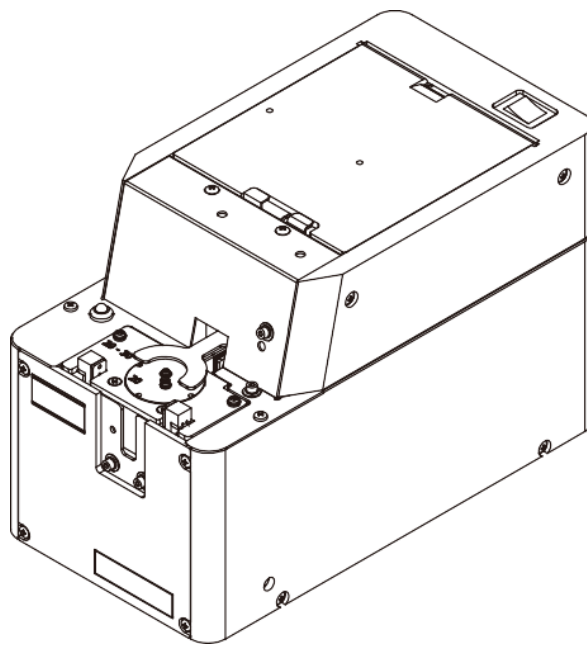




Japan Quality since 1968



AUTOMATIC SCREW FEEDER

OM-26R SERIES

User Manual

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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1 Overview of this machine

Thank you very much for selecting our Automatic Screw Feeder "OM-26R series". This machine, with the screwing robot, can line up screws (M-2, M-6) and supplies them continuously to help make screw fastening work efficient.

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
- Hexagonal Wrench 1 piece
- Ground Wire 1 piece
- AC Adapter 1 unit
- Screwdriver 1 piece

The design, performance and specifications are subject to change without prior notice for the sake of improvement.

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

Attach the ground wire by loosening the screw near the mark  of the equipment.



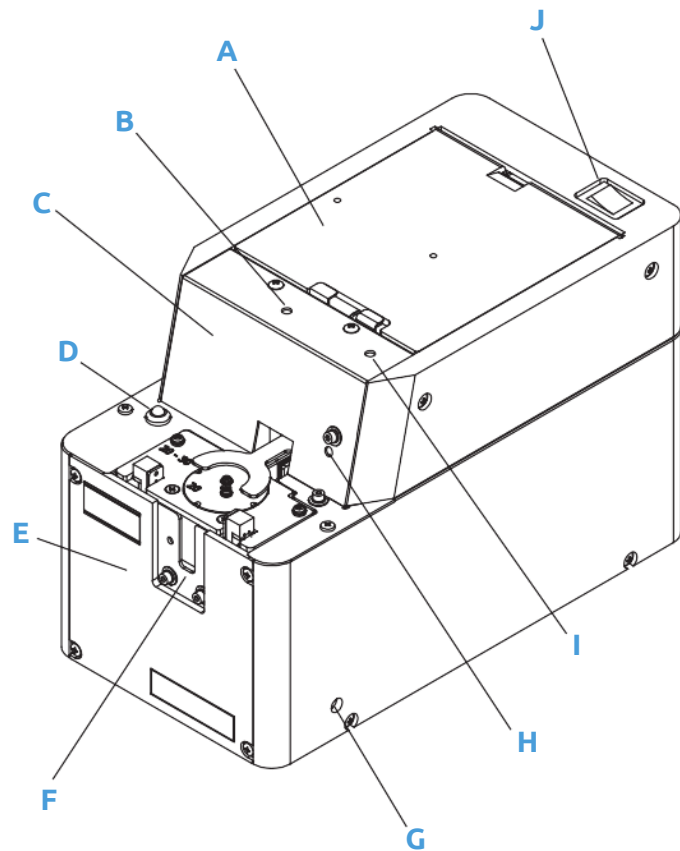
Bottom of the main body

	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.
	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 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. In addition, there are parts that become hot in the circuit board. When performing maintenance around the circuit board, turn off the power for at least 5 minutes before performing work. There is a risk of burns.

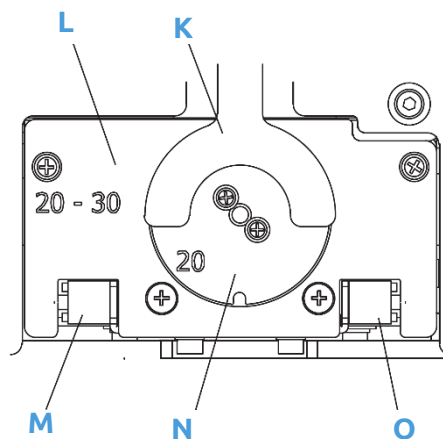
	CAUTION
	Use only the AC adapter supplied with this machine otherwise it may result in a fire or electric shock.
	Do not install this machine in an unstable location otherwise it may fall causing damage or injury.
	Always operate the machine with the upper cover in place, otherwise it may result in injury.
	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 plug socket 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.
	When moving the machine, be sure to hold it with both hands and be careful not to drop it. Dropping the machine at your feet may cause injury.
	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 picking up screws, do not exert excessive force or shock to the screws.
	When opening the upper lid, please do not apply excessive force. There is a risk of damage.

4 Name of Machine parts

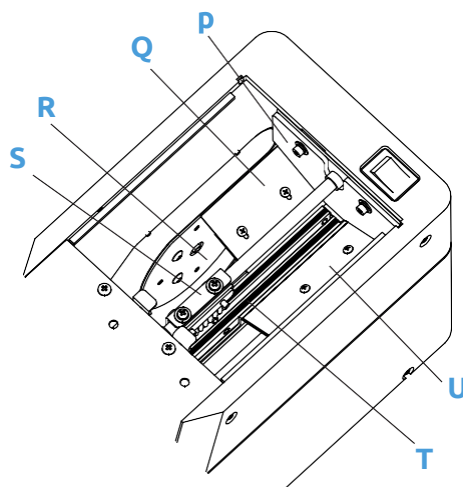
- A. Top lid
- B. Rail fixing bolt
- C. Front cover
- D. LED screw indicator
- E. Front lower cover
- F. Sensor bracket
- G. Escaper assembly fixing bolts (1 left/ 1 right)
- H. Holding plate fixing bolt
- I. Holding plate adjusting bolt
- J. Power switch



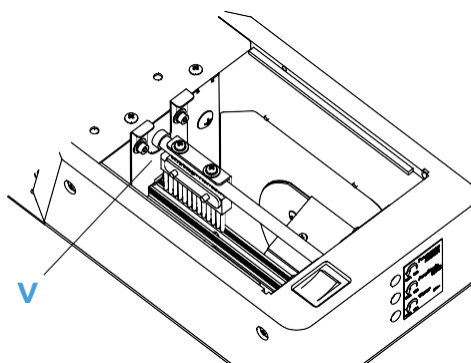
- K. Holding plate
- L. Escaper guide
- M. Light-emitting sensor
- N. Escape
- O. Light-receiving sensor



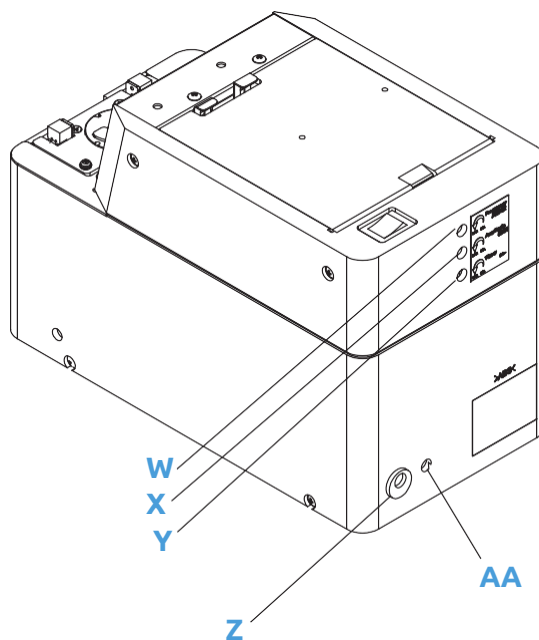
- P. Rear cover
- Q. Scraper-left
- R. Scooping hoper
- S. Brush
- T. Rail assembly
- U. Scraper-right



- V. Passing plate



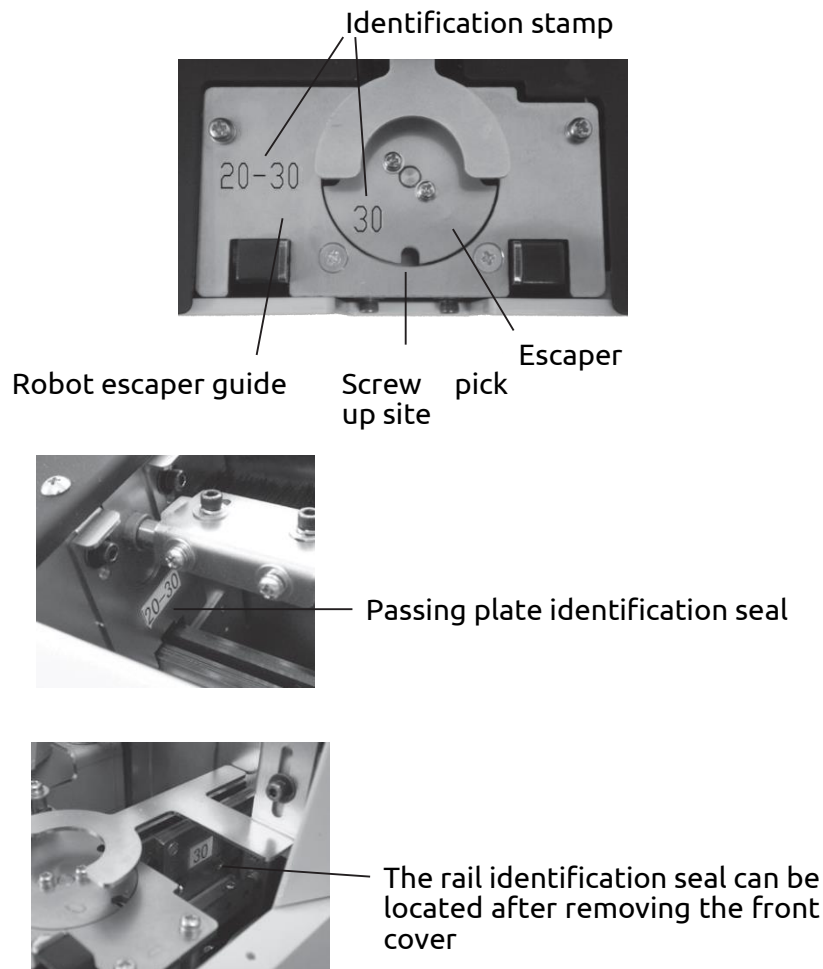
- W. Frequency adjusting knob
- X. Amplitude adjusting knob
- Y. Timer adjusting knob
- Z. DC jack
- AA. Signal line out



5 Adjustments and checks before use

5.1 Checking the model number of the 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 (D), robot escaper guide (B), 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 pickup 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 passing plate
- Check and adjust the holding plate
- Check and adjust the timer
- Check and adjust the brush
- Check and adjust the rail vibration
- Check and adjust the front and rear sides of the rail

Screw feeder series	Screw feeder model	Screw size	Exchange kit No.	Rail model No.	Escaper model No.	Robot escaper guide model No.	Passing plate model No.
OM-26R	OM-26R20	M2	OMR20SET	OMR20	SIE20	SIER20-30	OM20-30
	OM-26R23	M2.3	OMR23SET	OMR23	SIE23		
	OM-26R26	M2.5	OMR26SET	OMR26	SIE26		
	OM-26R26	M2.6	OMR26SET	OMR26	SIE26		
	OM-26R30	M3	OMR30SET	OMR30	SIE30	SIER35-40	OM35-40
	OM-26R35	M3.5	OMR35SET	OMR35	SIE35		
	OM-26R40	M4	OMR40SET	OMR40	SIE40		
	OM-26R50	M5	OMR50SET	OMR50	SIE50	SIER50-60	OM50
	OM-26R60	M6	OMR60SET	OMR60	SIE60		OM60

If the rail, escaper, robot escaper guide 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 below. Please read these procedures.

5.2 Basic operation

5.2.1 Loading the screws

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

**NOTE:**

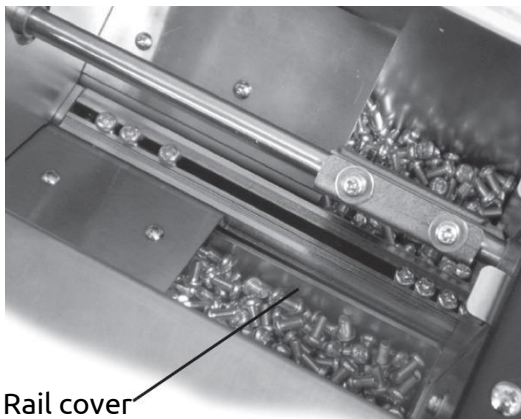
Screws with a diameter larger than Ø5 mm or longer than 20mm, under the head, should not be loaded higher than the rail bottom.

**CAUTION:**

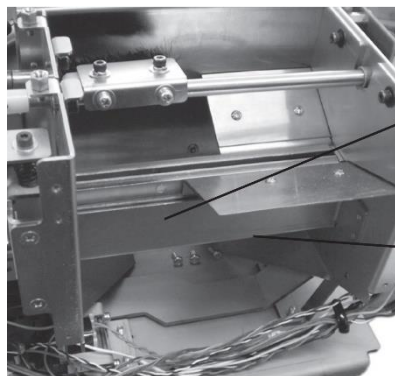
The type and length of screw changes the load capacity so check and adjust the load accordingly.

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.



The maximum screw load must not be over 30 mm below the rail-groove surface



Disassembled state

5.2.2 Turning ON the power



CAUTION:

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 pickup spot. When the screws come to the stopper, the LED indicator lights up and the escaper stops rotating.



CAUTION:

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

5.2.3 Picking up Screws

Pick up the screws at the stopper with the screwdriver on the robot. Use the bit guide to put the screwdriver down vertically into the screwhead's slots.

When the screw is inserted into the screwhead slots, be careful that no contact is made with the escaper or that the screw is not struck forcefully. Using excessive force may alter the position of the escaper or cause damage to the machine.

Use a driver bit which corresponds with the screw's diameter.

Read the screw picking up robot manual for more details on how to use the robot with this machine.

5.2.4 Action of the escaper

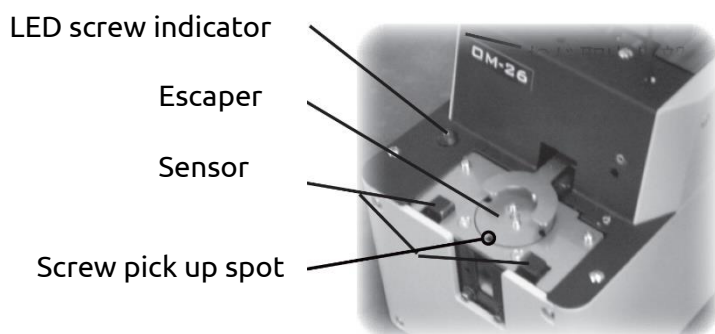
The escaper rotates 90° clockwise, stops for about 0.6 seconds, and rotates again 90° clockwise.

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.

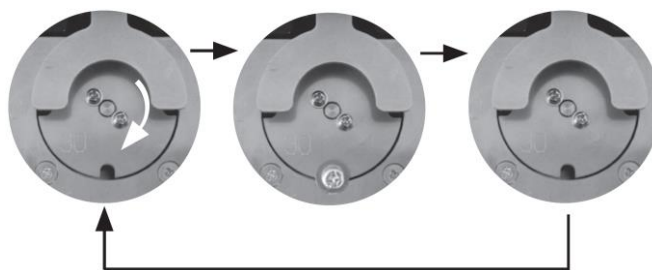
This machine continues its operation when no screw is found at the screw pick up spot. The machine continues operating with a screw at the pickup spot but will stop, after a certain lapse of time, if the screw is not picked up. After the screw is picked up, the machine starts operating again. This time lapse can be varied by adjusting the timer.

When no screw is found at the pickup 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.

Action of the escaper



Accepting a screw.	The screw is carried to the pickup site.	Pick up the screw at the pickup site.
LED screw indicator is OFF	LED screw indicator is ON	LED screw indicator is OFF



The rotation of the escaper, in the opposite direction, is a reference point run of the escaper motor.

The rotation of the escaper, in the opposite direction, occurs when the power is turned on and the starting point of the escaper is not aligned with the reference point of the escaper motor.

During regular operation, as in the figure above, the escaper rotates clockwise.

5.3 Adjusting the brush height

**CAUTION:**

Turn OFF the power switch before starting replacement and adjustment.

1. Load the screws into the scooping hopper, turn ON and OFF the power switch so that screws are aligned into the rail groove.
2. Turn ON and OFF the power switch in order to set the brush to the left as shown in the figure below.
3. 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.

**NOTE:**

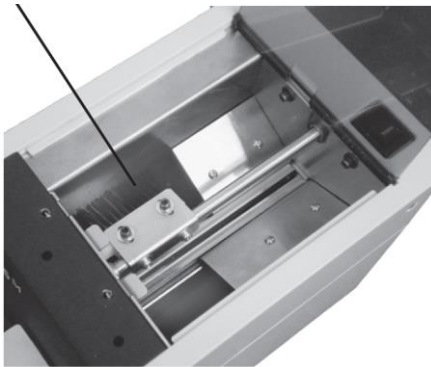
When the brush height is too high or low, this will have an adverse effect on the screw alignment and transport.

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

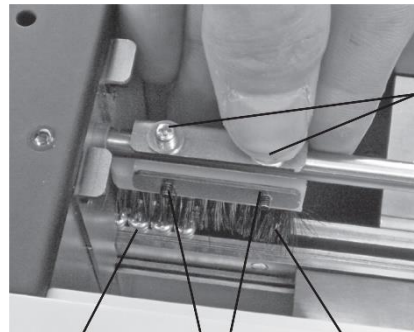
If the plastic portion, at the front of the brush, comes into contact with the passing plate, loosen the brush assembly mounting screw and move the brush assembly back so there is 0 mm clearance.

4. 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.



Brush assembly attaching screw

Loaded screws

Brush height adjusting bolt

Brush

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 out, 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.

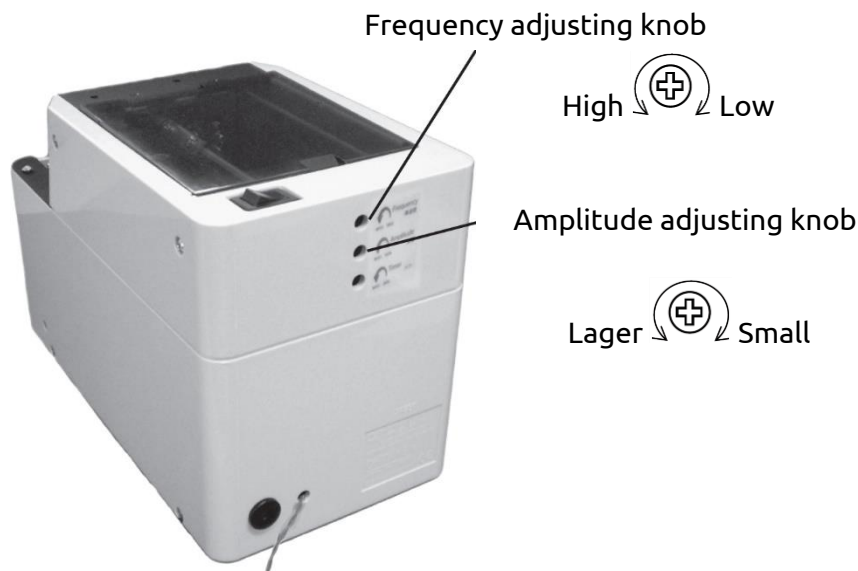
2. Turn the amplitude adjusting knob (second hole from the top) and find the amplitude for which screws are delivered smoothly.

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.

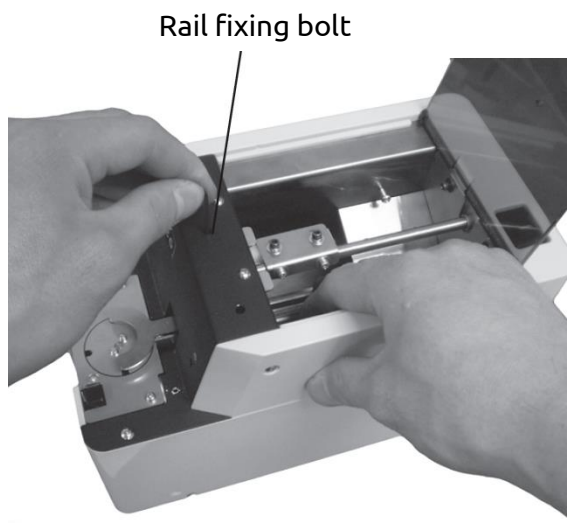


5.5 Check and adjust the front and rear sides of the rail

**CAUTION:**

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](#)".



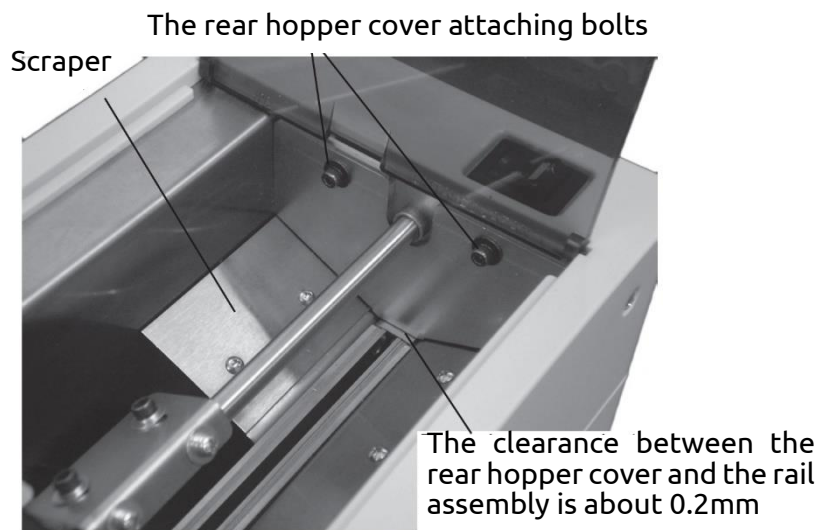
Hold the rail groove and adjust the rail assembly either backward or forward.

5.6 Check and adjust the rear hopper cover

**CAUTION:**

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.

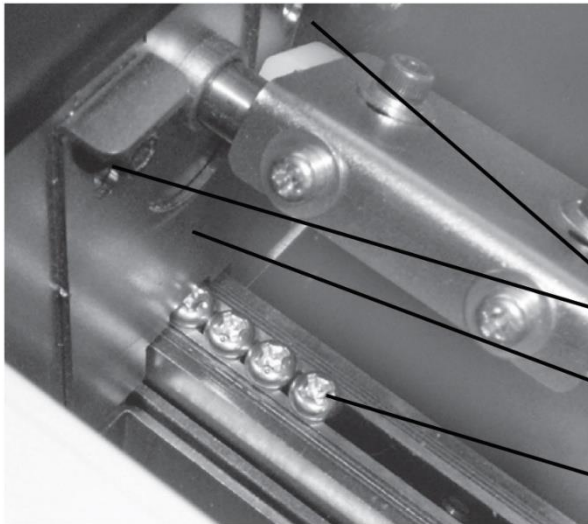


5.7 Check and adjust the passing plate

**CAUTION:**

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.



Passing plate
attaching bolt

Passing plate

Loaded screws

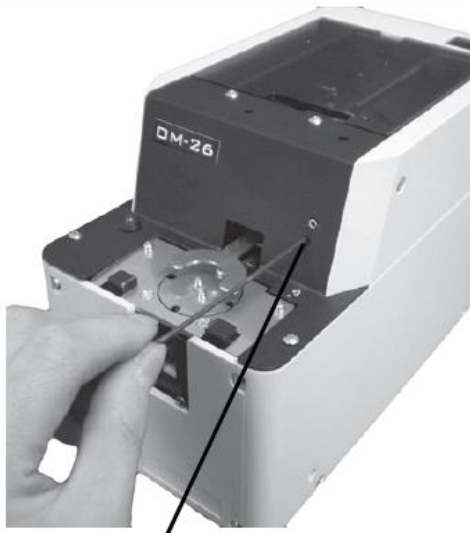
The clearance should be just enough to permit the loaded screws to pass through the passing plate.

5.8 Check and adjust the holding plate

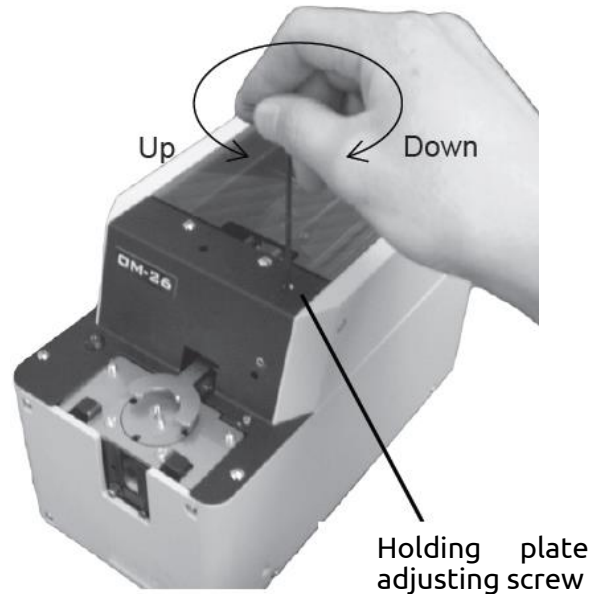
- Check that the clearance between screws in the rail groove and the holding plate is about 0 ~ 1mm.
- If any adjustment is required, loosen the holding plate attaching screw and turn the holding plate adjusting screw, to move the plate up or down.
- If there is no clearance, a screw will be blocked. 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.



Holding plate attaching screw (inside of the hole)



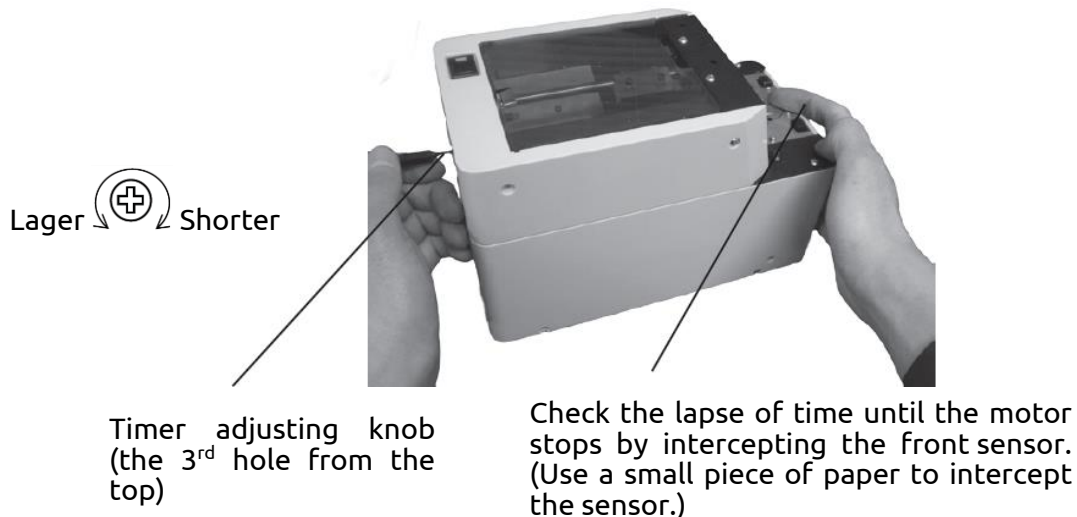
Holding plate adjusting screw

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 pickup 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.)



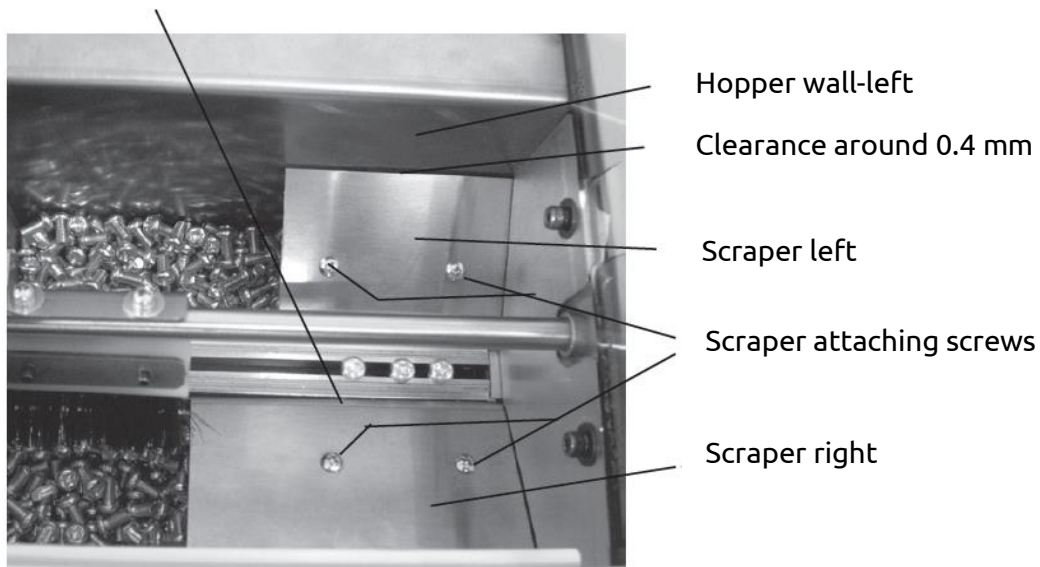
5.10 Check and adjust the scraper

- 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

Edge of the plate with angled-cut corner shall be on the upper side, facing the rail.



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 section [Replacing the rail assembly page 26](#).

**CAUTION:**

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 pages.

When replacing any parts, a fine adjustment is required. Make these fine adjustments by reading the corresponding contents carefully.



CAUTION:

Before replacing any parts, be sure to remove all the screws from the hopper.

7.1 Replacing the rail assembly

**CAUTION:**

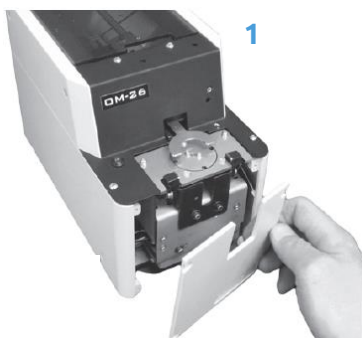
Turn OFF the power switch before starting replacement and adjustment.

Before replacing, remove all the screws from the hopper, the rail, and the escaper.

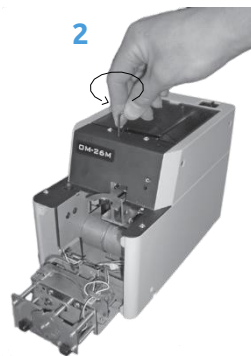
The rail assembly of this machine can be easily replaced.

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.

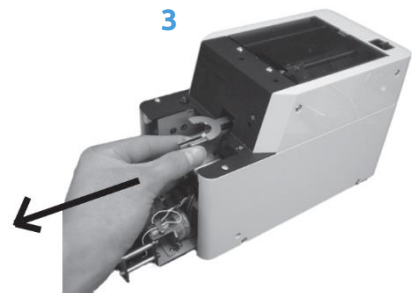
1. Remove the bottom front cover.
2. Loosen the escaper assembly screws and pull out the escaper assembly. Insert the accompanying Allen wrench into the left hole on the front top cover and loosen the rail fixing bolt.
3. Pull out the rail assembly and replace it with a rail that corresponds with the screws you will be using.



Remove the bottom front cover.



Loosen the rail fixing bolt.



Pull the rail out.

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



CAUTION:

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 robot escaper guide, the rail and the passing plate.

Raise the holding plate to replace and adjust the necessary parts. After replacement, be sure to adjust and check the parts in the area of the escaper.

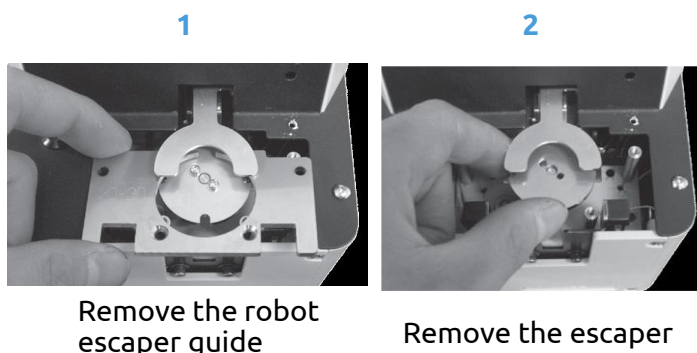
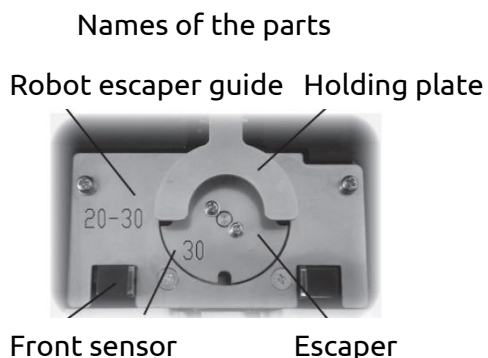
When you remove the escaper attaching screw, please use the driver specified for M2 (bit No.0).

1. Remove the robot escaper guide and the escaper.
Loosen the attaching screws of the robot escaper guide and the escaper and remove them.
2. Attach the robot escaper guide and the escaper that corresponds with the screw's nominal diameter.

Assemble the escaper loosely as it will need adjusting later.

Note that the stopper should not be on top of 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. Check the position of the parts for smooth delivery of the screws.



CAUTION:

Check that the clearances between the outside edges of the rail and the robot escaper guide-right and left are almost even.

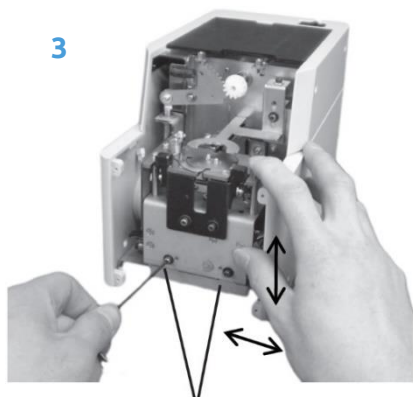
If they are in contact, the screws cannot be delivered.

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, the screw won't enter an escaper notch. If it's too low, a screw will not enter a notch properly.

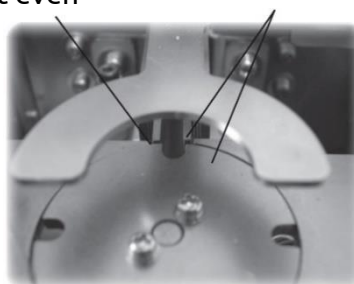
If any adjustment is required, remove the cover, loosen the escaper bracket attaching screw and move it up or down, left or right and tighten the screw.



Escaper bracket attaching tool

The clearances between the sides of the rail and the robot escaper guide should be almost even

The surface of the escaper should be slightly lower than the surface of the rail.



4. Adjust the escaper notch position.

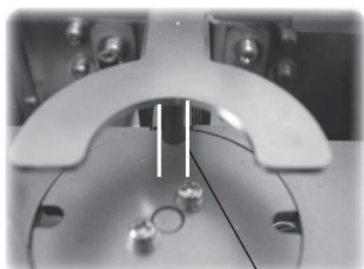
Turn the power switch ON while covering the sensor light axis with a small piece of paper.

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.

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.

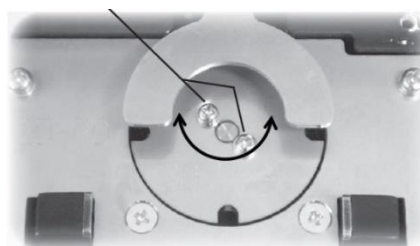
After, remove the paper blocking the sensor's optical axis and the escaper will start rotating. Check that all 4 notches of the escaper, in each rotation stop, aligns with the rail groove.

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.



The rail groove notch matches with the escaper notch.

Escaper fixing



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 pickup spot but, the LED is on and the escaper doesn't rotate.
- There's a screw at the pickup 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 pickup spot, turn the power ON.

Next loosen the 2 sensors bracket attaching bolts and do the following:

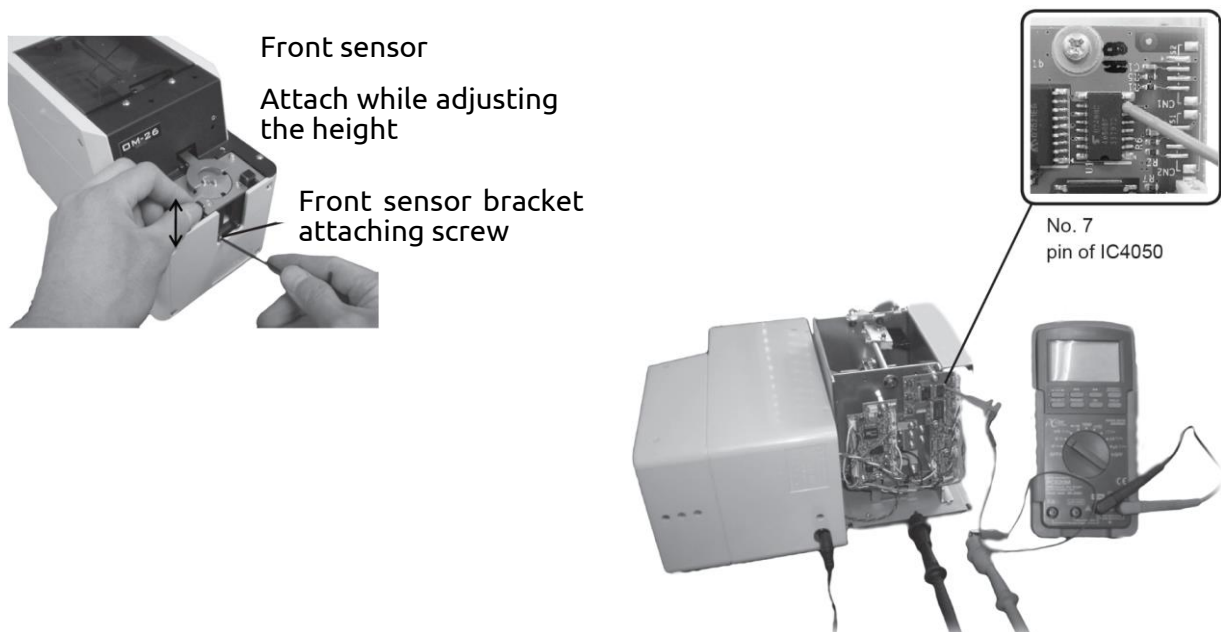
1. Pull the sensor bracket down and check if the voltage is over 4V and if the sensor light is ON. At this time, the escaper is stopped.
2. Next, while checking the voltage level, slowly push the sensor bracket up which causes the voltage to decrease. When the voltage is around 0.25V ~ 1.5V tighten the sensor bracket.

During this procedure when the voltage is around 2.5V, the LED screw indicator turns OFF and the escaper rotates.

When there is no screw at the pickup spot, the voltage is 0.25V ~ 1.5V and the LED screw indicator is OFF.

When there is a screw at the pickup 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



7.4 Replacing the Passing Plate



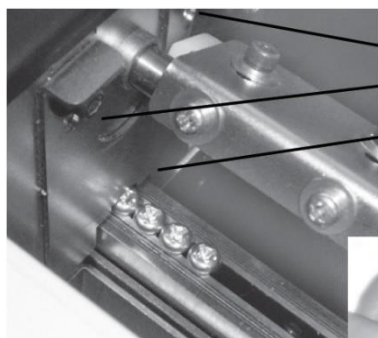
CAUTION:

Check that the clearances between the outside edges of the rail and the robot escaper guide-right and left are almost even.

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.

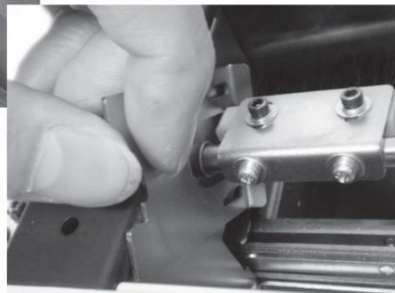
For adjustments, refer to [Check and adjust the passing plate page 20](#).



Passing plate
attaching screw

Passing plate

Remove the passing plate bolts and rotate the passing plate in order to remove it.



7.5 Replacing and Adjusting the Brush



CAUTION:

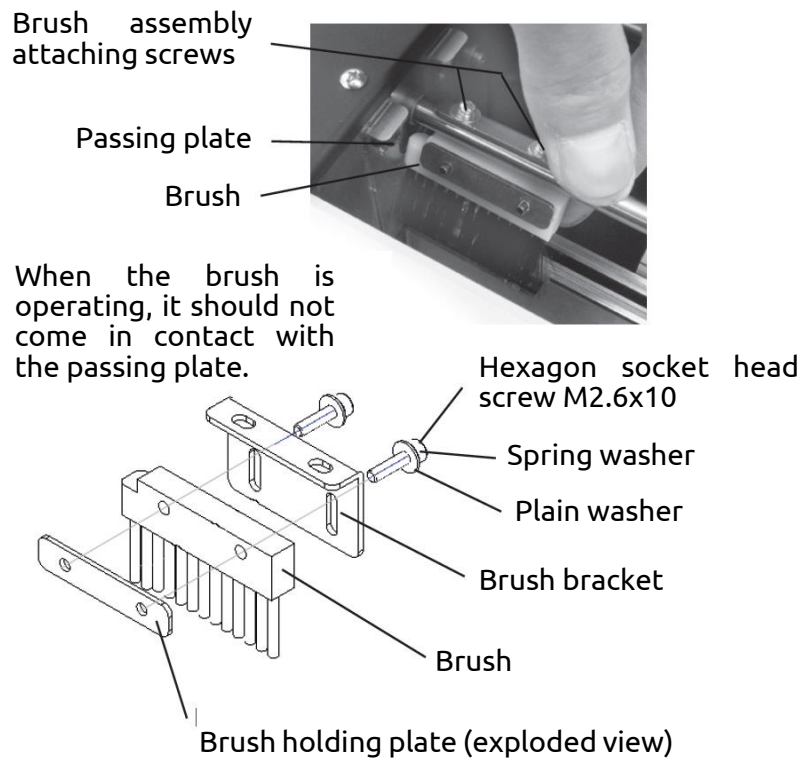
Check that the clearances between the outside edges of the rail and the robot escaper guide-right and left are almost even.

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 [Adjusting the brush height page 16](#).

The part number of the brush assembly is OHTAKE - TPO00908 , OnRobot 104851



7.6 Replacing the driving belt

**CAUTION:**

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.

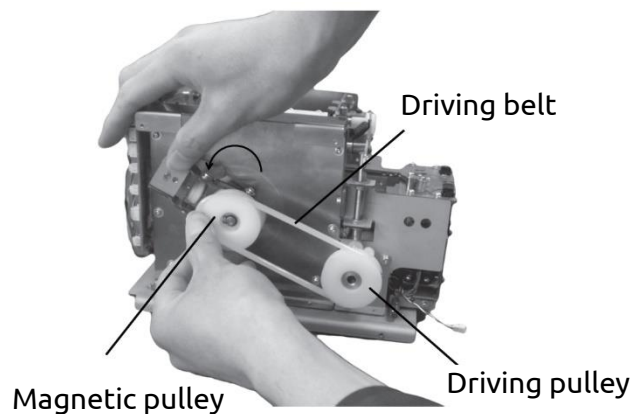
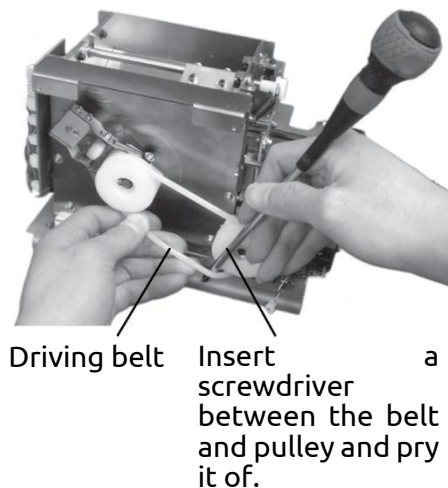
- Turn the power OFF and remove all covers.
- Remove the driving belt from the pulley by using a screwdriver to pry it off.
- When you mount the new belt, start with the driving pulley then the magnetic pulley.
- For assembly, reverse the disassembling procedure.
- After assembly, check that the screws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

**CAUTION:**

The driving belt has very strong tension.

Be careful not to pinch your fingers!

The driving belt part number is OHTAKE - TP00051, OnRobot - 104852



7.7 Replacing the Main Motor

**CAUTION:**

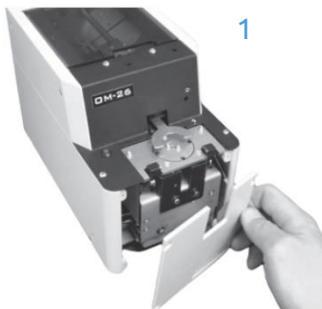
Turn OFF the power switch before starting replacement and adjustment.

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:**

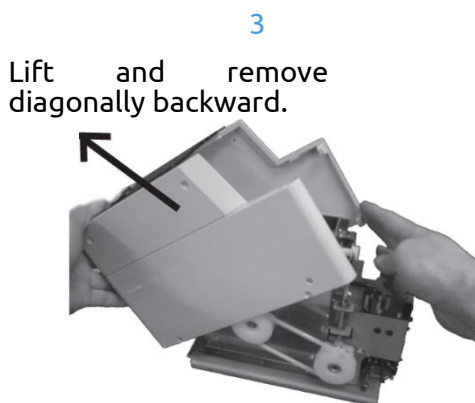
The driving belt has strong tension.
Take care not to pinch your fingers!



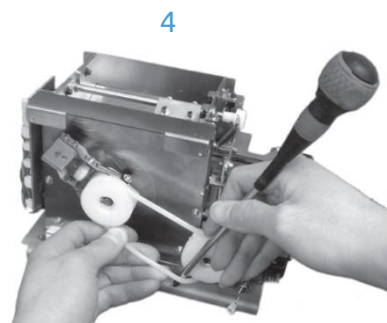
Remove the bottom front cover from the main body.



Remove the front cover and the LED connector.



Lift and remove diagonally backward.



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

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.

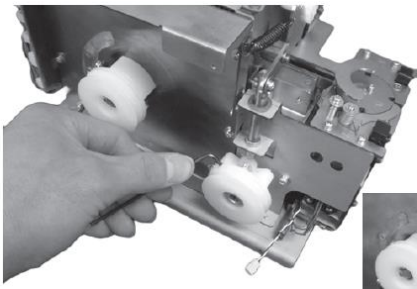


CAUTION:

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

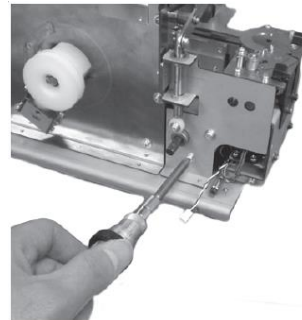
The part number of the main motor is OHTAKE - NSB 09182#05, OnRobot - 104853

5



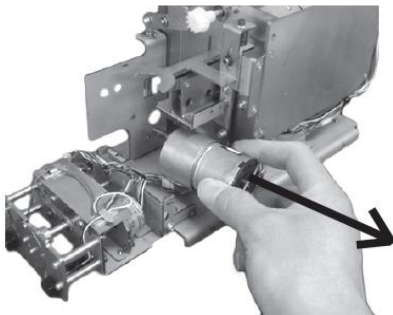
Loosen the 2 fixing bolts and remove the driving pulley.

6



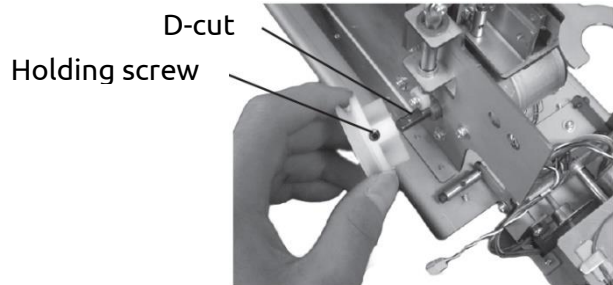
Remove the motor attaching screws.

7



Remove the motor.

8



Fix the holding screw on the D cut of the motor shaft.

8 Application with Robotic System

8.1 External Output Signals

The wires coming out from the back of the machine serves as the detection of presence of screws on the rotational escaper, which shall be used with automatic assembly machines or external screw counters.

[Function]: Screw present: 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)

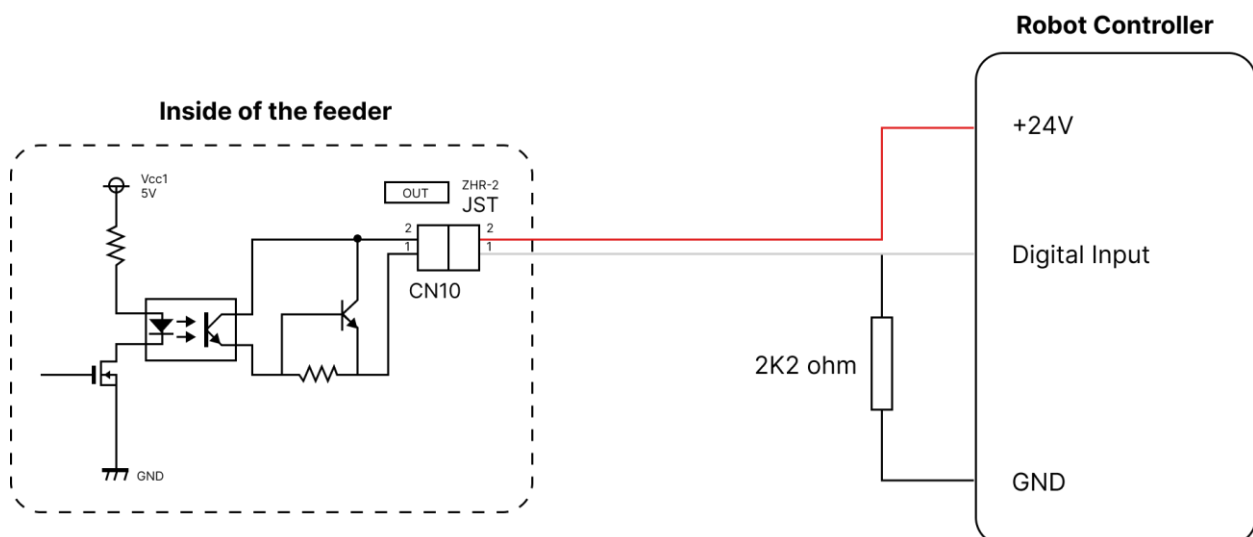


NOTE:

Please keep the length of output signal wire less than 3m

Circuit for Screw Feeder Output Signal

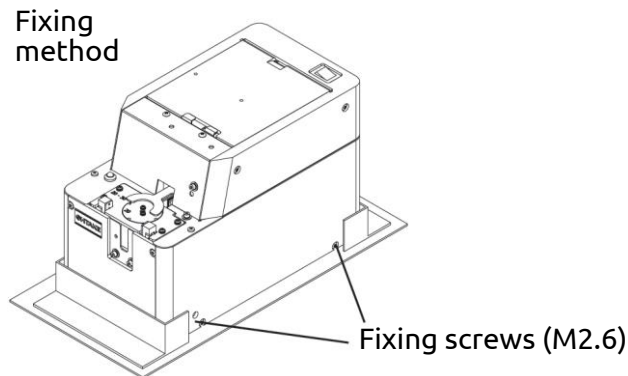
- Screw present: LED on, output HIGH.
- No screw or feeder off: output LOW.



8.2 Installation with Robotic System

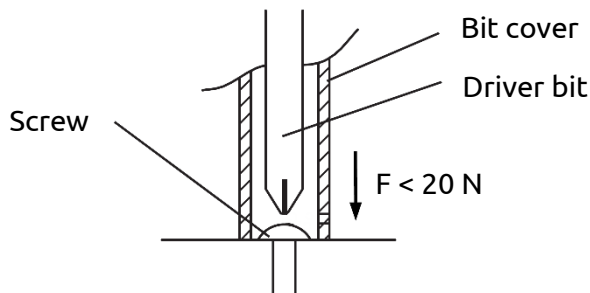
When installed with a robotic assembly, the screw feeder shall be fastened by lower edges of the cover. (Please refer to diagram on the right side) Fastening screws on bottom edge of the cover can be used for this purpose as well.

In addition, if the rubber supports shall be replaced with fastening assemblies by the user, please keep length of the screws less than 5mm going inside the machine, in order to prevent damage to internal mechanism of the screw feeder.



8.3 Robotic operations

When the screw feeder is used with an automatic screwdriver, the pushing force of the screwdriver on the escaper and/or the escaper guide must not be higher than 20 N.



9 Miscellaneous

9.1 Overload Protective Circuit

This machine is provided with an overload protective circuit. Usually, the driving motor rotates forward (normal rotation) to feed loaded screws to the escaper continuously, thus picking up screws one after another. However, if an overload is applied to the driving section, the driving motor rotates backward for a certain time and then returns to the normal rotation. When the cause of the overload is removed at the reverse rotation, the driving motor returns to the ordinary normal rotation and can pick up screws.

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 for a certain time to shut off the power to the driving motor. At this time, the escaper operation is not stopped. When the power to the driving motor is shut off, turn off the power switch and remove the cause of the over- load. For example, when too many screws are put into the scooping chamber, reduce the quantity of loaded screws to a proper level. If any screw is caught by the driving section, remove it.

After removing the cause of the overload, turn on the power switch to operate this machine.
(Power reset)

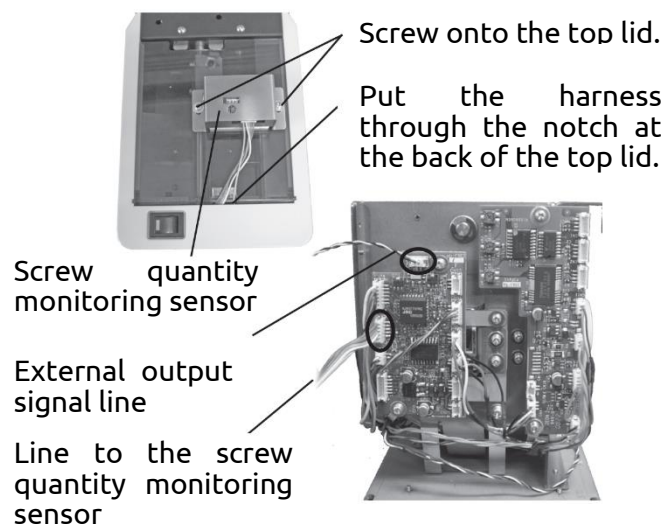
9.2 Screw quantity monitoring sensor (Optional)

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

1. Remove the main body cover.
2. Using the accompanying bolts, attach the sensor to the top lid. (2 holes)
3. Put the harness through the notch at the back of lid.
4. 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
Please keep the length of output signal wire less than 3m

[Capacity]: Max DC current: 100mA

External supply voltage: 5 ~24VDC (Max: 27VDC)

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.

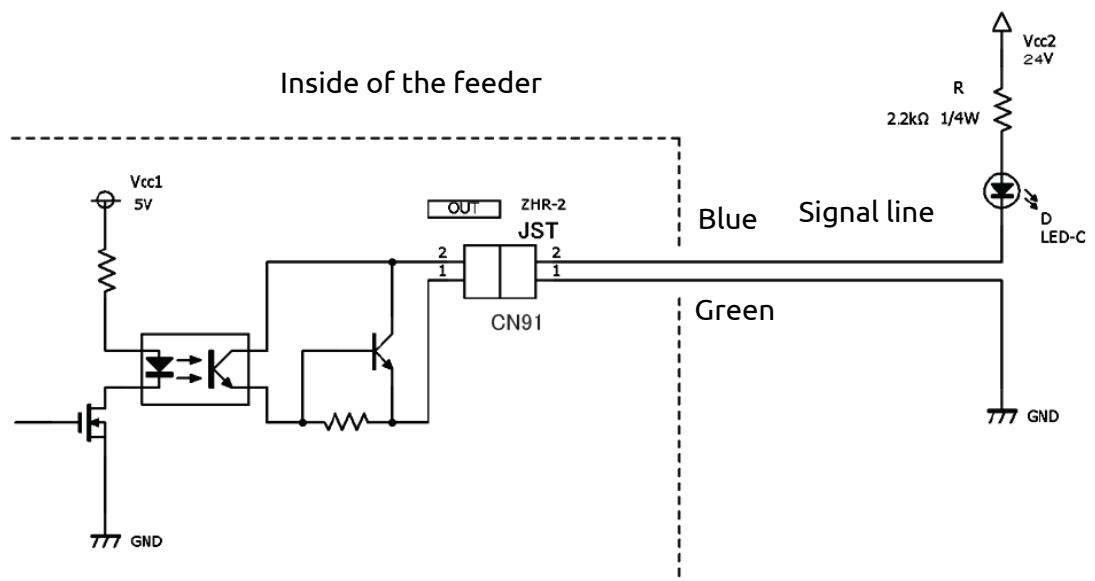
Next, adjust the screw quantity monitoring sensor by following the instructions in the sensor manual.

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]

Example of connection

Outside of the feeder



10 Troubleshooting

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 pickup spot for a certain amount of time.	Take the screw out from the pickup site.
	Too many screws were loaded into the scooping hopper.	Adjust the timer setting knob.
		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 is in the scooping hopper.	Add a proper quantity of screws into the scooping hopper.
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 is 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 bracket assembly 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 measures
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.
	The motor is worn malfunctioning.	Check that the vibration level is properly adjusted. Replace the motor. [Part No.: TPO01002 #17]
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 pickup 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 pickup spot, could not be picked up for an amount of time.	Remove the screw.

Trouble	Cause	Corrective measures
The scooping operation does not stop though a screw is at the pickup site.	The timer knob is not properly adjusted.	Readjust the timer knob.
The escaper operation does not stop though a screw is at the pickup 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.
The escaper does not rotate when no screws are present, although the indicator light is on.	Undesired objects blocking front screw sensor.	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 of the front screw sensors is unsuitable.	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.	While the screw rotates, please check whether it has hit the holding plate.
	Escaper and the escaper guide do not fit together.	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



CAUTION:

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

11 Specifications

11.1 Technical sheet

General property	Description/Value	Unit
Power AC adapter (switching type)	Input: AC 100~240, 50/60	[V], [Hz]
	Output: DC 15, 1	[V], [A]
Dimensions (W,D,H)	119x226x152	[mm]
	46.8x88.9x59.8	[inch]
Weight (including rail)	Approx. 3.1	[kg]
	Approx. 6.8	[lg]
Following accessories	Operation Manual 1 copy AC Adapter 1 unit Hexagonal wrench 1 piece Screwdriver 1 piece Ground wire 1 piece	
Installation location	Level stable place	
Operating and storage temperature	0-40	[°C]
Operating and storage humidity (without condensation)	10-85	[%]
Compliance standards	ECC: 2014/30/UE	
	RoHS: 2011/65/EU	

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

**NOTE:**

Compatible with washer thickness 0.35 to 1.6 mm.

**CAUTION:**

- This machine accepts only steel screws. Plastic or stainless screws cannot 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, escaper guide, 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.
- The noise of this unit is less than LAeq 70 dB at a distance of 1 m.
- This product complies with EC directive. Please check the EC Declaration of Conformity for compliance standards.

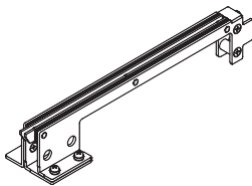
Screw feeder series	Screw feeder model	Screw size	Exchange kit No.	Rail model No.	Escaper model No.	Robot escaper guide model No.	Passing plate model No.
OM-26R	OM-26R20	φ 2.0	OMR20SET (T212)	OMR20	TOKX0239 #05	TOKX0240 #02	OM20-30
	OM-26R23	φ 2.3	OMR23SET (T212)	OMR23	TOKX0239 #06		
	OM-26R26	φ 2.6	OMR26SET (T212)	OMR26	TOKX0239 #07		
	OM-26R30	φ 3.0	OMR30SET (T212)	OMR30	TOKX0239 #08		
	OM-26R35	φ 3.5	OMR35SET (T212)	OMR35	TOKX0239 #09	TOKX0240 #03	OM35-40
	OM-26R40	φ 4.0	OMR40SET (T212)	OMR40	TOKX0239 #10		
	OM-26R50	φ 5.0	OMR50SET (T212)	OMR50	TOKX0239 #11	TOKX0240 #04	OM50
	OM-26R60	φ 6.0	OMR60SET (T212)	OMR60	TOKX0239 #12		OM60

**NOTE:**

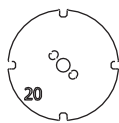
- In the Exchange kit ordered, Rail assembly, Escaper, Robot escaper guide and Passing plate are included.
- Please contact us by " ~ SET" type when you need rail.

11.2 Replacement parts

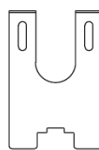
Rail



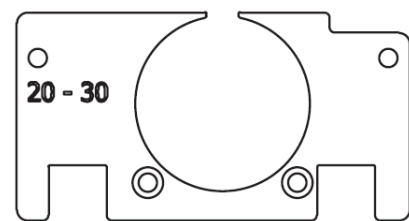
Escaper



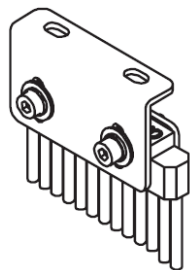
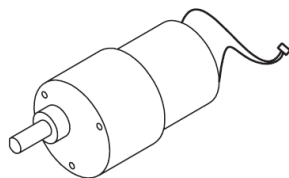
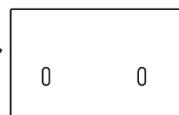
Passing plate



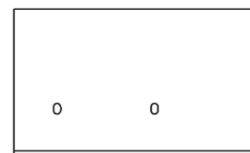
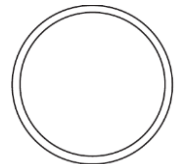
Robot escaper



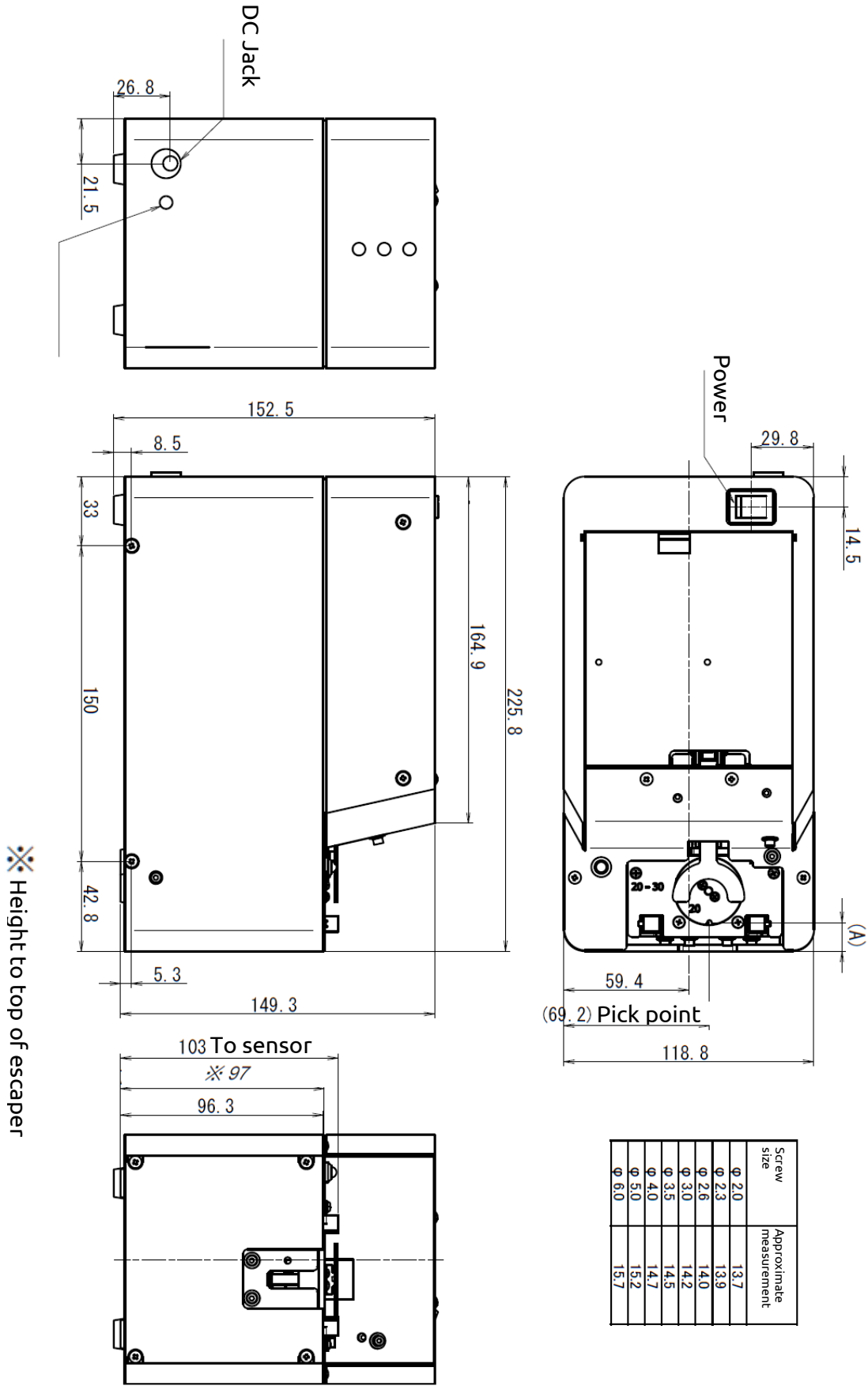
Brush assembly

Main motor (with
Harness)
TPO01002 #17Left scraper
OHTAKE -
TPO91201
OnRobot -
104856

Right scraper

OHTAKE - TPO91202
OnRobot - 104855Driving belt
OHTAKE -
TPO00511
OnRobot -
104854

11.3 External mechanical dimensions



All dimensions are in mm

12 Warranties

12.1 Product Warranty

Without prejudice to any claim the user (customer) may have in relation to the dealer or retailer, the customer shall be granted a manufacturer's warranty under the conditions set out below:

In the case of new devices and their components exhibiting defects resulting from manufacturing and/or material faults within 12 months of entry into service (maximum of 15 months from shipment), OnRobot A/S shall provide the necessary spare parts, while the customer (user) shall provide working hours to replace the spare parts, either replace the part with another part reflecting the current state of the art, or repair the said part. This warranty shall be invalid if the device defect is attributable to improper treatment and/or failure to comply with information contained in the user guides. This warranty shall not apply to or extend to services performed by the authorized dealer or the customer themselves (e.g. installation, configuration, software downloads). The purchase receipt, together with the date of purchase, shall be required as evidence for invoking the warranty. Claims under the warranty must be submitted within two months of the warranty default becoming evident. Ownership of devices or components replaced by and returned to OnRobot A/S shall vest in OnRobot A/S. Any other claims resulting out of or in connection with the device shall be excluded from this warranty. Nothing in this warranty shall attempt to limit or exclude a customer's statutory rights nor the manufacturer's liability for death or personal injury resulting from its negligence. The duration of the warranty shall not be extended by services rendered under the terms of the warranty. Insofar as no warranty default exists, OnRobot A/S reserves the right to charge the customer for replacement or repair. The above provisions do not imply a change in the burden of proof to the detriment of the customer. In case of a device exhibiting defects, OnRobot A/S shall not be liable for any indirect, incidental, special or consequential damages, including but not limited to, lost profits, loss of use, loss of production or damage to other production equipment.

In case of a device exhibiting defects, OnRobot A/S shall not cover any consequential damage or loss, such as loss of production or damage to other production equipment.

12.2 Disclaimer

OnRobot A/S continues to improve reliability and performance of its products, and therefore reserves the right to upgrade the product without prior warning. OnRobot A/S ensures that the content of this manual is precise and correct but takes no responsibility for any errors or missing information.



Please note that on disposal, this product may be safely recycled in accordance with the relevant national legislation relating to electrical/electronic product. If in doubt, please contact your retailer for guidance.

部件名称	有毒有害物質或元素					
	鉛 (Pb)	汞 (Hg)	鎘 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
驱动齿轮,轴心部件	×	○	○	○	○	○
铆钉	×	○	○	○	○	○
六角銅柱	×	○	○	○	○	○
电路板元件	×	○	○	○	○	○
连接器	×	○	○	○	○	○

○: 表示該有害物質在該部件中的含量均在GB/T 26572-2011規定的限量要求以下。
 ×: 表示該有害物質至少在該部件中的某一均質材料中的含量超出GB/T 26572-2011標準規定的限量要求。

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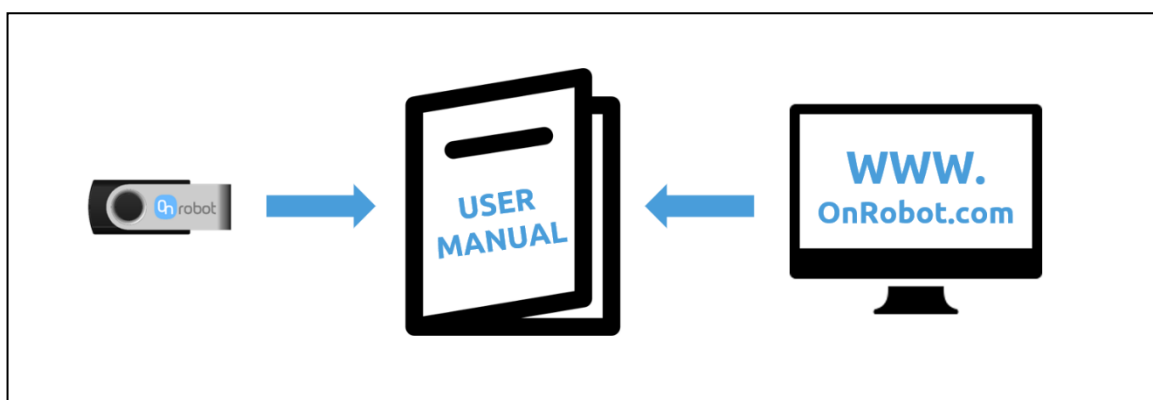
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(as of Feb. 2020)

(2020 年 2 月現在)



The User Manual is translated into 20+ languages.

Find these translations on the USB stick or visit www.OnRobot.com

