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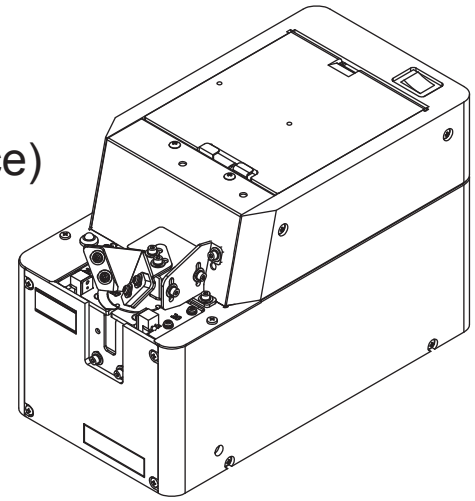
OHTAKE

Automatic Screw Feeder
自動ネジ供給機

OM-26M Type
Operation Manual (Maintenance)



・Read these instructions for the proper use of this machine.
・After having read these instructions, keep them in a convenient place so you or the operator can refer to them whenever necessary.

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OMM1MA01Ma

Contents

1. OVERVIEW OF THIS MACHINE

Thank you very much for selecting our Automatic Screw Feeder "OM-26M series ".
This machine can line up screws (Type M2 - M6) and supplies them one by one to help the efficiency of screw fastening work.
Different sizes of screws can be used by changing the rail and parts of the escaper assembly.
It can be used wherever there is a power source for an AC adapter.
Only steel screws may be used with this machine. Stainless steel or plastic screws cannot be used.

2. BEFORE USE

Please check for the following accessories before operating the machine.

- ＊ Instruction Manual 1 copy
- ＊ AC Adapter 1 unit
- ＊ Hexagonal Wrench 1 piece
- ＊ Screwdriver 1 piece

3. OPERATING PRECAUTIONS

This manual contains safety alert symbols and signal words to help prevent injuries to the user or damage to property.

◎ Indications

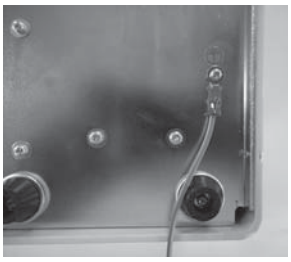
⚠ WARNING	This indicates there is a chance of death, serious injury or fire if the instructions are not followed.
⚠ CAUTION	This indicates there is a chance of personal injury or damage to property if the instructions are not followed.

◎ Symbols indicating type of danger and preventative measures

Prohibited operation. Never do this!
Do not disassemble, modify or repair.
Do not touch with wet hands.

This indicates to stop operations.
Unplug power supply from wall outlet.
General caution.

When the earth wire is connected, loosen the screw near the ⏚ mark once.
After attaching the earth wire,tighten the screw again.



the bottom of the main body

⚠ WARNING

Do not disassemble the AC adapter as there is a risk of electric shock, fire or malfunction.

Do not damage, alter or change the power cord. Do not place heavy objects on the cord.
Do not pull hard on the cord or twist the cord as it could be damaged, thereby causing a risk of fire or electric shock.

Do not handle the AC adapter with wet hands as it could cause an electric shock.

When using an outlet with AC100 ～ 240V, don't overload the electrical circuit.
Do not modify or remodel this machine as this may cause a fire or electric shock.

Do not operate this machine near flammable liquids, gasses or materials as there could be a risk of fire or explosion.

Stop operating the machine and unplug the AC adapter from the wall outlet when you detect overheating, smoke, a pungent odor or any other unusual condition, as there may be a risk of fire or electric shock. Contact the dealer, from which you purchased the machine, and have it examined and repaired.

In the case of a thunderstorm, stop operating the machine, turn off the power and unplug the AC adapter from the wall outlet. If there is lightning and thunder nearby, move away from the machine and do not touch it or the AC adapter.
After the thunder stops, and when it is safe to do do so, check the machine. If there is any abnormality, contact your dealer.

When performing maintenance, changing parts or when you sense an abnormality in the machine, turn the power off and pull the AC adapter from the wall outlet.

⚠ CAUTION

Use only the AC adpater supplied with this machine otherwise it may result in a fire or electric shock.

Do not install this machine in an unstable location otherwise it may fall causing damage or injury.

Always operate the machine with the upper cover in place, otherwise it may result in injury.

Do not allow any foreign material to enter the machine while in operation.
Do not put your fingers into the machine while in operation, otherwise an injury will result.

Do not operate this machine in overly humid or dusty conditions.
Keep the socket plug clean at all times otherwise it may cause a fire or electric shock.

When moving the machine, always disconnect the AC adapter from the wall outlet or it may result in damage to the cord, or cause a fire or electric shock.

Turn off the machine and unplug the AC adapter from the wall outlet during closing hours or if the machine will be unused for any extended period of time.

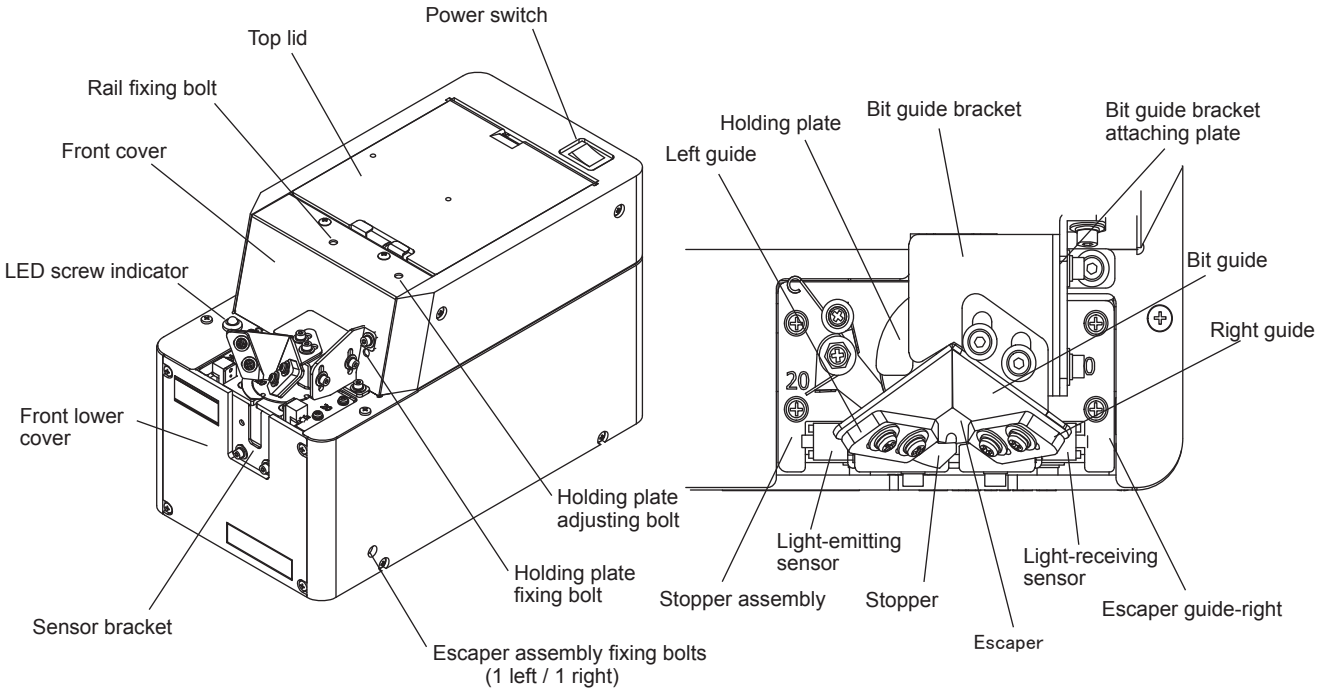
Do not operate the machine with tension on the AC adapter cord.
Keep the cord loose and untangled.

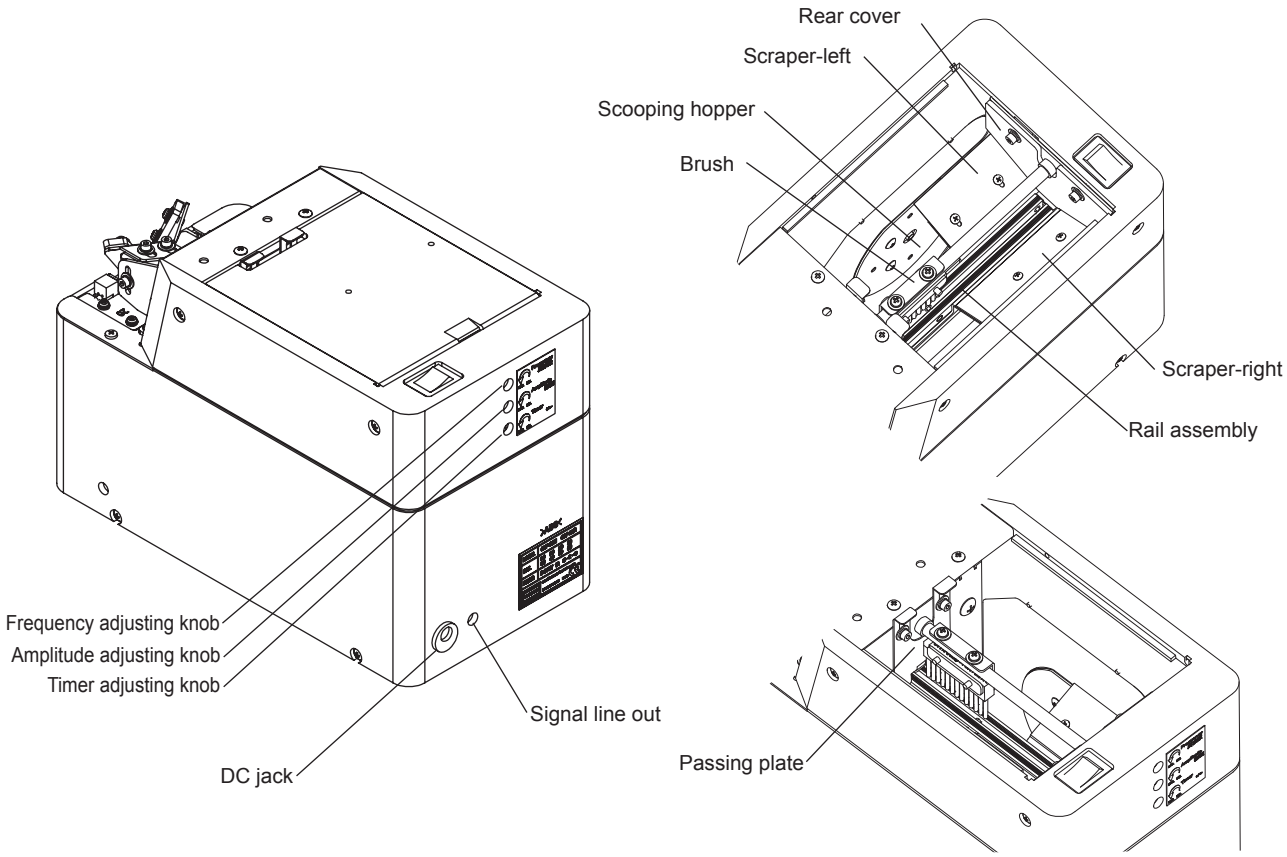
Do not bend, alter or damage the rail. Do not apply any oil. It is recommended that the user clean the rail periodically.

Do not use any screw that is out of the specified range nor any screw that is oily or dirty.

When pick uping screws, do not exert excessive force or shock to the screws.

4. NAMES OF MACHINE PARTS





5. ADJUSTMENTS AND CHECKS BEFORE USE

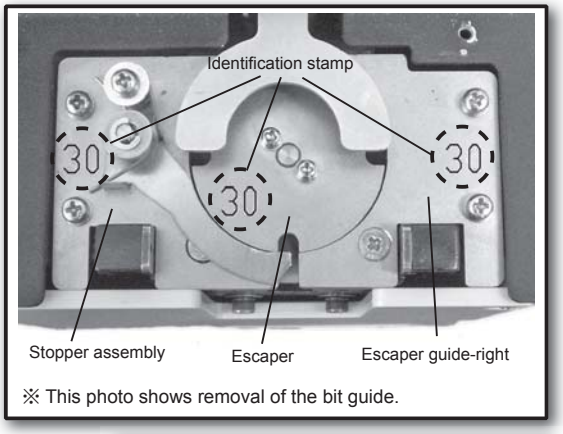
5—1. Checking the model number of the main body

Check if the machine has the parts which match the nominal diameter of the screws to be loaded. Check the model number of the rail, escaper, stopper assembly, escaper guide-right,
and passing plate by referring to the following table.

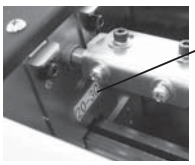
Before delivery, each section of the machine is checked and adjusted with panhead screws matching the nominal diameters of the model ordered. Operate the machine with the screws loaded to check that the pick up is smooth. If the height or or shape of the screw head is different or if the operation is regarded as abnormal, each section must be readjusted.

If this is the case, make the following checks and adjustments:

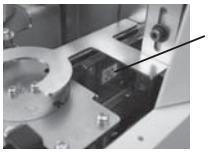
- ○ Check the screw load amount
- ○ Check and adjust the brush
- ○ Check and adjust the passing plate
- ○ Check and adjust the rail vibration
- ○ Check and adjust the holding plate
- ○ Check and adjust the front and rear sides of the rail
- ○ Check and adjust the timer



※ This photo shows removal of the bit guide.



Passing plate identification seal



The rail identification seal can be located after removing the front cover.

Screw feeder series	Screw feeder model	Screw size	Exchange kit No.	Rail model No.	Escaper model No.	Stopper assembly model No.	Escaper guide-right model No.	Passing plate model No.
OM-26M	OM-26M20	φ 2.0	OMM20SET	OMM20	SIE20	SIES20	SIEM20	OM20-30
	OM-26M23	φ 2.3	OMM23SET	OMM23	SIE23	SIES23	SIEM23	
	OM-26M26	φ 2.6	OMM26SET	OMM26	SIE26	SIES26	SIEM26	
	OM-26M30	φ 3.0	OMM30SET	OMM30	SIE30	SIES30	SIEM30	
	OM-26M35	φ 3.5	OMM35SET	OMM35	SIE35	SIES35	SIEM35	OM35-40
	OM-26M40	φ 4.0	OMM40SET	OMM40	SIE40	SIES40	SIEM40	
	OM-26M50	φ 5.0	OMM50SET	OMM50	SIE50	SIES50	SIEM50	OM50
	OM-26M60	φ 6.0	OMM60SET	OMM60	SIE60	SIES60	SIEM60	OM60

If the rail, escaper, stopper assembly, escaper guide-right and passing plate are replaced, screws with a different nominal diameter can be accepted. After these parts are replaced, fine adjusting is required.
The respective adjusting procedures will be described elsewhere. Please read these procedures.

5－2. Basic operations

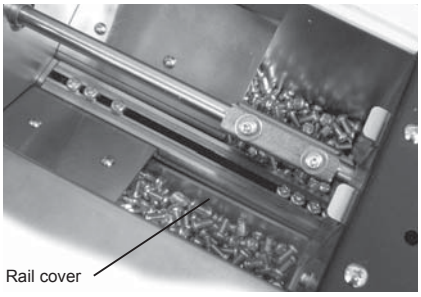
○Loading the screws

- Turn the power switch ON and OFF so that the brush stops vertically above the rail.
- Open the top cover and load screws on the left and right side of the rail evenly.
- Do not load screws above the surface of the rail.
- Be sure to determine the screw load by observing the machine while it is in operation.

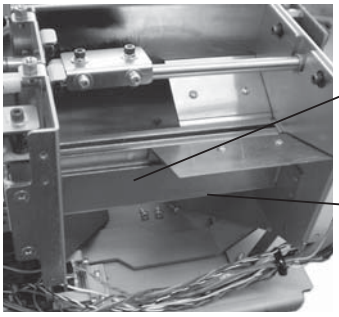
Screws with a diameter larger than 5 or longer than 20mm, under the head, should not be loaded higher than the rail bottom.

[CAUTION]

- The type and length of screw changes the load capacity so check and adjust the load accordingly.
- Do not overload the hopper with screws otherwise it may cause a malfunction or damage the machine.
- This machine accepts only steel screws. Plastic or stainless screws are not accepted.



(INDICATION:The maximum screw load must not be over 30mm below the rail-groove surface.)



Disassembled state

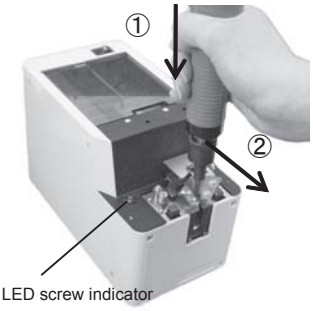
○Turning ON the power

- Use only the adapter supplied with this machine to connect it to a wall outlet. When you turn the power on, the switch lamp lights up, the motor rotates and screws are scooped onto the rail.
- The rail vibrates to deliver screws towards the end of the rail, then the escaper rotates to deliver screws to the pick up spot. When the screws come to the stopper, the LED indicator lights up and the the escaper stops rotating.

[CAUTION] Use only the AC adapter supplied with this machine otherwise it may cause damage to the machine.

○Pick uping Screws

- Pick up the screws at the stopper with the electric screw driver. Use the bit guide to put the screwdriver down vertically into the screwhead's slots, then pull the screwdriver, horizontally, towards you as pick uping the screw.
- When inserting the screwdriver into the screwhead slots, do not use excessive force as it may alter the position of the escaper or cause damage to the machine.
- To insert the screwdriver bit into the screwhead slots properly, it may be necessary to twist the driver slightly.
- Use a driver bit which corresponds with the screw's diameter.

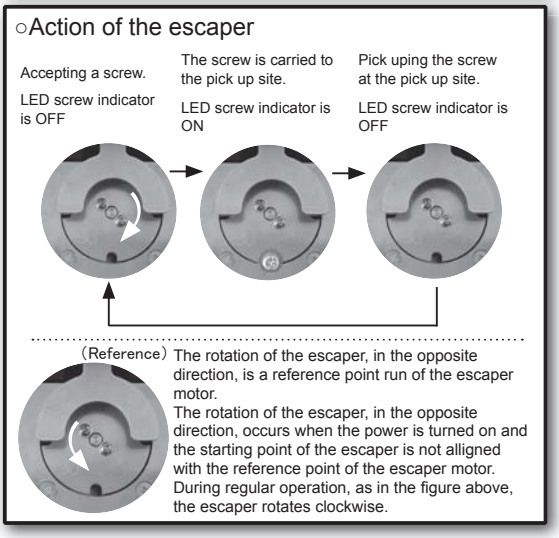


① Put the screwdriver down vertically as twisting it slightly and insert the bit into the screwhead slots properly.

② Pull the screwdriver towards you, horizontallly and pick up the screw.

○Action of the escaper

- The escaper rotates 90° clockwise--> stops for about 0.6 seconds --> and rotates again 90° clockwise. When a screw is caught in the escaper and the notch position is altered, the escaper automatically rotates to the left, as a reference point run, in order to adjust the notch position and then returns to the right rotation.
- This machine continues its operation when no screw is found at the screw pick up spot. The machine continues operating with a screw at the pick up spot but will stop, after a certain lapse of time, if the screw is not picked up. After the screw is picked up, the machine starts operating again. This time lapse can be varied by adjusting the timer.
- When no screw is found at the pick up site after a certain lapse of time, the rail vibration increases. (The vibration sound, also, increases however, this is not a problem.) If no screw is still not found at the pick up site, then the machine stops operating. At this time the escaper keeps rotating. When you want to start operation again, turn the power switch OFF and ON again.



5－3. Adjusting the brush height

Turn OFF the power switch before starting replacement and adjustment.

Load the screws into the scooping hopper, turn ON and OFF the power switch so that screws are alligned into the rail groove.

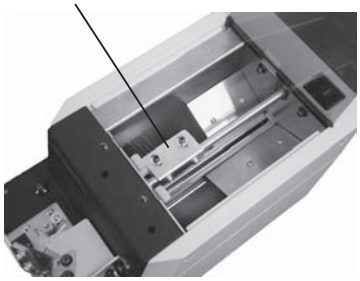
- Turn ON and OFF the power switch in order to set the brush to the left as shown in the figure on the right.
- Move the brush by hand to check that the screws, in the rail groove, are in slight contact with the brush bristles and if needed make the necessary adjustments.
- When the brush height is too high or low, this will have an adverse effect on the screw allignment and transport.

- If any adjustment is necessary, loosen the brush height adjusting bolt to adjust the brush height.

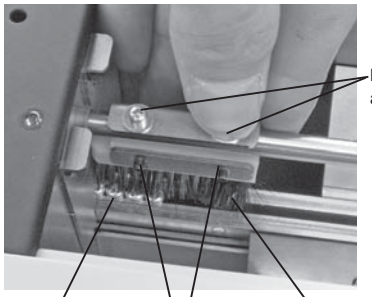
- If the plastic portion, at the front of the brush, comes into contact with the passing plate, loosen the brush assembly mounting screw and move the brush assembly back so there is 0 mm clearance.

- Turn ON the power switch to check that the brush operation is normal.

Turn On and Off the power switch to put the brush bristles in a horizontal position towards the left side.



Move the brush by hand to check that the screws, in the rail groove, are in slight contact with the brush bristles and make adjustments if necessary.



5－4. Checking and adjusting the rail vibration

The amplitude and frequency of the rail vibration can be adjusted.
The vibration has been adjusted at the factory for screws that correspond with the rail.
Put some screws into the rail and turn the power on. If they are delivered smoothly, there is no need for adjustment.
The screw transport feed differs depending on screw type.
For screws with a low transport speed, or screws that easily jump, an adjustment is necessary.

① Turn the frequency adjusting knob (first hole at the top in the back of the machine) using the accompanying screwdriver. Find the frequency at which the rail vibrates the most.
② Turn the amplitude adjusting knob (second hole from the top) and find the amplitude for which screws are delivered smoothly.

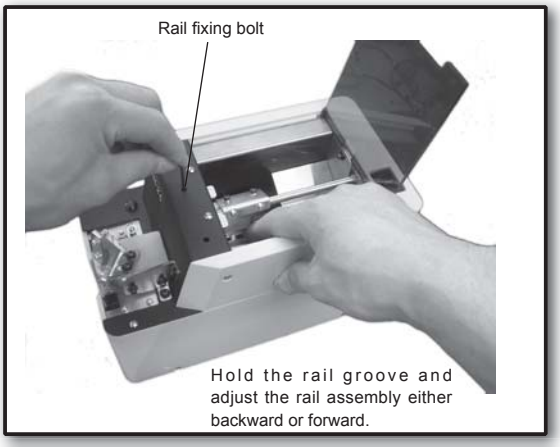
- If the vibration is adjusted to a too large a value to increase the transport speed, screws may jump from the rail and fall into the machine from the clearance, failing to unload screws normally.
  Adjust the vibration to a proper value that matches the loaded screws.

- With the accompanying screwdriver, turn the knob without using excessive force.
- When no screws are scooped onto the rail for a certain period of time, the rail vibration increases. If, still, no screws are scooped on to the rail, the machine stops operating.

5－5. Check and adjust the front and rear sides of the rail

Turn OFF the power switch before starting replacement and adjustment.

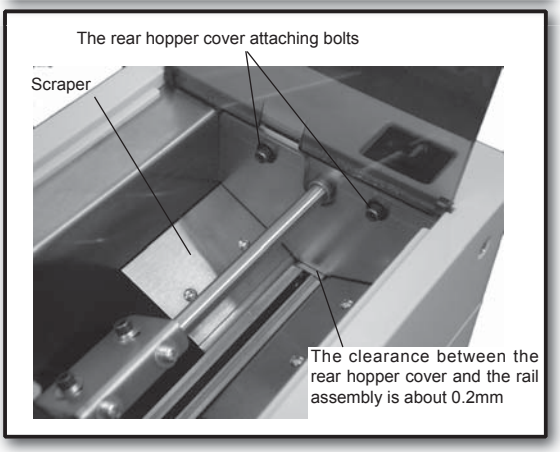
- If the rail comes into contact with the escaper, or the clearance between the rail and escaper is too large, loosen the rail fixing bolt, hold the rail groove and adjust the rail assembly either backward or forward.
  After making an adjustment, be sure to tighten the rail fixing bolt.
- When the rail comes in contact with the escaper, the escaper disk doesn't rotate properly. When the clearance between the rail and the escaper is too large, screws may fall down into the machine.
- After making an adjustment, try making a vibration readjustment by referring to " 5-4 Checking and Adjusting the Rail Vibration".



5－6. Check and adjust the rear hopper cover

Turn OFF the power switch before starting replacement and adjustment.

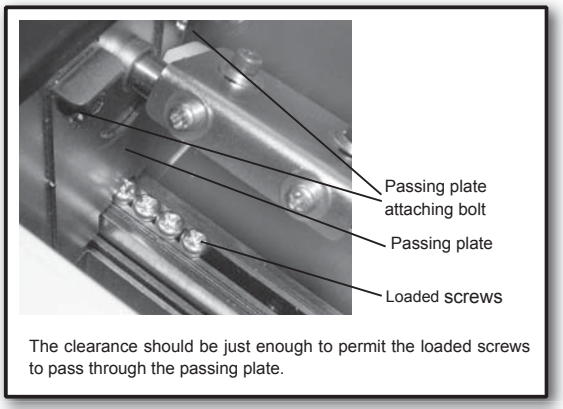
- Check that the clearance between the rear hopper cover and the rail assembly is about 0.2 mm.
- If the rail hits against the rear hopper cover, the vibration will become weak and the screws will be delivered slowly.
  If the rear hopper cover is too high, the slit between the rail and the scraper catches screws easily.
- If adjustment is required, loosen the rear hopper cover attaching bolts and make an adjustment either up or down.



5－7. Check and adjust the passing plate

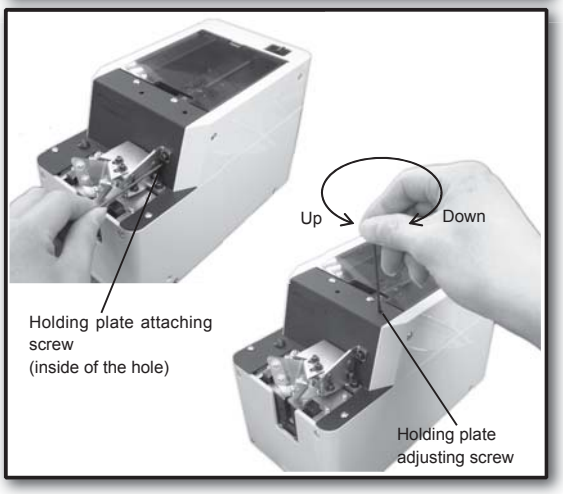
Turn OFF the power switch before starting replacement and adjustment.

- Check that the passing plate is adjusted to a height that permits loaded screws to pass just within the limit.
- If the passing plate is too low, screws cannot pass.
  If the passing plate is too high, it will hamper a smooth transport of the screws.
- If adjustment is required, loosen the passing plate attaching bolts and adjust either up or down.



5－8. Check and adjust the holding plate

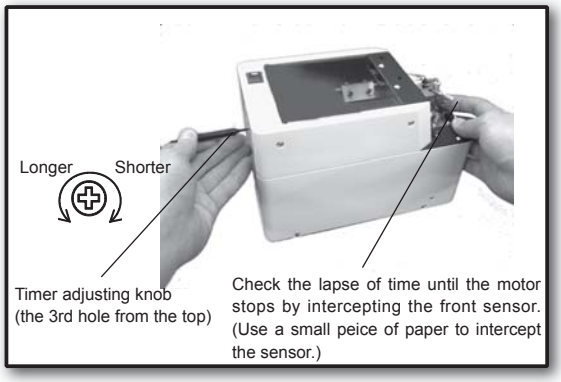
- Check that the clearance between screws in the rail groove and the holding plate is about 0 ～ 1mm.
- If any adjustment is required, loosen the holding plate attaching screw and turn the holding plate adjusting screw, to move the plate up or down.
- If there is no clearance, a screw will be blocked. If the clearance is too large, screw piling or screw jump out will occur.
  When the holding plate adjusting screw is turned clockwise, the plate moves down.
  When the adjusting screw is turned counterclockwise, the plate moves up.



5－9. Check and adjust the timer

The screw transport feed differs depending on screw type.
This machine can make screw unloading smooth through timer adjustment. For screws with a low transport speed, set the timer long. For screws with a high transport speed, set the timer short.

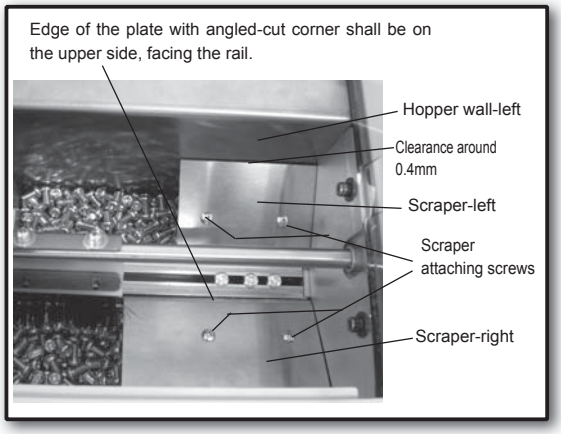
- This machine continues its operation when no screw is found at the screw pick up spot. The machine continues operating with a screw at the pick up spot but will stop, after a certain lapse of time, if the screw is not picked up. This time lapse can be varied by adjusting the timer. After the screw is picked up, the machine starts operating again.
- Check the operation by intercepting the optical axis of the sensor, covering one of the sensors.
- Make an adjustment with the timer adjusting knob (the 3rd hole from the top) at the rear of the machine body (as shown in the figure on the right).
- When the timer knob is turned clockwise, as viewed from the rear side, the time becomes shorter. When the knob is turned counterclockwise, the time becomes longer.(about 1 ～ 6 sec.)



5－10. Check and adjust the scraper

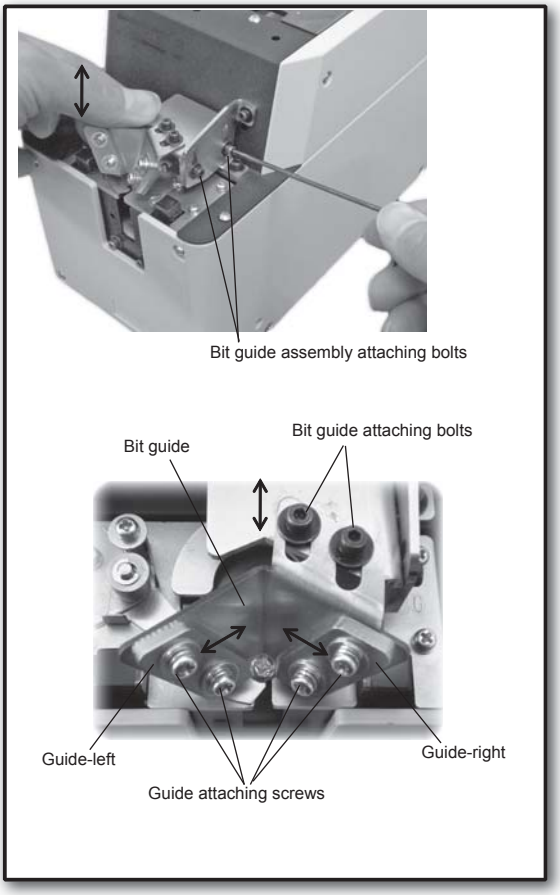
- Check that the clearances, between the scraper right/left and the hopper wall right/left, are around 0.4mm.
- When the scraper makes contact with the hopper wall, the rail vibration becomes weak and the screws are delivered slowly. When the clearance between the scraper and the hopper wall is too large, the screws may be caught easily.
- If any adjustment is required, loosen the scraper attaching screw and move the scraper plate up or down.
- After such adjustments, if deformation on the plate has occurred so that proper clearance and adjustment cannot be achieved, or scratches on the plates had caused trouble in screw movement, please purchase replacement parts for best results.

Left Scraper : TPO91201　　Right Scraper: TPO91202



5－11. Checking and adjusting the bit guide

- Adjust the bit guide's height by loosening the attaching bolts.
- Take care that the bit guide does not contact the screw heads.
- Use the screwdriver and Allen wrench that come with this machine. Remember to tighten the bolts and screws after adjustment.
- After adjustment, check that the pick up of screws is smooth.



6. MAINTENANCE

A dirty rail groove may interfere with the screw transport speed.
Clean the dirty rail with a soft, clean cloth dipped in alcohol.
If cleaning is difficult, remove the rail from the machine and clean the rail groove.

Refer to the next section under 『7-1 Replacing the rail assembly』 for replacing.
Before removing the rail from the machine, be sure to turn off the power supply and take the screws out of the hopper.
If there is any dirt or a flaw in the rail groove that may cause an impediment in use,
we recommend the user to replace the rail.

7. PARTS ADJUSTMENTS AND REPLACEMENTS

The brush and main motor are consumable parts.
When using a different diameter of screw, the following items must be replaced: rail, escaper and passing plate. These parts may be ordered separately.
The replacing and adjusting procedures are described on the next page.

When replacing any parts, a fine adjustment is required. Make these fine adjustments by reading the corresponding contents carefully.
Before replacing any parts, be sure to remove all the screws from the hopper.

7－1. Replacing the rail assembly

Turn OFF the power switch before starting replacement and adjustment.
Before replacing, remove all the screws from the hopper, the rail, and the escaper.

The rail assembly of this machine can be easily replaced.
If there is any dirt or flaw on the rail groove that prevents a smooth operation, we recommend the user clean or replace the rail. Use the passing plate, escaper and rail assembly that correspond to the diameter of the screws to be used.

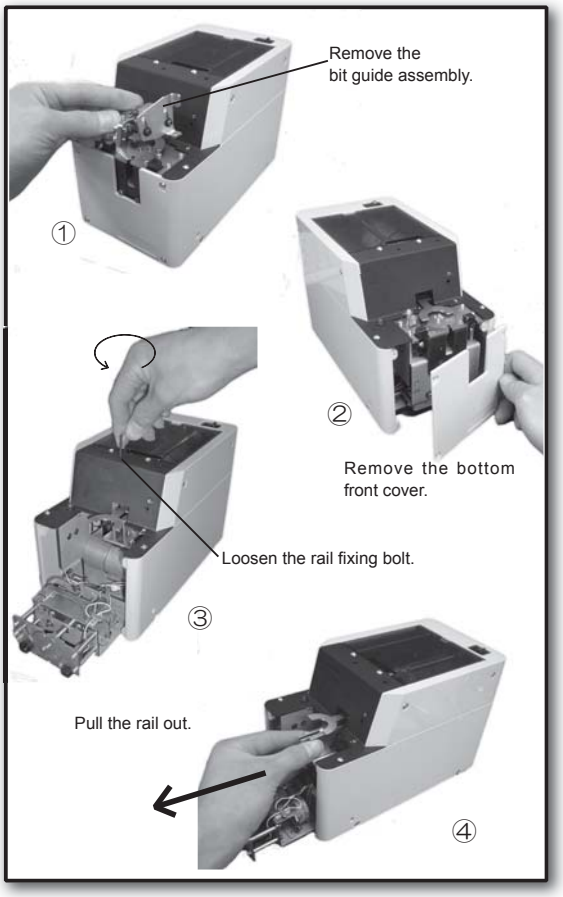
① Remove the bit guide assembly.

② Remove the bottom front cover.

③ Loosen the escaper assembly screws and pull out the escaper assembly. Insert the accompanying Allen wrench into the left hole on the front top cover and loosen the rail fixing bolt.

④ Pull out the rail assembly and replace it with a rail that corresponds with the screws you will be using.

For reassembly, reverse the disassembly procedure.
After replacing the rail, adjustments are required.
Fix the rail so that it does not contact the escaper and make sure that screws won't fall into the clearance between the escaper and rail.



7－2. Replacing and adjustment of the escaper

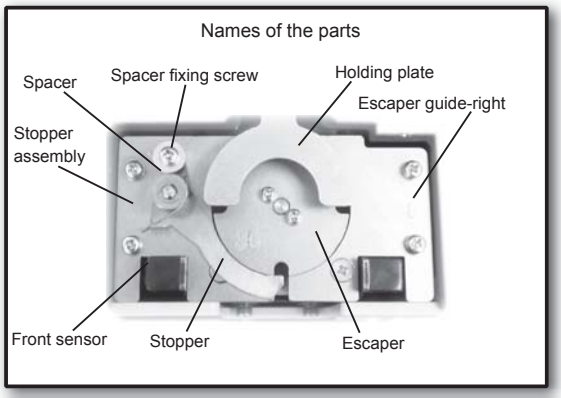
Turn OFF the power switch before replacing.
Turn ON the power switch when adjustments are necessary.
Before replacing, remove all the screws from the hopper, the rail, and the escaper.

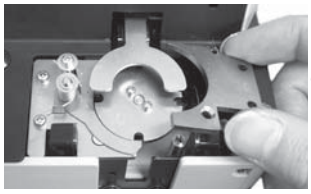
When using screws with a different diameter, replace the escaper, the stopper assembly, the escaper guide-right, the rail and the passing plate.

First, remove the bit guide bracket attaching plate and then replace and adjust the parts.
After replacement, be sure to adjust and check the parts in the area of the escaper.
When you remove the escaper attaching screw, please use the driver specified for M2 (bit No.0).

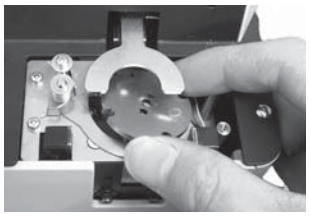
① Start by removing, in this order, the escaper guide-right --> escaper --> stopper assembly.

Loosen the attaching screws of the escaper guide-right and the escaper and remove them.





Remove the escaper guide-right.



Remove the escaper.

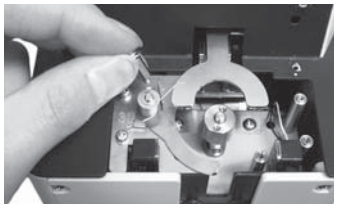
Loosen the spacer fixing screw and remove the spacer.

Remove the screw under the stopper and remove the stopper assembly.

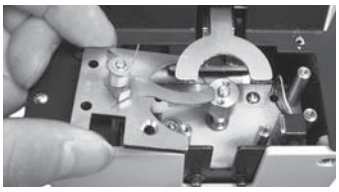
② Attach the escaper guide-right, escaper and stopper assembly that corresponds with the screw's nominal diameter.

First, attach the stopper assembly.
It should be the position as pictured on the right.
(3 screws)

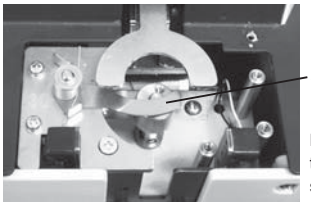
Attach the spacer.
At this time, the stopper should be in the position as pictured on the right.



Remove the spacer.

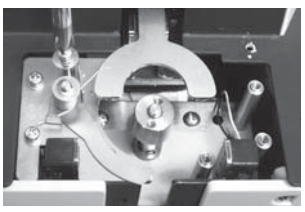


Remove the stopper assembly.

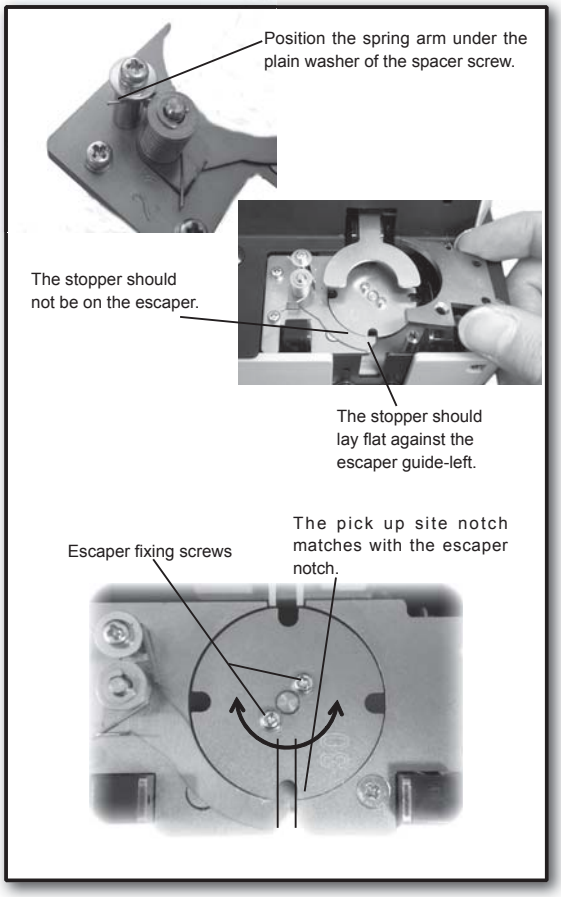


Stopper

Position the spring arm of the stopper spring on the stopper tab.



Position one of the spring arms under the plain washer of the spacer screw and the other arm on the stopper tab.



Attach the escaper and the escaper guide-right.

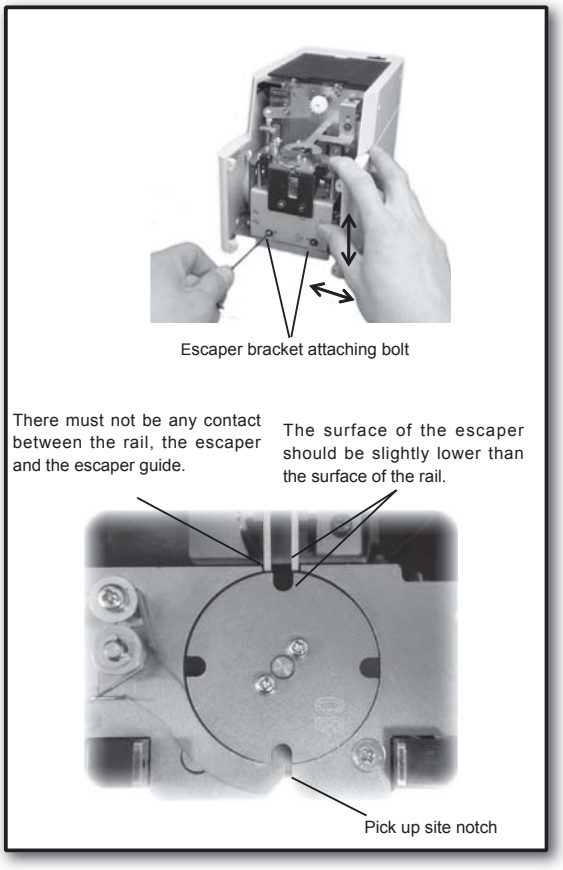
Assemble the escaper loosely as it will need adjusting later.
Note that the stopper should not be on the escaper.
The stopper should be laying flat against the escaper guide-left. If it is not laying flat, bend it gently by hand to adjust it.

③ Adjust the escaper notch position.

Turn the power switch ON while covering the sensor light axis with a small piece of paper.
When the power is ON, the screw sensor LED lights up and the escaper rotates around, to the starting point. (Reference point run.)
When the escaper stops, loosen the fixing screws and adjust the escaper by hand so that an escaper notch and the rail groove align.
Tighten the escaper fixing screws.

④ Check the position of the parts for smooth delivery of the screws.

Check that the clearances between the outside edges of the rail and the escaper guide-right and left are almost even.
If they are in contact, the screws cannot be delivered. If there is too much clearance, on either side, screws may fall into the machine.
At this time, make the top surface of the escaper even to or 0.1 ～ 0.5mm lower than the rail surface. If it's too high, a screw won't enter an escaper notch. If it's too low, a screw will not enter a notch properly. If any adjustment is required, remove the cover, loosen the escaper bracket attaching screw and move it up or down, left or right and tighten the screw.

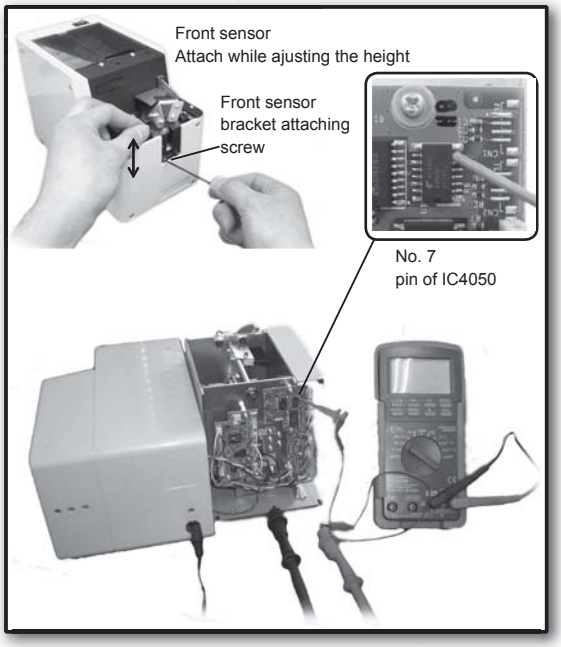


After adjustment, turn the power switch ON in order to make a reference point run and check that an escaper notch and the rail groove align.

After, remove the paper blocking the sensor's optical axis and the escaper will start rotating. Check that all 4 notches of the escaper, in each rotation stop, aligns with the rail groove.

After checking and adjusting each component, do an operational check with screws loaded.
If any abnormality is found, make the said adjustments once again in addition to the rail vibration and front/rear position adjustments. When installing the cover, take care not to catch or pinch the wires.

7－3. Checking and adjusting the sensor



Usually, there is no need to adjust the sensor as it was done when assembled in the factory.
The following are irregular situations that require adjustment:
-There is no screw at the pick up spot but, the LED is on and the escaper doesn't rotate.
-There's a screw at the pick up spot, but the LED is not on and the escaper rotates. Check when required.

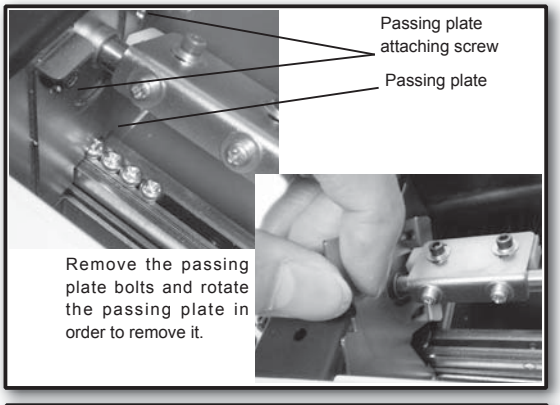
When checking is required, take the rear cover off and check the voltage level of No. 7 pin of IC4050 and adjust the sensor bracket. When measuring the voltage level, the metal part of the main body is the ground.

When a screw is not at the pick up spot, turn the power ON.
Next loosen the 2 sensor bracket attaching bolts and do the following:
① Pull the sensor bracket down and check if the voltage is over 4V and if the sensor light is ON. At this time, the escaper is stopped.
② Next, while checking the voltage level, slowly push the sensor bracket up which causes the voltage to decrease. When the voltage is around 0.25V ～ 1.5V tighten the sensor bracket. During this procedure when the voltage is around 2.5V, the LED screw sensor turns OFF and the escpaer rotates.

When there is no screw at the pick up spot, the voltage is 0.25V ～ 1.5V and the LED screw indicator is OFF.
When there is a screw at the pick up spot and the voltage is over 3.5V, the LED screw indicator is ON.
This is a general standard. The borderline, whether there is a screw in position or not, is 2.5V.

7－4. Replacing the Passing Plate

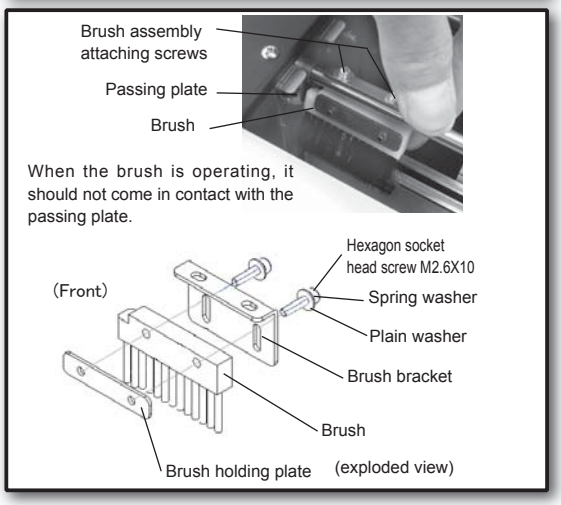
Turn OFF the power switch before starting replacement and adjustment.



Use the passing plate, rail and escaper that correspond with the diameter of the screws to be used.
Remove the passing plate. Do not lose the attached bolts. Using bolts other than those supplied with this machine may result in a malfunction.When installing, use the half-press on both sides of the passing plate as guides.
Refer to page 13 『5-7 Check and adjust the passing plate』 for adjustment.

7－5. Replacing and Adjusting the Brush

Turn OFF the power switch before starting replacement and adjustment.



If the brush is too worn to sweep screws off of the rail, replace it.
- Turn ON and OFF the power switch in order to set the brush bristles facing to the left and detach the brush assembly.
- The brush assembly can be disassembled as shown in the figure on the right.
- For assembly, reverse the disassembling procedure.
- After completing the assembly, check that the front part of the brush doesn't come in contact with the passing plate. The ideal clearance is 0mm.
- For adjustment, refer to "5-3. Adjusting the brush height".

The part number of the brush assembly is TPO00908.

7－6. Replacing the driving belt

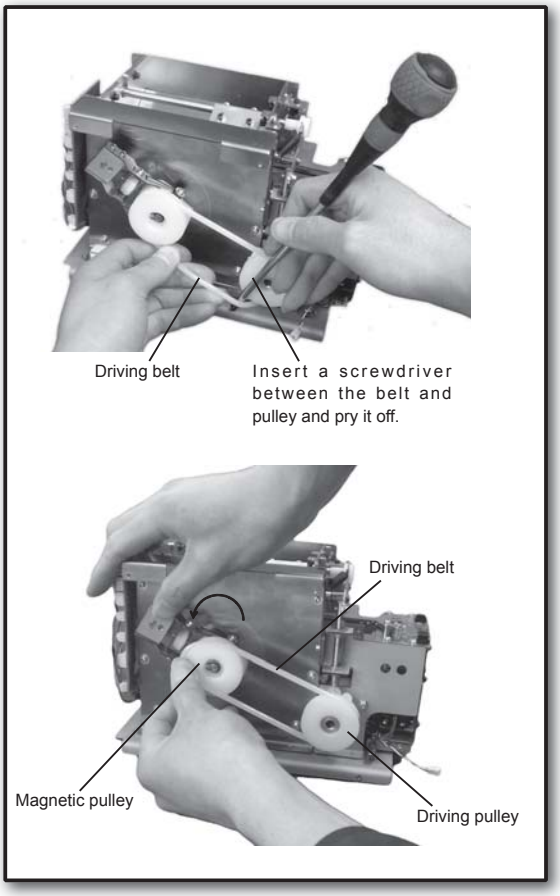
Turn OFF the power switch before starting replacement and adjustment.

If the driving belt is worn, cut or slips while in use, replace it with a new one.

- Turn the power OFF and remove all covers.
- Remove the driving belt from the pulley by using a screwdriver to pry it off.
- When you mount the new belt, start with the driving pulley then the magnetic pulley.
- For assembly, reverse the disassembling procedure.
- After assembly, check that the screws are scooped normally.

[CAUTION]
The driving belt has very strong tension.
Be careful not to pinch your fingers!

The driving belt part number is TP00051



7－7. Replacing the Main Motor

Turn OFF the power switch before starting replacement and adjustment.

When the motor is damaged, replace it with a new one.

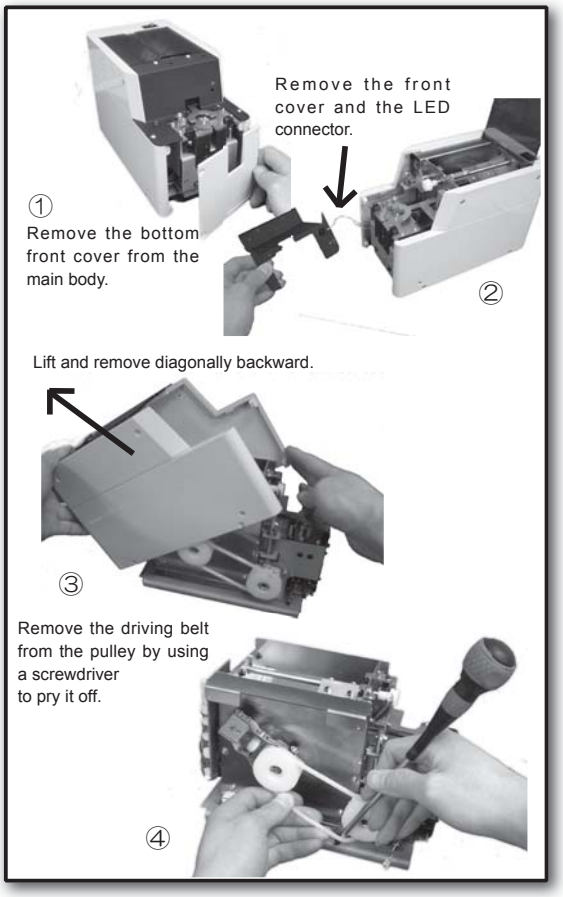
① Remove the bottom front cover from the main body.

② Remove the LED connector.

③ Remove the outside cover screws, lift the main body cover up and diagonally backwards to remove it.

④ Remove the driving belt from the pulley by using a screwdriver to pry it off.

[CAUTION]
The driving belt has strong tension.
Take care not to pinch your fingers!



⑤ Using the accompanying hex wrench, loosen the 2 hex head bolts from the driving pulley and remove it.
If the bolts are hard to access, rotate the motor pulley with the hex wrench.

⑥ Remove the motor attaching screws.

⑦ Pull the escaper assembly forward and pull the motor out from the right side of the machine.

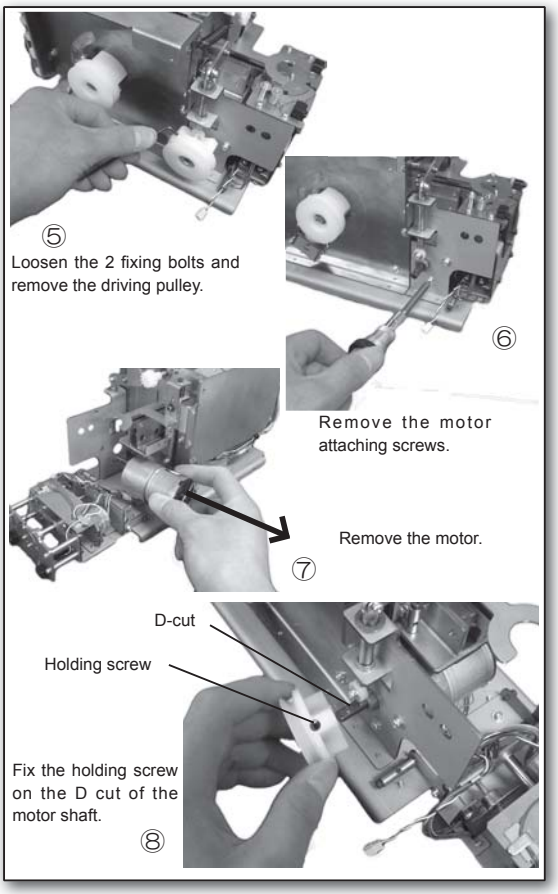
Next, remove the motor harness from the clip and remove the connector from the board.

For reassembly, reverse the disassembling procedure.

⑧ When attaching the driving pulley, one holding screw should be put in the straight side of the D cut of the motor shaft.

[CAUTION]
Do not use excessive force with the motor wiring in order to avoid wire breakage.

The part number of the main motor is NSB 09182#05.



8. MISCELLANEOUS

8 — 1. Screw quantity monitoring sensor (Optional)

There is, as an optional attachment, a sensor which monitors the quantity of screws remaining in the scooping hopper.
With this attachment connected to the signal line, you can set the sensor to monitor the level of screws remaining in the hopper.

○Attachment procedure

- Remove the main body cover.
- Using the accompanying bolts, attach the sensor to the top lid. (2 holes)
- Put the harness through the notch at the back of lid.
- Put the external output signal line, attached to the sensor, into the connector at the top of the board. Put the signal line out through the line-out hole in the cover at the rear.

[Function]: Screw empty: signal high (ON)
Incoming current: shall be limited to less than 100mA
**CAUTION: Additional resistor is required on external circuit for regulating current **

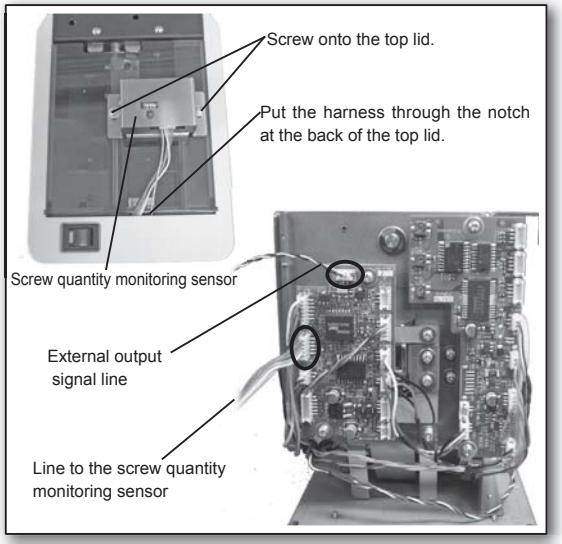
[Capacity]: Max DC current: 100mA
External supply voltage: 5 ~24VDC (Max: 27VDC)

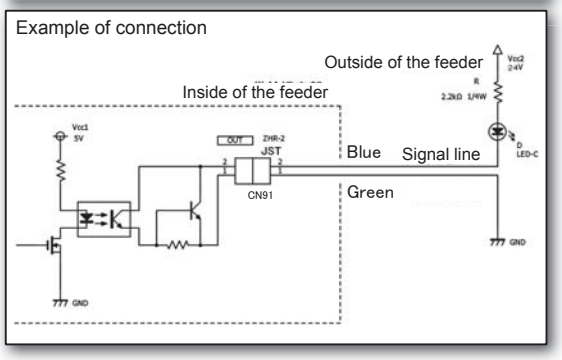
[note]: Please keep the length of output signal wire less than 3m;

* The Blue wire functions as signal output high (Collector end), with the green wire as common (Emitter end)

- When installing the main body cover, take care not to catch or pinch the harness.
- Next, adjust the screw quantity monitoring sensor by following the instructions in the sensor manual.

Details on how to adjust and use the sensor are in the sensor operating manual. To order, contact your dealer.
[screw quantity monitoring sensor:Part No. TKA09452]





8－2. Overload protective circuit

This machine is equipped with an overload protective circuit.
Normally, the driving motor rotates forward to feed screws to the escaper continuously.
However, if there is an overload at the driving section, the driving motor rotates backward for a certain amount of time and then returns to normal rotation.
When the cause for the overload is removed, during the reverse rotation, the driving motor returns to the normal rotation.
If the cause of the overload is not removed, during the reverse rotation, the driving motor repeats the sequence of reverse rotation/normal rotation, reverse rotation/normal rotation to shut off the power to the driving motor.
During this time, the escaper action is not stopped.
When the power to the driving motor is shut off, turn OFF the power switch and remove the cause of the overload.
For example, when too many screws are loaded into the scooping hopper, reduce the quantity of loaded screws to a proper level. If any screw is caught in the transport section, remove it.
After removing the cause of the overload, turn ON the power switch to operate the machine. (Power reset)

9. TROUBLESHOOTING

For safety, always unplug the AC adapter from the wall outlet before making any adjustments.

Trouble	Cause	Corrective measures
The machine does not operate though the power switch is turned ON.	• Power is not supplied.	• Check the connection of the power supply of the AC power adapter.
	• A screw hasn't been removed from the pick up spot for a certain amount of time.	• Take the screw out from the pick up site. • Adjust the timer setting knob.
	• Too many screws were loaded into the scooping hopper.	• Reduce the quantity of screws in the scooping hopper to a proper load level.
	• A foreign object (for example: a screw) intruded into the main body.	• Remove the foreign object.
	• The AC adapter is faulty.	• Consult our service section. [Model number UI315-15]
Screws do not flow.	• Screws with a larger diameter than the specified rail size were loaded or screws with a different diameter were mixed in together.	• Use screws with the specified nominal diameter. • Remove the screws with the odd nominal diameter.
	• An insufficient quantity of screws are in the scooping hopper.	• Add a proper quantity of screws into the scooping hopper.

Trouble	Cause	Corrective Measure
Screws do not flow.	• Screws in an abnormal position in the passing plate cannot be swept away with the brush.	• Adjust the brush. • Adjust the passing plate. If a proper amount of screws are loaded into the scooping hopper, the status may be improved.
	• The axis of the screw thread entered the passing plate.	• Remove the abnormal screw and check and adjust the passing plate.
	• A screw has stopped in an abnormal position while moving on the rail.	• Remove the screw in the abnormal position. Take care not to damage the rail groove. • Move the holding plate upward to remove the screw. After, adjust the position of the holding plate.
	• The rail does not vibrate. (For example, a screw is caught in the hopper.)	• Remove the screw that is obstructing the vibration. • Check the vibration adjustment. • Check that the scraper does not make contact with the hopper wall. If no screw is obstructing the clearance, consult our service section.

Trouble	Cause	Corrective Measure
A screw has fallen into the rail groove.	• Screws with a smaller diameter than the specified rail size were loaded.	• Use screws with the specified nominal diameter and length.
	• Screws with a shorter total length than the rail groove width were loaded.	• No corrective measure is available. Consult our service section.
The flow on the screw rail is not working properly.	• The clearance between the holding plate and the head of the loaded screw is low. • Screws with a spring washer having one increment smaller than the specified nominal rail size were loaded.	• Adjust the holding plate. Adjust the vibration. If, after following the instructions written above, the machine still does not function properly, consult our service section.
	• The rail is oily or dirty.	• Clean the rail.
	• The rail does not vibrate. (A screw is caught in the gap.)	• Remove the screws caught in the clearance. If there is no screw that is caught, consult our service section. • Check that the vibration level is properly adjusted.
	• The motor is worn malfunctioning.	• Replace the motor. [Part No. : NSB 09182 #05]

Trouble	Cause	Corrective Measure
Screws tend to pass through the passing plate in an abnormal position.	• The passing plate is not adjusted properly.	• Adjust the passing plate.
The axis of the screw thread tends to enter the passing plate.	• Too many screws are in the scooping hopper.	• Reduce the quantity of screws to a proper level.
No screw flows to the pick up spot.	• Screws are stopped while still on the rail.	• Adjust the position of the holding plate.
	• Screws cannot be transferred smoothly from the rail to the escaper.	• Adjust the distance between the end of the rail and the escaper.
The machine stops its operation suddenly.	• The overload protective circuit was activated.	• Turn the machine OFF and then ON again. • Remove the cause of overload.
	• Too many screws are in the scooping hopper.	• Remove screws to a proper level. • When the machine stops, even if the screws are at a proper level, consult our service section.
	• A screw is caught in the clearance.	• Remove the screw that is caught.
	• A screw at the pick up gap, could not be picked up for an amount of time.	• Remove the screw.

Trouble	Cause	Corrective Measure
The scooping operation does not stop though a screw is at the pick up site.	• The timer knob is not properly adjusted.	• Readjust the timer knob.
The escaper operation does not stop though a screw is at the pick up site.	• The sensor does not detect a screw.	• Readjust the voltage of the sensor.
A screw has fallen into the machine.		• Take the cover off and remove the screw.
The noise of the machine has increased.	• Adjustments of the vibrational frequency and the amplitude volume are unsuitable.	• Adjust the vibrational frequency and amplitude volume again.
	• There is insufficient grease.	• Apply grease to the transport section. ○ Recommended grease: BR2 Plus , Dow Corning Asia Co. Ltd.

Trouble	Cause	Corrective Measure
The escaper does not rotate when no screws are present, although the indicator light is on.	・Undesired objects blocking front screw sensor. ・Adjustment of the front screw sensors is unsuitable.	・Make sure there are no debris or other objects present in the sensor brackets. ・If the escaper or stopper is damaged or worn-off, parts replacement is recommended. ・Adjustment on front screw sensors.
The escaper rotates in the wrong direction.	・When the escaper is operating, some alien object is preventing the escaper from rotating smoothly. ・Escaper and the escaper guide do not fit together.	・While the screw lotates, please check whether it has hit the holding plate. ・If the escaper or escaper guide is damaged or worn off, replacement is recommended.
The escaper continues to rotate in the wrong direction.	・The origin sensor may be improperly adjusted.	・Please contact your dealer or our service section.

10. SPECIFICATIONS

Power AC adapter (switching type)	Input:AC100～240V 50/60Hz Output:DC15V 1A
Dimensions	119(W) × 226(D) × 152(H) (mm)
Weight	Approx. 3. 1Kg (including rail)
Screw capacity	Approx. 300cc
Following accessories	Operation Manual 1 copy AC Adapter 1 unit Hexagonal Wrench 1 piece Screwdriver 1 piece

[CAUTION]

- This machine accepts only steel screws. Plastic or stainless screws cannnot be used.
- Check if the axis diameter of the loaded screw matches the rail groove width.
- Within The range of screw size and length below,there may be instances of unique screw shape or structure not compatible with the feeder unit.
- To use a screw with a different diameter, match it with the corresponding parts mentioned in the table above.
- The rail, escaper, stopper assembly, escaper guide-right, and passing plate are available, separately, for replacement.
- The design, performance and specifications are subject to change, for the sake of improvement, without prior notice.

Reference table of the specified screws						Shape of screw head						
						Pan head			bind	Flat head	Counter sunk head	hexagon flange bolt
Screw size	Screw shaft diameter (φ)	Screw head diameter (φ)	Washer diameter (φ)	Screw head thickness (mm)	Screw shaft length (mm)	Sems	Double sems	Washer head				
φ 2.0	1.9～2.1	2.4～6	2.4～10	0.35～6	2.6～25	○	○	○	○	○	○	○
φ 2.3	2.2～2.4	2.7～6	2.7～10	0.35～6	2.9～25	○	○	○	○	○	○	○
φ 2.6	2.5～2.7	3.0～6	3.0～10	0.35～6	3.2～25	○	○	○	○	○	○	○
φ 3.0	2.9～3.2	3.5～6	3.5～11	0.35～6	3.6～25	○	○	○	○	○	○	○
φ 3.5	3.4～3.7	4.0～8	4.0～11	0.35～6.5	4.1～25	○	○	○	○	○	○	○
φ 4.0	3.8～4.2	4.5～8	4.5～12	0.35～6.5	4.6～25	○	○	○	○	○	○	○
φ 5.0	4.8～5.2	5.5～10	5.5～12	0.35～7	5.6～25	○	○	○	○	○	○	○
φ 6.0	5.8～6.2	6.5～11	6.5～12	0.35～7.5	6.6～25	○	○	○	○	○	○	○

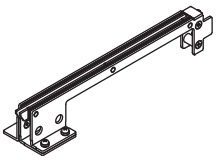
Note) Compatible with washer thickness 0.35 to 1.6 mm.

Screw feeder series	Screw feeder model	Screw size	Exchange kit No.	Rail model No.	Escaper model No.	Stopper assembly model No.	Escaper guide-right model No.	Passing plate model No.
OM-26M	OM-26M20	φ 2.0	OMM20SET	OMM20	SIE20	SIES20	SIEM20	OM20-30
	OM-26M23	φ 2.3	OMM23SET	OMM23	SIE23	SIES23	SIEM23	
	OM-26M26	φ 2.6	OMM26SET	OMM26	SIE26	SIES26	SIEM26	
	OM-26M30	φ 3.0	OMM30SET	OMM30	SIE30	SIES30	SIEM30	
	OM-26M35	φ 3.5	OMM35SET	OMM35	SIE35	SIES35	SIEM35	OM35-40
	OM-26M40	φ 4.0	OMM40SET	OMM40	SIE40	SIES40	SIEM40	
	OM-26M50	φ 5.0	OMM50SET	OMM50	SIE50	SIES50	SIEM50	OM50
	OM-26M60	φ 6.0	OMM60SET	OMM60	SIE60	SIES60	SIEM60	OM60

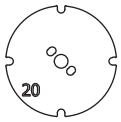
※ In the Exchange kit ordered, Rail assembly, Escaper, Stopper assembly, Escaper guide-right and Passing plate are included.

○Replacement parts

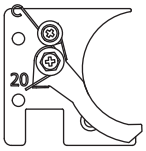
・Rail



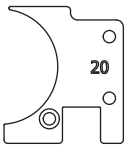
・Escaper



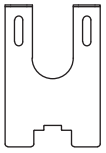
・Stopper assembly



・Escaper guide-right

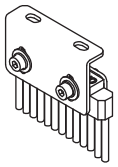


・Passing plate

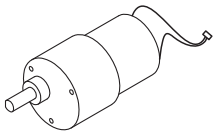


・Stopper TPO00512

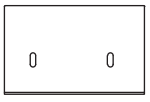
・Brush assembly TPO00908



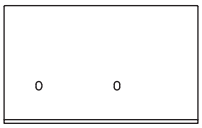
・Main motor (With Harness) TPO01002 #17



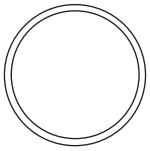
・Left scraper TPO91201



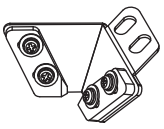
・Right scraper TPO91202



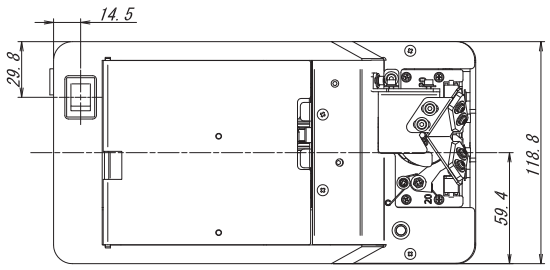
・Driving belt TPO00511

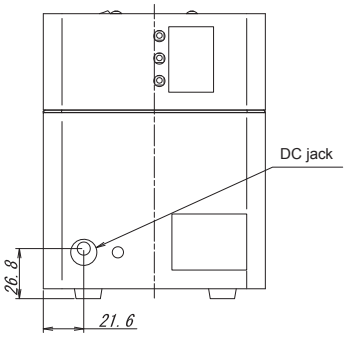


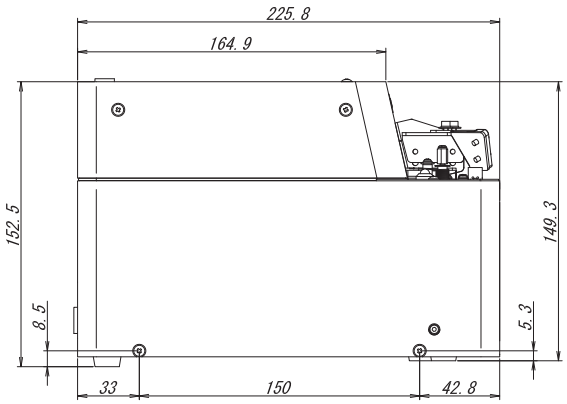
・Bit guide unit TPO00913

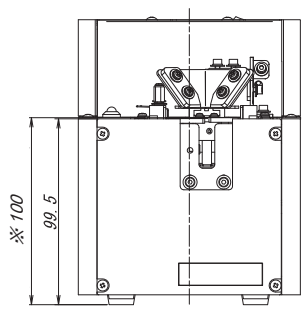


11. EXTERNAL DIMENSIONS









※ Height to top of e scaper

Unit : mm

12. WARRANTY

For users within Japan, the effective term of warranty is 6 months after delivery.
Such warranty will not be applicable to purchases or users outside of Japan.
If any troubles should occur, please contact your dealer.
After the warranty period, repair services will be completed.
In the following cases, the purchaser shall pay for parts and labor regardless of the terms of warranty:

① Failure due to improper handling.
② Failure due to product modification or improper processing.
③ Failure due to causes beyond control (for example earthquake or fire).
④ Failure attributable to any cause other than this product.
⑤ Consumables (brushes, main motor, bit guide, escaper, escaper guide, stopper, driving belt, scraper) and replaceable parts and replacement work expenses.

The repair parts shall be available within 5 years after purchase.

http://www.ohtake-root.co.jp

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(as of July. 2016)
(2016 年7 月現在)