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INSTRUCTION MANUAL

DC-648 Rotary Tool Module

RTM-09

Be sure to read this manual prior to use.
Please leave this manual at the site of use for easy reference.

Introduction

Thank you for your purchase of the DC-648 Rotary Tool Module.
To ensure safe and efficient long-term use of this product, read and thoroughly understand this manual before using the product. After using this manual, be sure to keep it in a handy place for reference.

Pictorial Symbols and Other Notations used in this manual	
IMPORTANT	: Introduces instructions for correct operation of the product. If these instructions are ignored, the product may not operate at optimum performance or may break down.
REFERENCE	: Introduces information that is useful for operation and maintenance of the product, or information about the product's performance, etc.
(→P.00 xxxx): Indicates the page number and item containing related information.	

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> **PLEASE NOTE**
> In the interests of upgrading our products, specifications and other data given in this manual are subject to change without notice. If the manual contains anything that you do not understand, contact the dealer for clarification.

Notes on Safety (Please Read and Observe)

Safety Precautions

Various symbols and pictures are used in this manual and on the labels affixed to the machine. These symbols and pictures provide warnings and instructions to prevent danger to you or other person, and to prevent damage to office property.
The meanings of these symbols and pictures are explained below.

⚠ **WARNING**   Indicates a high degree of potential danger. Failure to heed the warning may lead to death or serious injury.

⚠ **CAUTION**   Indicates a medium degree of potential danger. Failure to heed the caution may lead to injury or damage to property.

<Examples of Pictorial Symbols>

🚫   ⊘ A circle with a line through it indicates a prohibited action. The particular act prohibited is indicated by a picture inside the circle. (In the example shown here, the prohibited act is disassembly.)

● A black disc indicates an instruction, or sometimes a prohibited action. The instruction itself is indicated by pictorial symbols drawn in white on the disc. (In the example shown here, the instruction is **Remove the plug from the outlet**.)

● Precautions for Use

<div align="center">

⚠ **WARNING**

</div>

	● If the machine is used after foreign matter (metal fragments, water, or liquid) has entered the machine, this may result in fire or electric shock. → Turn the main unit's power switch OFF, and then remove the power plug from the outlet. Contact the sales distributor.
	● If the machine is used after heat, smoke, a strange smell, or other abnormality has been detected, this may result in fire or electric shock. → Turn the power switch OFF, and then remove the power plug from the outlet. Contact the sales distributor.
	● Do not insert or drop metal, flammable material, or any other materials through the ventilation holes into the interior of the machine. → Doing so may result in fire or electric shock.
	● Keep the machine away from a pin, wire, or other metallic or foreign objects. Do not allow liquid to enter the machine through its openings or gaps. → Malfunctions and a fire or electric shock may result.
	● Do not place flower vases, flowerpots, cups, or water containers (including metal containers) on top of the machine. → Fire or electric shock may result if liquid spills inside the machine.

● Caution for Cleaning

	⚠ **CAUTION**
(icon: unplug power cord)	● Before cleaning the machine, turn off the power switch and unplug the power cord. → If the machine is activated accidentally, it may cause injury.
(icon: prohibited)	● Do not use flammable sprays or solvents inside or near the machine. → Gas may accumulate inside the machine causing a fire or explosion.

● Preventing Injury to Hands or Fingers

	⚠ **WARNING**
(icon: do not touch)	● There are tools of the Rotary Tool Module inside the machine. Keep your fingers away from those.
(icon: unplug power cord)	● Use pliers or a similar tool to remove a jammed document. Be sure to unplug the power cord before removing a jammed document in order to prevent an electric shock.

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Chapter 1   Before Using This Module

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Chapter 6　**Daily Maintenance**

Chapter 7　**Specifications**

MEMO

Chapter 1

Before Using This Module

This chapter contains essential information you should understand such as the part names of the machine and how to remove and install the module.
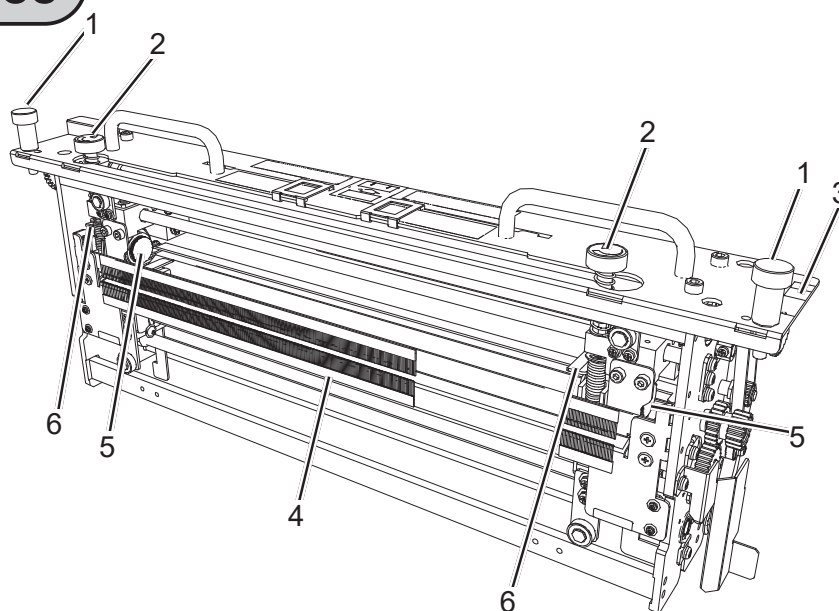
About the RTM (Rotary Tool Module)

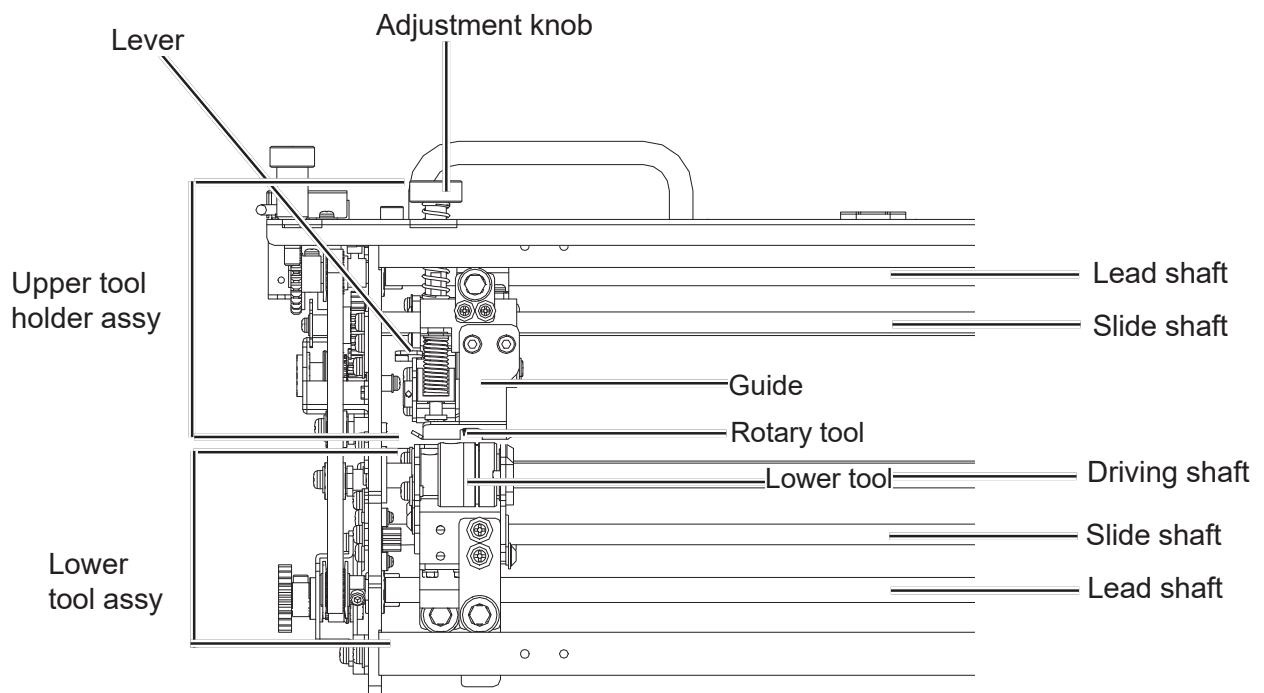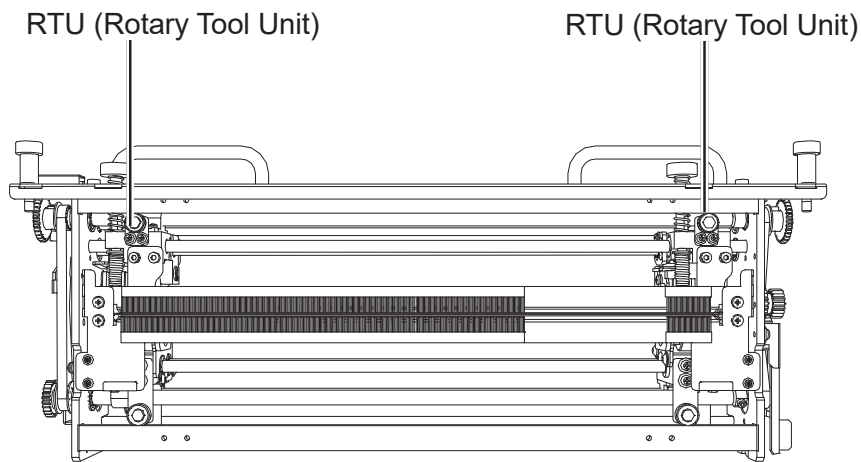| No.	Name	Function
1	Fixing screw	Tighten this when installing the **RTM (Rotary Tool Module)** in the DC-648. Loosen this when removing the **RTM (Rotary Tool Module)** from the DC-648.
2	Adjustment knob	Adjusts the depth of the **rotary tool**. Turning this clockwise makes the depth **deeper** and turning it counterclockwise makes the depth **shallower**. Turn this to adjust the **rotary tool** depending on the types of it attached to the **rotary too unit**. When replacing the **rotary tool**, turn this counterclockwise until it stops to raise the **rotary tool** to the upper limit position. (→P.10)
3	Color label	Install the **RTM (Rotary Tool Module)** in a slot of the DC-648, to which the **color label** affixed is the same as this on the **RTM (Rotary Tool Module)**. Install the **RTM (Rotary Tool Module)** in slot2 to slot4 in order from the feed side.
4	Front guide	Supports the conveyance of a document. When replacing the tool, remove this. (→P.7 Removing a Rotary Tool)
5	Hand knob	When removing the **rotary tool** from the **rotary tool unit**, remove this. (→P.8) When attaching the **rotary tool** to the **rotary tool unit**, secure it with this. (→P.9) There are two **rotary tool units** in total attached to the **RTM (Rotary Tool Module)**: one is on the right and the other one is on the left.
6	Lever	When removing the **rotary tool** from the **rotary tool unit** or when attaching it to the **rotary tool unit**, raise this. (→P.7 How to Replace a Rotary Tool) There are two **levers** in total attached to the **RTM (Rotary Tool Module)**: one is on the right and the other one is on the left.

● Feed side

RTU (Rotary Tool Unit)   RTU (Rotary Tool Unit)

Lever   Adjustment knob

Upper tool
holder assy

Lead shaft

Slide shaft

Guide

Rotary tool

Lower tool   Driving shaft

Slide shaft

Lower
tool assy

Lead shaft

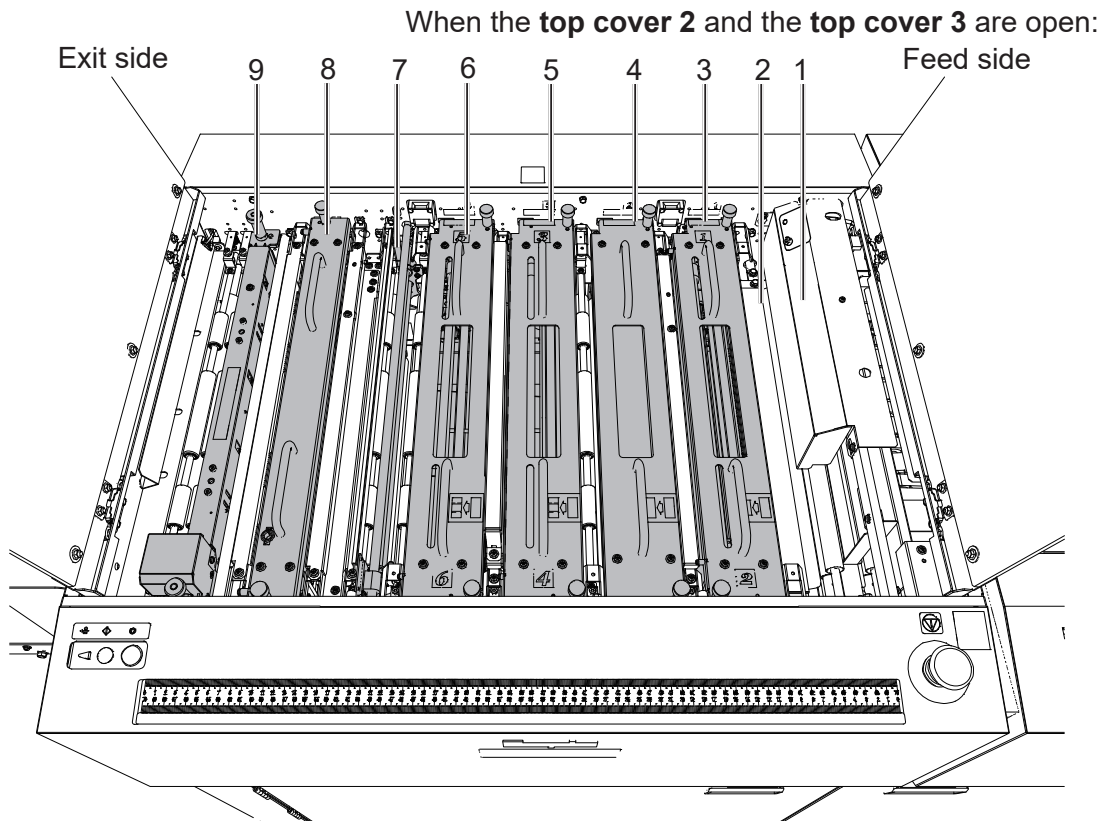**REFERENCE**

In this manual, the combination of the **upper tool holder assy** and the **lower tool assy** is called **RTU (Rotary Tool Unit)**.

Inside of the DC-648

When the **top cover 2** and the **top cover 3** are open:

Exit side   9   8   7   6   5   4   3   2   1   Feed side

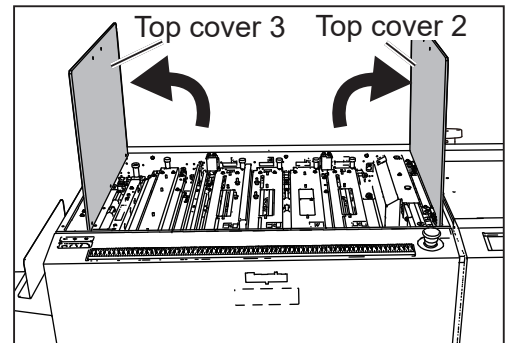| No.	Name	Function
1	Camera Section	Reads a REG mark, a skew mark, a shrinkage mark, an end mark, and a barcode printed on a document with the camera.
2	Reject section	Ejects a document/documents to the **reject tray** if a double feed was detected, the camera failed to read a mark/ marks and/or a barcode.
3	Slot1	Install the **margin slitter module** here to cut off margins on the operator's side and the non-operator's side.
4	Slot2	When you do not use an option module, install the **standard module** here. *You can install the **CPM (Cross Tool Module)** (option) or the **RTM (Rotary Tool Module)** (option) here.
5	Slot3	For the standard machine, install the **center slitter module 3&4** here to cut a document parallel to the feed direction. *You can install the **standard module** or the **RTM (Rotary Tool Module)** (option) here.
6	Slot4	For the standard machine, install the **center slitter module 5&6** here to cut a document parallel to the feed direction. *You can install the **standard module** or the **RTM (Rotary Tool Module)** (option) here.
7	Gutter deflector section	Drops waste that was cut off onto the conveyor.
8	Creaser	Creases a document perpendicularly to the feed direction.
9	Cutter	Cuts a document perpendicularly to the feed direction.

IMPORTANT

• When removing and reattaching a module, make sure that it is installed correct slot in the correct orientation.
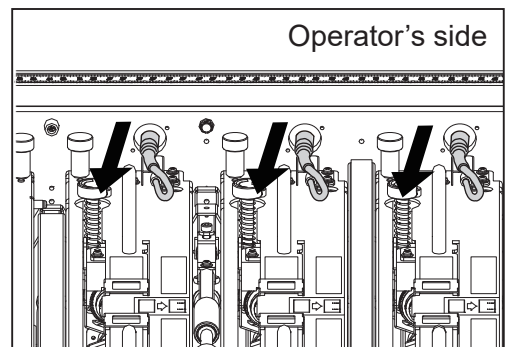• No module designated for other DC machines is compatible with the DC-648.

How to Remove and Install the RTM (Rotary Tool Module)
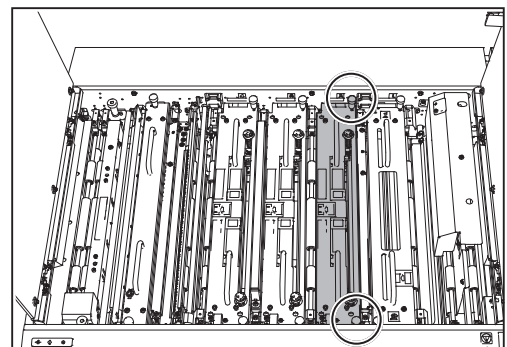
Removing the RTM (Rotary Tool Module)

1 Open the **top cover 2** and the **top cover 3**.
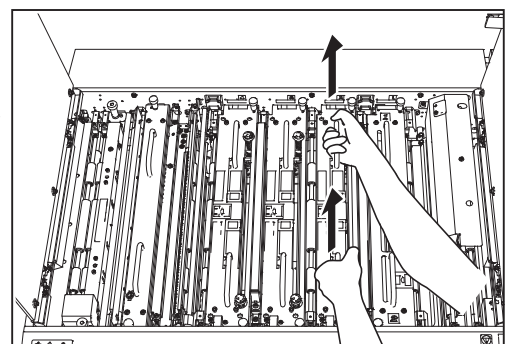

Top cover 3   Top cover 2

2 Disconnect the **connector** of the **RTM (Rotary Tool Module)**.
(The figure on the right shows when the **RTM (Rotary Tool Module)s** are installed in slot2 to slot4.)

Operator's side

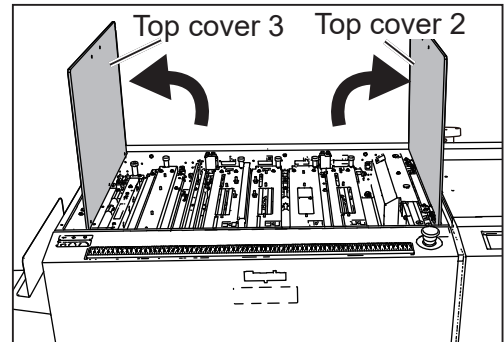**3** Loosen the two **fixing screws** on the **RTM (Rotary Tool Module)**.

4 Take out the **RTM (Rotary Tool Module)**.
(The figure on the right shows the **RTM (Rotary Tool Module)** in slot2.)
*Make sure to grasp the **handles** on the **RTM (Rotary Tool Module)** to lift it upward.
*Make sure to place the removed **RTM (Rotary Tool Module)** on a flat, stable surface.
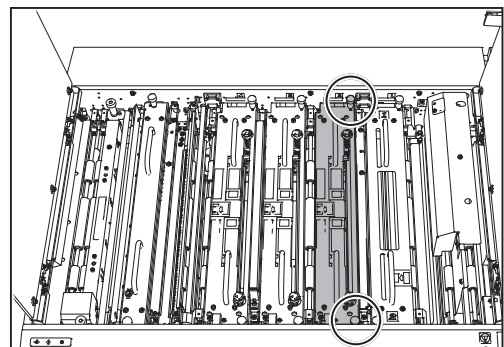
Installing the RTM (Rotary Tool Module)

1 Open the **top cover 2** and the **top cover 3**.
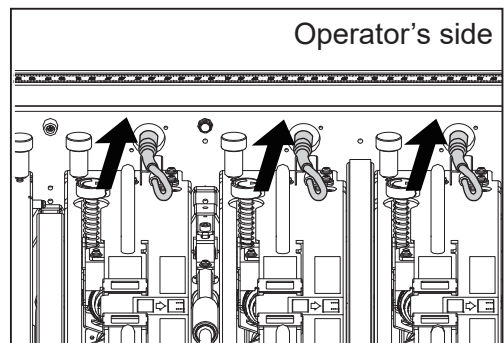
Top cover 3   Top cover 2

2 Install the **RTM (Rotary Tool Module)** in the slot with the jump motor attached. Tighten the two **fixing screws**. (The Figure on the right shows the **RTM (Rotary Tool Module)** in slot2.)
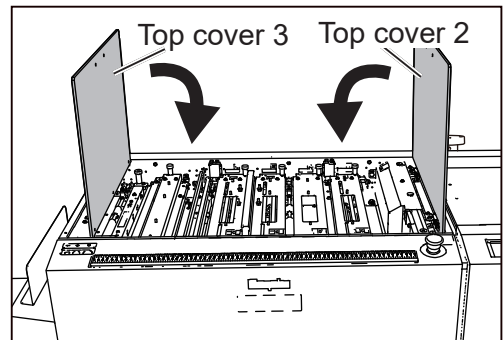
REFERENCE

Make sure that the pins on both sides are securely fitted in the module.

3 Connect the **connector** of the **RTM (Rotary Tool Module)**. (The figure on the right shows when the **RTM (Rotary Tool Module)s** are installed in slot2 to slot4.

Operator's side

4 Close the **top cover 2** and the **top cover 3**.

Top cover 3   Top cover 2

How to Replace a Rotary Tool

> **IMPORTANT**
>
> Make sure that replacement of the **rotary tool** must be performed only by a trained person in charge of maintenance.

● **Types of rotary tools**

The **RTM (Rotary Tool Module)** can process documents with the following four types of **rotary tools** attached to the **rotary tool unit**.
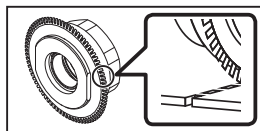Select a proper **rotary tool** and attach it to the **rotary tool unit**.

　　Perforation tool: A tool having cutting blades and grooves that are alternatively arranged. Perforates a document.
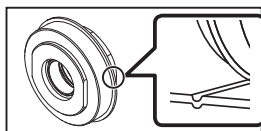　　**Score tool**: Makes scores on a document.
　　Micro perforation tool: A tool having narrower cutting blades and grooves than the standard type (perforation tool). Perforates a document.
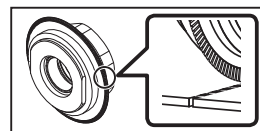　　**Slit-score tool**: Cuts approximately half of the document thickness. (Adjust the slit-score depth with the **adjustment knobs**.)

Perforation tool	Score tool	Micro perforation tool	Slit-score tool

● **Positions of the rotary tool and the lower tool**

The position of the **lower tool** varies depending on the types of the **rotary tool**.

Perforation tool
Score tool
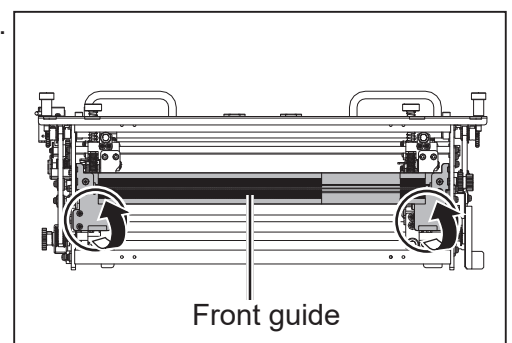Micro perforation tool
Slit-score tool

Removing a Rotary Tool

1 Remove the **front guide** in the direction of the arrows.
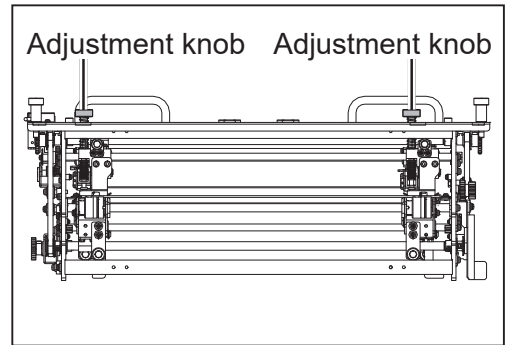
> **REFERENCE**
>
> Remove the **front guide** while holding the circled parts in the figure on the right.

Front guide

How to Replace a Rotary Tool

2 Turn the **adjustment knobs** counterclockwise until they stop to separate the **rotary tools** and the **lower tools**.

Adjustment knob   Adjustment knob

3 Remove the four **hexagon socket head cap screws** (left unit: 2 pcs., right unit: 2 pcs.) to detach the **guide L** and the **guide R**.

REFERENCE

Use the hexagon wrench that came with the DC-648.

Guide L   Guide R

4 Remove the two **hand knobs** (unit L: 1 pce., unit R: 1 pce.).

REFERENCE

Do not lose the **hand knobs**.

Hand knob

5 While raising the **lever** (**1** in the figure on the right), remove the **rotary tool** (**2** in the figure on the right).

IMPORTANT

● Do not hold the cutting edge when removing the **rotary tool**.
● When removing the **rotary tool**, be careful not to bring it into contact with the **lower tool** to avoid damaging it.

1

2

Lever

Lower tool   Rotary tool

Attaching a Rotary Tool

1 While raising the **lever** (**1** in the figure on the right), attach the **rotary tool** (**2** in the figure on the right) in the direction of the arrow.

1

2

Lever

Lower tool

Rotary tool

2 Secure the **rotary tools** with the **hand knobs**. (unit L: 1 pce., unit R: 1 pce.).

Hand knob

3 Attach the **guide L** and the **guide R** with the four **hexagon socket head cap screws** (two each).

REFERENCE

Use the hexagon wrench that came with the DC-648.

Guide L   Guide R

REFERENCE

Attach the **guide** so that the bottom faces of the **guide L** and the **guide R** are parallel to the faces of the **lower tool**.

Guide

Lower tool

4 Turn the **adjustment knobs** clockwise to lower the **rotary tools** to the position for the types of the **rotary tool unis**.

Adjustment knob   Adjustment knob

5 Attach the **front guide** in the direction of the arrows in the figure on the right.

REFERENCE

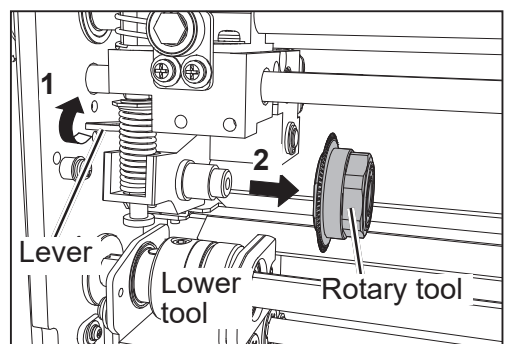Attach the **front guide** while holding the circled parts in the figure on the right.

Front guide

Adjusting the Depth of a Rotary Tool

1 Turn the **adjustment knobs** counterclockwise to raise the **rotary tools** to the upper limit position.

Adjustment knob   Adjustment knob

2 Turn the **adjustment knobs** until they are at the standard position shown on the **label** on the top plate of the module according to the types of the **rotary tools**.
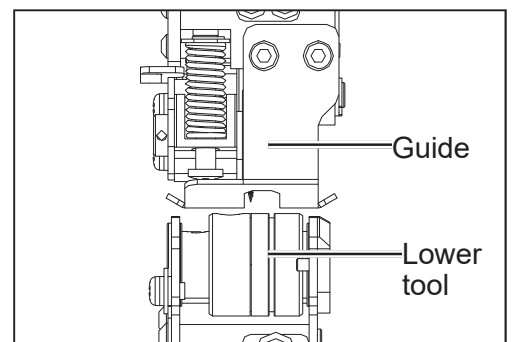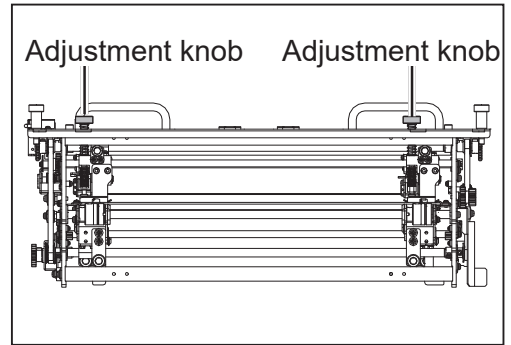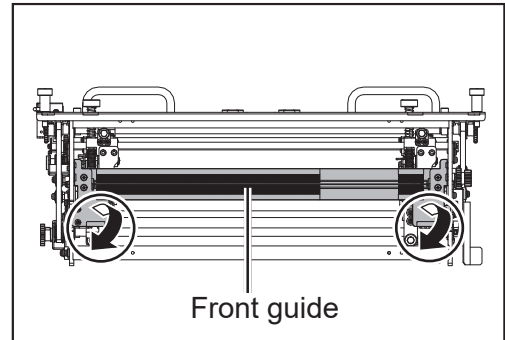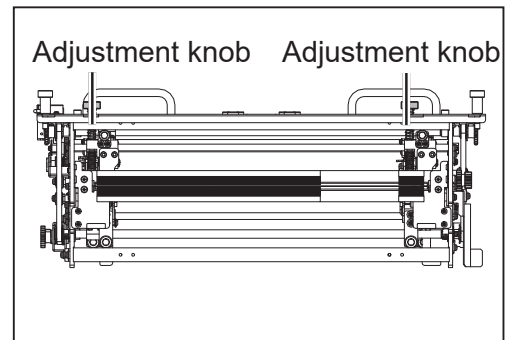Slide the **indicator** on the top plate of the module to the attached **rotary tool**. (The figure on the right shows that the score tool is attached.)

Indicator

Per   Sco   Mic   SI-S

Per: Perforation tool
Sco: Score tool
Mic: Micro perforation tool
SI-S: Slit-score tool

REFERENCE

● Adjust the **adjustment knobs** according to the position of the black arrow on the label of the **rotary tool** attached. You can also adjust the **adjustment knobs** within the gray-colored area when it is necessary to adjust the processing depth after processing the test sheet. Adjusting them to the outside of the gray-colored area may damage the **rotary tool**.
● The position of the **adjustment knob** may differ depending on the diameter of a **rotary tool** even when the same type of tool is used.
● When processing light weight documents, if a **rotary tool** is at a deeper position, it may not be able to perform a document processing straight to a finished product.
If this is the case, adjust the depth of the **rotary tool** slightly shallower (toward the upper limit position).

Programming a JOB on the Control Panel

This chapter describes how to program a JOB on the control panel of the DC-648.

Before Programming a JOB

This section describes the functions which are related to the **RTM (Rotary Tool Module)**.
For other settings, refer to Chapter 2 Programming a JOB - Before Programming a JOB in the DC-648 Instruction Manual.

Standby Screen

① **JOB Details**

   1. Touching 🔍 displays the details of the selected JOB.

   2. Touch ▶.

3. Touch **RTM**.
   • The screen shown on the right is that for a JOB
     with **RTM** selected for **Slot2** to **Slot4**.
     (**1**: **Slot4**, **2**: **Slot3**, **3**: **Slot2**)

```
JOB   001 Details2        3
  ◄      RTM       RTM        RTM       ►
Slot4  X1
    R :  70.0      L : 220.0
                                          ▼
  ⤶
```

   • The screen shown on the right is that for a JOB
     with **RTM** selected for **Slot2** and **Slot3**.
     (**1**: **Slot3**, **2**: **Slot2**)

```
JOB   001  Detai2
  ◄      RTM       RTM   Settings Modules
Slot3  X1
    R :  50.0      L : 210.0
                                          ▼
  ⤶
```

   • The screen shown on the right is that for a JOB
     with **RTM** selected for **Slot2**. (**1**: **Slot2**)

```
JOB   001  Details
  ◄      RTM    Settings Modules
Slot2  X1
    R :  30.0      L : 200.0
                                          ▼
  ⤶
```

4. **RTM**
   Processing positions of the **RTM (Rotary Tool
   Module)** for the selected JOB appear.
   Touching ▶ displays the continuity of the
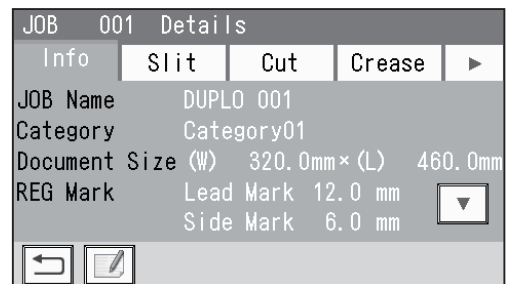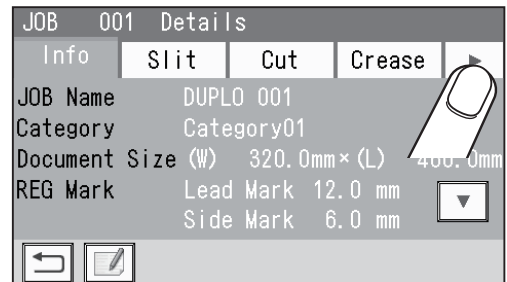   processing positions on the next page.
   Touching ⤶ redisplays the **standby** screen.

```
JOB   001  Details
  ◄      RTM    Settings Modules
Slot2  X1
    R :  30.0      L : 200.0
                                          ▼
  ⤶
```

2 **Modules Setup**
   To check a module in each slot, touch 4321.

   The module installed in each slot is displayed in **1** to
   3 in the figure on the right.
   The crease depth (standard/wide) in the creaser is
   displayed in **4** in the figure on the right.

   To return to the **standby** screen, touch ⤶.

```
Modules Setup

  4321              1 Slot2    RTM
                    2 Slot3    Slitter3&4
                    3 Slot4    Slitter5&6
                    4 Crease
  ⤶
```

2

Programming a JOB on the Control Panel

JOB Entry

The DC-648 provides two programming modes, **Wizard mode** and **Direct mode**.
There are two programming modes in **Direct mode**: **Advanced Mode** and **Simple Mode**.

      Wizard mode
      Direct mode (Advanced Mode)
      Direct mode (Simple Mode)

Before programming a JOB, set either mode in **Basic Mode** in **Environment**.
(→ Chapter 3 <u>Basic Operations</u> in the DC-648 Instruction Manual.)

Hints for entering a JOB:
- Touching SET goes on to the next step.
- Touching NEXT goes on to the next screen.
- Touching ⏎ redisplays the previous screen.
- Pressing the STOP key during JOB entering redisplays the **standby** screen.

The following items that appear on the touch panel stand for as below.

    Standard: Standard module   **Perf**: Perforation tool
    Slitter: Slitter module   **Micro**: Micro perforation tool
    RTM: Rotary Tool Module   **Score**: Score tool
    CPM: Cross Tool Module (Option) **SI-Score**: Slit-score tool

Setting for the RTM (Rotary Tool Module)

REFERENCE

- You can set two patterns ([**X1-R**, **X1-L**] and [**X2-R**, **X2-L**]) in the X direction (widthwise) from the right edge of a document.
- The distance between **X1-R** and **X1-L**, and that between **X2-R** and **X2-L** must be 48.0 mm or more. (**A** in the figure on page 14.)
- You cannot set processing positions within 5.0 mm from the document edge and slit in the X direction.
- In **Direct mode**, the range of values that can be entered is displayed on the LCD panel. You cannot enter any values outside of the range.
- The **unit L** is on the left side and the **unit R** is on the right side of the **RTM (Rotary Tool Module)** to the feed direction.

● Patterns of processing with **RTM (Rotary Tool Module)**

REFERENCE

- You can program up to six sets of **On** (a start position) and **Off** (a stop position) in the Y direction (lengthwise) from the lead edge of a document for each pattern.
  One set consists of one **On** position and one **Off** position. (See above.)
- **X1** and **X2** cannot be programmed at the same processing positions.

IMPORTANT

Processing a document in the Y direction of **Pattern 2** can be made between each set of **Pattern 1**.

Set 1 of Pattern 1   Set 2 of Pattern 1   Set 3 of Pattern 1

X2-R   X2-Y2 On X2-Y3 On X2-Y3 Off

Feed direction   X2-Y1 On X2-Y1 Off   X2-Y2 Off

X (Widthwise)

X2-L

- - - - Perforation   RTM processing position

Y （Lengthwise）

● Limitations

1 in the figure below shows that the **unit L** processing **Pattern 1** is located between 5.0 to 47.9 mm from the edge of a finished product on the non-operator's side.
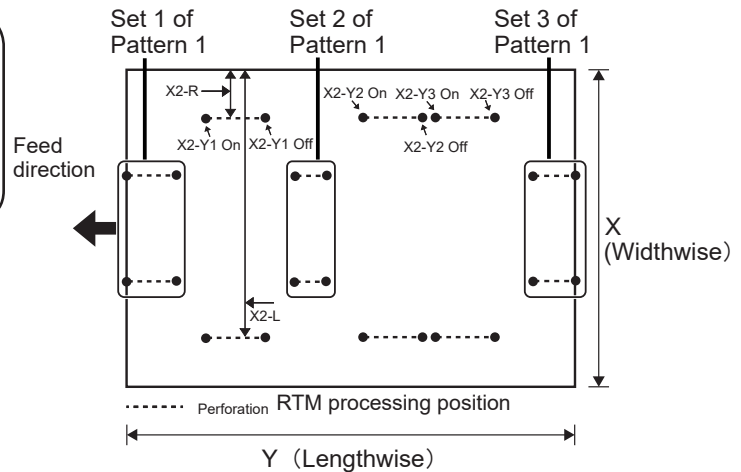
When a JOB is programmed with the **unit L** at this position, the **unit R** is located outside of the finished product. If the **Off** position of **Patter 1** is located at the position of 20.0 mm or more from the trail edge of the document and there is **Pattern 2** processed with the **unit R** after that, the **unit R** comes into contact with the edge of a finished product and may cause a document jam, disabling the JOB entry.

The above is applied if **Pattern 1** and **Pattern 2** are processed in the opposite positions as well.

Pattern1 → R **1**   R

Non-operator's side   5-47.9 mm

Pattern1 → L **1**   L

Pattern2

Feed direction   20 mm   X(Widthwise)

Pattern2

Operator's side

- - - - RTM processing position

Y （Lengthwise）

✕ : A position where the **unit R** comes into contact with the edge of a finished product.

REFERENCE

If the settings meet the conditions of the above limitations, the screen shown on the right appears.

```
RTM X position cannot be changed
within 20.0mm from the trail edge.
```
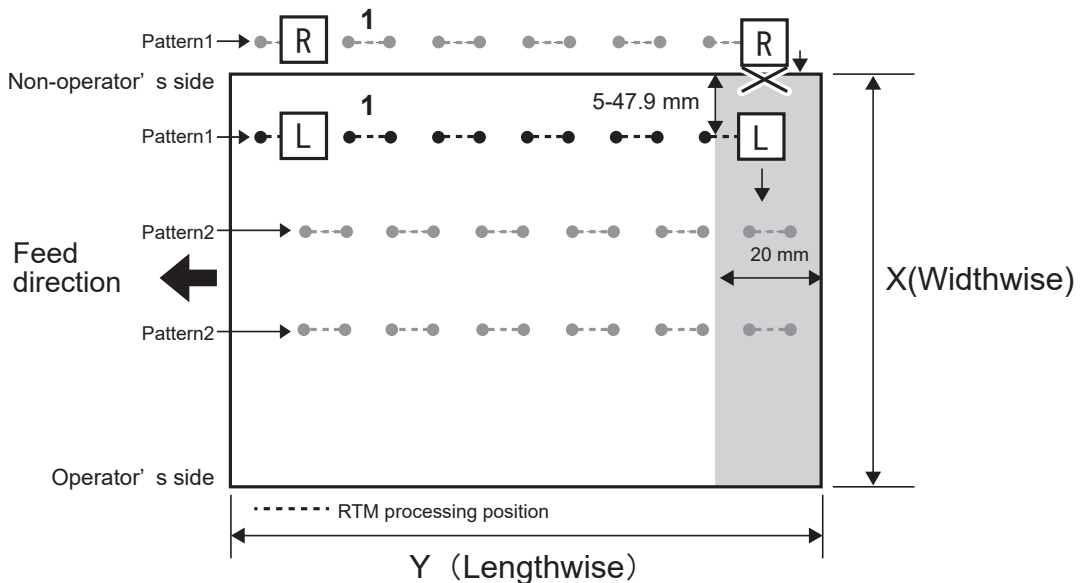↩   NEXT

R↓
L↑

● Limitations

1 in the figure shows that the **unit R** processing **Pattern 1** is located between 5.0 to 47.9 mm from a finished product on the operator's side.

When a JOB is programmed with the **unit R** at this position, the **unit L** is located outside of the finished product. If the **Off** position of **Patter 1** is located at the position of 20.0 mm or more from the trail edge of the document and there is **Pattern 2** processed with the **unit L** after that, the **unit L** comes into contact with the edge of a finished product and may cause a document jam, disabling the JOB entry.
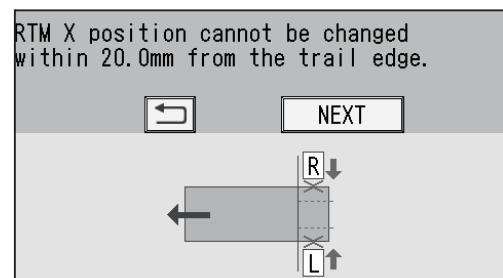
The above is applied if **Pattern 1** and **Pattern 2** are processed in the opposite positions as well.

✕ : A position where the **unit L** comes into contact with the edge of a finished product.

REFERENCE

If the settings meet the conditions of the above limitations, the screen shown on the right appears.
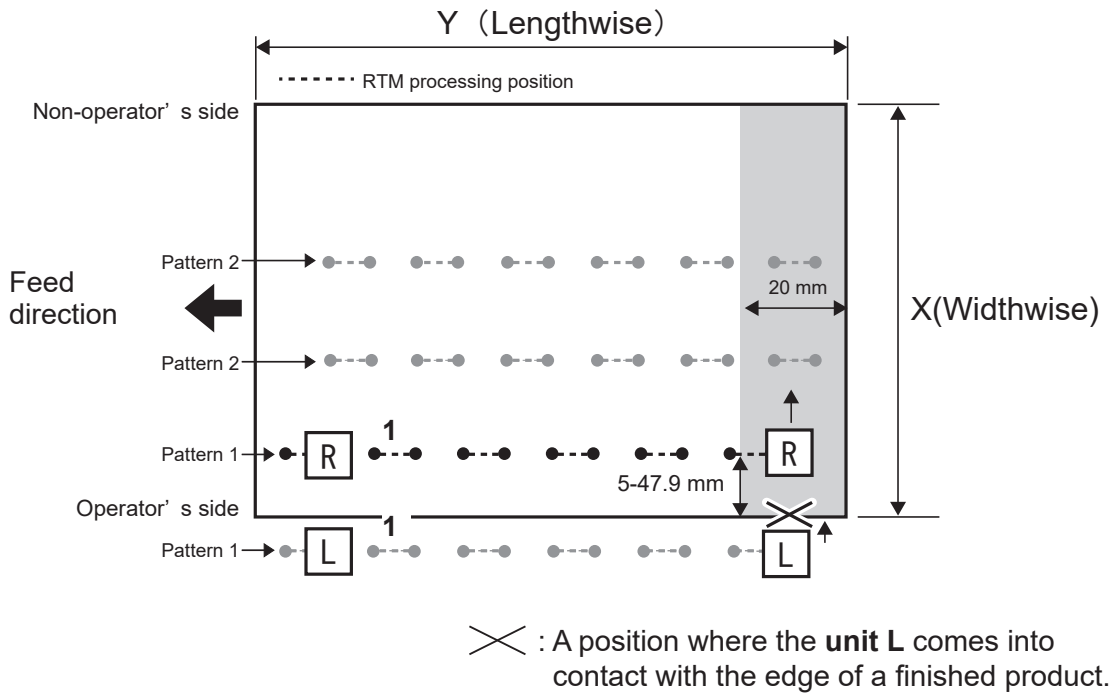

RTM X position cannot be changed within 20.0mm from the trail edge.

2

Programming a JOB on the Control Panel

Wizard

- This section describes the function which are related to the **RTM (Rotary Tool Module)**.
  For other settings, refer to Chapter 2 Programming a JOB - Wizard in the DC-648 Instruction Manual.
- In **Wizard mode**, you can set processing positions of the rotary tool on one finished product, up to two sets in the **X** direction and up to six sets in the **Y** direction.
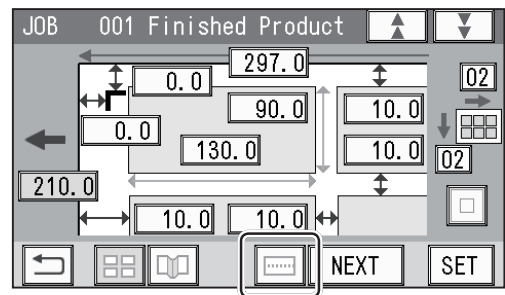
1 Make sure that the **standby** screen is displayed on the **touch panel**, and then touch **Enter JOB**.

Referring to Chapter 2 Programming a JOB - Programming a JOB - Wizard - steps ❷ to ❽ in the DC-648 Instruction Manual, make settings for the following items.
- JOB number
- JOB name
- Category
- JOB Programming (Wizard)
- Document Size
- Crease

2 Touch [▭] to set processing positions of the **RTM (Rotary Tool Module)**.

3 Pattern 1 in the X direction (widthwise) **X1**

> **REFERENCE**
>
> - You can set up to two sets of two patters in the X direction on one document. In **Wizard mode**, the number of sets that can be set varies depending on the number of cards in the X direction. Even if two **RTM (Rotary Tool Module)s** are installed, the total of processing positions for one **RTM (Rotary Tool Module)** is as shown in the table on the right.
> - Limitation on entry (X direction)
>   Enter a value so that there is 5.0 mm or more of the distance between the right edge of the finished product and a slit.
>   Enter a value so that there is 48.0 mm or more of the distance between the tools (**R** and **L**) of the **RTM (Rotary Tool Module)**.

The number of cards widthwise (X direction)	Processing positions of rotary tool
1	2 sets of X1 and X2
2	1 set of X1 and X2
3 or more	Cannot be entered

● When setting one **RTM (rotary Tool Module)** and one card in the X direction

1. Enter the distance between the right edge of the finished product and the processing position (**1**) in the X direction. Touch [SET].

2. Enter the distance between the right edge of the finished product and the processing position in the X direction (**2**: **X1-L**). Touch [SET].

3. Touch **3** and select a type of **rotary tool** that is used for **X1-R** (**1**).
Every time **3** is touched, **Perf**, **Micro**, **SI-Score**, or **Score** is displayed in turn.

```
JOB    001 RTM1_X1           [▲] [▼]
              1      130.0
            [20.0]      3
                         [Perf]
            [70.0]
   90.0                   [Perf]      [▼]

   [↩] [88] [📖]      [....] NEXT   SET
```

4. Touch **4** and select a type of **rotary tool** that is used for **X1-L** (**2**).
Every time **4** is touched, **Perf**, **Micro**, **SI-Score**, or **Score** is displayed in turn.
Proceed to step ⑮.

```
JOB    001 RTM1_X1           [▲] [▼]
                     130.0
            [20.0]
                         [Perf]
      2    [70.0]    4
   90.0                   [Perf]      [▼]

   [↩] [88] [📖]      [....] NEXT   SET
```

5. Touch [▼].

```
JOB    001 RTM1_X1           [▲] [▼]
                     130.0
            [20.0]
                         [Perf]
            [70.0]
   90.0                   [Perf]      [▼]

   [↩] [88] [📖]      [....] NEXT   SE
```

REFERENCE

Touching [NEXT] may display the screen as shown on the right.
The third processing position in the **X** direction on the finished product is set.
Touch [↩] to return to the previous screen.

```
The number of rotary perforations
are outside the limit.

         [↩]


         ◀━━━━      1
                    2
                 ╳ 3
```
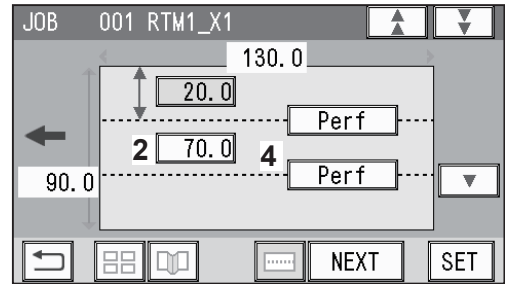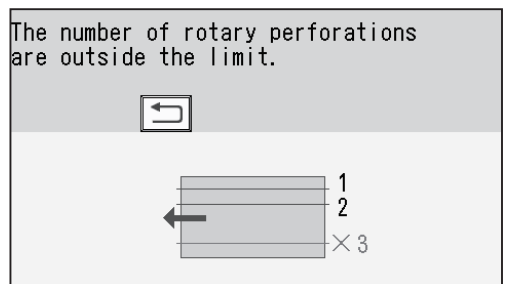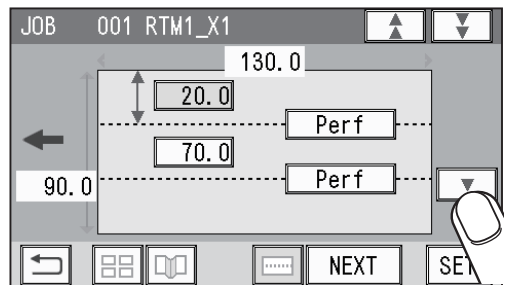
● When setting one **RTM (Rotary Tool Module)** and two cards in the X direction
1. Enter the distance between the right edge of the finished product and the processing position (**1**) in the X direction with the NUMERIC keys.
Touch [SET].

```
JOB    001 RTM1_X1           [▲] [▼]
              1      130.0
            [0.0]
                         [Perf]
            [0.0]
   90.0                   [Perf]

   [↩] [88] [📖]      [....] NEXT   SET
```

REFERENCE

If the number of cards in the X direction is **2**, entering the processing position (**1**) in the X direction processes the same position in the X direction on the other finished product. (The rotary tool on the right side of the **RTM (Rotary Tool Module)** processes the finished product on the right and the rotary tool on the left side processes that on the left.)

```
                    ▲  Feed
                    ┃  direction
   ┌────────┐   ┌────────┐
   │    ┆   │   │    ┆   │
   │    ┆   │   │    ┆   │
   │    ┆   │   │    ┆   │
        L             R
```

If the number of cards in the X direction is **2**, entering the processing position (**2**) in the X direction and then touching NEXT displays the alert screen, which shows that an invalid value is entered because two cards are programmed to be processed with one **RTM (Rotary Tool Module)** in the X direction. Enter **0** (zero) for (**2**).

JOB	001 RTM1_X1	▲	▼

130.0
20.0
2------- Perf
40.0
90.0 ------- Perf ▼

↩ | ⊞ | 📖 | ⋯ | NEXT | SET

2. Touch **3** and select a type of **rotary tool** that is used for **X1** (**1**).
   Every time **3** is touched, **Perf**, **Micro**, **SI-Score**, or **Score** is displayed in turn.
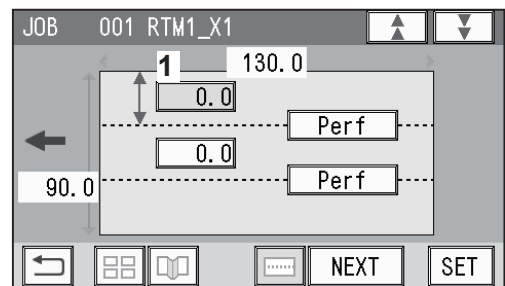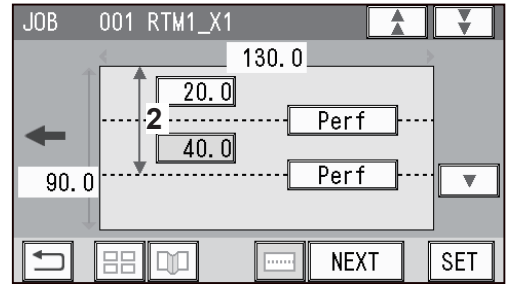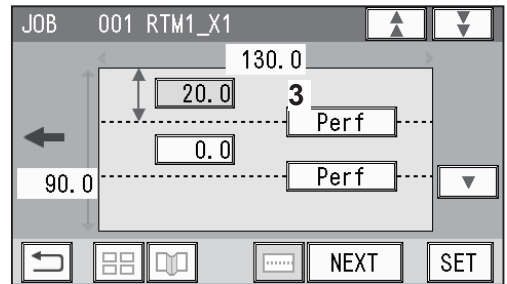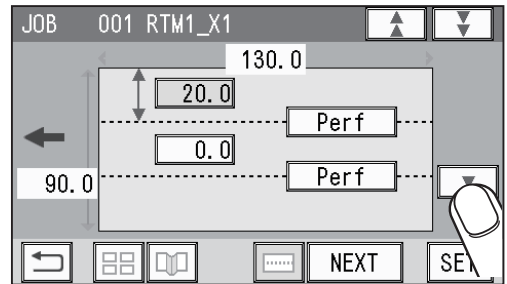
JOB	001 RTM1_X1	▲	▼

130.0
20.0 **3**
Perf
0.0
90.0 ------- Perf ▼

↩ | ⊞ | 📖 | ⋯ | NEXT | SET

3. Touch the ▼.

JOB	001 RTM1_X1	▲	▼

130.0
20.0
Perf
0.0
90.0 ------- Perf ▼

↩ | ⊞ | 📖 | ⋯ | NEXT | SET

4 **RTM1_X1_Y** (Settings in the Y direction of Pattern 1 on the X side)
   1. Enter the distance between the lead edge of the finished product and **1** (**On** position: the processing start position of the rotary tool) of **Y1** (**Set 1** in the Y direction) with the NUMERIC keys.
      Touch SET .

JOB	001 RTM1_X1_Y	▲	▼

130.0
Y1
1 0.0 ▲
0.0
▼

↩ | ⊞ | 📖 | ⋯ | NEXT | SET

• If the number of cards in the Y direction is any of **2** to **6**, entering a processing position (**1**) in the Y direction sets the **On** position of **Y1** at the same position in the Y direction on another (other) finished product (products).
• The tools on the left side (**L**) and the right side (**R**) skip at the same time.

You can set up to six sets on one document in the Y direction.
In **Wizard mode**, the number of sets that can be set varies depending on the number of cards in the Y direction.
Even if two or three **RTM (Rotary Tool Module)s** are installed, the total of processing positions for one **RTM (Rotary Tool Module)** is as shown in the table on the right.

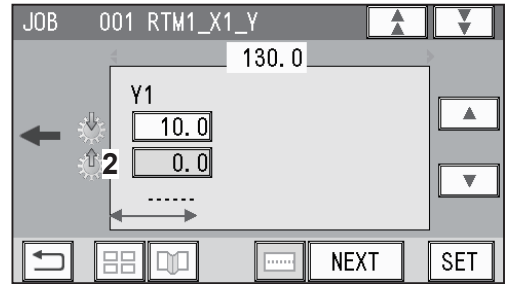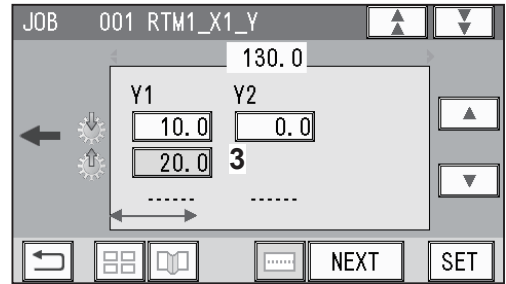| The number of cards lengthwise (Y direction	Processing positions of rotary tool
1	Y1 to Y6 6 sets
2	Y1 to Y3 3 sets
3	Y1 to Y2 2 sets
4	Y1 1 set
5	Y1 1 set
6	Y1 1 set

2. Enter the distance between the lead edge of the finished product and **2** (**Off** position: the processing stop position of the rotary tool) of **Y1** (**Set 1** in the Y direction).
   Touch [SET].
   If the number of cards in the Y direction is **4** to **6**, go to step ⑤.

JOB 001 RTM1_X1_Y
130.0
Y1
10.0
2   0.0

NEXT   SET

3. Enter the distance between the lead edge of the finished product and **3** (**On** position: the processing start position of the rotary tool) of **Y2** (**Set 2** in the Y direction).
   Touch [SET].

JOB 001 RTM1_X1_Y
130.0
Y1   Y2
10.0   0.0
20.0   3
------   ------
NEXT   SET

4. Enter the distance between the lead edge of the finished product and **4** (**Off** position: the processing stop position of the rotary tool) of **Y2** (**Set 2** in the Y direction).
   Touch [SET].
   If the number of cards in the Y direction is **3**, go to step ⑤.

JOB 001 RTM1_X1_Y
130.0
Y1   Y2
10.0   30.0
20.0   0.0
------   4 ------
NEXT   SET

5. Enter the distance between the lead edge of the finished product and **5** (**On** position: the processing start position of the rotary tool) of **Y3** (**Set 3** in the Y direction).
   Touch [SET].

JOB 001 RTM1_X1_Y
130.0
Y1   Y2   Y3
10.0   30.0   0.0
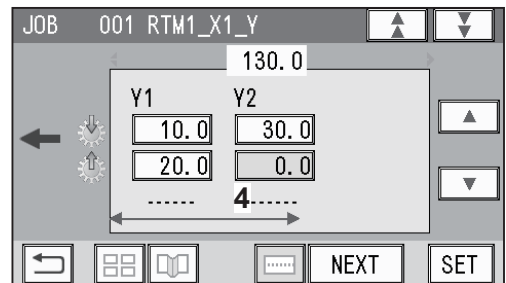20.0   40.0   5
------   ------   ------
NEXT   SET

6. Enter the distance between the lead edge of the finished product and **6** (**Off** position: the processing stop position of the rotary tool) of **Y3** (**Set 3** in the Y direction).
   Touch [SET].
   If the number of cards in the Y direction is **2**, go to step ⑤.

JOB 001 RTM1_X1_Y
130.0
Y1   Y2   Y3
10.0   30.0   50.0
20.0   40.0   0.0
------   ------   6 -----
NEXT   SET

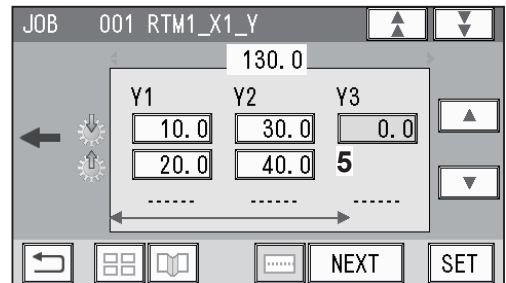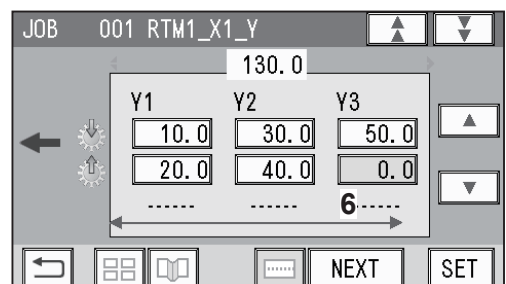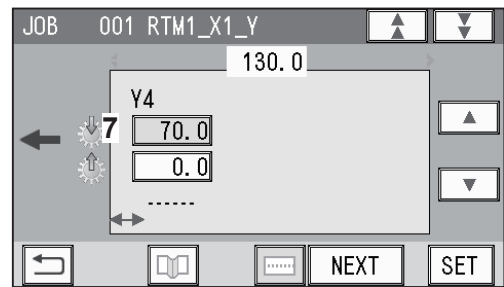7. If the number of cards in the Y direction is **1**, **Y4** to **Y6** are displayed.
   Enter the distance between the lead edge of the finished product and **7** (**On** position: the processing start position of the rotary tool) of **Y4** (**Set 4** in the Y direction).
   Touch [SET].

```
JOB    001 RTM1_X1_Y        [▲▲] [▼▼]
              130.0
       Y4
     7  [ 70.0 ]                    [▲]
        [  0.0 ]
        ------                      [▼]
     ↔
   [↩] [▥] [▭] NEXT    SET
```

8. Enter the distance between the lead edge of the finished product and **8** (**Off** position: the processing stop position of the rotary tool) of **Y4** (**Set 4** in the Y direction).
   Touch [SET].

```
JOB    001 RTM1_X1_Y        [▲▲] [▼▼]
              130.0
       Y4
        [ 70.0 ]                    [▲]
     8  [  0.0 ]
        ------                      [▼]
     ↔
   [↩] [▥] [▭] NEXT    SET
```
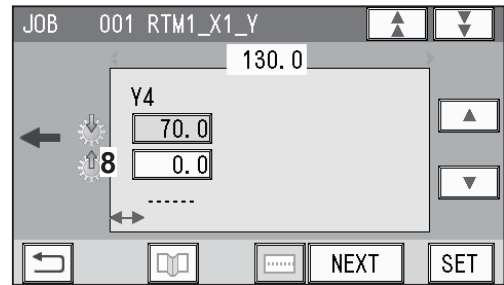
9. Enter the distance between the lead edge of the finished product and **9** (**On** position: the processing start position of the rotary tool) of **Y5** (**Set 5** in the Y direction).
   Touch [SET].

```
JOB    001 RTM1_X1_Y        [▲▲] [▼▼]
              130.0
       Y4        Y5
        [ 70.0 ]  [  0.0 ]          [▲]
        [ 80.0 ]   9
        ------    ------            [▼]
     ↔────────→
   [↩] [▥] [▭] NEXT    SET
```
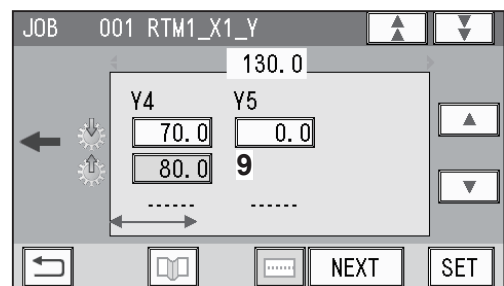
10. Enter the distance between the lead edge of the finished product and **10** (**Off** position: the processing stop position of the rotary tool) of **Y5** (**Set 5** in the Y direction).
    Touch [SET].

```
JOB    001 RTM1_X1_Y        [▲▲] [▼▼]
              130.0
       Y4        Y5
        [ 70.0 ]  [ 90.0 ]          [▲]
        [ 80.0 ]  [  0.0 ]
        ------     10 ---            [▼]
     ↔────────→
   [↩] [▥] [▭] NEXT    SET
```
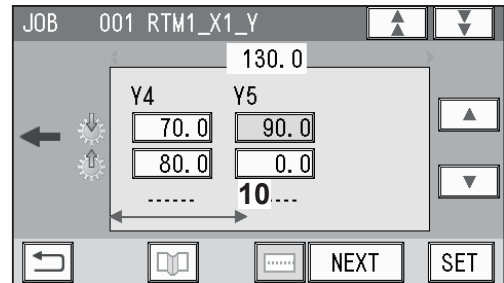
11. Enter the distance between the lead edge of the finished product and **11** (**On** position: the processing start position of the rotary tool) of **Y6** (**Set 6** in the Y direction).
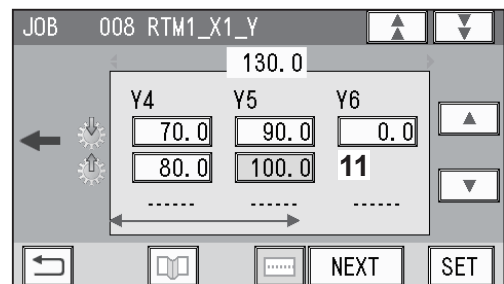   Touch [SET].

```
JOB    008 RTM1_X1_Y        [▲▲] [▼▼]
              130.0
       Y4        Y5        Y6
        [ 70.0 ]  [ 90.0 ]  [  0.0 ]  [▲]
        [ 80.0 ]  [100.0 ]   11
        ------    ------    ------     [▼]
     ↔────────→
   [↩] [▥] [▭] NEXT    SET
```

12. Enter the distance between the lead edge of the finished product and **12** (**Off** position: the processing stop position of the rotary tool) of **Y6** (**Set 6** in the Y direction).
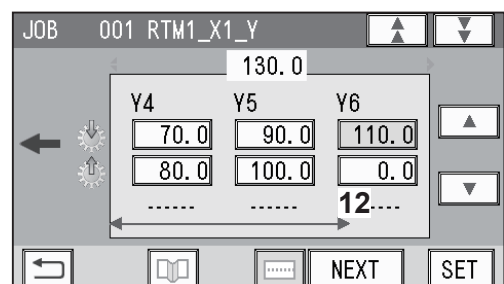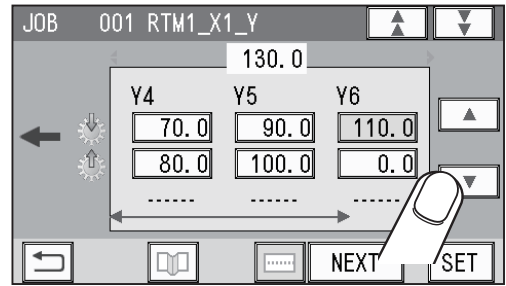   Touch [SET].

```
JOB    001 RTM1_X1_Y        [▲▲] [▼▼]
              130.0
       Y4        Y5        Y6
        [ 70.0 ]  [ 90.0 ]  [110.0 ]  [▲]
        [ 80.0 ]  [100.0 ]  [  0.0 ]
        ------    ------     12 ---    [▼]
     ↔────────→
   [↩] [▥] [▭] NEXT    SET
```

5 Touch ▼.

```
JOB    001 RTM1_X1_Y       ⏶ ⏷
              130. 0
        Y4      Y5      Y6        ⏶
       70. 0   90. 0   110. 0
       80. 0  100. 0     0. 0      ⏷
       ------  ------  ------
     ↩    📖   .....   NEXT   SET
```
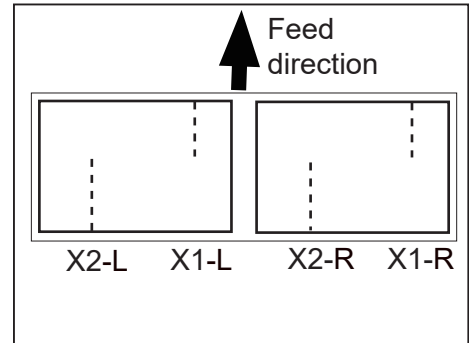
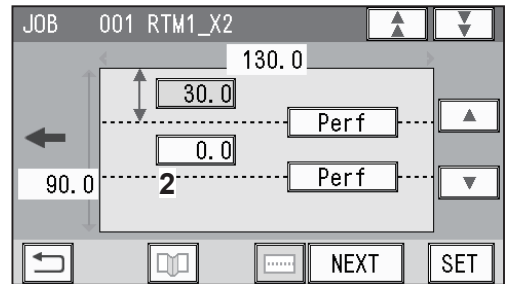**6** ● **Pattern 2 in the X direction (widthwise) X2**
1. Enter the distance between the right edge of the finished product and the processing position in the X direction (**1**: X2-R). Touch SET.
   If the number of cards in the X direction is **1**, go to step **6**-2.
   If the number of cards in the X direction is **2**, go to step **8**.

```
JOB    001 RTM1_X2         ⏶ ⏷
     1        130. 0
          0. 0              ⏶
                    Perf
          0. 0
   90. 0              Perf
     ↩    📖   .....   NEXT   SET
```
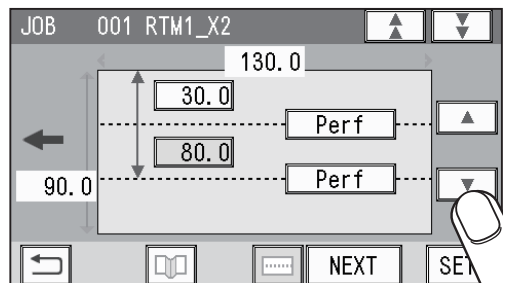
REFERENCE
If the number of cards in the X direction is **2**, entering the processing position (**1**) in the X direction processes the same position in the X direction on the other finished product. (The rotary tool on the right side of the **RTM (Rotary Tool Module)** processes the finished product on the right and the rotary tool on the left side processes that on the left.)

Feed direction

X2-L   X1-L   X2-R   X1-R

2. Enter the distance between the right edge of the finished product and the processing position in the X direction (**2**: X2-L). Touch SET.
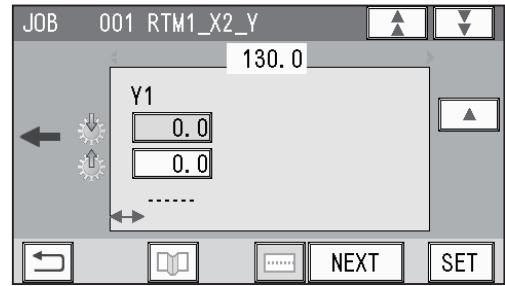
```
JOB    001 RTM1_X2         ⏶ ⏷
              130. 0
         30. 0             ⏶
                   Perf
          0. 0
   90. 0    2       Perf    ⏷
     ↩    📖   .....   NEXT   SET
```

3. Touch ▼.

```
JOB    001 RTM1_X2         ⏶ ⏷
              130. 0
         30. 0             ⏶
                   Perf
         80. 0
   90. 0            Perf    ⏷
     ↩    📖   .....   NEXT   SET
```
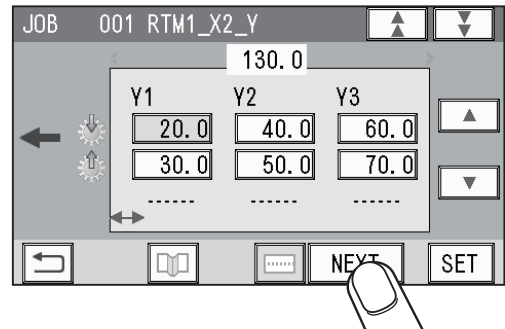
2

Programming a JOB on the Control Panel

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7 **RTM1_X2_Y** (Settings in the Y direction of Pattern 2 on the X side)
Set the processing start and the stop positions of the rotary tool for Pattern 2 with the **RTM (Rotary Tool Module)** in similar ways to steps **4**-1 to **4**-12.
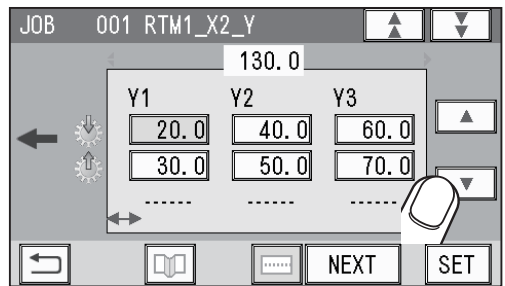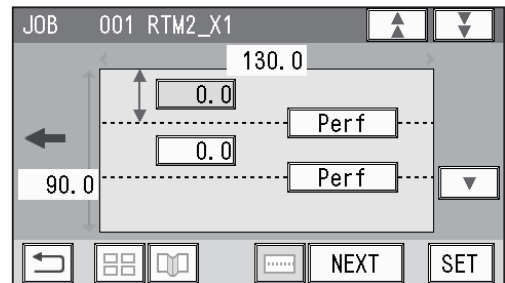
```
JOB    001 RTM1_X2_Y        [▲][▼]
            130. 0
    Y1                           [▲]
       [  0. 0 ]
       [  0. 0 ]
       ------
    [↔]
  [↩] [📖] [.....] NEXT   SET
```

8 Touch NEXT .

```
JOB    001 RTM1_X2_Y        [▲][▼]
            130. 0
    Y1        Y2        Y3       [▲]
   [ 20. 0 ][ 40. 0 ][ 60. 0 ]
   [ 30. 0 ][ 50. 0 ][ 70. 0 ]  [▼]
    ------    ------    ------
    [↔]
  [↩] [📖] [.....] NEXT   SET
```

REFERENCE

1. If you use two or three **RTM (Rotary Tool Module)s**, touch ▼ .

```
JOB    001 RTM1_X2_Y        [▲][▼]
            130. 0
    Y1        Y2        Y3       [▲]
   [ 20. 0 ][ 40. 0 ][ 60. 0 ]
   [ 30. 0 ][ 50. 0 ][ 70. 0 ]  [▼]
    ------    ------    ------
    [↔]
  [↩] [📖] [.....] NEXT   SET
```

2. Enter values for processing positions of **RTM2** and/or **RTM3** (the second and/or third **RTM (Rotary Tool Module)(s)** in similar ways to steps **3** to **8**.

```
JOB    001 RTM2_X1          [▲][▼]
            130. 0
      [  0. 0 ]
                     [ Perf ]
      [  0. 0 ]
  90. 0 - - - - - - [ Perf ]    [▼]

  [↩] [⊞][📖] [.....] NEXT   SET
```
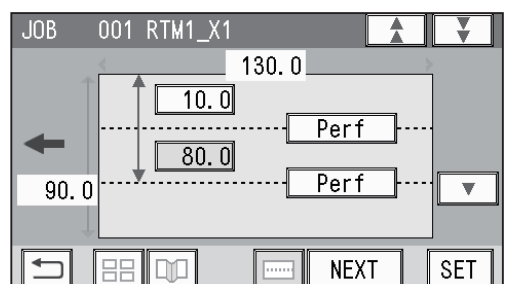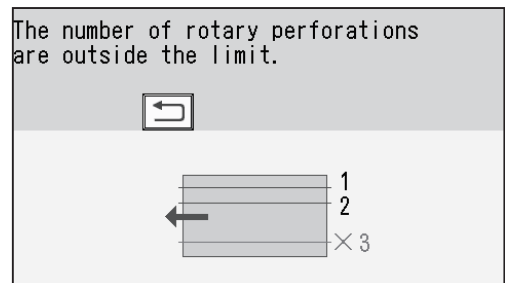
REFERENCE

The screen on the right appears.
Touching ↩ may display the lower screen on the right.
The value on the screen is displayed in red.
In this case, the values for **R** and **L** were entered in **Layout - Layout** in step **3** even though **2** was entered for the number of the finished products on the X side.
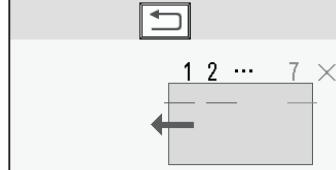To clear the error, touch the value for **R** or **L** and then enter **0** (zero). Or enter **1** for the number of finished products on the X side in step **9** and then touch NEXT .

```
The number of rotary perforations
are outside the limit.

       [↩]

                            1
                            2
               ⬅       × 3
```

```
JOB    001 RTM1_X1          [▲][▼]
            130. 0
      [ 10. 0 ]
                     [ Perf ]
      [ 80. 0 ]
  90. 0 - - - - - - [ Perf ]    [▼]

  [↩] [⊞][📖] [.....] NEXT   SET
```

REFERENCE

The figure on the right appears if seven or more sets of **On** position and **Off** position in the Y direction with the **RTM** have been programmed. Touch 🔙 to check the number of sets for processing or of the cards in the Y direction of the **RTM (Rotary Tool Module)**.

```
The number of on/off exceeds
the specifications.
        🔙
        1 2 ··· 7 ×
```

9 Follow Chapter 2 Programming a JOB - Programming a JOB - steps ⑨ to ⑲ in Wizard in the DC-648 Instruction Manual to make settings for the following items:
• Layout (Finished products in a length/width direction)
• Layout - Layout (Manual/Center)
• Gutter
• Finished Product
• Shrinkage Mark
• Mark Spec
• Settings-1 to 4
• Entry

The following describes the function, which is related to the **RTM (Rotrary Tool Module)**, in the above settings.

Settings-1
Slitter Guide

This function enables you to use the **slitters** and the **RTM (Rotary Tool Module)** that you do not use to process a JOB as document guides to stabilize document conveyance.
To use this function, select **ON**. To not use this function, select **OFF**.

REFERENCE

• It is recommended that you select **ON** when processing light weight documents.
• Modules that function as a slitter guide are the **slitter module** and the **RTM (Rotary Tool Module)**.
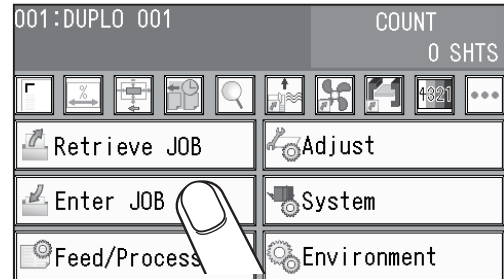
Direct - Advanced Mode

This section describes the function which are related to the **RTM (Rotary Tool Module)**.
For other settings, refer to Chapter 2 <u>Programming a JOB</u> - <u>Direct</u> - <u>Advanced Mode</u> in the DC-648 Instruction Manual.
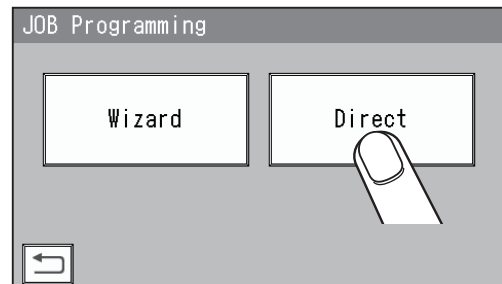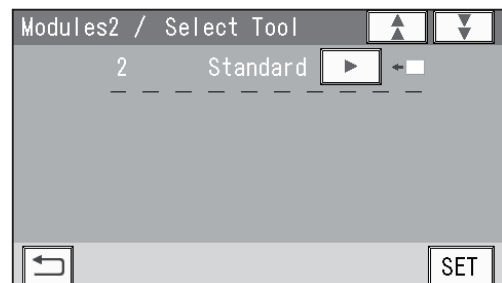
1 Make sure that the **standby** screen is displayed on the **touch panel**, and then touch **Enter JOB**.

Referring to Chapter 2 <u>Programming a JOB</u> - <u>Programming a JOB</u> - steps ❶ to ❷ in <u>Direct</u> - <u>Advanced Mode</u> in the DC-648 Instruction Manual, make settings for the following items:
• JOB number
• JOB name
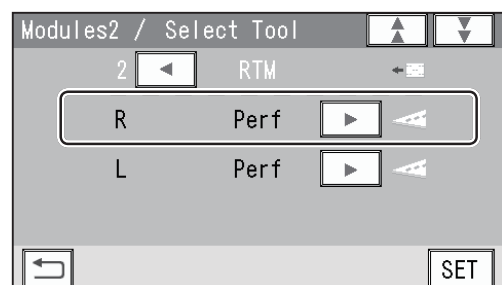• Category
• JOB Programming (Direct)

```
001:DUPLO 001              COUNT
                           0 SHTS
  ⌐  ✂  ⬌  🕐  🔍   ⬆  ✂  📄  4321  •••

  🖊 Retrieve JOB    🔧 Adjust

  🖊 Enter JOB       🔧 System

  ⚙ Feed/Process    🔧 Environment
```

2 Touching **Direct** on the **JOB Programming** screen displays the **Modules2 / Select Tool** screen.

```
JOB Programming

   ┌──────────┐    ┌──────────┐
   │  Wizard  │    │  Direct  │
   └──────────┘    └──────────┘

   ↰
```
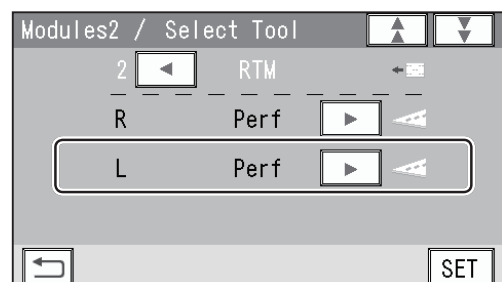
3 **Modules2 / Select Tool**
Touch ◄ / ► to select **RTM (Rotary Tool Module)** for **slot2**.
(No module which was not programmed by a service person when installed will be displayed.)

```
Modules2 / Select Tool        ⬆  ⬇
      2        Standard   ►   ←■
    _ _ _ _ _ _ _ _ _ _

   ↰                              SET
```

4 1. Touching ◄ / ► displays **Perf**, **Micro**, **Sl-Score**, and **Score** in turn.
Select a rotary tool for **R** (right side) in **slot2**.

```
Modules2 / Select Tool        ⬆  ⬇
      2   ◄      RTM           ←■
   ┌─────────────────────────────┐
   │ R        Perf      ►      ◁ │
   └─────────────────────────────┘
     L        Perf      ►      ◁

   ↰                              SET
```
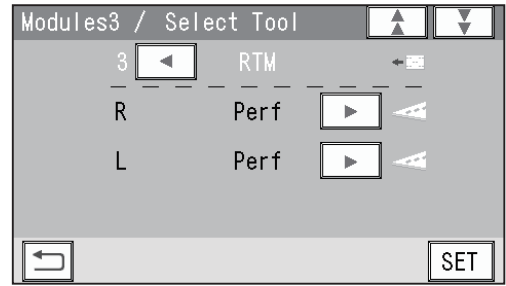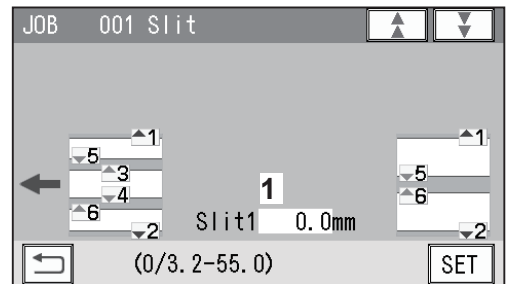
2. Touching ◄ / ► displays **Perf**, **Micro**, **Sl-Score**, and **Score** in turn.
Select a rotary tool for **L** (left side) in **slot2**.

3. Touch SET .

```
Modules2 / Select Tool        ⬆  ⬇
      2   ◄      RTM           ←■
     R        Perf      ►      ◁
   ┌─────────────────────────────┐
   │ L        Perf      ►      ◁ │
   └─────────────────────────────┘

   ↰                              SET
```

26

⑤ Modules3 / Select Tool
Modules4 / Select Tool
If the **RTMs (Rotary Tool Modules)** are installed in **slot3** to **slot4**, select rotary tools for both **R** and **L** in **slot3** to **slot4** as well in similar ways to steps ❸ to ❹.

```
Modules3 / Select Tool      [⏶] [⏷]
    3  [◀]      RTM          ←🖿
    R        Perf        [▶]  ◁
    L        Perf        [▶]  ◁

[↩]                          [SET]
```

⑥ Referring to Chapter 2 Programming a JOB - Programming a JOB - steps ❺ to ❽ in Direct - Advanced Mode in the DC-648 Instruction Manual, make settings for the following items:
• Document Size
• REG Mark
• Shrinkage Mark
• Mark Spec

2

Programming a JOB on the Control Panel

⑦ Slit
1. Set processing positions of the **margin slitter module** installed in **slot1**.
   Enter values for the distances between the right edge of the document and **Slit1** for **1**.
   Touch [SET].
   Enter a value for **Slit2** as well in a similar way to the above.

```
JOB    001 Slit           [⏶] [⏷]

         ⏶1                      ⏶1
      [5                      [5
    ⏴  [3          1        [6  ⏴
      [4                      [6
      [6  ⏷2    Slit1  0.0mm   ⏷2
[↩]         (0/3.2-55.0)          [SET]
```

2. In steps ❹ to ❺:
   • If you have set three **RTMs (Rotary Tool Modules)** (installed in **slot2** to **slot4**):
     → Go to step ❽.
   • If you have set two **RTMs (Rotary Tool Modules)** (installed in **slot3** to **slot4**):
     → Go to step ❽.
   • If you have set two **RTMs (Rotary Tool Modules)** (installed in **slot2** to **slot3** or **slot2** and **slot4**):
     → If a **center slitter module** is installed in the rest of the **slot**, enter the distance between the right edge of the document and **each slit**. Touch [SET].
   • If you have set one **RTM (Rotary Tool Module)** (installed in **slot2**, **slot3**, or **slot4**):
     → If a **center slitter module** is installed in the rest of the **slots**, enter the distance between the right edge of the document and **each slit**. Touch [SET].

REFERENCE

Slit position setting order:
1, **2**: Margin slitter module
3, **4**: Center slitter module
5, **6**: Center slitter module
e.g. • If the settings were made for two **RTMs (Rotary Tool Modules)** (installed in **slot2** to **slot3**) and for one **center slitter module** (installed in **slot4**), **1**, **2**, **5**, and **6** are displayed.
   • If the settings were made for three **RTMs (Rotary Tool Modules)** (installed in **slot2** to **slot4**), **1** and **2** are displayed.

```
┌──────────────────────────────┐
│ ⬆ Feed direction             │
│                              │
│   2   6   4   3   5   1      │
│  ┌──┬──┬──┬──┬──┬──┐         │
│  │  │  │  │  │  │  │         │
│  │  │  │  │  │  │  │         │
│  │  │  │  │  │  │  │         │
│  │  │  │  │  │  │  │         │
│  └──┴──┴──┴──┴──┴──┘         │
└──────────────────────────────┘
```

⑧ Referring to Chapter 2 Programming a JOB - Programming a JOB - steps ⑩ to ⑪ in Direct - Advanced Mode in the DC-648 Instruction Manual, make settings for the following items:
• Cut
• Crease

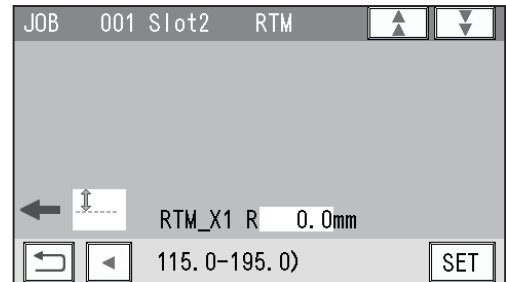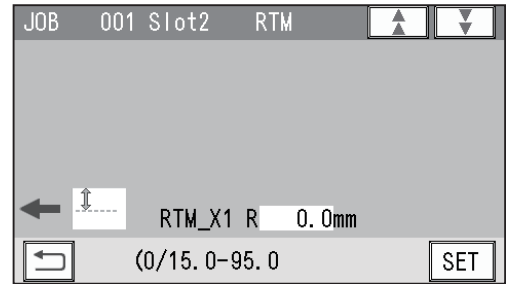**⑨ Slot2 RTM**

X1 (Pattern 1 in the X direction)

1. **RTM_X1 R**
   Enter the distance between the right edge of the document and the rotary tool on the right side (**R**) of the **RTM (Rotary Tool Module)**.
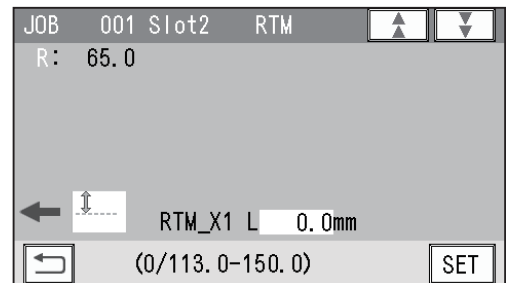   Touch SET .

   REFERENCE

   If you have set gutter slit(s) in step ⑦, touching ◀ / ▶ switches the value that can be entered for the positions of the rotary tool for the finished product on the right and for those on the left.

```
JOB    001 Slot2    RTM    [▲][▼]



  ←  ↕
          RTM_X1 R    0.0mm
     ⏎        (0/15.0-95.0)        [SET]
```

```
JOB    001 Slot2    RTM    [▲][▼]




  ←  ↕
          RTM_X1 R    0.0mm
     ⏎  ◀   115.0-195.0)          [SET]
```

2. **RTM_X1 L**
   Enter the distance between the right edge of the document and the rotary tool on the left side (**L**) of the **RTM (Rotary Tool Module)**.
   Touch SET .

```
JOB    001 Slot2    RTM    [▲][▼]
  R:   65.0



  ←  ↕
          RTM_X1 L    0.0mm
     ⏎       (0/113.0-150.0)       [SET]
```
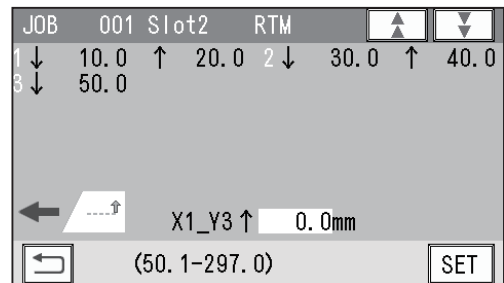
⑩ Slot2 RTM

1. **X1_Y1↓**
   Enter the distance between the lead edge of the document and the **On** position (the processing start position of the rotary tool) of **Y1** (**Set 1** in the Y direction). Touch SET .
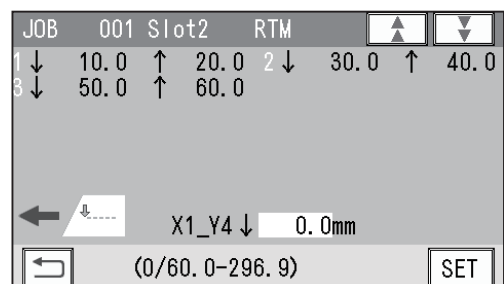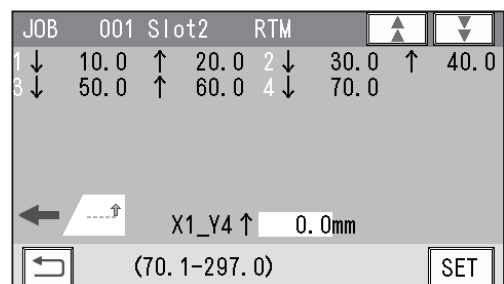
   REFERENCE

   The tools on the left side (**L**) and the right side (**R**) skip at the same time.
   You can program up to six sets (**Y1** to **Y6**) in the Y direction each for **X1** (Pattern 1 in the X direction) and **X2** (Pattern 2 in the X direction).
   To finish the setting for the Y direction with fewer than six sets, enter a value for the last processing position and touch SET .
   Then touch SET again, which proceeds to step ⑬.

```
JOB    001 Slot2    RTM    [▲][▼]




  ←  ↙
          X1_Y1 ↓    0.0mm
     ⏎        (0.0-296.9)          [SET]
```

2. **X1_Y1 ↑**
   Enter the distance between the lead edge of the document and the **Off** position (the processing stop position of the rotary tool) of **Y1** (**Set 1** in the Y direction). Touch SET .

```
JOB    001 Slot2    RTM    [▲][▼]
1↓   10.0



  ←  ↗
          X1_Y1 ↑    0.0mm
     ⏎        (10.1-297.0)         [SET]
```

3. **X1_Y2 ↓**
Enter the distance between the lead edge of the document and the **On** position (the processing start position of the rotary tool) of **Y2** (**Set 2** in the Y direction). Touch SET.

```
JOB    001 Slot2    RTM         [⤒] [⤓]
1↓   10.0  ↑  20.0

                    X1_Y2↓   0.0mm
[↩]          (0/20.0-296.9)          [SET]
```

4. **X1_Y2 ↑**
Enter the distance between the lead edge of the document and the **Off** position (the processing stop position of the rotary tool) of **Y2** (**Set 2** in the Y direction). Touch SET.

```
JOB    001 Slot2    RTM         [⤒] [⤓]
1↓   10.0  ↑  20.0  2↓   30.0

                    X1_Y2↑   0.0mm
[↩]          (30.1-297.0)          [SET]
```

5. **X1_Y3 ↓**
Enter the distance between the lead edge of the document and the **On** position (the processing start position of the rotary tool) of **Y3** (**Set 3** in the Y direction). Touch SET.

```
JOB    001 Slot2    RTM         [⤒] [⤓]
1↓   10.0  ↑  20.0  2↓   30.0  ↑  40.0

                    X1_Y3↓   0.0mm
[↩]          (0/40.0-296.9)          [SET]
```

6. **X1_Y3 ↑**
Enter the distance between the lead edge of the document and the **Off** position (the processing stop position of the rotary tool) of **Y3** (**Set 3** in the Y direction). Touch SET.

```
JOB    001 Slot2    RTM         [⤒] [⤓]
1↓   10.0  ↑  20.0  2↓   30.0  ↑  40.0
3↓   50.0

                    X1_Y3↑   0.0mm
[↩]          (50.1-297.0)          [SET]
```

7. **X1_Y4 ↓**
Enter the distance between the lead edge of the document and the **On** position (the processing start position of the rotary tool) of **Y4** (**Set 4** in the Y direction). Touch SET.

```
JOB    001 Slot2    RTM         [⤒] [⤓]
1↓   10.0  ↑  20.0  2↓   30.0  ↑  40.0
3↓   50.0  ↑  60.0

                    X1_Y4↓   0.0mm
[↩]          (0/60.0-296.9)          [SET]
```

8. **X1_Y4 ↑**
Enter the distance between the lead edge of the document and the **Off** position (the processing stop position of the rotary tool) of **Y4** (**Set 4** in the Y direction). Touch SET.

```
JOB    001 Slot2    RTM         [⤒] [⤓]
1↓   10.0  ↑  20.0  2↓   30.0  ↑  40.0
3↓   50.0  ↑  60.0  4↓   70.0

                    X1_Y4↑   0.0mm
[↩]          (70.1-297.0)          [SET]
```

2

Programming a JOB on the Control Panel

9. **X1_Y5 ↓**
Enter the distance between the lead edge of the document and the **On** position (the processing start position of the rotary tool) of **Y5** (**Set 5** in the Y direction). Touch SET .

```
JOB    001 Slot2    RTM    [⬆][⬇]
1↓   10.0  ↑  20.0  2↓   30.0  ↑  40.0
3↓   50.0  ↑  60.0  4↓   70.0  ↑  80.0




          X1_Y5↓    0.0mm
          (0/80.0-296.9)           [SET]
```

10. **X1_Y5 ↑**
Enter the distance between the lead edge of the document and the **Off** position (the processing stop position of the rotary tool) of **Y5** (**Set 5** in the Y direction). Touch SET .

```
JOB    001 Slot2    RTM    [⬆][⬇]
1↓   10.0  ↑  20.0  2↓   30.0  ↑  40.0
3↓   50.0  ↑  60.0  4↓   70.0  ↑  80.0
5↓   90.0



          X1_Y5↑    0.0mm
          (90.1-297.0)            [SET]
```

11. **X1_Y6 ↓**
Enter the distance between the lead edge of the document and the **On** position (the processing start position of the rotary tool) of **Y6** (**Set 6** in the Y direction). Touch SET .

```
JOB    001 Slot2    RTM    [⬆][⬇]
1↓   10.0  ↑  20.0  2↓   30.0  ↑  40.0
3↓   50.0  ↑  60.0  4↓   70.0  ↑  80.0
5↓   90.0  ↑ 100.0



          X1_Y6↓    0.0mm
          (0/100.0-296.9)          [SET]
```

12. **X1_Y6 ↑**
Enter the distance between the lead edge of the document and the **Off** position (the processing stop position of the rotary tool) of **Y6** (**Set 6** in the Y direction). Touch SET .

```
JOB    001 Slot2    RTM    [⬆][⬇]
1↓   10.0  ↑  20.0  2↓   30.0  ↑  40.0
3↓   50.0  ↑  60.0  4↓   70.0  ↑  80.0
5↓   90.0  ↑ 100.0  6↓  110.0



          X1_Y6↑    0.0mm
          (110.1-297.0)           [SET]
```

⑪ **Slot2 RTM**
X2 (Pattern 2 in the X direction)
1. **RTM_X2 R**
Enter the distance between the right edge of the document and the rotary tool on the right side (**R**) of the **RTM (Rotary Tool Module)**. Touch SET .

```
JOB    001 Slot2    RTM    [⬆][⬇]





          RTM_X2 R   0.0mm
          (0/60.0-150.0)          [SET]
```

2. **RTM_X2 L**
Enter the distance between the right edge of the document and the rotary tool on the left side (**L**) of the **RTM (Rotary Tool Module)**. Touch SET .
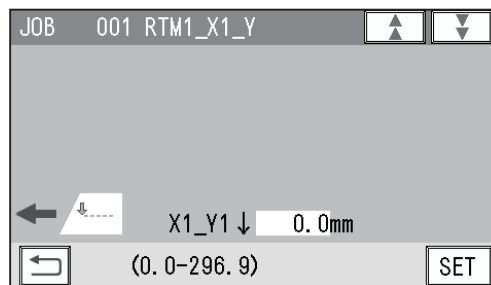
```
JOB    001 Slot2    RTM    [⬆][⬇]
 R:  75.0




          RTM_X2 L   0.0mm
          (0/123.0-150.0)         [SET]
```

⑫ **Slot2 RTM**
Enter values for **X2_Y1↓** to **X2_Y6↑** in a similar way to step ⑩.

```
JOB   001 Slot2   RTM    [▲] [▼]



          ⬇
   ⬅    ▱---    X2_Y1 ↓  0.0mm
   [↩]    (0.0-9.9      [▶]  [SET]
```

IMPORTANT

Processing a document in the Y direction of **Pattern 2** can be made between each set of **Pattern 1**.

⑬ If you have set the **RTMs (Rotary Tool Modules)** in **slot3** to **slot4**, go to step ⑭.
If you have set another module, go to step ⑮.

⑭ **Slot3 RTM**
Slot4 RTM
If you have set the **RTMs (Rotary Tool Modules)** in **slot3** to **slot4** in step ⑤, enter processing positions in similar ways to steps ⑨ to ⑫.
You can set the second set in the X direction and the sixth set in the Y direction.

```
JOB   001 Slot3   RTM    [▲] [▼]



          ⬍
   ⬅    ↕    RTM_X1 R  0.0mm
   [↩]    (0/15.0-195.0)       [SET]
```

⑮ The function setting screen appears.
Referring to Chapter 2 Programming a JOB - Programming a JOB - steps ⑮ to ⑲ - Wizard in the DC-648 Instruction Manual, make settings for the following items.
• Settings-1 to 4
• Entry

```
JOB   001 Settings-1     [▲] [▼]
Air Knife              [ON]  [OFF]
Fan Register    [OFF] [MIN] [MID] [MAX]
Blow Fan        [OFF] [MIN] [MID] [MAX]
Side Air        [OFF] [MIN] [MID] [MAX]
Slitter Guide          [ON]  [OFF]
[↩]                          [SET]
```

2

Programming a JOB on the Control Panel

Direct - Simple Mode

This section describes the functions which are related to the **RTM (Rotary Tool Module)**.
For other settings, refer to Chapter 2 Programming a JOB - Direct - Simple Mode in the DC-648 Instruction Manual.

1 Make sure that the **standby** screen is displayed on the **touch panel**, and then touch **Enter JOB**.

Referring to Chapter 2 Programming a JOB - Programming a JOB - steps **1** to **3** Direct - Simple Mode in the DC-648 Instruction Manual, make settings for the following items:
• JOB number
• JOB name
• Category
• JOB Programming (Direct)
• Document Size
• REG Mark
• Shrinkage Mark
• Mark Spec

```
001:DUPLO 001              COUNT
                          0 SHTS
[  ][ X ][  ][  ][ Q ][  ][ % ][  ][4321][...]
[ Retrieve JOB ]   [ Adjust ]
[ Enter JOB ]      [ System ]
[ Feed/Process ]   [ Environment ]
```

2 **Slit**
Set processing positions for a **slitter module**:
Enter the distance from the right edge of the document and the position of **SlitA**.
A **margin slitter module** is installed in **slot1**.

```
JOB   001 Slit          [▲][▼]



              SlitA   0.0mm
[↩]   (0/3.2-206.8)         [SET]
```

• If one **RTM (Rotary Tool Module)** is installed in **slot2**:
  → You can enter values for processing positions of the **margin slitter module** and four processing positions of the **center slitter module**. (**SlitA** to **SlitF**).
• If two **RTMs (Rotary Tool Modules)** are installed in **slot2** to **slot3**:
  → You can enter values for processing positions of the **margin slitter module** and two processing positions of the **center slitter module**. (**SlitA** to **SlitD**).
• If three **RTMs (Rotary Tool Modules)** are installed in **slot2** to **slot4**:
  → You can set the margin positions on both sides of the document. (**SlitA** to **SlitB**)

* The value limit appears on the lower part of the screen.

```
JOB   001 Slit          [▲][▼]
A:  10.0  B: 100.0  C: 110.0  D: 200.0



              SlitE   0.0mm
[↩]   (0)                  [SET]
```

↑ Feed direction

```
    F   E   D   C   B   A
  |   |   |   |   |   |   |
  |   |   |   |   |   |   |
  |   |   |   |   |   |   |
```

③ Referring to Chapter 2 <u>Programming a JOB</u> - <u>Programming a JOB</u> - steps ⑩ to ⑪ <u>Direct</u> - <u>Advanced Mode</u> in the DC-648 Instruction Manual, make settings for the following items:
• Cut
• Crease

④ **RTM1_X1**
X1 (Pattern 1 in the X direction)

> **REFERENCE**

• Limitation on entry (X direction)
Enter a value so that there is 5.0 mm or more of the distance between the right edge of the finished product and a slit.
Enter a value so that there is 48.0 mm or more of the distance between the tools (**R** and **L**) of the **RTM (Rotary Tool Module)**.
• If **RTMs (Rotary Tool Modules)** are set for **Slot2** to **Slot4**, **RTM1** is set for **Slot2**, **RTM2** is set for **slot3**, and **RTM3** is set for **Slot4**.
If only **RTM1** to **RTM2** are set, they are set for a slot for which no other module is used.
If the **CPM (Cross Tool Module)** (option) is set, **RTM1** is set for **Slot3**, and **RTM2** is set for **Slot4**.

1. Enter the distance between the right edge of the document and the rotary tool on the right side (**R**) of the **RTM (Rotary Tool Module)**.
Touch [SET].

```
JOB    001 RTM1_X1          [▲][▼]




      ↕
←  ----    RTM1_X1 R    0.0mm
[↩]       (0/15.0-95.0    [▶]  [SET]
```

2. Enter the distance between the right edge of the document and the rotary tool on the left side (**L**) of the **RTM (Rotary Tool Module)**.
Touch [SET].

```
JOB    001 RTM1_X1          [▲][▼]
R:   20.0



      ↕
←  ----    RTM1_X1 L    0.0mm
[↩]       (0/68.0-95.0    [▶]  [SET]
```

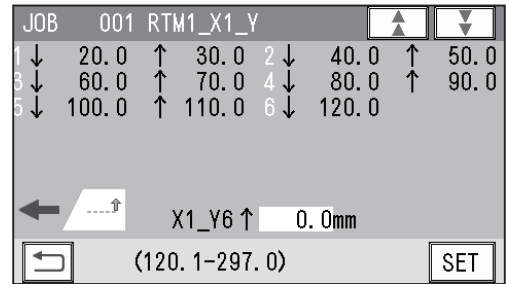**5** **RTM1_X1_Y**

1. X1_Y1↓

Enter the distance between the lead edge of the document and the **On** position (the processing start position of the rotary tool) of **Y1** (**Set 1** in the Y direction). Touch SET .
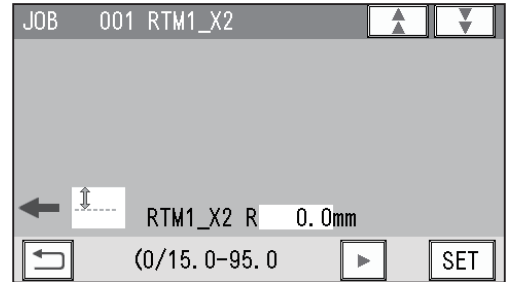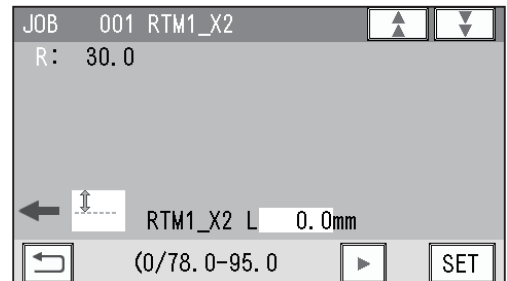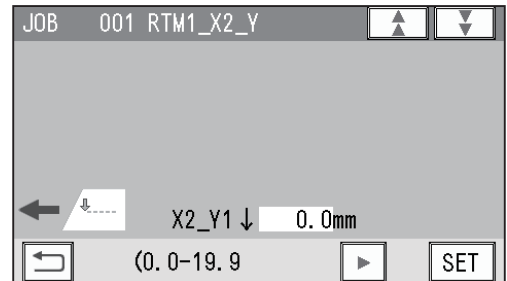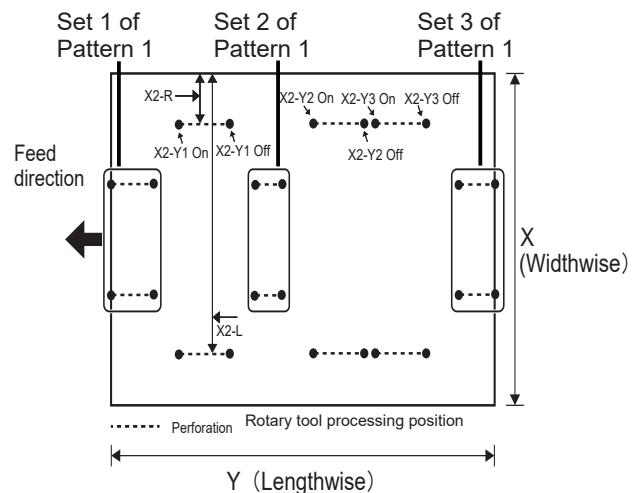
JOB	001 RTM1_X1_Y	⏫	⏬

X1_Y1 ↓   0. 0mm

(0. 0-296. 9)   SET

REFERENCE

The tools on the left side (**L**) and the right side (**R**) skip at the same time.

You can program up to six sets (**Y1** to **Y6**) in the Y direction each for **X1** (Pattern 1 in the X direction) and **X2** (Pattern 2 in the X direction).

To finish setting for the Y direction with fewer than six sets, enter a value for the last processing position and touch SET .

Then touch SET again, which proceeds to step **8**.

2. X1_Y1 ↑

Enter the distance between the lead edge of the document and the **Off** position (the processing stop position of the rotary tool) of **Y1** (**Set 1** in the Y direction). Touch SET .

JOB	001 RTM1_X1_Y	⏫	⏬

1↓   20. 0

X1_Y1 ↑   0. 0mm

(20. 1-297. 0)   SET

3. X1_Y2 ↓

Enter the distance between the lead edge of the document and the **On** position (the processing start position of the rotary tool) of **Y2** (**Set 2** in the Y direction). Touch SET .

JOB	001 RTM1_X1_Y	⏫	⏬

1↓   20. 0   ↑   30. 0

X1_Y2 ↓   0. 0mm

(0/30. 0-296. 9)   SET

4. X1_Y2 ↑

Enter the distance between the lead edge of the document and the **Off** position (the processing stop position of the rotary tool) of **Y2** (**Set 2** in the Y direction). Touch SET .

JOB	001 RTM1_X1_Y	⏫	⏬

1↓   20. 0   ↑   30. 0   2↓   40. 0

X1_Y2 ↑   0. 0mm

(40. 1-297. 0)   SET

5. X1_Y3 ↓

Enter the distance between the lead edge of the document and the **On** position (the processing start position of the rotary tool) of **Y3** (**Set 3** in the Y direction). Touch SET .

JOB	001 RTM1_X1_Y	⏫	⏬

1↓   20. 0   ↑   30. 0   2↓   40. 0   ↑   50. 0

X1_Y3 ↓   0. 0mm

(0/50. 0-296. 9)   SET

6. **X1_Y3 ↑**
   Enter the distance between the lead edge of the document and the **Off** position (the processing stop position of the rotary tool) of **Y3** (**Set 3** in the Y direction). Touch SET.

```
JOB    001 RTM1_X1_Y
1↓   20.0  ↑   30.0  2↓   40.0  ↑   50.0
3↓   60.0

          X1_Y3↑     0.0mm
          (60.1-297.0)              SET
```

7. **X1_Y4 ↓**
   Enter the distance between the lead edge of the document and the **On** position (the processing start position of the rotary tool) of **Y4** (**Set 4** in the Y direction). Touch SET.

```
JOB    001 RTM1_X1_Y
1↓   20.0  ↑   30.0  2↓   40.0  ↑   50.0
3↓   60.0  ↑   70.0

          X1_Y4↓     0.0mm
          (0/70.0-296.9)            SET
```

8. **X1_Y4 ↑**
   Enter the distance between the lead edge of the document and the **Off** position (the processing stop position of the rotary tool) of **Y4** (**Set 4** in the Y direction). Touch SET.

```
JOB    001 RTM1_X1_Y
1↓   20.0  ↑   30.0  2↓   40.0  ↑   50.0
3↓   60.0  ↑   70.0  4↓   80.0

          X1_Y4↑     0.0mm
          (80.1-297.0)              SET
```

9. **X1_Y5 ↓**
   Enter the distance between the lead edge of the document and the **On** position (the processing start position of the rotary tool) of **Y5** (**Set 5** in the Y direction). Touch SET.

```
JOB    001 RTM1_X1_Y
1↓   20.0  ↑   30.0  2↓   40.0  ↑   50.0
3↓   60.0  ↑   70.0  4↓   80.0  ↑   90.0

          X1_Y5↓     0.0mm
          (0/90.0-296.9)            SET
```

10. **X1_Y5 ↑**
    Enter the distance between the lead edge of the document and the **Off** position (the processing stop position of the rotary tool) of **Y5** (**Set 5** in the Y direction). Touch SET.

```
JOB    001 RTM1_X1_Y
1↓   20.0  ↑   30.0  2↓   40.0  ↑   50.0
3↓   60.0  ↑   70.0  4↓   80.0  ↑   90.0
5↓  100.0

          X1_Y5↑     0.0mm
          (100.1-297.0)             SET
```

11. **X1_Y6 ↓**
    Enter the distance between the lead edge of the document and the **On** position (the processing start position of the rotary tool) of **Y6** (**Set 6** in the Y direction). Touch SET.

```
JOB    001 RTM1_X1_Y
1↓   20.0  ↑   30.0  2↓   40.0  ↑   50.0
3↓   60.0  ↑   70.0  4↓   80.0  ↑   90.0
5↓  100.0  ↑  110.0

          X1_Y6↓     0.0mm
          (0/110.0-296.9)           SET
```

2

Programming a JOB on the Control Panel

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12. **X1_Y6 ↑**
Enter the distance between the lead edge of the document and the **Off** position (the processing stop position of the rotary tool) of **Y6** (**Set 6** in the Y direction). Touch SET .

JOB	001 RTM1_X1_Y	⬆	⬇
1↓ 20.0 ↑ 30.0	2↓ 40.0 ↑ 50.0		
3↓ 60.0 ↑ 70.0	4↓ 80.0 ↑ 90.0		
5↓ 100.0 ↑ 110.0	6↓ 120.0		

X1_Y6 ↑   0.0mm
(120.1-297.0)   SET

⑥ RTM1_X2

X2 (Pattern 2 in the X direction)
1. **RTM1_X2 R**
Enter the distance between the right edge of the document and the rotary tool on the right side (**R**) of the **RTM (Rotary Tool Module)**. Touch SET .

JOB	001 RTM1_X2	⬆	⬇

RTM1_X2 R   0.0mm
(0/15.0-95.0)   ▶   SET

2. **RTM1_X2 L**
Enter the distance between the right edge of the document and the rotary tool on the left side (**L**) of the **RTM (Rotary Tool Module)**. Touch SET .

JOB	001 RTM1_X2	⬆	⬇
R: 30.0			

RTM1_X2 L   0.0mm
(0/78.0-95.0)   ▶   SET

⑦ RTM1_X2_Y
X2 (Pattern 2 in the X direction)
Enter values of **On** position(s) and **Off** position(s) for **Y1** to **Y6** of **X2** in a similar way to step ⑤.

JOB	001 RTM1_X2_Y	⬆	⬇

X2_Y1 ↓   0.0mm
(0.0-19.9   ▶   SET

IMPORTANT

Processing a document in the Y direction of **Pattern 2** can be made between each set of **Pattern 1**.

Set 1 of Pattern 1   Set 2 of Pattern 1   Set 3 of Pattern 1

X2-R→
X2-Y2 On X2-Y3 On X2-Y3 Off
Feed direction
X2-Y1 On X2-Y1 Off
X2-Y2 Off

X (Widthwise)

X2-L

······ Perforation   Rotary tool processing position

Y (Lengthwise)

8 **Select Tool**
RTM1
1. Touch ◀ / ▶ to select a rotary tool for **R** (right side) of **RTM1** from **Perf**, **Micro**, **SI-Score**, and **Score**.

```
Select Tool            ⏫ ⏬
              RTM1        ←▦
  ┌──────────────────────────────┐
  │    R      Perf     ▶   ◁      │
  └──────────────────────────────┘
       L      Perf     ▶   ◁

  [↩]                        [SET]
```

2. Touch ◀ / ▶ to select a rotary too for **L** (left side) of **RTM1** from **Perf**, **Micro**, **SI-Score**, and **Score**. Touch SET.

```
Select Tool            ⏫ ⏬
              RTM1        ←▦
  _ _ _ _ _ _ _ _ _ _ _ _
       R      Perf     ▶   ◁
  ┌──────────────────────────────┐
  │    L      Perf     ▶   ◁      │
  └──────────────────────────────┘
  [↩]                        [SET]
```

9 **RTM2**
RTM3
To make settings for **RTM2** and **RTM3**, enter values for them in simillar ways to steps **4** to **7**.

```
JOB    001 RTM2_X1        ⏫ ⏬



  ←  [↕]    RTM2_X1 R     0.0mm
  [↩]     (0/15.0-195.0)      [SET]
```

10 **Select Tool RTM2**
Select Tool RTM3
Select type of the rotary tools on the right side (**R**) and the left side (**L**) of **RTM2** and **RTM3** in a similar way to step **8**.

```
Select Tool            ⏫ ⏬
              RTM2        ←▦
  _ _ _ _ _ _ _ _ _ _ _ _
       R      Perf     ▶   ◁

       L      Perf     ▶   ◁

  [↩]                        [SET]
```

11 The function setting screen appears.
Referring to Chapter 2 Programming a JOB - Programming a JOB - steps **15** to **18** in Wizard in the DC-648 Instruction Manual, make settings for the following items:
• Settings-1 to 4

```
JOB    001 Settings-1     ⏫ ⏬
Air Knife                [ON]  [OFF]
Fan Register     [OFF][MIN][MID][MAX]
Blow Fan         [OFF][MIN][MID][MAX]
Side Air         [OFF][MIN][MID][MAX]
Slitter Guide            [ON]  [OFF]
  [↩]                        [SET]
```

12 **Tool Setup**
1. Each type of the rotary tools on the right side (**R**) or the left side (**L**) of the **RTM (Rotary Tool Module)** in **slot2** appears.
Check each of them and touch SET.

```
JOB    001 Tool Setup     ⏫ ⏬
Slot2 [▦] RTM
     R  ◁ Perf
     L  ◁ Perf




  [↩]                        [SET]
```

2. If the **RTMs (Rotary Tool Modules)** are set for **slot3** to **slot4**, each type of the rotary tools on the right side (**R**) or the left side (**L**) of the **RTMs (Rotary Tool Modules)** appears.
Check each of them and touch SET .

```
JOB    001 Tool Setup         [⏫] [⏬]
Slot3 ▦ RTM
    R ◀ Perf
    L ◀ Perf


[↰]                              [SET]
```

⑬ **Modules**
Modules in **slot2** to **slot4** appear.
* The figure on the right shows that the **RTMs (Rotary Tool Modules)** are installed in **slot2** to **slot4**.

Check them and touch SET .

```
JOB    001 Modules           [⏫] [⏬]


Slot2 ▦ RTM
Slot3 ▦ RTM
Slot4 ▦ RTM


[↰]                              [SET]
```

⑭ The **Entry** screen appears.
Referring to Chapter 2 Programming a JOB - Programming a JOB - steps ⑲ in Wizard in the DC-648 Instruction Manual, make settings for the following items:
• Entry

```
JOB    001 Entry



         [ Entry ]



[↰]
```

REFERENCE

The message as shown on the right may appear during the JOB settings.
Refer to Chapter 2 Programming a JOB - Messages (Direct) in the DC-648 Instruction Manual.

```
Slit/perf is programmed both between
55.1-60mm and between 95.1-100mm.
Change slit/perf position.
         [↰]
```

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Chapter 3

Basic Operations

This chapter describes function settings of the **RTM (Rotary Tool Module)**.

3

Basic Operations

Processing Documents by Retrieving a Saved JOB

This section describes the procedure for processing documents by retrieving a JOB from a saved JOB or **JOB Log**.

1 Follow steps in Chapter 3 <u>Basic Operations</u> - <u>Processing Documents by Retrieving a Saved JOB</u> in the DC-648 Instruction Manual.

- If the tool check screen appears, follow the procedure below.

```
Check the upper tool of each slot.

                        ┌────────┐
                        │   OK   │
                        └────────┘
W03-0-34
          Slot4      Slot3      Slot2
     R      -          -       ↓Perf
     L      -          -       ↓Perf
```

1. Open the **top cover 2** and the **top coverr 3**.

2. Raise or lower the tools of the **RTM(s) (Rotary Tool Module(s))** according to the direction of the arrows displayed on the screen.
   R: Tool on the non-operator's side
   L: Tool on the operator's side
   ↑: Raises the tool.
   ↓: Lowers the tool.
   −: No rotary tool is used.

Adjustment knob

Rotary tool
Lower tool

REFERENCE

- Tool raising position
  Turn the **adjustment knob** counterclockwise until it stops to separate the **rotary tool** and the **lower tool**.
- Tool lowering position
  Turn the **adjustment knob** clockwise to adjust the tool depth.

3. Close the **top cover 2** and the **top cover 3**.
   Touch **OK**.

```
Check the upper tool of each slot.

                        ╔════════╗
                        ║   OK   ║
                        ╚════════╝
W03-0-34
          Slot4      Slot3      Slot2
     R      -          -       ↓Perf
     L      -          -       ↓Perf
```

4. The **Start the JOB?** screen appears.
   Touch **YES** (continue) or **NO** (cancel).

```
Start the JOB?

        ┌───────┐      ┌───────┐
        │  YES  │      │   NO  │
        └───────┘      └───────┘
W01-1
```

● If the tool check screen as shown on the right appears while a barcode is being read, follow the procedure below.
(The figure on the right shows when the **RTM (Rotary Tool Module)** is installed in **slot2**.)

```
Check the upper tool of each slot.

                        ┌────────┐
                        │   OK   │
                        └────────┘
W03-0-34

          Slot4      Slot3      Slot2
R          -          -        ↓Perf
L          -          -        ↓Perf
```

1. Touch **OK**.

```
Check the upper tool of each slot.

                        ╔════════╗
                        ║   OK   ║
                        ╚════════╝
W03-0-34

          Slot4      Slot3      Slot2
R          -          -        ↓Perf
L          -          -        ↓Perf
```

2. The **Start the JOB?** screen appears.

   If you need to open the **top cover 2** and the **top cover 3**:
   → Touch **NO** to go to step 3.

   If not:
   → Touch **YES** to restart the JOB.

```
Start the JOB?

       ┌───────┐        ┌───────┐
       │  YES  │        │  NO   │
       └───────┘        └───────┘
W01-1
```

3. Press the JOG (REV) key to eject the document.

4. Press the START key to restart the JOB.

3

Basic Operations

Process

This section describes the functions which are related to the **RTM (Rotary Tool Module)**.
For other settings, refer to Chapter 3 <u>Basic operations</u> - <u>Process</u> in the DC-648 Instruction Manual.

Select Tool
This sets the tools on the right and the left of the modules installed in slot2 to slot4.

REFERENCE

Change Tool Setting is automatically set as programmed when a JOB is retrieved.
Settings for a JOB that are changed after the JOB is retrieved are valid until the DC-648 is
turned **OFF** or another JOB is retrieved.

1 Make sure that the **standby** screen is displayed on the touch panel and touch **Feed/Process**.

2 Touch ▶.

REFERENCE

If the **RTM (Rotary Tool Module)** or **CPM (Cross Tool Module)** (option) is programmed for the selected JOB, ▶ is enabled.

3 **Select Tool**
Change Tool Setting
1. Select and touch the slot with which the tool to be changed.

2. Touch ◀/▶ to select a **rotary tool** on the right side (**R**) of the slot that was selected in step **3**-1.

   Perf: Perforation tool
   Micro: Micro perforation tool
   Sl-Score: Slit-score tool
   Score: Score tool

3. Touch ◀/▶ to select a **rotary tool** on the left side (**L**) of the slot that was selected in step ❸-1.

> **Perf**: Perforation tool
> **Micro**: Micro perforation tool
> **SI-Score**: Slit-score tool
> **Score**: Score tool

REFERENCE

If no **RTM (Rotary Tool Module)** is set to be used, the slot for which **RTM (Rotary Tool Module)** is not set is displayed in a grayout state.
You cannot select it.
(The figure on the right shows when only one **RTM (Rotary Tool Module)** is set.)

④ Touch 「SET」.

Process
◀ Select Tool
Change Tool Setting
Slot4   Slot3   Slot2
RTM   R   Perf ▶
          L   Perf ▶
↩   SET

Process
◀ Select Tool
Change Tool Setting
Slot4   Slot3   Slot2
RTM   R   Perf ▶
          L   Perf ▶
↩   SET

Process
◀ Select Tool
Change Tool Setting
Slot4   Slot3   Slot2
RTM   R   Perf ▶
          L   Perf ▶
↩   SET

3

Basic Operations

Adjust

This section describes the functions which are related to the **RTM (Rotary Tool Module)**.
For other settings, refer to Chapter 3 Basic operations - Adjust in the DC-648 Instruction Manual.

RTM On Pos. Adj. (RTM On Position Adjustment)
This adjusts the processing start position of the **RTM (Rotary Tool Module)**.

RTM Off Pos. Adj. (RTM Off Position Adjustment)
This adjusts the processing stop position of the **RTM (Rotary Tool Module)**.

> **REFERENCE**
>
> Settings for **RTM On Pos. Adj.** and **RTM Off Pos. Adj.** are enabled after the power is turned **OFF** as well.

① Make sure that the **standby** screen is displayed on the touch panel and touch **Adjust**.

② Touch **RTM**.

> **REFERENCE**
>
> If the **RTM (Rotary Tool Module)** is programmed for the selected JOB, ▶ is active.

③ **RTM**
RTM Pos Adj.
1. **On**
   This adjusts the processing start position (lowering the tool) of the **rotary tool**.
   Touch the box and enter a value.

   * You can make an adjustment in the range of -9.9 to +9.9 mm.
      + : Moves the processing position toward the document trail edge.
      - : Moves the processing position toward the document lead edge.

2. **Off**
   This adjusts the processing stop position (raising
   the tool) of the **rotary tool**.
   Touch the box and enter a value.

   * You can make an adjustment in the range of
     -9.9 to +9.9 mm.
     [+]: Moves the processing position toward the
           document trail edge.
     [-]: Moves the processing position toward the
           document lead edge.

④ Touch [SET].

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Basic Operations

Environment

This section describes the functions which are related to the **RTM (Rotary Tool Module)**.
For other settings, refer to Chapter 3 <u>Basic Operations</u> - <u>Environment</u> in the DC-648 Instruction Manual.

Default
Select **RTM (Rotary Tool Module)** as the default module for slot2 to slot4 when programming a JOB.
• The module programmed here will be displayed in the first place on the **Modules* / Select Tool** screen to program a new JOB in **Advanced Mode** in **Direct mode**.
• When you program a JOB in **Wizard mode** or in **Simple Mode** in **Direct mode**, the default module will be set automatically for the slot in which no module is set.
• No module which was not programmed by a service person when installed will be displayed.

① Make sure that the **standby** screen is displayed on the touch panel and touch **Environment**.

② Touch **Default**.

③ Touch ▶ to select a slot.

④ Touch ◀ / ▶ to select **RTM**.

⑤ Touch ◀ / ▶ below the dashed line and select a rotary tool to set as default for **RTM (Rotary Tool Module)**.
Perf: Perforation tool
Micro: Micro perforation tool
Sl-Score: Slit-score tool
Score: Score tool

```
Environment
Environment  Language   Default    ▶
        Slot2      ▶
    Modules  ◀    RTM    ▶   ◀▪
- - - - - - - - - - - - - - - - -
        R        Perf    ▶   ◁
        L        Perf    ▶   ◁
    ↰                        SET
```

⑥ Touch [SET].
It saves the settings currently programmed and redisplays the **standby** screen.

```
Environment
Environment  Language   Default    ▶
        Slot2      ▶
    Modules  ◀    RTM    ▶   ◀▪
- - - - - - - - - - - - - - - - -
        R        Perf    ▶   ◁
        L        Perf    ▶   ◁
    ↰                        SET
```

Shortcut
To display a shortcut of the function that you use frequently on the **standby** screen, refer to Chapter 3 Basic Operations - step ❼ in Environment in the DC-648 Instruction Manual.
The following describes the shortcuts which are related to the **RTM (Rotary Tool Module)**.

Icon	Shortcut item	Screen
	Change Tool Setting	Process - Select Tool
	RTM Pos Adj.	Adjust - RTM

3

Basic Operations

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MEMO

Chapter 4

Programming a JOB on a Computer

JOB contents can be programmed either via computer or on the control panel. This chapter describes how to setup a JOB from your computer through the PC Controller.

4

Programming a JOB on a Computer

PC Controller Setting

Main Menu

The main screen appears when the PC Controller is launched.
Select items on the main screen and make settings for a JOB.

No.	Name	Function
1	System status	Displays the current status of the DC-648 by letters.
2	Create a new job	Click this and select **Wizard** or **Direct** to program a JOB.
3	JOBs saved in PC	Displays a JOB saved on a computer.
4	Setting	Click this to make default settings for the PC Controller. The other functions are for a service person only to make settings for the DC-648.
5	Tool	Backs up a JOB saved in the DC-648. Restores backed-up data of a JOB in the DC-648.
6	Advanced mode	Select this to program a JOB in **Advanced mode** in **Direct mode**. Clear this to program a JOB in the **Simple mode** in **Direct mode**.
7	JOB preview	Displays an overview of a selected JOB. You can change settings for the selected JOB here.
8	Preview	Displays an overview of a programmed JOB.
9	Status	Displays the current status of the DC-648.
10	Select	Select a JOB on the **JOB list** below and then click this to process the selected JOB.

No.	Name	Function
11	Edit	Click this to edit a selected JOB.
12	Copy	Makes a copy of a selected JOB to a different JOB number. Saves a copy of a JOB as a JOB file on a computer.
13	Delete	Deletes a selected JOB.
14	Lock	Locks/unlocks a selected JOB.
15	JOB List	Opens and displays a JOB saved in the DC-648.
16	JOB Log	Displays JOBs processed with the TEST key or the START key clicked on the PC controller and saved in the computer as logs. You can save up to 50 of lately processed JOBs. If the number of saved JOBs exceeds 50, they will be deleted in chronological order.
17	PAUSE FEEDING key	Processes a JOB in the pause feeding mode. Click this to temporarily stop the DC-648 processing a JOB to check how a finished product is made and so on.
18	STACKER SETUP key	Stops the **card stacker** in front of the position to which a finished product is ejected.
19	TEST key	Processes only one sheet of documents for a test run.
20	START key	Processes a selected JOB. Disabled while the DC-648 is in operation or having an error.
21	STOP key	Stops the DC-648 from processing a JOB.
22	Preset Count	Presets the number of sheets to be processed for a JOB.
23	Clear	Clears the number of preset count.
24	Numeric keys	Displays the NUMERIC keys, with which you can enter numerical values instead of using a keyboard.
25	Connect	Select this to control function limit of the control panel on the DC-648. Clear this to control function limit of the PC Controller. **REFERENCE** When the computer to which the PC Controller is connected is in sleep mode or hibernate mode, this will automatically be cleared.
26	Download Queue	Saves a JOB that you tried to save while another JOB is being processed.
27	Function settings	Displays the **Function settings** screen, on which you can make or change settings for a JOB.

4

Programming a JOB on a Computer

REFERENCE

- **In operation** will be displayed on the **system status** while a JOB is being processed.
- You can make a setting for the **blow fan** and for the **side air** (option) on the boxed part in the figure on the right.

51

PC Controller Setting

● Settings for the **RTM (Rotary Tool Module)**

	Y1 Off Y2 Off Y3 Off Y4 Off Y5 Off Y6 Off
	Y1 On Y2 On Y3 On Y4 On Y5 On Y6 On

Pattern 2 X2-R

Pattern 1 X1-R

A

A

Feed direction

Pattern 1 X1-L

Pattern 2 X2-L

Y1 Off   Y2 Off   Y3 Off   Y4 Off   Y5 Off   Y6 Off

Y1 On   Y2 On   Y3 On   Y4 On   Y5 On   Y6 On

REFERENCE

You can set two patterns ([**X1-R**, **X1-L**] and [**X2R**, **X2-L**]) in the X direction from the right edge of a document for each **RTM (Rotary Tool Module)**.
Distance A (between **Patter 1s**) must be 48.0 mm or more.
You cannot set each position of **Y1–Y6** of **X1-R**, **X1-L** and of **X2-R**, **X2-L** at the same positions.

● Patterns of processing with the **RTM (Rotary Tool Module)**

You can program up to six sets in the Y direction of Pattern X1.
You can program up to six sets in the Y direction of Pattern X2 as well.

Programming a JOB

The DC-648 can save up to 250 JOBs.
This section describes the procedures for programming a JOB in **Wizard mode** with a preview of the JOB and in **Direct mode** in which you directly enter each value, which are related to the **RTM (Rotary Tool Module)**.

Wizard

No.	Name	Function
1	File	Displays a menu. You can switch the **Wizard** screen to the **Direct** screen, load a PDF file, or exit the **Wizard** screen by clicking each item in this.
2	Undo	Redisplays the previous setting.
3	Numeric keys	Displays the NUMERIC keys, with which you can enter numerical values instead of using the keyboard.
4	Unit	Select a unit of values to enter from **mm** or **inch**.
5	Load PDF file	Loads a PDF file and displays it on the **preview**.
6	About	Displays the trademark and the open source software.
7	Finished product	Make settings for a JOB name, a JOB number, a category, a document size, a finished product size, the number of cards, margins, and gutters.
8	Crease	Specify crease positions on the document in **Standard positions** mode or **Non standard positions** mode.
9	Perforation	Specify perforation positions on the document in the **Standard positions mode** or the **Non standard positions mode**.
10	REG Mark	Make settings for the REG mark/skew mark/shrinkage mark reading function.
11	Function settings	Make settings for each function to program a JOB.
12	Finished product	Switches previews of a JOB between **Finished product** and **Document preview**.
13	Document preview	

No.	Name	Function
14	Hide	Hides the right part of the **Wizard** screen and displays a JOB preview in a larger size.
15	Modules	Displays modules installed in slot2 to slot4.
16	Next	Switches the **Wizard** screen to the **Direct** screen.
17	Exit	Finishes a JOB programming and redisplays the **main screen**.
18	Document preview	Displays a preview of the whole part of a finished product.
19	Error/warning messages	Displays a JOB setting that cannot be processed with an error or a warning mark. ⊗ indicates that the setting is invalid for a JOB to be programmed. ⚠ indicates that the JOB will be processed with some irregular way.

4

Programming a JOB on a Computer

Programming a JOB

1 Click **Create a new JOB** and then **Wizard** on the **main screen**.

2 **Unit**

Refer to Chapter 5 PC Controller Setting - Programing a JOB - step **2** in Wizard in the DC-648 PC Controller Instruction Manual.

3 **Modules**

1. Select a module to install in **slot2** to **slot4**.

    Standard module
    CPM (Cross Tool Module) (option, slot2)
    RTM (Rotary Tool Module) (slot2 to slot4)
    Slitter module (slot3 to slot4)

2. If you have selected **RTM (Rotary Tool Module)**, select tools for the right side and the left side.

    Perf.: Perforation tool
    Micro: Micro perforation tool
    Sl-score: Slit-score tool
    Score: Score tool

4 Referring to Chapter 5 <u>PC Controller Setting</u> - <u>Programming a JOB</u> - steps **4** to **11** in <u>Wizard</u> in the DC-648 PC Controller Instruction Manual, make settings for the following items:
- JOB number
- JOB name
- Category
- Document Size
- Layout (Finished size/Number of cards)
- Layout (Manual/Center)
- Gutter
- Crease

5 **Perforation**
Set perforation positions:
Click the **Perforation** tab.

Standard positions: Select a pattern to process. Clicking **Apply** automatically sets perforation positions.

● **Lengthwise**
Perforates a document lengthwise.

1. Enter a value for the distance between the right edge of the finished product and the processing position of the rotary tool on the right side (**R**).

2. Click the **Tool type** box and select a rotary tool. Click **Apply**.

   Perf.: Perforation tool
   Micro: Micro perforation tool
   Sl-score: Slit-score tool
   Score: Score tool

● **Lengthwise even**
Perforates a document lengthwise evenly.

1. Enter a value for perforation position at which the rotary tool processes.

2. Click the **Tool type** box and select a rotary tool. Click **Apply**.

   Perf.: Perforation tool
   Micro: Micro perforation tool
   Sl-score: Slit-score tool
   Score: Score tool

● **Widthwise**
Perforates a document widthwise.
This is available when **CPM (Cross Tool Module)** is enabled. For the details, refer to Chapter 4 Programming a JOB on a Computer - Wizard in the DC-648 CPM Instruction Manual.

● **Crosswise**
Perforates a document crosswise.
This is available only when both of **RTM (Rotary Tool Module)** and **CPM (Cross Tool Module)** are enabled.

1. Enter values of the distance between the lead edge of the finished product and the processing start position of the rotary tool for **A** and the distance between the right edge and the processing start position of the rotary tool for **B**.

2. Click the **Tool type** box and select a rotary tool. Click **Apply**.

   Perf.: Perforation tool
   Micro: Micro perforation tool
   SI-score: Slit-score tool
   Score: Score tool

● **Widthwise even**
Perforates a document widthwise.
This is available when **CPM (Cross Tool Module)** is enabled. For the details, refer to Chapter 4 Programming a JOB on a Computer - Wizard in the DC-648 CPM Instruction Manual.

● **Crosswise even**
Perforates a document crosswise evenly.
This is available only when only when both of **RTM (Rotary Tool Module)** and **CPM (Cross Tool Module)** are enabled.

1. Enter the number of cards widthwise for **C1** and that lengthwise for **C2**.

4

Programming a JOB on a Computer

2. Click the **Tool type** box and select a rotary tool. Click **Apply**.

Perf.: Perforation tool
Micro: Micro perforation tool
Sl-score: Slit-score tool
Score: Score tool

● **L angle**
Perforates a document in a L-shape so that a card is made at a corner.
This is available only when both of **RTM (Rotary Tool Module)** and **CPM (Cross Tool Module)** are enabled.

1. Click the **Layout** box and select positions at which the document is processed.

Top Left/Top Right/Bottom Left/ Bottom Right

2. Enter values of the length of the finished product for **A** and the width of the finished product for **B**.

3. Click the **Tool type** box and select a rotary tool. Click **Apply**.

Perf.: Perforation tool
Micro: Micro perforation tool
Sl-score: Slit-score tool
Score: Score tool

● **T shape**
Perforates a document widthwise and then lengthwise to divide it into two to four pieces. This is available only when both of **RTM (Rotary Tool Module)** and **CPM (Cross Tool Module)** are enabled.

1. Click the **Layout** box and select positions at which the document is processed.

    Top/Bottom

2. Enter a value for the lengthwise distance of the rotary tool for **A** and a value for into how many pieces the document is divided for **C**.

3. Click the **Tool type** box and select a rotary tool. Click **Apply**.

    Perf.: Perforation tool
    Micro: Micro perforation tool
    Sl-score: Slit-score tool
    Score: Score tool

● **Tear off coupons**
Perforates a document lengthwise and then widthwise to divide it into two to seven pieces. This is available only when both of **RTM (Rotary Tool Module)** and **CPM (Cross Tool Module)** are enabled.

1. Click the **Layout** box and select positions at which the document is processed.

    Left/Right

4

Programming a JOB on a Computer

2. Enter a value for the widthwise distance between the right side edge of the document and the processing start position of the rotary tool for **A** and a value for into how many pieces the document is divided for **C**.

3. Click the **Tool type** box and select a rotary tool. Click **Apply**.

> **Perf.**: Perforation tool
> **Micro**: Micro perforation tool
> **Sl-score**: Slit-score tool
> **Score**: Score tool

Non standard positions:
Clicking 🔒 switches entry mode between **Standard positions** and **Non standard positions**.

1. Select **Rotary perf.** in the **Direction** box. Click the **Tool type** box and select a rotary tool. Click **Apply**.

> **Perf.**: Perforation tool
> **Micro**: Micro perforation tool
> **Sl-score**: Slit-score tool
> **Score**: Score tool

2. **X position (widthwise)**
   Click the **Position** box and select a widthwise processing position of the rotary tool.
   Manual
   1/2, **1/3**, **2/3**, **1/4**, **2/4**, **3/4**

3. If you have selected **Manual** in step 2, enter a value for **Position** under **X position**.

4. **Y Start position Stop position (lengthwise)** Click the **Start Position** box and select a processing start position (lengthwise) of the rotary tool.
   Manual
   0, **1/2**, **1/3**, **2/3**, **1/4**, **2/4**, **3/4**, **4/4**

5. If you have selected **Manual** in step 4, enter a value for **Start Position** (lengthwise) of the rotary tool.

6. Click the **Stop position** box and select a processing stop position (lengthwise) of the rotary tool.
   Manual
   0, **1/2**, **1/3**, **2/3**, **1/4**, **2/4**, **3/4**, **4/4**

7. If you have selected **Manual** in step 6, enter a value for **Stop Position** (lengthwise) of the rotary tool. Then click **Add**.

4

Programming a JOB on a Computer

8. In similar ways to steps 5 and 7, enter values for the start position and the stop position (lengthwise) of the rotary tool. Then click **Add**.

9. The added start position and the stop position are displayed on the list below. Check the contents.
   Edit: Changes a selected position on the list.
   Delete: Deletes a selected position on the list.
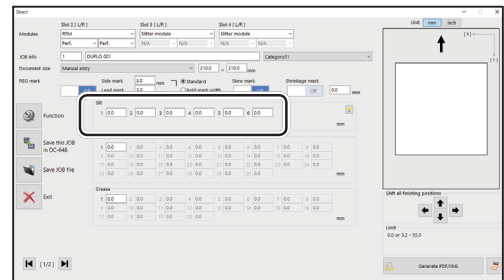   **All clear**: Deletes all of the processing positions of the rotary tool on the list.

6 Referring to Chapter 5 PC Controller Setting - Programming a JOB - steps ⑫ to ⑰ in Wizard in the DC-648 PC Controller Instruction Manual, make settings for the following items:
• REG mark
• Skew mark / Shrinkage mark
• Function settings

The following describes the function, which is related to the **RTM (Rotrary Tool Module)**, in the function settings.

● Slitter Guide
This function enables you to use the **slitters** that you do not use to process a JOB as document guides to stabilize document conveyance.
To use this function, select **ON**. To not use this function, select **OFF**.

REFERENCE

Modules that function as a slitter guide are the **slitter module** and the **RTM (Rotary Tool Module)**.

Direct

No.	Name	Function
1	Modules	Displays modules installed in slot2 to slot4.
2	JOB info	Enter a JOB number, a JOB name, and a category.
3	Document size	Select a document size.
4	REG mark	Set a position and a width of a REG mark (a side mark and a lead mark).
5	Slit	Set slit positions.
6	Hint button	Displays the **Setting procedure** screen, which you can use as reference for setting slit positions. *Appears only when the **Advanced mode** check box is selected on the **main screen**.
7	Cut	Set cut positions.
8	Crease	Set crease positions.
9	Unit	Select a unit of values to enter from mm or inch.
10	Shift all finishing positions	Fine-adjust finishing positions of the JOB by clicking the arrows if necessary.
11	Limit	Displays the limit of a value to enter.
12	Generate PDF/XML	Saves a JOB as a PDF template or an XML file.
13	Numeric keys	Displays the NUMERIC keys, with which you can enter values instead of using the keyboard.
14	Function	Displays the **Function** screen on which to make function settings for a JOB.
15	Save this JOB in DC-648	Saves a programmed JOB or a JOB saved on a computer to the DC-648.
16	Save JOB file	Saves a programmed JOB on a computer.
17	Exit	Finishes a JOB programming and redisplays to the **main screen**.

Programming a JOB

1 Click **Create a new job** and then **Direct** on the main screen.

2 The **Direct** screen appears.

> **REFERENCE**
>
> The value limit appears on the lower right side of the screen.
> Refer to it when programming a JOB.

> **REFERENCE**
>
> Clicking 🖩 displays the NUMERIC keys, with which you can enter numerical values instead of using a keyboard.
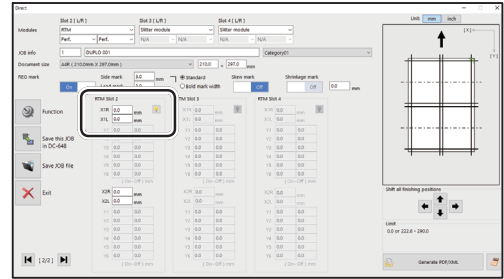

3 **Unit**
Refer to Chapter 5 <u>PC Controller Setting</u> - <u>Programming a JOB</u> - step **3** in <u>Direct</u> in the DC-648 PC Controller Instruction Manual.

4 **Modules**
1. Select a module to install in **slot2** from the **Slot 2 [L/R]** box.

   Standard module
   CPM (Cross Tool Module) (option)
   RTM (Rotary Tool Module)

2. If you have selected **RTM (Rotary Tool Module)**, select a rotary tool on the left side from the **Tool type** box.

> **Perf.**: Perforation tool
> **Micro**: Micro perforation tool
> **Sl-score**: Slit-score tool
> **Score**: Score

3. Select a **rotary tool** on the right side from the **Tool type** box as well.

> **Perf.**: Perforation tool
> **Micro**: Micro perforation tool
> **Sl-score**: Slit-score tool
> **Score**: Score tool

⑤ Modules

1. Select a module to install in **slot3** and **slot4**.

> **Slitter module**
> **RTM (Rotary Tool Module)**
> **Standard module**

2. If you have selected **RTM (Rotary Tool Module)**, select a rotary tool on the left side from the **Tool type** box.

> **Perf.**: Perforation tool
> **Micro**: Micro perforation tool
> **Sl-score**: Slit-score tool
> **Score**: Score tool

3. Select a rotary tool on the right side from the **Tool type** box as well.

> **Perf.**: Perforation tool
> **Micro**: Micro perforation tool
> **Sl-score**: Slit-score tool
> **Score**: Score tool

4

Programming a JOB on a Computer

Programming a JOB

6 Referring to Chapter 5 <u>PC Controller Setting</u> - <u>Programming a JOB</u> - steps **⑤** to **⑬** in <u>Direct</u> in the DC-648 PC Controller Instruction Manual, make settings for the following items:
- JOB info - JOB number
- JOB info - JOB name
- JOB info - Category
- Document size (Standard size, Custom size)
- REG mark (Side mark, Lead mark)
- Mark spec
- Skew mark
- Shrinkage mark

7 **Slit**
Click each **Slit** box and enter values of the distance between the right edge of the document and the slit position. Press the Enter key to set the value.
*If **Advanced mode** is set, numerals of **1** to **6** will be displayed under **Slit**. If **Simple mode** is set, alphabetical letters of **A** to **F** will be displayed there.

<Advanced mode>   <Simple mode>

REFERENCE
- To finish the settings for **Slit**, enter **0** (zero).

- Slit position setting order
  Simple mode : Sets slits in alphabetical order of **SlitA** to **SlitF**.
  Advanced mode : Sets slits in numerical order as shown in the figure on the right.

- e.g.: If three **RTMs (Rotary Tool Modules)** are installed in slot2 to slot4, you can enter two positions for **Margin slitter**.

8 Referring to Chapter 5 <u>PC Controller Setting</u> - <u>Programming a JOB</u> - steps ⑮ to ⑯ in <u>Direct</u> in the DC-648 PC Controller Instruction Manual, make settings for the following items:
- Cut
- Crease

9 **RTM Slot 2 X1R**
Enter the distance between the right edge of the document and the position of **X1R** (Pattern 1 in the X direction, the right side tool).

REFERENCE

Clicking displays the **Setting procedure** screen, which you can use as reference for setting rotary tool positions.
There is a limitation on processing positions of the **RTM (Rotary Tool Module)**.
(→P.52 ● Settings for the RTM (Rotary Tool Module))

10 **RTM Slot 2 X1L**
Enter the distance between the right edge of the document and the position of **X1L** (Pattern 1 in the X direction, the left side tool).

11 **RTM Slot 2 Y1**
1. Enter the distance from the lead edge of the document to the **On** position (processing start position) of Y1 (Pattern 1 in the Y direction).
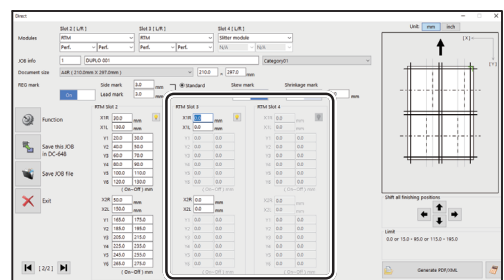
> **REFERENCE**
>
> **On** position: A position displayed as ↓ when a JOB is programmed on the control panel
> (**Y1 On** = **Y1↓**, **Y1 Off** = **Y1↑**)

2. Enter the distance from the lead edge of the document to the **Off** position (processing stop position) of **Y1** (Pattern 1 in the Y direction).

3. In similar ways to steps **11**-1 to **11**-2, enter values for **Y2** to **Y6**.
Entering **0** (zero) finishes the settings for Pattern 1 in the Y direction.

⑫ RTM Slot 2 X2R

Enter the distance from the right edge of the document to the **X2R** position (Pattern 2 in the X direction, the right side tool).

⑬ RTM Slot 2 X2L

Enter the distance from the right edge of the document to the **X2L** position (Pattern 2 in the X direction, the left side tool).

⑭ RTM Slot 2 Y1

1. Enter the distance from the lead edge of the document to the **On** position (processing start position) of **Y1** (Pattern 2 in the Y direction).

   REFERENCE

   You cannot set the **On** and **Off** positions at the same positions as entered in step ⑪.

2. Enter the distance from the lead edge of the document to the **Off** position (processing stop position) of **Y1** (Pattern 2 in the Y direction).

3. In similar ways to ⑭-1 to ⑭-2, enter values for **Y2** to **Y6**.
   Entering **0** (zero) finishes the settings for Pattern 2 in the Y direction.

⑮ If you have selected the **RTM (Rotary Tool Module)** in **Slot 3** and **Slot 4**, enter a value for each position in similar ways to steps ⑨ to ⑭.

16 Check the details of the JOB.
To change the settings, click the text box of the item to change and re-enter a value for it.

REFERENCE

Shift all finishing positions
You can fine-adjust setting positions of the JOB.

⬆ : Each click on this moves the positions upward by 0.1 mm.

⬇ : Each click on this moves the positions downward by 0.1 mm.

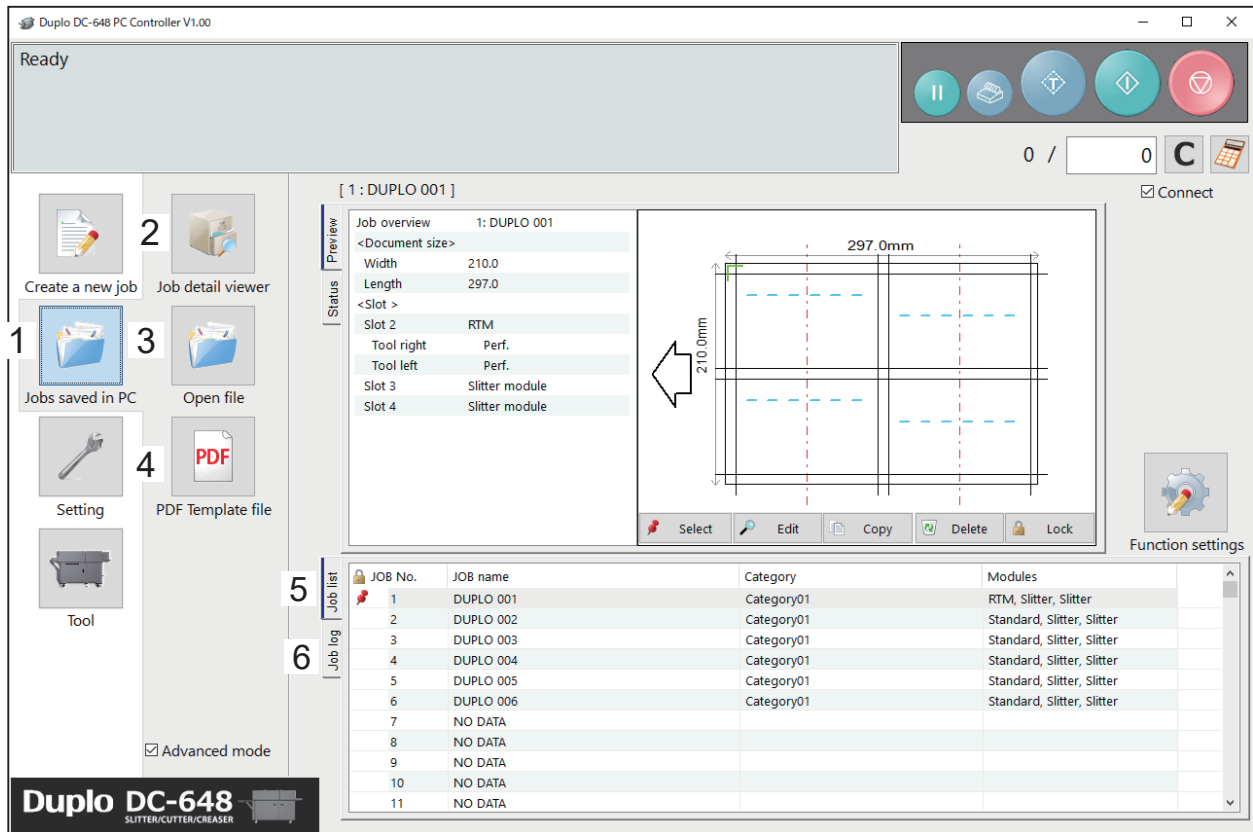⬅ : Each click on this moves the positions to the left by 0.1 mm.

➡ : Each click on this move the positions to the right by 0.1 mm.

17 Click ⏮ .

18 Refer to Chapter 5 PC Controller Setting - Programming a JOB - Direct in the DC-648 PC Controller Instruction Manual for the following items:
• Making function settings for the JOB
• Saving a JOB in the DC-648
• Saving a JOB on a computer

Processing Documents by Retrieving a Saved JOB

This section describes the procedure for retrieving a JOB saved in the DC-648 or on a computer and processing it.

No.	Name	Function
1	JOBs saved in PC	Displays a JOB saved on a computer.
2	JOB detail viewer	Displays a list of JOB files programmed with the PC Controller.
3	Open file	Opens a JOB file and displays the **Wizard** screen, the **Direct** screen, or the **All JOBs** screen on which the JOB was programmed.
4	PDF Template file	Displays a folder in which PDF templates are saved.
5	JOB list	Displays a list of JOBs saved in the DC-648.
6	JOB log	Displays JOBs processed with the TEST key or the START key clicked on the PC Controller and saved in the computer as logs. You can save up to 50 of lately processed JOBs. If the number of saved JOBs exceeds 50, they will be deleted in chronological order.

① Click **JOBs saved in PC** on the **main screen**. Select a saved JOB in **Job detail viewer**, in **PDF Template file**, on **JOB list**, or on **JOB log**.

② For the subsequent steps, refer to Chapter 5 <u>PC Controller Setting</u> - <u>Checking a Saved JOB</u> in the DC-648 PC Controller Instruction Manual.
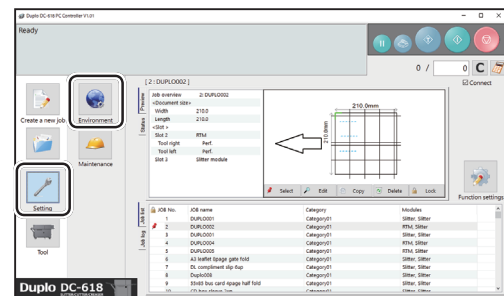
Setting Default Values for a JOB

This section describes the procedure for programming default values for a JOB which is related to the **RTM (Rotary Tool Module)**.

No.	Name	Function
1	Setting	Make default settings for the PC Controller. The other functions are for a service person use only.
2	Environment	Set default values for a JOB.
3	Maintenance	For a service person use only for making settings for connected units, setting a language to be displayed and so on. A password is required to access this. If any setting of those is necessary, contact our service person.

Environment

① Click **Setting** and then **Environment** on the main screen.

2 Click the **Option module** tab.

3 To set **RTM (Rotary Tool Module)**, which is used frequently, as default, select **RTM (Rotary Tool Module)** from the **Slot *** box under **Default setting**.

4 Select tools from the **Tool left** box and the **Tool right** box.

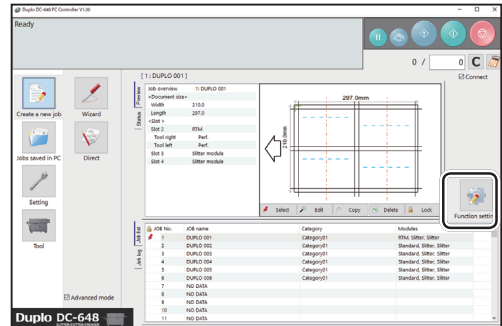**5** When the setting is completed, click **OK**.

4

Programming a JOB on a Computer

Function Settings

This section describes the procedure, which is related to the **RTM (Rotary Tool Module)**, for displaying the **Function settings** screen from the **main screen** to make function settings for a JOB.

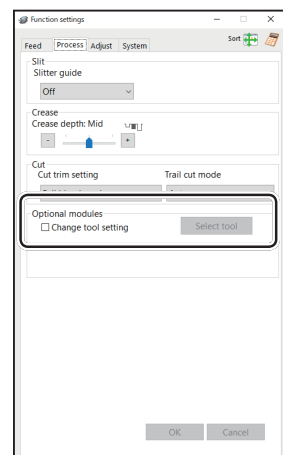**①** Click **Function settings** on the **main screen**.
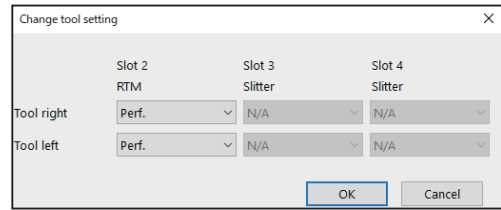
② The **Function settings** screen appears.

Process

① Click the **Process** tab.

② ● **Optional modules**
You can change the settings for the rotary tools of the modules that are installed in **slot2** to **slot4**.
1. Select the **Change tool setting** check box. Click **Change...**
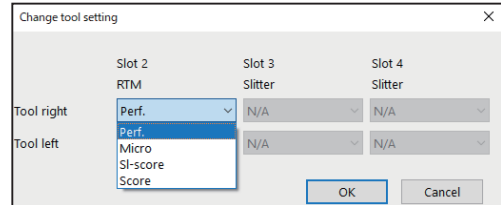
2. The **Change tool setting** screen appears.

3. Select each tool from the **Tool right** box and the
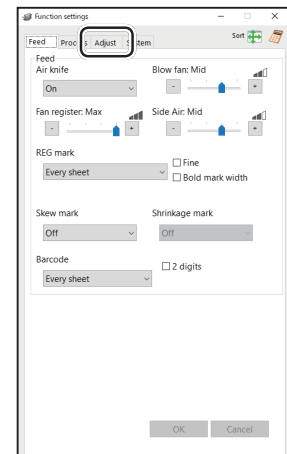   **Tool left** box.
   When the setting is completed, click **OK**.
   Clicking **Cancel** redisplays the previous screen
   without changing the settings.

Adjust

① Click the **Adjust** tab.

② ● **RTM (Rotary Tool Module) Adjust**
   You can change the settings for the rotary tools of the modules that
   are installed in **slot2** to **slot4**.
   1. **RTM on pos Adj. (RTM on position Adjustment)**
      This adjusts the processing start position of the rotary tool.
      *You can make an adjustment in the range of -9.9 to +9.9 mm.
      + : Each click on this increases the value by 0.1 mm.
         The processing start position moves toward the document
         trail edge.
      - : Each click on this decreases the value by 0.1 mm.
         The processing start position moves toward the document
         lead edge.

   2**. RTM off pos Adj. (RTM off position Adjustment)**
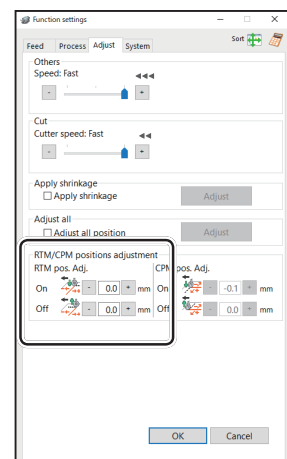   This adjusts the processing stop position of the rotary tool.
      *You can make an adjustment in the range of -9.9 to +9.9 mm.
      + : Each click on this increases the value by 0.1 mm.
         The processing stop position moves toward the document
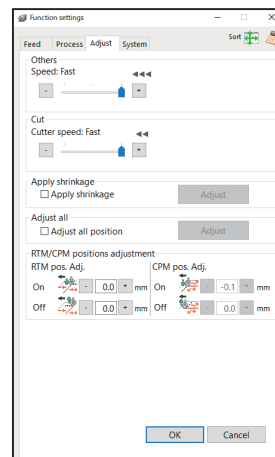   trail edge.
      - : Each click on this decreases the value by 0.1 mm.
         The processing stop position moves toward the document
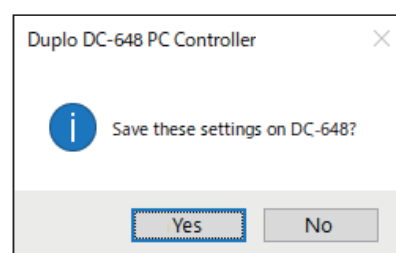   lead edge.

4

Programming a JOB on a Computer

Function Settings

3 When the setting is completed, click **OK**.

4 The message as shown on the right appears.
To save the settings, click **Yes**.
To not save them, click **No**.

Chapter 5

Troubleshooting

This chapter describes what to do when an error has occurred and how to deal with document jams and error messages.

If a Message Appears

If an error has occurred, figures and messages appear on the touch panel.
Confirmation messages may also appear. In such cases, follow the procedure below to clear the error.

● **Display on the touch panel**

An arrow points at the position where the error is occurring in the figure of the DC-648 displayed in the lower part on the screen.
The error status and the solution are displayed in the upper part on the screen.
e.g: U02 Top cover open

Message	Status and Solution
RTM pos. adj. in Adjust are invalid. Please correct. ⊽ to clear	Status: Processing positions of **Pattern 1** and **Patter 2** in **RTM pos. adj.** overlap when a JOB in which the **RTM (Rotary Tool Module)** is used is retrieved. Solution: Reprogram the JOB so that the processing positions do not overlap.
Check the upper tool of each slot. OK: to continue ⊽ to clear	Status: With a JOB in which the **RTM (Rotary Tool Module)** is used selected, this message appears when processing starts. Solution: To continue processing the JOB, click **OK**. To clear the error, press the STOP key. If you are using the PC Controller, the message as shown below appears on the computer. Example of message:

If a Document Jam Has Occurred

⚠ WARNING

- Do not touch the tool. Doing so may cause injury.
- Before removing the jammed document, make sure that the DC-648 is fully stopped. Use the pliers that came with the DC-648 to prevent your hands or fingers from being caught in the machine.
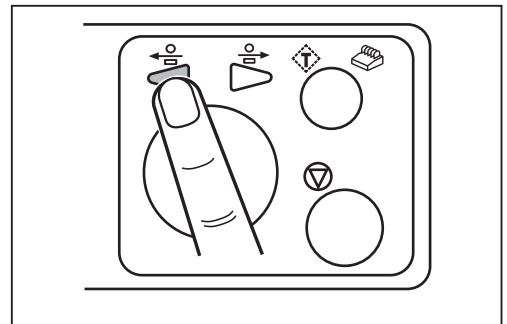
> **J11: Check slot1/2**

> **J12: Check slot3/4**

> **U11: Documents in slot1/2**

> **U12: Documents in slot3/4**

A document jam has occurred in the **slot** section.
The place at which the document jam has occurred is displayed on the touch panel.
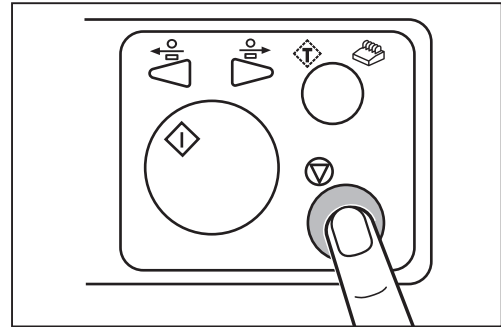Follow the procedure below to remove the jammed documents.

```
Documents in slot1/2
Remove documents from slot 1/2.

                        ▽ to clear
J11
```

1 Press the JOG (FWD) key to eject the document.
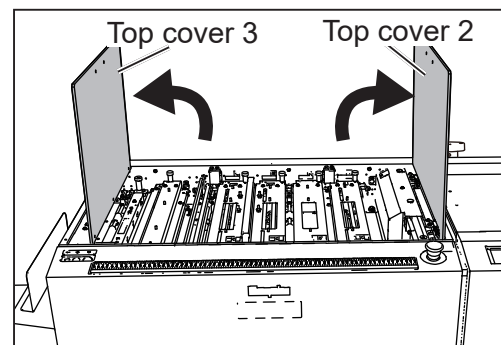
If a Document Jam Has Occurred

2 Press the STOP key to clear the error.
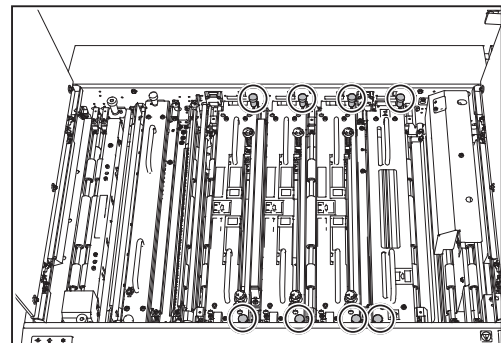The DC-648 is reset and the error message is cleared.

If you cannot remove the jammed document in the procedure above, follow the procedure below.

● **When removing the document from the slot section:**

1 Open the **top cover 2** and the **top cover 3**.

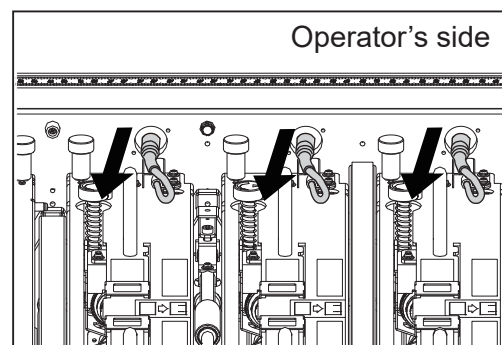Top cover 3   Top cover 2

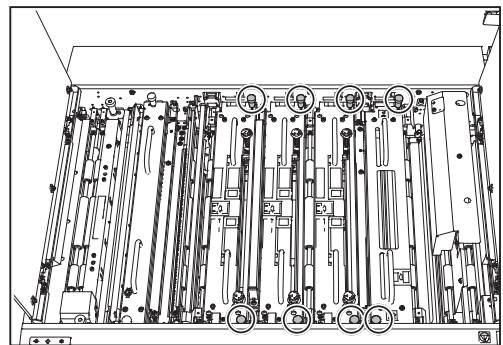**2** Loosen the **fixing screws** (two each) on the modules in **slot1** to **slot4**.

REFERENCE

If the **RTM (Rotary Tool Module)** (in slot2 to slot4) or the **CPM (Cross Tool Module)** (option) (in slot2) is installed, disconnect the connector of the module.

Operator's side

3 Take out the **modules** in slot2 to slot4.

*Make sure to grasp the **handles** on each **module** to lift it upward.
*Make sure to place the removed **module** on a flat, stable surface.

4 Remove the jammed document with the **tweezers** or **pliers**.

5 Install the modules removed in step **3** to their original positions in **slot1** to **slot4** according to the **positioning pins**.

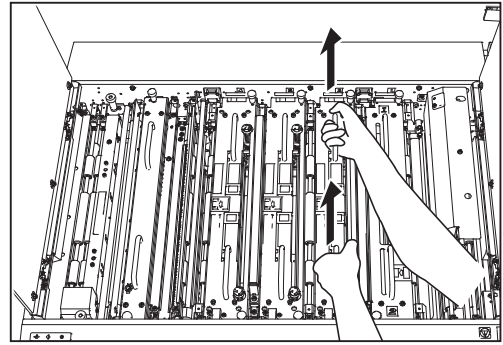**6** Tighten the **fixing screws** (two each) on the modules to secure them.

REFERENCE

If the **RTM (Rotary Tool Module)** (in slot2 to slot4) or the **CPM (Cross Tool Module)** (option) (in slot2) is installed, connect the connector of the module.
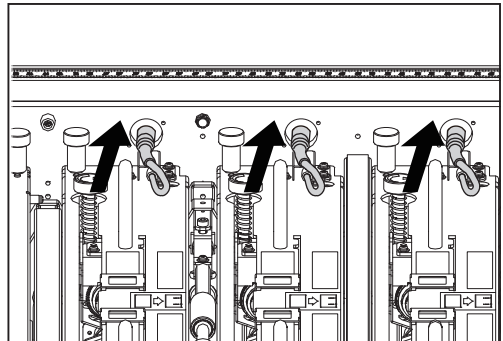
5

Troubleshooting

If a Document Jam Has Occurred

7 Close the **top cover 2** and the **top cover 3**.

Top cover 3   Top cover 2

8 Press the STOP key to clear the error.
The message will be cleared.

Daily Maintenance

This chapter describes daily maintenance of the product.

Daily Maintenance

Clean the product periodically to maintain its performance.

⚠ **WARNING**

- Before cleaning, be sure to turn the power **OFF**, wait until the machine cools off and unplug the power cord. Otherwise, fire or electric shock may occur.
- Never remove covers on the machine or modify them.
- Do not spill water or any liquid inside of the machine. It may cause fire or electric shock. If it happens, contact our service person.

Clean the product in the following procedure.
1. Tightly wring a soft cloth that has been moistened with water or mild detergent.
2. Wipe off any dirt on the module.
3. Wipe off the excess moisture on the module with a soft dry cloth.

⚠ **WARNING**

- Never use alcohol or solvent cleaner. It may tarnish or damage the exterior finish.
- Do not put diluted petroleum or insecticide. It may cause fire.

Dust accumulation may cause the product to malfunction. Clean it periodically. Contact our service person as for cleaning of the inside of the product.

Chapter 7

Specifications

This chapter lists the specifications.

7

Specifications

Specifications

Model name	RTM-09 DC-648 Rotary Tool Module	
Module type	Customer replaceable module	
Module slot	Slot 2, Slot3 and Slot4 To use RTM-09, OPK-03* must be installed on DC-648. *OPK-03 is fitted as standard on 230V DIL and 230V AP models.	
Number of tools in 1 model	2	
Tool type	Perforation Score Micro-perforation Slit-score * Customer replaceable tools	
Tools spec	Perforation	Cut: 0.6 mm / Tie: 0.6 mm (21.2 TPI)
	Score	Male: 0.8 mm / Female: 1.2 mm
	Micro-perforation	Cut: 0.28 mm / Tie: 0.23 mm (49.8 TPI)
	Slit-score	Blade height: 0.5 mm
Paper type	Uncoated, Coated, Laminated (laminate thickness: 10 μm or less), UV coated	
Paper weight	Perforation: 110–400 gsm Score: 110–400 gsm Micro-perforation: 110–180 gsm Slit-score: 270–400 gsm * Laminated / UV coated stock: within the above range including lamination/coating layer.	
Job setup	Automatic Compatible with the image shift compensation by reading REG mark.	
Depth adjustment	Manual	
Widthwise process positions	Minimum distance from the side edge of document or slit edge of the card: 5.0 mm Minimum distance between 2 tools in 1 model: 48.0 mm	
Skip function	Yes (2 tools in 1 module skip simultaneously)	
Max number of skip perf.	6 (per 1 widthwise position by 1 tool)	
Max number of widthwise position per tool per job	2	
Tolerance	Widthwise position: +/-0.2 mm on programmed position Lengthwise position: +/-3.0 mm on programmed position *Document length over 670.0 mm: +/-1.0 mm *The tolerance for the feeding direction may be effected by document weight, tool type, tool depth, and the number of perforations.	
Dimension	In use	535 (W) × 85 (D) × 215 (H) mm
	When packed	785 (W) × 165 (D) × 370 (H) mm
Weight	Net	7.6 kg
	Gross	11.0 kg

● Other specifications comply with the specifications on DC-648.
● The specifications are subject to change without prior notice.