



*Micro*

# *Nejeana*

Automatic Panhead Machine Screw Feeder

## **Operation Manual**

NJN-052



Thank you for purchasing KOFU SEIBYO's Automatic Panhead Machine Screw Feeder Nejeana NJN-052.

This manual is intended to describe the operation of the product and important safety precautions.

For safety and operating comfort of this machine, be sure to read this Operation Manual and clearly understand the contents. This manual is also of help for handling an uncertain situation and malfunction in case it occurs. The product warranty is accompanied with this manual. Keep this manual available whenever necessary.

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[1] Overview of Nejeana (NJN-052)

Nejeana is designed to enhance screw fastening efficiencies and minimize burdens on workers.

This machine is excellent in feeding under head-short screws and thin collar-head screws.

Be sure to be well-versed in machine adjustment, described later, to make proper adjustments attuned to screw characteristics and allow this machine to deliver its performance fully.

Features of Nejeana (NJN-052)

- 1 Compact, slimmed-down, simple screw feeder superior in feeding hard-to-handle short L-sized screws
- 2 Support for screws ranging from M1.4 to M2.0<sup>5</sup> through bridge replacement and simple rail width control
- 3 Low-friction and less-soil design attributed to low hopper internal circulation
- 4 Easy removal of remaining screws and easy detection of foreign objects for screw switching

Safety The following safety precautions should always be observed to assure further safe operations.

## Safety Precautions

Read and understand "Safety" carefully before using the product for safety assurance. Observe the following precautions to protect workers, workers around, and property.

The following safety precautions should always be observed for safety.

1. Avoid the following conditions for machine installation.  
Locations exposed to dust, oil, moisture and vibrations
2. Do not control and disassemble the AC adapter with wet hands.
3. Stop using the machine when abnormal smoke, odor or noise is detected, and unplug the cord from the wall outlet.

(Attachment plug, adapter, connecting cord, and socket included)

 <h3 style="display: inline;">DANGER</h3>		<p>"DANGER" denotes that there is an imminent hazard which will cause serious personal injury or death, if disregarded and mishandled.</p>	
 <p>Prohibited</p>	<p>Do not plug too many leads into a single socket. <b>Potential fire and overheating will occur if disregarded.</b></p>	 <p>Prohibited</p>	<p>Do not modify, forcefully bend, and pull the AC adapter. No heavy object must be placed on the adapter. <b>Potential fire and electric shock will occur if disregarded.</b></p>
 <p>Prohibited</p>	<p>Be sure to use the specified power voltage (AC100V-240V) and supplied AC adapter only. <b>Potential fire, electric shock and damage will occur if disregarded.</b></p>	 <p>Prohibited</p>	<p>Do not touch the AC adapter with wet hands. <b>Potential electric shock will occur if disregarded.</b></p>
 <p>Prohibited</p>	<p>Do not touch the AC adapter during electrical storms. <b>Potential electric shock will occur if disregarded.</b></p>	 <p>Prohibited</p>	<p>Make sure the blade of the AC adapter is free of dust before plugging it into the wall outlet. <b>Potential fire and electric shock will occur if disregarded.</b></p>
 <h3 style="display: inline;">WARNING</h3>		<p>"WARNING" denotes that there is a hazard which may cause serious personal injury or death, if disregarded and mishandled.</p>	
 <p>Prohibited</p>	<p>Keep metal away from the opening of the machine. * In case the metal object enters the AC adapter, remove the adapter from the wall outlet and contact the dealer. <b>Potential fire, electric shock and damage may occur if disregarded.</b></p>	 <p>Prohibited</p>	<p>Keep from water. (Make sure that a water-filled container is kept clear of the machine.) * This machine is not water-resistant. In case water enters the machine, remove the AC adapter from the wall outlet and contact the dealer. <b>Potential fire, electric shock and damage may occur if disregarded.</b></p>
 <p>Prohibited</p>	<p>Do not disassemble and modify the machine. (Modification is prohibited by law.) <b>Potential fire, electric shock and damage may occur if disregarded.</b></p>	 <p>Prohibited</p>	<p>Remove the AC adapter from the wall outlet if smoke or abnormal odor occurs. <b>Potential fire and accident may occur if disregarded</b></p>
 <h3 style="display: inline;">CAUTION</h3>		<p>"CAUTION" denotes that there is a hazard which may cause minor personal injury or property damage, if disregarded and mishandled.</p>	
 <p>Prohibited</p>	<p>Keep the AC adapter cord and the machine away from flame. <b>Potential fire, electric shock and damage may occur if the cord sheath or the machine melts.</b></p>	 <p>Prohibited</p>	<p>Avoid unstable and vibration-prone areas. <b>Potential personal injury and damage may occur if the machine falls.</b></p>
 <p>Prohibited</p>	<p>Do not leave the machine in an area exposed to direct sunlight. <b>Potential fire may occur due to rise in internal temperature.</b></p>	 <p>Prohibited</p>	<p>Avoid areas subjected to abrupt changes in temperature <b>Potential damage may occur if disregarded.</b></p>
 <p>Prohibited</p>	<p>Avoid dust, dirt, and moisture. <b>Potential fire, electric shock and damage may occur if disregarded</b></p>	 <p>Do</p>	<p>Always hold the machine when removing the AC adapter. <b>Potential fire, electric shock and damage may occur if the cord is pulled.</b></p>



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Symbol of dos

## [2] Accessories

Accessories listed below are supplied in the product package.

Be certain all the accessories are packed with your machine.

### ● Operation Manual (this manual)

Read this manual thoroughly and gain a thorough understanding of machine operating information.

This manual must be kept available to users whenever necessary.

### ● M3 hexagonal wrench

This hexagonal wrench is used to adjust the vibrating part (alignment unit and rail) and rail stop sensor.

### ● Sensitivity adjustment slot screwdriver

Always use the dedicated Phillips screwdriver to adjust the sensitivity.

Failure to use the dedicated screwdriver may cause the slot's flutes to be damaged and disable adjustment.

### ● Power adapter

Supplied adapter (standard): AC100 to 240V/50Hz•60Hz (input), DC12V (output)

Use the supplied adapter only.

## [3] Names of Parts (NJN-052)

1. (Vibrating part)  
Standby alignment  
part

2. (Vibrating  
part) Bridge

3. Drum

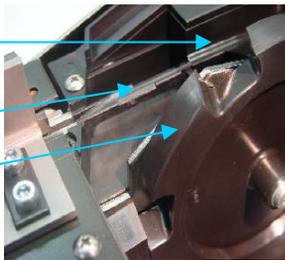


Figure 1

4. Bit guide

5. Stopper hook

6. (Vibrating  
part) Rail

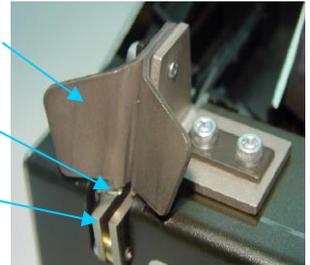


Figure 2

7. Frequency adjustment slot

8. Drum rotation adjustment slot

9. Feed speed adjustment slot

10. Power socket

11. Ground terminal

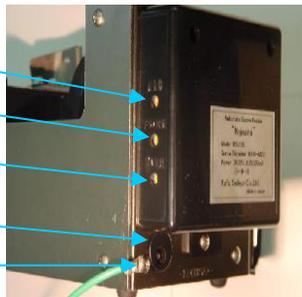


Figure 3

## [4] Bridge (See Fig. 1)

New NJN-052's bridge structure allows the alignment unit in earlier version NJN050 to be adjustment-free.

\* To change a screw nominal diameter, be sure to use a bridge and spacer of the proper size.

## [5] Adjustment and Handling

### 5-1 Adjustment slots (See Fig. 3)

#### \*Slot 9: Feed speed adjustment

This is used to adjust the screw feed speed and control oscillations (amplitude). Oscillations heighten when the screwdriver is turned clockwise, and potential fall of screws increases with increase in oscillations.

#### \*Slot 8: Drum rotation adjustment

This is used to adjust the amount of screws to be scooped up with the rotating drum.

Rotational speed increases when the screwdriver is turned clockwise.

#### \*Slot 7: Frequency adjustment

This is used to adjust the screw feed speed and screen out defective screws, used in combination with Slot 9. (Frequency increases when the screwdriver is turned clockwise and decreases after reaching a peak.)

### 5-2 Normal slot adjustment (See Fig. 3)

**Be sure to use the supplied adjustment screwdriver for slot adjustments.**

1. Maximize feed speed (adjustment slot 9).
2. Find the maximum frequency, a resonance point, (oscillations developed) with the use of Slot 7, and turn the screwdriver 20% counterclockwise.
3. With the feed speed adjustment slot (9), re-adjust oscillations.
4. With the drum rotation adjustment slot (8), feed an adequate amount of screws.

\* Repeat Steps 3 and 4 as monitoring the flow of screw feeding.

### 5-3 Bit guide unit adjustment (See Figs. 4, 5)

1. Loosen the height adjustment bolts and raise the bit guide to place a few screws on the rail.

Hold the screws to keep them from sliding on the bottom of the bit guide and the screw heads from overlapping.

It is recommended to place a piece of paper on the screws, tighten them and remove paper for obtaining adequate clearance.

2. Keep a screwdriver bit in the stopper (screw outlet port on the rail side) straight up. The bit is properly guided with the bit guide.

Loosen the horizontal positioning bolts to position the bit guide to align the bit with a recessed area of the screw head properly.

(This adjustment exerts effect on operation efficiency, which requires careful adjustment.)

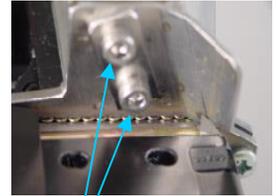
### 5-4 Sensor height adjustment (See Fig. 6)

1. Make sure the stopper hook is in close contact with the rail, and move the screw to the stop position with the stopper hook. Turn ON the switch and find an operation stop point (sensor ON/OFF).

For sensor height adjustment, loosen the sensor setscrew and adjust the height by turning the sensor positioning bolt while holding the screw head, as shown in Fig. 6. Make fine adjustments to allow the sensor to be triggered (oscillation and drum rotation stop) when the screw reaches the detection position.

Note 1: The sensor appears to be off (a state in which the switch is broken) if the sensor is positioned too low that causes the sensor to always be ON (despite no presence of screws).

Note 2: The sensor positioned too low may result in short delays in start after screws are removed.



Height adjustment bolt

The screw head must be properly guided at the outlet.

Figure 4



Figure 5

Horizontal positioning bolt

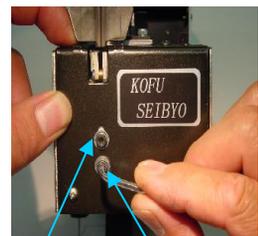


Figure 6

Sensor setscrew

Sensor positioning bolt

### 5-5 Drum inversion and sensitivity adjustment (See Fig. 7)

Drum rotation produces rotational failures including engagement of screw heads, entanglement of screws, besides torque in the normal range through scooping screws. The drum is designed to recover from failures by inversion.

The reverse sensitivity adjustment slot is used to adjust loads that is applied at the start of drum inversion.

The reverse sensitivity varies with rotational speed, and slight sensitivity drift exerts no effect on performance. Readjustment, however, may be required when substantial changes are made in the rotational speed.

[Checking and Adjustment]

1) Bring the drum to a stop forcefully by inserting an object in it and check reverse torque.

2) Use the adjustment slot to adjust the sensitivity properly.

(The sensitivity heightens when the screwdriver is turned clockwise.)



Figure 7  
Drum reverse sensitivity adjustment slot

### 5-6 Drum rotational speed and screw feed rate

Drum rotational speed is closely related to \*screw overfeeding and \*screw underfeeding.

\*Screw underfeeding: Screws are not filled in immediately after they are removed, which looks discrete.

\*Screw overfeeding: Screws overflow on the rail and bridge, or defective screws remain inside. (See Fig. 8)

Screws fed through drum rotation are spread on the standby alignment part and moved in the directions of the bridge.

A recommended drum rotational speed is when all screws are spread and a screw is replenished with a new one immediately after it is removed.



Figure 8  
Inversion is disabled on the rail because the feed rate is too high.

### 5-7 Screw feed rate and stop timer

If normal slot adjustment (see section 5-2) fails to complete adjustments and screw underfeeding/overfeeding persists, change the timer-controlled oscillation stop time.



Figure 9

Use the following procedure for a machine modification to change the stop time.

1. Undo screws (3 pcs.) and remove the board cover located on the back of the machine.

2. Remove the jumper wire (resistance of 0Ω) from the main board (left board) and replace it.

The jumper is factory-configured to JP4 (0.1 sec).

JP4 delay time 0.1 sec: Decrease in the screw feed rate with decrease in the time until oscillations stop

JP3 delay time 0.2 sec:

JP2 delay time 0.5 sec: Increase in the screw feed rate with increase in the time until oscillations stop

## 5-8 Operation check by continuous screw feeding

Continuous screw feeding (flow) is employed to check slot adjustment, instead of sampling a single screw. (Visit our website for the video of the feeder)

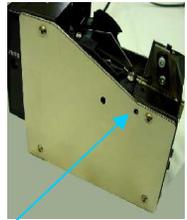
- 1) Remove the bit guide. (See Fig. 5).
- 2) Insert the hexagonal wrench into the wrench hole on the left side panel, and loosen the stopper screw. (See Fig. 10a)
- 3) Flip the stopper. (See Fig. 10b)
- 4) Loosen the sensor setscrew (see Fig. 6) and raise the sensor.

The above control allows continuous screw feeding for easy view of slot rotation and easy checking of defective screws fallen and of screw feeding (flow).

Reversing the removal procedure, assemble the feeder.

See : 5-4 Sensor height adjustment

: 5-3 Bit guide unit adjustment



Wrench hole Figure 10a

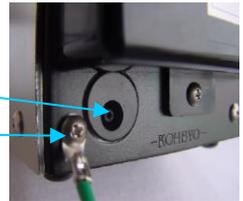


Figure 10b

## [6] Precautions for Use

### (1) Power supply socket

Make sure to insert the power adapter output plug (input: AC100 to 240v, output: DC12v) into the power socket securely. Improper plug insertion could cause potential malfunction. For long-term storage of the machine, make sure to remove the power adapter from the wall outlet. (See Fig. 11)



Power socket  
Ground terminal

Figure 11

### (2) Ground connection

Make sure the machine is well grounded by using this specified setscrew to prevent electric shock hazards or eliminate internal static buildup.

### (3) Maximum screw feed rate

Make sure the rotating drum is to be filled with screws in the hopper up to its center. Feeding screws must be free of contamination, foreign particles, foreign objects, and magnetization. The machine is designed for use with precision screws and becomes incapable of exerting its performance if a small gap is clogged with dirt or chippings. (See Fig. 12)



Figure 12

(4) Make sure all screws fallen onto the chassis are removed through the notches at four corners before performing screw changeovers.

(5) Failure to use the dedicated Phillips screwdriver to make slot adjustment may cause the slot's flutes to be damaged.

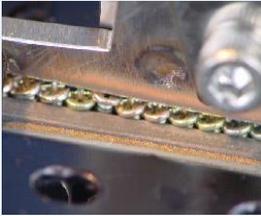
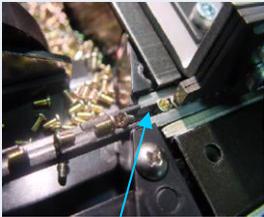
(6) When removing the cover for inspection and maintenance of Nejeana, always use a screwdriver mated to screws.

(7) A damper sponge is inserted into the spring of the vibrating part on the back of the machine. Do not remove it when performing internal inspection.

[7] Troubleshooting

Problem	Probable Cause/ Remedy
<p>The machine remains off after the power switch is turned on.</p>	<p>Make sure the power adapter is inserted into a wall outlet properly.            Make sure the power adapter output plug is inserted into the jack at the back.  <b>Major cause: The stop sensor is lowered excessively. (see section 5-4)</b>            The detection sensor should be:            (1) Raised to check according to the procedure for stop sensor positioning described in section 5-4.            If the problem persists,            (2) Any of the following errors may occur when the red LED does not come on and go out in response to sensor control (raised/lowered) with the back plate cover removed: the adapter, sensor, or detection circuit</p>
<p>No response to incoming screws</p>	<p>The stop sensor is raised excessively.            The detection sensor should be:            (1) Lowered to check according to the procedure for stop sensor positioning described in section 5-4.            If the problem persists,            (2) Any of the following errors may occur when the red LED does not come on and go out in response to sensor control (raised/lowered) with the back plate cover removed: the adapter, sensor, or detection circuit            (Incoming screws → Sensor ON → LED ON (red) → Oscillation/ Drum rotation OFF)            * The sensor malfunctions when it is exposed to sunlight. Block out the sunlight.</p>
<p>No drum rotation despite normal movement of the vibrating part</p>	<p>Drum rotation, breakage, wearing down and looseness of the round belt (Replacement)            Breakdown of the motor drive circuit and the motor (Replacement)            Make sure the drum rotation adjustment slot is not turned to the lowest.</p>
<p>Feed speed of the vibrating part varying with the amount of screws in the hopper</p>	<p>The oscillation intensity varies with the amount of screws in the hopper when the frequency adjustment slot is turned to the maximum resonance point (right).            The slot should be set to the maximum resonance point (left). (See section 5-2)</p>
<p>Low oscillation at the vibrating part</p>	<p>Re-adjust the adjustment slots, as shown in Fig. 3, respectively. (See sections 5-1, 5-2)            If the problem persists, check the gap of 0.1mm between the drum guide base plate and vibrating part &lt;pre-alignment, alignment unit and rail&gt; by inserting a 0.2-mm thickness gauge or a piece of copy paper into it for foreign objects and errors. (See Fig. 13)</p> <p>Screws caught in the gap between the front cover and rail            (Caution! It is a difficult-to-find problem.)</p>  <p>Drum guide base plate</p>

Figure 13

<p>Variations in drum rotation</p>	<p>(1) Contamination, wearing down and looseness of the round belt (Cleaning and replacement)  (2) Contamination of the grooves of the rotating pulley (Cleaning)  (3) The gap between the drum guide base (see Fig. 14) and the drum is clogged with dirt or is narrow if the drum fails to rotate smoothly, with the round belt removed, when it is turned with a finger. (Cleaning and gap adjustment)  (4) The hopper base plate is in contact with the drum. (Cleaning and gap adjustment)  (5) Contact the dealer for gap adjustment.</p>
<p>Abnormal screw feeding despite normal movement of the vibrating part (screws fed in a cluster, not spread)</p>	<p>(1) Re-adjust the adjustment slot (see Fig. 3).  (2) Replace all screws in Nejeana with new ones.  Defective screws are magnetized if normal screw feeding is observed after screw replacement. (Demagnetize it with the demagnetizer.)</p>
<p>Disrupted screw feeding despite normal movement of the vibrating part</p>	<p>(1) Check the vibrating part and surface for contamination.  Check the vibrating part, alignment unit, rails, hopper, and drum surface for contamination, oil, and metal impalpable powder. Always keep all surfaces that screws come into contact, especially the inside of the rail, clean. Screw feeding may be disrupted if disregarded.  Wipe them with a clean dry cloth.  Wipe them with a swab wetted with alcohol if considerably contaminated.</p>
<p>Screws are clogged in the screw head retainer of the bit guide.</p>	<p>(1) Bit guide height misaligned  Check to see that screw heads are kept from overlapping at the bit guide screw head retainer. Align the screws if overlapped. (See Fig. 15)  (2) Excessive screw inflow into the bit guide screw head retainer and rail inlet  (Obtain clearance at the rail inlet for reverse alignment.)  Adjust the drum to a minimum rotation that can stay in step with the screw dispensing speed to assure clearance required for alignment at the rail inlet.  Feed speed should be adjusted to allow screws to move forward as quickly as possible while keeping the screws on the rail when they go through the bridge.</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>Figure 14</p> </div> <div style="text-align: center;">  <p>Figure 15</p> </div> </div> <p style="color: red; text-align: center;">Obtain clearance at the rail inlet for screw reverse alignment after drum rotation is adjusted.</p>

Drum is locked by screw engagement.

(1) The detection circuit is triggered to cause drum inversion when a screw is engaged in the drum.

If no drum inversion is performed, remove the left side cover and check the pulley and belt for contamination and the belt for looseness and slippage. (Cleaning and replacement)

(2) The sensitivity of the drum engagement detection circuit is out of adjustment. (See Fig. 7) Adjust the reverse detection sensitivity, inserting a Phillips screwdriver into the slot at the right of the board and turning it. The sensitivity heightens when the screwdriver is turned clockwise.

To set the detection sensitivity, lock the drum (see (3)) and set the drum to return to normal rotation in 1 second after reversing rotation starts.

(3) Checking of drum inversion

Hold the rotating drum with the finger to lock it. Drum inversion takes place in a few seconds. Release the drum when you feel less resistance in it. (See Fig. 16)



Figure 16

## [8] Main Specifications

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Model	NJN-052
Input voltage	DC12V ( $\pm 5\%$ )
Feeding type	Electromagnetic, drum rotating and pumping type, drum inversion available
Applicable screws	M1.2 to M2.0 $\times$ 5 (panhead) [Special spec.: M0.6 to M1.0 for NJN-050/P]
Hopper capacity	Approx. 3400 M1.4 $\times$ 4 panhead screws
Outer dimensions	150 $\times$ 80 $\times$ 100h
Weight	Approx. 1.3Kg (machine only)
Power adapter	AC100v to 240v (center+, plug EIAJ-4)

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(The specifications are subject to change without notice due to continual improvements.)

[9] After-sales Service

This machine is accompanied with the product warranty attached to the end of this manual. Please make sure the warranty card is under seal of the dealer when you purchase the machine. (After-sales service is available for a product with a stamped warranty card.)

Please complete the warranty card and keep it along with this manual

The warranty period of the product is 6 months from the date of your purchase.

Repair shall be provided in accordance with the warranty period and preconditions defined in the warranty.

The repair service shall be available on a chargeable basis after the warranty period, to the extent that the machine can restore performance and function, on request basis.

Repair parts for NJN-052 are available at manufacturers for 6 years after production is suspended.

The repair service may be available after the expiration of the holding period depending on the location of the fault.

Please contact the dealer you purchased from for repair service.

**\*\*\* Provisions of This Warranty \*\*\***

KOFU SEIBYO CO., LTD.'s repair services shall be supplied on any problems caused if the machine is used under proper conditions according to the operation manual, with no charge, at the dealer you purchased from.

The repair service shall be available upon presentation of the warranty card.

KOFU SEIBYO's liability under this warranty shall not be available for the following troubles and damages.

- (1) Troubles or damages caused by mishandling or unauthorized modification
- (2) Troubles or damages caused by post-purchase transport and drop
- (3) Troubles or damages caused by natural disaster such as fire, earthquake, lightning strike, wind and flood, or pollution, salt damage and abnormal voltage
- (4) No presentation of the warranty card
- (5) Omission of the purchase date, dealer name and customer name on the warranty card, or tampering of entries

Product Warranty		Model: NJN-052
Dealer		
Purchase date	(Y/M/D)	
Customer name		
Customer address		



**KOFUSEIBYO CO.,LTD.**

1641-3 Tuijirai Showa-cho Nakakoma-gun

Yamanashi Japan 409-3853

E-mail: [info@kohbyo.co.jp](mailto:info@kohbyo.co.jp)

URL: <http://www.kohbyo.co.jp>