

Neji Taro III for Automatic Assembly HS III-RB series

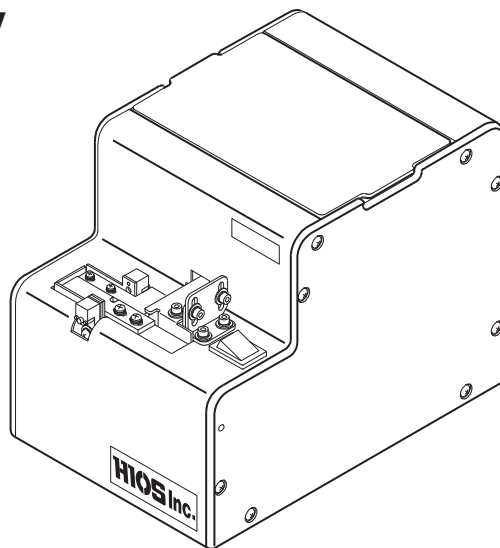
HS III-14RB HS III-17RB

HS III-20RB HS III-23RB

HS III-26RB HS III-30RB

Instruction Manual

Read this manual before using this device.
Current as of October 2021



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1. Checking before Operating the Machine

Thank you very much for selecting our Automatic Screw Feeder “Neji III Taro for Automatic Assembly Type”

Please check for the following accessories before operating the machine.

- CD-ROM 1
- AC adapter 1 unit
- Hexagonal wrench key 1 set
- Screwdriver 1 piece
- Ground wire 1 piece

2. Precautions on Use

Installation place



CAUTION

Install the machine in a stable and level place.

Installing the machine in an unstable place will result in a drop or injury.

Do not operate the machine in a place that is exposed to inflammable gas, explosive gas or moisture.

Power supply

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

Unplug the AC adapter from the wall outlet during closing hours and if the machine will be left unused for any extended period of time.

Rail

Do not bend, alter or damage the rail. Do not apply any oil. We recommend the user to clean the rail periodically.

Screw that must not be used

Do not use any screw that is out of the specified range or any screw that is stained with oil or dust.

Precautions on unloading screws

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

Handling during operation

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


Abnormality during operation



CAUTION When any abnormality is found while the machine is in operation, pull out the AC adapter from the plug socket. If the machine operation is continued in the abnormal status, it will cause a fire, electric shock, or injury. When an abnormality is detected, consult your dealer.

Repair

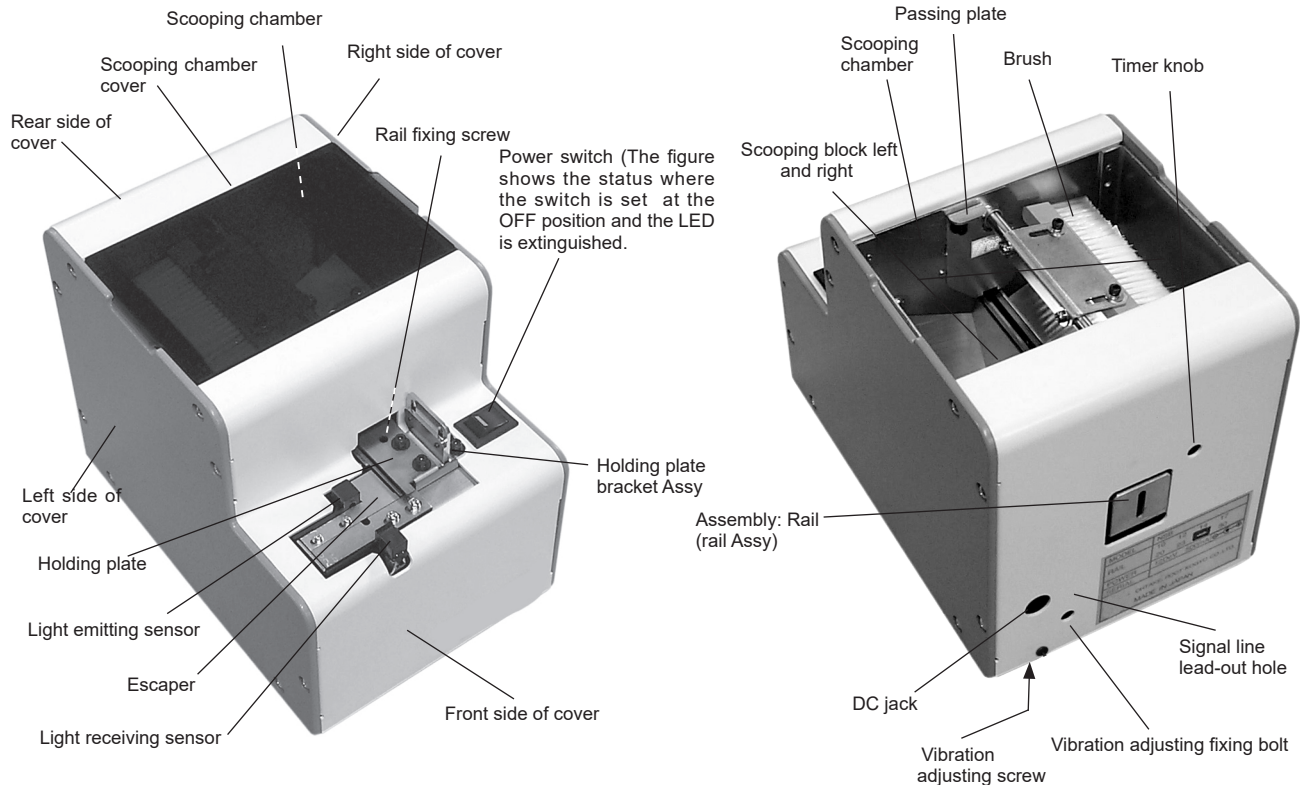
Do not attempt to repair, disassemble or modify this machine except where specified by this manual. Consult your dealer for service of this machine.

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



the bottom of the main body

3. Names of Machine Parts



4. Checking and Adjustment before Operating the Machine

4-1. Checking the Main Body Model

Check if the nominal diameter of the screws to be loaded machine the main body model, and then use the machine.

Check the rail model No., escaper model No., and passing plate model No. by referring to the following table.

Model	Nominal screw diameter	Rail model No.	Passing plate model No.	Escaper guide of the robot model No.
HSIII -14RB	M1.4	HS-SSR14	HS3-02052-1	HS3RB-08618-M14
HSIII -17RB	M1.7	HS-SSR17		HS3RB-08618-M17
HSIII -20RB	M2.0	HS-SSR20	HS3-02052-2	HS3RB-08618-M20
HSIII -23RB	M2.3	HS-SSR23		HS3RB-08618-M23
HSIII -26RB	M2.6	HS-SSR26		HS3RB-08618-M26
HSIII -30RB	M3.0	HS-SSR30		HS3RB-08618-M30

Note: The main body model can be changed by replacing the rail, escaper, and passing window.
The parts for replacement are available separately.

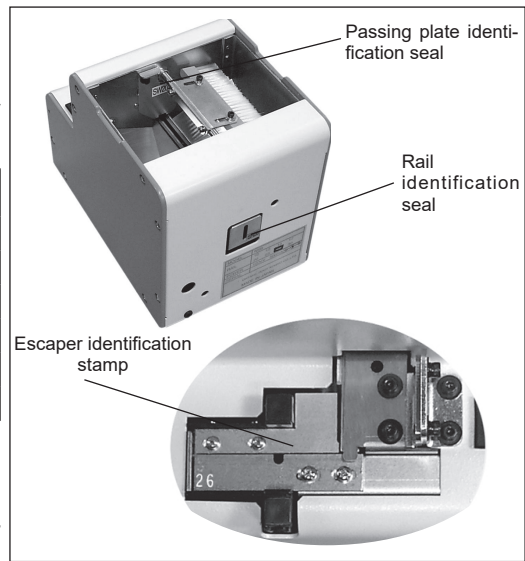
Before delivery, each section of the machine is checked and adjusted with the pan head screws matching the ordered model. Most screws may be usable in the initial status of adjustment.

However, if the height or shape of screw head is different or if the operation is regarded as abnormal, each section must be readjusted. In the case, make the following checks and adjustments:

- Checking the screw load amount
- Checking and adjusting the brush
- Checking and adjusting the passing plate
- Checking and adjusting the rail vibration
- Checking and adjusting the holding plate
- Checking and adjusting the timer
- Checking and adjusting the front and rear sides of the rail

If the rail, escaper, and passing plate of the machine are replaced, screws with a different nominal diameter are usable.

After these parts are replaced, a fine adjustment is required. The respective adjusting procedures will be described in other paragraphs. Please read these paragraphs.

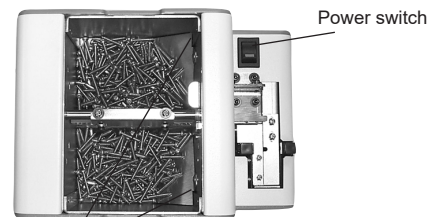


4-2. Screw Load Amount

An excessive screw load amount will have an adverse effect on the screw alignment and transport. The figure shown at right, roughly indicates the maximum screws load amount. Load the screws referring to it.

- Turn on and off the power switch so that the scooping block may be at the lower limit position.
- Load screws up to approximately 2 to 3 mm lower position than the rail groove surface.
- At this time, check that the front inclined surface of the inclined plate is not concealed by the loaded screws.
- Be sure to determine a proper screw load amount by observing the machine operation while the machine is in operation.

The screws must not conceal rail groove surface. (The screw must be about 2 to 3 mm lower than the rail groove surface.)



This inclined surface of each of the left and right inclined plates should be visible.

4-3. Checking and Adjusting the Brush

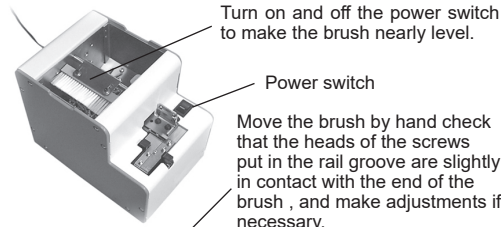


CAUTION Turn off the power supply before starting checking and adjusting.

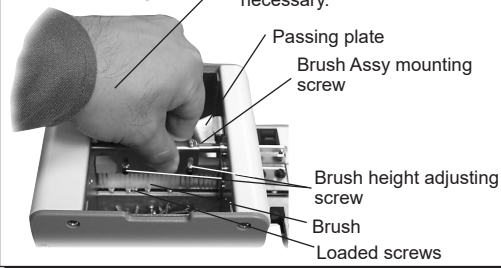
Put the screws to be loaded into the scooping chamber, turn on and off the power switch, and put the screws to be loaded into the rail groove.

- Turn on and off the power switch to make the brush nearly level as shown in the figure at right.
- Check that the heads of the screws to be loaded are in slight contact with the end of the brush.
- When the brush height is too low or high, this will have an adverse effect on the screw alignment and transport.
- If any adjustment is needed, loosen the brush height adjusting screw to adjust the brush height.
- If the front side of the brush plastic portion comes into contact with the passing plate, loosen the brush Assy mounting screw and make an backward/forward adjustment .
- Operate the machine body to check that the brush operation is normal.

Turn on and off the power switch to make the brush nearly level.



Move the brush by hand check that the heads of the screws put in the rail groove are slightly in contact with the end of the brush, and make adjustments if necessary.



4-4. Checking and Adjusting the Passing Plate



CAUTION Turn off the power switch before starting checking and adjustments.

- Check that the passing plate is adjusted to a height that permits screws to be loaded to pass just within the limit.
- When the passing plate is too low, screws cannot pass. When the passing plate is too high, these screws are easily caught by it.
- When an adjustment is required, loosen the passing plate mounting screws and adjust the height.
- After making an adjustment, make an operational check.

Note: Using the half-presses on both sides of the passing plate as guides, slide the passing plate up and down.

4-5. Checking and Adjusting the Rail Vibration

In this machine, the rail vibration can be adjusted.

The screw transport speed differs depending on each screw type. Check the screw transport speed. If the rail vibration constitutes a hindrance as a matter of use, it can be adjusted.

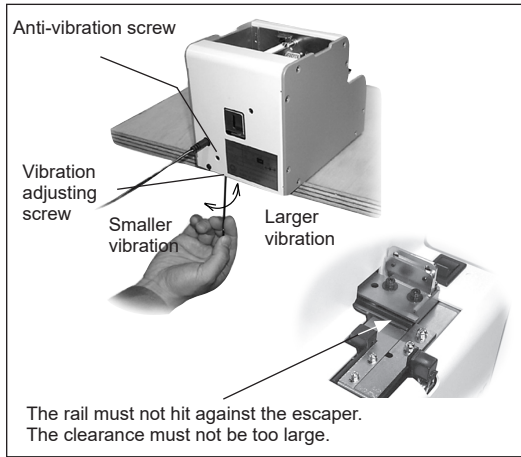
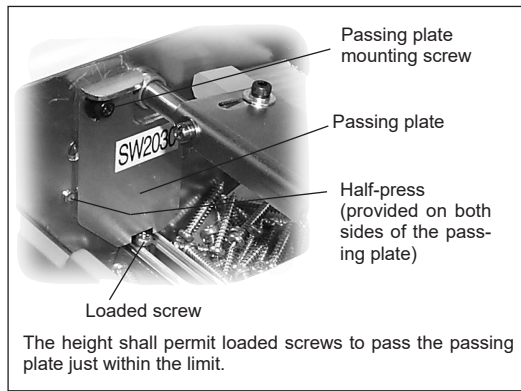
- Loosen the anti-vibration screw in the rear part of the machine and turn the vibration adjusting screw on the bottom surface of the machine to adjust the vibration.
When this screw is turned clockwise as viewed from the bottom surface, the vibration will increase.

When the screw is turned counterclockwise, the vibration will decrease.

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

(Related item: Checking and adjusting the front and rear positions of the rail.)

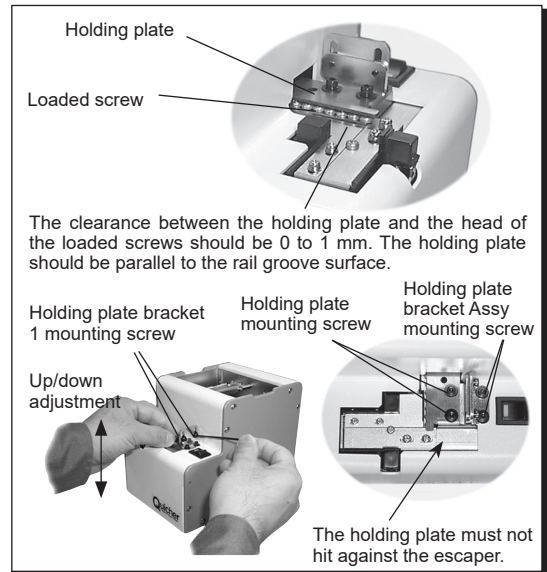
- After making an adjustment, be sure to tighten the anti-vibration screw.
- After making an adjustment, make an operational check.



4-6. Checking and Adjusting the Holding Plate

Check the holding plate position.

- Check that the clearance between the head of the loaded screws put in the rail groove and the holding plate is about 0 to 1 mm.
- If there is no clearance, a screw will be caught. If the clearance is too large, a screw pile or screw jump will take place.
- If any adjustment is required, loosen the clamp plate bracket 1 mounting screw and make an up/down adjustment.
- If the holding plate hits against the escaper, a hindrance is caused to the escaper motion. In this case, make a readjustment so that the holding plate may not hit against the escaper or loosen the holding plate bracket Assy mounting screw and holding plate mounting screw, and make a backward/forward adjustment.
- After making an adjustment, check the machine operation.



4-7. Checking and Adjusting the Front/Rear Position of the Rail

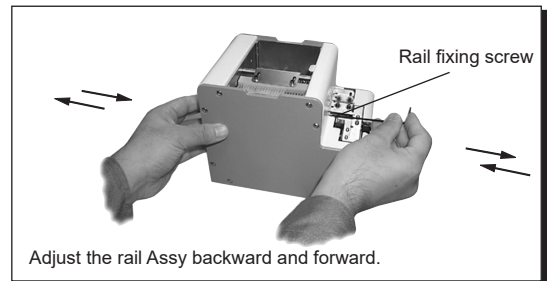
If the rail hits against the escaper or the clearance between the rail and the escaper is too large when the machine is operated, loosen the rail fixing screw and adjust the rail Assy backward or forward.

After making an adjustment, be sure to tighten the rail fixing screw.

If the rail hits against the escaper, the escaper cannot be normally operated.

If the clearance between the rail and escaper is too large, screws may fall down into the machine.

After making an adjustment, try to make a vibration readjustment by referring to "Checking and Adjusting the Rail Vibration".



4-8. Checking and Adjusting the Timer

The screw transport speed differs depending on each 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 unloading position, and holds a screw at the screw unloading position, and stops its operation after the lapse of a certain time. When the screw at the screw unloading position is taken out, the machine restarts its operation. This time can be varied by adjusting the timer.
- Check the operation by intercepting the optical axis of the sensor.
- Make an adjustment with the timer knob 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.

- Make this adjustment within the allowable turning range without giving excessive force.
- Make an operational check by using loaded screws and set the timer properly.

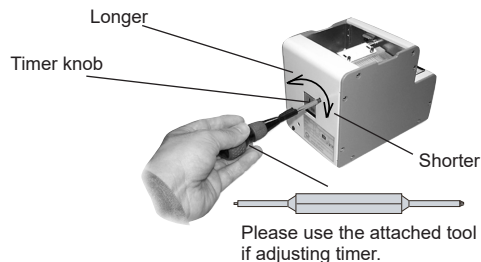
5. Maintenance

If the rail groove becomes dirty, the loaded screw transport speed may be slow. In case the rail groove is very dirty, clean it with a thin and clean cloth dipped in alcohol. If cleaning is difficult, detach the rail from the main body and clean the rail groove. If the rail is detached from the main body, be sure to turn off the power supply and take out loaded screws in the scooping chamber beforehand.

If there is any dirt or a flaw in the rail groove that may cause an impediment to use, we recommend the user to replace the rail.

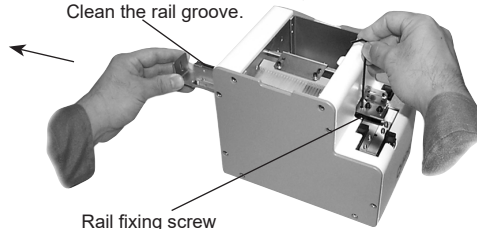
Adjust the timer with the timer knob.

When the optical axis of the sensor is intercepted, the timer will function to stop the operation of the main body.



Loosen the rail fixing screw, and the rail can be detached from the rear side of the main body.

Clean the rail groove.



6. Replacing and Adjusting Parts

The brush, main motor, and escaper motor are consumables. The replacement rail, passing plate required after a change of nominal diameter of loaded screw, rail, and escaper must be ordered separately. The replacing and adjusting procedures are described below.

When replacing parts after changing the nominal diameter, especially, a fine adjustment is required. Make this fine adjustment by reading the corresponding contents carefully.

Take out all the loaded screws put in the main body before starting the parts replacement work.

6-1. Replacing and Adjusting the Brush



CAUTION

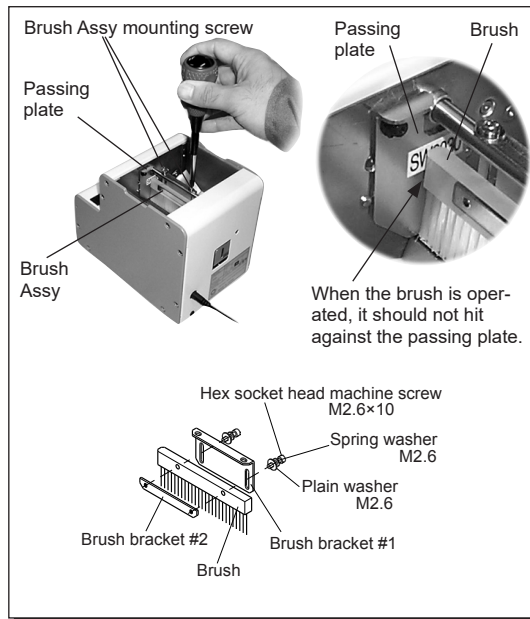
Turn off the power switch before starting replacement and adjustment.

If the end of the brush is too worn out to sweep out the screws of abnormal posture, replace the brush with a new one.

A more bristly brush than the standard brush is available as an option. Make use of it when necessary.

- Turn on and off the power switch of the main body. Set the brush at the position shown in the figure at right and detach the brush Assy.
(Set the brush Assy mounting screw to an easy-to-detach position.)
- The brush Assy can be disassembled as shown in the figure at right.
- For assembly, reverse the disassembling procedure.
- After completion of assembly, check that when the brush Assy is operated, the front side of the brush plastic portion may not hit against the passing plate. The ideal clearance is zero.
- For adjustment, refer to “Checking and Adjusting before Operating the Machine”.

Part number of brush: HS3-02110A1 (standard part)
HS3-02110A2 (option: a more bristly brush)



6-2. Replacing the Main Motor



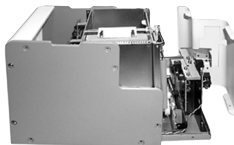
CAUTION

Turn off the power switch before starting to replace and adjust the main motor.

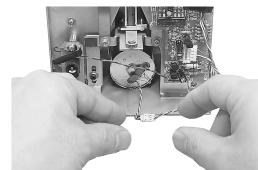
When the motor is damaged, replace it with a new one.

- Remove the cover from the main body.
(In the case of the front cover with the power switch, disconnect the connector of the power switch and then detach this front cover from the main body.)
- Disconnect the motor junction connector.
- Remove the motor mounting screws on the bottom of the main body.
- Pull out the motor from the rear side of the main body.
(At this time, if the motor is hard to pull out, insert a hexagonal wrench key into the oblong hole of the main body base and push the motor mounting bracket backward.)
- For reassembly into the main body, reverse the disassembling procedure.
However, the relation with the operation timing is shown on the next page.

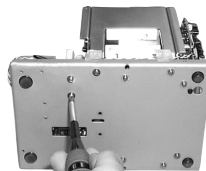
Note: To avoid wire breakage, do not use excessive force with the motor wiring.



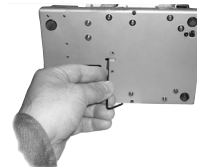
a. Remove the cover.



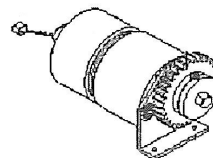
b. Disconnect the junction connector.



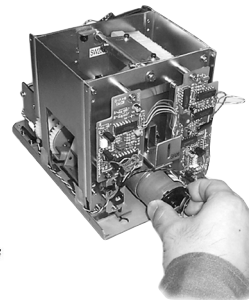
c. Remove the motor bracket mounting screw.



d. Pull out the motor.



Main motor unit



○ Operation Timing in Replacing the Main Motor



CAUTION

Turn off the power switch before starting to replace and adjust the main motor.

- To adjust the scooping block to the brush in respect of operation timing, it is necessary to adjust the gear engagement.
- When the motor has been removed from the main body, adjust the gear engagement of the motor as shown in the figure at right, and the operation timing can be adjusted.
- When it is hard to engage the driving gear of the motor with the driven gear, remove the escaper Assy mounting screws and put it on the left side. After that, when the installed driving shaft bracket (right) is loosened, this will facilitate the assembly work. (Refer to the figure at right.)

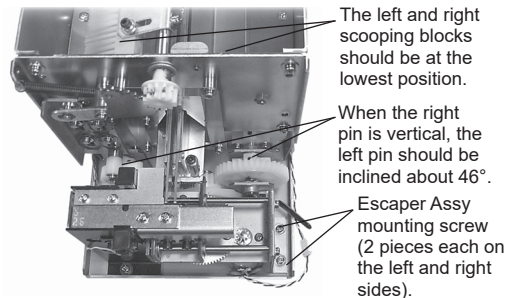
After installing the motor, be sure to tighten the loosened screws once again. Readjust the escaper Assy.

- After installing the motor, energize the motor and check the operation timing.
(Check that both left and right scooping blocks can be operated almost simultaneously.)
- After making an operation check, return the wiring arrangement to its original status.

When installing the cover, take care not to cause the wire to be caught. Give consideration so that the wiring may not be a hindrance to the operation of this machine.

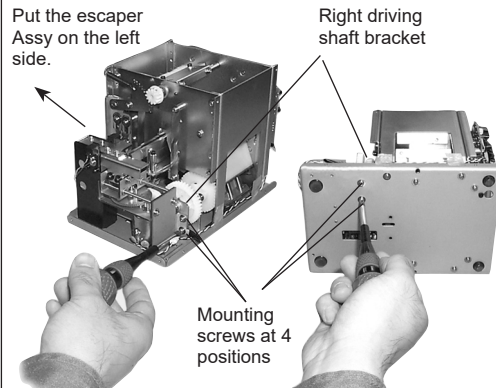
The wiring should not be a hindrance when adjustment are made from the outside.

Note: To avoid wire breakage, do not use excessive force with the motor wiring.



In the status where the left and right scooping blocks are at the lowest position, install the motor.

If it is hard to obtain proper gear engagement, loosen only the right driving shaft bracket.



6-3. Replacing the Escaper Motor

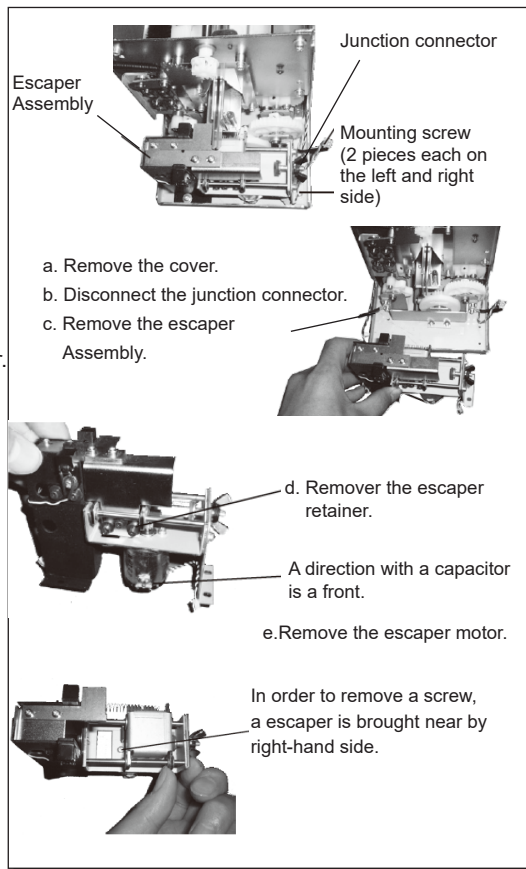


CAUTION Turn off the power switch before starting to replace and adjust the escaper motor.

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

- Remove the cover from the main body.
(In the case of the front cover with power switch, remove the connector of the power switch and detach it from the main body.)
 - Disconnect the motor junction connector.
 - Remove the 4 escaper Assembly mounting screws and detach the escaper Assembly from the main body.
 - Remove three escaper mounting screws, and remove the escaper retainer.
 - Remove two escaper motor mounting screws. The escaper is moved to right-hand side, and a left-hand side screws removes it.
 - Attach a new escaper motor. Backlash is adjusted and fixes so that the escaper may return smoothly by means of a spring.
 - For assembly into the main body, reverse the disassembling procedure.
- At installation, the escaper must be adjusted.
- After making an operation check, return the wire arrangement into its original status. When installing the cover, take care not to cause the wire to be caught by it. Give consideration so that the wiring may not be a hindrance to the operation of this machine.

Note: To avoid wire breakage, do not use excessive force with the motor wiring.



6-4. Replacing the Rail Assy



CAUTION

Turn off the power supply before starting to replace and adjust the rail Assy.

The rail Assy of this machine can be easily replaced.

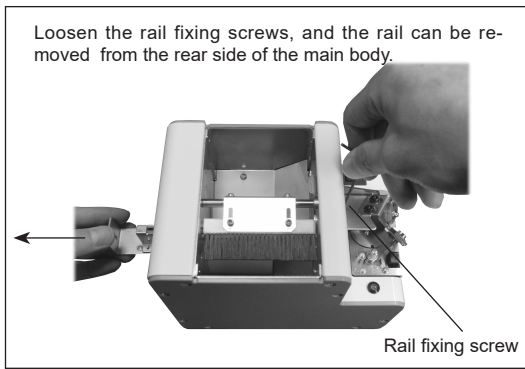
When there is any dirt or a flaw on the rail groove that may constitute a hindrance to the operation, we recommend the user to replace the rail.

When using screws with a different nominal diameter, replace the rail Assy as well as the escaper and passing windows as a means.

Before replacement and adjustment, take out the loaded screws in the machine.

Loosen the rail fixing screws and pull out the rail Assy from the rear side of this machine.

After replacing the rail, each portion must be adjusted.



6-5. Replacing the Passing Plate



CAUTION

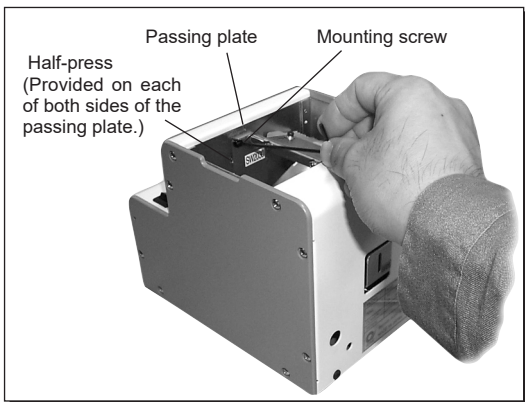
Turn off the power supply before starting to replace and adjust the passing plate.

For using screws with a different nominal diameter, replace the passing plate as well as the rail and escaper as a means.

Remove the passing plate mounting screws, then remove the passing plate.

Take care not to loosen the mounting screws.

At installation, use the half-press on each of both sides of the passing plate as a guide.



After replacement, it is necessary to make an adjustment in accordance with loaded screws.

6-6. Replacing and Adjusting the Escaper



CAUTION Turn off the power supply before starting to replace and adjust the escaper.

For using screws with a different nominal diameter, replace the escaper as well as the rail and passing plate as a means.

Replace and adjust the escaper after removing the cover.

Replace the escaper after removing the escaper mounting screws. After replacement, be sure to adjust and check the parts related to the escaper.

Adjust the escaper on the basis of the rail.

In the direction of height, the rail groove surface should be lower than the escaper surface and counter-screw surface should be lower than the escaper surface.

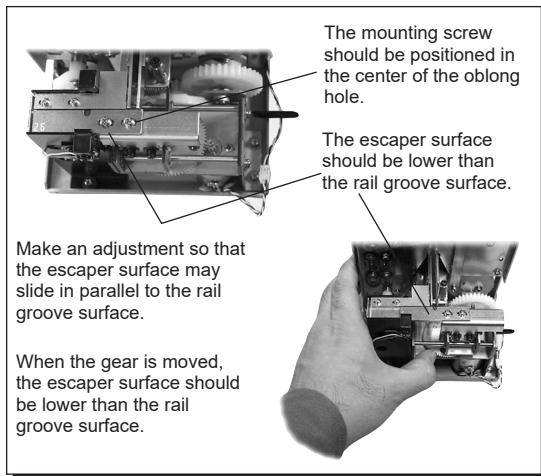
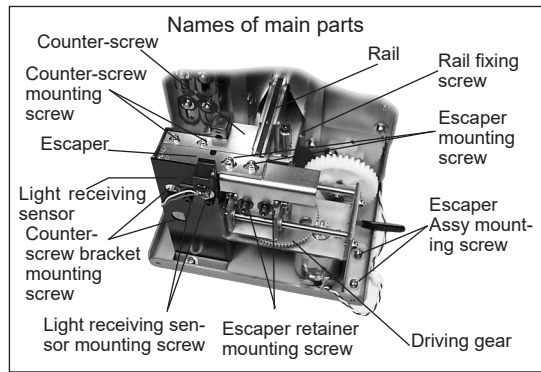
In the direction of width, the rail groove should be adjusted to the escaper groove in operation and also the rail side surface should not make contact with the counter-screw end surface.

In addition, adjust the sensor level in the status where no screws are loaded.

① Adjust the height of the escaper surface.

Install the escaper. At this time, the mounting screw should be positioned in the center of the oblong hole.

Adjust the height of the escaper retainer so that the escaper surface may be equal to or a little lower than to the rail groove surface. At this time, move the gear so that the escaper surface may slide in parallel to the rail groove surface.

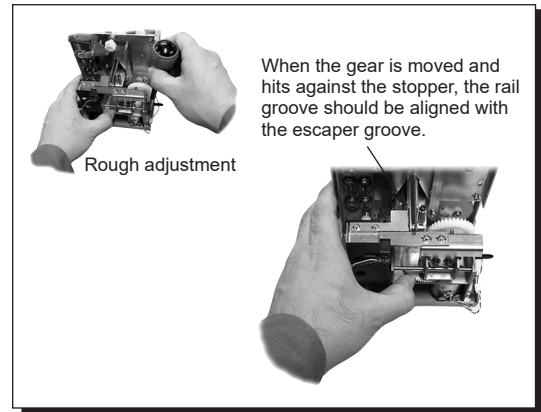


② Adjust the escaper groove position.

Adjust the escaper groove position so that when the gear is moved to the right side until it hits against the stopper, the rail groove may be aligned with the escaper groove.

For a rough adjustment, loosen the 2 escaper Assy mounting screws on each of both left and right sides. For a fine adjustment, loosen the 2 escaper mounting screws.

After completion of the above adjustments, move the escaper to the right side until it hits against the stopper and check the groove position once again.

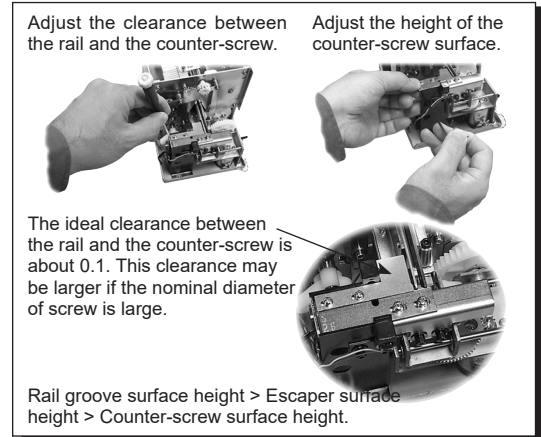


③ Adjust the counter-screw surface position.

Loosen the counter-screw mounting screws and adjust the clearance between the rail side surface and the counter-screw end face. This clearance should be such that does not cause a collision when the rail is vibrated.

Loosen the counter-screw bracket mounting screws and adjust the height of the counter-screw surface.

The height should be equal to or a little lower than to the escaper surface.



④ Adjust the sensor voltage level.

Adjust the sensor voltage level for the case where no loaded screw are in the escaper unloading section.

For the voltage level, measure the pin No.7 of IC4050 on the main board.

Be sure to ground the metal portion of the main body.

Adjust the sensor voltage level to 0.25V to 1.5 V in the status where no loaded screws are in the escaper unloading section.

Note: When no loaded screws are: 0.25 V to 1.5 V

When loaded screws are: 3.5 V or more

Electrically, it is judged by using 2.5 V as a boundary whether loaded with screws or not.

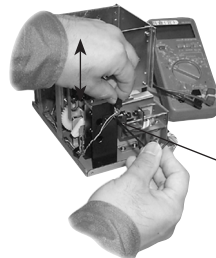
After checking and adjusting each portion, make an operational check of the machine actually with loaded screws.

If any abnormality is found, make the said adjustment once again in addition to the rail vibration and front/rear position adjustments.

After completion of the operational check, return the wiring arrangement to its original status.

When installing the cover, take care not to cause the wire to be caught by it.

Give consideration so that the wiring may not be a hindrance to the operation of this machine.

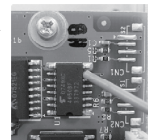


When there are no loaded screw, the voltage value should be 0.25V to 1.5 V.

Loosen the light receiving sensor mounting screw (at 2 positions) and adjust the light receiving sensor up and down.



Check the voltage level of pin No.7 of IC4050.



7. Application with Robotic System

7-1. External output signal

The wires coming out from the back of the machine serves as the detection of presence on the rotational escaper, which shall be use 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 externally circuit for regulating current**

[Capacity]: Max DC current: 100mA

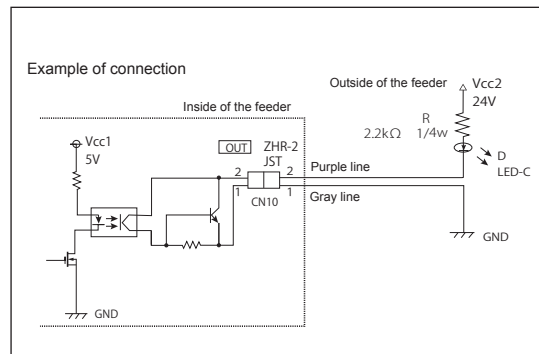
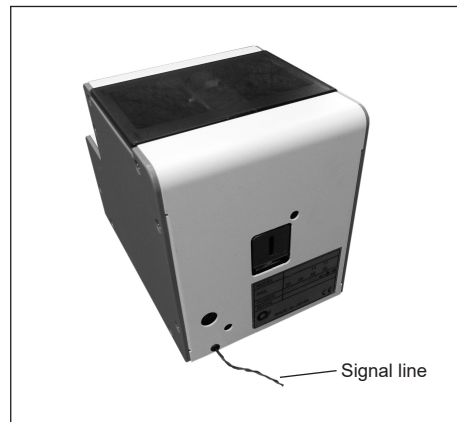
External supply voltage: 5-24VDC (Max. 27V)

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

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

Purple line ---- > Signal line(OFF when no screw is present)
(On when a screw is present)

Gray line ---- > Common line



7-2. Installation with Robotic System

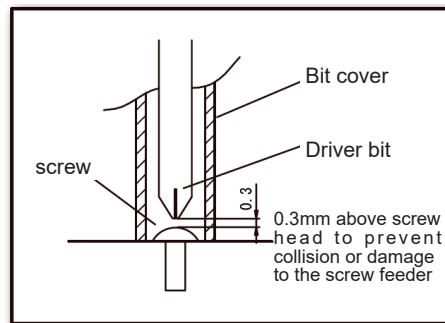
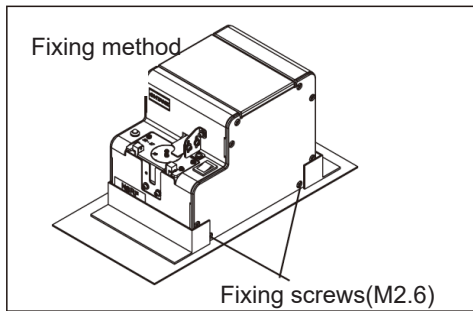
When installed with robotic assembly, the screw feeder shall be fastened by lower edges of the cover.

(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 screw feeder.

7-3. Robotic Operations

when the screw feeder is used with an automatic assembly system, in order to avoid contacts between screwdriver and the screwfeeder, please set the lowest point of the bit at least 0.3mm above the screw, so that contact or collision of the driver bit and screw feeder can be avoided.



8. Others

8-1. 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 for 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 overload.

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. Checking before Asking for Repair



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

Trouble	Cause	Corrective Measures
<p>9-1 The machine does not operate though the power switch is turned on.</p>	<ul style="list-style-type: none">• Power is not supplied.• The machine has not unloaded screws from the unloading section for a certain time.• Too many screws were put into the scooping chamber.• A foreign object (for example, screw) was put in the main body.• The AC adapter is faulty.	<ul style="list-style-type: none">• Check the connection of the power supply of the AC power adapter.• Take out the screw from the unloading section.• Adjust the timer setting knob.• Reduce the quantity of screws in the scooping chamber to a proper level.• Remove the foreign material.
<p>9-2 Screws do not flow.</p>	<ul style="list-style-type: none">• Screws with a larger nominal diameter than the specified nominal rail size were loaded or screws with a different diameter were mixed in together.• An insufficient quantity of screws are in the scooping chamber.	<ul style="list-style-type: none">• Use screws with the specified nominal diameter.• Remove the mixed screws.• Add a proper quantity of screws into the scooping chamber.

Trouble	Cause	Corrective Measures
<p>9-3 A screw has fallen down into the rail groove.</p>	<ul style="list-style-type: none"> • Screws with a smaller nominal diameter than the specified nominal rail size were loaded. • Screws with a smaller total length than the rail groove width were loaded. 	<ul style="list-style-type: none"> • Use screws with the specified nominal diameter. • No corrective measure is available. Consult our service section.
<p>9-4 The screw flow on the rail is improper.</p>	<ul style="list-style-type: none"> • The clearance between the holding plate and the head of the loaded screw is narrow. • Screws with a spring washer having one-step smaller than the specified nominal rail size were loaded. • Dust or oil stuck is on the rail. • The rail does not vibrate. (A screw is caught in the clearance.) • The motor is exhausted. 	<ul style="list-style-type: none"> • Adjust the holding plate bracket Assy. (Adjust the holding plate.) Adjust the vibration. Operate this machine in an inclined status. • Clean the rail. • Remove the screws caught in the clearance. • Check that the vibration is properly adjusted. • Replace the motor.

Trouble	Cause	Corrective Measures
<p>9-5 Screws tend to pass the passing plate in an abnormal position.</p> <p>The axis of screw thread tends to enter the passing plate.</p>	<ul style="list-style-type: none"> • The passing plate is not adjusted properly. • Too many screws are in the scooping chamber. 	<ul style="list-style-type: none"> • Adjust the passing plate. • Reduce the quantity of screws into a proper level.
<p>9-6 No screw comes to the unloading section.</p>	<ul style="list-style-type: none"> • Screws are stopped while still on the rail. • Screws cannot be transferred smoothly from the rail to the escaper. 	<ul style="list-style-type: none"> • Adjust the position of the holding plate. • Adjust the positional relation between the end of the rail and the escaper.
<p>9-7 This machine stops its operation suddenly.</p>	<ul style="list-style-type: none"> • The overload protective circuit was actuated. • Too many screws are in the scooping chamber. • A screw is caught in the clearance. • Screws in the unloading section could not be unloaded for a certain time. 	<ul style="list-style-type: none"> • Turn the machine off and on once again. • Remove the cause of overload. • Reduce the quantity of screws to a proper level. • Remove the caught screw . • Take out screw.

Trouble	Cause	Corrective Measures
9-8 The scooping operation cannot be stopped though screws are in the unloading section.	<ul style="list-style-type: none"> • The timer knob is not properly adjusted. 	<ul style="list-style-type: none"> • Readjust the timer knob.
9-9 The escaper operation cannot be stopped though screws are in the unloading section.	<ul style="list-style-type: none"> • The sensor does not detect a screw. 	<ul style="list-style-type: none"> • Readjust the voltage level of the sensor.
9-10 A screw has fallen down into the this machine.		<ul style="list-style-type: none"> • Shake down the screw from the hole at the back of the machine.
9-11 The noise of this machine has increased.	<ul style="list-style-type: none"> • Grease is insufficient. 	<ul style="list-style-type: none"> • Apply grease to the moving section. ○ Recommended grease: BR2 Plus of Dow Corning Asia Co. Ltd.

10. Specifications

Power AC adapter	Input: AC100-240 V 50/60Hz Output: DC: 15V 1A
Dimensions	123(W)x181(D)x144(H) mm
Weight	Approx. 3kg (including the rail)
Screw capacity	Approx. 80cc
Included Accessories	CD-ROM 1 AC Adapter 1 unit Hexagonal Wrench 1 piece Screwdriver 1 piece Ground wire 1 piece

NOTES

- Check if the axis diameter of the loaded screw matches the above rail groove width.
- In the main body type, the main body model can be changed.
- To change the nominal diameter of loaded screw, replace it with a part that is mentioned in the above table.
- The rail, escaper, and passing plate for replacement are separately available.
- The design, performance, and specifications are subject to change without prior notice for the sake of improvement.

Screw feeder model	Specification of screw head					Shape of screw head						
	Screw size	Screw shaft diameter (∅)	Screw head diameter (∅)	Screw head thickness (mm)	Screw shaft length (mm)	No.0 Pan head	Pan head	Pan head			Bind	Counter sunk head
								Sems	Double sems	Washer head		
HSIII-14RB	M1.4	1.3 - 1.4	2.0 - 4.5	0.35 - 1.0	2.2 - 10	○	—	—	—	—	—	—
HSIII-17RB	M1.7	1.6 - 1.7	2.5 - 4.5	0.35 - 1.0	2.7 - 10	○	—	—	—	—	—	—
HSIII-20RB	M2.0	1.9 - 2.1	3.0 - 6.0	0.35 - 4.5	3.2 - 20	—	○	○	○	○	○	○
HSIII-23RB	M2.3	2.2 - 2.4	3.3 - 6.0	0.35 - 4.5	3.7 - 20	—	○	○	○	○	○	○
HSIII-26RB	M2.6	2.5 - 2.7	3.6 - 6.0	0.35 - 4.5	4.2 - 20	—	○	○	○	○	○	○
HSIII-30RB	M3.0	2.9 - 3.2	4.0 - 6.0	0.35 - 4.5	4.8 - 20	—	○	○	○	○	○	○

* Compatible with washer diameter up to 9 mm, thickness 0.35 to 1.0mm.

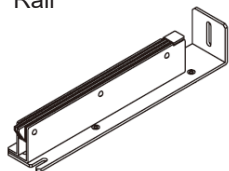
Specifications

Model	Nominal screw diameter	Rail model No.	Passing plate model No.	Escaper guide of the robot model No.
HSIII-14RB	M1.4	HS-SR14RB	HS3-02052-1	HS3RB-08618-M14
HSIII-17RB	M1.7	HS-SR17RB		HS3RB-08618-M17
HSIII-20RB	M2.0	HS-SR20RB	HS3-02052-2	HS3RB-08618-M20
HSIII-23RB	M3.5	HS-SR23RB		HS3RB-08618-M23
HSIII-26RB	M4.0	HS-SR26RB		HS3RB-08618-M26
HSIII-30RB	M5.0	HS-SR30RB		HS3RB-08618-M30

In the Exchange kit ordered, Rail assembly Escaper and passing plate are included.

○ Replacement parts

Rail



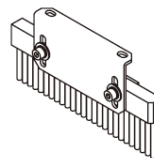
Escaper



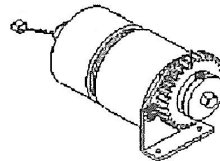
Passing plate



Brush assembly
HS3-02053

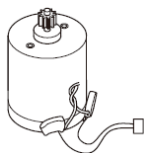


Main motor unit
HS3-03056



Escaper motor
HS3RB-08053

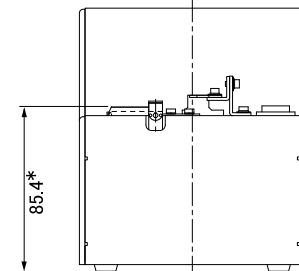
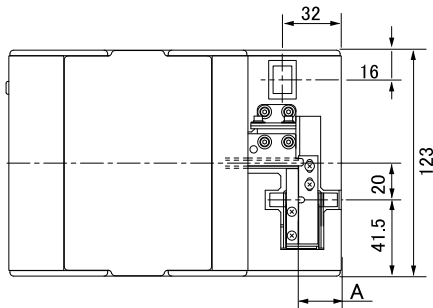
HS3RB-09682-07 (Serial No. 2SR171XXXX - 2SR179XXXX,
previous serial No. including 2SR16XXXXX)



11. External Diagram

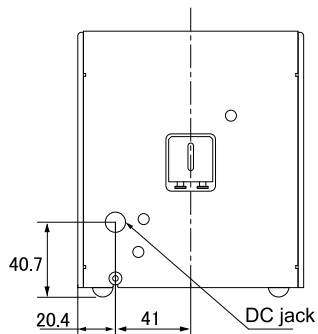
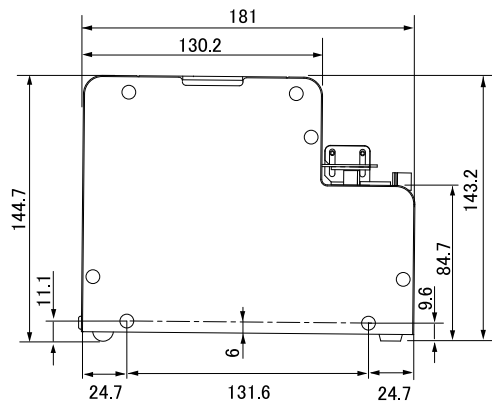
The dimensions in the manuals are for reference only do not use it for your jig.

The specifications are subject to change without notice.



*Height till top of escaper

Screw size	Approximate measurement of A
Φ 1.4	22.4
Φ 1.7	22.2
Φ 2.0	22.1
Φ 2.3	21.9
Φ 2.6	21.8
Φ 3.0	21.6



Unit:mm

12. THE FOLLOWING TABLE IS FOR CHINA RoHS2

If you are asked by China Customs, please show this table to them.

有害物质名称及含量标识格式						
产品中有害物质的名称及含量						
部件名称	有害物質					
	铅(pb)	汞(Hg)	镉(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	×	○	○	○	○	○
六角铜柱	×	○	○	○	○	○
电路板元件	×	○	○	○	○	○
连接器	×	○	○	○	○	○
-						
-						
-						

本表格依据 SJ/T 11364 的规定编制。
 ○：表示该有害物质在该部件所有均质材料中的含量均在 GB/T 26572 规定的限量要求以下。
 ×：表示该有害物质至少在该部件的某一均质材料中的含量超出 GB/T 26572 规定的限量要求。

In addition, the China RoHS marks also is required at the product and product box.

At the product, you can find it at the bottom and it is marked on the product box.

If you cannot find the mark, please ask your distributor.

In case of emergency, please cut the mark below and stick at the bottom of product and on the product box.

China RoHS mark

