

COM[®] JEZ-300 JEZ-400

AUTOMATIC TAPING MACHINE

MAINTENANCE MANUAL



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INTRODUCTION

This manual is provided to operate services of replacement and adjustment of assemblies or major components.

Troubleshooting showing the experienced cases is the base of this manual so that remedies for possible cases can be found.



CAUTION

Do not fail turn off the main power switch when changing or adjusting parts. Failure of this will cause accidents and physical damages. The heater is a hot part. Make sure it has been cooled down when touching parts around the heater so that burns cannot be caused

Taiyo Seiki cannot be responsible for any machine part and or physical damages caused during machine operations as well as maintenance services.



WARNING

Check, adjustment, disassembly, reassembly, etc. of this machine require a certain level of knowledge and experience. These services must be operated by experienced or qualified persons only. Also the machine instruction manual must be referred to. when operating such services.

HOW THE MACHINE WORKS

The engineers operating maintenance of this machine are required to understand the function of the machine fully. They will be able to detect troubles or find troubleshooting easily.

This model JEZ automatic taping machine features unique functions of taping and tape setting inside the arch guide. The **origin (home position)** of the function is that the tape has been set inside the arch guide. Taping will start when the start button is pressed or the auto sensor is energized. After the produced in the machine is completely banded, the heater will work to seal the tape, so that one cycle of taping is finished.

Origin (home position)

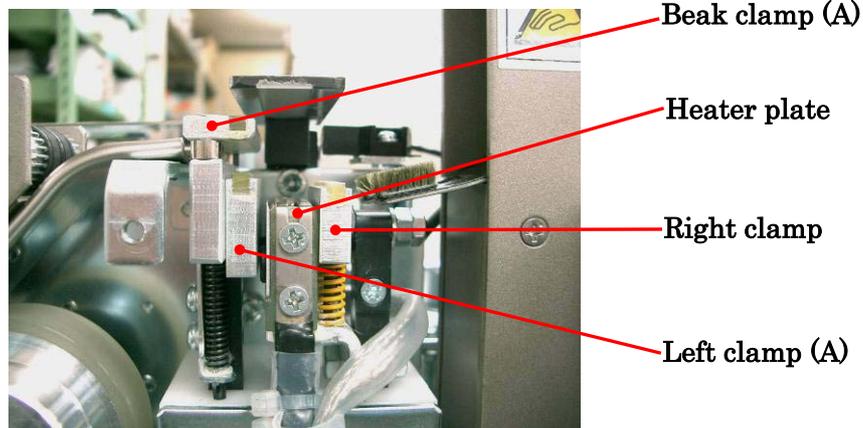


The auto sensor will be energized when the banded product is removed. The tape is then set inside the arch guide setting back the function to its origin. The machine is now ready to operate the next cycle.

As soon as the banding cycle is started from the origin, the beak clamp (A) will grip the tape (tape running head). After this, the roller will run to tension the tape. The tape is wound around the work in the machine, then the right clamp and the left clamp (A) will grip the tape keeping the tape tensioned. When the cutter blade cuts away the tape, the heater will work to seal the tape.

The spacer located in between the banded tape and the product will travel down allowing that banding of the product is finished. When the finished product is removed from the machine, the spacer comes back to its home position and the roller runs to feed the tape to the home position.

Heater, clamp assy

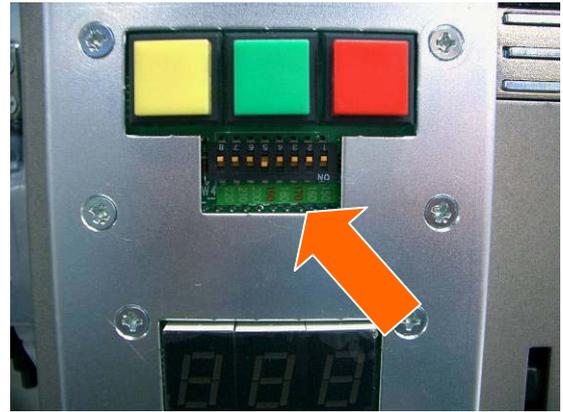


TROUBLESHOOTING

◆Tape sealing failure◆

1) Heater temperature adjustment is required.

Heater temperature can be adjusted by controlling the dip switch, shown with an arrow.
(If temperature is too low, adjust the dip switch one by one while checking the state of tape sealing.)



Temperature control dip switch

2) Heater temperature is too low.

(1) A sign of [Er 1] will appear on the temperature display (1).

CAUSE : The thermocouple has been damaged.

REMEDY : Replace the heater plate assy.

REF. : Section of Heater plate assy replacement in this manual (page 17).

(2) Heater temperature level is unstable or cannot be displayed.

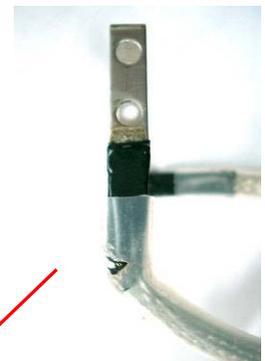
CAUSE : The heater wire has been damaged.

REMEDY : Replace the heater plate assy.

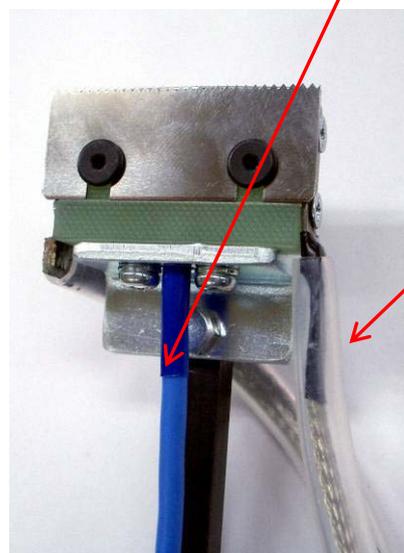
REF. : Section of Heater plate assy replacement in this manual (Page17).



Thermocouple



Heater wire



Heater plate assy

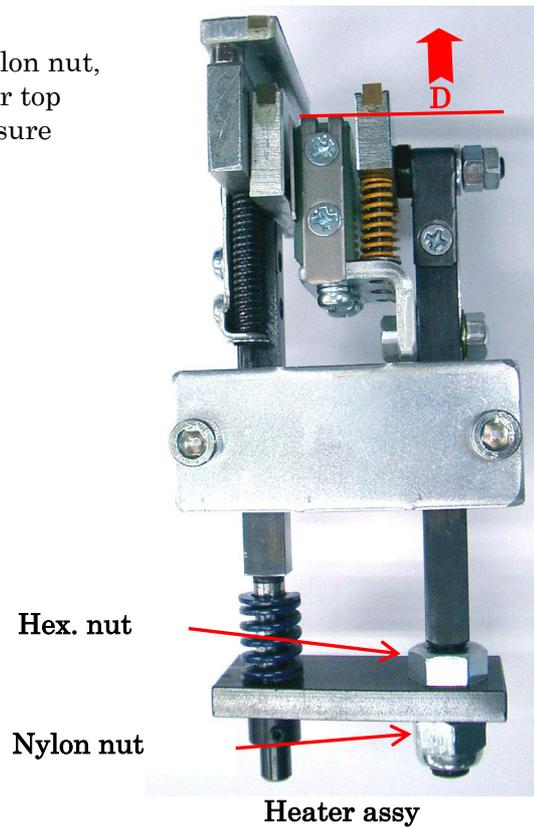
3) Heater pressure is too low.

If sealing is cannot be operated properly, loosen the nylon nut, turn the hex. nut counterclockwise, and place the heater top surface up (as shown with arrow D) so that heater pressure can be increased.



CAUTION

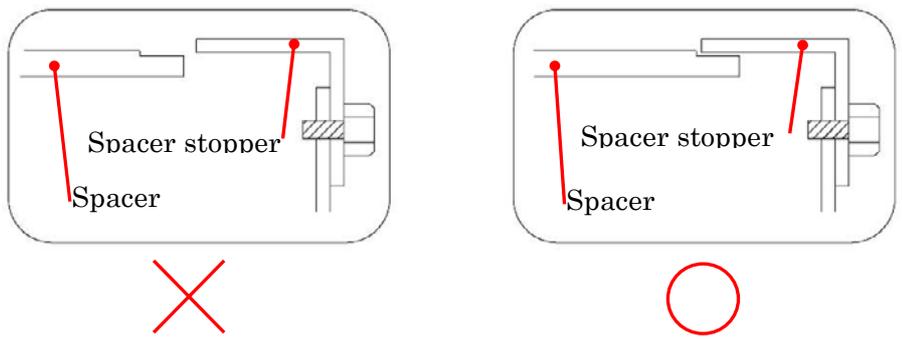
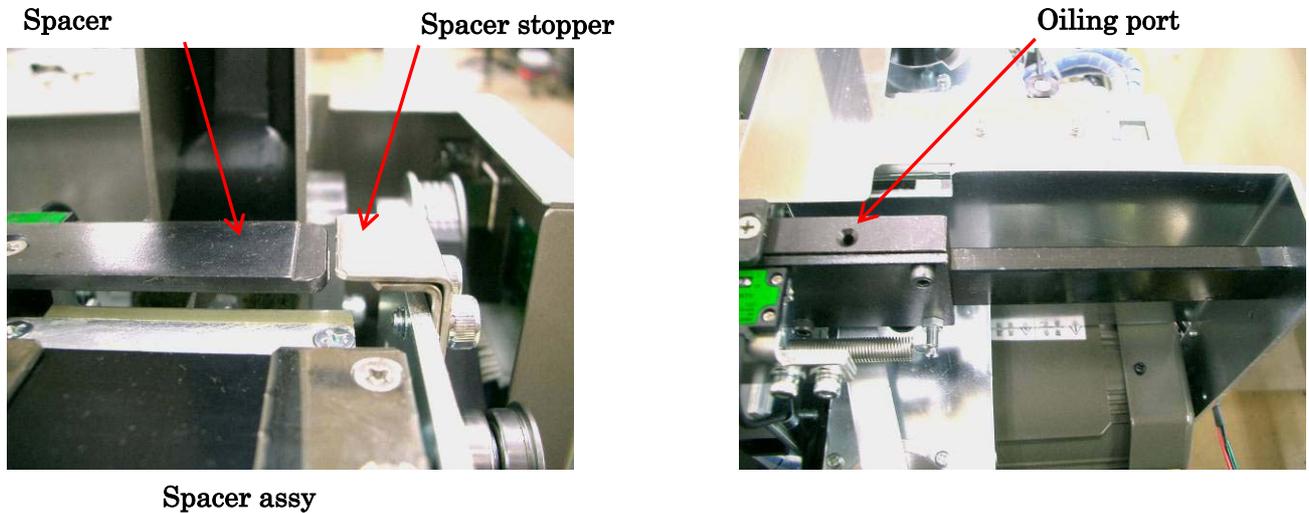
Do not increase this pressure excessively as there is a risk of causing damages in the machine. Warpage of the spacer may be the source of sealing failure. Check and replace the spacer first.



4) Pressure losing due to warpage of spacer

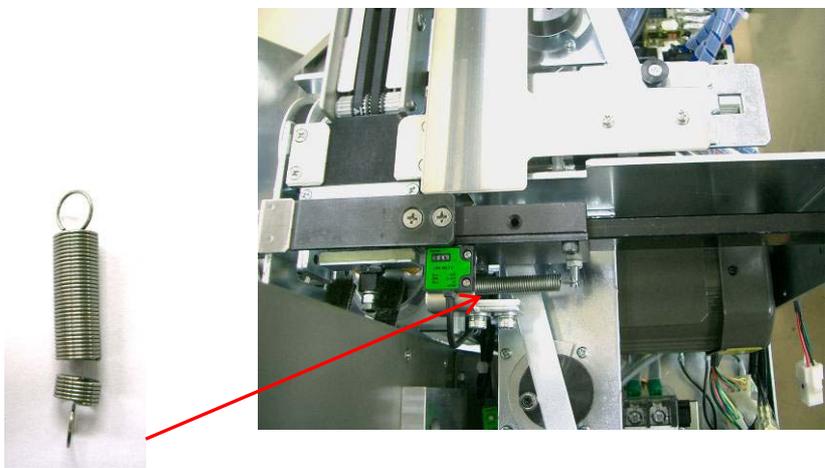
CAUSE (1) : Spacer does not slide smoothly due to wear of oil film causing that the spacer edge cannot fit the spacer stopper.

REMEDY : Fill oil in the spacer.



CAUSE (2) : The spacer spring has been damaged.

REMEDY : Replace the spacer spring.



◆ Sealed tape end adjusting failure ◆

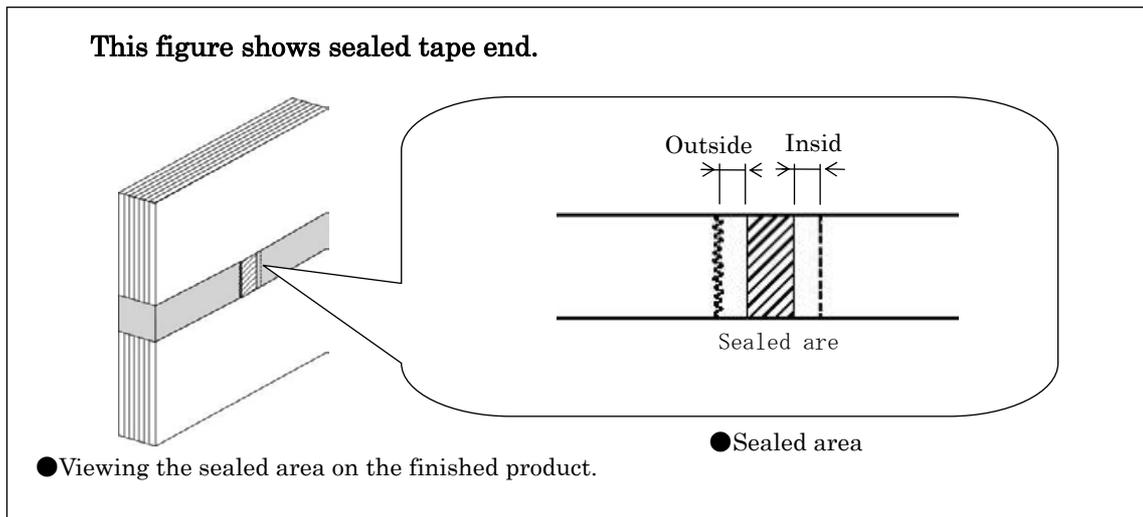


Fig. 1 Sealed tape end

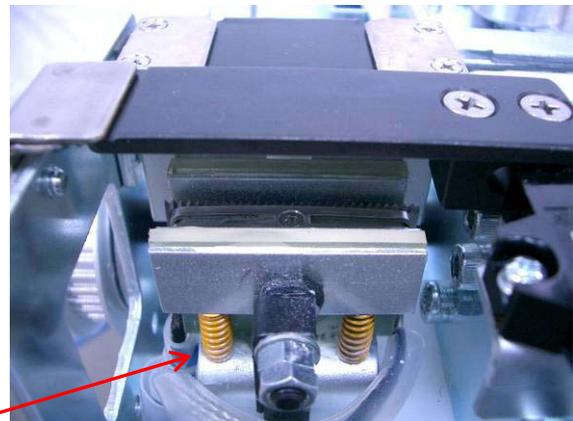
1) When outside of sealed tape end is too short

CAUSE : Right clamp gripping failure
(The right clamp spring has been damaged.)

REMEDY : Replace the right clamp spring.
REF. : Section of Right clamp spring replacement
in this manual (Page18).



Right clamp spring



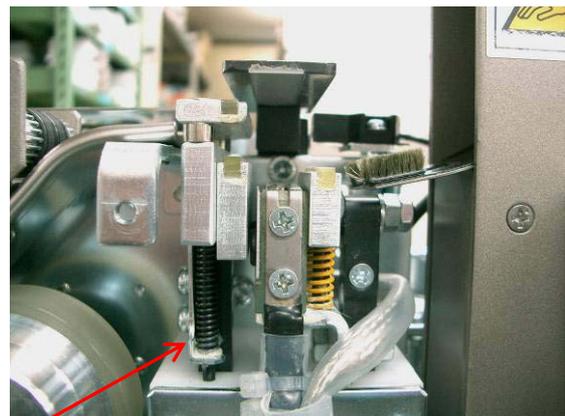
2) When inside of sealed tape end is too short

CAUSE : Beak clamp (A) gripping failure
(The beak clamp spring has been damaged.)

REMEDY : Replace the beak clamp spring.
REF. : Section of Beak clamp spring replacement
in this manual (Page18).



Beak clamp spring



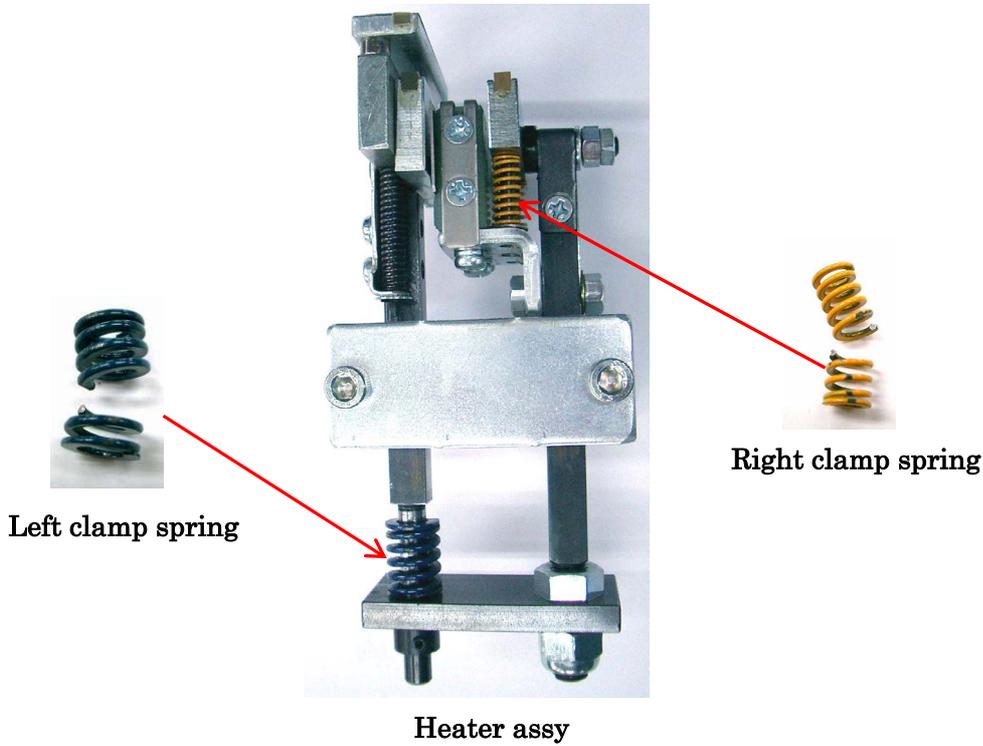
◆Tape cutting failure◆

1) The tape cannot be cut away or cannot be cut away smoothly.

CAUSE(1) : The right clamp or the left clamp spring has been damaged.

REMEDY : Replace the right clamp spring.
Replace the left clamp spring.

REF. : Section of Right clamp spring replacement in this manual (Page18).
Section of Left clamp spring replacement in this manual (Page19).



CAUSE(2) : The cutter blade has worn.

REMEDY : Replace the cutter blade.

REF. : Section of Cutter blade replacement in this manual (Page19).



◆Tape feeding failure◆

1) **Tape jamming at rubber roller**

CAUSE(1) : The adhesive tape on the tape head on each new roll of tape is causing to prevent smooth feeding of the tape.

When the tape is jammed at the rubber roller showing a state of fan-folding,
There will be sticky material on the roller, infeed guide or clamp plate.



REMEDY : Remove the sticky material using a file.
Then clean the surface with lacquer thinner or alcohol.

Problem caused by a piece of adhesive tape

The head of every new roll of tape is fixed with a piece of adhesive tape.
When using a new roll of tape, about 60 cm must be cut away. If not, this small piece of adhesive tape will stick on the roller, clamp, etc. causing jamming of the tape.



CAUSE(2) : The tape is meandering due to wear of the rubber roller.

REMEDY : Replace the rubber roller.

REF. : Section of Rubber roller replacement in this manual (Page20).



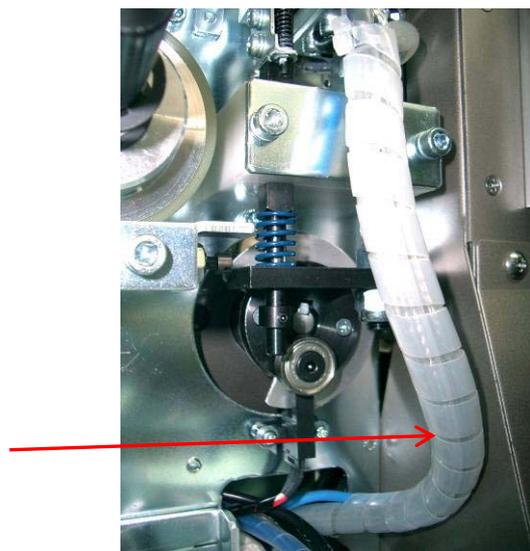
Rubber roller

CAUSE(3) : The heater assy cannot return to the bottom point preventing smooth feeding of the tape.

REMEDY :
• Clean the surface of the right clamp spindle and the left clamp spindle.
• Change the location of the heater wires if they do not allow the heater assy to return to the bottom poin.



Heater wires



◆Tape tensioning failure◆

Tensioning of tap is too low or no tensioning

CAUSE(1) : The tape is meandering due to wear of the rubber roller.

REMEDY : Replace the rubber roller.

REF. : Section of Rubber roller replacement in this manual (Page20)



Rubber roller

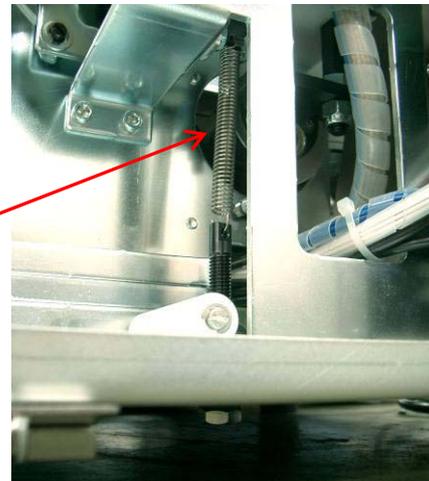
CAUSE(2) : The roller spring has been damaged.

REMEDY : Replace the roller spring.

REF. : Section of Roller spring replacement (Page22).



Roller spring



Roller spring

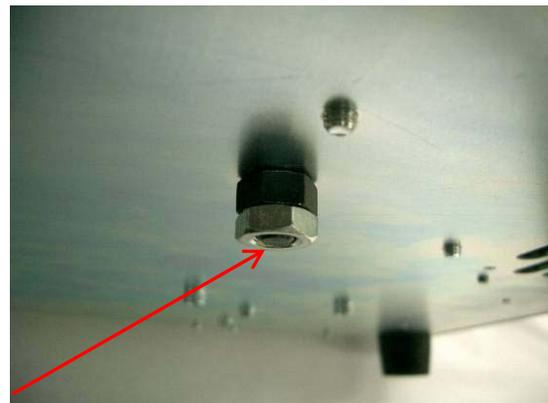
CAUSE(3) : Rubber roller pressure is too low causing tape slipping

REMEDY : Adjust pressure of the roller spring.



CAUTION : Tape meandering will be caused if pressure is increased excessively. Adjust this pressure carefully.

Roller spring adjusting nut



Viewing machine from bottom

◆Machine start-up failure◆

1) Power cannot be supplied.

CAUSE : The circuit protector is working.

REMEDY : Reset the circuit protector.



CAUTION: Reset the circuit protector after removing the cause of working of this unit.



2) Taping function failure

CAUSE (1) : The front door is open.

REMEDY : Shut the front door.

〔 Check for damages of limit switch connector or wires. 〕



Limit switch

CAUSE(2) : The auto sensor is not detecting the product in the machine.

REMEDY : Adjust the attachment positions allowing that the product is located on the sensor.

〔 There will be possibility that the bottom of the product is not flat or transparent. 〕



Auto sensor

◆Preparation for maintenance work◆

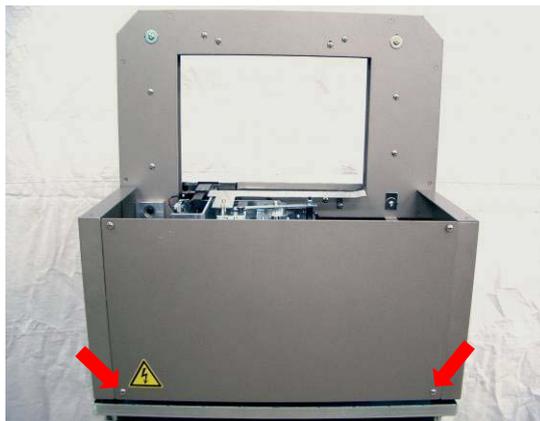
1. Disconnection of back table

Remove six screws, shown with arrows, which are located on the upper and back sides.



2. Disconnection of back cover

Remove two screws shown with arrows (rear of machine).



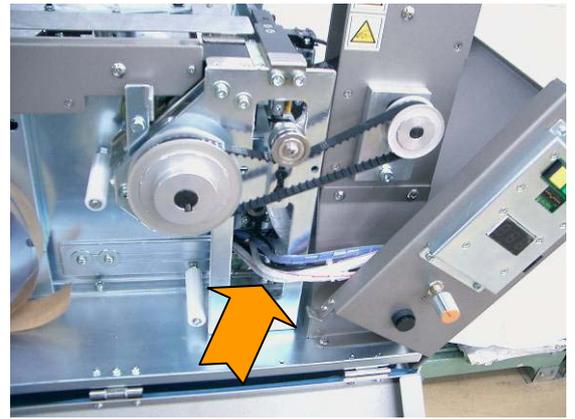
3. Disconnection of right cover

Remove three screws shown with arrows (front and side of machine)



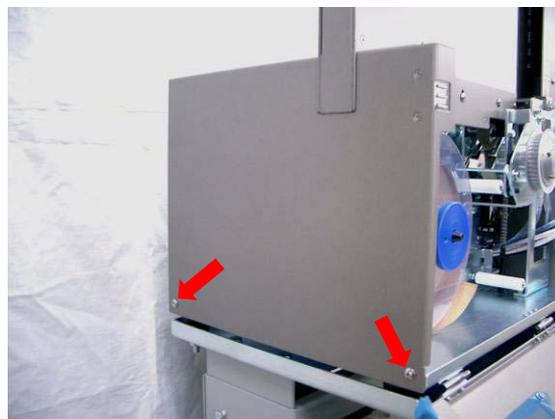
※Care to be taken when disconnecting right cover:

Wires inside will be damaged if this cover is pulled out forcibly.



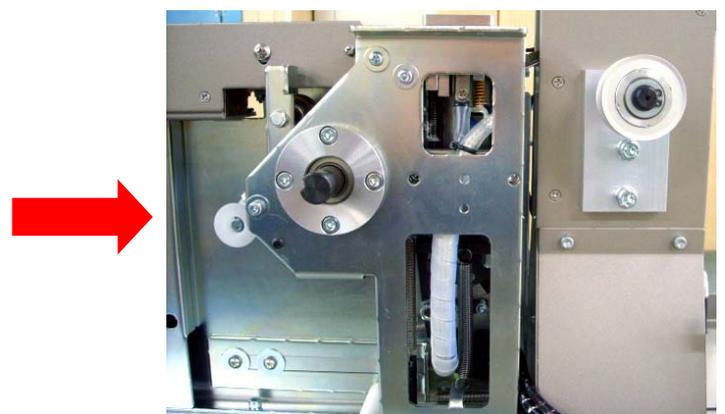
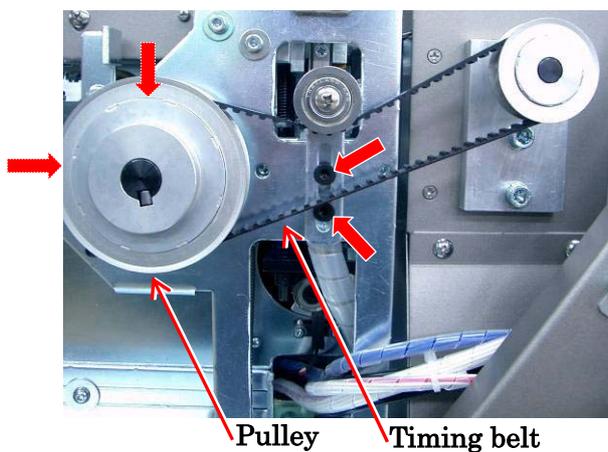
4. Disconnection of left cover

Remove two screws shown with arrows (side of machine).

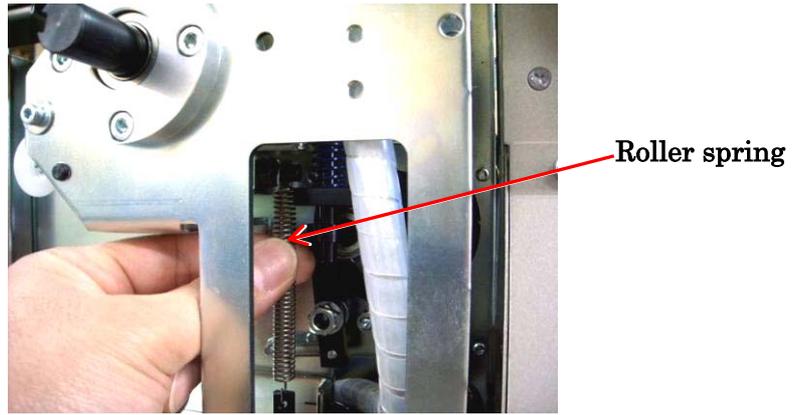


5. Disconnection of sub-frame

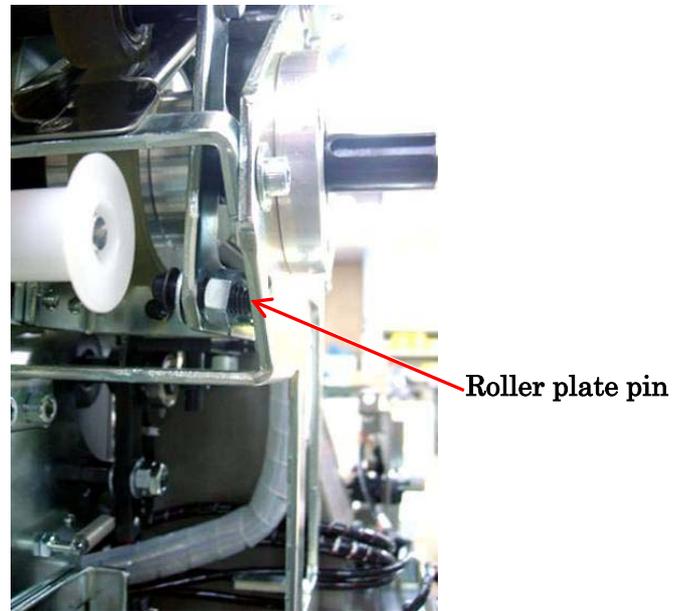
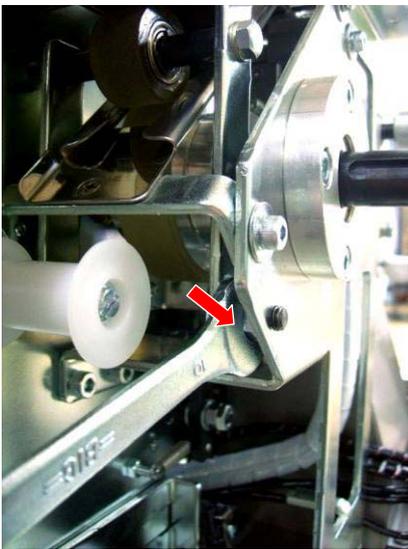
1) Remove two screws shown with arrows on the idler and also two screws at the pulley. The timing belt and the pulley can be disconnected now.



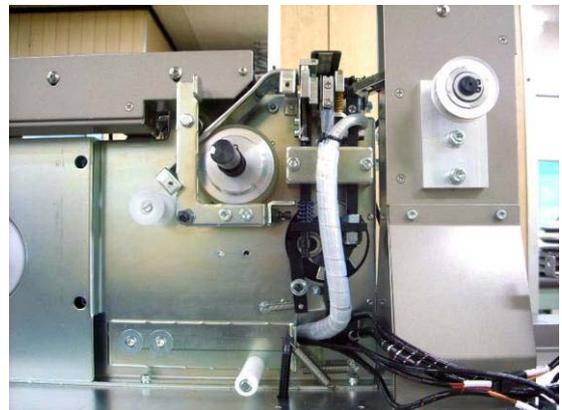
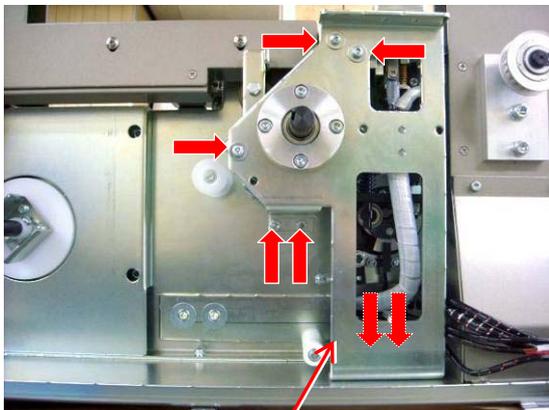
2) Disconnect the roller spring from the spring holder.



3) Loosen the nut shown with arrow. Then pull out the roller plate pin from the sub-frame.

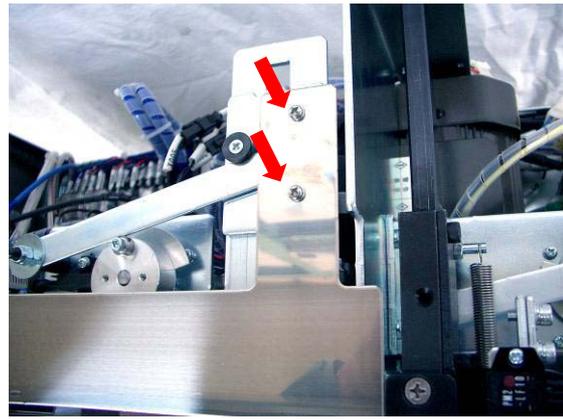


4) Remove seven screws shown with arrows and pull the sub-frame toward you.



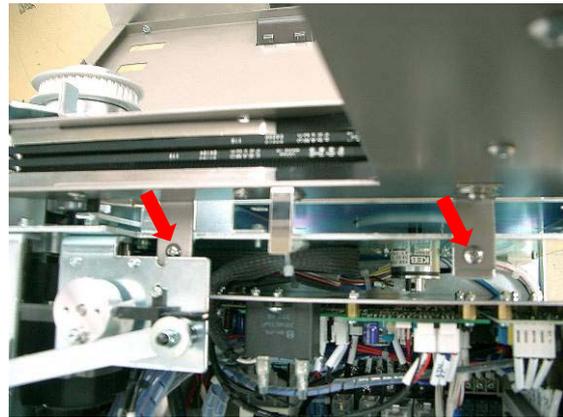
6. Disconnection of arch guide

1) Remove two screws shown with arrows used for fixing the shutter.



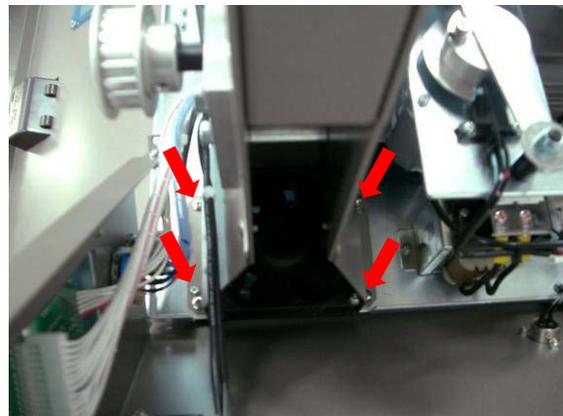
Shutter

2) Remove two screws shown with arrows fixing the arch guide (rear left of machine)



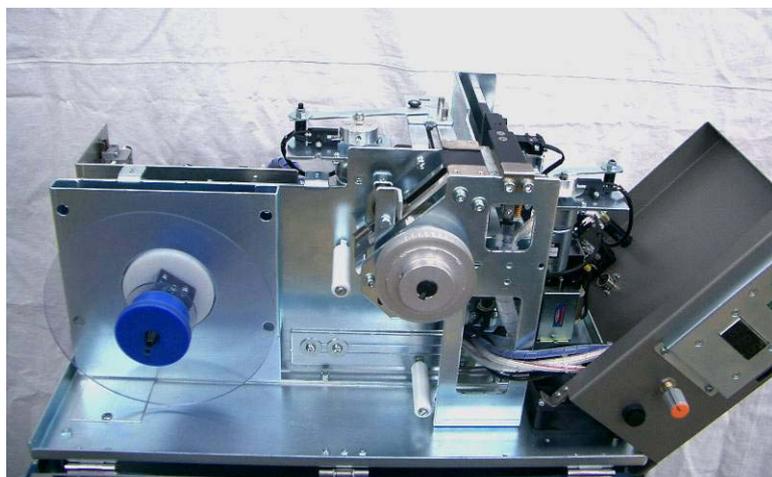
Arch guide rear left side

3) Remove four screws shown with arrows (right of machine).



Arch guide right side

Wires will be damaged if the arch guide is pulled forcibly.



Showing machine after dismounting machine cover and arch guide

Heater assy parts replacement

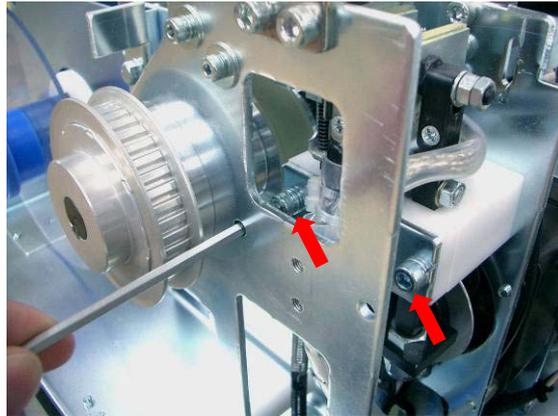
When changing the parts in the heater assy, make sure that the main switch has been turned off. Also make sure the heater temperature is low enough to prevent burning of fingers.

First disconnect the heater assy from the mechanical unit.

※For details, refer to the section of Preparation for maintenance work (Page12).

Disconnection of heater assy.

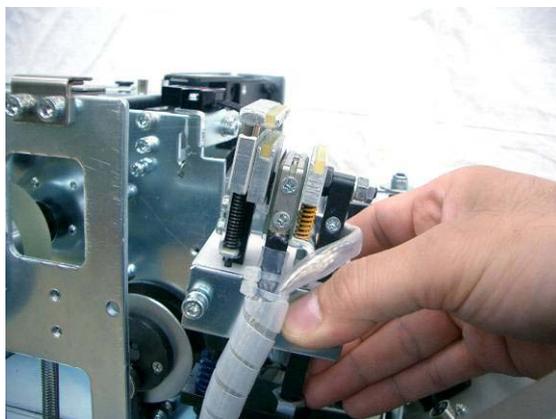
- 1) Remove two screws shown with arrow.



- 2) Take out the heater assy in a way that it is pulled toward right.

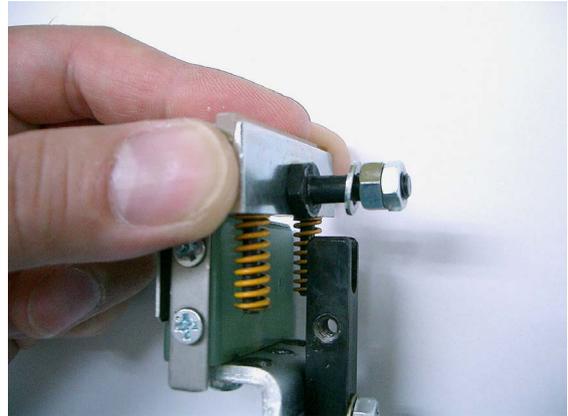
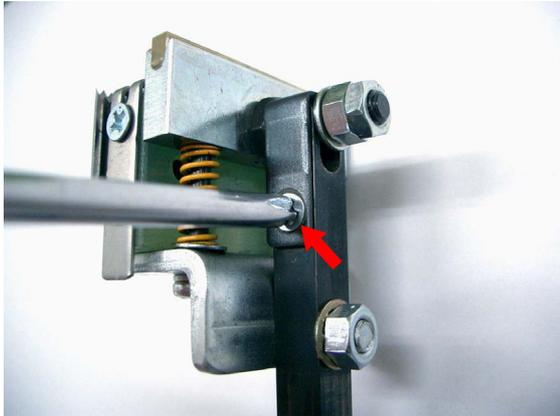


CAUTION : Operate this work very carefully as the tape cutter will injure your hands

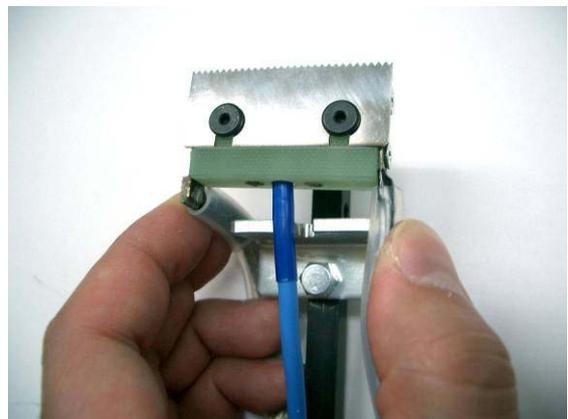
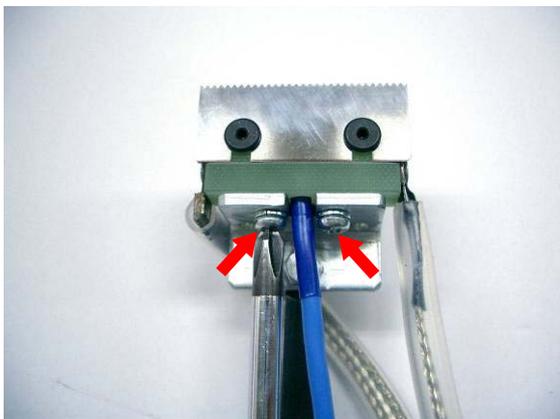


◆Replacement of heater plate assy◆

- 1) Remove the screw shown with arrow which is fixing the right spring support.
Then the right clamp will be disconnected.

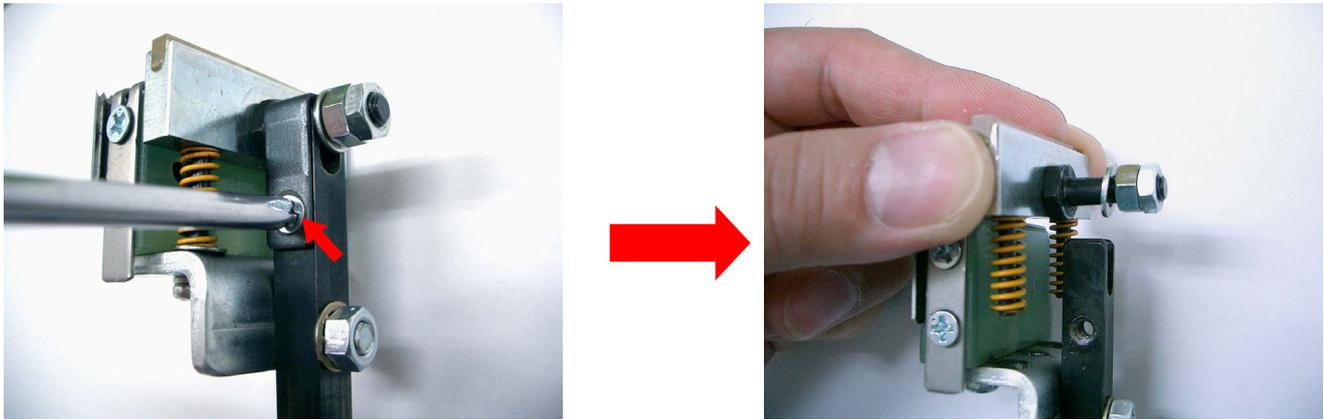


- 2) Remove two screws shown with arrows which are fixing the insulation plate.
The heater plate assy can be disconnected for replacement.



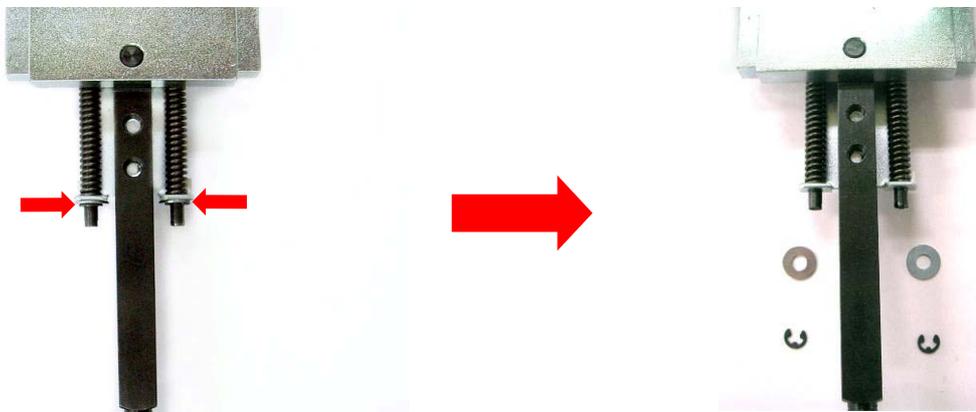
◆Right clamp spring replacement◆

Disconnect the spring which is fixing the right spring support, so that the right clamp spring can be replaced.



◆Beak clamp spring replacement◆

1) Disconnect two E-rings shown with arrows which are used to fix the beak guide pin.
(Keep the disconnected E-rings securely after disconnection.)



2) Disconnect the beak guide pin for replacing the beak clamp spring.



◆Left clamp spring◆

1) Loosen the screw shown with arrow which is used to fix the lower clamp collar, so that the left clamp assy can be dismantled.



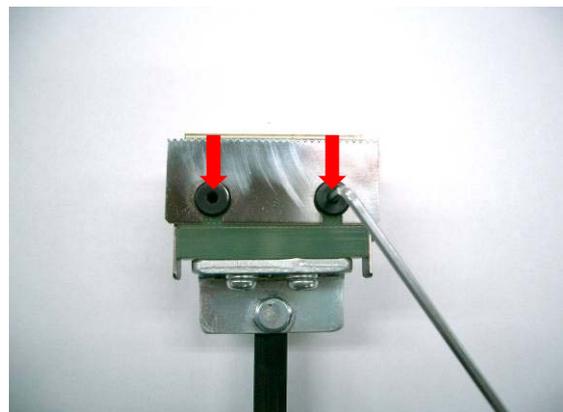
2) Replace the left clamp spring now.



◆Cutter blade replacement◆

Loosen two screws shown with arrows which are used to fix the tape cutter.

〔 Place the cutter lower surface located at the stepped surface of the insulating plate. 〕

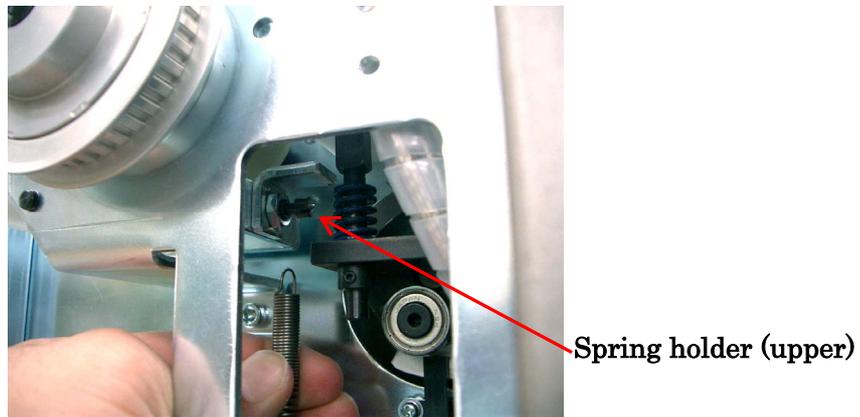


Rubber roller replacement

When replacing parts in the roller assy, make sure that the main switch is turned off.
Carefully operate this work for preventing accidents.

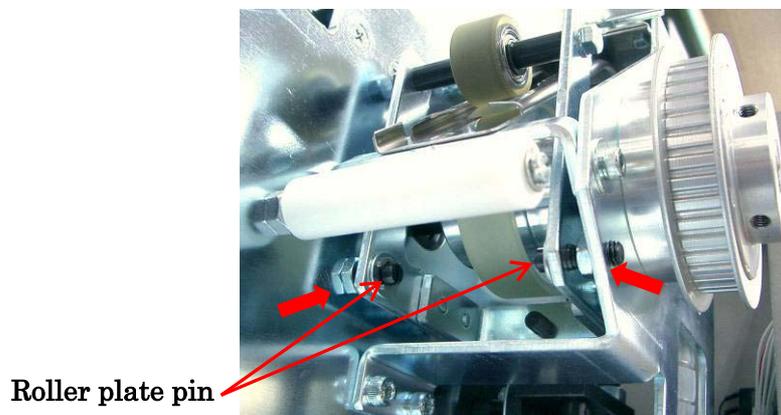
◆Rubber roller replacement◆

- 1) Disconnect the roller spring from the spring holder (upper).



Roller assy

- 2) Loosen two nuts shown with arrows which are used to fix the roller plate pin.
Turn the roller plate pin counterclockwise so that it can be disconnected from the frame.



Roller plate pin

Roller assy

3) After pulling out the roller plate pin, the roller plate will be free to move. Loosen the hex. head bolt and remove the rubber roller.

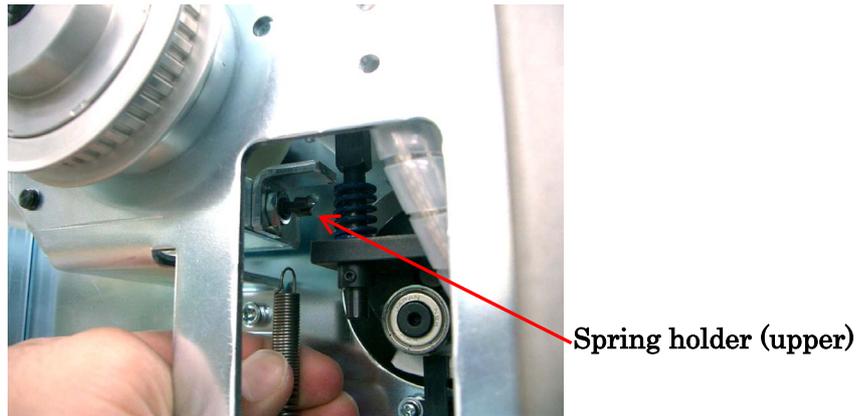


4) Dismount the E-ring so that the rubber roller can be replaced.



◆Roller spring replacement◆

1) Disconnect the roller spring from the spring holder (upper).



Roller assy

2) Disconnect the roller spring from the spring holder (lower) for replacing the roller spring.
(You can use hand tools like long-nose pliers if the spring cannot be disconnected easily.)



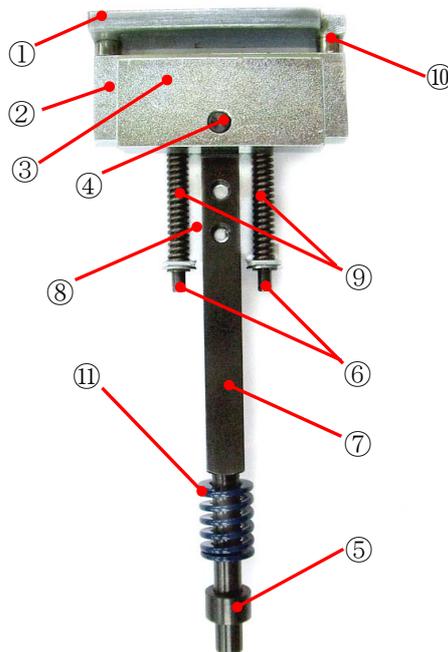
Roller spring

Parts List

Beak clamp assy

Name of part	PART NO.
Beak clamp assy	04601

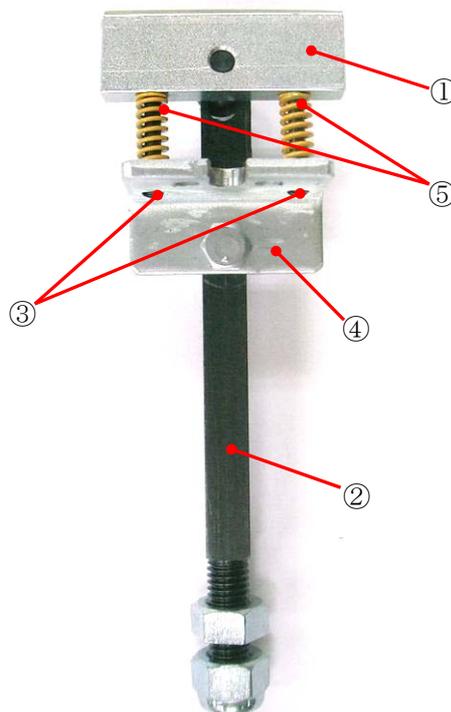
No.	Name of part	PART No.
①	Beak clamp (A)	04007
②	Beak clamp (B)	04008
③	Left clamp (A)	04009
④	Left clamp pin	04010
⑤	Clamp lower collar	04020
⑥	Guide pin	04014
⑦	Left clamp spindle	04016
⑧	Spring fixing plate	04017
⑨	Beak clamp spring	04405
⑩	Beak clamp lower spacer	04406
⑪	Left clamp spring	04407



Right clamp assy

Name of part	PART NO.
Right clamp assy	04602

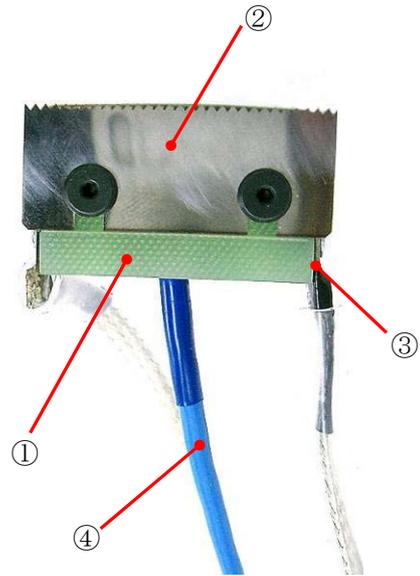
No.	Name of part	PART No.
①	Right clamp	04005
②	Right clamp spindle	04012
③	Guide pin (A)	04014
④	Heater mounting block	04015
⑤	Right clamp spring	04404



Heater plate assy

Name of part	PART NO.
Heater plate assy	04603

No.	Name of part	PART No.
①	Insulating plate	04006
②	Cutter blade	04011
③	Heater	04018
④	Thermocouple	



Parts List

● Cutter blade



PART No.04011

● Rubber roller



Tape width	PART No.
30	06001
40	06002

● Left clamp spring



PART No.04407

● Right clamp spring



PART No.04404

● Beak clamp spring



PART No.04405

● Spring



	PART No.
Spacer spring	05402
Tape tensioner spring	06312
Shutter spring	07402

● Roller spring



PART No.06313

● Spacer



PART No.05001



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