



We Are Dispensers

# Non-Adhesive Cutters

Wire Harnessing

VHB Application

## Tape Dispensers

APPLIANCE

PACKAGING

# MANUFACTURING

Parts Assembly

RFID

MEDICAL

FOOD & BEVERAGE

## Label Dispensers

Barcodes

Promotional Labels

pharmaceutical

Safety Seal

AUTOMOTIVE

ELECTRONICS

Heat Shrink Tubing

Product ID

SOLAR & WIND POWER

Battery Manufacturing

# TBC50-S



START International  
4270 Airborn Drive, Addison, TX 75001, U.S.A.  
Tel 1.972.248.1999 • Fax 1.972.248.1991 • service@STARTInternational.com  
www.STARTInternational.com



### **CONTENTS**

Read this user's manual before use to ensure proper operation. Keep the manual on hand for reference in case there is a problem.

### **WARRANTY POLICY FOR LD SERIES LABEL DISPENSERS**

START International warrants all parts on TBC series tape dispensers against defects in design, materials and workmanship for a period of 180 days. Parts excluded from this are: cutting blades, silicone rollers and cutter liners; these parts are considered "wear parts". Labor to replace defective parts will be performed at no charge for the first 90 days after date of purchase. Warranty does not cover transportation costs.

START International's sole obligation under this warranty is limited to repair, replacement or credit of the purchase price, at our option, which do not properly perform the function for which they were designed.

Warranty repair is contingent upon START's examination and determination that alleged defects have not been caused by misuse, abuse, improper installation or application, repair, alteration, accident or neglect in use, storage, transportation or handling.

The above warranty and remedy constitutes START International's sole liability hereunder and are in lieu and exclusive of all other warranties and remedies expressed, implied, or statutory, including, but not limited to, those of merchantability and fitness for a particular purpose.

### **REPAIR POLICY**

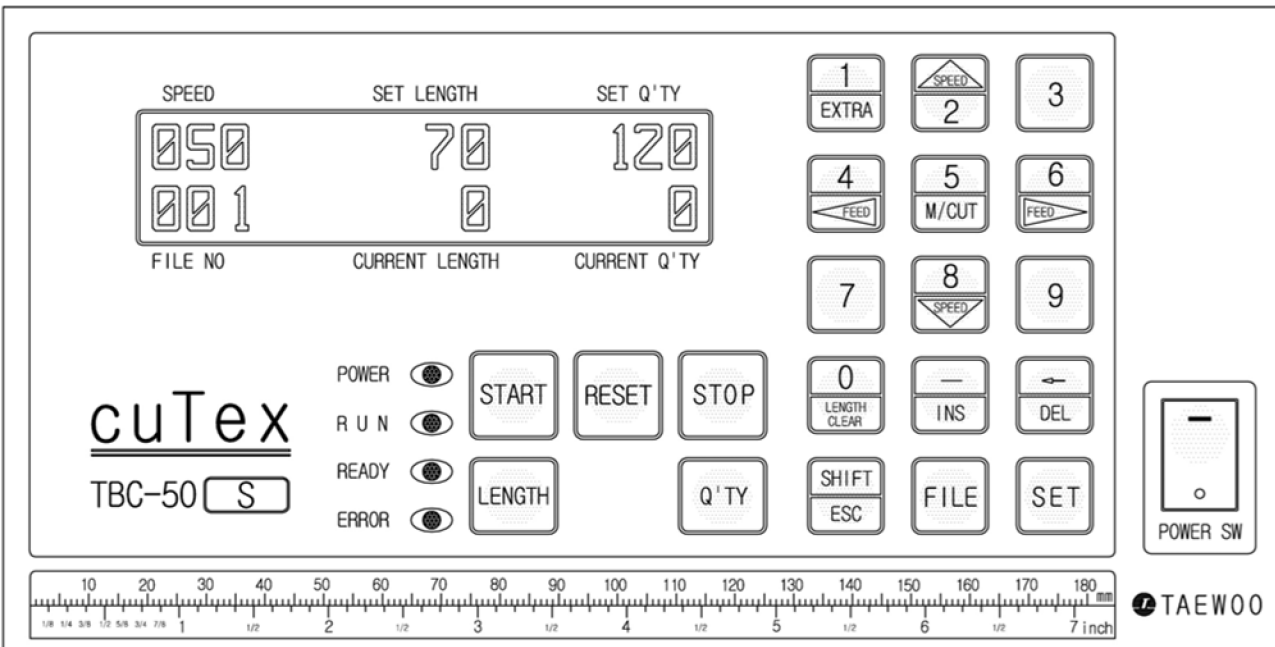
Contact START INTERNATIONAL to determine nature of problem.

Furnish START with the following information:

1. Who the unit was purchased from.
2. Model number and serial number.
3. Date purchased (copy of invoice or packing slip required).

START will issue an RMA (Return Material Authorization) for the repair. Return machine to START by freight, insured and prepaid. START will notify the customer if there is a repair charge. A \$25.00 evaluation charge will apply to all non-warranty repairs, which will be applied to repair charge. For the full Warranty & Repair policy please visit [www.STARTInternational.com](http://www.STARTInternational.com)

### HOW TO OPERATE TBC-50S

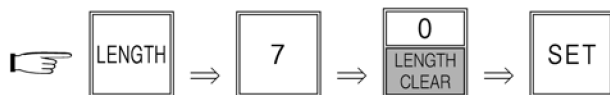


1. An example (Cutting length : 70mm, Cutting quantity : 120 pcs)

▷ Turn on the POWER SW.



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



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

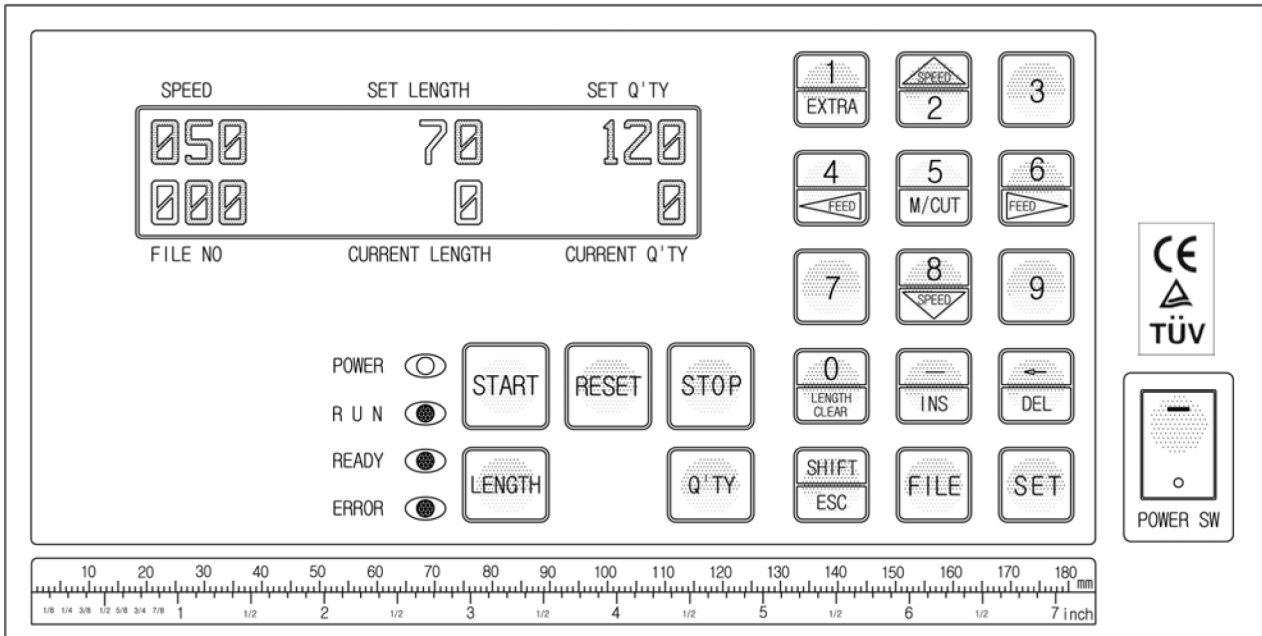
▷ Set cutting quantity 120 pcs.



### TBC-50 Memory Programming Sequence

NOTE: When the 10 memory chip is installed in a TBC50S the sequence to set Length and Quantity change from a standard TBC50S machine.

NOTE: Use FILE 0 for normal sensor cutting and FILES 1 through 9 for memory pairs (Length & Qty).



To initialize or clear all 10 memory locations at any time.



1. Start from the HOME screen or press SHIFT/ESC > RESET to go HOME first.






2. Press and hold the following buttons in sequence... SET – SHIFT/ESC – RESET (Reset must be pressed last)






## TBC-50 Memory Programming Sequence - Cont.


To initialize or clear all 10 memory locations at any time. use the following sequence.


1. Start from the HOME screen or press SHIFT/ESC > RESET to go HOME first.
 




2. Press LENGTH >
 


3. Press 6 repeatedly until you get up to the desired memory location number, OR, press 4 repeatedly to go down in memory location number. Do this until you see the desired memory location in the top right corner of the display.
 



4. Press SET
 




5. Enter the desired length (Example: 100)
6. Press SET again.
7. If you want to program more lengths / locations... Go Back To Step 3... if you are done Go To Step 8.
8. After you have programmed all desired lengths and locations press SHIFT/ESC (Display = USER DATA STORE) to store memories and return to Home.
 






Note: The sequence looks like this... LENGTH > 6...6 (until you see desired memory number)> SET > 100> SET > SHIFT/ESC


To set, change or review a specific quantity in a specific memory location, use the following sequence.


1. Start from the HOME screen or press SHIFT/ESC > RESET to go HOME first.
 



2. Press QTY >
 


3. Press 6 repeatedly until you get up to the desired memory location number, OR, press 4 repeatedly to go down in memory location number. Do this until you see the desired memory location in the top right corner of the display.
 



4. Press SET
 


5. Enter the desired quantity (Example: 10)
6. Press SET again.
7. If you want to program more quantities / locations... Go Back To Step 3... if you are done Go To Step 8.
8. After you have programmed all desired lengths and locations press SHIFT/ESC to return to Home. Note: The sequence looks like this... QTY > 6...6 (until you see desired memory number)> SET > 100 > SET > SHIFT/ESC
 



## TBC-50 Memory Programming Sequence - Cont.

To recall a specific memory location use the following sequence.

Note: The current memory location number appears in the bottom left corner of the display just above FILE NO.



1. Start from the HOME screen or press SHIFT/ESC > RESET to go HOME first.



2. Press the following buttons in sequence. FILE > Desired Memory Location Number > SET > START.

Note: The new length and quantity will not appear in the display until the Start button is pressed

**Example 1:** Set Memory 1, 2 and 3 to sense and cut a Single label, 2 labels at a time and 3 labels at a time respectively.

This example assumes that the distance measured between each label (Mark-to-Mark) is 25mm and the quantity desired will be 5 for all 3 memories.



PRESS... LENGTH > 6 (you should see memory 1)> SET > 25 > SET > 6 > (you should see memory 2) > SET > 50 > SET > 6 (you should see memory 3)> SET > 75 > SET > SHIFT/ESC



PRESS... QTY > 6 (you should see memory 1)> SET > 5 > SET > 6 > (you should see memory 2)> SET > 5 > SET > 6 (you should see memory 3)> SET > 5 > SET > SHIFT/ESC

**To recall memory 1, test...recall memory 2, test, recall memory 3 and test.**



- 1) Start from home position... press **FILE > 1 > Set > Start** (single label cut 5 times)
- 2) Start from home position... press **FILE > 2 > Set > Start** (2 labels together cut 5 times)
- 3) Start from home position... press **FILE > 3 > Set > Start** (3 labels together cut 5 times)

Example 2: Change the Length in memory 4 to 100 and change the Qty in memory 4 to 5.

PRESS... LENGTH > 6,6,6,6 (you should see memory 4)> SET > 100 > SET > SHIFT/ESC

PRESS... Qty > 6,6,6,6 (you should see memory 4)> SET > 5 > SET > SHIFT/ESC

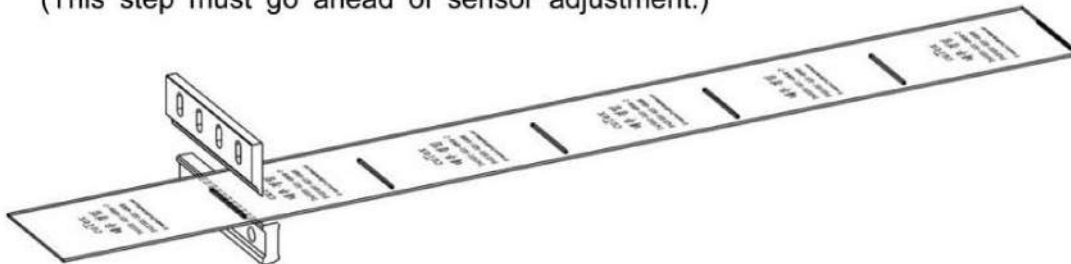
To recall memory 4 and test... Press FILE > 4 > Set > Start

## HOW TO OPERATE TBC-50S

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



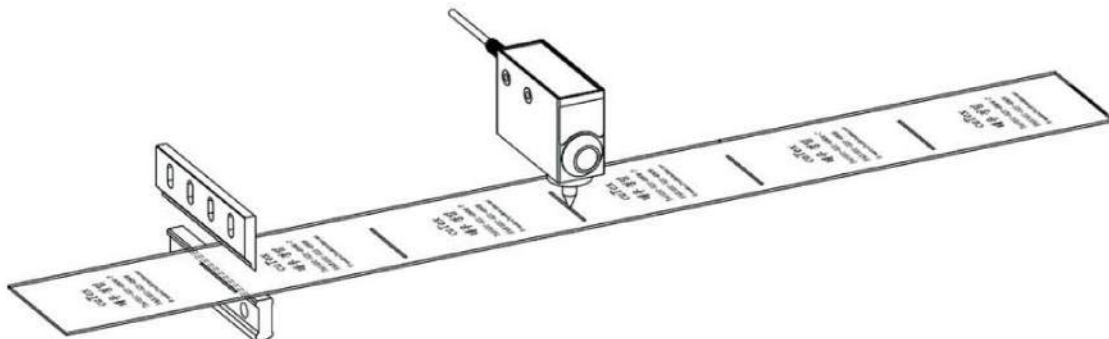
- ▶ Locate the cutting line of label on the lower knife blade.  
(This step must go ahead of sensor adjustment.)



- ▶ Sensor Adjustment

Light sensor-beam on sensing point of label.

(Refer to "How to use BANNER sensor of next page.)



- ▶ Press START button.

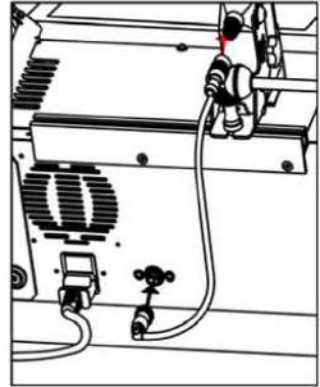


### ※ Check Points for cutting trouble

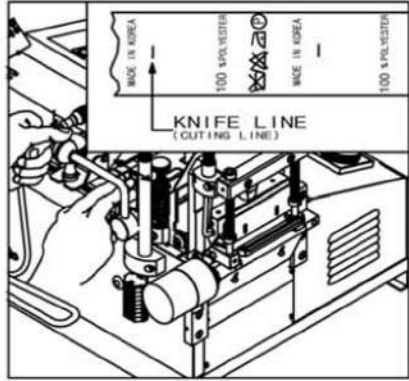
- Check if you adjust sensor after locating cutting line of label on the knife blade.
- Move the sensor forwards or backwards.
- Check sensitivity & height of the sensor.
- Check if the switch is upside for elastic, downside for non-elastic including label.

**HOW TO USE BANNER SENSOR**

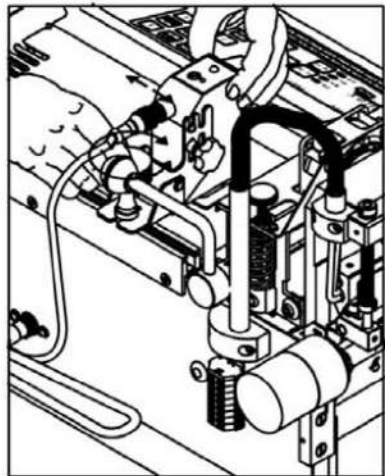
① Mount the sensor on the guide-rail and connect the jack of sensor into the connector of machine downside.



★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.)**



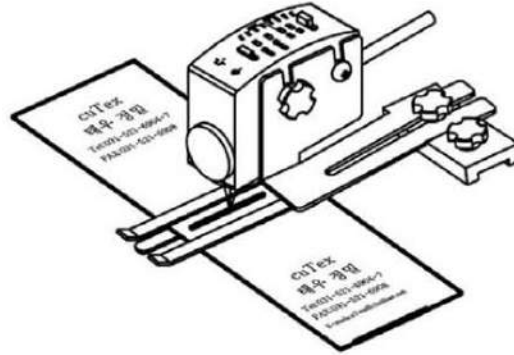
③ Adjust the sensor with guide-control bolt for lightening the beam on the center of marking point.



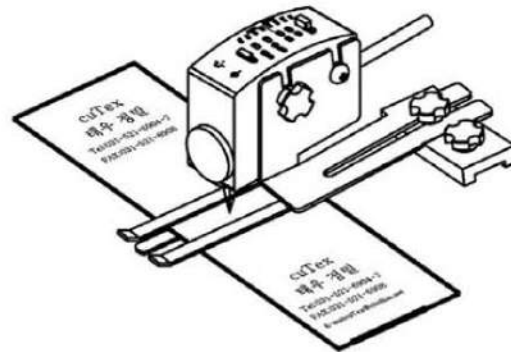


**HOW TO USE BANNER SENSOR**

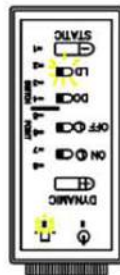
★④ Position the light spot to the mark(cutting line or figure, letters).



⑤ Move the light spot on the background.



⑥ If it sets well, you can see the LED blinks as follow image.



**(Caution)**

- ※ Whatever the background is darker or lighter than the mark, the mark first and the background second.
- ※ In the case of objects with reflective or shiny surface, tilt sensor by 10° to 15° relative to surface.

## HOW TO OPERATE TBC-50S

### 2. Key functions



: Function for label cutting



: Current length on display will be back to "0" at a stop.



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



: 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.



: Cutting additional one.



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



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



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



— 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.**



: 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.)

## SPECIFICATIONS

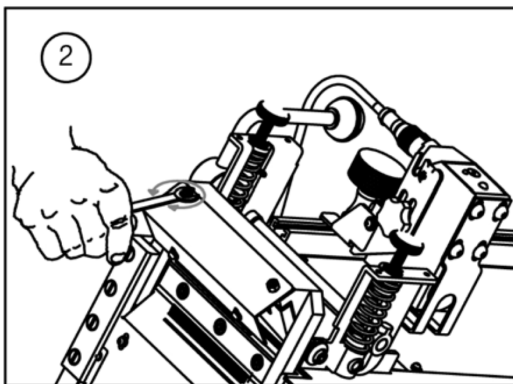
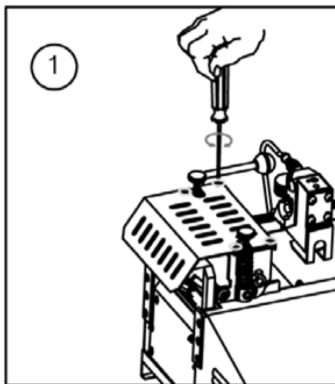
Model Name	Main Cutting Materials	Cutting Knife	Power Supply	Max. Cutting Width	Range of Cutting Length	Cutting Q'ty/min. (Length: 50mm)	Machine Size (Net weight)	Packing Size (Gross weight)
TBC-50S (Label cutter)	Label	Cold	AC110/220V 50/60Hz	110mm	1mm~300M	120~140 cuts	850×320×380 (19.5kgs)	535×430×340 (22.7kgs)

### 4. Caution for use

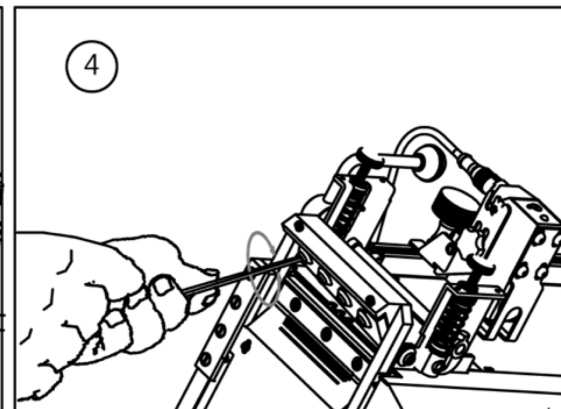
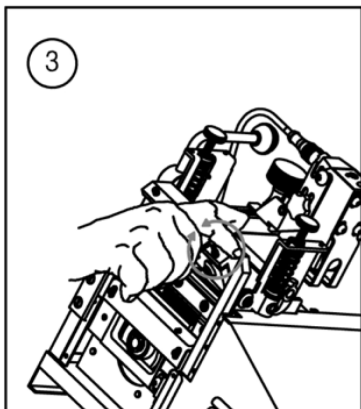
- Before use, please confirm the voltage and make ground(earth) connection. (Static-electricity will be reduced to a half.)
- Do not access hands or any object close to the working knife. (for safety)
- When the knife blade becomes dull, please use it after grinding with the grinding machine. (Please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

## EXCHANGING BLADE

- ① First of all, unscrew 4 bolts on safety cap and take off the cap.
- ② Remove stopper.



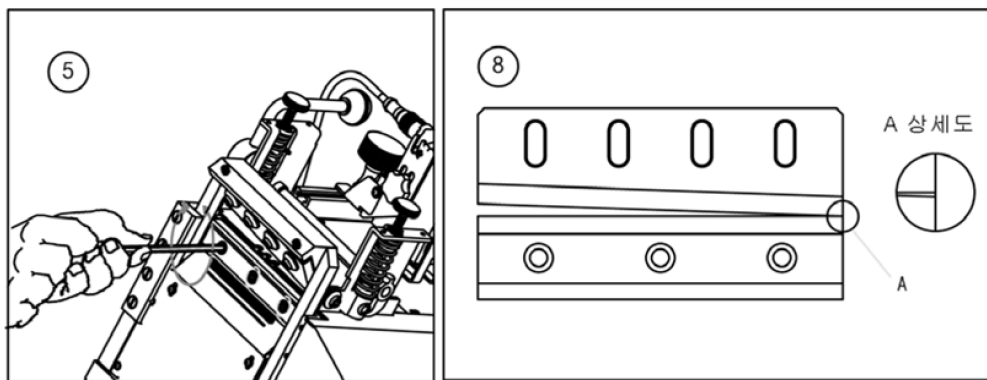
- ③ Unscrew 2 control bolts of upper knife by 2.5mm-wrench.(Don't take off.)
- ④ Unscrew 4 fixing bolts by 4mm-wrench and take off upper knife.





### EXCHANGING BLADE

- ⑤ Unscrew 3 fixing bolts of lower knife by 4mm-wrench and take off lower knife.
- ⑥ Vice versa, install new lower knife and fasten it firmly.
- ⑦ Move up upper knife frame and install new upper knife and fix it but don't fasten it firmly.
- ⑧ By soft touch of M/CUT button, if right bottom of upper knife contacts top of lower knife, screw the control bolt of upper knife slightly.
- ⑨ Make a cutting test with paper or tissue by M/CUT button(right, middle, left of knife in order and adjust control bolt of upper knife finally.
- ⑩ If cutting is normal, fasten the control bolts of upper knife firmly.
- ⑪ Attach removed stopper again.



#### Mount of roll

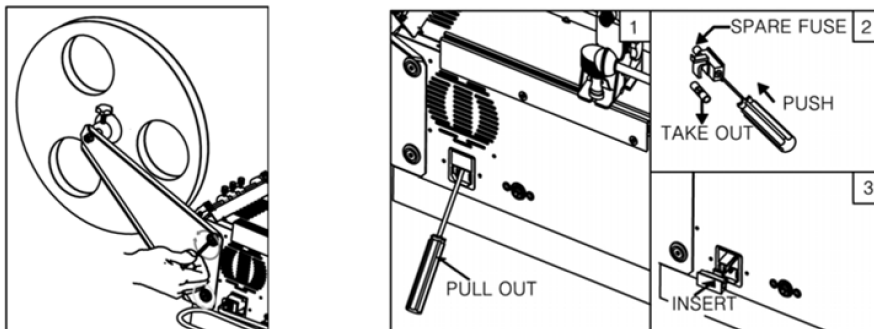
Fix the roll triangle by 4mm-wrench.

#### Exchange of fuse

Take off the power plug and exchange as picture.

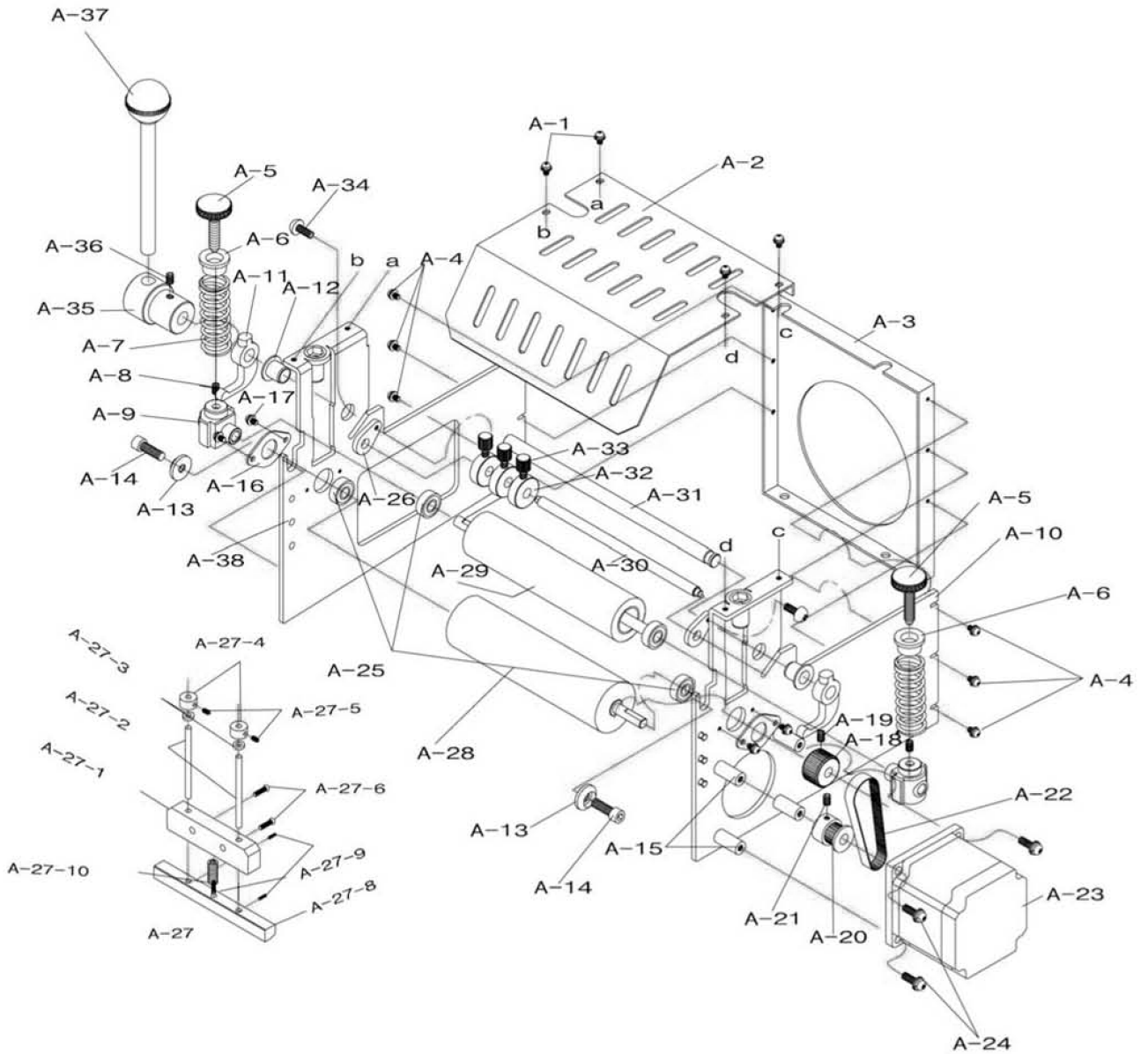
#### Cleaning of anti-static brush

If anti-static function becomes weak, clean the anti-static brush by other brush.





TBC-50 PART DRAWING A (FEEDING PART)

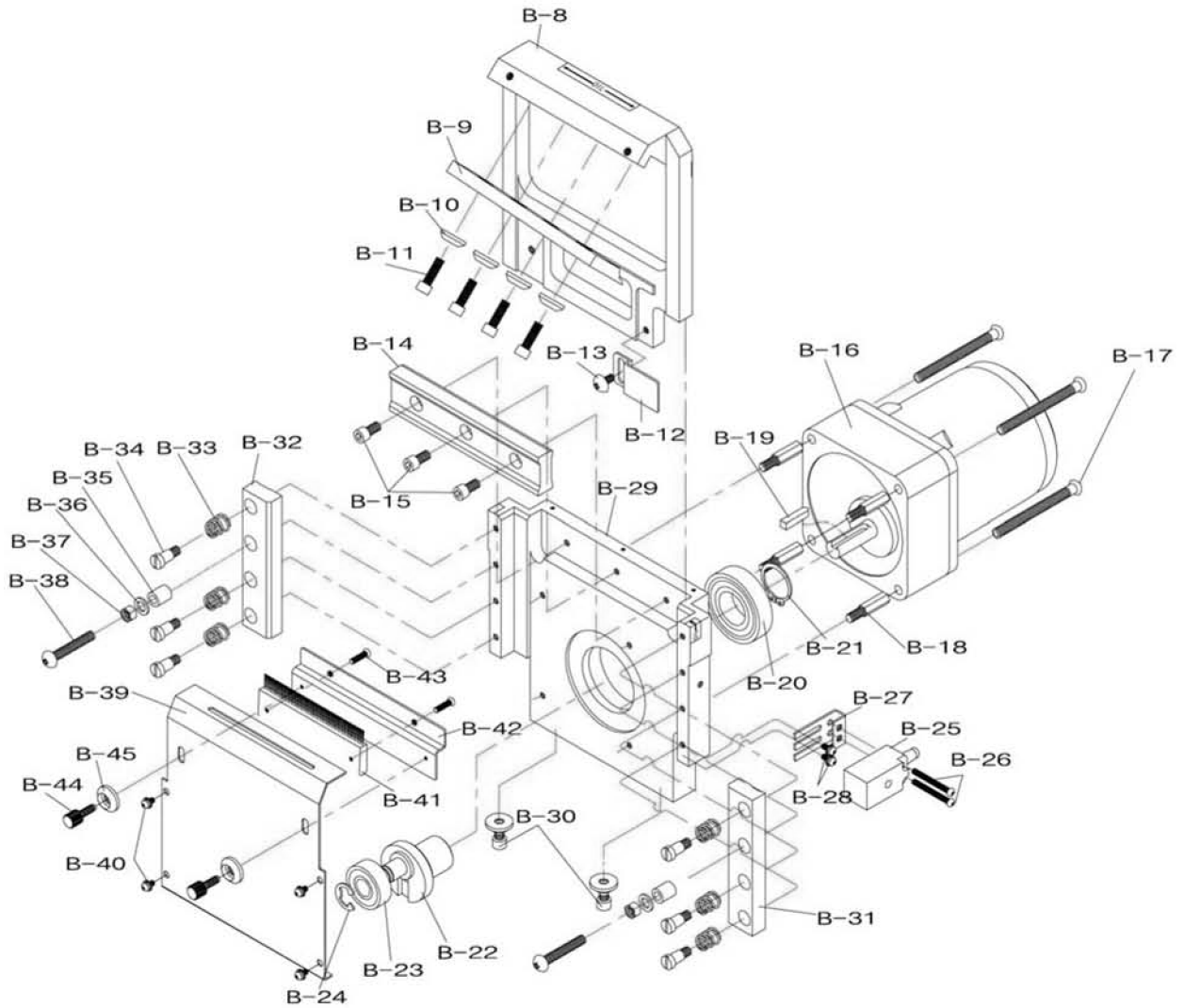




**TBC-50 PARTS LIST A (FEEDING PART)**

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

TBC-50S PART DRAWING B (CUTTING PART)



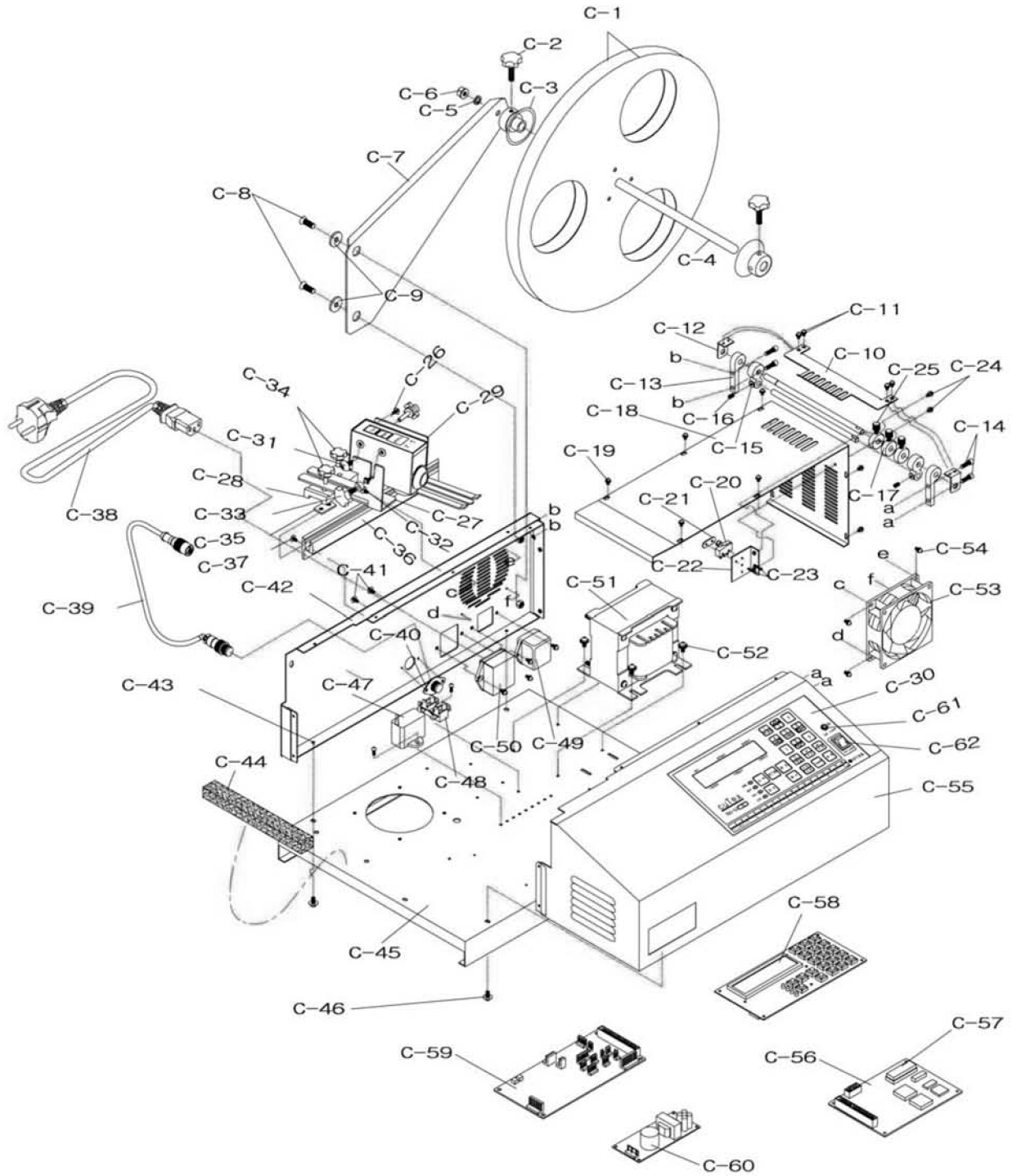


**TBC-50S PART LIST 8 (CUTTING PART)**

Part No.	Description	Part No.	Description
B-8	Upper Knife Case	B-27	Clamping Bracket
B-9	Upper Knife	B-28	Clamping Bolt (M3×5L)
B-10	Neck Washer	B-29	Lower Knife Case
B-11	Wrench Bolt (M5×15L)	B-30	Wrench Bolt (M5×15L)
B-12	Counting Sensor Bracket	B-31	Pressure Plate (Right)
B-13	Clamping Bolt(M4×6L)	B-32	Pressure Plate (Left)
B-14	Lower Knife	B-33	Pressure Spring
B-15	Wrench Bolt (M5×15L)	B-34	Clamping Bolt of Pressure Plate
B-16	Motor+Reduction Gear	B-35	Urethane Bush
B-17	Clamping Bolt (M5×42L)	B-36	Tension-control Washer
B-18	Motor Supporter	B-37	Tension-control Nut
B-19	Motor Key	B-38	Tension-control Bolt
B-20	Ball Bearing (#6004)	B-39	Front Cover
B-21	Snap Ring	B-40	Clamping Bolt
B-22	Crank Bundle	B-41	Anti-static Brush
B-23	Ball Bearing (#6000)	B-42	Front Bracket
B-24	E Ring	B-43	Clamping Bolt
B-25	Counting Sensor	B-44	Height-control Bolt
B-26	Clamping Bolt (M3×18L)	B-45	Height-control Nut



TBC-50S PART DRAWING C (OTHER PART)





**TBC-50S PART LIST C (OTHER PART)**

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





**TROUBLE-SHOOTING OF TBC-50 SERIES**

No	Troubles		Applicable model	Causes & Measures
1	No power supply		All models	<ul style="list-style-type: none"> <li>- Check if electric cord is connected well.</li> <li>- Check if the fuse blows out or not.</li> </ul>
2	Power is on, but no work	Feeding roller doesn't work.	All models	<ul style="list-style-type: none"> <li>- Check if there is inserted any alien substance in roller.</li> <li>- If current length on display is changed, exchange drive board.</li> <li>- If current length on display is not changed, exchange Control board(MB).</li> </ul>
		Knife doesn't work.	All models	<ul style="list-style-type: none"> <li>- Check if pressure plates of upper knife are too much fastened or not.</li> </ul>
		LCD display doesn't work.	All models	<ul style="list-style-type: none"> <li>- After opening the cover, check the connection. (especially between Operation &amp; MB board)</li> </ul>
		All functions don't work	All models	<ul style="list-style-type: none"> <li>- Check if auto-stop device lies down. If any, raise it up.</li> </ul>
3	Material is not cut.		Hot cutter (H, LH, SH, HX)	<ul style="list-style-type: none"> <li>- Check if temperature goes up to set-degree.</li> <li>- Check if knife blades are even(parallel).</li> </ul>
4	Material is cut onesidedly.		All models	<ul style="list-style-type: none"> <li>- Check if blades are damaged or weared.</li> <li>- 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)</li> </ul>
5	Cut-length is different from set-length.		All models	<ul style="list-style-type: none"> <li>- Test cutting after loosening material from the reel by hand or attaching feeding device.</li> </ul>
6	It cuts before the cutting line of labels.		Label cutter (S, SH)	<ul style="list-style-type: none"> <li>- Move the sensor towards knife side as long as the difference by pushing.</li> </ul>
7	It cuts after the cutting line of labels.		Label cutter (S, SH)	<ul style="list-style-type: none"> <li>- Move the sensor towards counter-knife side as long as the difference by pushing.</li> </ul>
8	ERROR on LCD & LED	ERROR CODE [064] >Sensor check Er	Label cutter (S, SH)	<ul style="list-style-type: none"> <li>- Trouble in Mark sensor →</li> <li>· Check if the sensor is connected well or not.</li> <li>· Check if the sensor is adjusted well or not. (FILE NO 001)</li> <li>· Check if it is label problem or not.</li> </ul>
		ERROR CODE [065] >CUT I/O Error!	All models	<ul style="list-style-type: none"> <li>- Trouble in cutting motor or cutting sensor →</li> <li>· Upper knife moves 1~3 sec. and ERROR on display. Check the connection of cutting sensor. If not, exchange the cutting sensor.</li> <li>· Upper knife doesn't move and ERROR on display. Exchange the cutting motor or drive board.</li> </ul>
		STOP INPUT !! CHECK STOP INP!	All models	<ul style="list-style-type: none"> <li>- Auto stop device is pressed down or shortage. → raise up the device and check shortage.</li> </ul>
		(C)ACORD CTRL-OP AMC-T3KA VER1.7D	All models	<ul style="list-style-type: none"> <li>- Bad connected ROM → Press ROM by hand or connect it again. (If not, change MB board)</li> </ul>
		ERROR CODE[065] >CHECK CODE[003]	All models	<ul style="list-style-type: none"> <li>- Change of FILE 003 in program by noise or mis-operation → Initialize the controller.</li> <li>※ <b>How to Initialize</b>(programs to be initial) : press <b>SET+SHIFT/ESC</b> buttons and <b>RESET</b> button at the same time. (Press <b>RESET</b> later than other two keys.)</li> </ul>
9	Operator feels electric current in touch of machine.		All models	<ul style="list-style-type: none"> <li>- Connect the earth cord(green) to any bolt of backside of machine.</li> </ul>
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.			