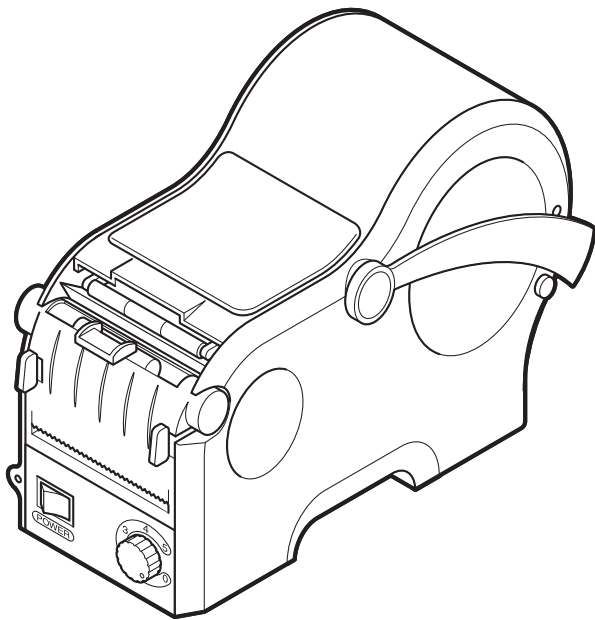


# Operator Manual

For portable label dispenser:

# S-70



# Contents

## 1. Introduction . . . . .1

Safety precautions . . . . .2  
Warning labels and Danger Areas . . . .3  
Usage precautions . . . . .5  
Parts and Accessories . . . . .6

## 2. Setup . . . . .9

Loading the label roll . . . . .9  
Adjusting the sensor/label holder . . .12  
Adjusting the dispensing roller. . . . .13  
Charging the battery pack . . . . .14  
Loading/unloading the battery pack. .15

## 3. Using Multiple Dispensers17

Connecting the Sync cable . . . . .17  
Using 25 $\mu$  Silver Polyester media . . .18  
DIP switch settings. . . . .19

## 4. Maintenance . . . . .21

Maintenance of sensor. . . . .21  
Maintenance of moving parts . . . . .21  
Maintenance of outer surface . . . . .21

## 5. Basic Specifications . . . .22

Basic Specifications. . . . .22  
Warranty . . . . .23

1. Introduction

2. Setup

3. Using Multiple  
Dispensers

4. Maintenance

5. Basic Specs

# 1. Introduction

Thank you very much for choosing the SATO S-70 label dispenser.

This manual provides an introduction to the operation of this machine, and it is important that the operator uses this manual to practise basic operation of the machine for a period of time.

Please read this manual thoroughly in order to make full use of the features of the SATO S-70 labeler.



## Warning

For safety reasons, please observe all safety precautions found throughout this instruction manual before using the machine. Keep the manual in a permanent location for easy reference.

### Attention:

- Upon purchase, please fill in the warranty card, tear off the portion of the warranty card addressed to our company and mail back to us. The warranty registration card is required for you to register your eligibility for customer support.
- Mailing of the warranty registration card is not required for customers who register via the Internet.
- Please use only original Sato labels and ribbon supplies.
- No part of this manual is to be reproduced without the permission of our company.
- For the purpose of improvement, this manual's contents are subject to change without notice.
- If the pages are jumbled or if there are missing pages, we will replace them with a new manual. Please request from the distributor where you bought the product, or approach an authorised SATO service center.
- Although we will handle any problem occurring on SATO products, we apologize that we cannot be responsible for secondary problems (such as work stoppages) that occur directly or indirectly as a consequence of the failed products.

First edition 15<sup>th</sup> December 2004 Sato Corporation Limited

# Safety Precautions

## About the display diagrams

As a preventive measure to ensure safe usage of this machine so as to safeguard against damage to yourself, other people or property, there are many display diagrams used in this instruction manual and on this machine. The displays and their meanings are illustrated in the following. Please take time to read and understand the content.



**Warning**

If this display and its warning is ignored, any mishandling could result in death or serious injuries.



**Attention**

If this display and its warning is ignored, any mishandling could result in serious injuries as well as damage to properties.

## Examples of displays



△ The triangle sign means 'Be careful'. The content within the triangle illustrates specific hazards. In this case, the sign on the left means 'beware of electric shock'.



⊘ The circular sign means 'prohibited'. The content within the circle illustrates a specific prohibition. In this case the sign on the left means 'disassembly prohibited'.



● The black circular sign means 'mandatory action'. The content within the sign illustrates specific items that must be carried out. In this case the sign on the left means 'the plug must be unplugged from the socket'.

## Warning

### ■ Do not place on unstable location



- Do not place machine on unstable location where the support frame is shaky, slanted or is subject to vibration. This may cause knocking, dropping and may lead to injury.

### ■ Do not place containers that contain liquid such as water



- Do not place containers that contain liquid such as water or medicine as well as small metallic items near the machine. If water or object enters the machine, switch off the power supply immediately, pull out the plug from the socket and contact the distributor, dealer or service centre. To continue using may cause fire or electric shock.



### ■ As far as possible, connect the earth wire



- As far as possible, connect the earth wire of the power cord of the machine. If not, electric shocks will not be prevented.



### ■ Handling the power cord



- If the power cord is damaged, unreasonably bent or broken, do not carry on with work. In addition, placing heavy objects on top, heating and pulling the power cord may cause damage to the power cord and eventually lead to fire and electric shock.



- If the power cord is damaged (exposed core or broken wires), contact the distributor, dealer or service centre. To continue using may cause fire or electric shock

### ■ Damaged machine



- If the power cord is damaged, switch off the power supply immediately, pull out the plug from the socket and contact the distributor, dealer or service centre. To continue using may cause fire or electric shock.



### ■ Do not insert foreign objects into the machine



- Do not insert metallic items or flammable objects into the opening (such as the cable exit point) of the machine. If foreign object enters the machine, switch off the power supply immediately, pull out the plug from the socket and contact the distributor, dealer or service centre. To continue using may cause fire or electric shock.



### ■ Do not use voltage that is out of specification



- Do not use voltage that is out of specification other than the specified power voltage (AC100). If not, this may cause fire or electric shock.

### ■ Do not use when there is abnormality



- To continue using when there is abnormality such as smoke or strange odor emanating from the machine may cause fire or electric shock. Switch off the power supply immediately, pull out the plug from the socket and request for repair service from the distributor, dealer or service centre. Do not attempt to repair the machine yourself as it is dangerous to do so.



### ■ Do not disassemble



- Do not disassemble or modify the machine as this may cause fire or electric shock. For internal inspection, adjustment or repair, please request from the distributor, dealer or service centre.



### ■ Do not place hands into the application part of machine



- Do not place hand into the application part of machine during operation. Fingers may get caught between the cylinder and suction part thus resulting in injury.





## Attention

### ■ Do not place in location of high humidity



- Do not place machine in areas with high humidity and where condensation occurs. If water condensation occurs, switch off the power supply immediately, dry the machine and stop using. To continue using may cause risks of fire or electric shock.

### ■ Power supply



- If your hands are wet, do not touch the power supply switch or unplug the power cord from the socket. This may cause an electric shock.

### ■ Cover, application unit



- Take care to avoid getting the fingers caught between the opening of the cover and the application unit. In addition, hold the cover properly to prevent it from slipping and falling off.

### ■ When placing the hand inside the machine or during cleaning



- When placing the hand inside the machine or during cleaning, for safety reason, pull out the plug from the socket.

### ■ Use only original SATO labeling supplies



- If you choose to use other media which is not indicated in the specification, this may cause defective printing.

### ■ Power cord



- Do not place thermal equipments near the power cord as this may cause the power cord cover to melt and thus result in risks of fire or electric shock.



- When removing the power cord from the socket, take note to pull the plug instead of pulling the power cord itself, as this may expose the core or break the wires, thus resulting in risks of fire or electric shock

### ■ Paper setting



- When setting paper, take care to avoid getting the fingers caught between the paper feed portion of machine.

### ■ Long period of non-usage



- If not using the machine for a long period of time, for safety reason, disconnect it from the AC socket.

### ■ About the Battery Pack (if applicable)



- If a battery pack can be used with the machine, do not disassemble, heat up or use soldering to modify the battery pack, or discard it into a fire, as this may cause heat generation, fire and explosion.
- Charge the battery pack by using the dedicated charger included in the purchase.
- Do not use a battery pack that is out of specification.
- During battery pack replacement, inserting it in the wrong direction may result in injury and damage to the surrounding due to explosion and liquid leakage.
- To dispose of compact type rechargeable batteries (lithium ion type), insulate the battery pack by sealing its contact points with tape, and then approach our service staff for proper disposal procedure.
- Do not mix dry batteries with other types of batteries.
- Before long terms of non-usage, remove the battery pack and unplug the AC adaptor from socket for safety purposes.
- For safety purposes, remove the battery pack and AC adaptor before you start any cleaning procedures on the machine.

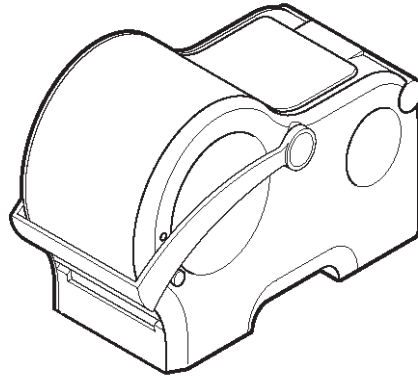
## Usage Precautions

- (1) Pay special attention to areas with warning logos and indicators.
- (2) As this machine is a precision electronic device, please note the following:
  - Ensure that location has a stable AC power supply with as little variation as possible. If there is a high power consumption appliance (for example: big refrigerator) nearby, the appliance will cause variations in the AC voltage when in operation, and may in turn cause malfunction.
  - Do not set up in environment with high temperature and high humidity. The electric circuits and labels in the machine are vulnerable to such high temperature and humidity conditions, and this may lead to breakdown. Furthermore, never clean the machine with water.
  - Avoid using the labeller in areas with a lot of dirt and dust as this may affect the moving (revolving portion) parts of the machine and drastically shorten its lifespan.
  - Avoid set up in areas exposed to direct sunlight. As this machine is equipped with various optical sensors, using the machine while it is exposed to direct sunlight may cause malfunctions in the sensor.
- Do not place any heavy items on the machine, or drop the machine from any height.
- When moving the machine or carrying it, be careful not to knock against anything hard that may damage the machine.
- Do not disassemble without preparation, do not loosen the screws.
- Do not lay cables that can cause people to trip over them.

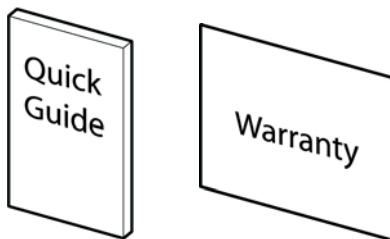
# Parts and Accessories

\*Please confirm the following parts and accessories are delivered in good working condition.

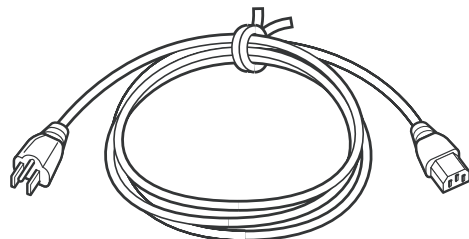
## 1 Main unit (with handle)



## 2 Important documents



## 3 Power Supply Cable



## OPTIONAL ACCESSORIES

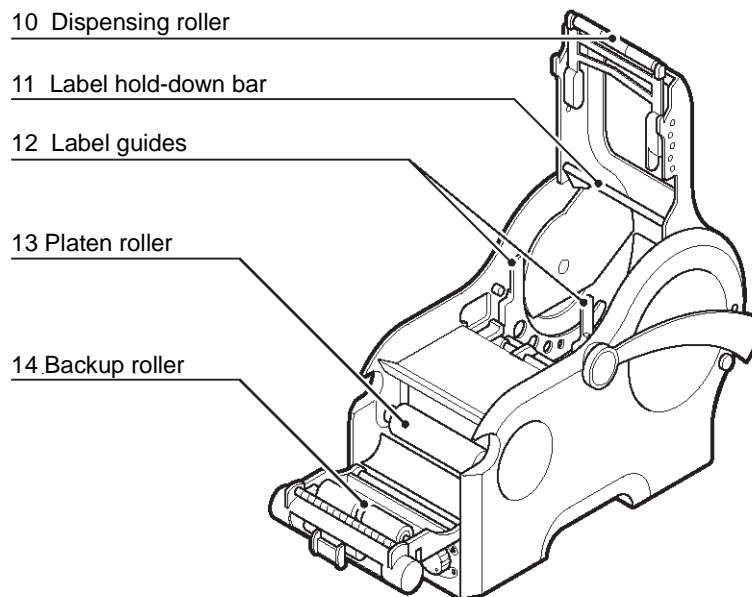
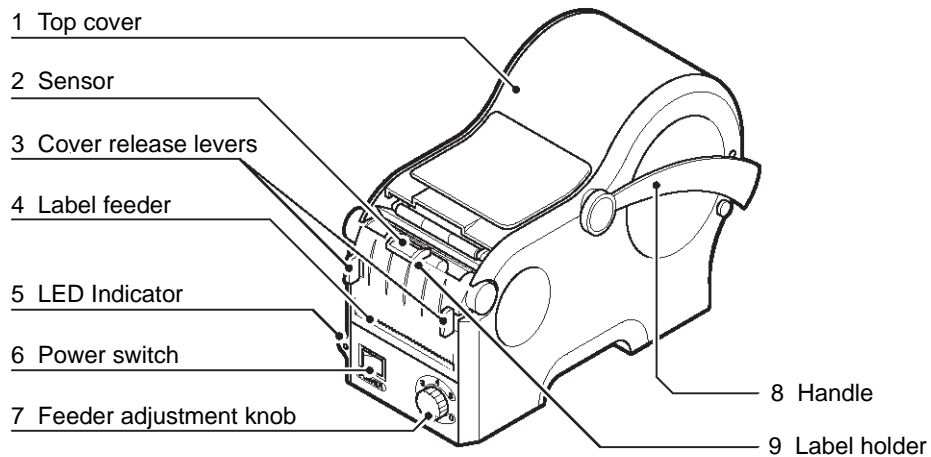
- a. AC Adaptor
- b. Battery Pack

\*When purchasing optional items, attachments will be included separately.



# Names and Functions of Various Parts

## [Machine overview]



### ◆ Part Names and function descriptions

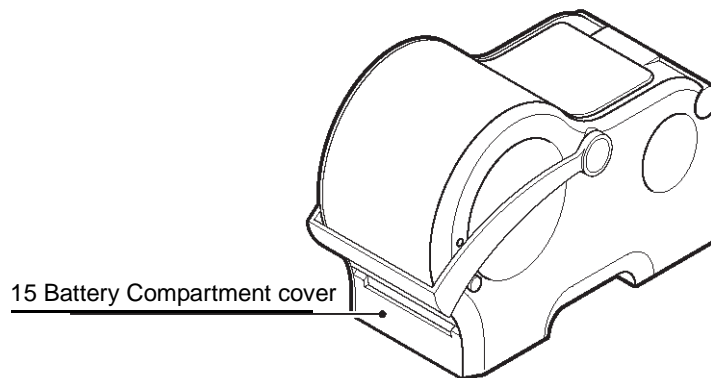
|   |                        |  |
|---|------------------------|--|
| 1 | Top cover              | Seals the unit from dust and protects the internal parts |
| 2 | Sensor                 | Detects labels   |
| 3 | Cover release levers   | Press inwards to release the label feeder and top covers |
| 4 | Label feeder           | Extends and retracts to paste label on the product       |
| 5 | LED Indicator          | Indicates errors and machine status                      |
| 6 | Power switch           | Turns the machine ON or OFF                              |
| 7 | Feeder adjustment knob | Adjusts the dispensing length of labels                  |
| 8 | Handle                 | Allows the machine to be carried around easily           |
| 9 | Label holder           | Holds the labels and separates the liner                 |

## Names and Functions of Various Parts (cont'd)

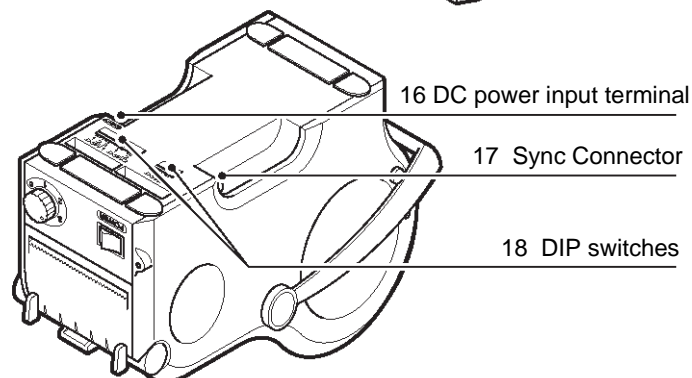
### ◆ Part Names and function descriptions (cont'd)

|    |                           |  |
|----|---------------------------|--|
| 10 | Dispensing roller         | Smoothly dispenses labels and seals  |
| 11 | Label hold-down bar       | Presses down on the label roll to regulate its vertical displacement         |
| 12 | Label guide               | Guides the label along the correct pathway                                   |
| 13 | Platen roller             | Provides friction to move the label smoothly along the designated path       |
| 14 | Back-up roller            | Provides friction to move the liner sheet away from the labels               |
| 15 | Battery compartment cover | Prevents the battery from falling out; protects the compartment from dust    |
| 16 | DC power input terminal   | Accepts direct current from the supplied AC adaptor                          |
| 17 | Sync connector            | Optional connector for linking up to three S-70 units for simultaneous usage |
| 18 | DIP switches              | These govern the label feed speed, feed length and Auto On/Off function      |

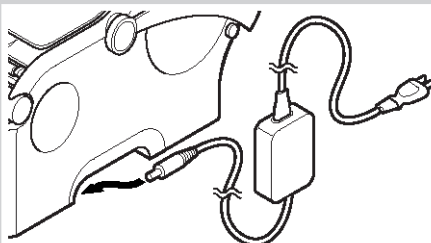
### [Rear View]



### [Underside View]



### Connecting to the power supply



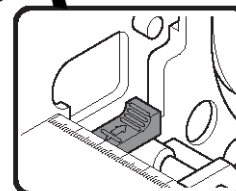
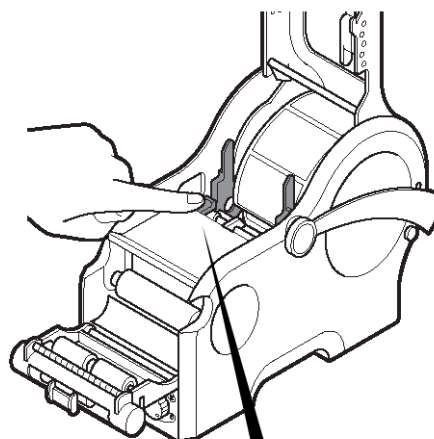
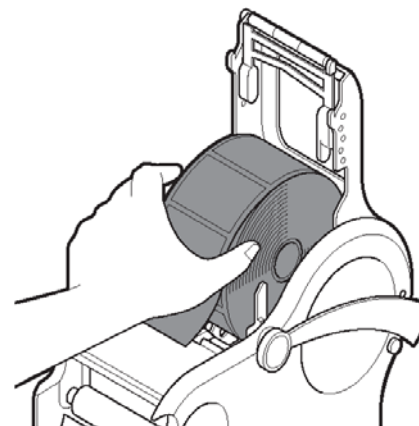
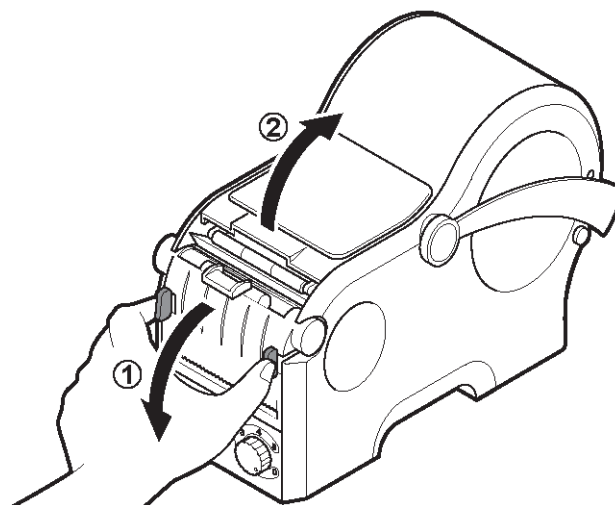
Make sure the machine is turned OFF. Insert the AC adaptor jack into the machine's DC input terminal.  
*\* Use only the SATO supplied AC adaptor.*

## 2. Setup

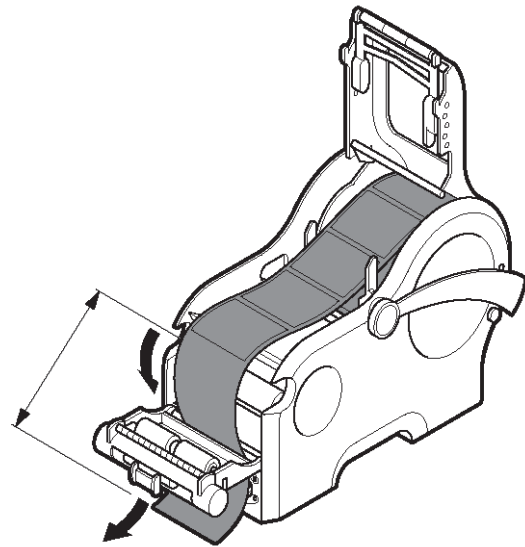
This chapter explains the necessary set-up method and preparations needed before operating the machine for the first time.

### Loading the label roll

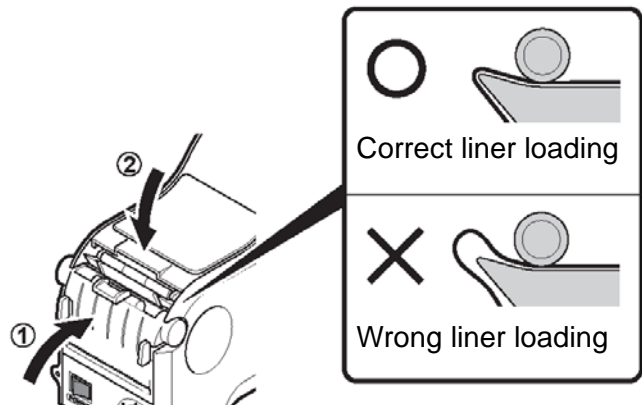
1. Press both cover levers inwards to release the top cover and label feeder panel.
2. Lift up the top cover fully (see ② in the illustration), making sure it does not snap shut on your hand while you are loading the label roll.
3. Let the front cover drop downwards (see ① in the illustration) to expose the label feeder mechanism.
4. Load the label roll into the machine, making sure the printable surface is facing upwards. (Only face-out label rolls are supported on this machine.)
5. Press the purple lever to release the label guide. You can now adjust the label guides so that they lightly press against the side of the label roll to regulate the label's lateral displacement. The label guides should not prevent the smooth winding of the label roll.



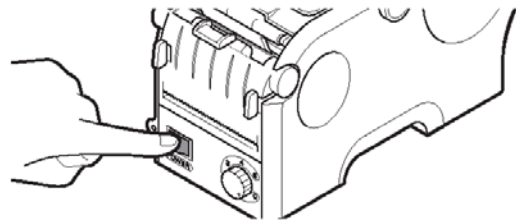
6. Peel off the first few labels to leave about 10 cm of liner exposed. Pass the exposed liner into the label feeder as shown.



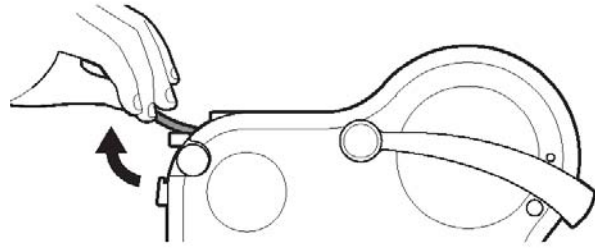
7. Push the label feed panel upwards and ensure that it clicks into place.
8. Push down the top cover and ensure that it clicks into place.
9. Ensure that the liner follows the contours of the label feeder assembly (see drawing marked O), instead of curling upwards leaving a big gap at the edge (see drawing marked X).



10. Turn the machine ON by pressing the power switch at the front of the machine. The indicator next to the power switch lights up. If any errors occur at this point, return to step 1 and check all installation steps for errors. (see the back of this manual for a list of errors indicated by the LED light.)

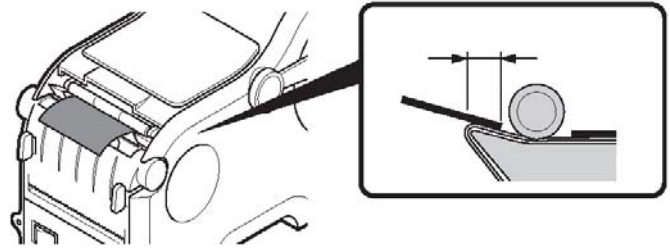


11. If the label roll is loaded correctly, the machine sends a paper feed to eject a label and automatically peels 2 to 8 mm of label off the liner.



12. Peel off the label by pulling it upwards. If the amount of label peeled off the liner is insufficient for your fingers to get a firm grasp, do not exert force when peeling the label off. Instead, lift up the edge of the label from one side and pull upwards toward the other edge.

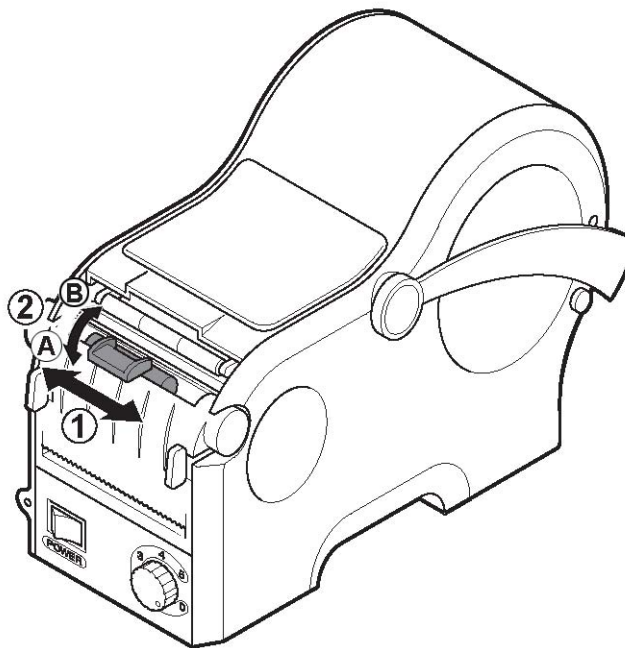
13. To adjust the amount of label peeled from the liner, use the feeder adjustment knob. The ideal length of label peeled is from 2 to 8 mm.



## Adjusting the sensor and label holder

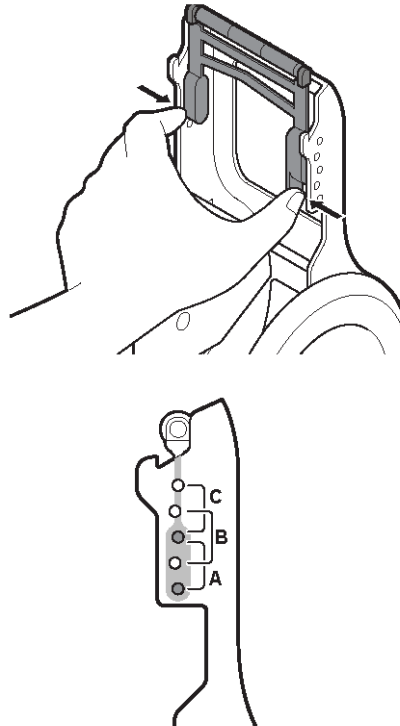
The paper sensor and label holder assembly can be adjusted to match different label materials and label widths.

1. To enable the sensor to detect different label widths, move it in either of the directions shown at (1), and adjust it to the position where it is able to properly detect the label.
2. To match different types of labels, the angle of the sensor can be adjusted in the directions shown at (2). Adjustment in the direction of A is usually for normal labels. For transparent or translucent plastic labels, adjust the holder in the direction of B. For details, please refer "Recommended Setting Table for each Seal" (the next page).



## Adjusting the dispensing roller

By changing the installation position of the dispensing roller, you can adjust the angle of the label feeder. To take out the holder, press its clips inwards with your fingers as shown in the illustration. For normal labels, the dispensing roller can be installed at position A. If the top end of the label is caught at the label holder, change the dispensing roller to location B. (See table below for more recommendations).



Recommendable Settings for different label types

| Seal Type                  | Seal feed speed <DSW1> |           |           | Dispenser roller position |   |   | Sensor angle |   |
|----------------------------|------------------------|-----------|-----------|---------------------------|---|---|--------------|---|
|                            | 1(110mm/s)             | 2(80mm/s) | 3(50mm/s) | A                         | B | C | A            | B |
| Normal label (10~25mm)     |                        | ○         | ○         |                           | ○ |   |              | ○ |
| Normal label (25~150mm)    | ○                      | ○         | ○         | ○                         | ○ |   | ○            |   |
| Transparent polyethylene   |                        | ○         | ○         |                           | ○ |   |              | ○ |
| Silver polyester paper 25μ |                        |           | ○         |                           |   | ○ | Fixed angle  |   |

## Charging the battery pack

Slot the battery pack into the battery charger (option).

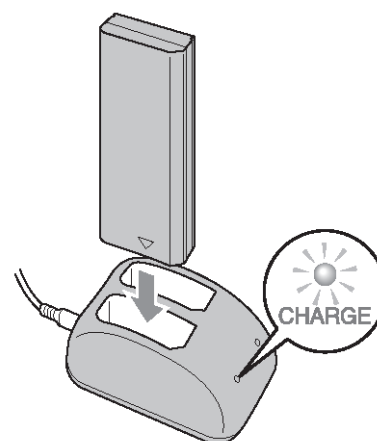
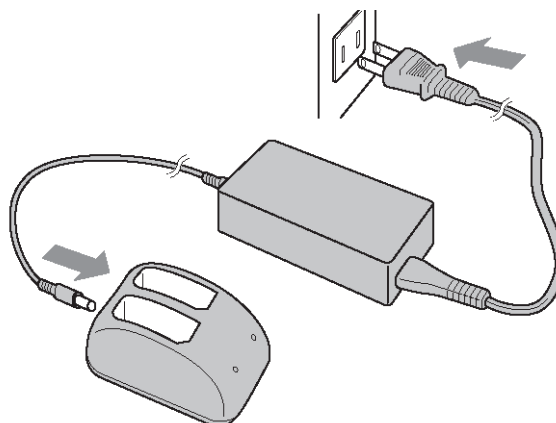
1) Plug the AC adaptor to the charger and connect the adaptor to the AC outlet.

2) Slot the battery pack with its terminals facing downward into the charger.

\*The charger's LED will glow red when the charger starts charging. Once the battery pack is full, the charger light will turn green.

3) You can take out the battery pack once it has been fully charged.

- If the LED on the charger does not light up, check if the battery pack is correctly slotted into the charger. If it is not fitted properly, charging cannot be proceeded.
- When a fully charged battery pack is slotted into the charger, the charger LED will glow red (charging state) once. The light turns green when the battery is fully charged.
- When charging a battery pack that has not been used for quite a long time, the charger's light may flash for a while. This can be ignored. Continue charging the battery until it is fully charged.
- If the light keeps flashing, replace the battery pack.
- The battery pack can be charged for about 300 times (under normal room environment) before its lifespan reaches an end. If you find that the battery pack runs flat soon after it was fully charged, then it is time to replace it with another one.
- By putting the purchase date onto the sticker at the side of the battery, you can easily monitor the battery's life-span (time of charging) (e.g. purchased on 1-Nov-2004)



### About Battery Charging time

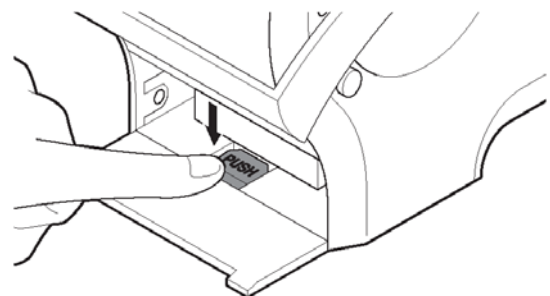
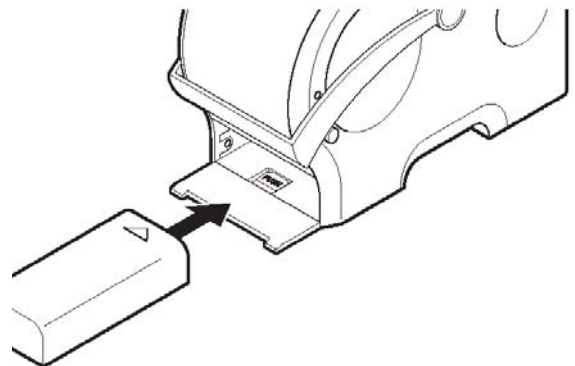
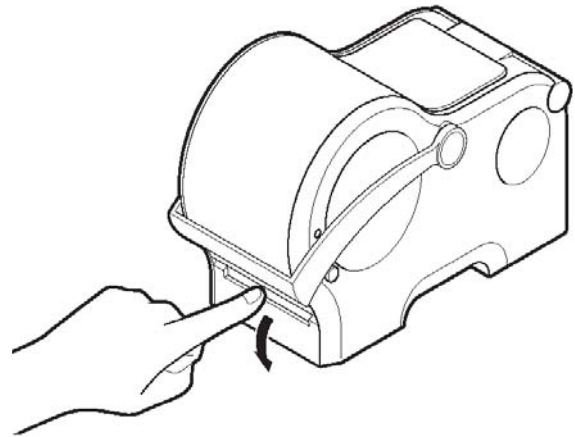
Charging a flat battery until it is fully charged will take about 90 minutes, or about 130 minutes for two batteries. (Actual charging time varies depending on the various environmental factors)



## Loading and unloading the battery pack

With this optional battery pack, if a domestic power supply is not available onsite, the S-70 can still be used.

1. Open the battery compartment cover.
2. Load the battery pack into the compartment in the correct direction (arrow pointing forward).
3. To unload (take out) the battery pack, press down on the battery lock.



### Attention!

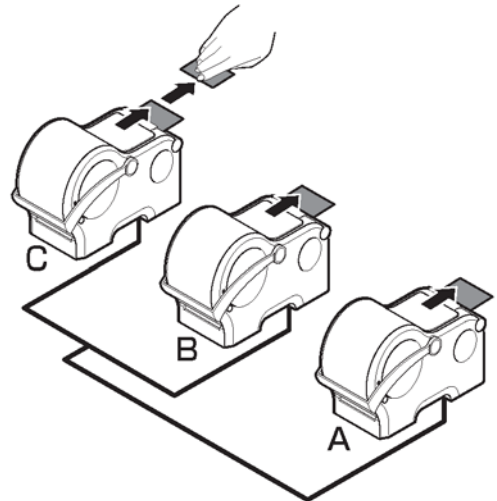
- Turn off the machine before replacing or disconnecting the battery pack.
- If the machine will not be in use for a long period of time, do not insert the battery pack. Charging up a battery without using it causes over-discharge until it cannot be charged anymore.
- Avoid storing the battery pack in high temperature areas.

This page has been intentionally left empty

# 3. Using Multiple Dispensers

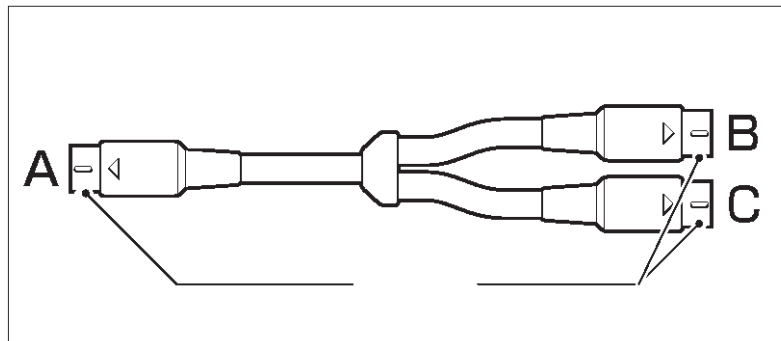
Up to three sets of S-70 dispensers can be linked up together and operated simultaneously. This is an optional feature requiring the use of the Sync connector.

When the linked dispensers are connected, they dispense labels at the same timing.



## Connecting the Sync cable

The Sync cable is an optional accessory.



- ◆ **Connector A:** This is the main connector.
- ◆ **Connector B:** This is a secondary connector.
- ◆ **Connector C:** This is a secondary connector.

Connector A must always be connected to at least one S-70 unit. At least one other secondary connector (either B or C) must be connected to another S-70 unit. In this manner a total of three units can be linked to each other.

### Notes:

- 1) Stamper operation cannot be synchronised.
- 2) All linked machines still need to be individually powered.

Adjustment has to be made for each type of label.

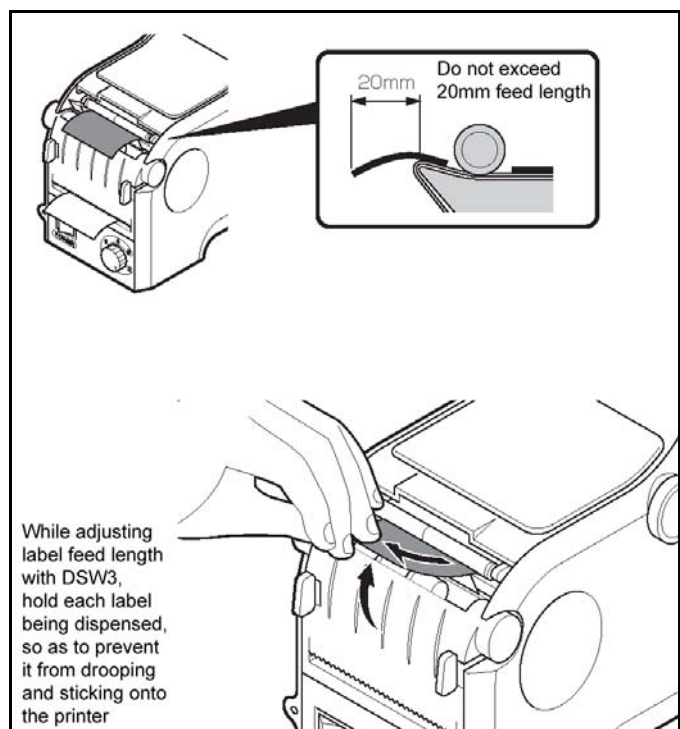
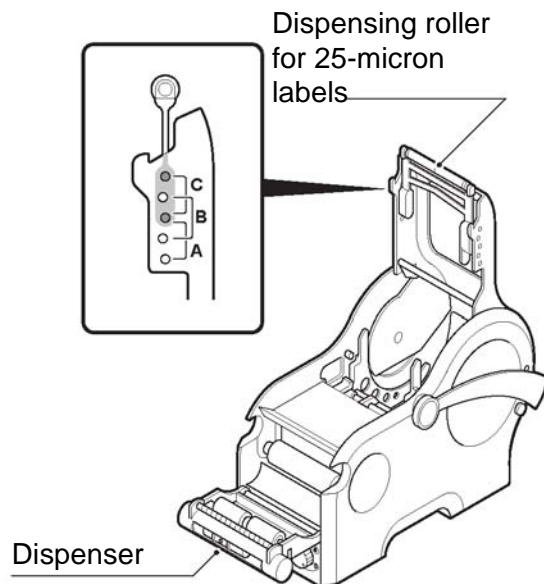
## Using 25-micron Silver Polyester media

Some precautions are required when you are using silver polyester media with a thickness of only 25 microns:

- The maximum label width supported is 50 mm
- The label backing paper recommended is glassine or thin craft paper. Do not use labels supplied on poly laminated glassine backing paper
- The backing paper thickness must be less than 60 microns

When using 25-micron silver polyester labels, set the dispense roller adjustment at position C. Adjust the feed length to below 20 mm to prevent the labels from sticking to the dispenser chassis.

While adjusting the feed length, you may have to hold the label as it is dispensed, as thin labels tend to stick to the chassis.



Set label feed speed to 50 mm per second via DSW-1. Refer to the next page for the table of recommended settings for different label types.

While adjusting label feed length with DSW3, hold each label being dispensed, so as to prevent it from drooping and sticking onto the printer

# DIP SWITCH SETTINGS

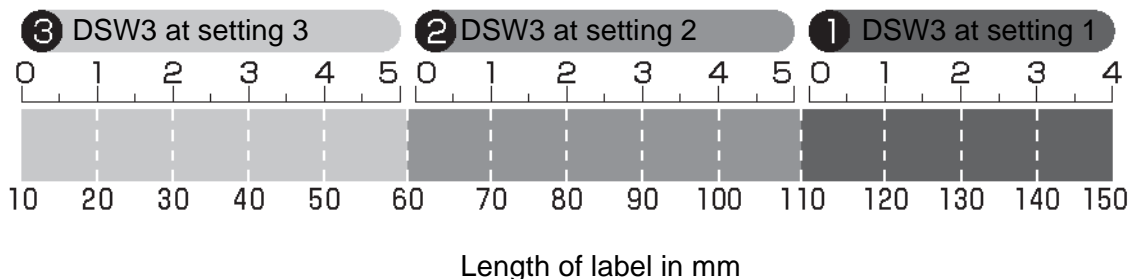
Before making any changes to the DIP SWITCH settings, be sure to turn the machine OFF.

| Dip Switch | Content   | Factory Shipping |
|------------|---|------------------|
| DSW 1      | Label feed speed:<br>1:110mm/s 2:80mm/s 3:50mm/s        | 2                |
| DSW 2      | Auto power off:<br>1:off 2: on                          | 1                |
| DSW 3      | Label feeder length<br>1:100~150mm 2:50~100mm 3:10~50mm | 3                |

If you use the optional battery pack, and if its remaining battery is less, charger light will turn from green to red, so please replace this battery with a fully charged one.

## Adjustment of the label and feeder length

Use DSW3 to adjust for different label lengths. Settings 1~3 cater to the different label lengths in use.



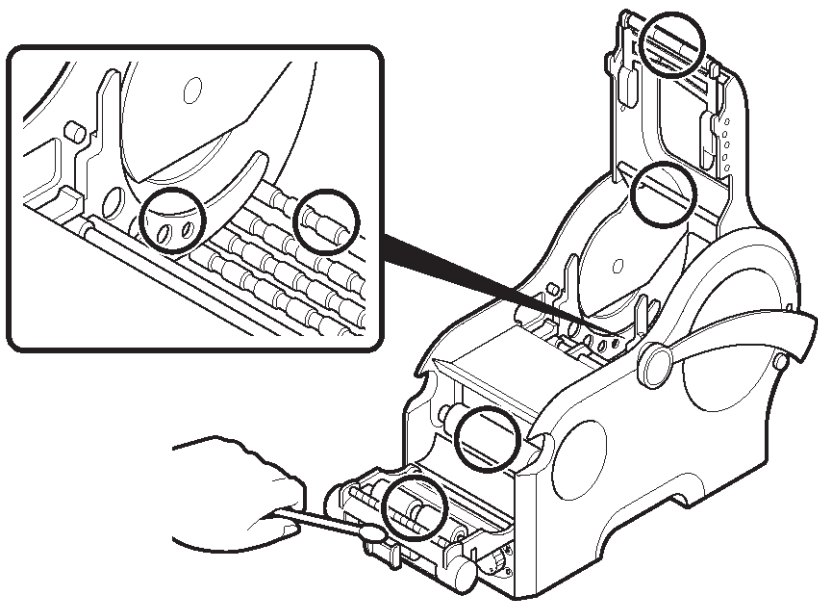
This page has been intentionally left empty

# 4. Maintenance

For continued trouble-free operation of the S-70, you should perform regular maintenance of its vital parts, by cleaning them.

## Maintenance of the sensor

The paper sensor may malfunction when its surface becomes dirty. To remove the build-up of dust and dirt, clean the sensor with a soft lin-free cotton bud.



## Maintenance of the moving parts

The parts that require maintenance include the platen roller, seal guide, dispenser roller, label roller and back-up roller. If adhesive or paper particles adhere to these parts, malfunction and poor label feeding may occur. For optimal cleaning of these parts, it is recommended that you purchase the separately sold cleaning set for SATO printers.

## Maintenance of the outer surface

Please use only neutral detergent for cleaning of the outer surface.

### Attention!

- Before performing any cleaning procedure, you must turn the machine OFF.
- Never use alcohol or thinner for cleaning.

# 5. Basic Specifications

| Feature                       | Specification  |
|-------------------------------|--|
| <b>Dimension</b>              | Standard model: W107mm x W260mm x H170mm<br>Printer model : W107mm x W260mm x H220mm   |
| <b>Weight</b>                 | Standard model: 1,550g (excludes battery)<br>Printer model : 1,950g (excludes battery)   |
| <b>Power supply</b>           | AC adaptor, battery pack (option)  |
| <b>Label feed speed</b>       | Max 110 mm/s<br>(size and material etc of the label varies depending on the usage environment)   |
| <b>Applicable label sizes</b> | Label width: 15~70mm (backing paper width 18~73mm)   |
|                               | Label length: 10~150mm   |
|                               | Core ID: min 25mm  |
|                               | Label roller OD: max 120mm   |
| <b>Energy saving function</b> | Auto power off (power off for every 5 minutes of non-operation)  |
| <b>Protection function</b>    | Auto stop when detecting label end<br>Auto stop when detecting low battery   |
| <b>Applicable Label stock</b> | Cast coat paper*<br>Transparent polyethylene PET 50μ †<br>Silver polyester paper 50μ<br>Normal paper (high quality)*<br>Foil paper<br>Synthetic paper<br>Silver polyester paper 25μ §<br>† Please approach distributor if sensor detection is out of order due to different material.<br>§ Individual special kit (option) is required.<br>Based on the label thickness, rigidity and adhesion attributes, SATO certified and recommends genuine products. Approach the distributor for further enquiries. |
| <b>Option</b>                 | Battery pack, battery charger, sync connector  |



# Warranty

To ensure that you can still continue to use the machine with peace of mind after purchase, Sato provides maintenance service contracts in addition to the the standard product warranty.

The terms of the warranty and contracts vary from region to region; therefore please refer to the official warranty documents accompanying the machine or service contract.

For more information on maintenance service contracts, contact any authorized SATO representative or visit the relevant SATO website for your geographical region.

## Terms of Warranty

The warranty and terms of your service contract require operators to observe proper usage precautions and regular cleaning of the equipment during normal use. Therefore, please clean and maintain the equipment regularly, as described in **Section 4** of this manual. In addition, please ensure that there is enough room around the machine to allow service personnel to perform proper maintenance and inspection.