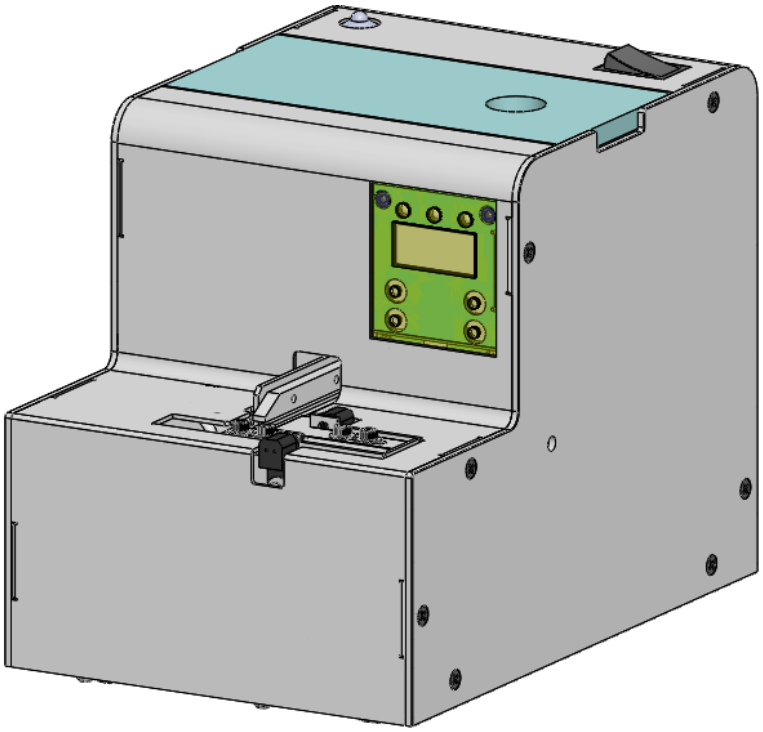
KILEWS

Automatic Screw Feeder

User Manual

(English)

KFA-0830



Before the use of this machine, please read the manual carefully and preserve the manual for future references.

Patent applications of this product have been filed in the countries of China, Taiwan (R.O.C.), Japan and Korea, and legal actions against any patent infringement by counterfeits will be taken.

Y2F152-1-002

Before the use of the Automatic Screw Feeder, please read the following carefully:

◎ Before the use, please be sure to install the machine at a location of solid foundation, and the machine shall not be subject to any conditions of tilting left or right and elevated front or rear in order to prevent impacts on the normal operation.

◎ During the use of the machine, the machine shall be grounded.

◎ If the machine is not used for a long period of time, the power shall be shut down and the power plug shall be removed.

◎ Please be sure to use the transformer provided by the original manufacturer in order to prevent damages of the machine and impacts on the normal operation.

◎ The inner tracks inside the machine are essential components; therefore, please do not damage or contaminate such parts.

◎ Before switching on, please ensure that the screws placed in the machine match with the specification of the sliding track. Please do not place contaminated screws, foreign objects and mismatched screws into the machine.

◎ During the operation of the machine, please do not place hand or insert foreign object or pour materials into the container tank.

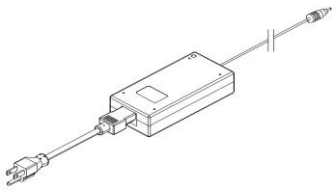
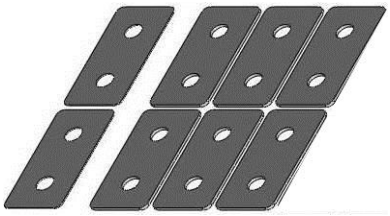
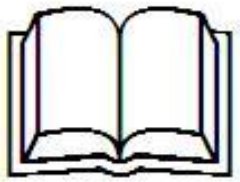
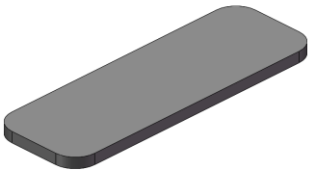
◎ During the operation of the machine, in case of any malfunction or abnormal sounds, please shut down the power immediately, and perform inspection after removing the power plug.

Table of Contents

Check before Use

Equipped Accessories

Before the use of the Automatic Screw Feeder, please carefully check whether the following accessories are complete:

Hex-key wrench 2.0*107mm (L type) *1	Voltage stabilizing transformer AC 100~240V/DC12V*1
	
Rear specification sheet for sliding track rear 20*10*0.2mm*2pcs&0.5mm*6pcs	Operation manual *1
	
Jig plates, 1pcs each for 0.8/1.0/1.2/1.5/2.0	
	

Check Screw Dimension

Before the use of the Automatic Screw Feeder, please check the dimension of the screw used, and use the Vernier Caliper to perform measurements according to the following drawings:

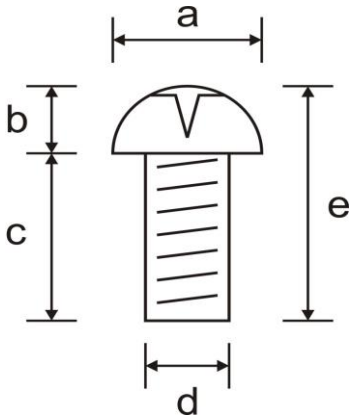
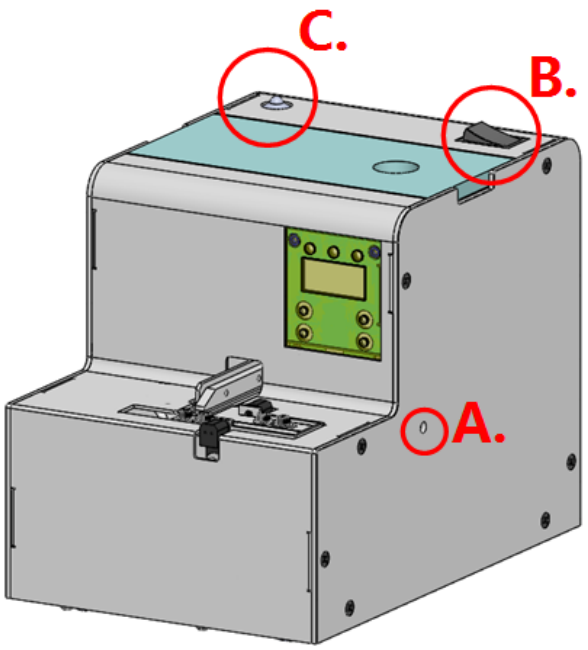
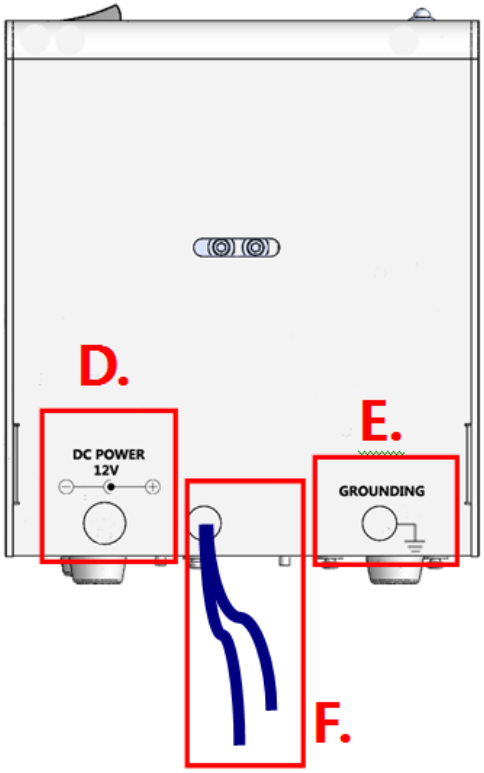


Table a

a	Screw head width
b	Screw head thickness
c	Screw length
d	Screw diameter
e	Screw total length

Description of Machine & PCB Function and Panel Hole Locations





A.	LOCK GATE	Gate adjustment hole
B.	POWER	Power switch
C.	INDICATION	LED signal indicator
D.	DC POWER	DC power input hole
E.	GROUNDING	Grounding hole
F.	SIGNAL WIRE	Signal cable

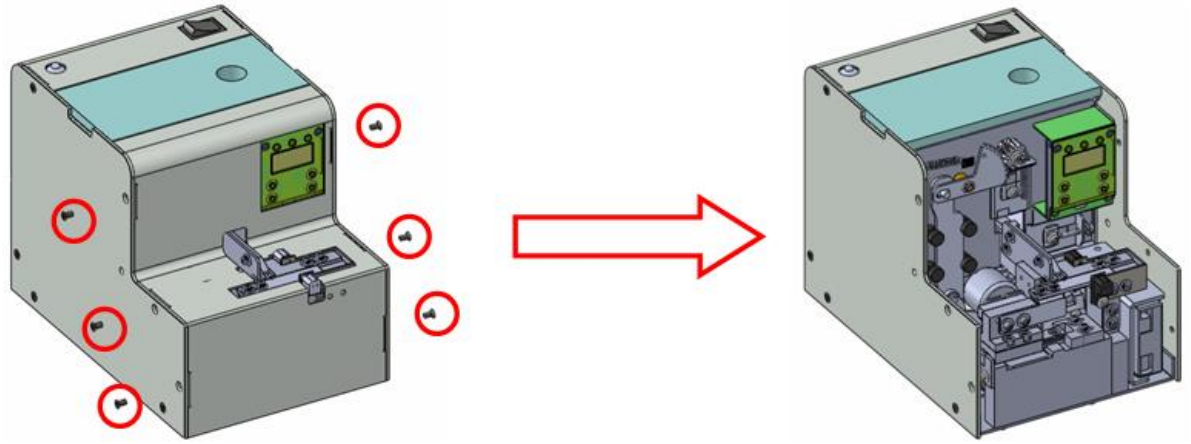
Adjustment

After checking the dimension of the screw used, before the use of the machine for the first time, adjust relevant parts according to the screw dimension.

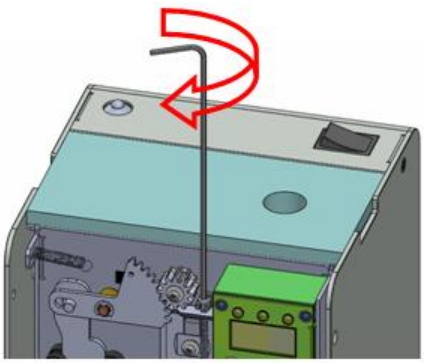
Track Adjustment

Track Removal

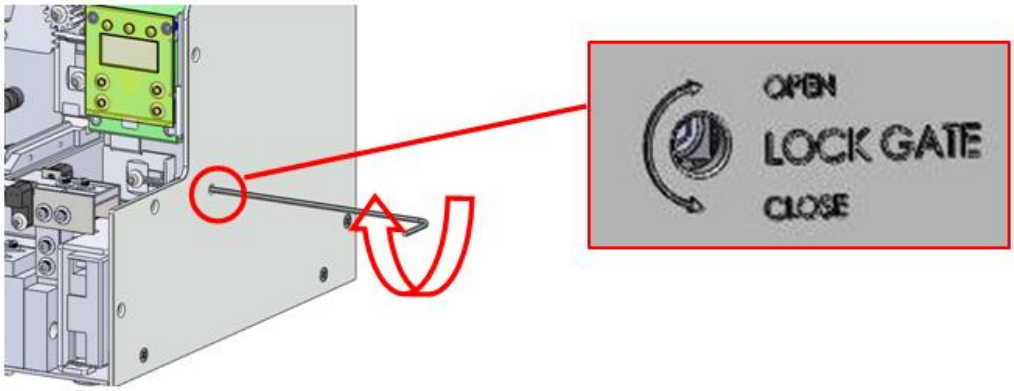
1. Remove the fixation screws (6 pcs) at the front cover of the housing, and remove the front cover of the housing.



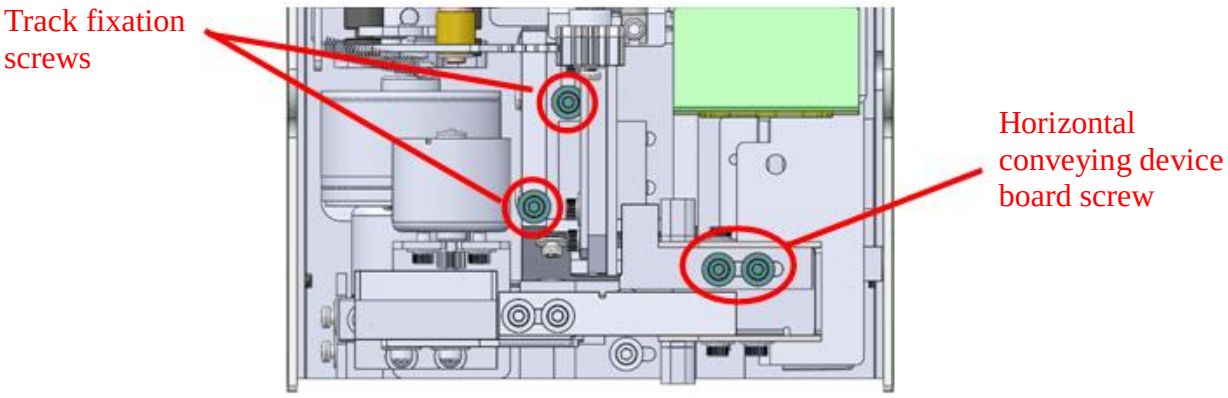
2. Face the machine, and use the equipped hex-key wrench to open the upper gate opening.



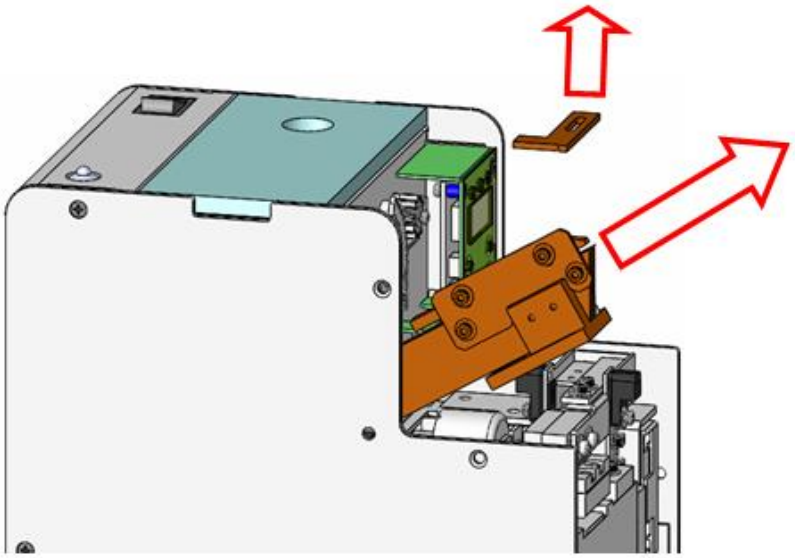
3. Face the machine, and use the equipped hex-key wrench to open the right gate opening.



4. Remove the horizontal conveying device board 4 and track fixation screws.

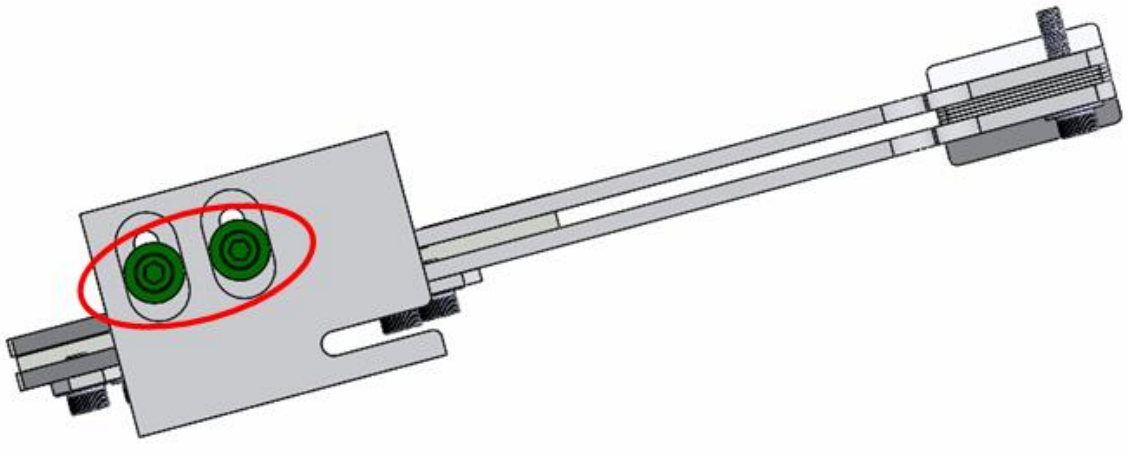


5. Remove the track.

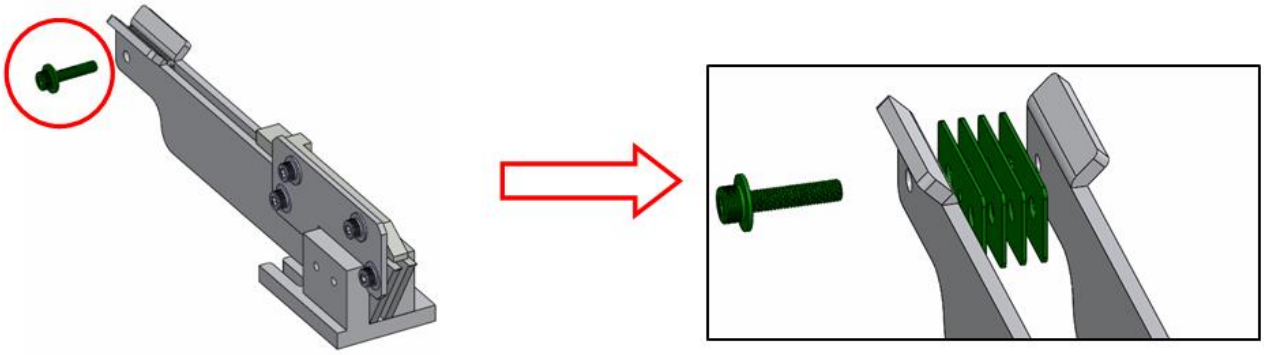


Adjust Track Width

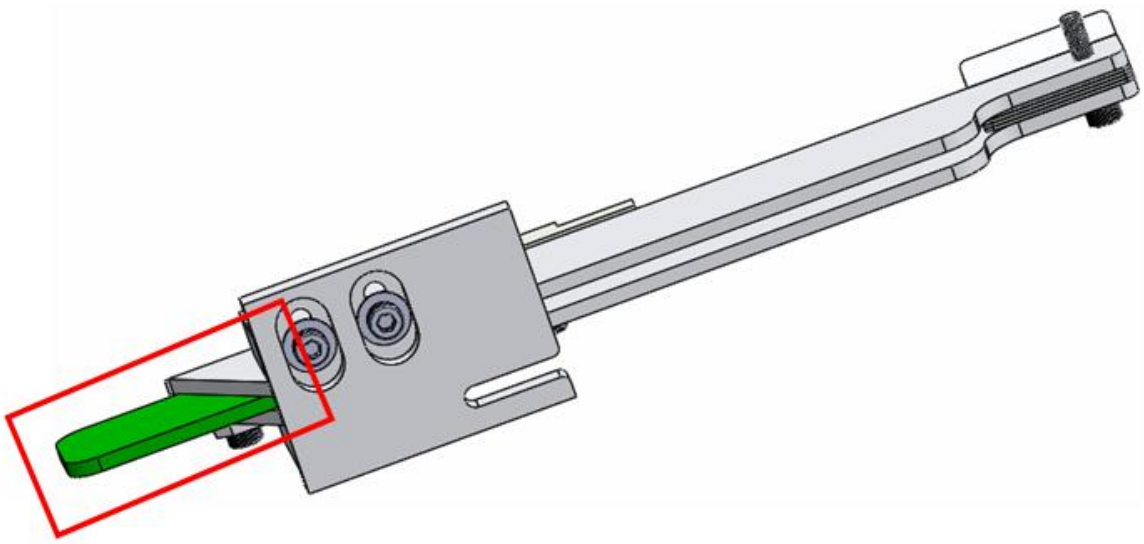
1. Unfasten the two fixation screws at the bottom of the track.



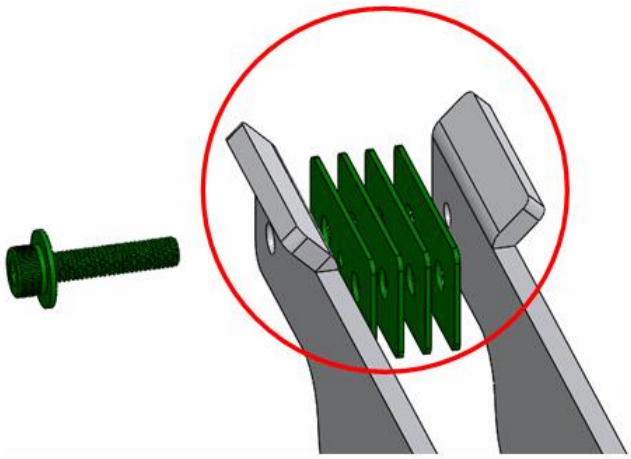
2. Remove the screws at the rear of the track, and remove the jig plate.



3. Install the jig plate at the front of the track, and adjust the clearance between the left and right tracks, then fasten the screws in **Step 1**.



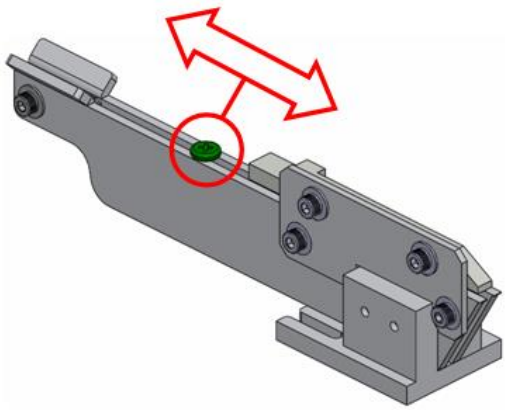
4. Remove the equipped jig plate, and place it at the rear of the track after assembly according to **Table b**, then fasten the screws removed in **Step 2**.



※ The assembly method is provided for reference only ※ Table b

Screw dimension (mm)	Sheet of thickness at the rear of track (mm)	Screw dimension (mm)	Sheet of thickness at the rear of track (mm)
1.0	0.5 * 2 + 0.2 = 1.2	2.6	0.2 + 0.5 * 5 = 2.7
1.2	0.5 * 2 + 0.2 * 2 = 1.4	3.0	0.2 + 0.5 * 6 = 3.2
1.4	0.5 * 3 = 1.5	3.5	0.2 + 0.5 * 7 = 3.7
1.7	0.2 * 2 + 0.5 * 3 = 1.9	4.0	0.2 + 0.5 * 8 = 4.2
2.0	0.2 + 0.5 * 4 = 2.2	5.0	0.2 + 0.5 * 10 = 5.2
2.3	0.2 * 2 + 0.5 * 4 = 2.4		

5. After adjustment is complete, take a screw and place on the track, followed by sliding it from the rear toward the front. It is acceptable if the screw is able to slide smoothly.



Notes

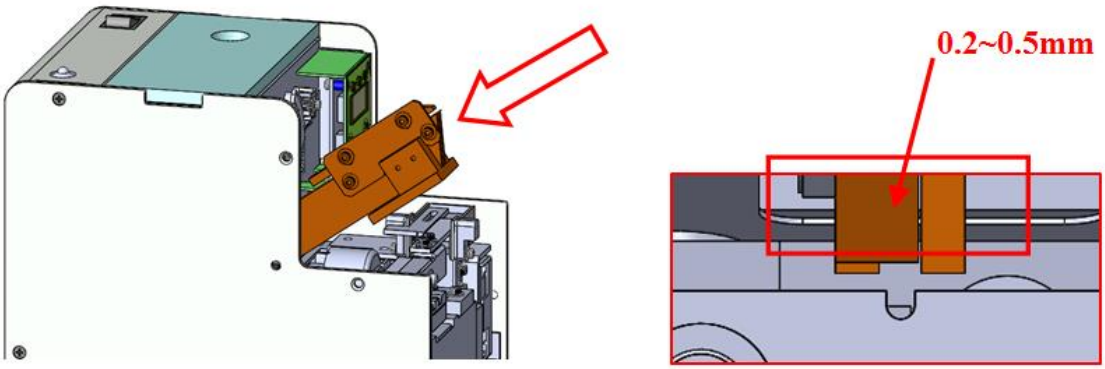
a. Please ensure the middle of the tracks is flat and parallel, and adjustment to narrow front with wide rear or vice versa is prohibited.

b. If it is a screw of **1 = 1** or **1 < 1**, then it shall be adjusted to narrow front and wide rear, and the dimension of the wide rear shall be greater than the total length of the screw.

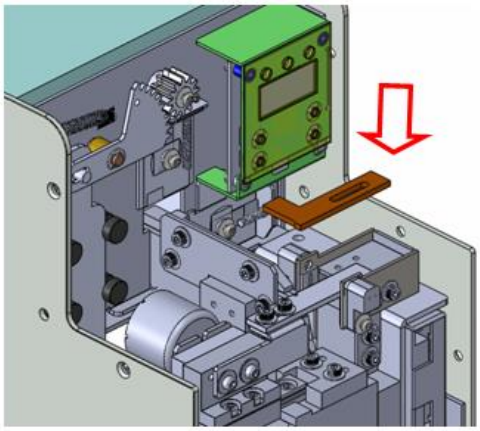
c. During the adjustment of the clearance at the front of the tracks, the screws in **Step 1** shall be fastened flatly.

Track Installation

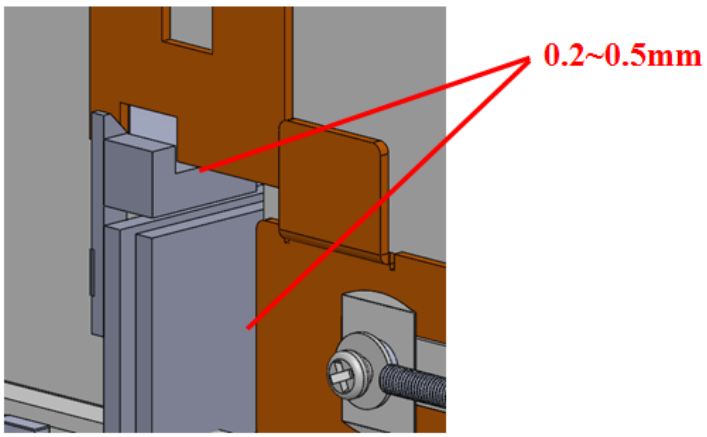
1. Install the adjusted track on the horizontal conveying vibration motor seat, and adjust the distance; the distance away from the opening of the flat conveying device board is approximately 0.2 ~ 0.5mm. Then, fasten the fixation screws.



2. Install the horizontal conveying device board 4, and fasten the screws.



3. Adjust the upper and right gates at a distance of approximately 0.2 ~ 0.5mm from the track.



Notes

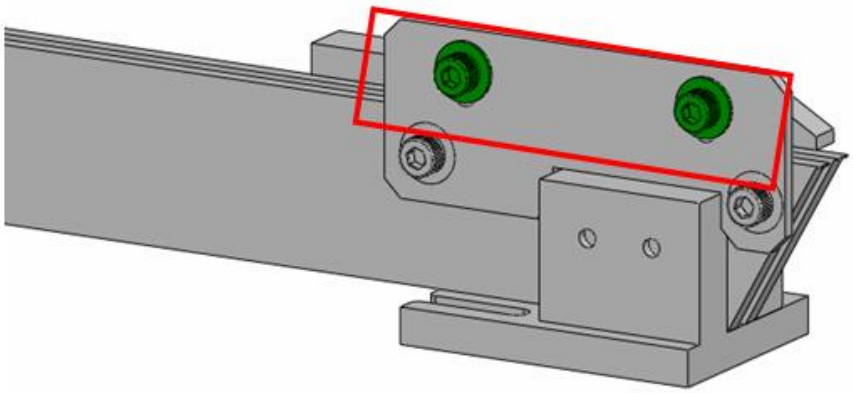
a. During the installation the track, a clearance of 0.2 ~ 0.5mm shall be kept from the horizontal conveying device board (opening) such that no contact shall be formed therebetween.

b. If the track cannot be installed successfully, please check whether the container funnel is installed at an overly low position.

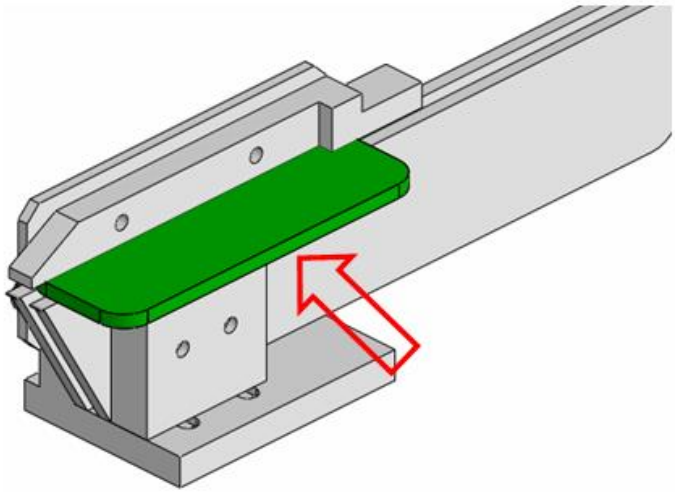
c. The upper and right gates shall be kept at a clearance of 0.2 ~ 0.5mm from the track.

Adjustment of Keep Board

1. Unfasten the screws on the horizontal conveying keep board for securing the keep board.



2. Use the jig plate to adjust the height of the keep board, and fasten the screws in **Step 1**.

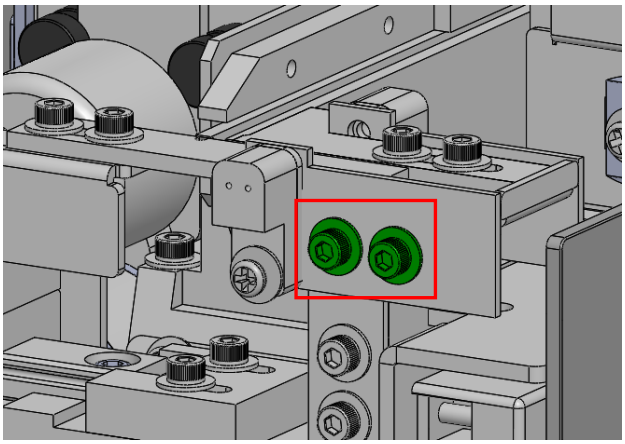


Notes

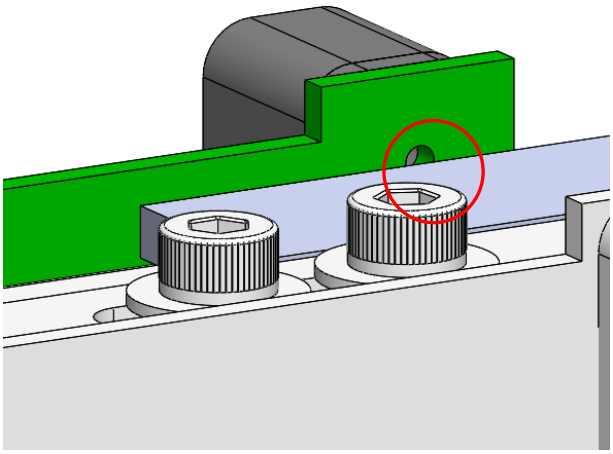
a. During the adjustment of the keep board, the screws in **Step 1** shall be fastened flatly in order to prevent loose of screws during the use thereof.

Adjustment of Infrared Device

1. Unfasten the SENSOR (reception) securement base screws.



2. Adjust the infrared hole position (reception) to expose half of the hole, and then fasten the screws in **Step 1**.

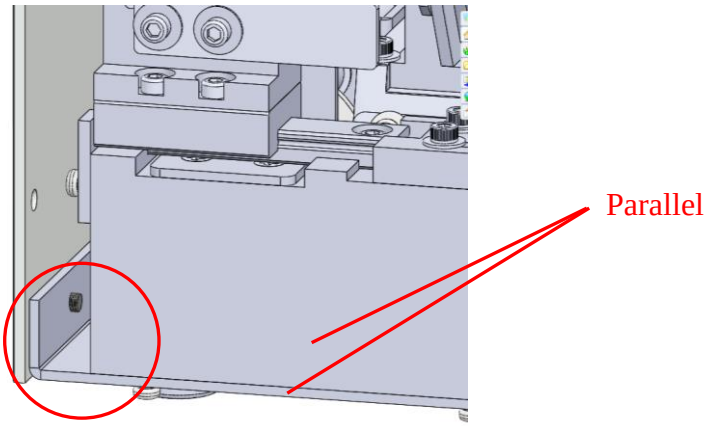


Notes

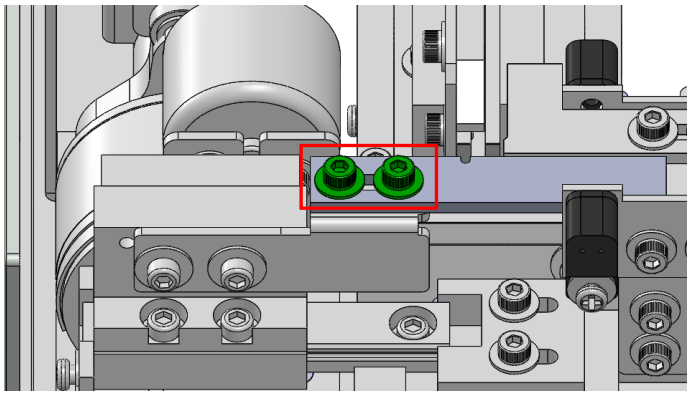
a. Please make sure that half of the SENSOR (reception) hole position is exposed; in case where screws cannot be detected, then appropriate adjustment can be made.

Adjustment of Dispensing Mechanism

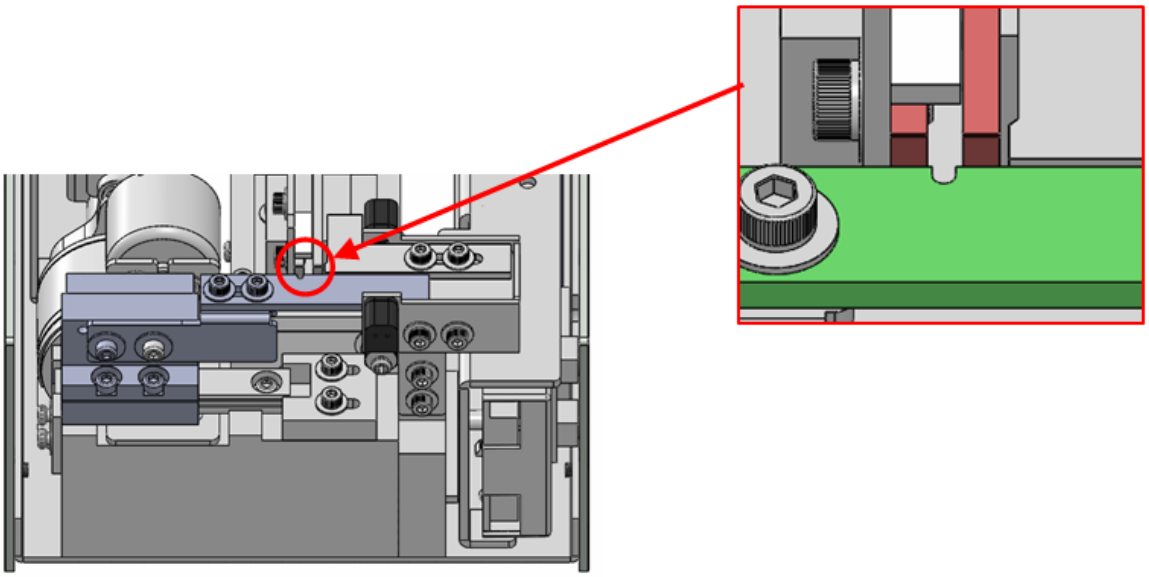
1. Adjust the dispensing mechanism toward the left to be at a minimum clearance with the base plate, and ensure that the front end of the dispensing mechanism is parallel with the front end of the base plate.



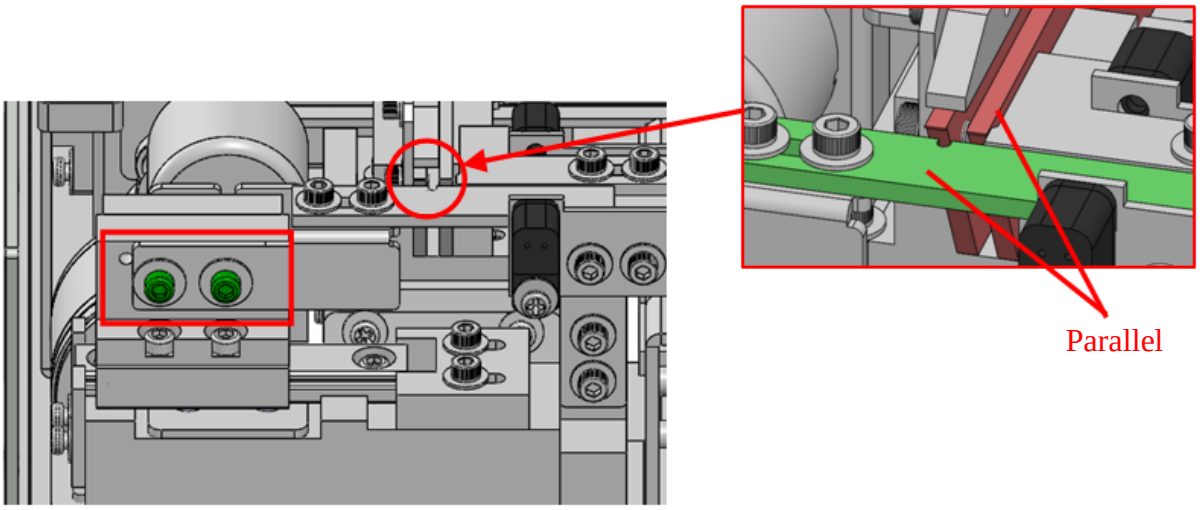
2. Unfasten the fixation screws on the horizontal conveying device board (opening).



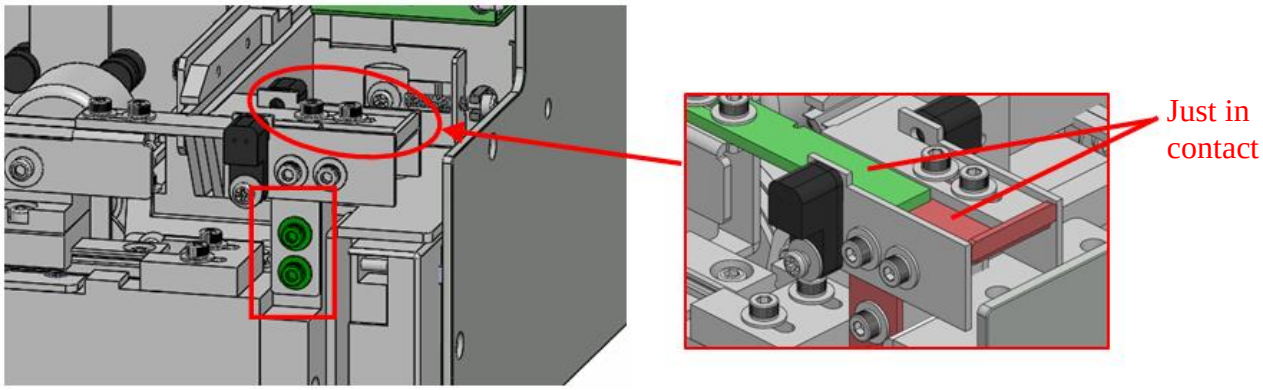
3. Align the horizontal conveying plate opening with the track center, and ensure the sliding track slides to the leftmost end at this time; then, fasten the screws unfastened in **Step 2**.



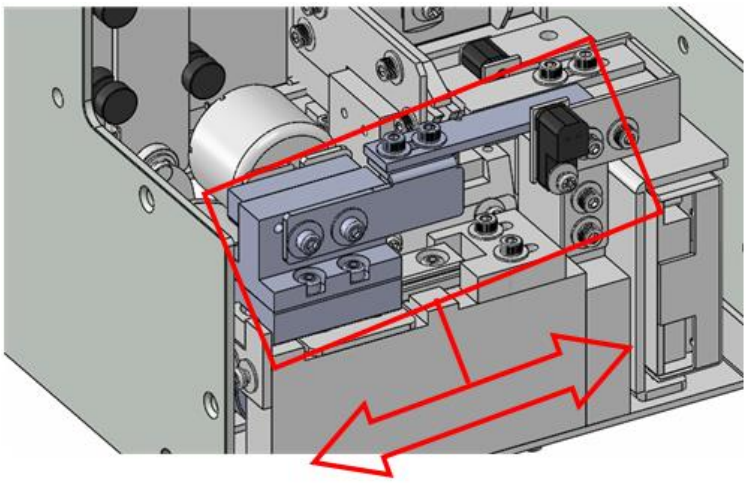
4. Unfasten the screws of the securement plate of the horizontal conveying device board (opening), and adjust the opening to be basically parallel with the front end of the track; it is prohibited to be higher than the plane at the front of the track.



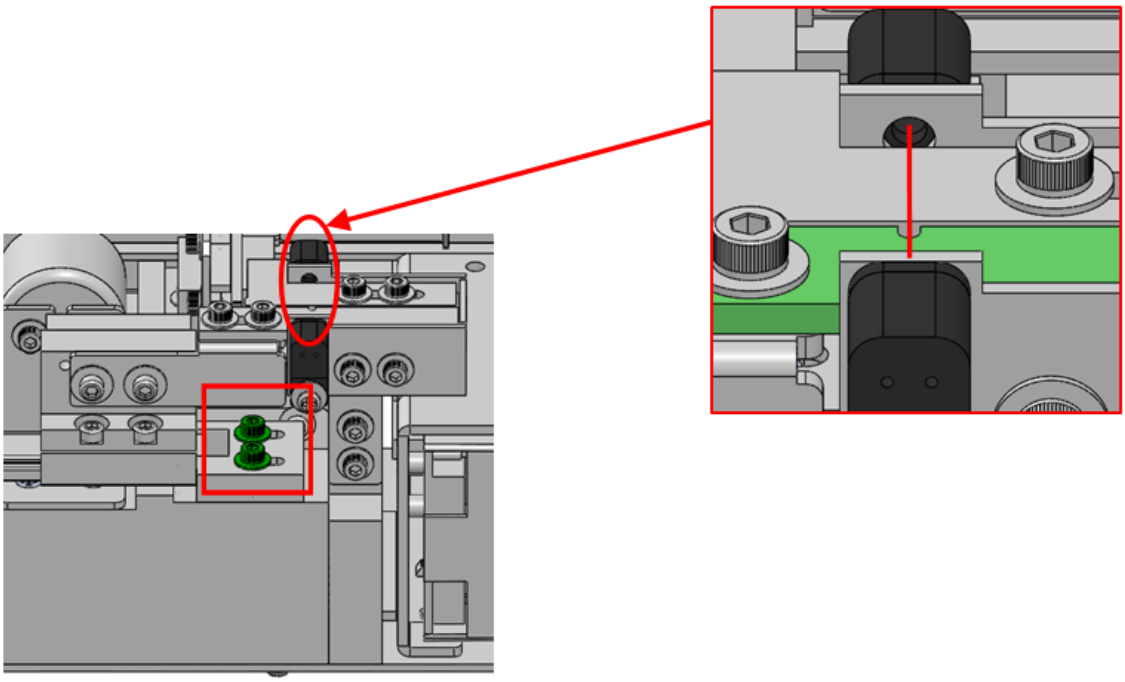
5. Unfasten the infrared securement base screws, adjust the base height such that it is just in contact with the horizontal conveying device board (opening).



6. Slide left and right, it is acceptable as long as the sliding track slides smoothly.



7. Unfasten the sliding track limiter screws, adjust the horizontal conveying device such that the opening stops at the infrared projection center, and then fasten the screws.



Notes

a. The horizontal conveying board (opening) shall be aligned with the track center, and the top plane shall not be higher than the top plane of the front end of the track.

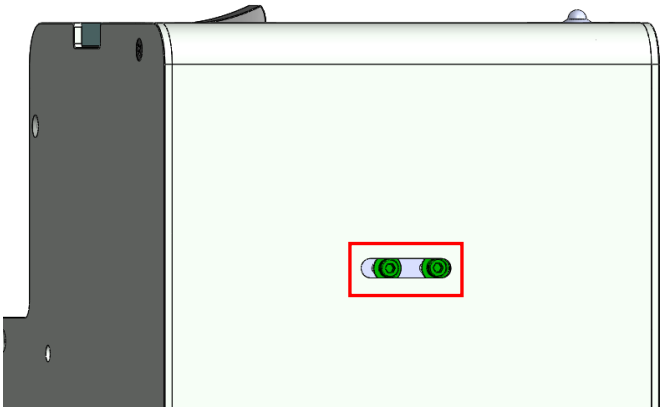
b. The completely adjusted track shall slide smoothly.

c. When the sliding track slides to the rightmost end, the horizontal conveying device (opening) shall be aligned with the SENSOR infrared projection center.

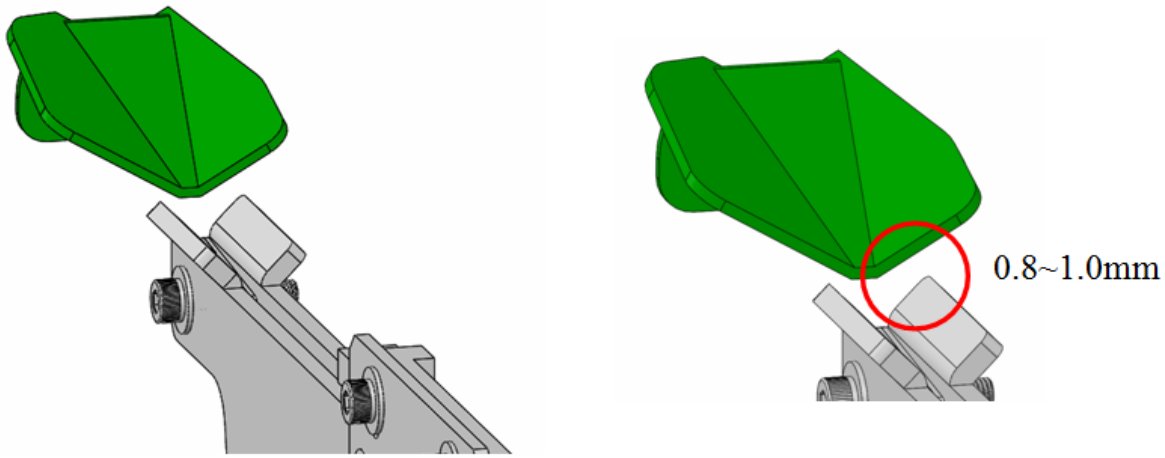
Adjustment of Container Funnel Inside Cylinder

The container funnel is located at the track rear and fastened onto the cylinder vertical wall, which is used for receiving screws falling from the cylinder and guiding such screws onto the track.

1. Use the equipped hex-key wrench to unfasten the hex-key screws at the rear of the machine.



2. Adjust the V shape of the container funnel to align with the track center, and the distance between the container funnel and the track shall be approximately 0.8 ~ 1.0mm.

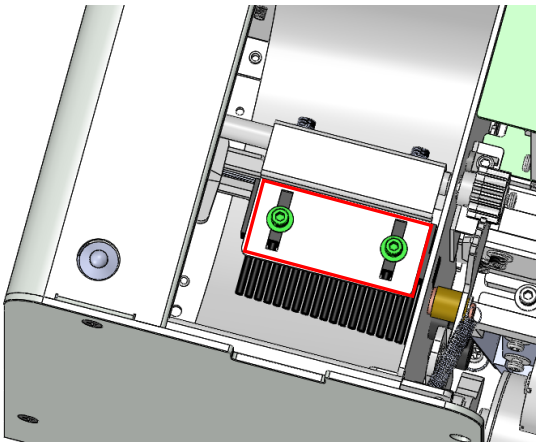


Notes

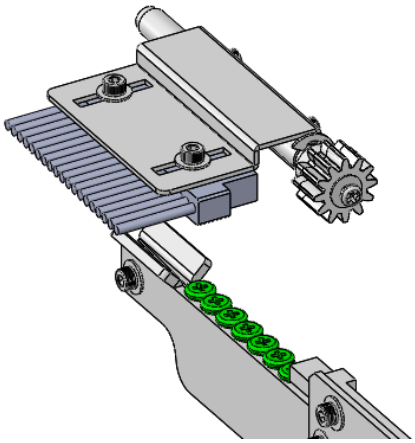
a. The container funnel shall be kept at a clearance of 0.8~1.0mm from the track rear and shall be aligned with the track center.

Adjustment of Brush

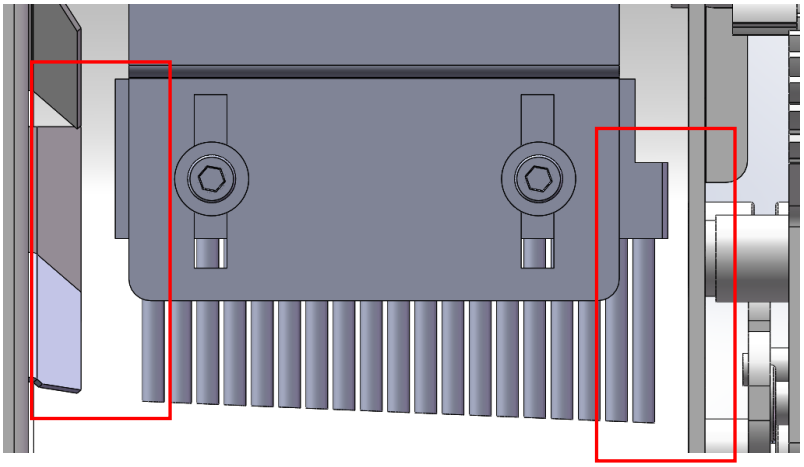
1. Adjust the brush to the level position, and unfasten the brush securement board screws.



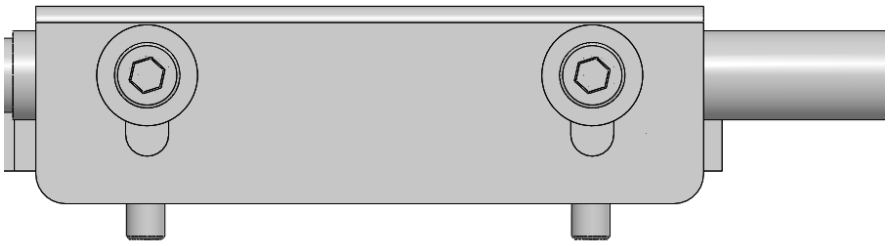
2. Place 5 ~ 8 screws inside the track at the rear of the keep board and adjust to the gate opening, unfasten the brush fixation screws, and manually adjust the brush such that during the rotation of the brush, the brush end just contacts with the screw heads. Fasten the screws in **Step 1**.



3. Adjust the front/rear position of the brush to the middle, and it is acceptable as long as the front and rear are not in contact with others.



4. The brush securement board and the brush driving shaft shall be parallel and shall be at the center location.



Notes

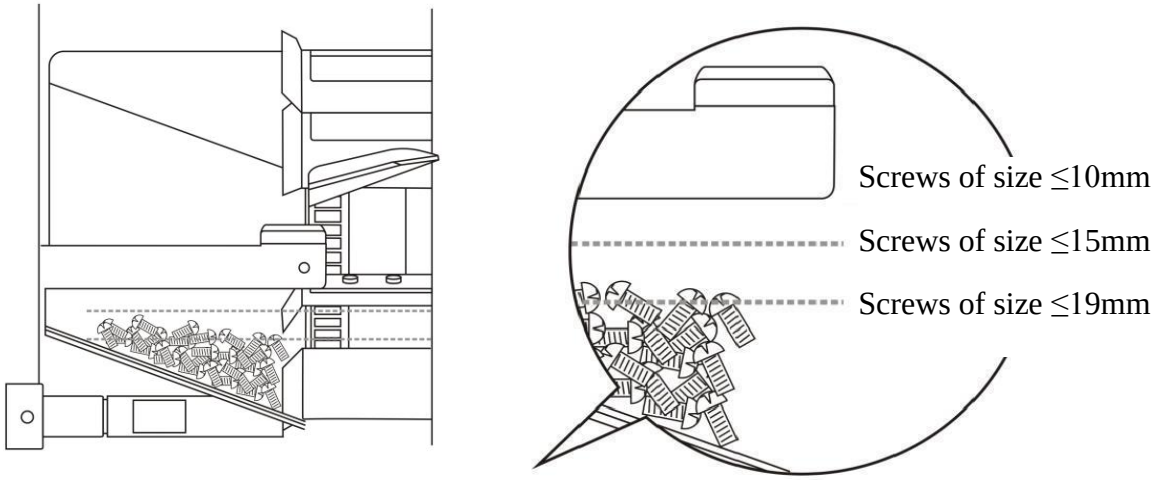
a. After the height adjustment of the brush is complete, manually rotate the brush again in order to ensure that it is able to operation properly.

b. If there is difference between the brush lengths at the front and rear (long at the front and short at the rear), then during the replacement of the brush, please ensure that it matches with the track.

Method of Use

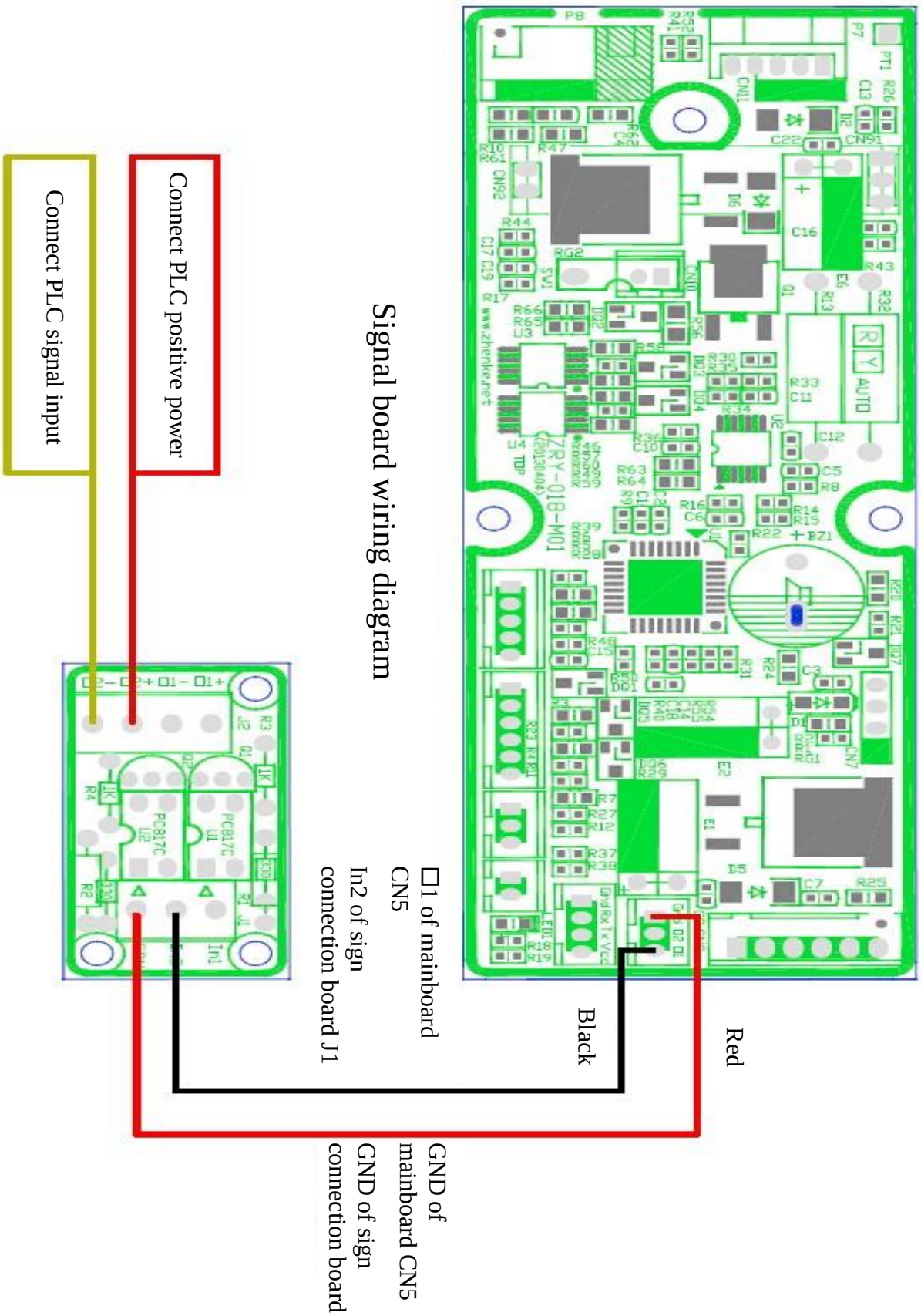
Quantity of Screws Placed In

Before placing the screws, the power shall be switched off first. Remove the feeding tank top cover, check whether there is any foreign object in the screws placed in, and place the screws into the feeding tank. The screws are added onto the two left and right sides equally to location at approximately 1 ~ 2mm from the lower edge of the track in front of the gate opening.



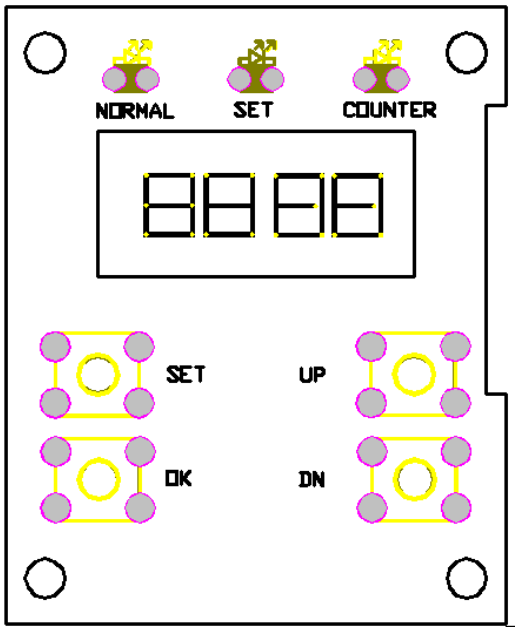
The quantity of screws is approximately 200 ~ 220cc in principle. Objects other than the screws used this time are foreign objects, which shall be removed first in order to prevent impacts on the normal function of the machine.

Signal Board Connection



Counter Interface Operation

1. Display Interface Schematic View



1. NORMAL indicator: Shows indication under normal mode
2. SET indicator: Indication under setting mode
3. COUNTER indicator: Indication under counter mode
4. CPU power-off memory function

2. Key Function

SET: Function switch key

OK: Confirmation selection key

UP: Lifting key

DOWN: Lowering key

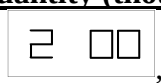
3. Operation Function Description

After connecting to the power for the first time, the system enters into the total count state, and LED display screen is lit up and displays 0000 (system default total count is 0000), and LED indicator NORMAL is lit up. At this time, if the machine starts operation, counting starts, and the total count range is 0~9999. Once it reaches the maximum value of 9999, it then starts to count from zero again, and counting cycle repeats in such manner. When the machine stops the operation or operates again after power-off, the previous count value is memorized.

1. SET key function description

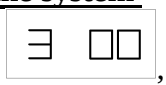
1-1. Under the standby or operation state, **press the SET key the first time**, the system enters into the count quantity setting, and LED display screen flashes. **Press the SET key the first time, the system enters into the total quantity (ten thousandth digit, thousandth digit) setting**, LED display screen flashes, and the LED indicator SET is lit up, followed by pressing UP or DN key to adjust the count quantity (system default count value is 00, and the setting range is 00 ~ 99). After 3S without pressing any keys or other key is pressed within 3S, the system confirms the setting is complete and a buzzer is sounded as an indication of the completion.

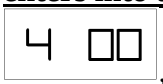
Under the standby or operation state, **press the SET key the second time, the system enters into the total count quantity (hundredth digit, tenth digit, single digit) setting**, LED display screen flashes  , and the LED indicator SET is lit up, followed by pressing UP or DN key to adjust the count quantity (system default count value is 000, and the setting range is 000 ~ 999). After 3S without pressing any keys or other key is pressed within 3S, the system confirms the setting is complete and a buzzer is sounded as an indication of the completion.

1-2. Under the standby or operation state, **press the SET key the third time, the system enters alarm count quantity (thousandth digit, hundredth digit) setting**, LED display screen flashes  , and the LED indicator SET is lit up, followed by

pressing UP or DN key to adjust the count quantity (system default count value is 00, and the setting range is 00 ~ 99). After 3S without pressing any keys or other key is pressed within 3S, the system confirms the setting is complete and a buzzer is sounded as an indication of the completion.

Under the standby or operation state, **press the SET key the fourth time, the system enters alarm count quantity (tenth digit, single digit) setting**, LED display screen flashes  , and the LED indicator SET is lit up, followed by pressing UP or DN key to adjust the count quantity (system default count value is 00, and the setting range is 00 ~ 99). After 3S without pressing any keys or other key is pressed within 3S, the system confirms the setting is complete and a buzzer is sounded as an indication of the completion.

1-3. Under the standby or operation state, **press the SET key the fifth time, the system enters into the alarm buzzer setting**, LED display flashes and displays  , and at this time., LED indicator SET is lit up; wherein 00 refers to the buzzer turn-on method, 01 refers to the buzzer turn-off method, and press UP or DN key to toggle for adjustment (system default method if 00). After 3S without pressing any keys or other key is pressed within 3S, the system confirms the setting is complete and a buzzer is sounded as an indication of the completion. Such loop repeats for operation.

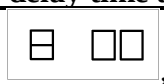
1-4. Under the standby or operation state, **press the SET key the sixth time, the system enters into the vibration delay setting**, LED display flashes and displays  , and at the same time, LED indicator SET is lit up; then, use UP or DN key to adjust the delay time setting value (system default delay time value is 01 (1s), and the setting range is 01 ~ 12s). After 3S without pressing any keys or other key is pressed within 3S, the system confirms the setting is complete and a buzzer is sounded as an indication of the completion.

1-5. Under the standby or operation state, **press the SET key the seventh time, the system enters into the vibration intensity setting**, LED display flashes and displays  , and at the same time, LED indicator SET is lit up; then, use UP or DN key to adjust the intensity setting value (system default intensity setting value is 01, and the setting range is 01 ~ 10, 5v ~ 10v for a total of 10 levels, and 0.5v per level). After 3S without pressing any keys or other key is pressed within 3S, the system confirms the setting is complete and a buzzer is sounded as an indication of the completion.

1-6. Under the standby or operation state, **press the SET key the eighth time, the system enters cylinder delay setting**, LED display flashes and displays  , and at the same time, LED indicator SET is lit up; then, use UP or DN key to adjust the delay time setting value (system default delay time value is 01 (1s), and the setting range is 01 ~ 12s). After 3S without pressing any keys or other key is pressed within 3S, the system confirms the setting is complete and a buzzer is sounded as an indication of the completion.

1-7. Under the standby or operation state, **press the SET key the ninth time, the system**

enters into the cylinder intensity setting, LED display flashes and displays  , and at the same time, LED indicator SET is lit up; then, use UP or DN key to adjust the intensity setting value (system default intensity setting value is 01, and the setting range is 01 ~ 10, 5v ~ 10v for a total of 10 levels, and 0.5v per level). After 3S without pressing any keys or other key is pressed within 3S, the system confirms the setting is complete and a buzzer is sounded as an indication of the completion.

1-8. Under the standby or operation state, **press the SET key the tenth time, the system enters horizontal conveying motor delay setting (the delay time after retrieving screws completely)**, LED display flashes and displays  , and at the same time, LED indicator SET is lit up; then, use UP or DN key to adjust the delay time setting value (system default delay time value is 01 (300ms), and the setting range is 01 ~ 08 (300ms - 2.4s)). After 3S without pressing any keys or other key is pressed within 3S, the system confirms the setting is complete and a buzzer is sounded as an indication of the completion.

1-9. Under the standby or operation state, **press the SET key the eleventh time, the system enters horizontal conveying motor speed setting**, LED display flashes and displays  , and at the same time, LED indicator SET is lit up; then, use UP or DN key to adjust the speed setting value (system default speed value is 01, and the setting range is 01 ~ 10). After 3S without pressing any keys or other key is pressed within 3S, the system confirms the setting is complete and a buzzer is sounded as an indication of the completion.

1-10. Under the standby or operation state, **press the SET key the twelfth time, the system enters into the vibration direction forward and reverse rotation setting**, LED display flashes and displays  , and at the same time, LED indicator SET is lit up, wherein 00 refers to the forward direction method, and 01 refers to the reverse direction method; press Up or DN to toggle for adjustment (system default method is 00). After 3S without pressing any keys or other key is pressed within 3S, the system confirms the setting is complete and a buzzer is sounded as an indication of the completion. Such loop repeats for operation.

2. Under the power-off state of the system, the count value set and the work state before power-off are memorized.

3. Under the standby or operation state, press the UP key and the DOWN key together for 3S, the count total number is displayed and a buzzer is sounded; after 5S or press the OK key to return to the current state. During the display of the count total number, press the SET key to clear the count total number to zero and a buzzer is sounded; after 5S or press the OK key to return to the current state.

4. When the system count reaches the alarm count value, the buzzer is sounded and the LED indicator COUNTER flashes; press SET to cancel the alarm.

5. Under the standby or operation state, press the SET key and OK key together for 3S, the system returns to the factory setting value and a buzzer is sounded; after the LED screen and indicator flashes at 1Hz for 3S, a buzzer is sounded.

Common Malfunction and Simple Resolution

In the event of malfunction, please shut down the power immediately and perform subsequent inspection.

Situation	Cause	Resolution method
After switch on the power, no action or abnormal sound occurs	Power not plugged in or loose	Check whether transformer and power cable are normal.
	Excessive amount of screws placed into the container tank	Remove the excessive amount of screws.
	Switch, motor, PCB board malfunction	Replace switch or motor or PCB board.
	Screw(s) falling into the machine	Remove screw(s) inside the machine.
	Infrared device misalignment	Adjust the infrared device alignment unit.
	Infrared device blocked	Remove obstacles.
Cylinder not operating	Cylinder motor malfunction	Replace cylinder motor.
	Gear jammed by foreign object(s) or gear rupture	Remove foreign object(s), replace the unit.
Screws fail to slide out from the track	Mismatch between the track clearance and the screw	Adjust the clearance width at the left and right boards of the track.
	Gate opening with screw(s) in abnormal orientation, brush fails to remove such screw(s)	Adjust brush height.
	Gate opening too small	Adjust upper and right gates.
	Keep board height insufficient	Adjust keep board height.
	Vibration motor not operating	Replace the vibration motor.
No signal output	Relay board burnt or connecting cable loose	Use multimeter to check whether there is a signal. 1. If there is a signal, it means the connecting cable is loose, please re-connect again. 2. If there is no signal, it means the relay is burnt, please replace the relay board with a new one.
	Mainboard burnt or connecting cable loose	Use multimeter to check whether there is a 5V output. 1. If there is a voltage output, it means the connecting cable is loose, please re-connect again. 2. If there is no voltage output, it means the mainboard is burnt, please replace the mainboard with a new one.
Alarm during switching on, and red light constantly lit up	Mainboard burnt	Replace the mainboard with a new one.

Maintenance and Cleaning

Before performing maintenance and cleaning, please be sure to switch off the power first.

Brush cleaning and maintenance: Use dry cotton cloth to wipe the front end of the brush in order to remove dirt. Manually rotate the brush to check whether it is damaged such that it cannot contact with screw heads and adjust its height. For brush worn out to form no contacts with screw heads, it shall be replaced with a new one.

Track cleaning and maintenance: Remove the track from the machine, and use cotton dipped with alcohol or cleaning naphtha to wipe the track, and the screw sliding surface inside the track in particular. Use the equipped hex-key wrench to check whether the screws at all parts are fastened tightly.

Machine cleaning and maintenance: After cleaning the track, remove all screws foreign objects fall into the machine, in particular, the locations at the parts of the motor, PCB board and gears etc.

Selection and purchase of accessories:

Please use spare parts of the original manufacturer; otherwise, the normal operation of the machine may be affected in the future.

Other:

When there is a need to use screws of special shapes, please contact us immediately.

Warranty Clause

In case of product malfunction, please contact us.

The warranty period is 6 months after the purchase (calculated as 8 hours of use per day). During such period, in case of any malfunctions, please contact us.

❖ Precautions

1. **Where there is repair due to the following conditions, repair fee may be collected depending upon the condition**

   Malfunctions caused by improper method of use, self-modifications or changes made by customers.

   Malfunctions caused by issues unrelated to the design of the product.

   Spare parts fees and service fees for replacement of consumable parts (brush, motor, track etc.)

2. **Under the following condition, the warranty repair becomes void automatically**

   Damages due to erroneous or improper operations, accidents or natural calamities.

   Damages due to arbitrary repair or modification.

   Machine number or warranty card being converted, altered or removed.

   Fail to use spare parts provided by the original manufacturer etc.

3. **The Company only provides the warranty repair service during the working hours of the Company. In case where the user demands services at other time, under acceptable situation, special arrangement can be made but additional service will be incurred per time.**

4. **Unless the consent of the Company is obtained, the right of use shall not be transferred to others.**

Warranty Repair Card

Customer Name:	
Telephone:	
Address:	
Purchase Date:	
Dealer Seal:	
Machine Name	Automatic Screw Feeder
Model No.	
Instrument Serial No.	
Applicable Screw Specification	1.0 ~ 5.0mm
Power Source	DC IN 12V
Dimension	
Weight	

Remarks: