect it again. (If not, change MB board)
		ERROR CODE[065] >CHECK CODE[003]	All models	- Change of FILE 003 in program by noise or mis-operation → Initialize the controller. ※ **How to Initialize**(programs to be initial) : press **SET**+**SHIFT/ESC** buttons and **RESET** button at the same time. (Press **RESET** later than other two keys.)
9	Operator feels electric current in touch of machine.		All models	- Connect the earth cord(green) to any bolt of backside of machine.
10	After exchange ROM, you should do initialize the controller, due to error message, if you cannot do initialization, please press "SHIFT/ESC' button to escape error message screen and then initialize the controller.			

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