

Automatic Volumetric Screw Feeder

ORK Feeder

FM-36



Instruction Manual

Please read this manual before using the product.

FMMAE01

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1. Introduction

Thank you very much for purchasing our automatic volumetric screw feeder, ORK Feeder FM-36. Please check up the accessories supplied with it before using it.



Accessories

- Instruction manual: 1 copy
- AC adapter: 1 pc
- Allen wrench: 1 pc
- Screwdriver: 1 pc


Before using your product, please read this manual carefully to get the bets out of the product.

2. Operating Tips


Installation Location

-  **Caution** Install the feeder in a level, stable place.
If the feeder is installed in an unstable place, it could fall down, resulting in physical injury.
-  **Caution** Do not use the product in a combustible gas, explosive gas or damp atmosphere.
Use of the feeder in such an atmosphere would be most hazardous.


When Shutting Down or Before Leaving the Feeder Out of Service for Long

-  **Caution** When shutting down the feeder at the end of each day's work or before leaving it out of service for extended periods of time, disconnect the AC adapter from the plug outlet.


AC Adapter

 **Caution** Do not use any AC adapter other than the one that is supplied with the product.


Rail

 **Caution** Do not scratch the rail. Do not apply fats and oils to the rail.


Kinds of Screws That Must Not Be used

 **Caution** Do not use screws of any nonstandard mark or screws with fats and oils or dust adhering to their surfaces.


Precaution in Unloading Screws

 **Caution** Do not give undue force or impact to screws when unloading them.


Foreign Matters

 **Caution** Do not insert fingertips or foreign matters into the scoop chamber, clearance and hole while the feeder is in operation. You might suffer physical injury.
Do not put any screws other than those used and foreign matters into the feeder.

Unusual Operating Noises

 **Caution** If unusual noises are heard from the feeder while it is in operation, turn off the power switch and disconnect the AC adapter from the plug outlet.
If you continue using the feeder without correcting the unusual noises, fires, electrical shocks or physical injury could result.

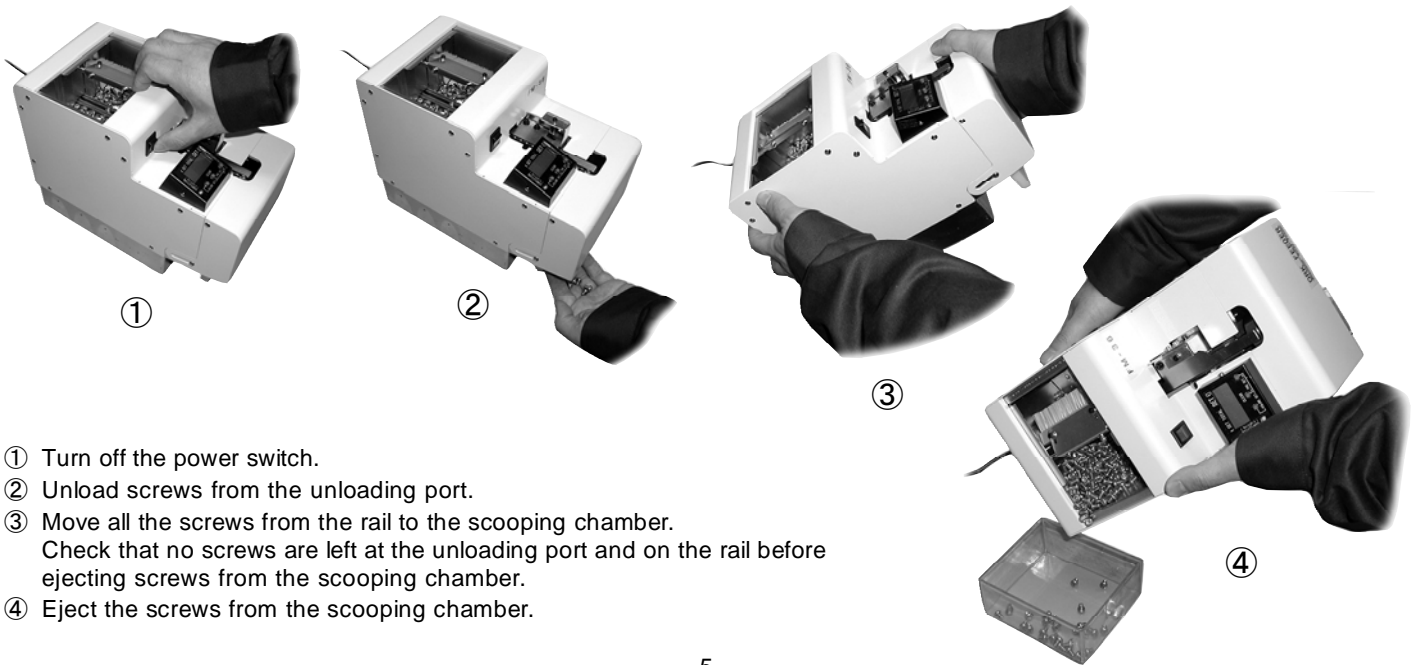
Do Not Repair, Overhaul or Tamper the Feeder

 **Caution** Please consult your dealer for repair services.

Precautions in Ejecting Screws

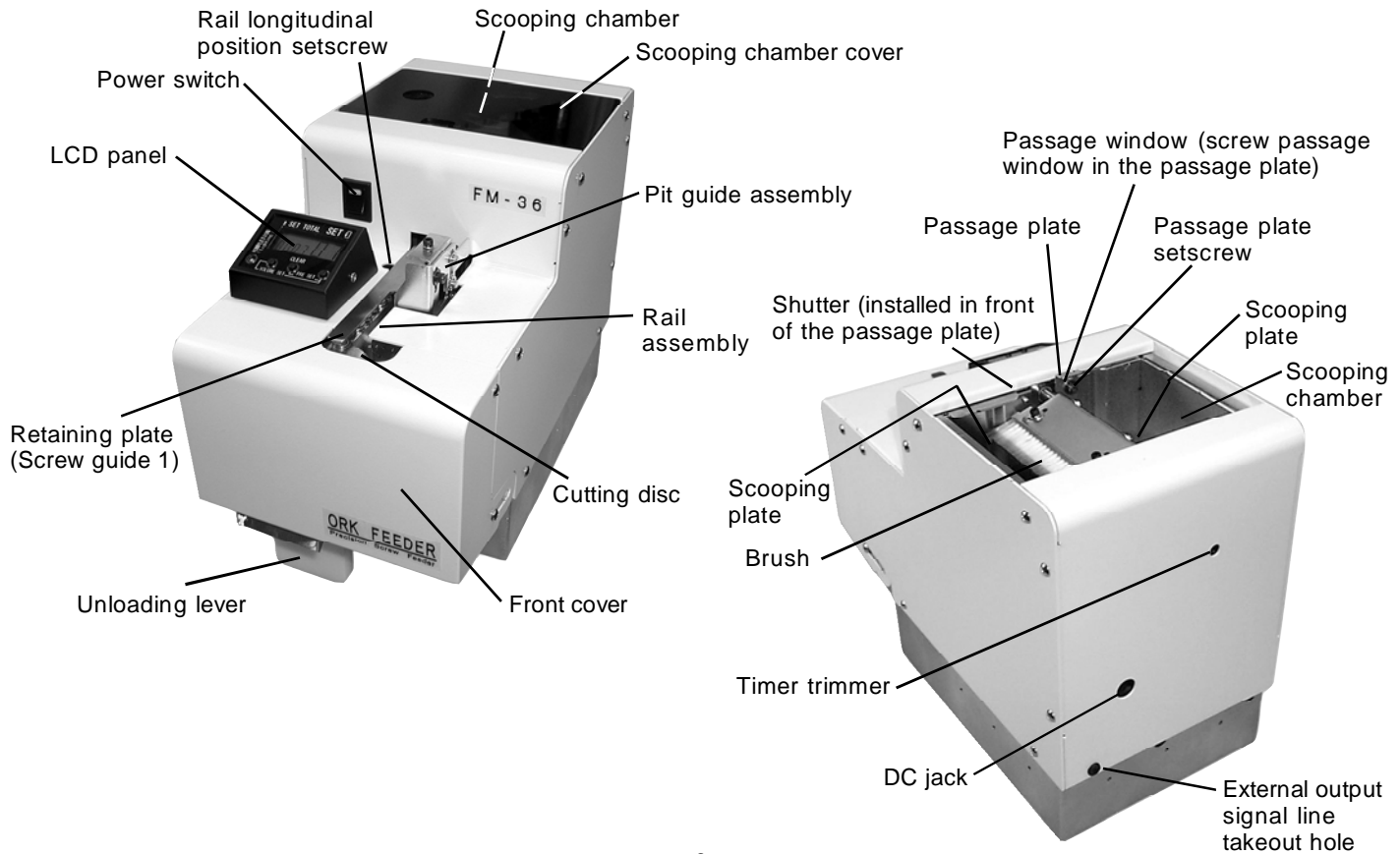
Use maximum care in ejecting screws from the scooping chamber for changing screw types, replacing the rail and so forth.

- ⊙ Screws could fall into the inside of the feeder if their ejection is mishandled.
- ⊙ If the feeder is tilted or turned back with screws being accumulated at the unloading port or left on the rail, screws could fall into the inside of the feeder.
- ⊙ Unload screws from the unloading port and move all screws from the rail to the scooping chamber, ejecting them from the chamber.
- ⊙ See the illustrations below in ejecting screws. Use maximum care in ejecting screws from the scooping chamber not to let them fall into the inside of the feeder.



- ① Turn off the power switch.
- ② Unload screws from the unloading port.
- ③ Move all the screws from the rail to the scooping chamber.
Check that no screws are left at the unloading port and on the rail before ejecting screws from the scooping chamber.
- ④ Eject the screws from the scooping chamber.

3. Component Nomenclature



4. Identifying the Unit Type

Before using the feeder, check to make sure that the nominal diameter of the working screw meets the unit type.

To identify the unit type, remove the front cover and the rail assembly and look at the labels affixed to the rail assembly and the cutting disc assembly.

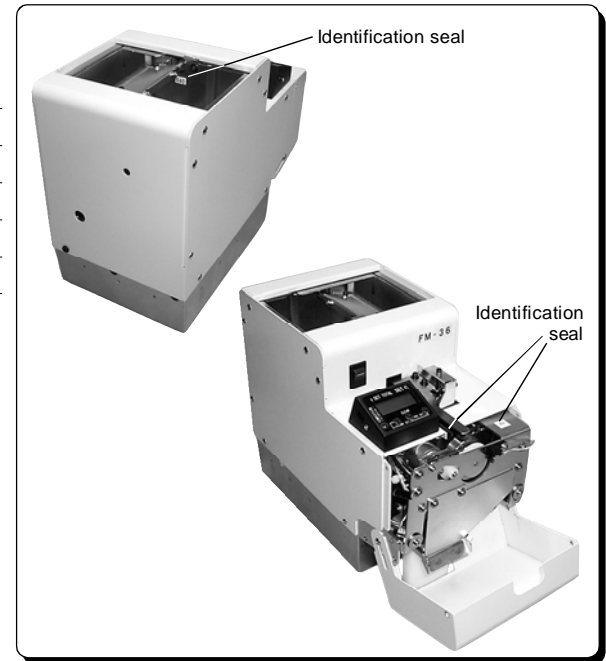
This feeder can be customized to screws of different sizes by replacing the rail assembly and the cutting disc assembly.

| Unit model | Unit type | Screw nominal diameter | Rail model number | Cutting disc model number | Passage plate model number |
|------------|-----------|------------------------|-------------------|---------------------------|----------------------------|
| FM-36 | FM-3630 | φ3.0 | FR30 | F30 | W3630 |
| | FM-3635 | φ3.5 | FR35 | F35 | W3635 |
| | FM-3640 | φ4.0 | FR40 | F40 | W3640 |
| | FM-3650 | φ5.0 | FR50 | F50 | W3650 |
| | FM-3660 | φ6.0 | FR60 | F60 | W3660 |

This feeder ships factory-adjusted to handle pan-head screws.

If the feeder requires adjustment to meet the kind of screw to use, make the following checks and adjustments beforehand:

- Brush check and adjustment
- Passage plate check and adjustment
- Retaining plate check and adjustment
- Rail assembly and cutting disc assembly check and adjustment



5. Getting the Feeder into Motion

5.1 Supply of Screws

Loading the feeder with too many screws could adversely affect their alignment and transfer.

The approximate maximum supply of screws is illustrated in the figure at right. Consult this figure in loading screws.

- Turn the power switch on, then off to move the scooping plate to the lower limit position.
- Load screws to a position about 2 to 3 mm lower than the top surface of the rail groove. Check to make sure that the top surface of the rail groove is not hidden by the screws.
- Adjust the supply of screws by observing the behavior of the feeder in operation.

This feeder comes with an overload protection circuit.

The protection circuit trips when the moving parts of the feeder are overloaded, as by screws being stuck in the moving parts or too many screws being put in the scooping chamber.

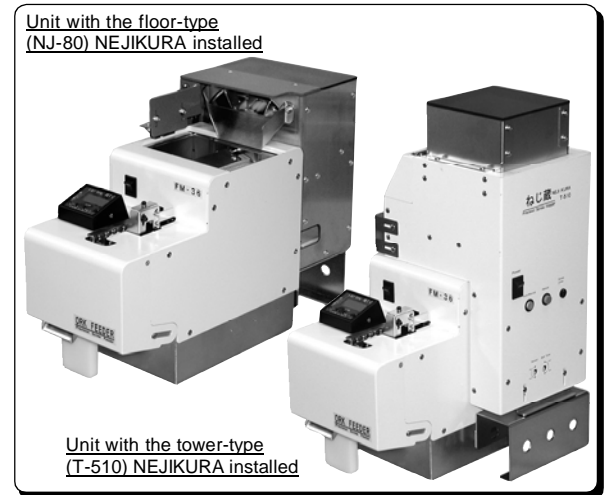
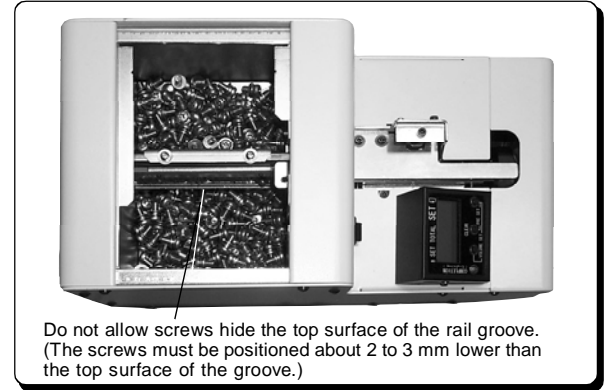
Actuation of the overload protection circuit

If the moving parts of the feeder are overloaded, the drive motor reverses for a predetermined period of time and then returns to forwarding. When the overload imposed on the moving parts of the feeder no longer exists during reversing, the drive motor returns to normal forwarding. If the overload imposed on the moving parts of the feeder persists during reversing, the drive motor reruns the sequence of reversing, forwarding, reversing, forwarding and so forth for a predetermined period of time before it is powered off. The cutting disc continues operating, though.

Thus explained, if the drive motor is powered off, turn off the power switch and remove the overload imposed on the moving parts of the feeder. For example, if you have put too many screws in the scooping chamber, correct the supply of screws. If screws or any other objects are stuck in the moving parts of the feeder, remove them.

After the overload has been removed, turn on the power switch to put the feeder back into operation (power-on reset).

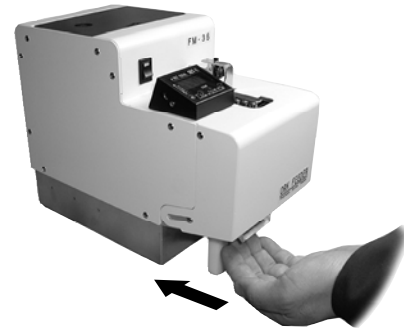
- A screw stock option, NEJIKURA is available which loads screws automatically to maintain a metered count of screws to be loaded. Please check us if you need this option.



5.2 Unloading Screws

This feeder ships factory-adjusted to handle pan-head screws. The feeder should require the following checks and adjustments depending on the kind of screw to use:

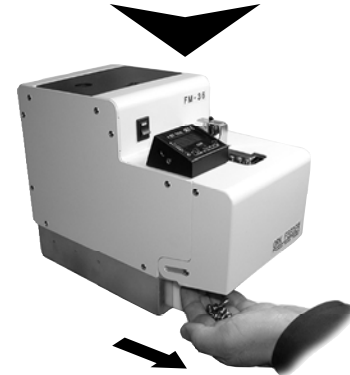
- LCD panel setting change
 - Brush check and adjustment
 - Passage plate check and adjustment
 - Retaining plate check and adjustment
 - Rail assembly and cutting disc assembly check and adjustment
-
- When the power switch is turned on, the scooping plate moves up and down for a predetermined period of time and then stops.
 - Manipulate the unloading lever to start the feeder.
 - When a preset count of screws has accumulated at the unloading port, the LED lights up, the buzzer sounds, and the feeder halts with a certain delay.
 - Manipulate the unloading lever to unload the preset (metered) count of screws and the LED goes out, with the feeder restarting.
 - If you manipulate the unloading lever before a preset count of screws is stored, the LED blinks and the buzzer continues sounding. The feeder then starts recounting the preset count of screws after a predetermined period of time.
-
- The LCD panel indicators and settings are backed up by batteries in times of power outages or when the power switch is turned off. Even in times of power outages, the operations described above will take place in the regular sequence.
-
- Push the unloading lever forward until it hits the stopper. The LCD panel LED does not go out and the feeder does not restart unless the unloading lever is in contact with the stopper.



While the LCD panel LED is on, push the unloading lever forward until it hits the stopper.

Screws will drop onto your palm at the same time.

The feeder, when just powered on, behaves differently depending on the state in which it had been powered off. The feeder won't start unless you manipulate the unloading lever.



Return your hand to front with care not to drop the screws off your palm.

The LCD panel LED goes out and the feeder restarts.

5.3 LCD Panel Indicators and Settings

◎ LCD Panel Indicators

<Preset count indicator>

- Shows a preset count of screws.
- Decrements each time a screw is unloaded at the unloading port.
- Is reset to the preset count when the preset count of screws has accumulated at the unloading port.
- Blinks while changes are being made to the preset count.
- Each time the preset count of screws has accumulated at the unloading port, the feeder stops. When the screws are unloaded from the unloading port, the feeder restarts.

<Preset total indicator>

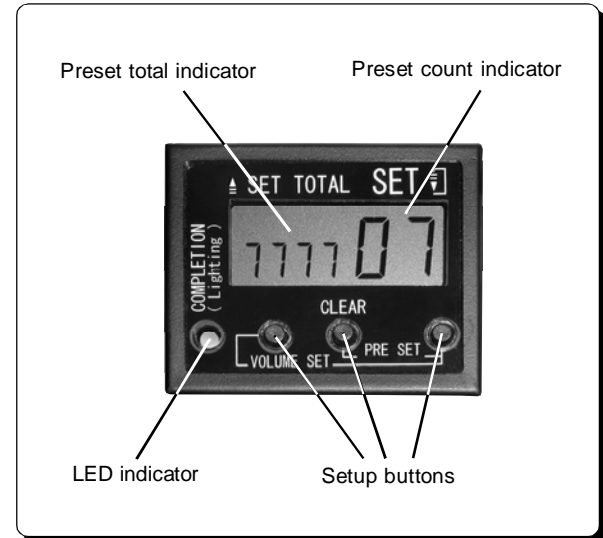
- Shows the total of preset counts of screws.
- Increments each time a preset count of screws are accumulated at the unloading port.
- Each time the count of screws has accumulated at the unloading port, the feeder stops. When the screws are unloaded from the unloading port, the feeder restarts.

<LED indicator>

- Lights up each time a preset count of screws has accumulated at the unloading port.
- Blinks when the unloading lever is manipulated while unloading a preset count of screws.
- Blinks while changes are being made to the sound volume.

<Setup buttons>

- Make changes to settings.
- The LCD panel indicators and settings are backed up by batteries in times of power outages or when the power switch is turned off. When the power is restored, however, you need to manipulate the unloading lever to start the feeder.



◎ LCD Panel Settings

LCD panel settings can be changed while the feeder is shut down after it has been powered on.

<Clearing the preset total indicator → CLEAR>

- Press the CLEAR button for about 2 seconds, and the buzzer sounds and you can reset the preset total indicator to "0000."

<Changing a preset count → PRE SET>

- A preset count can be changed by resetting the preset total indicator to "0000."
- Press the right-side PRE SET button to change the first digit. Press the left-side PRE SET button to change the second digit.
- Continue pressing a PRE SET button and the buzzer sounds about 2 seconds later and, another 2 seconds later, the buzzer sounds again with the corresponding digit in the preset count indicator blinking.
- Press the PRE SET button once momentarily while the digit is blinking to change that digit.
- If you do not press the PRE SET button while the digit is blinking, that digit is set. The digit is also set if you press the other PRE SET button while the digit is blinking.
- Cancel screws left at the unloading port after a setting change has been made and return them to the scooping chamber.

<Changing the sound volume → VOLUME SET>

- Press the VOLUME SET buttons for about 4 seconds at the same time and the LED blinks and you can change the sound volume.
- While the LED is blinking, press the right-side button once momentarily and the sound volume changes from medium, through high, no tone, and low, back to medium and so forth.
- If you do not operate the buttons, the LED stops blinking and the sound volume then in effect is set.

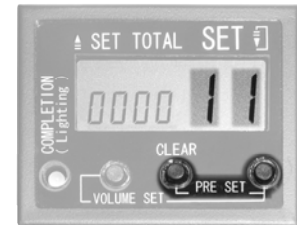
<<CLEAR>>

Resets the preset total to "0000."



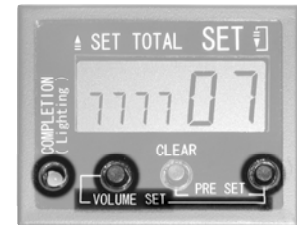
<<PRE SET>>

Sets a preset count.



<<VOLUME SET>>

Sets a sound volume.



5.4 Brush Check and Adjustment

⚠ Caution Turn off the power switch before performing check and adjustment work.

Put a screw to use in the scooping chamber and turn the power switch on, then off to place the screw into the rail groove.

- Turn the power switch on, then off to keep the brush roughly level as shown at right.
- Check that the tip of the brush rubs on the head of the working screw placed in the rail groove.
- The alignment and transfer of screws would be adversely affected if the brush is positioned too high or too low.
- If the brush requires adjustment, loose the brush height adjustment screws.
- If the front of the plastic part of the brush hits the passage plate, loosen the brush assembly mounting screw and adjust its longitudinal position.
- Run the feeder to check that the brush works correctly.

5.5 Passage Plate Check and Adjustment

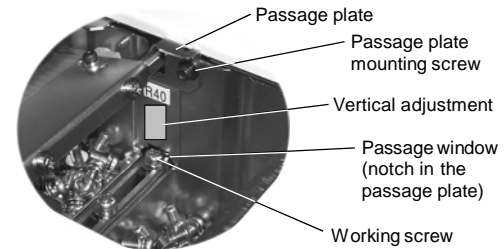
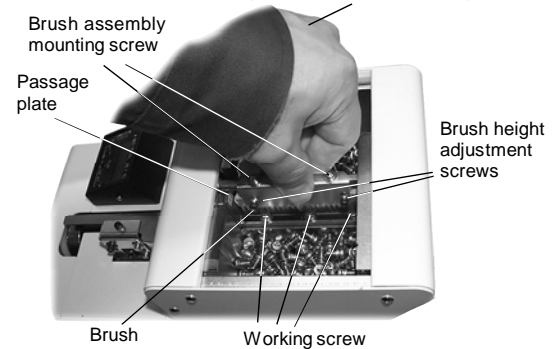
⚠ Caution Turn off the power switch before performing check and adjustment work.

- Check that the passage window is adjusted at such height that allows the working screw to pass barely.
- Too low a passage window would not allow screws to pass, and too high a passage window would make screws more liable to sticking.
- If the passage plate requires adjustment, loose the passage plate mounting screw.
- When the adjustment is complete, verify correct operations.

Turn the power switch on, then off to keep the brush roughly level.



Moving the brush by hand, check that the tip of the brush rubs on the head of the working screw placed in the rail groove.

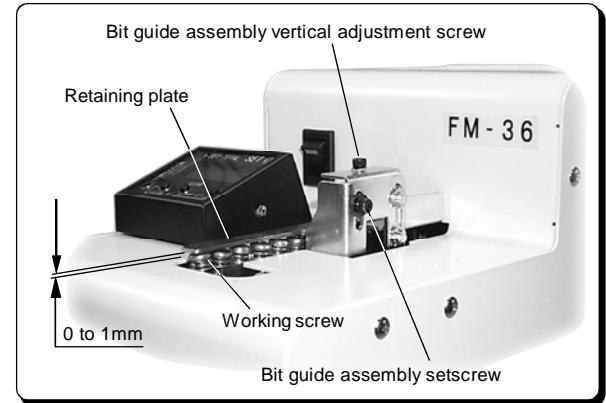


Check that the passage window is adjusted at such height that allows the working screw to pass barely.

5.6 Retaining Plate Check and Adjustment

Check the retaining plate position.

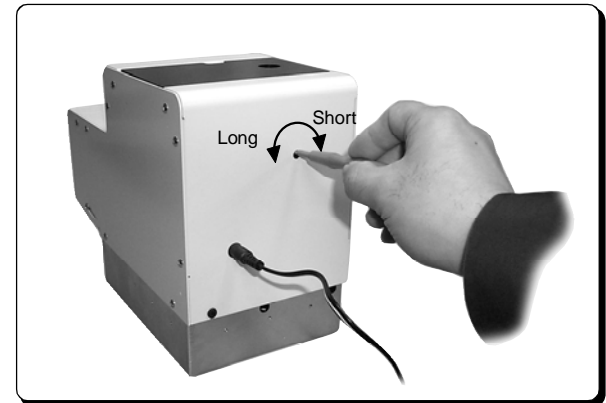
- Check that there is a clearance of about 0 to 1 mm between the head of the working screw in the rail groove and the retaining plate.
- Without a clearance, screws could be stuck. Too large a clearance could cause screws to overlap or cause them to pop out.
- If the retaining plate requires adjustment, adjust it.
- Loosen the bit guide assembly setscrew and turn the bit guide assembly vertical adjustment screw counterclockwise with an Allen wrench to move up the retaining plate or clockwise to move it down. Make adjustments for a clearance of about 0 to 1 mm between the head of the working screw.
- In clamping the bit guide assembly setscrew following the completion of the adjustment, do so to maintain a parallel clearance between the retaining plate and the rail. Ensure that the clearance in the rear of the feeder is not smaller than that in the front of the feeder.
- When the adjustment is complete, verify correct operations.



5.7 Timer Check and Adjustment

The working screw transfer speed varies depending on the screw type. A longer timer interval setting is recommended for screws with a lower transfer speed, and a shorter timer interval setting is recommended for screws with a faster transfer speed.

- This feeder is designed to halt screw transfer with a certain delay after a certain count of screws has accumulated at the unloading port. This delay can be adjusted with the timer.
- A timer trimmer is found in the rear of the feeder as shown at right.
- Turn the trimmer clockwise when the feeder is viewed from the rear to decrease the interval or counterclockwise to lengthen the interval.
- Adjust the trimmer within the range of its rotation, without using undue force.
- Use the provided screwdriver for adjusting the timer.
- Set an appropriate timer interval by verifying a correct feeder operation on working screws.



6. Maintenance

Caution

Turn off the power switch before performing check and adjustment work.
Eject all working screws from within the feeder before proceeding with maintenance work.

A dirty rail groove could slow down the working screw transfer speed. If the rail groove is found noticeably soiled, wipe it off with a thin cloth impregnated with alcohol.

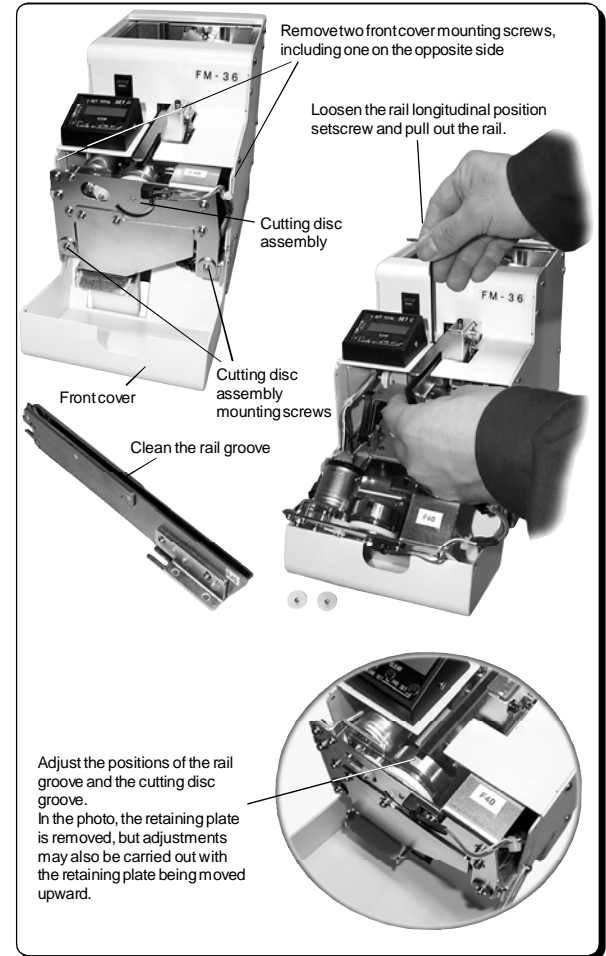
If the rail groove is difficult to clean, the rail can be detached from the feeder for cleaning. Before detaching the rail from the feeder, turn off the power switch and remove the screws from the scooping chamber (to prevent screws from falling out).

Remove two front cover mounting screws and move the front cover. Remove the cutting disc assembly mounting screw and then detach the cutting disc.
(See 7.3, “Replacing the Cutting Disc Assembly.”)

Then, loosen the rail longitudinal position setscrew and pull out the rail assembly to front. The rail should require replacement if its rail groove is soiled or flawed to impair its successful use.

If the rail assembly has been removed from the feeder, it is necessary to make positional adjustments with the tip of the rail and the cutting disc.

- Align the groove rail and the groove in the cutting disc with each other.
- Mount the cutting disc assembly to keep the top surface of the groove in the cutting disc lower than the top surface of the rail groove.
- Turn on the feeder and then make adjustments with the longitudinal position of the rail so its tip will not hit the cutting disc when the rail vibrates.



7. Replacing Parts

7.1 Replacing the Brush

⚠ Caution Turn off the power switch before performing check and adjustment work.

If the tip of the brush has worn to such degree that the brush can no longer brush away screws in an abnormal posture, replace with a new brush.

- Turn the feeder power switch on, then off to position the brush as shown at right and then remove the brush assembly. (Have the brush assembly positioned to ease the work of removing the mounting screw.)
- The brush assembly can be disassembled as shown at right.
- To reassemble the brush assembly, reverse the removal procedure.
- When the reassembly is completed, check to make sure that the front of the plastic part of the brush won't the passage plate when the brush assembly operates. A clearance of 0 is ideally recommended.
- For adjustment instructions, see 5.4, "Brush Check and Adjustment."

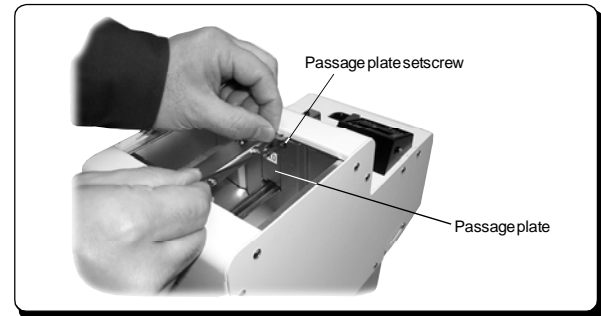
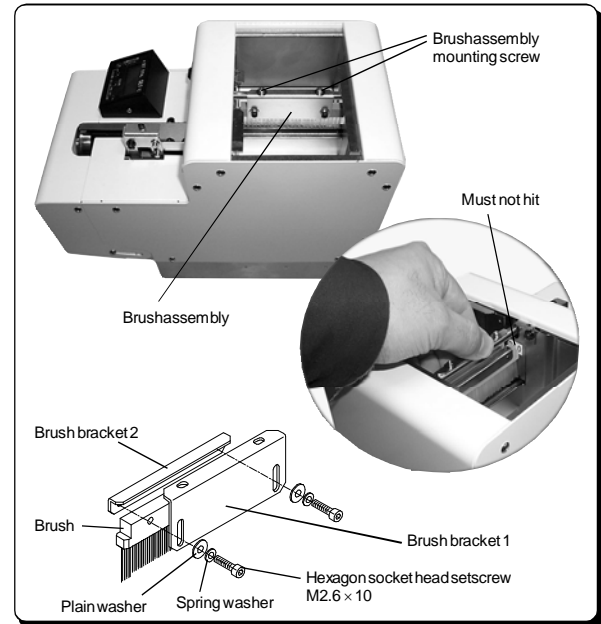
7.2 Replacing the Passage Plate

⚠ Caution Turn off the power switch before performing check and adjustment work.

When using screws of different nominal diameters, replace the passage plates for both the rail assembly and the cutting disc assembly.

- Remove the passage plate setscrew and then remove the passage plate.
- Keep the setscrew in a safe place.
- Install the passage plate in position with reference to the drafts on its both sides.
- After the adjustment, the passage plate requires adjustment to meet the kind of screw to use.

For adjustment instructions, see 5.5, "Passage Plate Check and Adjustment."



7.3 Replacing the Cutting Disc Assembly

⚠ Caution Turn off the power switch before performing check and adjustment work.

When using screws of different nominal diameters, replace the passage plates for both the rail assembly and the cutting disc assembly.

- Remove two front cover mounting screws.
- Slide the front cover along the skewed groove on the side to a front slantwise position. Then, turn the front cover downward.
- Remove the motor connector and the sensor connector.
- Remove the cutting disc assembly mounting screw and then remove the cutting disc assembly.
- To reassemble the cutting disc assembly, reverse the removal procedure.
- The cutting disc assembly requires positional adjustments in relation to the rail groove. See the instructions below.

7.4 Replacing the Rail Assembly

⚠ Caution Turn off the power switch before performing check and adjustment work.

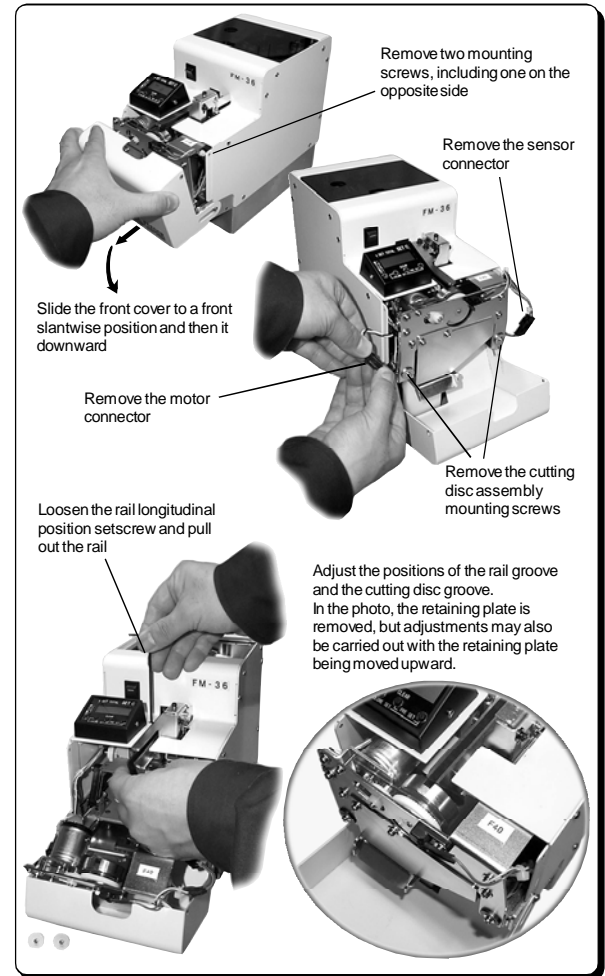
Eject all working screws from within the feeder before proceeding with replacement work.

The rail assembly in this feeder is easy to replace. The rail should require replacement if its rail groove is soiled or flawed to impair its successful use.


When using screws of different nominal diameters, replace the passage plates for both the rail assembly and the cutting disc assembly.

The rail assembly can be removed after the cutting disc assembly has been removed.

- Loosen the rail longitudinal position setscrew and pull the rail assembly to front.
- At reassembly, it is necessary to make positional adjustments with the tip of the rail and the cutting disc.
- Align the groove rail and the groove in the cutting disc with each other.
- Mount the cutting disc assembly to keep the top surface of the groove in the cutting disc lower than the top surface of the rail groove.
- Turn on the feeder and then make adjustments with the longitudinal position of the rail so its tip will not hit the cutting disc when the rail vibrates.



8. Points to Check Before Requesting Repair Services

 **Caution** Turn the power switch off before troubleshooting the feeder.

| Symptom | Cause | Action |
|--|---|--|
| <p>8-1 The feeder won't start when the power switch is turned on</p> | <ul style="list-style-type: none"> • Power is not available. • Screws that have accumulated at the unloading port have not been unloaded for a certain period of time. • The unloading lever has not been pressed firmly. • Too many screws have been put in the scooping chamber (overload protective circuit tripped). • Foreign matters (such as screws) have entered the inside of the feeder (overload protective circuit tripped). • AC adapter failure | <ul style="list-style-type: none"> • Check that AC adapter power connection. • Manipulate the unloading lever to unload screws from the unloading port. • Press the unloading lever firmly until it hits the stopper (LCD panel LED going out). • Adjust the timer trimmer. • Correct the supply of screws in the scooping chamber. • Remove the foreign matters. • Let our service handle the problem. |
| <p>8-2 Screws won't come flowing</p> | <ul style="list-style-type: none"> • Screws having a larger nominal diameter than specified have been loaded, or screws of different nominal diameters were present. • The supply of screws in the scooping chamber has diminished. | <ul style="list-style-type: none"> • Use screws of the specified nominal diameter. • Remove the screws of the different nominal diameters. • Correct the supply of screws in the scooping chamber. • Use of the NEJIKURA option is recommended. |

| Symptom | Cause | Action |
|--|---|---|
| <p>8-2 Screws won't come flowing</p> | <ul style="list-style-type: none"> • The brush cannot brush away screws in an abnormal posture. • The shank of a screw has entered the passage window. • Screws have been arrested in an unusual posture halfway in the rail. • The rail won't move longitudinally (due to screws stuck in clearances, for example). • Improperly adjusted timer trimmer | <ul style="list-style-type: none"> • Adjust the brush. Adjust the passage plate. Putting an appropriate supply of screws in the scooping chamber could fix the problem. • Remove unusual screws and then adjust the passage plate. • Remove the screws in an unusual posture. Follow the instruction given below to remove screws. In so doing, be careful not to scratch the rail groove and other components. Loosen the bit guide assembly setscrew. Move up the retaining plate. Remove the screws in an unusual posture. Then, adjust the retaining plate position. • Remove the screws stuck in clearances. If no screws are stuck in clearance , let our service force the problem. • Adjust the timer trimmer. |

| Symptom | Cause | Action |
|--|--|--|
| <p>8-3 Screws have fallen into the rail groove</p> | <ul style="list-style-type: none"> • Screws having a smaller nominal diameter than specified have been loaded. • Screws having a shorter overall length than specified have been loaded. | <ul style="list-style-type: none"> • Load screws of the specified nominal diameter. • Uncorrectable. • Consultation available on demand. |
| <p>8-4 Screws won't transfer smoothly on the rail</p> | <ul style="list-style-type: none"> • Narrow clearance between the retaining plate and the working screw head • Screws with a spring washer one level smaller than the specified nominal diameter of the rail have been loaded. • Dust and oils have attached to the rail. • The rail is not vibrating (due to screws stuck in clearances, for example). • Exhausted motor | <ul style="list-style-type: none"> • Adjust the vertical position of the retaining plate. • Replace with a rail matched to the thread size. Replace with a cutting disc matched to the thread size. • Clean the rail. • Remove the screws stuck in clearances. If no screws are stuck in clearance , let our service handle the problem. • Replace the motor. |
| <p>8-5 Screws in an unusual posture easily get through the passage window. Shanks easily enter the passage window.</p> | <ul style="list-style-type: none"> • Poorly adjusted passage plate • Too many screws have been put in the scooping chamber. | <ul style="list-style-type: none"> • Adjust the passage plate. • Correct the supply of screws in the scooping chamber. |

| Symptom | Cause | Action |
|--|--|--|
| <p>8-6 Screws cannot be unloaded at the unloading port</p> | <ul style="list-style-type: none"> • Screws have been arrested halfway in the rail. • Screws do not smoothly transfer from the rail to the cutting disc. | <ul style="list-style-type: none"> • Adjust the retaining plate position. • Adjust the groove position of the rail and the cutting disc. |
| <p>8-7 The feeder has halted abruptly.</p> | <ul style="list-style-type: none"> • The overload protective device has tripped. • Too many screws have been put in the scooping chamber. • Screws have been stuck in clearances. • Screws have not been unloaded from the unloading port. • The unloading lever has not been pressed firmly. | <ul style="list-style-type: none"> • Turn the power switch off, then back on. • Remove the overload. • Correct the supply of screws in the scooping chamber. • Use of a NEJIKURA option is recommended. • Let our service handle the problem if the feeder halts with a correct supply of screws. • Remove the screws stuck in clearance. • Manipulate the unloading lever to unload screws from the unloading port. • Press the unloading lever firmly until it hits the stopper (LCD panel LED going out). |

| Symptom | Cause | Action |
|---|---|--|
| <p>8-8 Scooping won't stop when a metered count of screws has been unloaded at the unloading port</p> | <ul style="list-style-type: none"> • Improperly adjusted timer trimmer | <ul style="list-style-type: none"> • Readjust the timer trimmer. |
| <p>8-9 Screws have fallen into the inside of the feeder</p> | | <ul style="list-style-type: none"> • Shake off the screws through the feeder seat. |
| <p>8-10 The feeder gets noisier than before</p> | <ul style="list-style-type: none"> • Moving parts are undergreased. | <ul style="list-style-type: none"> • Grease the moving parts of the feeder. – Recommended brand Dow Corning Asia Brand name: |

9. Principal Specifications

| | |
|---------------------|--|
| Power supplies | AC adapter input : AC 100 - 240V 50/60Hz output : DC 15V 1A |
| Physical dimensions | 130W × 254D × 210H (mm) |
| Weight | About 6 kgf |

| | | | | | | | Available screw table | | | | | | |
|-----------|------------|------------------------|----------------------------|---------------------------|----------------------------|---------------------------------|-----------------------|-------------|-------------|--------------|------------|-----------|---------------------|
| Unit type | Unit model | Screw nominal diameter | Rail assembly model number | Cutting disc model number | Passage plate model number | Working screw length range (mm) | Screw head shape | | | | | | |
| | | | | | | | Pan-head | | | Self-binding | Truss-head | Flat-head | Hexagon socket head |
| | | | | | | | Sems | Double-sems | Washer head | | | | |
| FM-36 | FM-3630 | φ3.0 | FR30 | F30 | W3630 | 3.6 to 25 | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | FM-3635 | φ3.5 | FR35 | F35 | W3635 | 4.1 to 25 | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | FM-3640 | φ4.0 | FR40 | F40 | W3640 | 4.6 to 25 | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | FM-3650 | φ5.0 | FR50 | F50 | W3650 | 5.6 to 25 | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | FM-3660 | φ6.0 | FR60 | F60 | W3660 | 6.6 to 25 | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

Note:

- Each model comes with a standard model-specific rail.
- Each model comes with a standard model-specific cutting disc.
- Each model comes with a standard model-specific passage plate.
- When changing the nominal diameter of a working screw, replace the rail, cutting disc and passage plates in a set.
- The replacement rail assembly, cutting disc assembly, and passage plates are options.

10. Warranty Terms

We warrant your product to be free from defects in material and workmanship for six months from the date of delivery. Should it fail during usage, please contact your dealer.

In any of the following situations, however, your feeder will be repaired for a fee even before the warranty period expires:

1. Failures caused by improper handling
2. Failures resulting from product modifications or unauthorized repairs
3. Failures caused by acts of God, such as natural disasters
4. Failures traceable to any object other than this feeder
5. Charges for supplies (such as brushes, main motors, and escaper motors) and spare parts, and replacement fees

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